P 5001

Almanaque Náutico

2022

SERVICIO HIDROGRÁFICO Y GEODÉSICO
DE LA REPÚBLICA DE CUBA

ALMANAQUE

NÁUTICO

2022

SERVICIO HIDROGRÁFICO Y GEODÉSICO

DE LA REPÚBLICA DE CUBA

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ACERCA DEL ALMANAQUE NÁUTICO

En las regulaciones del Convenio Internacional sobre Normas de Formación, Titulación y Guardia de la Gente de Mar, se establece la determinación de la posición durante la navegación por observaciones astronómicas. Una de las publicaciones náuticas de mayor importancia para este fin, lo constituye el Almanaque Náutico, editado fundamentalmente por autoridades navales o hidrográficas de diferentes países.

En el Almanaque Náutico se agrupan al final, los gráficos y las tablas auxiliares, las que están referidas con números romanos en mayúsculas. De esta forma se garantiza su impresión para las próximas ediciones.

La composición y contenido del Almanaque Náutico, están en correspondencia con las normas internacionales, y a partir de los datos que brinda se pueden emplear cualquier tabla para la reducción de alturas.

EXPLICACIÓN

1. Objetivos

El objetivo de este Almanaque es facilitar a los oficiales de cubierta los datos requeridos para la determinación de la posición del buque a partir de la reducción de sus observaciones.

2. Descripción del Almanaque Náutico

2.1 Datos generales

Los datos presentados en el Almanaque están dados con una precisión de una décima para el Sol, Aries y las estrellas, y para la Luna y los planetas, de tres décimas de minuto de arco (0,3') como promedio. El caso crítico para determinar la posición del buque en el mar es la combinación de dos rectas de altura para obtener un resultado con un error no mayor de ± 0,8 millas cuando se emplean astros cuyos datos de Ángulo Horario en Greenwich (AHG) y Declinación (dec_t) tabulados poseen una precisión de 0,3' (referidos anteriormente); mientras mayor cantidad de rectas de altura usted introduzca en sus cálculos, menor será entonces el error, obteniendo una posición con mayor exactitud.

El argumento de entrada a las tablas diarias es Hora Media en Greenwich (HMG) . Esta escala puede diferir de las señales horarias radiales (UTC) en una cantidad que, si se ignora, puede introducir un error de 0,2' en la longitud determinada por observaciones astronómicas. La diferencia surge porque el argumento horario depende de las variaciones de rotación de la Tierra, mientras que las radioseñales de tiempo están basadas en una escala de tiempo atómico. Si se quiere una precisión mejor que 1s debe obtenerse la corrección DTU1, codificada en la señal horaria proveniente de otras fuentes.

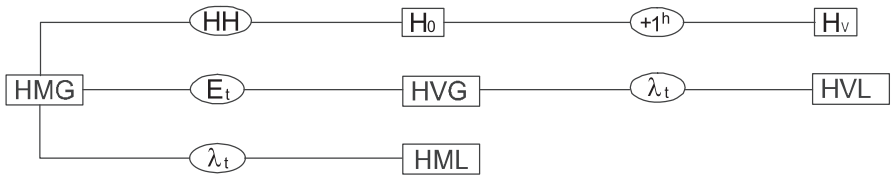
La hora que se requiere con una precisión de 0,1s se determina por la fórmula:

$$UT1 = UTC + DTU1$$

Al determinar la longitud por observaciones astronómicas, esta puede ser corregida a través de la siguiente tabla:

Correcciones de la señal de tiempo	Correcciones de la longitud
- 0,9 s a - 0,7 s	0,2' al Este
- 0,6 s a - 0,3 s	0,1' al Este
- 0,2 s a + 0,2 s	No hay corrección
+ 0,3 s a + 0,6 s	0,1' al Oeste
+ 0,7 s a + 0,9 s	0,2' al Oeste

El siguiente esquema muestra los distintos pasos de conversión para buscar la HMG y su fecha, teniendo en cuenta el dato horario con que se cuenta. La HMG constituye el argumento de entrada en el Almanaque Náutico y en los ejemplos que se muestran más adelante se pone de manifiesto la consecutividad del algoritmo.



2.2 Contenido de las páginas diarias

El Almanaque presenta en cada una de las páginas diarias para cada HMG, los valores de AHG de Aries (AHG γ), AHG y dec del Sol, la Luna y los cuatro planetas que se emplean en la navegación.

Los datos correspondientes a tres días se presentan en la página izquierda que contiene los datos referentes a los planetas, Aries y las estrellas; mientras que la página derecha, para iguales fechas, contiene los datos relativos al Sol y la Luna acompañados de la tabla de iluminación.

La página diaria de los planetas, generalmente la izquierda, posee cuatro columnas correspondientes a cada planeta con su respectiva magnitud estelar; los valores de variación horaria del AHG **(v)** y de variación horaria de la declinación **(d)** se dan una vez al pie de las columnas, dada su lenta variación. Para la columna de valores tabulados de Aries, **v** es cero. También se dan los valores de AHS y dec que le corresponden a las 58 estrellas seleccionadas, dispuestas en orden alfabético.

En la página contraria, destinada para los cálculos de los elementos del Sol y la Luna, en los datos tabulados del primero se omite el valor de **v** por ser despreciable y se introduce al pie de la columna el valor del semidiámetro (**SD**) verdadero, de gran importancia para el cáculo de la corrección de índice del sextante por el método de comparación con el SD observado. Como para la Luna hay apreciables variaciones de AHG y dec, para cada hora de HMG se tabulan los respectivos valores de **v** y **d**, debido a la variación de la longitud eclíptica en su movimiento angular geocéntrico, siendo aproximadamente 13°/día.

2.3 Tablas

El Almanaque Náutico cuenta con las tablas de correcciones de alturas en las tablas T_2, T_3, T_4 y T_5, las tablas de interpolación I y II y además la tabla de la estrella Polar.

2.3.1 Tabla de correcciones a las alturas observadas (T_2, T_3, T_4,T_5)

En la tabla T_2 se obtiene la corrección cuando los valores de las alturas observadas se encuentran entre 10° y 90° para el Sol, las estrellas y los planetas. De ella se extrae la corrección por refracción de las estrellas y los planetas, y las correcciones adicionales de Venus y Marte. La columna dedicada al Sol resume la suma de las correcciones por refracción, paralaje y SD.

La tabla T_3 se emplea para obtener la corrección cuando las alturas observadas se encuentran entre 0° y 10°, donde se tabulan en cuatro columnas los valores para el Sol, en correspondencia a los meses del año, y en otra columna, los de las estrellas y los planetas.

El la tabla T_4 se obtiene una corrección adicional en correspondencia a los valores de temperatura y presión atmosférica imperantes en el momento de la observación y la altura aparente del astro.

La tabla T_5 ofrece la corrección de las alturas observadas de la Luna utilizando como argumento de entrada la altura aparente y el paralaje horizontal.

2.3.2 Tablas de interpolación I y II

Para calcular con mayor exactitud la HML del orto, ocaso y crepúsculo se utilizan las tablas I y II para la interpolación por latitud y longitud de la posición de estima.

Las horas tabuladas pueden considerarse, sin gran error, como la HML de ocurrencia del fenómeno en cualquiera de los tres días de la página y en cualquier longitud.

2.3.3 Tabla de la estrella Polar

Esta tabla permite al oficial de cubierta determinar la latitud geográfica a partir de la aplicación de correcciones a la altura observada de la estrella Polar. A partir del Almanque Náutico del 2014 se muestra el valor de altura verdadera 23° 35,7´, el cual es el valor que se emplea en realidad.

Otro dato que ofrece la tabla es el azimut, que se emplea para poder determinar el error del girocompás a través del método de la comparación por el azimut aguja giro en que se observa la estrella Polar y el azimut tabulado.

2.3.4 Gráficos

La información de los eclipses de Sol y de la Luna se ofrece a través de gráficos de observación para determinadas áreas geográficas. Los eclipses de Luna son visibles para cualquier observador que tenga al astro sobre el horizonte durante el período en que ocurre el evento. No pasa lo mismo con el eclipse de Sol, cuando se observa el fenómeno solamente en ciertas zonas de la superficie terrestre. Debe notarse que las horas indicadas en los gráficos de los mapas son una primera aproximación tanto menos exacta, cuanto más cerca se está de los bordes de dichos gráficos. Sin embargo, tal aproximación es suficiente como punto de partida en el cálculo de mejores aproximaciones.

3. Empleo del Almanaque Náutico

3.1 Convenio de signos

Las latitudes y declinaciones se consideran positivas al Norte y negativas al Sur. En cuanto a las longitudes, se consideran positivas al Este y negativas al Oeste.

Latitud (Lat)	N +	Longitud (Long)	E +
Declinación (dec)	S -		W -

3.2 Cálculo del Ángulo Horario Local (AHL) y Declinación (dec) de Sol, Luna y planetas

El AHL de un astro se obtiene adicionando la longitud del lugar al Ángulo Horario en Greenwich del astro en cuestión (AHG):

$$AHL = AHG + Long\ (E + / W -)$$

La primera tarea es obtener el AHG del astro aplicando las correcciones necesarias al AHG tabulado en las páginas diarias (AHG_t).

Para el cálculo de la Declinación (dec) se aplicará la corrección **d** al valor de la declinación tabulada (dec_t).

Ejemplo:

Determinar el AHL del Sol, la Luna y Venus en un lugar con Long (λ_e) = 032° 25,1´ E y Long (λ_e) = 032°25,1´ W, a las $15^h\ 47^m\ 13^s$ UT del 19 de julio del 2022

Long (λ_e) = 032° 25,1´ E

Arg.	Sol			Luna				Venus			
	AHG_t	dec_t	(d)	AHG_t	(v)	dec_t	(d)	AHG_t	(v)	dec_t	(d)
Pag. Diaria 19/julio 15^h	043°24,7’	20°46,2’ N	0,5’	147°06,4’	14,2’	3°23,1’ N	14,7’	124°19,8’	0,8’	13°06,4’ N	0,5’
Corr. M y s $47^m\ 13^s$(+)	+ 11°48,3’			+ 11°16,0’				+ 11°48,3’			
Corr. v ó d d 47^m (+,-)		(0,5’)- 0,4’		(14,7’) +11,6’		(11,4’)+9,1’		(0,8’)+0,7’		(0,5’) + 0,4’	
Sum = AHG, dec	055°12,0’	N 20°45,9’		158°34,0’		S 3°32,2’		136°08,8’		N 13°06,8’	
Long. (Este: +).	032°25,7’E			032°25,1’E				032°25,1’E			
AHL	087°37,7’			190°59,1’				168°33,9’			

Long (λ_e) = 032° 25,1´ W

Arg.	Sol			Luna				Venus			
	AHG_t	dec_t	(d)	AHG_t	(v)	dec_t	(d)	AHG_t	(v)	dec_t	(d)
Pag. Diaria 19/julio 15^h	043°24,7’	20°46,2’ N	0,5’	147°06,4’	14,2’	3°23,1’ N	14,7’	124°19,8’	0,8’	13°06,4’ N	0,5’
Corr. M y s $47^m\ 13^s$(+)	+ 11°48,3’			+ 11°16,0’				+ 11°48,3’			
Corr. v ó d d 47^m (+,-)		(0,5’)- 0,4’		(14,7’) +11,6’		(11,4’)+9,1’		(0,8’)+0,7’		(0,5’) + 0,4’	
Sum = AHG, dec	055°12,0’	N 20°45,9’		158°34,0’		S 3°32,2’		136°08,8’		N 13°06,8’	
Long. (Oeste: -).	032°25,7’E			032°25,1’E				032°25,1’E			
AHL	023°46,3’			126°08,9’				103°43,7’			

3.3 Cálculo del Ángulo Horario Local y Declinación de estrellas

El AHL de una estrella se obtiene sumando su Ángulo Horario Sidéreo (AHS) y el AHG de Aries mediante la fórmula siguiente:

$$AHL = AHG + AHS + Long\ (E + / W -)$$

Ejemplo:

Determinar el AHL de Aldebarán y Vega en un lugar con Long (λ_e) = 082° 10,0´ W a las $15^h\ 47^m\ 13^s$ UT del 19 de julio del 2022.

	Aldebarán		Vega	
	AHS	dec_t	AHS	dec_t
Pag. Diaria	290° 42,2’	N 16° 33,2’	080° 34,2’	N 38° 48,3’
Pag. Diaria (AHG^t)	162° 23,2’		162° 23,2’	
Corr. m y s Aries ($47^m\ 13^s$) (+)	11° 50,2’		11° 50,2’	
Sum = AHG	464° 55,6’ 104° 55,6’		254° 47,6’	
Long (Oeste: -)	- 082° 10,0’		- 082° 10,0’	
AHL	022° 45,5’		172° 37,6’	

3.4 Tránsito, orto, ocaso y crepúsculo.

3.4.1 Tránsito

El Tránsito, es el paso de un cuerpo celeste por delante del disco de otro, como sucede con Mercurio o Venus por el disco del Sol, o también para un satélite por delante de su planeta. El instante en que un objeto atraviesa el meridiano local se llama tránsito y se observa con el instrumento de tránsito o bien con un telescopio con los lentes ajustados al observador.

El tránsito para Mercurio es el 9 de mayo, y ocurrió para Venus el 6 de junio del año 2012 (ver Almanaque Náutico 2012).

3.4.2 Cálculo del orto, ocaso y crepúsculo del Sol

3.4.2.1 Crepúsculo

Se denomina crepúsculo al período de oscuridad incompleta que antecede al orto y precede al ocaso, y es el resultado de que, en ese tiempo el centro del Sol se encuentra alrededor de los 18° 50' de depresión. El crepúsculo matutino finaliza con el orto y el crepúsculo vespertino comienza con el ocaso.

El límite de oscuridad de los crepúsculos depende de los grados de depresión (alturas por debajo del horizonte) del centro del Sol. Existen tres tipos de crepúsculos definidos en dependencia de su límite de oscuridad:

Crepúsculo	Límite de claridad	Límite de oscuridad	En el límite de oscuridad. Es posible observar.
Civil	0°	- 6°	Horizontes y estrellas brillantes visibles
Náutico	0°	- 12°	Horizonte indefinido
Astronómico	0°	- 18°	Oscuridad total

3.4.2.2 Orto y ocaso

En el Almanaque Náutico, las tablas que se emplean para el cálculo de las horas de ocurrencia de ortos y ocasos y duración de crepúsculos, se encuentran en las páginas diarias: las que quedan hacia la mano derecha de las tablas del Sol y la Luna. Estas tablas facilitan los datos necesarios para el cálculo de las horas de principio y fin de los crepúsculos civil y náutico y las de orto y ocaso del Sol y la Luna para cualquier latitud entre 66° N y 60° S.

Las horas HMG tabuladas para las latitudes seleccionadas, corresponden al momento de la ocurrencia de estos fenómenos, para un observador situado en el meridiano de Greenwich. Para calcular la hora de los fenómenos en latitudes diferentes de las tabuladas, se debe interpolar linealmente a partir del valor por defecto y/o emplear la tabla I, página XXXVI (ver su empleo, para el astro: Luna, en 3.4.3.1).

Para calcular HMG del fenómeno en otros meridianos, se le sumará la hora en que ocurre el fenómeno en Greenwich a la longitud llevada a tiempo de acuerdo con el convenio de signos, dividida por 15, como se muestra en la tabla del ejemplo de la próxima página.

Para indicar en las tablas las condiciones en las que se producen los ortos, ocasos y crepúsculos en altas latitudes se emplean los símbolos siguientes:

Ejemplo:

Determinar la hora de a bordo (Hb) de comienzo de los crepúsculos matutinos y del orto del Sol, el 19 de julio del 2020, para una posición de estima:

Lat (ϕ_e)= 48° 55,0' S;
Long (λ_e)= 075° 18,0' E

	Crepúsculos		Orto
	Náutico	Civil	
Pag. Diaria HML para Lat. 45° S	03 10	03 56	04 31
Tabla I, Corrección 3°55,0' (Lat. 48°55,0' S)	(10) + 7	(13) + 11	(19) + 15
HML	03 17	04 07	04 46
Long. en tiempo $\frac{E}{W}$	- 05 01	- 05 01	- 05 01
HMG	22 16 / 18 jul.	23 06 / 18 jul.	23 45 / 18 jul.
HH $\frac{E+}{W-}$	+ 5	+ 5	+ 5
Hb	03 16 / 19 jul.	04 06 / 19 jul.	04 45 / 19 jul.

Lat (ϕ_e)= 48° 55,0' S;
Long (λ_e)= 075° 18,0' W

	Crepúsculos		Orto
	Náutico	Civil	
Pag. Diaria HML para Lat. 45° S	06 21	06 58	07 30
Tabla I, Corrección 3°55,0' (Lat. 48°55,0' S)	(10) + 7	(13) + 11	(19) + 15
HML	06 28	07 09	07 45
Long. en tiempo $\frac{E}{W}$	+ 05 01	+ 05 01	+ 05 01
HMG	11 29 / 19 jul.	12 10 / 19 jul.	12 46 / 19 jul.
HH $\frac{E+}{W-}$	- 5	- 5	- 5
Hb	06 29 / 19 jul.	07 10 / 19 jul.	07 46 / 19 jul.

3.4.3 Cálculo del orto y ocaso de la Luna

3.4.3.1 Orto y ocaso

La tabla en que aparecen las horas de ocurrencia de los ortos y ocasos de la Luna se encuentra a mano derecha de las páginas diarias. Dichas horas han sido calculadas para una refracción de 34'. La distancia cenital geocéntrica verdadera del centro del disco de la Luna es de: (90° 34' + semidiámetro - paralaje horizontal).

Debido al retardo que experimenta la Luna en su movimiento aparente, en las cercanías del cuarto menguante hay un día que **no hay orto** y en las proximidades del cuarto creciente hay un día que **no hay ocaso.**

En el primer caso, la Luna ya ha salido antes de la hora cero de ese día; más tarde se pone, pero la próxima salida no se produce sino hasta el siguiente día.

Los instantes exactos de salida y puesta de la Luna raramente se necesitan. Una simple inspección a las tablas por regla general da una idea de si la Luna está desfavorable para ser observada y de sus horas de salida y puesta.

Si fuera necesario hallar las horas con mayor exactitud se debe interpolar por latitud, utilizando la tabla I (pág. XXXVI), y por longitud con ayuda de la tabla II de la misma página. Su uso se explica a continuación:

Para entrar en la **tabla I** se utiliza como argumento la diferencia entre la latitud tabular de entrada y la latitud de estima del observador, buscando este valor en la columna que corresponda al intervalo tabular entre dos latitudes consecutivas (10°, 5°, 2°), así como con los argumentos de la diferencia de tiempo entre las latitudes tabulares y la diferencia de tiempo entre la latitud de estima y la latitud tabular más próxima. El signo variará, y se determina por simple inspección en correspondencia con el aumento o disminución del tiempo para las latitudes consecutivas en el intervalo buscado.

Como argumento de entrada en la **tabla II** se utiliza la longitud de estima y la diferencia de horas entre el día deseado y el día anterior para longitud Este y entre el día deseado y el siguiente para longitud Oeste, de modo que la hora obtenida estará entre las dos horas usadas. La corrección normalmente se adiciona para las longitudes Oeste y se resta para las longitudes Este, a no ser que el tiempo resultante sobrepase al que debe dar entre cada día, para lo cual se invertirá su signo.

En las condiciones cercanas a los casos extremos ([____] y [xxxx]), la interpolación por latitud o longitud puede ser posible en una sola dirección; en estas circunstancias las horas exactas son de poca importancia.

Para facilitar la interpolación de los instantes de orto y ocaso de la Luna, en cada página diaria se tabularon las horas para cuatro días. En la práctica es suficiente el uso de la diferencia diaria entre los valores tabulados más próximos por latitud, y para entrar en la tabla II, con los argumentos tabulados más póximos de longitud y retardo.

Ejemplo:

Determinar la hora de a bordo (Hb) del orto y ocaso de la Luna para el día 19 de julio del 2022, para una posición de estima: Lat (φ) = 47° 10,0' S; Long (λe_1) = 124° 00,0´ E y para la misma latitud en Long (λe_2)=078° 31,0' W.

	Long (λe_1) = 124° 00,0' E		**Long (λe_2) = 078° 31,0' W**	
	Orto	**Ocaso**	**Orto**	**Ocaso**
	h m	**h m**	**h m**	**h m**
Pag. Diaria 19/julio (Lat = 45° S)	23 50	10 54	23 50	10 54
Tabla - I Latitud (pag. XXXVI) 2°10,0' ≈ 2°15' (Lat. 47°10,0 S) (+ ó -)	(05^m) + 02	(02^m) + 00	(05^m) +02	(02^m) + 00
Tabla - II Longitud (pag. XXXVI) [E: - (Long.≈120°); W :+ (Long.≈80°)]	(40^m) - 13	(07^m) - 03	($02\ 16^m$) + 45	($01\ 03^m$) + 22
HML	23 39	10 51	12 28	11 16
Long. en tiempo $\frac{E\ -}{W\ +}$	- 08 16	- 08 16	+ 05 14	+ 05 14
UT u HMG	15 23	02 35	17 42	16 26
HH $\frac{E\ -}{W\ +}$	+8	+8	- 5	- 5
Hb	23 23	10 35	12 42	11 26

3.5 Hora de a bordo del paso de los astros por el meridiano

El Almanaque posibilita el cálculo de la hora del paso por el meridiano de los astros observables. En las páginas diarias se presenta la hora del paso del Sol y de los planetas por el meridiano de Greenwich, para el día central a los tres días calculados. Para obtener la hora del paso por otro meridiano basta con restarle la longitud convertida en tiempo con su signo.

Ejemplo:

Determinar para el 19 de julio del 2022 la hora de a bordo del paso de Sol y Júpiter por el meridiano del lugar (λ_e): 015° 37,2´E y (λ_e) 015° 37,2´W.

Long 015° 37,2´E

Astro	Sol	Júpiter
	h m	h m
Pasa por el meridiano	12 06	04 16
Long. en tiempo $\frac{E}{W}$+ (015° 37,2')	- 01 02	- 01 02
HML	11 04	03 14
HH $\frac{E}{W}$+	+ 1	+ 1
Hb	12 04	04 14

Long 015° 37,2´W

Astro	Sol	Júpiter
	h m	h m
Pasa por el meridiano (HML)	12 06	04 16
Long. en tiempo $\frac{E}{W}$+ (015° 37,2')	+ 01 02	+ 01 02
HMG	13 08	05 18
HH $\frac{E}{W}$+	- 1	- 1
Hb	12 08	04 18

3.6 Correcciones aplicables a las alturas de los astros

A modo de resumen se recogen en el siguiente cuadro las tablas contenidas en este Almanaque que facilitan las correcciones para el trabajo con los astros:

	Depresión	**Adicional por refracción**	**Refracción**	**Paralaje**	**Semi-diámetro**
Sol	Tabla T_2 (Derecha)	Tabla T_4	Tabla T_2 (Izquierda)		
Luna	Tabla T_5 (Derecha)	Tabla T_4	Tabla T_5 (Derecha)		
Venus y Marte	Tabla T_2 (Derecha)	Tabla T_4	Tabla T_2 (Centro)		
Júpiter, Saturno y estrellas	Tabla T_2 (Derecha)	Tabla T_4	Tabla T_2 (Centro)		

3.7 Determinación de la latitud por la estrella Polar

Las tablas de la estrella Polar contienen los datos necesarios para el cálculo de la latitud a partir de la altura observada de este astro. La explicación y ejemplos del trabajo con estas tablas para el cálculo de la latitud se ofrecen en las páginas de las mismas.

Una vez obtenida la latitud, el valor de esta sirve, conjuntamente con el Ángulo Horario Local de Aries (AHLγ), como argumento de entrada a la parte inferior de la propia tabla de la estrella Polar para obtener el azimut verdadero de la estrella para la hora de la observación. El AHL γ se utiliza junto al valor de la latitud, para obtener el cielo estrellado con el empleo del disco identificador (Star Finder) de la serie 2102 - D. Para ello debe escoger el disco transparente con el valor más cercano a la latitud de estima, el cual se superpondrá sobre el disco base para adquirir de dicho disco (transparente) las coordenadas horizontales próximas en que se encontrará el astro en la bóveda celeste.

3.8 Fases de la Luna

Se llaman fases a los distintos aspectos que adquiere la superficie iluminada de la Luna de forma aparente, para un observador que se encuentre en la Tierra. Ello depende de las posiciones que nuestro satélite natural va ocupando en su órbita con respecto a la línea Sol - Tierra.

Los comienzos de las fases son los instantes en que las diferencias entre las longitudes aparentes de la Luna y el Sol son 0°, 90°, 180° y 270°.

Comienzo	Luna respecto al Sol
Luna nueva	Conjunción Sol - Luna - Tierra
Cuarto menguante	Cuadratura Luna a 90° de la línea: Tierra - Sol
Luna llena	Oposición Sol - Tierra - Luna
Cuarto creciente	Cuadratura Luna a 270° de la línea: Tierra - Sol

TABLA DE CORRECCIÓN DE LA ALTURA 10° - 90°. SOL, ESTRELLAS, PLANETAS

T, ALTITUDE CORRECCION TABLES 10° - 90°. SUN, STARS, PLANETS

OCT - MAR / OCT - MAR — SOL / SUN

h_a App alt.	Limbo Infer. Lower limb.	Limbo Super Upper Limb.
9° 34′	+10,8′	-21,5′
9 45	+10,9	-21,4
9 56	+11,0	-21,3
10 08	+11,1	-21,2
10 21	+11,2	-21,2
10 34	+11,3	-21,0
10 47	+11,4	-20,0
11 01	+11,5	-20,8
11 15	+11,6	-20,7
11 30	+11,7	-20,6
11 46	+11,8	-20,5
12 02	+11,9	-20,4
12 19	+12,0	-20,3
12 37	+12,1	-20,0
12 55	+12,2	-20,1
13 14	+12,3	-20,0
13 35	+12,4	-19,9
13 56	+12,5	-19,8
14 18	+12,6	-19,7
14 42	+12,7	-19,6
14 06	+12,8	-19,5
15 32	+12,9	-19,4
15 59	+13,0	-19,3
16 28	+13,1	-19,2
16 59	+13,2	-19,1
17 32	+13,3	-19,0
18 06	+13,4	-18,9
18 42	+13,5	-18,8
19 21	+13,6	-18,7
20 03	+13,7	-18,6
20 48	+13,8	-18,5
21 35	+13,9	-18,4
22 26	+14,0	-18,3
23 22	+14,1	-18,2
24 21	+14,2	-18,1
23 26	+14,3	-18,0
26 36	+14,4	-17,9
27 52	+14,5	-17,8
29 17	+14,6	-17,7
30 16	+14,7	-17,6
32 26	+14,8	-17,5
34 17	+14,9	-17,4
36 20	+15,0	-17,3
38 36	+15,1	-17,2
41 08	+15,2	-17,1
43 59	+15,3	-17,0
47 10	+15,4	-16,9
50 46	+15,5	-16,8
54 49	+15,6	-16,7
59 23	+15,7	-16,6
64 30	+15,8	-16,5
70 12	+15,9	-16,4
76 26	+16,0	-16,3
83 05	+16,0	-16,2
90 00		

ABRIL - SEPT / APR - SEPT — SOL / SUN

h_a App alt.	Limbo Infer. Lower limb.	Limbo Super Upper Limb.
9° 39′	+10,6′	- 21,2′
9 51	+10,7	- 21,1
10 03	+10,8	- 21,0
10 15	+10,9	- 20,9
10 27	+11,0	- 20,8
10 40	+11,1	- 20,7
10 54	+11,2	- 20,6
11 08	+11,3	- 20,5
11 23	+11,4	- 20,4
11 38	+11,5	- 20,3
11 54	+11,6	- 20,2
11 10	+11,7	- 20,1
12 38	+11,8	- 20,0
12 46	+11,9	- 19,9
12 05	+12,0	- 19,8
13 24	+12,1	- 19,7
13 45	+12,2	- 19,6
14 07	+12,3	- 19,5
14 30	+12,4	- 19,4
14 54	+12,5	- 19,3
14 19	+12,6	- 19,2
15 46	+12,7	- 19,1
16 14	+12,8	- 19,0
16 44	+12,9	- 18,9
17 15	+13,0	- 18,8
17 48	+13,1	- 18,7
18 24	+13,2	- 18,6
19 01	+13,3	- 18,5
19 42	+13,4	- 18,4
20 25	+13,5	- 18,3
21 11	+13,6	- 18,2
22 00	+13,7	- 18,1
22 54	+13,8	- 18,0
22 51	+13,9	- 17,9
22 53	+14,0	- 17,8
22 00	+14,1	- 17,7
27 13	+14,2	- 17,6
28 33	+14,3	- 17,5
30 00	+14,4	- 17,4
31 35	+14,5	- 17,3
31 20	+14,6	- 17,2
31 17	+14,7	- 17,1
37 26	+14,8	- 17,0
39 50	+14,9	- 16,9
42 31	+15,0	- 16,8
45 31	+15,1	- 16,7
48 55	+15,2	- 16,6
52 44	+15,3	- 16,5
57 02	+15,4	- 16,4
61 51	+15,5	- 16,3
67 17	+15,6	- 16,2
73 16	+15,7	- 16,1
79 43	+15,8	- 16,0
86 32	+15,9	- 15,9
90 00		

ESTRELLAS Y PLANETAS / STARS AND PLANETS

h_a App alt.	Corrección Correction
9° 39′	-5,3′
10 08	-5,2
10 20	-5,1
10 33	-5,0
10 46	-4,9
11 46	-4,8
11 14	-4,7
11 29	-4,6
11 45	-4,5
12 01	-4,4
12 18	-4,3
12 35	-4,2
12 54	-4,1
13 13	-4,0
13 33	-3,9
13 54	-3,8
14 16	-3,7
14 40	-3,6
15 04	-3,5
15 30	-3,4
15 57	-3,3
15 26	-3,2
16 56	-3,1
17 28	-3,0
18 02	-2,9
18 38	-2,8
19 17	-2,7
19 58	-2,6
20 42	-2,5
21 28	-2,4
22 19	-2,3
23 13	-2,2
23 11	-2,1
23 13	-2,0
23 22	-1,9
27 36	-1,8
28 56	-1,7
30 24	-1,6
32 00	-1,5
33 45	-1,4
35 40	-1,3
37 48	-1,2
40 08	-1,1
42 44	-1,0
45 36	-0,9
48 47	-0,8
52 18	-0,7
56 11	-0,6
60 28	-0,5
65 08	-0,4
70 11	-0,3
75 34	-0,2
81 13	-0,1
87 03	-0,0
90 00	

ESTRELLAS Y PLANETAS / STARS AND PLANETS — Corrección Adicional / Additional Correction

2020

Venus

1 ene – 20 feb

App alt.	Additional Correction
0°	+0,2′
42	+0,1
76	

21 feb – 31 dic

App alt.	Additional Correction
0°	+0,1′
61	

Marte

1 ene – 31 dic

App alt.	Additional Correction
0°	+0,1′
61	

DEPRESIÓN DEL HORIZONTE (DIP)

Altura del obs.	Corr	Altura del obs.
m		pie(ft)
2,4	-5,3′	8,0
2,6	-2,9	8,6
2,8	-3,0	9,2
3,0	-3,1	9,8
3,2	-3,2	10,5
3,4	-3,3	11,2
3,6	-3,4	11,9
3,8	-3,5	12,6
4,0	-3,6	13,3
4,3	-3,7	14,1
4,5	-3,8	14,9
4,7	-3,9	15,7
5,0	-3,9	16,5
5,2	-3,9	17,4
5,5	-4,2	18,3
5,8	-4,3	19,1
6,1	-4,4	20,1
6,3	-4,5	21,0
6,6	-4,6	22,0
6,9	-4,6	22,9
7,2	-4,6	23,9
7,5	-4,9	24,9
7,9	-5,0	26,0
8,2	-5,1	27,1
8,5	-5,2	28,1
8,8	-5,3	29,2
9,2	-5,4	34,4
9,5	-5,5	31,5
9,9	-5,6	32,5
10,3	-5,7	33,9
10,6	-5,8	35,5
11,0	-5,9	37,6
11,4	-6,0	36,3
11,8	-6,1	38,9
12,2	-6,2	40,1
12,6	-6,3	41,5
13,0	-6,4	42,8
13,4	-6,5	44,2
13,8	-6,6	45,5
14,2	-6,7	46,9
14,7	-6,8	48,4
15,1	-6,9	49,8
15,5	-7,0	51,3
16,0	-7,1	52,8
16,5	-7,2	54,3
16,9	-7,3	55,8
17,4	-7,4	57,4
17,9	-7,5	58,9
18,4	-7,6	60,5
18,8	-7,7	62,1
19,3	-7,8	63,8
19,8	-7,9	65,4
20,4	-8,0	67,1
20,9	-8,1	68,8
21,4		70,5

Altura del obs.	Corr
m	
1,0	-1,8′
1,5	-2,2
2,0	-2,5
2,5	-2,8
3,0	-3,0

Ver tabla / See table ←

m	
20	- 7,9′
22	- 8,3
24	- 8,6
26	- 9,0
28	- 9,3
30	- 9,6
32	-10,0
34	-10,3
36	-10,6
38	-10,8
40	-11,1
42	-11,4
44	-11,7
46	-11,9
48	-12,2

pie(ft)	
2	-1,4′
4	-1,9
6	-2,4
8	-2,7
10	-3,1

Ver tabla / See table ←

pie(ft)	
70	-8,1′
75	-8,4
80	-8,7
85	-8,9
90	-9,2
95	-9,5
100	-9,7
105	-9,9
110	-10,2
115	-10,4
120	-10,6
125	-10,8
130	-11,1
135	-11,3
140	-11,5
145	-11,7
150	-11,9
155	-12,1

ALTURA APARENTE = ALTURA DEL SEXTANTE CORREGIDA POR EL ERROR DE ÍNDICE Y LA DEPRESIÓN (DIP)

App. alt. = Apparent altitude = Sextant altitude corrected for index error and DIP.

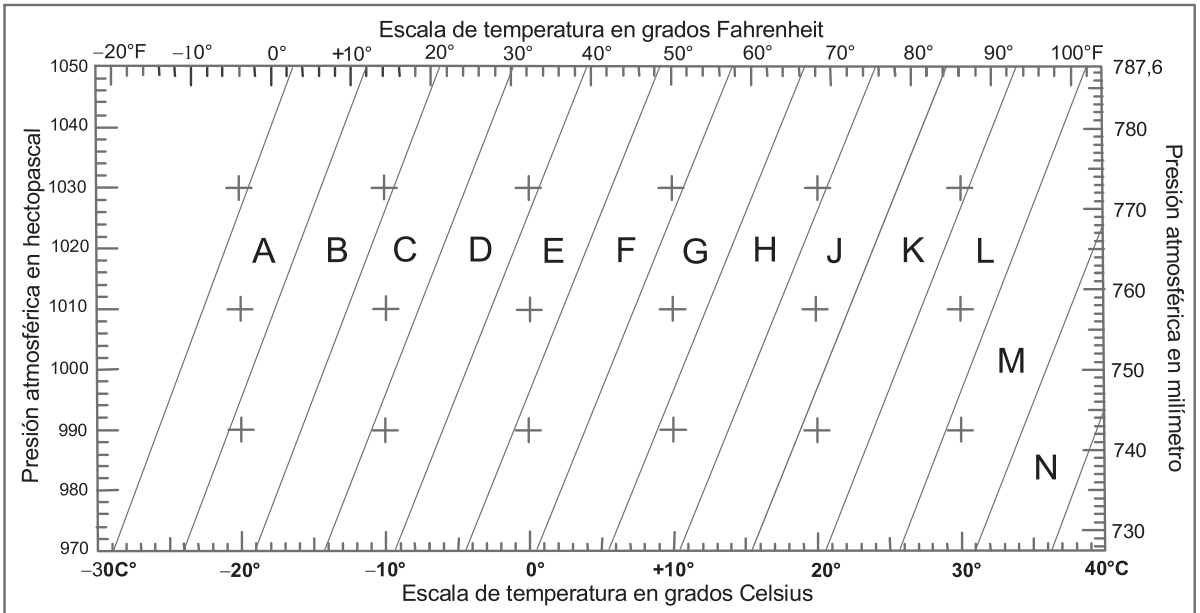
T_3 TABLA DE CORRECCIÓN DE LA ALTURA 0^0-10^0 , SOL, ESTRELLAS, PLANETAS

T_3 ALTITUDE CORRECTION TABLES 0^0-10^0 , SUN, STARS, PLANETS, T 3

Alt apa, App alt,	Oct – Mar Sol Oct – Mar Sun Abril – Sept April – Sept Limbo limbo Infer, Lower Limb	Limbo limbo Sup, Upper Limb	Limbo limbo Infer, Lower Limb	Limbo limbo Sup Upper Limb	Estrellas Planetas Star Planets
0^0 00'	- 18, 2'	- 50, 5'	- 18, 4'	50, 2'	- 34, 5'
03	17, 5	49, 8	17, 8	49, 6	33, 8
06	16, 9	49, 2	17, 1	48, 9	33, 2
09	16, 3	48, 6	16, 5	48, 3	32, 6
12	15, 7	48, 0	15, 9	47, 7	32, 0
15	15, 1	47, 4	15, 3	47, 1	31, 4
0 18	- 14, 5	- 46, 8	- 14, 8	- 46, 6	- 30, 8
21	14, 0	46, 3	14, 2	46, 0	30, 3
24	13, 5	45, 8	13, 7	45, 5	29, 8
27	12, 9	45, 2	13, 2	45, 0	29, 2
30	12, 4	44, 7	12, 7	44, 5	28, 7
33	11, 9	44, 2	12, 2	44, 0	28, 2
0 36	- 11,5	- 43, 8	- 11, 7	- 43, 5	- 27, 8
39	11, 0	43, 3	11, 2	43, 0	27, 3
42	10, 5	42, 8	10, 8	42, 6	26, 8
45	10, 1	42, 4	10, 3	42, 1	26, 4
48	9, 6	41, 9	9, 9	41, 7	25, 9
51	9, 2	41, 5	9, 5	41, 3	25, 5
0 54	- 8, 8	- 41, 3	- 9, 1	- 40, 9	- 25, 1
0 57	8, 4	40, 7	8, 7	40, 5	24, 7
1 00	8, 0	40, 3	8, 3	40, 1	24, 3
03	7, 7	40, 0	7, 9	39, 7	24, 0
06	7, 3	39, 6	7, 5	39, 3	23, 6
09	6, 9	39, 2	7, 2	39, 0	23, 2
1 12	- 6, 6	- 38, 9	- 6, 8	- 38, 6	- 22, 9
15	6, 2	38, 5	6, 5	38, 3	22, 5
18	5, 9	38, 2	6, 2	38, 0	22, 2
21	5, 6	37, 9	5, 8	37, 6	21, 9
24	5, 3	37, 6	5, 5	37, 3	21, 6
27	4, 9	37, 2	5, 2	37, 0	21, 2
1 30	- 4, 6	36, 9	- 4, 9	- 36, 7	- 20, 9
35	4, 2	36, 5	4, 4	36, 2	20, 5
40	3, 7	36, 0	4, 0	35, 8	20, 0
45	3, 2	35, 5	3, 5	35, 3	19, 5
50	2, 8	35, 1	3, 1	34, 9	19, 1
1 55	2, 4	34, 7	2, 6	34, 4	18, 7
2 00	- 2, 0	- 34, 3	- 2, 2	- 34,0	- 18, 7
05	1, 6	33, 9	1, 8	33, 6	17, 9
10	1, 2	33, 5	1, 5	33, 3	17, 5
15	0, 9	33,2	1, 1	32, 9	17, 2
20	0, 5	32, 8	0, 8	32, 6	16, 8
25	- 0,2	32, 5	0, 4	32, 2	16, 5
2 30	+ 0, 2	- 32, 1	- 0, 1	- 31, 9	- 16, 1
35	0, 5	31, 8	+ 0, 2	31, 6	15, 8
40	0, 8	31, 5	0, 5	31, 3	15, 5
45	1, 1	31, 2	0, 8	31, 0	15, 2
50	1, 4	30, 9	1, 1	30, 7	14, 9
55	1, 6	30, 7	1, 4	30, 4	14, 7
3 00	+ 1, 9	- 30, 4	+ 1, 7	- 30, 1	- 14, 4
05	2, 2	30, 1	1, 9	29, 9	14, 1
10	2, 4	29, 9	2, 1	29, 7	13, 9
15	2, 6	29, 7	2, 4	29, 4	13, 7
20	2, 9	29, 4	2, 6	29, 2	13, 4
25	3, 1	29, 2	2, 9	28, 9	13, 2
3 30	+ 3, 3	- 29, 0	+3, 1	- 28, 7	- 13, 8

Alt apa, App alt,	Oct – Mar Sol Oct – Mar Sun Abril – Sept April – Sept Limbo limbo Infer. Lower Limb	Limbo limbo Sup. Upper Limb	Limbo limbo Infer. Lower Limb	Limbo limbo Sup. Upper Limb	Estrellas Planetas Star Planets
3^0 30	+ 3, 3'	- 29, 0	+ 3, 1'	+ 28, 7'	- 13, 0'
35	3, 6	28, 7	3, 3	28, 5	12, 7
40	3, 8	28, 5	3, 5	28, 3	12, 5
45	4, 0	28, 3	3, 7	28, 1	12, 3
50	4, 2	28, 1	3, 9	27, 9	12, 1
3 55	4, 4	27, 9	4, 1	27, 7	11, 9
4 00	+ 4, 5	- 27, 8	+ 4, 3	- 27, 5	- 11, 8
05	4, 7	27, 6	4, 5	27, 3	11, 6
10	4, 9	27, 4	4, 6	27, 2	11, 4
15	5, 1	27, 2	4, 8	27, 0	11, 2
20	5, 2	27, 1	5, 0	26, 8	11, 1
25	5, 4	26, 9	5, 1	26, 7	10, 9
4 30	+ 5, 6	- 26, 7	+ 5, 3	- 26, 5	- 10, 7
35	5, 7	26, 6	5, 5	26, 3	10, 6
40	5, 9	26, 4	5, 6	26, 2	10, 4
45	6, 0	26, 3	5, 8	26, 0	10, 3
50	6, 2	26, 1	5, 9	25, 9	10, 1
4 55	6, 3	26, 0	6, 0	25, 8	10, 0
5 00	+ 6, 4	- 25, 9	+ 6, 2	- 25, 6	- 9, 9
05	6, 6	25, 7	6, 3	25, 5	9, 7
10	6, 7	25, 6	6, 4	25, 4	9, 6
15	6, 8	25, 5	6, 6	25, 3	9, 5
20	6, 9	25, 4	6, 7	25, 1	9, 4
25	7, 1	25, 2	6, 8	25, 0	9, 2
5 30	+ 7, 2	- 25, 1	+ 6, 9	- 24, 9	- 9, 1
35	7, 3	25, 0	7, 0	24, 8	9, 0
40	7, 4	24, 9	7, 2	24, 6	8, 9
45	7, 5	24, 8	7, 3	24, 5	8, 8
50	7, 6	24, 7	7, 4	24, 4	8, 7
5 55	7, 7	24, 6	7, 5	24, 3	8, 6
6 00	+ 7, 8	- 24, 5	+ 7, 6	- 24, 2	- 8, 5
10	8, 0	24, 3	7, 8	24, 0	8, 3
20	8, 2	24, 1	8, 0	23, 8	8, 1
30	8, 4	23, 9	8, 1	23, 7	7, 9
40	8, 6	23, 7	8, 3	23, 5	7, 7
50	8, 7	23, 6	8, 5	23, 3	7, 6
7 00	+ 8, 9	- 23, 4	+ 8, 6	- 23, 2	- 7, 4
10	9, 1	23, 2	8, 8	23, 0	7, 2
20	9, 2	23, 1	9, 0	22, 8	7, 1
30	9, 3	23, 0	9, 1	22, 7	7, 0
40	9, 5	22, 8	9, 2	22, 6	6, 8
7 50	9, 6	21, 7	9, 4	22, 4	6, 7
8 00	+ 9, 7	- 22, 6	+ 9, 5	- 22, 3	- 6, 6
10	9, 9	22, 4	9, 6	22, 2	6, 4
20	10, 0	22, 3	9, 7	22, 1	6, 3
30	10, 1	22, 2	9, 8	22, 0	6, 2
40	10, 2	22, 1	10, 0	21, 8	6, 1
8 50	10, 3	22, 0	10, 1	21, 7	6, 0
9 00	+ 10, 4	- 21, 9	+ 10, 2	- 21, 6	- 5, 9
10	10, 5	21, 8	10, 3	21, 5	5, 8
20	10, 6	21, 7	10, 4	21, 4	5, 7
30	10, 7	21, 6	10, 5	21, 3	5, 6
40	10, 8	21, 5	10, 6	21, 2	5, 5
9 50	10, 9	21, 4	10, 6	21, 2	5, 4
10 00	+ 11, 0	- 21, 3	+ 10, 7	- 21, 1	- 5, 3

T4 Tabla de corrección de altura (correcciones adicionales)
Correcciones adicionales por refracción para condiciones anormales

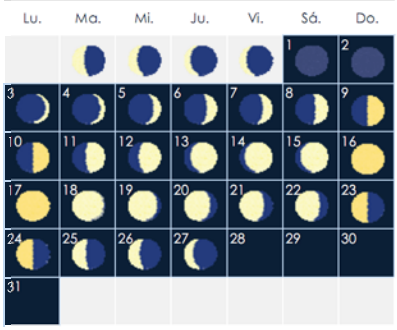


ha	A	B	C	D	E	F	G	H	J	K	L	M	N	P	ha
00° 00′	−7,2′	−5,8′	−4,5′	−3,3′	−2,1′	−1,2′	0,0′	+1,1′	+2,1′	+3,1′	+4,1′	+4,8′	+5,8′	+6,8′	00° 00′
00 30	5,5	4,5	3,5	2,6	1,7	0,8	0,0	0,8	1,6	2,3	3,1	3,8	4,5	5,3	00 30
01 00	4,4	3,5	2,8	2,0	1,3	0,7	0,0	0,6	1,2	1,8	2,4	3,0	3,6	4,2	01 00
01 30	3,5	2,9	2,2	1,7	1,1	0,5	0,0	0,5	1,0	1,5	2,0	2,5	2,9	3,4	01 30
02 00	2,9	2,4	1,9	1,4	0,9	0,4	0,0	0,4	0,8	1,3	1,7	2,0	2,4	2,8	02 00
02 30	−2,5	−2,0	−1,6	−1,2	−0,8	−0,4	0,0	+0,4	+0,7	+1,1	+1,4	+1,7	+2,1	+2,4	02 30
03 00	2,1	1,7	1,4	1,0	0,7	0,3	0,0	0,3	0,6	0,9	1,2	1,5	1,8	2,1	03 00
03 30	1,9	1,5	1,2	0,9	0,6	0,3	0,0	0,3	0,5	0,8	1,1	1,3	1,6	1,8	03 30
04 00	1,6	1,3	1,1	0,8	0,5	0,3	0,0	0,2	0,5	0,7	0,9	1,2	1,4	1,6	04 00
04 30	1,5	1,2	0,9	0,7	0,5	0,2	0,0	0,2	0,4	0,6	0,8	1,0	1,3	1,5	04 30
05 00	−1,3	−1,1	−0,9	−0,6	−0,4	−0,2	0,0	+0,2	+0,4	+0,6	+0,8	+0,9	+1,1	+1,3	05 00
06	1,1	0,9	0,7	0,5	0,3	0,2	0,0	0,2	0,3	0,5	0,6	0,8	0,9	1,1	06
07	1,0	0,8	0,6	0,5	0,3	0,1	0,0	0,1	0,3	0,4	0,5	0,7	0,8	0,9	07
08	0,8	0,7	0,5	0,4	0,3	0,1	0,0	0,1	0,2	0,4	0,5	0,6	0,7	0,8	08
09	0,7	0,6	0,5	0,4	0,2	0,1	0,0	0,1	0,2	0,3	0,4	0,5	0,6	0,7	09
10 00	−0,7	−0,5	−0,4	−0,3	−0,2	−0,1	0,0	+0,1	+0,2	+0,3	+0,4	+0,5	+0,6	+0,7	10 00
12	0,6	0,5	0,4	0,3	0,2	0,1	0,0	0,1	0,2	0,2	0,3	0,4	0,5	0,5	12
14	0,5	0,4	0,3	0,2	0,2	0,1	0,0	0,1	0,1	0,2	0,3	0,3	0,4	0,5	14
16	0,4	0,3	0,3	0,2	0,1	0,1	0,0	0,1	0,1	0,2	0,2	0,3	0,3	0,4	16
18	0,4	0,3	0,2	0,2	0,1	−0,1	0,0	+0,1	0,1	0,2	0,2	0,3	0,3	0,4	18
20 00	−0,3	−0,3	−0,2	−0,2	−0,1	0,0	0,0	0,0	+0,1	+0,1	+0,2	+0,2	+0,3	+0,3	20 00
25	0,3	0,2	0,2	0,1	0,1	0,0	0,0	0,0	0,1	0,1	0,1	0,2	0,2	0,2	25
30	0,2	0,2	0,1	0,1	0,1	0,0	0,0	0,0	+0,1	0,1	0,1	0,1	0,2	0,2	30
35	0,2	0,1	0,1	0,1	−0,1	0,0	0,0	0,0	0,0	0,1	0,1	0,1	0,1	0,2	35
40	0,1	0,1	0,1	−0,1	0,0	0,0	0,0	0,0	0,0	+0,1	0,1	0,1	0,1	0,1	40
50 00	−0,1	−0,1	−0,1	0,0	0,0	0,0	0,0	0,0	0,0	0,0	+0,1	+0,1	+0,1	+0,1	50 00

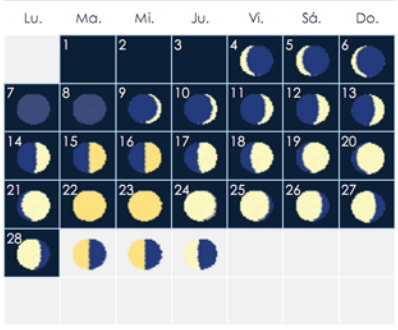
Al gráfico se entra con los argumentos de temperatura y presión para determinar una zona de letras (A.... M), con dicha zona de letras y la altura aparente (altura del sextante corregida por depresión del horizonte), se halla la corrección en la tabla, la que se aplica a la altura del sextante además de las correcciones para condiciones normales.

FASES DE LA LUNA 2022

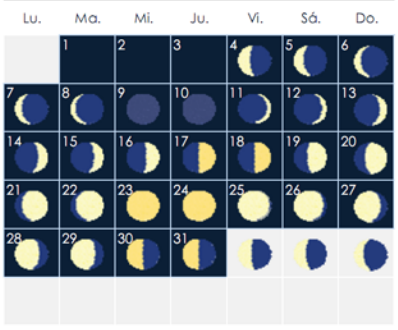
ENERO



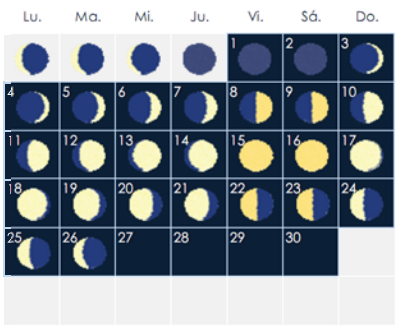
FEBRERO



MARZO



ABRIL



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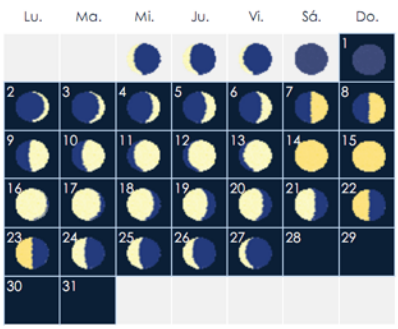

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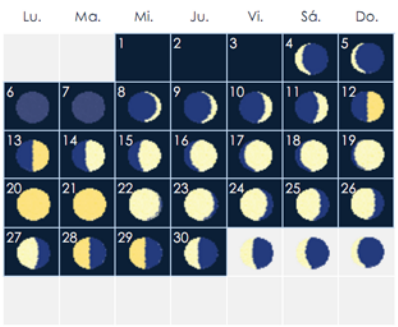
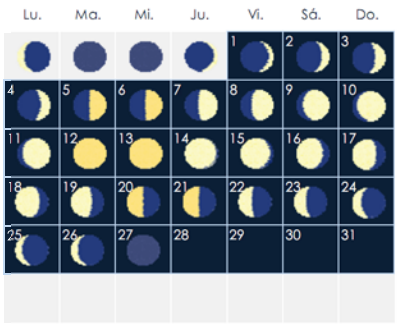
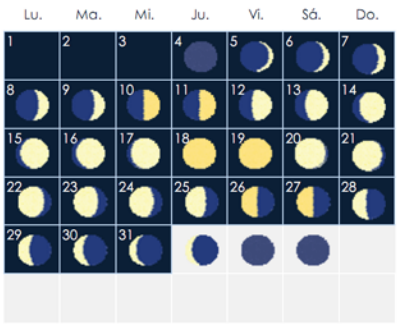


JULIO



AGOSTO



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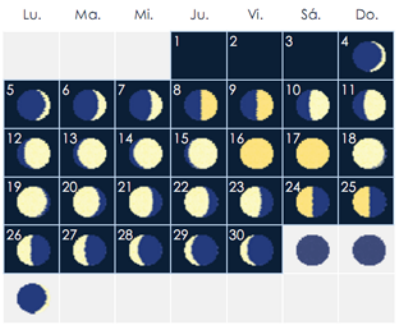
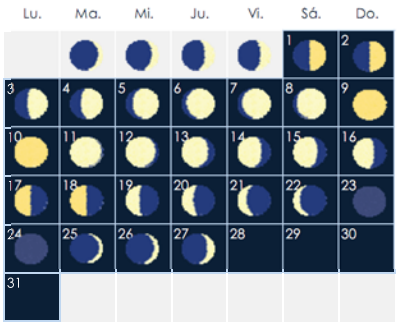


OCTUBRE



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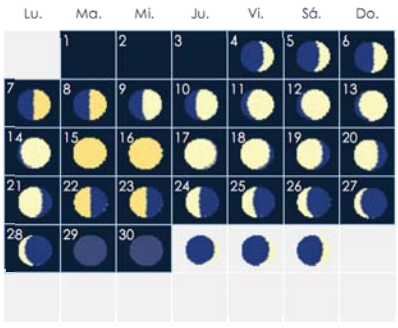
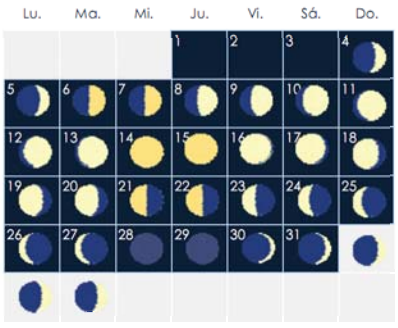
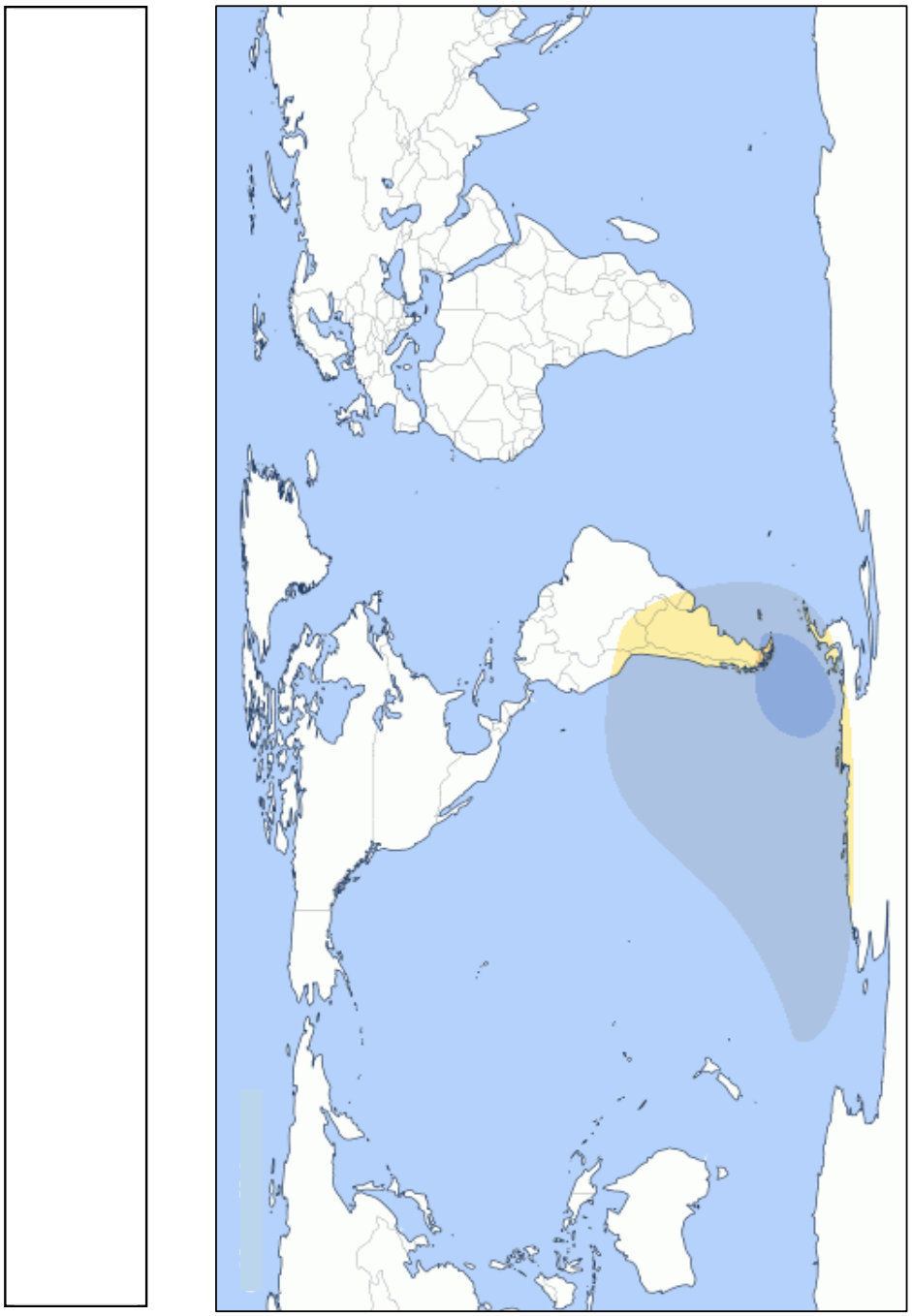
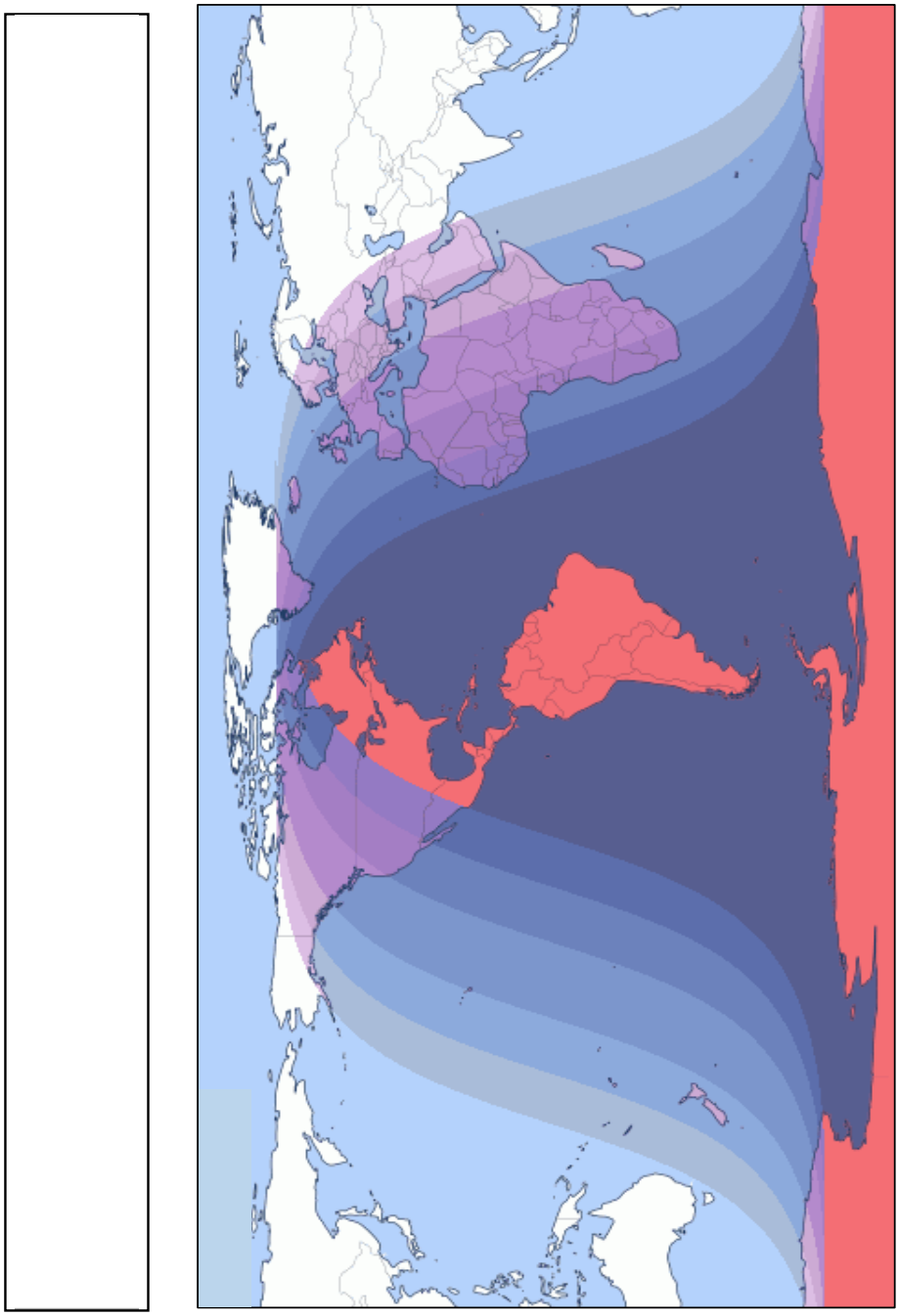
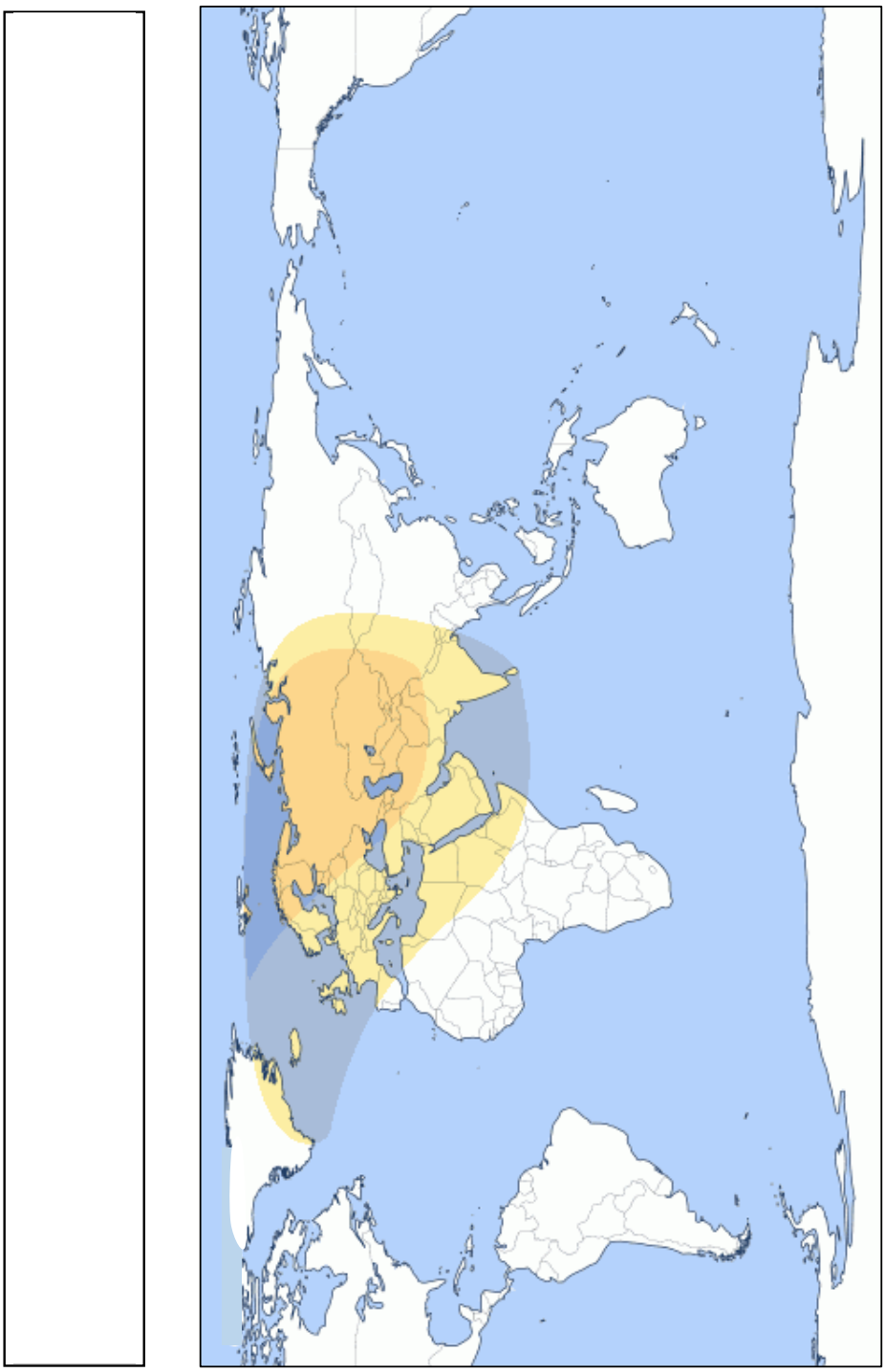


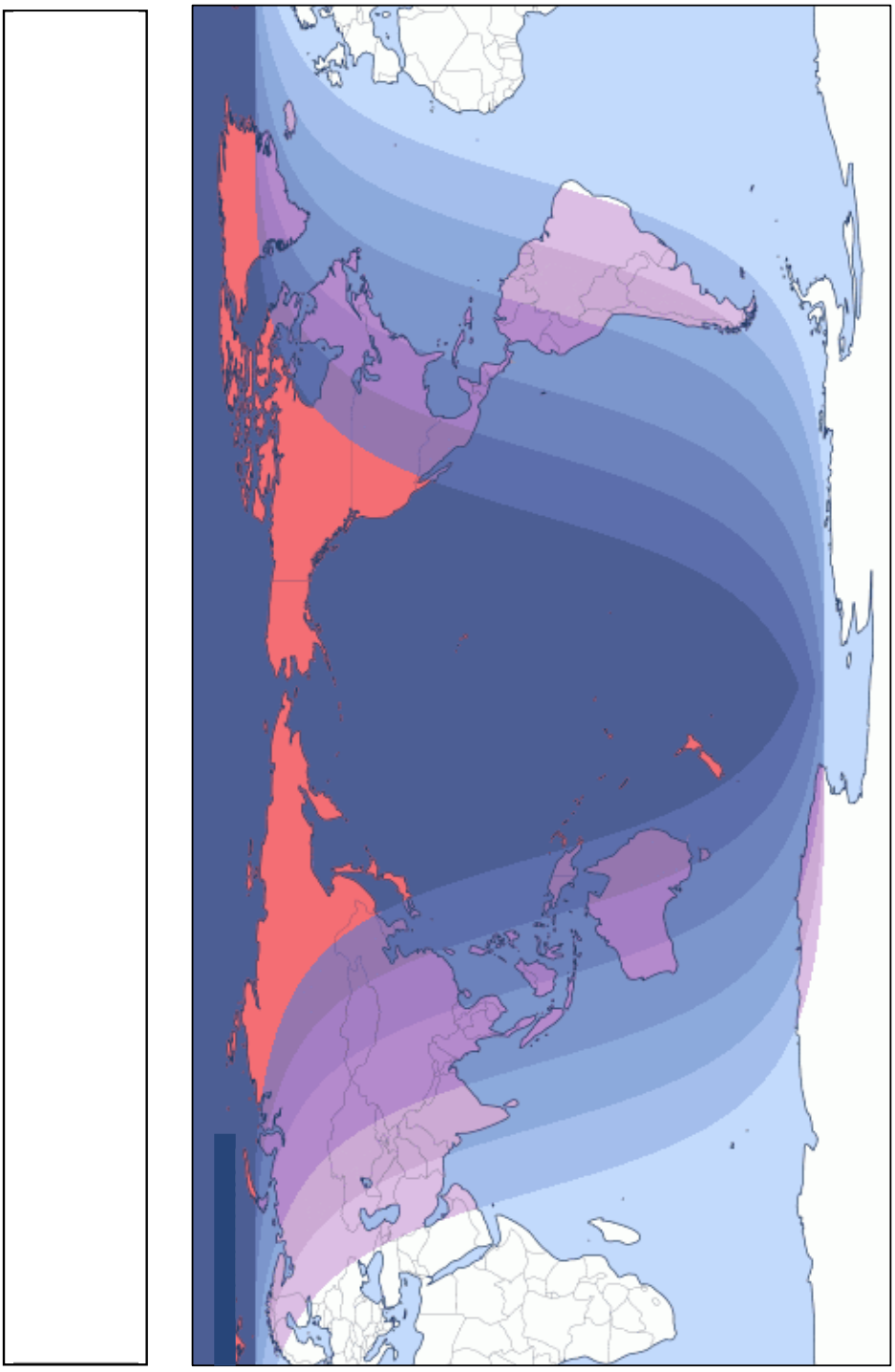
DICIEMBRE











Páginas diarias

Enero 01, 02, 03 (Sa, Dom, Lun.)

	Aries	Venus		Martes		Júpiter		Saturno	
Sa	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	100°37.6	166°00.0	-18°35.0	208°58.0	-22°30.0	127°39.4	-12°12.7	146°01.3	-18°00.6
1	115°40.0	181°03.9	-18°34.6	223°58.6	-22°30.3	142°41.3	-12°12.5	161°03.5	-18°00.6
2	130°42.5	196°07.7	-18°34.1	238°59.1	-22°30.5	157°43.3	-12°12.3	176°05.7	-18°00.5
3	145°45.0	211°11.6	-18°33.7	253°59.7	-22°30.7	172°45.3	-12°12.1	191°07.9	-18°00.4
4	160°47.4	226°15.4	-18°33.3	269°00.3	-22°31.0	187°47.3	-12°12.0	206°10.1	-18°00.3
5	175°49.9	241°19.3	-18°32.8	284°00.8	-22°31.2	202°49.3	-12°11.8	221°12.3	-18°00.3
6	190°52.4	256°23.1	-18°32.4	299°01.4	-22°31.5	217°51.3	-12°11.6	236°14.5	-18°00.2
7	205°54.8	271°27.0	-18°32.0	314°01.9	-22°31.7	232°53.3	-12°11.4	251°16.6	-18°00.1
8	220°57.3	286°30.9	-18°31.5	329°02.5	-22°32.0	247°55.3	-12°11.2	266°18.8	-18°00.0
9	235°59.8	301°34.7	-18°31.1	344°03.0	-22°32.2	262°57.3	-12°11.1	281°21.0	-18°00.0
10	251°02.2	316°38.6	-18°30.6	359°03.6	-22°32.5	277°59.3	-12°10.9	296°23.2	-17°59.9
11	266°04.7	331°42.5	-18°30.2	14°04.2	-22°32.7	293°01.3	-12°10.7	311°25.4	-17°59.8
12	281°07.2	346°46.3	-18°29.8	29°04.7	-22°33.0	308°03.3	-12°10.5	326°27.6	-17°59.7
13	296°09.6	1°50.2	-18°29.3	44°05.3	-22°33.2	323°05.3	-12°10.4	341°29.8	-17°59.7
14	311°12.1	16°54.1	-18°28.9	59°05.8	-22°33.5	338°07.3	-12°10.2	356°32.0	-17°59.6
15	326°14.5	31°58.0	-18°28.5	74°06.4	-22°33.7	353°09.3	-12°10.0	11°34.2	-17°59.5
16	341°17.0	47°01.9	-18°28.0	89°06.9	-22°34.0	8°11.3	-12°09.8	26°36.4	-17°59.4
17	356°19.5	62°05.8	-18°27.6	104°07.5	-22°34.2	23°13.3	-12°09.7	41°38.5	-17°59.4
18	11°21.9	77°09.6	-18°27.2	119°08.1	-22°34.4	38°15.3	-12°09.5	56°40.7	-17°59.3
19	26°24.4	92°13.5	-18°26.7	134°08.6	-22°34.7	53°17.3	-12°09.3	71°42.9	-17°59.2
20	41°26.9	107°17.4	-18°26.3	149°09.2	-22°34.9	68°19.3	-12°09.1	86°45.1	-17°59.1
21	56°29.3	122°21.3	-18°25.9	164°09.7	-22°35.2	83°21.3	-12°08.9	101°47.3	-17°59.1
22	71°31.8	137°25.2	-18°25.4	179°10.3	-22°35.4	98°23.3	-12°08.8	116°49.5	-17°59.0
23	86°34.3	152°29.2	-18°25.0	194°10.8	-22°35.6	113°25.3	-12°08.6	131°51.7	-17°58.9
Mer.pass.	:17:14	v3.8	d0.4 m-3.7	v0.6	d-0.2 m1.6	v2.0	d0.2 m-2.0	v2.2	d0.1 m0.7

Dom	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	101°36.7	167°33.1	-18°24.6	209°11.4	-22°35.9	128°27.3	-12°08.4	146°53.9	-17°58.8
1	116°39.2	182°37.0	-18°24.1	224°11.9	-22°36.1	143°29.3	-12°08.2	161°56.1	-17°58.8
2	131°41.7	197°40.9	-18°23.7	239°12.5	-22°36.4	158°31.2	-12°08.1	176°58.2	-17°58.7
3	146°44.1	212°44.8	-18°23.3	254°13.1	-22°36.6	173°33.2	-12°07.9	192°00.4	-17°58.6
4	161°46.6	227°48.7	-18°22.8	269°13.6	-22°36.9	188°35.2	-12°07.7	207°02.6	-17°58.5
5	176°49.0	242°52.6	-18°22.4	284°14.2	-22°37.1	203°37.2	-12°07.5	222°04.8	-17°58.5
6	191°51.5	257°56.6	-18°22.0	299°14.7	-22°37.3	218°39.2	-12°07.3	237°07.0	-17°58.4
7	206°54.0	273°00.5	-18°21.6	314°15.3	-22°37.6	233°41.2	-12°07.2	252°09.2	-17°58.3
8	221°56.4	288°04.4	-18°21.1	329°15.8	-22°37.8	248°43.2	-12°07.0	267°11.4	-17°58.2
9	236°58.9	303°08.4	-18°20.7	344°16.4	-22°38.0	263°45.2	-12°06.8	282°13.6	-17°58.2
10	252°01.4	318°12.3	-18°20.3	359°16.9	-22°38.3	278°47.2	-12°06.6	297°15.8	-17°58.1
11	267°03.8	333°16.2	-18°19.8	14°17.5	-22°38.5	293°49.2	-12°06.5	312°17.9	-17°58.0
12	282°06.3	348°20.2	-18°19.4	29°18.0	-22°38.8	308°51.2	-12°06.3	327°20.1	-17°57.9
13	297°08.8	3°24.1	-18°19.0	44°18.6	-22°39.0	323°53.2	-12°06.1	342°22.3	-17°57.9
14	312°11.2	18°28.1	-18°18.6	59°19.1	-22°39.2	338°55.2	-12°05.9	357°24.5	-17°57.8
15	327°13.7	33°32.0	-18°18.2	74°19.7	-22°39.5	353°57.2	-12°05.7	12°26.7	-17°57.7
16	342°16.2	48°36.0	-18°17.7	89°20.2	-22°39.7	8°59.2	-12°05.6	27°28.9	-17°57.6
17	357°18.6	63°39.9	-18°17.3	104°20.8	-22°39.9	24°01.1	-12°05.4	42°31.1	-17°57.6
18	12°21.1	78°43.9	-18°16.9	119°21.4	-22°40.2	39°03.1	-12°05.2	57°33.3	-17°57.5
19	27°23.5	93°47.8	-18°16.5	134°21.9	-22°40.4	54°05.1	-12°05.0	72°35.4	-17°57.4
20	42°26.0	108°51.8	-18°16.0	149°22.5	-22°40.6	69°07.1	-12°04.9	87°37.6	-17°57.3
21	57°28.5	123°55.7	-18°15.6	164°23.0	-22°40.9	84°09.1	-12°04.7	102°39.8	-17°57.3
22	72°30.9	138°59.7	-18°15.2	179°23.6	-22°41.1	99°11.1	-12°04.5	117°42.0	-17°57.2
23	87°33.4	154°03.7	-18°14.8	194°24.1	-22°41.3	114°13.1	-12°04.3	132°44.2	-17°57.1
Mer.pass.	:17:10	v3.9	d0.4 m-3.7	v0.6	d-0.2 m1.5	v2.0	d0.2 m-2.0	v2.2	d0.1 m0.7

Lun	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	102°35.9	169°07.6	-18°14.4	209°24.7	-22°41.6	129°15.1	-12°04.1	147°46.4	-17°57.0
1	117°38.3	184°11.6	-18°13.9	224°25.2	-22°41.8	144°17.1	-12°04.0	162°48.6	-17°57.0
2	132°40.8	199°15.6	-18°13.5	239°25.8	-22°42.0	159°19.1	-12°03.8	177°50.8	-17°56.9
3	147°43.3	214°19.6	-18°13.1	254°26.3	-22°42.3	174°21.1	-12°03.6	192°53.0	-17°56.8
4	162°45.7	229°23.5	-18°12.7	269°26.9	-22°42.5	189°23.0	-12°03.4	207°55.1	-17°56.7
5	177°48.2	244°27.5	-18°12.3	284°27.4	-22°42.7	204°25.0	-12°03.2	222°57.3	-17°56.7
6	192°50.7	259°31.5	-18°11.8	299°28.0	-22°43.0	219°27.0	-12°03.1	237°59.5	-17°56.6
7	207°53.1	274°35.5	-18°11.4	314°28.5	-22°43.2	234°29.0	-12°02.9	253°01.7	-17°56.5
8	222°55.6	289°39.5	-18°11.0	329°29.1	-22°43.4	249°31.0	-12°02.7	268°03.9	-17°56.4
9	237°58.0	304°43.5	-18°10.6	344°29.6	-22°43.6	264°33.0	-12°02.5	283°06.1	-17°56.4
10	253°00.5	319°47.5	-18°10.2	359°30.2	-22°43.9	279°35.0	-12°02.3	298°08.3	-17°56.3
11	268°03.0	334°51.5	-18°09.8	14°30.7	-22°44.1	294°37.0	-12°02.2	313°10.4	-17°56.2
12	283°05.4	349°55.4	-18°09.4	29°31.3	-22°44.3	309°39.0	-12°02.0	328°12.6	-17°56.1
13	298°07.9	4°59.4	-18°08.9	44°31.8	-22°44.6	324°41.0	-12°01.8	343°14.8	-17°56.0
14	313°10.4	20°03.4	-18°08.5	59°32.4	-22°44.8	339°42.9	-12°01.6	358°17.0	-17°56.0
15	328°12.8	35°07.4	-18°08.1	74°32.9	-22°45.0	354°44.9	-12°01.4	13°19.2	-17°55.9
16	343°15.3	50°11.5	-18°07.7	89°33.4	-22°45.2	9°46.9	-12°01.3	28°21.4	-17°55.8
17	358°17.8	65°15.5	-18°07.3	104°34.0	-22°45.5	24°48.9	-12°01.1	43°23.6	-17°55.7
18	13°20.2	80°19.5	-18°06.9	119°34.5	-22°45.7	39°50.9	-12°00.9	58°25.8	-17°55.7
19	28°22.7	95°23.5	-18°06.5	134°35.1	-22°45.9	54°52.9	-12°00.7	73°27.9	-17°55.6
20	43°25.2	110°27.5	-18°06.1	149°35.6	-22°46.1	69°54.9	-12°00.5	88°30.1	-17°55.5
21	58°27.6	125°31.5	-18°05.7	164°36.2	-22°46.4	84°56.9	-12°00.4	103°32.3	-17°55.4
22	73°30.1	140°35.5	-18°05.2	179°36.7	-22°46.6	99°58.9	-12°00.2	118°34.5	-17°55.4
23	88°32.5	155°39.5	-18°04.8	194°37.3	-22°46.8	115°00.8	-12°00.0	133°36.7	-17°55.3
Mer.pass.	:17:06	v4.0	d0.4 m-3.7	v0.6	d-0.2 m1.5	v2.0	d0.2 m-2.0	v2.2	d0.1 m0.7

Estrellas

	AHS	Dec
Alpheratz	357°37.4	29°12.8
Ankaa	353°09.6	-42°11.5
Schedar	349°33.8	56°39.7
Diphda	348°49.7	-17°52.2
Achernar	335°22.0	-57°07.9
Hamal	327°53.9	23°34.0
Polaris	314°53.8	89°21.6
Akamar	315°13.4	-40°13.3
Menkar	314°08.5	4°10.5
Mirfak	308°31.4	49°56.4
Aldebaran	290°42.2	16°33.2
Rigel	281°05.9	-8°10.7
Capella	280°25.1	46°01.3
Bellatrix	278°25.2	6°22.1
Elnath	278°04.6	28°37.5
Alnilam	275°39.9	-1°11.3
Betelgeuse	270°54.4	7°24.6
Canopus	263°52.9	-52°42.5
Sirius	258°28.0	-16°44.6
Adara	255°07.4	-29°00.1
Procyon	244°53.0	5°10.2
Pollux	243°19.9	27°58.3
Avior	234°15.1	-59°34.6
Suhail	222°47.7	-43°31.1
Miaplacidus	221°37.9	-69°48.2
Alphard	217°49.9	-8°45.2
Regulus	207°36.8	11°51.6
Dubhe	193°43.8	61°37.7
Denebola	182°27.3	14°26.9
Gienah	175°46.1	-17°39.7
Acrux	173°02.7	-63°12.9
Gacrux	171°54.3	-57°13.8
Alioth	166°15.3	55°50.2
Spica	158°25.0	-11°16.4
Alcaid	152°54.1	49°12.0
Hadar	148°39.7	-60°28.4
Menkent	148°00.7	-36°28.4
Arcturus	145°50.2	19°04.3
Rigil Kent.	139°44.0	-60°55.2
Zubenelg.	136°58.9	-16°07.8
Kochab	137°20.5	74°03.7
Alphecca	126°06.1	26°38.4
Antares	112°19.2	-26°28.7
Atria	107°16.1	-69°03.8
Sabik	102°05.9	-15°45.1
Shaula	96°14.1	-37°07.1
Rasalhague	96°01.2	12°32.7
Etamin	90°43.9	51°29.1
Kaus Aust.	83°36.2	-34°22.4
Vega	80°35.4	38°48.2
Nunki	75°51.2	-26°16.2
Altair	62°02.8	8°55.5
Peacock	53°10.2	-56°40.0
Deneb	49°27.9	45°21.6
Enif	33°41.5	9°58.5
Alnair	27°36.4	-46°51.5
Fomalhaut	15°17.5	-29°30.6
Scheat	13°47.8	28°12.1
Markab	13°32.5	15°19.4

Ene 01 Sa	AHS	Paso Merid
Venus	65°22.5	12:53
Mars	108°20.4	10:04
Jupiter	27°01.8	15:27
Saturn	45°23.7	14:14

Ene 02 Dom	AHS	Paso Merid
Venus	65°56.3	12:46
Mars	107°34.7	10:03
Jupiter	26°50.5	15:24
Saturn	45°17.1	14:10

Ene 03 Lun	AHS	Paso Merid
Venus	66°31.8	12:40
Mars	106°48.8	10:02
Jupiter	26°39.2	15:21
Saturn	45°10.5	14:07

Paralelaje Horizontal	
Venus:	0.5
Mars:	0.1

h	Sol		Luna				
Sa	AHG	Dec	AHG	v	Dec	d	HP
0	179°10.5	-23°01.2	206°32.4	2.9	-23°55.2	-7.4	61.1
1	194°10.2	-23°01.0	220°54.3	2.8	-24°02.5	-7.2	61.1
2	209°09.9	-23°00.8	235°16.1	2.7	-24°09.6	-7.0	61.1
3	224°09.6	-23°00.6	249°37.8	2.6	-24°16.6	-6.9	61.1
4	239°09.3	-23°00.4	263°59.4	2.6	-24°23.4	-6.7	61.1
5	254°09.0	-23°00.2	278°20.9	2.5	-24°30.0	-6.5	61.2
6	269°08.7	-23°00.0	292°42.3	2.4	-24°36.4	-6.3	61.2
7	284°08.4	-22°59.8	307°03.7	2.3	-24°42.6	-6.1	61.2
8	299°08.1	-22°59.6	321°24.9	2.2	-24°48.6	-6.0	61.2
9	314°07.8	-22°59.4	335°46.1	2.1	-24°54.5	-5.8	61.2
10	329°07.5	-22°59.2	350°07.2	2.1	-25°00.2	-5.6	61.2
11	344°07.2	-22°58.9	4°28.2	2.0	-25°05.7	-5.4	61.2
12	359°06.9	-22°58.7	18°49.2	1.9	-25°10.9	-5.2	61.2
13	14°06.6	-22°58.5	33°10.1	1.9	-25°16.0	-5.0	61.2
14	29°06.3	-22°58.3	47°30.9	1.8	-25°20.9	-4.8	61.2
15	44°06.0	-22°58.1	61°51.6	1.7	-25°25.6	-4.6	61.2
16	59°05.7	-22°57.9	76°12.3	1.7	-25°30.2	-4.4	61.2
17	74°05.4	-22°57.7	90°33.0	1.6	-25°34.5	-4.2	61.2
18	89°05.1	-22°57.5	104°53.6	1.6	-25°38.6	-4.0	61.2
19	104°04.9	-22°57.2	119°14.1	1.5	-25°42.5	-3.8	61.2
20	119°04.6	-22°57.0	133°34.6	1.5	-25°46.2	-3.6	61.2
21	134°04.3	-22°56.8	147°55.0	1.4	-25°49.7	-3.4	61.2
22	149°04.0	-22°56.6	162°15.4	1.4	-25°53.0	-3.2	61.2
23	164°03.7	-22°56.4	176°35.8	1.3	-25°56.2	-3.0	61.2
	SD.=16.3	d=0.2	S.D.=16.7				

Dom	AHG	Dec	AHG	v	Dec	d	HP
0	179°03.4	-22°56.1	190°56.1	1.3	-25°59.1	-2.8	61.2
1	194°03.1	-22°55.9	205°16.3	1.3	-26°01.8	-2.6	61.2
2	209°02.8	-22°55.7	219°36.6	1.2	-26°04.3	-2.4	61.2
3	224°02.5	-22°55.5	233°56.8	1.2	-26°06.6	-2.2	61.2
4	239°02.2	-22°55.3	248°17.0	1.2	-26°08.7	-2.0	61.2
5	254°01.9	-22°55.0	262°37.2	1.2	-26°10.5	-1.8	61.2
6	269°01.6	-22°54.8	276°57.4	1.2	-26°12.2	-1.6	61.2
7	284°01.3	-22°54.6	291°17.5	1.1	-26°13.7	-1.4	61.2
8	299°01.0	-22°54.4	305°37.6	1.1	-26°14.9	-1.2	61.2
9	314°00.7	-22°54.1	319°57.8	1.1	-26°16.0	-1.0	61.2
10	329°00.5	-22°53.9	334°17.9	1.1	-26°16.8	-0.7	61.2
11	344°00.2	-22°53.7	348°38.0	1.1	-26°17.5	-0.5	61.2
12	358°59.9	-22°53.4	2°58.1	1.1	-26°17.9	-0.3	61.2
13	13°59.6	-22°53.2	17°18.3	1.1	-26°18.1	-0.1	61.2
14	28°59.3	-22°53.0	31°38.4	1.1	-26°18.2	0.1	61.2
15	43°59.0	-22°52.8	45°58.6	1.2	-26°18.0	0.3	61.2
16	58°58.7	-22°52.5	60°18.7	1.2	-26°17.6	0.5	61.2
17	73°58.4	-22°52.3	74°38.9	1.2	-26°17.0	0.7	61.1
18	88°58.1	-22°52.1	88°59.1	1.2	-26°16.2	0.9	61.1
19	103°57.8	-22°51.8	103°19.4	1.3	-26°15.1	1.1	61.1
20	118°57.5	-22°51.6	117°39.6	1.3	-26°13.9	1.3	61.1
21	133°57.3	-22°51.3	131°59.9	1.3	-26°12.5	1.5	61.1
22	148°57.0	-22°51.1	146°20.3	1.4	-26°10.9	1.7	61.1
23	163°56.7	-22°50.9	160°40.6	1.4	-26°09.0	1.9	61.1
	SD.=16.3	d=0.2	S.D.=16.7				

Lun	AHG	Dec	AHG	v	Dec	d	HP
0	178°56.4	-22°50.6	175°01.0	1.4	-26°07.0	2.1	61.1
1	193°56.1	-22°50.4	189°21.5	1.5	-26°04.7	2.3	61.0
2	208°55.8	-22°50.2	203°42.0	1.5	-26°02.3	2.5	61.0
3	223°55.5	-22°49.9	218°02.6	1.6	-25°59.7	2.7	61.0
4	238°55.2	-22°49.7	232°23.2	1.6	-25°56.8	2.9	61.0
5	253°54.9	-22°49.4	246°43.9	1.7	-25°53.8	3.1	61.0
6	268°54.6	-22°49.2	261°04.6	1.8	-25°50.5	3.3	61.0
7	283°54.4	-22°48.9	275°25.4	1.8	-25°47.1	3.5	61.0
8	298°54.1	-22°48.7	289°46.3	1.9	-25°43.5	3.7	60.9
9	313°53.8	-22°48.4	304°07.2	2.0	-25°39.6	3.9	60.9
10	328°53.5	-22°48.2	318°28.2	2.0	-25°35.6	4.1	60.9
11	343°53.2	-22°48.0	332°49.3	2.1	-25°31.4	4.3	60.9
12	358°52.9	-22°47.7	347°10.5	2.2	-25°27.0	4.5	60.9
13	13°52.6	-22°47.5	1°31.7	2.3	-25°22.4	4.7	60.8
14	28°52.3	-22°47.2	15°53.0	2.4	-25°17.6	4.9	60.8
15	43°52.1	-22°47.0	30°14.4	2.5	-25°12.7	5.1	60.8
16	58°51.8	-22°46.7	44°35.9	2.5	-25°07.5	5.2	60.8
17	73°51.5	-22°46.4	58°57.5	2.6	-25°02.2	5.4	60.7
18	88°51.2	-22°46.2	73°19.2	2.7	-24°56.7	5.6	60.7
19	103°50.9	-22°45.9	87°41.0	2.8	-24°51.0	5.8	60.7
20	118°50.6	-22°45.7	102°02.8	2.9	-24°45.1	6.0	60.7
21	133°50.3	-22°45.4	116°24.8	3.0	-24°39.0	6.1	60.7
22	148°50.0	-22°45.2	130°46.9	3.1	-24°32.8	6.3	60.6
23	163°49.8	-22°44.9	145°09.0	3.2	-24°26.4	6.5	60.6
	SD.=16.3	d=0.2	S.D.=16.7				

	Crepúsculo				Crepúsculo	
Lat.	Naut.	Civil	Orto Sol	Ocaso Sol	Civil	Naut.
N 72	08:23	10:39	–:–	–:–	13:29	15:46
70	08:04	09:48	–:–	–:–	14:20	16:04
68	07:49	09:16	–:–	–:–	14:53	16:19
66	07:37	08:52	10:26	13:42	15:16	16:32
64	07:26	08:34	09:48	14:20	15:35	16:42
62	07:17	08:18	09:22	14:46	15:50	16:51
60	07:09	08:05	09:02	15:07	16:03	16:59
58	07:02	07:54	08:45	15:23	16:14	17:06
56	06:55	07:44	08:31	15:37	16:24	17:13
54	06:50	07:35	08:19	15:50	16:33	17:19
52	06:44	07:27	08:08	16:00	16:41	17:24
50	06:39	07:20	07:58	16:10	16:48	17:29
45	06:28	07:05	07:38	16:30	17:03	17:41
40	06:18	06:52	07:22	16:46	17:17	17:51
35	06:09	06:40	07:08	17:00	17:28	18:00
30	06:00	06:30	06:56	17:12	17:38	18:08
20	05:44	06:11	06:35	17:33	17:57	18:24
10	05:28	05:55	06:17	17:51	18:13	18:40
0	05:12	05:38	06:00	18:08	18:30	18:56
S 10	04:53	05:20	05:43	18:25	18:48	19:15
20	04:31	05:00	05:25	18:43	19:08	19:37
30	04:03	04:36	05:03	19:05	19:32	20:05
35	03:44	04:21	04:50	19:17	19:47	20:23
40	03:22	04:03	04:36	19:32	20:05	20:46
45	02:52	03:41	04:18	19:50	20:27	21:15
50	02:09	03:12	03:56	20:11	20:55	21:58
52	01:43	02:58	03:46	20:22	21:10	22:24
54	01:03	02:41	03:34	20:34	21:27	23:02
56	–:–	02:19	03:20	20:47	21:48	–:–
58	–:–	01:52	03:04	21:03	22:15	–:–
60	–:–	01:09	02:44	21:23	22:56	–:–

	Orto luna			Ocaso luna		
Lat.	Sa	Dom	Lun	Sa	Dom	Lun
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	–:–	–:–	–:–
68	–:–	–:–	–:–	–:–	–:–	–:–
66	–:–	–:–	–:–	–:–	–:–	–:–
64	09:35	–:–	12:09	11:40	–:–	13:45
62	08:42	10:21	11:08	12:33	13:13	14:45
60	08:10	09:40	10:34	13:05	13:55	15:19
58	07:47	09:12	10:09	13:30	14:23	15:44
56	07:27	08:50	09:49	13:49	14:45	16:04
54	07:11	08:32	09:32	14:06	15:03	16:20
52	06:57	08:16	09:17	14:20	15:18	16:34
50	06:45	08:03	09:05	14:32	15:32	16:47
45	06:20	07:36	08:39	14:58	15:59	17:12
40	06:01	07:14	08:18	15:18	16:21	17:32
35	05:44	06:56	08:01	15:35	16:39	17:49
30	05:30	06:41	07:46	15:50	16:54	18:04
20	05:06	06:15	07:20	16:15	17:20	18:28
10	04:45	05:53	06:59	16:37	17:43	18:49
0	04:26	05:32	06:38	16:57	18:03	19:09
S 10	04:07	05:11	06:18	17:17	18:24	19:28
20	03:46	04:49	05:56	17:39	18:47	19:49
30	03:23	04:23	05:30	18:04	19:12	20:13
35	03:09	04:08	05:15	18:19	19:28	20:27
40	02:53	03:50	04:58	18:36	19:45	20:43
45	02:35	03:29	04:37	18:57	20:06	21:03
50	02:11	03:03	04:11	19:23	20:33	21:26
52	02:00	02:50	03:58	19:35	20:46	21:38
54	01:48	02:35	03:43	19:50	21:01	21:51
56	01:33	02:18	03:26	20:07	21:18	22:06
58	01:17	01:58	03:05	20:27	21:39	22:23
60	00:56	01:32	02:39	20:53	22:05	22:44

Día	Sol			Luna		
	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
1	03:18	03:32	12:03	10:41	23:14	28(2%)
2	03:47	04:01	12:04	11:47	00:20	29(0%)
3	04:15	04:28	12:04	12:53	00:20	1(1%)

Enero 04, 05, 06 (Mar, Mie, Jue)

	Aries	Venus		Martes		Júpiter		Saturno	
Mar	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	103°35.0	170°43.6	-18°04.4	209°37.8	-22°47.0	130°02.8	-11°59.8	148°38.9	-17°55.2
1	118°37.5	185°47.6	-18°04.0	224°38.4	-22°47.3	145°04.8	-11°59.6	163°41.1	-17°55.1
2	133°39.9	200°51.6	-18°03.6	239°38.9	-22°47.5	160°06.8	-11°59.5	178°43.2	-17°55.1
3	148°42.4	215°55.6	-18°03.2	254°39.5	-22°47.7	175°08.8	-11°59.3	193°45.4	-17°55.0
4	163°44.9	230°59.7	-18°02.8	269°40.0	-22°47.9	190°10.8	-11°59.1	208°47.6	-17°54.9
5	178°47.3	246°03.7	-18°02.4	284°40.6	-22°48.2	205°12.8	-11°58.9	223°49.8	-17°54.8
6	193°49.8	261°07.7	-18°02.0	299°41.1	-22°48.4	220°14.8	-11°58.7	238°52.0	-17°54.8
7	208°52.3	276°11.8	-18°01.6	314°41.6	-22°48.6	235°16.7	-11°58.5	253°54.2	-17°54.7
8	223°54.7	291°15.8	-18°01.2	329°42.2	-22°48.8	250°18.7	-11°58.4	268°56.4	-17°54.6
9	238°57.2	306°19.8	-18°00.8	344°42.7	-22°49.0	265°20.7	-11°58.2	283°58.5	-17°54.5
10	253°59.7	321°23.9	-18°00.4	359°43.3	-22°49.3	280°22.7	-11°58.0	299°00.7	-17°54.5
11	269°02.1	336°27.9	-18°00.0	14°43.8	-22°49.5	295°24.7	-11°57.8	314°02.9	-17°54.4
12	284°04.6	351°32.0	-17°59.6	29°44.4	-22°49.7	310°26.7	-11°57.6	329°05.1	-17°54.3
13	299°07.0	6°36.0	-17°59.2	44°44.9	-22°49.9	325°28.7	-11°57.5	344°07.3	-17°54.2
14	314°09.5	21°40.1	-17°58.8	59°45.5	-22°50.1	340°30.6	-11°57.3	359°09.5	-17°54.1
15	329°12.0	36°44.1	-17°58.4	74°46.0	-22°50.4	355°32.6	-11°57.1	14°11.7	-17°54.1
16	344°14.4	51°48.2	-17°58.0	89°46.5	-22°50.6	10°34.6	-11°56.9	29°13.8	-17°54.0
17	359°16.9	66°52.2	-17°57.6	104°47.1	-22°50.8	25°36.6	-11°56.7	44°16.0	-17°53.9
18	14°19.4	81°56.3	-17°57.2	119°47.6	-22°51.0	40°38.6	-11°56.6	59°18.2	-17°53.8
19	29°21.8	97°00.3	-17°56.8	134°48.2	-22°51.2	55°40.6	-11°56.4	74°20.4	-17°53.8
20	44°24.3	112°04.4	-17°56.4	149°48.7	-22°51.4	70°42.6	-11°56.2	89°22.6	-17°53.7
21	59°26.8	127°08.4	-17°56.0	164°49.3	-22°51.7	85°44.5	-11°56.0	104°24.8	-17°53.6
22	74°29.2	142°12.5	-17°55.6	179°49.8	-22°51.9	100°46.5	-11°55.8	119°27.0	-17°53.5
23	89°31.7	157°16.6	-17°55.2	194°50.4	-22°52.1	115°48.5	-11°55.6	134°29.1	-17°53.5
Mer.pass.:17:02		v4.0 d0.4 m-3.8		v0.5 d-0.2 m1.5		v2.0 d0.2 m-2.0		v2.2 d0.1 m0.7	

Mie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	104°34.2	172°20.6	-17°54.8	209°50.9	-22°52.3	130°50.5	-11°55.5	149°31.3	-17°53.4
1	119°36.6	187°24.7	-17°54.4	224°51.4	-22°52.5	145°52.5	-11°55.3	164°33.5	-17°53.3
2	134°39.1	202°28.7	-17°54.0	239°52.0	-22°52.7	160°54.5	-11°55.1	179°35.7	-17°53.2
3	149°41.5	217°32.8	-17°53.6	254°52.5	-22°52.9	175°56.4	-11°54.9	194°37.9	-17°53.2
4	164°44.0	232°36.9	-17°53.2	269°53.1	-22°53.2	190°58.4	-11°54.7	209°40.1	-17°53.1
5	179°46.5	247°41.0	-17°52.8	284°53.6	-22°53.4	206°00.4	-11°54.5	224°42.2	-17°53.0
6	194°48.9	262°45.0	-17°52.4	299°54.1	-22°53.6	221°02.4	-11°54.4	239°44.4	-17°52.9
7	209°51.4	277°49.1	-17°52.0	314°54.7	-22°53.8	236°04.4	-11°54.2	254°46.6	-17°52.8
8	224°53.9	292°53.2	-17°51.7	329°55.2	-22°54.0	251°06.4	-11°54.0	269°48.8	-17°52.8
9	239°56.3	307°57.3	-17°51.3	344°55.8	-22°54.2	266°08.4	-11°53.8	284°51.0	-17°52.7
10	254°58.8	323°01.3	-17°50.9	359°56.3	-22°54.4	281°10.3	-11°53.6	299°53.2	-17°52.6
11	270°01.3	338°05.4	-17°50.5	14°56.9	-22°54.6	296°12.3	-11°53.5	314°55.3	-17°52.5
12	285°03.7	353°09.5	-17°50.1	29°57.4	-22°54.9	311°14.3	-11°53.3	329°57.5	-17°52.5
13	300°06.2	8°13.6	-17°49.7	44°57.9	-22°55.1	326°16.3	-11°53.1	344°59.7	-17°52.4
14	315°08.6	23°17.7	-17°49.3	59°58.5	-22°55.3	341°18.3	-11°52.9	0°01.9	-17°52.3
15	330°11.1	38°21.7	-17°48.9	74°59.0	-22°55.5	356°20.2	-11°52.7	15°04.1	-17°52.2
16	345°13.6	53°25.8	-17°48.6	89°59.6	-22°55.7	11°22.2	-11°52.5	30°06.3	-17°52.2
17	0°16.0	68°29.9	-17°48.2	105°00.1	-22°55.9	26°24.2	-11°52.4	45°08.4	-17°52.1
18	15°18.5	83°34.0	-17°47.8	120°00.6	-22°56.1	41°26.2	-11°52.2	60°10.6	-17°52.0
19	30°21.0	98°38.1	-17°47.4	135°01.2	-22°56.3	56°28.2	-11°52.0	75°12.8	-17°51.9
20	45°23.4	113°42.2	-17°47.0	150°01.7	-22°56.5	71°30.2	-11°51.8	90°15.0	-17°51.8
21	60°25.9	128°46.3	-17°46.6	165°02.2	-22°56.7	86°32.1	-11°51.6	105°17.2	-17°51.8
22	75°28.4	143°50.4	-17°46.2	180°02.8	-22°56.9	101°34.1	-11°51.4	120°19.4	-17°51.7
23	90°30.8	158°54.5	-17°45.9	195°03.3	-22°57.1	116°36.1	-11°51.3	135°21.6	-17°51.6
Mer.pass.:16:58		v4.1 d0.4 m-3.8		v0.5 d-0.2 m1.5		v2.0 d0.2 m-2.0		v2.2 d0.1 m0.7	

Jue	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	105°33.3	173°58.6	-17°45.5	210°03.9	-22°57.3	131°38.1	-11°51.1	150°23.7	-17°51.5
1	120°35.8	189°02.7	-17°45.1	225°04.4	-22°57.6	146°40.1	-11°50.9	165°25.9	-17°51.5
2	135°38.2	204°06.7	-17°44.7	240°04.9	-22°57.8	161°42.0	-11°50.7	180°28.1	-17°51.4
3	150°40.7	219°10.8	-17°44.3	255°05.5	-22°58.0	176°44.0	-11°50.5	195°30.3	-17°51.3
4	165°43.1	234°14.9	-17°44.0	270°06.0	-22°58.2	191°46.0	-11°50.3	210°32.5	-17°51.2
5	180°45.6	249°19.0	-17°43.6	285°06.6	-22°58.4	206°48.0	-11°50.2	225°34.6	-17°51.2
6	195°48.1	264°23.1	-17°43.2	300°07.1	-22°58.6	221°50.0	-11°50.0	240°36.8	-17°51.1
7	210°50.5	279°27.3	-17°42.8	315°07.6	-22°58.8	236°51.9	-11°49.8	255°39.0	-17°51.0
8	225°53.0	294°31.4	-17°42.5	330°08.2	-22°59.0	251°53.9	-11°49.6	270°41.2	-17°50.9
9	240°55.5	309°35.5	-17°42.1	345°08.7	-22°59.2	266°55.9	-11°49.4	285°43.4	-17°50.8
10	255°57.9	324°39.6	-17°41.7	0°09.2	-22°59.4	281°57.9	-11°49.2	300°45.6	-17°50.8
11	271°00.4	339°43.7	-17°41.3	15°09.8	-22°59.6	296°59.9	-11°49.0	315°47.7	-17°50.7
12	286°02.9	354°47.8	-17°41.0	30°10.3	-22°59.8	312°01.8	-11°48.9	330°49.9	-17°50.6
13	301°05.3	9°51.9	-17°40.6	45°10.9	-23°00.0	327°03.8	-11°48.7	345°52.1	-17°50.5
14	316°07.8	24°56.0	-17°40.2	60°11.4	-23°00.2	342°05.8	-11°48.5	0°54.3	-17°50.5
15	331°10.3	40°00.1	-17°39.8	75°11.9	-23°00.4	357°07.8	-11°48.3	15°56.5	-17°50.4
16	346°12.7	55°04.2	-17°39.5	90°12.5	-23°00.6	12°09.8	-11°48.1	30°58.7	-17°50.3
17	1°15.2	70°08.3	-17°39.1	105°13.0	-23°00.8	27°11.7	-11°47.9	46°00.8	-17°50.2
18	16°17.6	85°12.4	-17°38.7	120°13.5	-23°01.0	42°13.7	-11°47.8	61°03.0	-17°50.1
19	31°20.1	100°16.6	-17°38.3	135°14.1	-23°01.2	57°15.7	-11°47.6	76°05.2	-17°50.1
20	46°22.6	115°20.7	-17°38.0	150°14.6	-23°01.4	72°17.7	-11°47.4	91°07.4	-17°50.0
21	61°25.0	130°24.8	-17°37.6	165°15.1	-23°01.6	87°19.7	-11°47.2	106°09.6	-17°49.9
22	76°27.5	145°28.9	-17°37.2	180°15.7	-23°01.8	102°21.6	-11°47.0	121°11.8	-17°49.8
23	91°30.0	160°33.0	-17°36.9	195°16.2	-23°02.0	117°23.6	-11°46.8	136°13.9	-17°49.8
Mer.pass.:16:55		v4.1 d0.4 m-3.8		v0.5 d-0.2 m1.5		v2.0 d0.2 m-2.0		v2.2 d0.1 m0.7	

Estrellas

	AHS	Dec
Alpheratz	357°37.4	29°12.8
Ankaa	353°09.7	-42°11.5
Schedar	349°33.8	56°39.7
Diphda	348°49.7	-17°52.2
Achernar	335°22.0	-57°07.9
Hamal	327°53.9	23°34.0
Polaris	314°54.8	89°21.6
Akamar	315°13.4	-40°13.3
Menkar	314°08.5	4°10.5
Mirfak	308°31.4	49°56.4
Aldebaran	290°42.2	16°33.2
Rigel	281°05.9	-8°10.7
Capella	280°25.1	46°01.3
Bellatrix	278°25.2	6°22.1
Elnath	278°04.6	28°37.5
Alnilam	275°39.9	-1°11.3
Betelgeuse	270°54.4	7°24.6
Canopus	263°52.9	-52°42.5
Sirius	258°28.0	-16°44.6
Adara	255°07.4	-29°00.1
Procyon	244°53.0	5°10.2
Pollux	243°19.8	27°58.3
Avior	234°15.1	-59°34.6
Suhail	222°47.7	-43°31.1
Miaplacidus	221°37.9	-69°48.2
Alphard	217°49.9	-8°45.2
Regulus	207°36.8	11°51.6
Dubhe	193°43.7	61°37.7
Denebola	182°27.3	14°26.9
Gienah	175°46.0	-17°39.7
Acrux	173°02.7	-63°12.9
Gacrux	171°54.3	-57°13.8
Alioth	166°15.2	55°50.2
Spica	158°24.9	-11°16.4
Alcaid	152°54.1	49°12.0
Hadar	148°39.7	-60°28.4
Menkent	148°00.7	-36°28.4
Arcturus	145°50.2	19°04.3
Rigil Kent.	139°44.0	-60°55.2
Zubenelg.	136°58.9	-16°07.9
Kochab	137°20.4	74°03.7
Alphecca	126°06.1	26°38.4
Antares	112°19.1	-26°28.7
Atria	107°16.1	-69°03.8
Sabik	102°05.9	-15°45.1
Shaula	96°14.1	-37°07.1
Rasalhague	96°01.2	12°32.6
Etamin	90°43.8	51°29.1
Kaus Aust.	83°36.2	-34°22.4
Vega	80°35.3	38°48.2
Nunki	75°51.2	-26°16.2
Altair	62°02.8	8°55.5
Peacock	53°10.2	-56°40.0
Deneb	49°27.9	45°21.6
Enif	33°41.5	9°58.5
Alnair	27°36.4	-46°51.5
Fomalhaut	15°17.5	-29°30.6
Scheat	13°47.8	28°12.1
Markab	13°32.5	15°19.4

Ene 04 Mar	AHS	Paso Merid
Venus	67°08.6	12:34
Mars	106°02.8	10:01
Jupiter	26°27.8	15:18
Saturn	45°03.9	14:03

Ene 05 Mie	AHS	Paso Merid
Venus	67°46.5	12:27
Mars	105°16.7	10:00
Jupiter	26°16.3	15:15
Saturn	44°57.2	14:00

Ene 06 Jue	AHS	Paso Merid
Venus	68°25.3	12:21
Mars	104°30.6	09:59
Jupiter	26°04.8	15:11
Saturn	44°50.4	13:56

Paralelaje Horizontal	
Venus:	0.5
Mars:	0.1

h	Sol		Luna				
Mar	AHG	Dec	AHG	v	Dec	d	HP
0	178°49.5	-22°44.7	159°31.3	3.3	-24°19.8	6.7	60.6
1	193°49.2	-22°44.4	173°53.7	3.4	-24°13.1	6.8	60.5
2	208°48.9	-22°44.1	188°16.2	3.5	-24°06.2	7.0	60.5
3	223°48.6	-22°43.9	202°38.8	3.7	-23°59.1	7.2	60.5
4	238°48.3	-22°43.6	217°01.5	3.8	-23°51.9	7.3	60.5
5	253°48.1	-22°43.4	231°24.3	3.9	-23°44.4	7.5	60.4
6	268°47.8	-22°43.1	245°47.3	4.0	-23°36.9	7.6	60.4
7	283°47.5	-22°42.8	260°10.3	4.1	-23°29.2	7.8	60.4
8	298°47.2	-22°42.6	274°33.5	4.2	-23°21.3	8.0	60.4
9	313°46.9	-22°42.3	288°56.8	4.4	-23°13.2	8.1	60.3
10	328°46.6	-22°42.0	303°20.2	4.5	-23°05.0	8.3	60.3
11	343°46.3	-22°41.8	317°43.7	4.6	-22°56.7	8.4	60.3
12	358°46.1	-22°41.5	332°07.4	4.7	-22°48.2	8.6	60.2
13	13°45.8	-22°41.2	346°31.2	4.8	-22°39.6	8.7	60.2
14	28°45.5	-22°41.0	0°55.1	5.0	-22°30.8	8.9	60.2
15	43°45.2	-22°40.7	15°19.1	5.1	-22°21.8	9.0	60.1
16	58°44.9	-22°40.4	29°43.3	5.2	-22°12.8	9.1	60.1
17	73°44.6	-22°40.2	44°07.6	5.3	-22°03.6	9.3	60.1
18	88°44.4	-22°39.9	58°32.0	5.5	-21°54.2	9.4	60.0
19	103°44.1	-22°39.6	72°56.5	5.6	-21°44.8	9.5	60.0
20	118°43.8	-22°39.3	87°21.2	5.7	-21°35.1	9.7	60.0
21	133°43.5	-22°39.1	101°46.0	5.9	-21°25.4	9.8	59.9
22	148°43.2	-22°38.8	116°10.9	6.0	-21°15.5	9.9	59.9
23	163°43.0	-22°38.5	130°35.9	6.1	-21°05.5	10.1	59.9
	SD.=16.3	d=0.3			S.D.=16.5		

Mie	AHG	Dec	AHG	v	Dec	d	HP
0	178°42.7	-22°38.2	145°01.1	6.2	-20°55.4	10.2	59.8
1	193°42.4	-22°38.0	159°26.4	6.4	-20°45.2	10.3	59.8
2	208°42.1	-22°37.7	173°51.9	6.5	-20°34.8	10.4	59.8
3	223°41.8	-22°37.4	188°17.4	6.6	-20°24.3	10.5	59.7
4	238°41.5	-22°37.1	202°43.1	6.8	-20°13.7	10.7	59.7
5	253°41.3	-22°36.8	217°09.0	6.9	-20°03.0	10.8	59.7
6	268°41.0	-22°36.6	231°34.9	7.0	-19°52.2	10.9	59.6
7	283°40.7	-22°36.3	246°01.0	7.2	-19°41.3	11.0	59.6
8	298°40.4	-22°36.0	260°27.3	7.3	-19°30.2	11.1	59.6
9	313°40.1	-22°35.7	274°53.6	7.4	-19°19.1	11.2	59.5
10	328°39.9	-22°35.4	289°20.1	7.6	-19°07.8	11.3	59.5
11	343°39.6	-22°35.1	303°46.7	7.7	-18°56.5	11.4	59.4
12	358°39.3	-22°34.9	318°13.5	7.8	-18°45.0	11.5	59.4
13	13°39.0	-22°34.6	332°40.3	7.9	-18°33.5	11.6	59.4
14	28°38.8	-22°34.3	347°07.3	8.1	-18°21.8	11.7	59.3
15	43°38.5	-22°34.0	1°34.5	8.2	-18°10.1	11.8	59.3
16	58°38.2	-22°33.7	16°01.7	8.3	-17°58.3	11.9	59.3
17	73°37.9	-22°33.4	30°29.1	8.4	-17°46.4	12.0	59.2
18	88°37.6	-22°33.1	44°56.6	8.6	-17°34.3	12.0	59.2
19	103°37.4	-22°32.8	59°24.3	8.7	-17°22.3	12.1	59.1
20	118°37.1	-22°32.5	73°52.0	8.8	-17°10.1	12.2	59.1
21	133°36.8	-22°32.3	88°19.9	8.9	-16°57.8	12.3	59.1
22	148°36.5	-22°32.0	102°47.9	9.1	-16°45.5	12.4	59.0
23	163°36.3	-22°31.7	117°16.1	9.2	-16°33.1	12.5	59.0
	SD.=16.3	d=0.3			S.D.=16.3		

Jue	AHG	Dec	AHG	v	Dec	d	HP
0	178°36.0	-22°31.4	131°44.3	9.3	-16°20.6	12.5	58.9
1	193°35.7	-22°31.1	146°12.7	9.4	-16°08.0	12.6	58.9
2	208°35.4	-22°30.8	160°41.2	9.6	-15°55.4	12.7	58.9
3	223°35.1	-22°30.5	175°09.8	9.7	-15°42.7	12.7	58.8
4	238°34.9	-22°30.2	189°38.5	9.8	-15°29.9	12.8	58.8
5	253°34.6	-22°29.9	204°07.4	9.9	-15°17.1	12.9	58.7
6	268°34.3	-22°29.6	218°36.4	10.0	-15°04.2	12.9	58.7
7	283°34.0	-22°29.3	233°05.4	10.1	-14°51.2	13.0	58.7
8	298°33.8	-22°29.0	247°34.7	10.3	-14°38.2	13.1	58.6
9	313°33.5	-22°28.7	262°04.0	10.4	-14°25.1	13.1	58.6
10	328°33.2	-22°28.4	276°33.4	10.5	-14°11.9	13.2	58.5
11	343°32.9	-22°28.1	291°02.9	10.6	-13°58.7	13.2	58.5
12	358°32.7	-22°27.8	305°32.6	10.7	-13°45.5	13.3	58.5
13	13°32.4	-22°27.5	320°02.4	10.8	-13°32.2	13.3	58.4
14	28°32.1	-22°27.2	334°32.2	10.9	-13°18.8	13.4	58.4
15	43°31.9	-22°26.8	349°02.2	11.0	-13°05.4	13.4	58.3
16	58°31.6	-22°26.5	3°32.3	11.1	-12°51.9	13.5	58.3
17	73°31.3	-22°26.2	18°02.5	11.2	-12°38.4	13.5	58.3
18	88°31.0	-22°25.9	32°32.8	11.3	-12°24.9	13.6	58.2
19	103°30.8	-22°25.6	47°03.2	11.5	-12°11.3	13.6	58.2
20	118°30.5	-22°25.3	61°33.7	11.6	-11°57.6	13.7	58.1
21	133°30.2	-22°25.0	76°04.3	11.7	-11°44.0	13.7	58.1
22	148°29.9	-22°24.7	90°35.0	11.8	-11°30.3	13.7	58.1
23	163°29.7	-22°24.4	105°05.8	11.8	-11°16.5	13.8	58.0
	SD.=16.3	d=0.3			S.D.=16.1		

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	08:19	10:30	–:–	–:–	13:42	15:52
70	08:01	09:43	–:–	–:–	14:29	16:10
68	07:47	09:12	11:29	12:42	14:59	16:24
66	07:35	08:49	10:20	13:51	15:22	16:36
64	07:25	08:31	09:45	14:27	15:40	16:46
62	07:16	08:17	09:19	14:52	15:55	16:55
60	07:08	08:04	09:00	15:11	16:07	17:03
58	07:01	07:53	08:43	15:28	16:18	17:10
56	06:55	07:43	08:30	15:41	16:28	17:16
54	06:49	07:35	08:18	15:53	16:36	17:22
52	06:44	07:27	08:07	16:04	16:44	17:27
50	06:39	07:20	07:58	16:13	16:51	17:32
45	06:28	07:05	07:38	16:33	17:06	17:43
40	06:18	06:52	07:22	16:49	17:19	17:53
35	06:09	06:41	07:08	17:02	17:30	18:02
30	06:01	06:30	06:57	17:14	17:40	18:10
20	05:45	06:12	06:36	17:35	17:58	18:26
10	05:30	05:56	06:18	17:52	18:15	18:41
0	05:13	05:39	06:02	18:09	18:31	18:58
S 10	04:55	05:22	05:45	18:26	18:49	19:16
20	04:33	05:02	05:26	18:44	19:09	19:37
30	04:05	04:38	05:05	19:05	19:32	20:05
35	03:47	04:23	04:53	19:18	19:47	20:23
40	03:25	04:06	04:38	19:32	20:04	20:45
45	02:56	03:44	04:21	19:49	20:26	21:14
50	02:14	03:16	04:00	20:11	20:54	21:56
52	01:49	03:02	03:49	20:21	21:08	22:20
54	01:13	02:45	03:38	20:32	21:25	22:56
56	–:–	02:25	03:24	20:46	21:45	–:–
58	–:–	01:58	03:09	21:01	22:11	–:–
60	–:–	01:19	02:50	21:20	22:49	–:–

	Orto luna			Ocaso luna		
Lat.	Mar	Mie	Jue	Mar	Mie	Jue
N 72	–:–	–:–	12:54	–:–	–:–	19:03
70	–:–	13:22	12:28	–:–	16:45	19:26
68	–:–	12:38	12:09	–:–	17:28	19:44
66	12:38	12:08	11:53	15:27	17:56	19:58
64	11:53	11:46	11:40	16:12	18:18	20:10
62	11:23	11:28	11:29	16:41	18:35	20:20
60	11:00	11:12	11:19	17:03	18:49	20:28
58	10:41	11:00	11:11	17:21	19:01	20:35
56	10:26	10:48	11:04	17:37	19:11	20:42
54	10:12	10:39	10:57	17:49	19:20	20:48
52	10:00	10:30	10:51	18:01	19:28	20:53
50	09:50	10:22	10:46	18:11	19:36	20:57
45	09:28	10:05	10:34	18:32	19:51	21:07
40	09:10	09:51	10:24	18:48	20:04	21:16
35	08:55	09:39	10:16	19:03	20:14	21:23
30	08:42	09:29	10:08	19:15	20:24	21:29
20	08:19	09:11	09:55	19:36	20:40	21:39
10	08:00	08:55	09:44	19:54	20:53	21:48
0	07:42	08:40	09:33	20:10	21:06	21:57
S 10	07:23	08:26	09:23	20:27	21:19	22:05
20	07:04	08:10	09:11	20:45	21:32	22:14
30	06:41	07:51	08:58	21:05	21:48	22:25
35	06:28	07:41	08:51	21:16	21:57	22:30
40	06:12	07:28	08:42	21:30	22:07	22:37
45	05:54	07:14	08:32	21:45	22:18	22:45
50	05:31	06:56	08:19	22:05	22:32	22:54
52	05:20	06:47	08:13	22:14	22:39	22:58
54	05:07	06:38	08:07	22:24	22:46	23:02
56	04:53	06:27	08:00	22:35	22:54	23:07
58	04:36	06:15	07:52	22:48	23:03	23:13
60	04:15	06:00	07:42	23:04	23:14	23:19

Dia	Sol			Luna		
	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
4	04:42	04:56	12:04	13:56	01:25	2(5%)
5	05:09	05:23	12:05	14:53	02:25	3(11%)
6	05:36	05:49	12:05	15:45	03:20	4(19%)

Enero 07, 08, 09 (Vie, Sa, Dom)

	Aries	Venus		Martes		Júpiter		Saturno	
Vie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	106°32.4	175°37.1	-17°36.5	210°16.7	-23°02.2	132°25.6	-11°46.6	151°16.1	-17°49.7
1	121°34.9	190°41.2	-17°36.1	225°17.3	-23°02.4	147°27.6	-11°46.5	166°18.3	-17°49.6
2	136°37.4	205°45.4	-17°35.8	240°17.8	-23°02.6	162°29.6	-11°46.3	181°20.5	-17°49.5
3	151°39.8	220°49.5	-17°35.4	255°18.3	-23°02.8	177°31.5	-11°46.1	196°22.7	-17°49.4
4	166°42.3	235°53.6	-17°35.0	270°18.9	-23°03.0	192°33.5	-11°45.9	211°24.8	-17°49.4
5	181°44.7	250°57.7	-17°34.7	285°19.4	-23°03.2	207°35.5	-11°45.7	226°27.0	-17°49.3
6	196°47.2	266°01.8	-17°34.3	300°19.9	-23°03.4	222°37.5	-11°45.5	241°29.2	-17°49.2
7	211°49.7	281°06.0	-17°34.0	315°20.5	-23°03.5	237°39.4	-11°45.3	256°31.4	-17°49.1
8	226°52.1	296°10.1	-17°33.6	330°21.0	-23°03.7	252°41.4	-11°45.2	271°33.6	-17°49.1
9	241°54.6	311°14.2	-17°33.2	345°21.5	-23°03.9	267°43.4	-11°45.0	286°35.7	-17°49.0
10	256°57.1	326°18.3	-17°32.9	0°22.1	-23°04.1	282°45.4	-11°44.8	301°37.9	-17°48.9
11	271°59.5	341°22.4	-17°32.5	15°22.6	-23°04.3	297°47.3	-11°44.6	316°40.1	-17°48.8
12	287°02.0	356°26.6	-17°32.2	30°23.1	-23°04.5	312°49.3	-11°44.4	331°42.3	-17°48.7
13	302°04.5	11°30.7	-17°31.8	45°23.7	-23°04.7	327°51.3	-11°44.2	346°44.5	-17°48.7
14	317°06.9	26°34.8	-17°31.4	60°24.2	-23°04.9	342°53.3	-11°44.0	1°46.7	-17°48.6
15	332°09.4	41°38.9	-17°31.1	75°24.7	-23°05.1	357°55.3	-11°43.9	16°48.8	-17°48.5
16	347°11.9	56°43.1	-17°30.7	90°25.3	-23°05.3	12°57.2	-11°43.7	31°51.0	-17°48.4
17	2°14.3	71°47.2	-17°30.4	105°25.8	-23°05.5	27°59.2	-11°43.5	46°53.2	-17°48.4
18	17°16.8	86°51.3	-17°30.0	120°26.3	-23°05.7	43°01.2	-11°43.3	61°55.4	-17°48.3
19	32°19.2	101°55.4	-17°29.7	135°26.9	-23°05.8	58°03.2	-11°43.1	76°57.6	-17°48.2
20	47°21.7	116°59.6	-17°29.3	150°27.4	-23°06.0	73°05.1	-11°42.9	91°59.7	-17°48.1
21	62°24.2	132°03.7	-17°28.9	165°27.9	-23°06.2	88°07.1	-11°42.7	107°01.9	-17°48.0
22	77°26.6	147°07.8	-17°28.6	180°28.5	-23°06.4	103°09.1	-11°42.6	122°04.1	-17°48.0
23	92°29.1	162°11.9	-17°28.2	195°29.0	-23°06.6	118°11.1	-11°42.4	137°06.3	-17°47.9
Mer.pass.:16:51		v4.1 d0.4 m-3.8		v0.5 d-0.2 m1.5		v2.0 d0.2 m-2.0		v2.2 d0.1 m0.7	

Sa	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	107°31.6	177°16.1	-17°27.9	210°29.5	-23°06.8	133°13.0	-11°42.2	152°08.5	-17°47.8
1	122°34.0	192°20.2	-17°27.5	225°30.1	-23°07.0	148°15.0	-11°42.0	167°10.6	-17°47.7
2	137°36.5	207°24.3	-17°27.2	240°30.6	-23°07.2	163°17.0	-11°41.8	182°12.8	-17°47.7
3	152°39.0	222°28.5	-17°26.8	255°31.1	-23°07.4	178°19.0	-11°41.6	197°15.0	-17°47.6
4	167°41.4	237°32.6	-17°26.5	270°31.6	-23°07.5	193°20.9	-11°41.4	212°17.2	-17°47.5
5	182°43.9	252°36.7	-17°26.1	285°32.2	-23°07.7	208°22.9	-11°41.2	227°19.4	-17°47.4
6	197°46.4	267°40.8	-17°25.8	300°32.7	-23°07.9	223°24.9	-11°41.1	242°21.5	-17°47.3
7	212°48.8	282°45.0	-17°25.4	315°33.2	-23°08.1	238°26.9	-11°40.9	257°23.7	-17°47.3
8	227°51.3	297°49.1	-17°25.1	330°33.8	-23°08.3	253°28.8	-11°40.7	272°25.9	-17°47.2
9	242°53.7	312°53.2	-17°24.8	345°34.3	-23°08.5	268°30.8	-11°40.5	287°28.1	-17°47.1
10	257°56.2	327°57.3	-17°24.4	0°34.8	-23°08.6	283°32.8	-11°40.3	302°30.3	-17°47.0
11	272°58.7	343°01.5	-17°24.1	15°35.4	-23°08.8	298°34.8	-11°40.1	317°32.4	-17°47.0
12	288°01.1	358°05.6	-17°23.7	30°35.9	-23°09.0	313°36.7	-11°39.9	332°34.6	-17°46.9
13	303°03.6	13°09.7	-17°23.4	45°36.4	-23°09.2	328°38.7	-11°39.8	347°36.8	-17°46.8
14	318°06.1	28°13.9	-17°23.0	60°36.9	-23°09.4	343°40.7	-11°39.6	2°39.0	-17°46.7
15	333°08.5	43°18.0	-17°22.7	75°37.5	-23°09.6	358°42.6	-11°39.4	17°41.2	-17°46.6
16	348°11.0	58°22.1	-17°22.4	90°38.0	-23°09.7	13°44.6	-11°39.2	32°43.3	-17°46.6
17	3°13.5	73°26.2	-17°22.0	105°38.5	-23°09.9	28°46.6	-11°39.0	47°45.5	-17°46.5
18	18°15.9	88°30.4	-17°21.7	120°39.1	-23°10.1	43°48.6	-11°38.8	62°47.7	-17°46.4
19	33°18.4	103°34.5	-17°21.3	135°39.6	-23°10.3	58°50.5	-11°38.6	77°49.9	-17°46.3
20	48°20.8	118°38.6	-17°21.0	150°40.1	-23°10.5	73°52.5	-11°38.4	92°52.1	-17°46.2
21	63°23.3	133°42.8	-17°20.7	165°40.6	-23°10.6	88°54.5	-11°38.3	107°54.2	-17°46.2
22	78°25.8	148°46.9	-17°20.3	180°41.2	-23°10.8	103°56.5	-11°38.1	122°56.4	-17°46.1
23	93°28.2	163°51.0	-17°20.0	195°41.7	-23°11.0	118°58.4	-11°37.9	137°58.6	-17°46.0
Mer.pass.:16:47		v4.1 d0.4 m-3.8		v0.5 d-0.2 m1.5		v2.0 d0.2 m-2.0		v2.2 d0.1 m0.7	

Dom	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	108°30.7	178°55.1	-17°19.6	210°42.2	-23°11.2	134°00.4	-11°37.7	153°00.8	-17°45.9
1	123°33.2	193°59.3	-17°19.3	225°42.7	-23°11.4	149°02.4	-11°37.5	168°03.0	-17°45.9
2	138°35.6	209°03.4	-17°19.0	240°43.3	-23°11.5	164°04.3	-11°37.3	183°05.1	-17°45.8
3	153°38.1	224°07.5	-17°18.6	255°43.8	-23°11.7	179°06.3	-11°37.1	198°07.3	-17°45.7
4	168°40.6	239°11.6	-17°18.3	270°44.3	-23°11.9	194°08.3	-11°36.9	213°09.5	-17°45.6
5	183°43.0	254°15.8	-17°18.0	285°44.9	-23°12.1	209°10.3	-11°36.7	228°11.7	-17°45.5
6	198°45.5	269°19.9	-17°17.6	300°45.4	-23°12.2	224°12.2	-11°36.6	243°13.9	-17°45.5
7	213°48.0	284°24.0	-17°17.3	315°45.9	-23°12.4	239°14.2	-11°36.4	258°16.0	-17°45.4
8	228°50.4	299°28.1	-17°17.0	330°46.4	-23°12.6	254°16.2	-11°36.2	273°18.2	-17°45.3
9	243°52.9	314°32.3	-17°16.7	345°47.0	-23°12.8	269°18.1	-11°36.0	288°20.4	-17°45.2
10	258°55.3	329°36.4	-17°16.3	0°47.5	-23°12.9	284°20.1	-11°35.8	303°22.6	-17°45.1
11	273°57.8	344°40.5	-17°16.0	15°48.0	-23°13.1	299°22.1	-11°35.6	318°24.8	-17°45.1
12	289°00.3	359°44.6	-17°15.7	30°48.5	-23°13.3	314°24.1	-11°35.4	333°26.9	-17°45.0
13	304°02.7	14°48.7	-17°15.3	45°49.1	-23°13.5	329°26.0	-11°35.2	348°29.1	-17°44.9
14	319°05.2	29°52.9	-17°15.0	60°49.6	-23°13.6	344°28.0	-11°35.0	3°31.3	-17°44.8
15	334°07.7	44°57.0	-17°14.7	75°50.1	-23°13.8	359°30.0	-11°34.9	18°33.5	-17°44.7
16	349°10.1	60°01.1	-17°14.4	90°50.6	-23°14.0	14°31.9	-11°34.7	33°35.6	-17°44.7
17	4°12.6	75°05.2	-17°14.0	105°51.2	-23°14.2	29°33.9	-11°34.5	48°37.8	-17°44.6
18	19°15.1	90°09.3	-17°13.7	120°51.7	-23°14.3	44°35.9	-11°34.3	63°40.0	-17°44.5
19	34°17.5	105°13.5	-17°13.4	135°52.2	-23°14.5	59°37.9	-11°34.1	78°42.2	-17°44.4
20	49°20.0	120°17.6	-17°13.1	150°52.7	-23°14.7	74°39.8	-11°33.9	93°44.4	-17°44.4
21	64°22.4	135°21.7	-17°12.8	165°53.3	-23°14.8	89°41.8	-11°33.7	108°46.5	-17°44.3
22	79°24.9	150°25.8	-17°12.4	180°53.8	-23°15.0	104°43.8	-11°33.5	123°48.7	-17°44.2
23	94°27.4	165°29.9	-17°12.1	195°54.3	-23°15.2	119°45.7	-11°33.3	138°50.9	-17°44.1
Mer.pass.:16:43		v4.1 d0.3 m-3.8		v0.5 d-0.2 m1.5		v2.0 d0.2 m-2.0		v2.2 d0.1 m0.7	

Estrellas	AHS	Dec
Alpheratz	357°37.4	29°12.8
Ankaa	353°09.7	-42°11.5
Schedar	349°33.9	56°39.7
Diphda	348°49.7	-17°52.2
Achernar	335°22.0	-57°07.9
Hamal	327°53.9	23°34.0
Polaris	314°56.1	89°21.7
Akamar	315°13.4	-40°13.3
Menkar	314°08.5	4°10.5
Mirfak	308°31.4	49°56.4
Aldebaran	290°42.2	16°33.2
Rigel	281°05.9	-8°10.7
Capella	280°25.1	46°01.3
Bellatrix	278°25.2	6°22.1
Elnath	278°04.6	28°37.5
Alnilam	275°39.9	-1°11.4
Betelgeuse	270°54.4	7°24.6
Canopus	263°52.9	-52°42.5
Sirius	258°28.0	-16°44.6
Adara	255°07.4	-29°00.2
Procyon	244°53.0	5°10.2
Pollux	243°19.8	27°58.3
Avior	234°15.1	-59°34.7
Suhail	222°47.7	-43°31.1
Miaplacidus	221°37.9	-69°48.2
Alphard	217°49.9	-8°45.2
Regulus	207°36.8	11°51.6
Dubhe	193°43.7	61°37.7
Denebola	182°27.3	14°26.9
Gienah	175°46.0	-17°39.7
Acrux	173°02.7	-63°12.9
Gacrux	171°54.2	-57°13.8
Alioth	166°15.2	55°50.2
Spica	158°24.9	-11°16.4
Alcaid	152°54.1	49°12.0
Hadar	148°39.6	-60°28.4
Menkent	148°00.6	-36°28.4
Arcturus	145°50.1	19°04.3
Rigil Kent.	139°43.9	-60°55.2
Zubenelg.	136°58.9	-16°07.9
Kochab	137°20.4	74°03.6
Alphecca	126°06.1	26°38.4
Antares	112°19.1	-26°28.7
Atria	107°16.0	-69°03.8
Sabik	102°05.9	-15°45.1
Shaula	96°14.1	-37°07.1
Rasalhague	96°01.2	12°32.6
Etamin	90°43.8	51°29.0
Kaus Aust.	83°36.2	-34°22.4
Vega	80°35.3	38°48.1
Nunki	75°51.2	-26°16.2
Altair	62°02.8	8°55.5
Peacock	53°10.2	-56°40.0
Deneb	49°27.9	45°21.5
Enif	33°41.5	9°58.5
Alnair	27°36.4	-46°51.5
Fomalhaut	15°17.5	-29°30.6
Scheat	13°47.8	28°12.1
Markab	13°32.5	15°19.4

Ene 07 Vie	AHS	Paso Merid
Venus	69°04.7	12:14
Mars	103°44.3	09:59
Jupiter	25°53.2	15:08
Saturn	44°43.7	13:53

Ene 08 Sa	AHS	Paso Merid
Venus	69°44.5	12:08
Mars	102°58.0	09:58
Jupiter	25°41.5	15:05
Saturn	44°36.9	13:49

Ene 09 Dom	AHS	Paso Merid
Venus	70°24.4	12:01
Mars	102°11.5	09:57
Jupiter	25°29.7	15:02
Saturn	44°30.1	13:46

Paralelaje Horizontal	
Venus:	0.6
Mars:	0.1

h	Sol		Luna				
Vie	AHG	Dec	AHG	v	Dec	d	HP
0	178°29.4	-22°24.1	119°36.7	11.9	-11°02.7	13.8	58.0
1	193°29.1	-22°23.7	134°07.7	12.0	-10°48.9	13.8	57.9
2	208°28.9	-22°23.4	148°38.8	12.1	-10°35.0	13.9	57.9
3	223°28.6	-22°23.1	163°09.9	12.2	-10°21.1	13.9	57.9
4	238°28.3	-22°22.8	177°41.2	12.3	-10°07.2	13.9	57.8
5	253°28.0	-22°22.5	192°12.6	12.4	-9°53.3	14.0	57.8
6	268°27.8	-22°22.2	206°44.0	12.5	-9°39.3	14.0	57.7
7	283°27.5	-22°21.8	221°15.6	12.6	-9°25.3	14.0	57.7
8	298°27.2	-22°21.5	235°47.2	12.7	-9°11.3	14.0	57.7
9	313°27.0	-22°21.2	250°18.9	12.8	-8°57.2	14.1	57.6
10	328°26.7	-22°20.9	264°50.7	12.8	-8°43.2	14.1	57.6
11	343°26.4	-22°20.5	279°22.6	12.9	-8°29.1	14.1	57.5
12	358°26.2	-22°20.2	293°54.5	13.0	-8°15.0	14.1	57.5
13	13°25.9	-22°19.9	308°26.6	13.1	-8°00.9	14.1	57.5
14	28°25.6	-22°19.6	322°58.7	13.2	-7°46.7	14.2	57.4
15	43°25.4	-22°19.3	337°30.9	13.2	-7°32.6	14.2	57.4
16	58°25.1	-22°18.9	352°03.2	13.3	-7°18.4	14.2	57.3
17	73°24.8	-22°18.6	6°35.5	13.4	-7°04.2	14.2	57.3
18	88°24.6	-22°18.3	21°08.0	13.5	-6°50.0	14.2	57.3
19	103°24.3	-22°17.9	35°40.5	13.5	-6°35.8	14.2	57.2
20	118°24.0	-22°17.6	50°13.0	13.6	-6°21.6	14.2	57.2
21	133°23.7	-22°17.3	64°45.7	13.7	-6°07.3	14.2	57.1
22	148°23.5	-22°17.0	79°18.4	13.7	-5°53.1	14.2	57.1
23	163°23.2	-22°16.6	93°51.1	13.8	-5°38.9	14.2	57.1
	SD.=16.3	d=0.3			S.D.=15.8		

Sa	AHG	Dec	AHG	v	Dec	d	HP
0	178°22.9	-22°16.3	108°24.0	13.9	-5°24.6	14.2	57.0
1	193°22.7	-22°16.0	122°56.9	13.9	-5°10.4	14.3	57.0
2	208°22.4	-22°15.6	137°29.8	14.0	-4°56.1	14.3	57.0
3	223°22.2	-22°15.3	152°02.9	14.1	-4°41.9	14.3	56.9
4	238°21.9	-22°15.0	166°36.0	14.1	-4°27.6	14.3	56.9
5	253°21.6	-22°14.6	181°09.1	14.2	-4°13.3	14.3	56.8
6	268°21.4	-22°14.3	195°42.3	14.2	-3°59.1	14.3	56.8
7	283°21.1	-22°13.9	210°15.6	14.3	-3°44.8	14.3	56.8
8	298°20.8	-22°13.6	224°48.9	14.3	-3°30.6	14.2	56.7
9	313°20.6	-22°13.3	239°22.3	14.4	-3°16.3	14.2	56.7
10	328°20.3	-22°12.9	253°55.7	14.5	-3°02.1	14.2	56.7
11	343°20.0	-22°12.6	268°29.2	14.5	-2°47.9	14.2	56.6
12	358°19.8	-22°12.2	283°02.7	14.6	-2°33.6	14.2	56.6
13	13°19.5	-22°11.9	297°36.3	14.6	-2°19.4	14.2	56.5
14	28°19.2	-22°11.6	312°09.9	14.6	-2°05.2	14.2	56.5
15	43°19.0	-22°11.2	326°43.6	14.7	-1°51.0	14.2	56.5
16	58°18.7	-22°10.9	341°17.3	14.7	-1°36.8	14.2	56.4
17	73°18.5	-22°10.5	355°51.0	14.8	-1°22.6	14.2	56.4
18	88°18.2	-22°10.2	10°24.8	14.8	-1°08.5	14.2	56.4
19	103°17.9	-22°09.8	24°58.7	14.9	-0°54.3	14.1	56.3
20	118°17.7	-22°09.5	39°32.5	14.9	-0°40.2	14.1	56.3
21	133°17.4	-22°09.1	54°06.5	14.9	-0°26.0	14.1	56.3
22	148°17.2	-22°08.8	68°40.4	15.0	-0°11.9	14.1	56.2
23	163°16.9	-22°08.4	83°14.4	15.0	0°02.2	14.1	56.2
	SD.=16.3	d=0.3			S.D.=15.6		

Dom	AHG	Dec	AHG	v	Dec	d	HP
0	178°16.6	-22°08.1	97°48.4	15.0	0°16.2	14.1	56.2
1	193°16.4	-22°07.7	112°22.5	15.1	0°30.3	14.0	56.1
2	208°16.1	-22°07.4	126°56.6	15.1	0°44.3	14.0	56.1
3	223°15.9	-22°07.0	141°30.7	15.1	0°58.4	14.0	56.1
4	238°15.6	-22°06.7	156°04.9	15.2	1°12.4	14.0	56.0
5	253°15.3	-22°06.3	170°39.1	15.2	1°26.3	14.0	56.0
6	268°15.1	-22°06.0	185°13.3	15.2	1°40.3	13.9	56.0
7	283°14.8	-22°05.6	199°47.5	15.2	1°54.2	13.9	55.9
8	298°14.6	-22°05.3	214°21.8	15.3	2°08.1	13.9	55.9
9	313°14.3	-22°04.9	228°56.1	15.3	2°22.0	13.9	55.9
10	328°14.0	-22°04.6	243°30.4	15.3	2°35.9	13.8	55.8
11	343°13.8	-22°04.2	258°04.7	15.3	2°49.7	13.8	55.8
12	358°13.5	-22°03.8	272°39.0	15.4	3°03.5	13.8	55.8
13	13°13.3	-22°03.5	287°13.4	15.4	3°17.3	13.8	55.7
14	28°13.0	-22°03.1	301°47.8	15.4	3°31.0	13.7	55.7
15	43°12.8	-22°02.8	316°22.2	15.4	3°44.8	13.7	55.7
16	58°12.5	-22°02.4	330°56.6	15.4	3°58.5	13.7	55.7
17	73°12.2	-22°02.0	345°31.1	15.4	4°12.1	13.6	55.6
18	88°12.0	-22°01.7	0°05.5	15.5	4°25.7	13.6	55.6
19	103°11.7	-22°01.3	14°40.0	15.5	4°39.3	13.6	55.6
20	118°11.5	-22°00.9	29°14.4	15.5	4°52.9	13.5	55.5
21	133°11.2	-22°00.6	43°48.9	15.5	5°06.4	13.5	55.5
22	148°11.0	-22°00.2	58°23.4	15.5	5°19.9	13.5	55.5
23	163°10.7	-21°59.8	72°57.9	15.5	5°33.4	13.4	55.5
	SD.=16.3	d=0.4			S.D.=15.3		

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	08:15	10:19	–:–	–:–	13:55	15:59
70	07:58	09:36	–:–	–:–	14:38	16:16
68	07:44	09:08	11:09	13:05	15:06	16:30
66	07:32	08:46	10:13	14:01	15:28	16:41
64	07:23	08:28	09:40	14:34	15:45	16:51
62	07:14	08:14	09:16	14:58	16:00	17:00
60	07:07	08:02	08:57	15:17	16:12	17:07
58	07:00	07:51	08:41	15:33	16:22	17:14
56	06:54	07:42	08:28	15:46	16:32	17:20
54	06:48	07:34	08:16	15:58	16:40	17:26
52	06:43	07:26	08:06	16:08	16:48	17:31
50	06:38	07:19	07:57	16:17	16:54	17:35
45	06:28	07:04	07:38	16:36	17:09	17:46
40	06:18	06:52	07:22	16:52	17:22	17:56
35	06:09	06:41	07:09	17:05	17:33	18:04
30	06:01	06:31	06:57	17:17	17:43	18:12
20	05:46	06:13	06:37	17:37	18:00	18:28
10	05:31	05:57	06:19	17:54	18:17	18:43
0	05:15	05:41	06:03	18:10	18:33	18:59
S 10	04:57	05:24	05:46	18:27	18:50	19:17
20	04:35	05:04	05:28	18:45	19:09	19:38
30	04:08	04:41	05:08	19:06	19:33	20:05
35	03:50	04:26	04:55	19:18	19:47	20:23
40	03:28	04:09	04:41	19:32	20:04	20:44
45	03:00	03:48	04:24	19:49	20:25	21:13
50	02:19	03:20	04:03	20:09	20:52	21:53
52	01:56	03:07	03:53	20:19	21:06	22:16
54	01:22	02:50	03:42	20:31	21:22	22:48
56	–:–	02:31	03:29	20:44	21:41	–:–
58	–:–	02:06	03:14	20:59	22:06	–:–
60	–:–	01:30	02:55	21:17	22:41	–:–

	Orto luna			Ocaso luna		
Lat.	Vie	Sa	Dom	Vie	Sa	Dom
N 72	12:12	11:41	11:14	21:24	23:28	–:–
70	12:00	11:38	11:17	21:33	23:28	–:–
68	11:50	11:35	11:21	21:41	23:28	–:–
66	11:42	11:32	11:23	21:47	23:28	–:–
64	11:35	11:30	11:25	21:52	23:28	–:–
62	11:29	11:28	11:27	21:57	23:28	–:–
60	11:24	11:26	11:29	22:01	23:28	–:–
58	11:19	11:25	11:30	22:04	23:28	–:–
56	11:15	11:24	11:32	22:07	23:28	–:–
54	11:11	11:22	11:33	22:10	23:28	–:–
52	11:07	11:21	11:34	22:12	23:28	–:–
50	11:04	11:20	11:35	22:14	23:28	–:–
45	10:58	11:18	11:37	22:19	23:28	–:–
40	10:52	11:16	11:39	22:23	23:28	–:–
35	10:47	11:15	11:41	22:27	23:28	–:–
30	10:42	11:13	11:42	22:30	23:28	–:–
20	10:35	11:11	11:45	22:35	23:28	–:–
10	10:28	11:09	11:47	22:39	23:27	–:–
0	10:22	11:07	11:50	22:44	23:27	–:–
S 10	10:15	11:05	11:52	22:48	23:27	–:–
20	10:09	11:03	11:54	22:52	23:27	–:–
30	10:01	11:00	11:57	22:57	23:27	23:56
35	09:56	10:59	11:58	23:00	23:27	23:53
40	09:51	10:57	12:00	23:03	23:27	23:50
45	09:45	10:55	12:02	23:07	23:27	23:46
50	09:38	10:53	12:05	23:11	23:26	23:41
52	09:35	10:52	12:06	23:13	23:26	23:39
54	09:31	10:51	12:07	23:15	23:26	23:37
56	09:27	10:50	12:09	23:18	23:26	23:34
58	09:23	10:48	12:10	23:20	23:26	23:32
60	09:18	10:47	12:12	23:23	23:26	23:29

Día	Sol			Luna		
	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
7	06:03	06:15	12:06	16:32	04:09	5(28%)
8	06:28	06:41	12:06	17:17	04:55	6(38%)
9	06:54	07:06	12:07	17:59	05:38	7(48%)

Enero 10, 11, 12 (Lun, Mar, Mie)

	Aries	Venus		Martes		Júpiter		Saturno	
Lun	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	109°29.8	180°34.0	-17°11.8	210°54.8	-23°15.4	134°47.7	-11°33.2	153°53.1	-17°44.0
1	124°32.3	195°38.1	-17°11.5	225°55.3	-23°15.5	149°49.7	-11°33.0	168°55.3	-17°44.0
2	139°34.8	210°42.3	-17°11.2	240°55.9	-23°15.7	164°51.6	-11°32.8	183°57.4	-17°43.9
3	154°37.2	225°46.4	-17°10.9	255°56.4	-23°15.9	179°53.6	-11°32.6	198°59.6	-17°43.8
4	169°39.7	240°50.5	-17°10.5	270°56.9	-23°16.0	194°55.6	-11°32.4	214°01.8	-17°43.7
5	184°42.2	255°54.6	-17°10.2	285°57.4	-23°16.2	209°57.5	-11°32.2	229°04.0	-17°43.6
6	199°44.6	270°58.7	-17°09.9	300°58.0	-23°16.4	224°59.5	-11°32.0	244°06.1	-17°43.6
7	214°47.1	286°02.8	-17°09.6	315°58.5	-23°16.5	240°01.5	-11°31.8	259°08.3	-17°43.5
8	229°49.6	301°06.9	-17°09.3	330°59.0	-23°16.7	255°03.4	-11°31.6	274°10.5	-17°43.4
9	244°52.0	316°11.0	-17°09.0	345°59.5	-23°16.9	270°05.4	-11°31.4	289°12.7	-17°43.3
10	259°54.5	331°15.1	-17°08.7	1°00.1	-23°17.0	285°07.4	-11°31.3	304°14.9	-17°43.2
11	274°56.9	346°19.2	-17°08.3	16°00.6	-23°17.2	300°09.4	-11°31.1	319°17.0	-17°43.2
12	289°59.4	1°23.3	-17°08.0	31°01.1	-23°17.4	315°11.3	-11°30.9	334°19.2	-17°43.1
13	305°01.9	16°27.4	-17°07.7	46°01.6	-23°17.5	330°13.3	-11°30.7	349°21.4	-17°43.0
14	320°04.3	31°31.5	-17°07.4	61°02.1	-23°17.7	345°15.3	-11°30.5	4°23.6	-17°42.9
15	335°06.8	46°35.6	-17°07.1	76°02.7	-23°17.9	0°17.2	-11°30.3	19°25.7	-17°42.8
16	350°09.3	61°39.7	-17°06.8	91°03.2	-23°18.0	15°19.2	-11°30.1	34°27.9	-17°42.8
17	5°11.7	76°43.8	-17°06.5	106°03.7	-23°18.2	30°21.2	-11°29.9	49°30.1	-17°42.7
18	20°14.2	91°47.9	-17°06.2	121°04.2	-23°18.3	45°23.1	-11°29.7	64°32.3	-17°42.6
19	35°16.7	106°52.0	-17°05.9	136°04.7	-23°18.5	60°25.1	-11°29.5	79°34.5	-17°42.5
20	50°19.1	121°56.1	-17°05.6	151°05.3	-23°18.7	75°27.1	-11°29.4	94°36.6	-17°42.5
21	65°21.6	137°00.2	-17°05.3	166°05.8	-23°18.8	90°29.0	-11°29.2	109°38.8	-17°42.4
22	80°24.1	152°04.3	-17°05.0	181°06.3	-23°19.0	105°31.0	-11°29.0	124°41.0	-17°42.3
23	95°26.5	167°08.4	-17°04.7	196°06.8	-23°19.1	120°33.0	-11°28.8	139°43.2	-17°42.2
Mer.pass.:16:39		v4.1 d0.3 m-3.8		v0.5 d-0.2 m1.5		v2.0 d0.2 m-1.9		v2.2 d0.1 m0.7	

Mar	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	110°29.0	182°12.5	-17°04.4	211°07.3	-23°19.3	135°34.9	-11°28.6	154°45.3	-17°42.1
1	125°31.4	197°16.6	-17°04.1	226°07.9	-23°19.5	150°36.9	-11°28.4	169°47.5	-17°42.1
2	140°33.9	212°20.7	-17°03.8	241°08.4	-23°19.6	165°38.9	-11°28.2	184°49.7	-17°42.0
3	155°36.4	227°24.8	-17°03.5	256°08.9	-23°19.8	180°40.8	-11°28.0	199°51.9	-17°41.9
4	170°38.8	242°28.9	-17°03.2	271°09.4	-23°19.9	195°42.8	-11°27.8	214°54.0	-17°41.8
5	185°41.3	257°32.9	-17°02.9	286°09.9	-23°20.1	210°44.8	-11°27.6	229°56.2	-17°41.7
6	200°43.8	272°37.0	-17°02.6	301°10.5	-23°20.3	225°46.7	-11°27.4	244°58.4	-17°41.7
7	215°46.2	287°41.1	-17°02.3	316°11.0	-23°20.4	240°48.7	-11°27.3	260°00.6	-17°41.6
8	230°48.7	302°45.2	-17°02.0	331°11.5	-23°20.6	255°50.7	-11°27.1	275°02.8	-17°41.5
9	245°51.2	317°49.3	-17°01.7	346°12.0	-23°20.7	270°52.6	-11°26.9	290°04.9	-17°41.4
10	260°53.6	332°53.3	-17°01.4	1°12.5	-23°20.9	285°54.6	-11°26.7	305°07.1	-17°41.3
11	275°56.1	347°57.4	-17°01.1	16°13.1	-23°21.0	300°56.6	-11°26.5	320°09.3	-17°41.3
12	290°58.5	3°01.5	-17°00.8	31°13.6	-23°21.2	315°58.5	-11°26.3	335°11.5	-17°41.2
13	306°01.0	18°05.6	-17°00.5	46°14.1	-23°21.4	331°00.5	-11°26.1	350°13.6	-17°41.1
14	321°03.5	33°09.6	-17°00.2	61°14.6	-23°21.5	346°02.4	-11°25.9	5°15.8	-17°41.0
15	336°05.9	48°13.7	-17°00.0	76°15.1	-23°21.7	1°04.4	-11°25.7	20°18.0	-17°40.9
16	351°08.4	63°17.8	-16°59.7	91°15.6	-23°21.8	16°06.4	-11°25.5	35°20.2	-17°40.9
17	6°10.9	78°21.9	-16°59.4	106°16.2	-23°22.0	31°08.3	-11°25.3	50°22.3	-17°40.8
18	21°13.3	93°25.9	-16°59.1	121°16.7	-23°22.1	46°10.3	-11°25.1	65°24.5	-17°40.7
19	36°15.8	108°30.0	-16°58.8	136°17.2	-23°22.3	61°12.3	-11°25.0	80°26.7	-17°40.6
20	51°18.3	123°34.0	-16°58.5	151°17.7	-23°22.4	76°14.2	-11°24.8	95°28.9	-17°40.5
21	66°20.7	138°38.1	-16°58.2	166°18.2	-23°22.6	91°16.2	-11°24.6	110°31.0	-17°40.5
22	81°23.2	153°42.2	-16°58.0	181°18.7	-23°22.7	106°18.2	-11°24.4	125°33.2	-17°40.4
23	96°25.7	168°46.2	-16°57.7	196°19.3	-23°22.9	121°20.1	-11°24.2	140°35.4	-17°40.3
Mer.pass.:16:35		v4.1 d0.3 m-3.8		v0.5 d-0.2 m1.5		v2.0 d0.2 m-1.9		v2.2 d0.1 m0.7	

Mie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	111°28.1	183°50.3	-16°57.4	211°19.8	-23°23.0	136°22.1	-11°24.0	155°37.6	-17°40.2
1	126°30.6	198°54.3	-16°57.1	226°20.3	-23°23.2	151°24.1	-11°23.8	170°39.7	-17°40.1
2	141°33.0	213°58.4	-16°56.8	241°20.8	-23°23.3	166°26.0	-11°23.6	185°41.9	-17°40.1
3	156°35.5	229°02.4	-16°56.5	256°21.3	-23°23.5	181°28.0	-11°23.4	200°44.1	-17°40.0
4	171°38.0	244°06.5	-16°56.3	271°21.8	-23°23.6	196°29.9	-11°23.2	215°46.3	-17°39.9
5	186°40.4	259°10.5	-16°56.0	286°22.4	-23°23.8	211°31.9	-11°23.0	230°48.5	-17°39.8
6	201°42.9	274°14.6	-16°55.7	301°22.9	-23°23.9	226°33.9	-11°22.8	245°50.6	-17°39.7
7	216°45.4	289°18.6	-16°55.4	316°23.4	-23°24.1	241°35.8	-11°22.6	260°52.8	-17°39.7
8	231°47.8	304°22.7	-16°55.2	331°23.9	-23°24.2	256°37.8	-11°22.5	275°55.0	-17°39.6
9	246°50.3	319°26.7	-16°54.9	346°24.4	-23°24.4	271°39.8	-11°22.3	290°57.2	-17°39.5
10	261°52.8	334°30.8	-16°54.6	1°24.9	-23°24.5	286°41.7	-11°22.1	305°59.3	-17°39.4
11	276°55.2	349°34.8	-16°54.3	16°25.5	-23°24.7	301°43.7	-11°21.9	321°01.5	-17°39.3
12	291°57.7	4°38.8	-16°54.1	31°26.0	-23°24.8	316°45.6	-11°21.7	336°03.7	-17°39.3
13	307°00.2	19°42.9	-16°53.8	46°26.5	-23°25.0	331°47.6	-11°21.5	351°05.9	-17°39.2
14	322°02.6	34°46.9	-16°53.5	61°27.0	-23°25.1	346°49.6	-11°21.3	6°08.0	-17°39.1
15	337°05.1	49°50.9	-16°53.2	76°27.5	-23°25.2	1°51.5	-11°21.1	21°10.2	-17°39.0
16	352°07.5	64°55.0	-16°53.0	91°28.0	-23°25.4	16°53.5	-11°20.9	36°12.4	-17°38.9
17	7°10.0	79°59.0	-16°52.7	106°28.5	-23°25.5	31°55.5	-11°20.7	51°14.6	-17°38.9
18	22°12.5	95°03.0	-16°52.4	121°29.1	-23°25.7	46°57.4	-11°20.5	66°16.7	-17°38.8
19	37°14.9	110°07.0	-16°52.2	136°29.6	-23°25.8	61°59.4	-11°20.3	81°18.9	-17°38.7
20	52°17.4	125°11.1	-16°51.9	151°30.1	-23°26.0	77°01.3	-11°20.1	96°21.1	-17°38.6
21	67°19.9	140°15.1	-16°51.6	166°30.6	-23°26.1	92°03.3	-11°19.9	111°23.3	-17°38.5
22	82°22.3	155°19.1	-16°51.4	181°31.1	-23°26.3	107°05.3	-11°19.8	126°25.4	-17°38.5
23	97°24.8	170°23.1	-16°51.1	196°31.6	-23°26.4	122°07.2	-11°19.6	141°27.6	-17°38.4
Mer.pass.:16:31		v4.1 d0.3 m-3.8		v0.5 d-0.2 m1.5		v2.0 d0.2 m-1.9		v2.2 d0.1 m0.7	

Estrellas	AHS	Dec
Alpheratz	357°37.4	29°12.8
Ankaa	353°09.7	-42°11.5
Schedar	349°33.9	56°39.7
Diphda	348°49.7	-17°52.2
Achernar	335°22.0	-57°07.9
Hamal	327°53.9	23°34.0
Polaris	314°57.4	89°21.7
Akamar	315°13.5	-40°13.3
Menkar	314°08.6	4°10.5
Mirfak	308°31.5	49°56.5
Aldebaran	290°42.2	16°33.2
Rigel	281°05.9	-8°10.7
Capella	280°25.1	46°01.3
Bellatrix	278°25.2	6°22.1
Elnath	278°04.6	28°37.6
Alnilam	275°39.9	-1°11.4
Betelgeuse	270°54.4	7°24.6
Canopus	263°52.9	-52°42.5
Sirius	258°28.0	-16°44.7
Adara	255°07.4	-29°00.2
Procyon	244°53.0	5°10.2
Pollux	243°19.8	27°58.3
Avior	234°15.1	-59°34.7
Suhail	222°47.7	-43°31.1
Miaplacidus	221°37.9	-69°48.2
Alphard	217°49.9	-8°45.2
Regulus	207°36.8	11°51.5
Dubhe	193°43.7	61°37.7
Denebola	182°27.3	14°26.9
Gienah	175°46.0	-17°39.7
Acrux	173°02.6	-63°12.9
Gacrux	171°54.2	-57°13.8
Alioth	166°15.2	55°50.2
Spica	158°24.9	-11°16.4
Alcaid	152°54.0	49°12.0
Hadar	148°39.6	-60°28.4
Menkent	148°00.6	-36°28.4
Arcturus	145°50.1	19°04.3
Rigil Kent.	139°43.9	-60°55.2
Zubenelg.	136°58.9	-16°07.9
Kochab	137°20.3	74°03.6
Alphecca	126°06.1	26°38.3
Antares	112°19.1	-26°28.7
Atria	107°16.0	-69°03.8
Sabik	102°05.9	-15°45.1
Shaula	96°14.1	-37°07.1
Rasalhague	96°01.2	12°32.6
Etamin	90°43.8	51°29.0
Kaus Aust.	83°36.1	-34°22.4
Vega	80°35.3	38°48.1
Nunki	75°51.2	-26°16.2
Altair	62°02.8	8°55.5
Peacock	53°10.2	-56°40.0
Deneb	49°27.9	45°21.5
Enif	33°41.5	9°58.5
Alnair	27°36.4	-46°51.5
Fomalhaut	15°17.5	-29°30.6
Scheat	13°47.8	28°12.1
Markab	13°32.5	15°19.4

Ene 10 Lun	AHS	Paso Merid
Venus	71°04.2	11:54
Mars	101°25.0	09:56
Jupiter	25°17.9	14:59
Saturn	44°23.2	13:42

Ene 11 Ma	AHS	Paso Merid
Venus	71°43.5	11:48
Mars	100°38.4	09:55
Jupiter	25°05.9	14:56
Saturn	44°16.4	13:39

Ene 12 Mie	AHS	Paso Merid
Venus	72°22.2	11:41
Mars	99°51.7	09:54
Jupiter	24°54.0	14:53
Saturn	44°09.5	13:36

Paralelaje Horizontal	
Venus:	0.5
Mars:	0.1

h Sol Luna

Lun	AHG	Dec	AHG	v	Dec	d	HP
0	178°10.5	-21°59.5	87°32.4	15.5	5°46.8	13.4	55.4
1	193°10.2	-21°59.1	102°06.9	15.5	6°00.2	13.4	55.4
2	208°09.9	-21°58.7	116°41.4	15.5	6°13.6	13.3	55.4
3	223°09.7	-21°58.4	131°15.9	15.5	6°26.9	13.3	55.3
4	238°09.4	-21°58.0	145°50.5	15.5	6°40.2	13.3	55.3
5	253°09.2	-21°57.6	160°25.0	15.5	6°53.4	13.2	55.3
6	268°08.9	-21°57.2	174°59.5	15.5	7°06.6	13.2	55.3
7	283°08.7	-21°56.9	189°34.0	15.5	7°19.8	13.1	55.2
8	298°08.4	-21°56.5	204°08.5	15.5	7°32.9	13.1	55.2
9	313°08.2	-21°56.1	218°43.1	15.5	7°46.0	13.1	55.2
10	328°07.9	-21°55.7	233°17.6	15.5	7°59.0	13.0	55.2
11	343°07.7	-21°55.4	247°52.1	15.5	8°12.0	13.0	55.1
12	358°07.4	-21°55.0	262°26.6	15.5	8°25.0	12.9	55.1
13	13°07.2	-21°54.6	277°01.1	15.5	8°37.9	12.9	55.1
14	28°06.9	-21°54.2	291°35.6	15.5	8°50.7	12.8	55.1
15	43°06.7	-21°53.9	306°10.0	15.5	9°03.6	12.8	55.0
16	58°06.4	-21°53.5	320°44.5	15.5	9°16.3	12.7	55.0
17	73°06.2	-21°53.1	335°18.9	15.4	9°29.1	12.7	55.0
18	88°05.9	-21°52.7	349°53.4	15.4	9°41.7	12.7	55.0
19	103°05.7	-21°52.3	4°27.8	15.4	9°54.4	12.6	55.0
20	118°05.4	-21°51.9	19°02.2	15.4	10°06.9	12.6	54.9
21	133°05.2	-21°51.6	33°36.6	15.4	10°19.5	12.5	54.9
22	148°04.9	-21°51.2	48°11.0	15.4	10°32.0	12.5	54.9
23	163°04.7	-21°50.8	62°45.4	15.4	10°44.4	12.4	54.9
	SD.=16.3	d=0.4	S.D.=15.1				

Mar	AHG	Dec	AHG	v	Dec	d	HP
0	178°04.4	-21°50.4	77°19.7	15.3	10°56.8	12.4	54.8
1	193°04.2	-21°50.0	91°54.0	15.3	11°09.1	12.3	54.8
2	208°03.9	-21°49.6	106°28.4	15.3	11°21.4	12.2	54.8
3	223°03.7	-21°49.2	121°02.6	15.3	11°33.6	12.2	54.8
4	238°03.4	-21°48.9	135°36.9	15.3	11°45.8	12.1	54.8
5	253°03.2	-21°48.5	150°11.1	15.2	11°57.9	12.1	54.7
6	268°02.9	-21°48.1	164°45.4	15.2	12°09.9	12.0	54.7
7	283°02.7	-21°47.7	179°19.6	15.2	12°21.9	12.0	54.7
8	298°02.4	-21°47.3	193°53.7	15.2	12°33.9	11.9	54.7
9	313°02.2	-21°46.9	208°27.9	15.1	12°45.8	11.9	54.7
10	328°01.9	-21°46.5	223°02.0	15.1	12°57.6	11.8	54.6
11	343°01.7	-21°46.1	237°36.1	15.1	13°09.4	11.7	54.6
12	358°01.5	-21°45.7	252°10.2	15.0	13°21.1	11.7	54.6
13	13°01.2	-21°45.3	266°44.2	15.0	13°32.7	11.6	54.6
14	28°01.0	-21°44.9	281°18.2	15.0	13°44.3	11.6	54.6
15	43°00.7	-21°44.5	295°52.2	15.0	13°55.9	11.5	54.6
16	58°00.5	-21°44.1	310°26.1	14.9	14°07.3	11.4	54.5
17	73°00.2	-21°43.7	325°00.0	14.9	14°18.7	11.4	54.5
18	88°00.0	-21°43.3	339°33.9	14.9	14°30.1	11.3	54.5
19	102°59.7	-21°42.9	354°07.7	14.8	14°41.4	11.2	54.5
20	117°59.5	-21°42.5	8°41.5	14.8	14°52.6	11.2	54.5
21	132°59.3	-21°42.1	23°15.3	14.8	15°03.7	11.1	54.5
22	147°59.0	-21°41.7	37°49.0	14.7	15°14.8	11.1	54.5
23	162°58.8	-21°41.3	52°22.7	14.7	15°25.8	11.0	54.4
	SD.=16.3	d=0.4	S.D.=15.0				

Mie	AHG	Dec	AHG	v	Dec	d	HP
0	177°58.5	-21°40.9	66°56.4	14.6	15°36.8	10.9	54.4
1	192°58.3	-21°40.5	81°30.0	14.6	15°47.7	10.9	54.4
2	207°58.0	-21°40.1	96°03.6	14.6	15°58.5	10.8	54.4
3	222°57.8	-21°39.7	110°37.1	14.5	16°09.3	10.7	54.4
4	237°57.6	-21°39.3	125°10.6	14.5	16°19.9	10.6	54.4
5	252°57.3	-21°38.9	139°44.1	14.4	16°30.5	10.6	54.4
6	267°57.1	-21°38.5	154°17.5	14.4	16°41.1	10.5	54.3
7	282°56.8	-21°38.1	168°50.9	14.4	16°51.5	10.4	54.3
8	297°56.6	-21°37.7	183°24.2	14.3	17°01.9	10.4	54.3
9	312°56.4	-21°37.3	197°57.5	14.3	17°12.3	10.3	54.3
10	327°56.1	-21°36.8	212°30.8	14.2	17°22.5	10.2	54.3
11	342°55.9	-21°36.4	227°04.0	14.2	17°32.7	10.1	54.3
12	357°55.6	-21°36.0	241°37.1	14.1	17°42.8	10.1	54.3
13	12°55.4	-21°35.6	256°10.3	14.1	17°52.8	10.0	54.3
14	27°55.2	-21°35.2	270°43.3	14.0	18°02.7	9.9	54.3
15	42°54.9	-21°34.8	285°16.4	14.0	18°12.6	9.8	54.2
16	57°54.7	-21°34.4	299°49.3	14.0	18°22.4	9.7	54.2
17	72°54.5	-21°34.0	314°22.3	13.9	18°32.1	9.7	54.2
18	87°54.2	-21°33.5	328°55.1	13.9	18°41.7	9.6	54.2
19	102°54.0	-21°33.1	343°28.0	13.8	18°51.3	9.5	54.2
20	117°53.7	-21°32.7	358°00.8	13.8	19°00.7	9.4	54.2
21	132°53.5	-21°32.3	12°33.5	13.7	19°10.1	9.3	54.2
22	147°53.3	-21°31.9	27°06.2	13.7	19°19.4	9.3	54.2
23	162°53.0	-21°31.4	41°38.8	13.6	19°28.7	9.2	54.2
	SD.=16.3	d=0.4	S.D.=14.8				

Lat.	Crepúsculo Naut.	Crepúsculo Civil	Orto Sol	Crepúsculo Civil	Crepúsculo Naut.	Ocaso Sol
N 72	08:09	10:08	–:–	–:–	14:09	16:07
70	07:53	09:29	–:–	–:–	14:48	16:23
68	07:40	09:02	10:53	13:24	15:14	16:36
66	07:29	08:41	10:05	14:12	15:35	16:47
64	07:20	08:25	09:34	14:42	15:52	16:57
62	07:12	08:11	09:11	15:05	16:05	17:05
60	07:05	07:59	08:53	15:23	16:17	17:12
58	06:58	07:49	08:38	15:38	16:27	17:18
56	06:52	07:40	08:25	15:51	16:36	17:24
54	06:47	07:32	08:14	16:02	16:44	17:29
52	06:42	07:25	08:04	16:12	16:52	17:34
50	06:37	07:18	07:55	16:21	16:58	17:39
45	06:27	07:04	07:37	16:40	17:13	17:49
40	06:18	06:51	07:21	16:55	17:25	17:58
35	06:09	06:41	07:08	17:08	17:35	18:07
30	06:01	06:31	06:57	17:19	17:45	18:15
20	05:47	06:14	06:37	17:39	18:02	18:29
10	05:32	05:58	06:20	17:56	18:18	18:44
0	05:16	05:42	06:04	18:12	18:34	19:00
S 10	04:58	05:25	05:48	18:28	18:51	19:17
20	04:37	05:06	05:30	18:45	19:09	19:38
30	04:11	04:43	05:10	19:05	19:32	20:05
35	03:53	04:29	04:58	19:17	19:46	20:22
40	03:32	04:12	04:44	19:31	20:03	20:43
45	03:05	03:52	04:28	19:47	20:23	21:10
50	02:25	03:25	04:07	20:08	20:50	21:49
52	02:03	03:12	03:58	20:17	21:03	22:11
54	01:33	02:56	03:47	20:28	21:19	22:41
56	00:32	02:37	03:34	20:41	21:37	23:35
58	–:–	02:13	03:19	20:55	22:00	–:–
60	–:–	01:41	03:02	21:12	22:32	–:–

Lat.	Orto luna Lun	Orto luna Mar	Orto luna Mie	Ocaso luna Lun	Ocaso luna Mar	Ocaso luna Mie
N 72	10:45	10:09	09:02	01:28	03:33	06:10
70	10:57	10:32	09:55	01:19	03:12	05:19
68	11:06	10:50	10:28	01:12	02:56	04:47
66	11:14	11:04	10:52	01:06	02:43	04:24
64	11:21	11:16	11:11	01:00	02:32	04:06
62	11:27	11:26	11:27	00:56	02:23	03:52
60	11:32	11:35	11:40	00:52	02:16	03:39
58	11:36	11:43	11:51	00:49	02:09	03:29
56	11:40	11:50	12:01	00:46	02:03	03:19
54	11:44	11:56	12:10	00:43	01:57	03:11
52	11:47	12:01	12:18	00:41	01:53	03:04
50	11:50	12:06	12:25	00:39	01:48	02:58
45	11:57	12:17	12:40	00:34	01:39	02:44
40	12:02	12:26	12:53	00:30	01:31	02:32
35	12:07	12:34	13:04	00:27	01:25	02:22
30	12:11	12:41	13:13	00:24	01:19	02:14
20	12:19	12:53	13:30	00:18	01:09	01:59
10	12:25	13:04	13:44	00:14	01:00	01:47
0	12:32	13:14	13:57	00:10	00:52	01:35
S 10	12:38	13:24	14:11	00:05	00:44	01:23
20	12:45	13:35	14:26	00:01	00:35	01:10
30	12:52	13:47	14:43	–:–	00:25	00:56
35	12:57	13:54	14:52	–:–	00:19	00:48
40	13:02	14:03	15:04	–:–	00:13	00:38
45	13:08	14:12	15:17	–:–	00:06	00:27
50	13:15	14:24	15:33	23:57	–:–	00:14
52	13:18	14:30	15:41	23:53	–:–	00:08
54	13:22	14:36	15:50	23:48	–:–	00:01
56	13:26	14:43	15:59	23:43	23:54	–:–
58	13:31	14:50	16:11	23:38	23:45	23:55
60	13:36	14:59	16:23	23:32	23:36	23:42

Día	Sol Ec. tiempo 00:00 h	Sol Ec. tiempo 12:00 h	Sol Paso Merid	Luna Paso Meridiano Superior	Luna Paso Meridiano Inferior	Luna Edad
10	07:18	07:30	12:07	18:41	06:20	8(57%)
11	07:42	07:54	12:07	19:24	07:02	9(67%)
12	08:06	08:18	12:08	20:08	07:45	10(75%)

Enero 13, 14, 15 (Jue, Vie, Sa)

	Aries	Venus		Martes		Júpiter		Saturno	
Jue	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	112°27.3	185°27.1	-16°50.8	211°32.1	-23°26.5	137°09.2	-11°19.4	156°29.8	-17°38.3
1	127°29.7	200°31.1	-16°50.6	226°32.7	-23°26.7	152°11.2	-11°19.2	171°32.0	-17°38.2
2	142°32.2	215°35.1	-16°50.3	241°33.2	-23°26.8	167°13.1	-11°19.0	186°34.1	-17°38.1
3	157°34.7	230°39.2	-16°50.1	256°33.7	-23°27.0	182°15.1	-11°18.8	201°36.3	-17°38.0
4	172°37.1	245°43.2	-16°49.8	271°34.2	-23°27.1	197°17.0	-11°18.6	216°38.5	-17°38.0
5	187°39.6	260°47.2	-16°49.5	286°34.7	-23°27.2	212°19.0	-11°18.4	231°40.7	-17°37.9
6	202°42.0	275°51.2	-16°49.3	301°35.2	-23°27.4	227°21.0	-11°18.2	246°42.8	-17°37.8
7	217°44.5	290°55.2	-16°49.0	316°35.7	-23°27.5	242°22.9	-11°18.0	261°45.0	-17°37.7
8	232°47.0	305°59.2	-16°48.8	331°36.2	-23°27.7	257°24.9	-11°17.8	276°47.2	-17°37.6
9	247°49.4	321°03.1	-16°48.5	346°36.7	-23°27.8	272°26.8	-11°17.6	291°49.4	-17°37.6
10	262°51.9	336°07.1	-16°48.3	1°37.3	-23°27.9	287°28.8	-11°17.4	306°51.5	-17°37.5
11	277°54.4	351°11.1	-16°48.0	16°37.8	-23°28.1	302°30.8	-11°17.2	321°53.7	-17°37.4
12	292°56.8	6°15.1	-16°47.8	31°38.3	-23°28.2	317°32.7	-11°17.0	336°55.9	-17°37.3
13	307°59.3	21°19.1	-16°47.5	46°38.8	-23°28.3	332°34.7	-11°16.8	351°58.1	-17°37.2
14	323°01.8	36°23.1	-16°47.3	61°39.3	-23°28.5	347°36.6	-11°16.7	7°00.2	-17°37.2
15	338°04.2	51°27.1	-16°47.0	76°39.8	-23°28.6	2°38.6	-11°16.5	22°02.4	-17°37.1
16	353°06.7	66°31.0	-16°46.7	91°40.3	-23°28.7	17°40.6	-11°16.3	37°04.6	-17°37.0
17	8°09.1	81°35.0	-16°46.5	106°40.8	-23°28.9	32°42.5	-11°16.1	52°06.8	-17°36.9
18	23°11.6	96°39.0	-16°46.3	121°41.4	-23°29.0	47°44.5	-11°15.9	67°08.9	-17°36.8
19	38°14.1	111°43.0	-16°46.0	136°41.9	-23°29.1	62°46.4	-11°15.7	82°11.1	-17°36.8
20	53°16.5	126°46.9	-16°45.8	151°42.4	-23°29.3	77°48.4	-11°15.5	97°13.3	-17°36.7
21	68°19.0	141°50.9	-16°45.5	166°42.9	-23°29.4	92°50.3	-11°15.3	112°15.4	-17°36.6
22	83°21.5	156°54.9	-16°45.3	181°43.4	-23°29.5	107°52.3	-11°15.1	127°17.6	-17°36.5
23	98°23.9	171°58.8	-16°45.0	196°43.9	-23°29.7	122°54.3	-11°14.9	142°19.8	-17°36.4
Mer.pass.:16:27		v4.0 d0.3 m-3.7		v0.5 d-0.1 m1.5		v2.0 d0.2 m-1.9		v2.2 d0.1 m0.7	

Vie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	113°26.4	187°02.8	-16°44.8	211°44.4	-23°29.8	137°56.2	-11°14.7	157°22.0	-17°36.4
1	128°28.9	202°06.7	-16°44.5	226°44.9	-23°29.9	152°58.2	-11°14.5	172°24.1	-17°36.3
2	143°31.3	217°10.7	-16°44.3	241°45.4	-23°30.1	168°00.1	-11°14.3	187°26.3	-17°36.2
3	158°33.8	232°14.6	-16°44.1	256°45.9	-23°30.2	183°02.1	-11°14.1	202°28.5	-17°36.1
4	173°36.3	247°18.6	-16°43.8	271°46.5	-23°30.3	198°04.1	-11°13.9	217°30.7	-17°36.0
5	188°38.7	262°22.5	-16°43.6	286°47.0	-23°30.5	213°06.0	-11°13.7	232°32.8	-17°35.9
6	203°41.2	277°26.5	-16°43.3	301°47.5	-23°30.6	228°08.0	-11°13.5	247°35.0	-17°35.9
7	218°43.6	292°30.4	-16°43.1	316°48.0	-23°30.7	243°09.9	-11°13.3	262°37.2	-17°35.8
8	233°46.1	307°34.4	-16°42.9	331°48.5	-23°30.9	258°11.9	-11°13.1	277°39.4	-17°35.7
9	248°48.6	322°38.3	-16°42.6	346°49.0	-23°31.0	273°13.8	-11°12.9	292°41.5	-17°35.6
10	263°51.0	337°42.2	-16°42.4	1°49.5	-23°31.1	288°15.8	-11°12.8	307°43.7	-17°35.5
11	278°53.5	352°46.2	-16°42.2	16°50.0	-23°31.2	303°17.8	-11°12.6	322°45.9	-17°35.5
12	293°56.0	7°50.1	-16°41.9	31°50.5	-23°31.4	318°19.7	-11°12.4	337°48.1	-17°35.4
13	308°58.4	22°54.0	-16°41.7	46°51.0	-23°31.5	333°21.7	-11°12.2	352°50.2	-17°35.3
14	324°00.9	37°57.9	-16°41.5	61°51.5	-23°31.6	348°23.6	-11°12.0	7°52.4	-17°35.2
15	339°03.4	53°01.9	-16°41.2	76°52.0	-23°31.7	3°25.6	-11°11.8	22°54.6	-17°35.1
16	354°05.8	68°05.8	-16°41.0	91°52.6	-23°31.9	18°27.5	-11°11.6	37°56.7	-17°35.1
17	9°08.3	83°09.7	-16°40.8	106°53.1	-23°32.0	33°29.5	-11°11.4	52°58.9	-17°35.0
18	24°10.8	98°13.6	-16°40.5	121°53.6	-23°32.1	48°31.5	-11°11.2	68°01.1	-17°34.9
19	39°13.2	113°17.5	-16°40.3	136°54.1	-23°32.2	63°33.4	-11°11.0	83°03.3	-17°34.8
20	54°15.7	128°21.4	-16°40.1	151°54.6	-23°32.4	78°35.4	-11°10.8	98°05.4	-17°34.7
21	69°18.1	143°25.3	-16°39.9	166°55.1	-23°32.5	93°37.3	-11°10.6	113°07.6	-17°34.7
22	84°20.6	158°29.2	-16°39.6	181°55.6	-23°32.6	108°39.3	-11°10.4	128°09.8	-17°34.6
23	99°23.1	173°33.1	-16°39.4	196°56.1	-23°32.7	123°41.2	-11°10.2	143°12.0	-17°34.5
Mer.pass.:16:23		v4.0 d0.2 m-3.7		v0.5 d-0.1 m1.5		v2.0 d0.2 m-1.9		v2.2 d0.1 m0.7	

Sa	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	114°25.5	188°37.0	-16°39.2	211°56.6	-23°32.9	138°43.2	-11°10.0	158°14.1	-17°34.4
1	129°28.0	203°40.9	-16°39.0	226°57.1	-23°33.0	153°45.2	-11°09.8	173°16.3	-17°34.3
2	144°30.5	218°44.8	-16°38.7	241°57.6	-23°33.1	168°47.1	-11°09.6	188°18.5	-17°34.2
3	159°32.9	233°48.7	-16°38.5	256°58.1	-23°33.2	183°49.1	-11°09.4	203°20.7	-17°34.2
4	174°35.4	248°52.6	-16°38.3	271°58.6	-23°33.3	198°51.0	-11°09.2	218°22.8	-17°34.1
5	189°37.9	263°56.5	-16°38.1	286°59.1	-23°33.5	213°53.0	-11°09.0	233°25.0	-17°34.0
6	204°40.3	279°00.3	-16°37.9	301°59.6	-23°33.6	228°54.9	-11°08.8	248°27.2	-17°33.9
7	219°42.8	294°04.2	-16°37.6	317°00.2	-23°33.7	243°56.9	-11°08.6	263°29.3	-17°33.8
8	234°45.3	309°08.1	-16°37.4	332°00.7	-23°33.8	258°58.8	-11°08.4	278°31.5	-17°33.8
9	249°47.7	324°12.0	-16°37.2	347°01.2	-23°33.9	274°00.8	-11°08.2	293°33.7	-17°33.7
10	264°50.2	339°15.8	-16°37.0	2°01.7	-23°34.1	289°02.8	-11°08.0	308°35.9	-17°33.6
11	279°52.6	354°19.7	-16°36.8	17°02.2	-23°34.2	304°04.7	-11°07.8	323°38.0	-17°33.5
12	294°55.1	9°23.5	-16°36.6	32°02.7	-23°34.3	319°06.7	-11°07.7	338°40.2	-17°33.4
13	309°57.6	24°27.4	-16°36.4	47°03.2	-23°34.4	334°08.6	-11°07.5	353°42.4	-17°33.3
14	325°00.0	39°31.3	-16°36.2	62°03.7	-23°34.5	349°10.6	-11°07.3	8°44.5	-17°33.3
15	340°02.5	54°35.1	-16°35.9	77°04.2	-23°34.7	4°12.5	-11°07.1	23°46.7	-17°33.2
16	355°05.0	69°39.0	-16°35.7	92°04.7	-23°34.8	19°14.5	-11°06.9	38°48.9	-17°33.1
17	10°07.4	84°42.8	-16°35.5	107°05.2	-23°34.9	34°16.4	-11°06.7	53°51.1	-17°33.0
18	25°09.9	99°46.6	-16°35.3	122°05.7	-23°35.0	49°18.4	-11°06.5	68°53.2	-17°32.9
19	40°12.4	114°50.5	-16°35.1	137°06.2	-23°35.1	64°20.3	-11°06.3	83°55.4	-17°32.9
20	55°14.8	129°54.3	-16°34.9	152°06.7	-23°35.2	79°22.3	-11°06.1	98°57.6	-17°32.8
21	70°17.3	144°58.2	-16°34.7	167°07.2	-23°35.3	94°24.2	-11°05.9	113°59.8	-17°32.7
22	85°19.8	160°02.0	-16°34.5	182°07.7	-23°35.5	109°26.2	-11°05.7	129°01.9	-17°32.6
23	100°22.2	175°05.8	-16°34.3	197°08.2	-23°35.6	124°28.2	-11°05.5	144°04.1	-17°32.5
Mer.pass.:16:19		v3.9 d0.2 m-3.7		v0.5 d-0.1 m1.5		v2.0 d0.2 m-1.9		v2.2 d0.1 m0.7	

Estrellas

	AHS	Dec
Alpheratz	357°37.4	29°12.8
Ankaa	353°09.7	-42°11.5
Schedar	349°33.9	56°39.7
Diphda	348°49.7	-17°52.2
Achernar	335°22.1	-57°07.9
Hamal	327°53.9	23°34.0
Polaris	314°58.4	89°21.7
Akamar	315°13.5	-40°13.3
Menkar	314°08.6	4°10.5
Mirfak	308°31.5	49°56.5
Aldebaran	290°42.2	16°33.2
Rigel	281°05.9	-8°10.7
Capella	280°25.1	46°01.3
Bellatrix	278°25.2	6°22.1
Elnath	278°04.6	28°37.6
Alnilam	275°39.9	-1°11.4
Betelgeuse	270°54.4	7°24.6
Canopus	263°52.9	-52°42.5
Sirius	258°28.0	-16°44.7
Adara	255°07.4	-29°00.2
Procyon	244°53.0	5°10.2
Pollux	243°19.8	27°58.3
Avior	234°15.1	-59°34.7
Suhail	222°47.7	-43°31.2
Miaplacidus	221°37.8	-69°48.3
Alphard	217°49.8	-8°45.2
Regulus	207°36.7	11°51.5
Dubhe	193°43.6	61°37.7
Denebola	182°27.2	14°26.9
Gienah	175°46.0	-17°39.7
Acrux	173°02.6	-63°12.9
Gacrux	171°54.2	-57°13.9
Alioth	166°15.1	55°50.2
Spica	158°24.9	-11°16.5
Alcaid	152°54.0	49°12.0
Hadar	148°39.5	-60°28.4
Menkent	148°00.6	-36°28.4
Arcturus	145°50.1	19°04.3
Rigil Kent.	139°43.8	-60°55.2
Zubenelg.	136°58.9	-16°07.9
Kochab	137°20.3	74°03.6
Alphecca	126°06.0	26°38.3
Antares	112°19.1	-26°28.7
Atria	107°16.0	-69°03.8
Sabik	102°05.9	-15°45.1
Shaula	96°14.1	-37°07.1
Rasalhague	96°01.1	12°32.6
Etamin	90°43.8	51°29.0
Kaus Aust.	83°36.1	-34°22.4
Vega	80°35.3	38°48.1
Nunki	75°51.2	-26°16.2
Altair	62°02.7	8°55.5
Peacock	53°10.2	-56°40.0
Deneb	49°27.9	45°21.5
Enif	33°41.5	9°58.5
Alnair	27°36.4	-46°51.5
Fomalhaut	15°17.5	-29°30.6
Scheat	13°47.8	28°12.1
Markab	13°32.5	15°19.4

Ene 13 Jue	AHS	Paso Merid
Venus	72°59.9	11:35
Mars	99°04.9	09:54
Jupiter	24°41.9	14:49
Saturn	44°02.5	13:32

Ene 14 Vie	AHS	Paso Merid
Venus	73°36.4	11:29
Mars	98°18.0	09:53
Jupiter	24°29.8	14:46
Saturn	43°55.6	13:29

Ene 15 Sa	AHS	Paso Merid
Venus	74°11.5	11:23
Mars	97°31.1	09:52
Jupiter	24°17.7	14:43
Saturn	43°48.6	13:25

Paralelaje Horizontal	
Venus:	0.5
Mars:	0.1

h	Sol		Luna				
Jue	AHG	Dec	AHG	v	Dec	d	HP
0	177°52.8	-21°31.0	56°11.4	13.6	19°37.8	9.1	54.2
1	192°52.6	-21°30.6	70°43.9	13.5	19°46.8	9.0	54.2
2	207°52.3	-21°30.2	85°16.4	13.5	19°55.8	8.9	54.1
3	222°52.1	-21°29.8	99°48.8	13.4	20°04.7	8.8	54.1
4	237°51.9	-21°29.3	114°21.2	13.4	20°13.5	8.8	54.1
5	252°51.6	-21°28.9	128°53.6	13.3	20°22.2	8.7	54.1
6	267°51.4	-21°28.5	143°25.8	13.3	20°30.8	8.6	54.1
7	282°51.2	-21°28.1	157°58.1	13.2	20°39.4	8.5	54.1
8	297°50.9	-21°27.6	172°30.2	13.1	20°47.8	8.4	54.1
9	312°50.7	-21°27.2	187°02.3	13.1	20°56.2	8.3	54.1
10	327°50.5	-21°26.8	201°34.4	13.0	21°04.4	8.2	54.1
11	342°50.2	-21°26.3	216°06.4	13.0	21°12.6	8.1	54.1
12	357°50.0	-21°25.9	230°38.4	12.9	21°20.7	8.0	54.1
13	12°49.8	-21°25.5	245°10.3	12.9	21°28.7	7.9	54.1
14	27°49.5	-21°25.1	259°42.2	12.8	21°36.5	7.8	54.1
15	42°49.3	-21°24.6	274°14.0	12.8	21°44.3	7.8	54.1
16	57°49.1	-21°24.2	288°45.7	12.7	21°52.0	7.7	54.1
17	72°48.8	-21°23.8	303°17.4	12.7	21°59.7	7.6	54.1
18	87°48.6	-21°23.3	317°49.0	12.6	22°07.2	7.5	54.1
19	102°48.4	-21°22.9	332°20.6	12.6	22°14.6	7.4	54.1
20	117°48.1	-21°22.5	346°52.2	12.5	22°21.9	7.3	54.1
21	132°47.9	-21°22.0	1°23.6	12.5	22°29.1	7.2	54.0
22	147°47.7	-21°21.6	15°55.1	12.4	22°36.2	7.1	54.0
23	162°47.5	-21°21.1	30°26.4	12.3	22°43.3	7.0	54.0
	SD.=16.3	d=0.4	S.D.=14.8				

Vie	AHG	Dec	AHG	v	Dec	d	HP
0	177°47.2	-21°20.7	44°57.8	12.3	22°50.2	6.9	54.0
1	192°47.0	-21°20.3	59°29.0	12.2	22°57.0	6.8	54.0
2	207°46.8	-21°19.8	74°00.2	12.2	23°03.7	6.7	54.0
3	222°46.5	-21°19.4	88°31.4	12.1	23°10.3	6.6	54.0
4	237°46.3	-21°18.9	103°02.5	12.1	23°16.8	6.5	54.0
5	252°46.1	-21°18.5	117°33.6	12.0	23°23.2	6.4	54.0
6	267°45.9	-21°18.1	132°04.6	12.0	23°29.5	6.2	54.0
7	282°45.6	-21°17.6	146°35.5	11.9	23°35.7	6.1	54.0
8	297°45.4	-21°17.2	161°06.4	11.9	23°41.8	6.0	54.0
9	312°45.2	-21°16.7	175°37.3	11.8	23°47.8	5.9	54.0
10	327°45.0	-21°16.3	190°08.1	11.8	23°53.7	5.8	54.0
11	342°44.7	-21°15.8	204°38.8	11.7	23°59.4	5.7	54.0
12	357°44.5	-21°15.4	219°09.5	11.7	24°05.1	5.6	54.0
13	12°44.3	-21°14.9	233°40.2	11.6	24°10.7	5.5	54.0
14	27°44.1	-21°14.5	248°10.8	11.6	24°16.1	5.4	54.0
15	42°43.8	-21°14.0	262°41.3	11.5	24°21.4	5.3	54.0
16	57°43.6	-21°13.6	277°11.8	11.5	24°26.6	5.2	54.0
17	72°43.4	-21°13.1	291°42.3	11.4	24°31.8	5.1	54.0
18	87°43.2	-21°12.7	306°12.7	11.4	24°36.7	4.9	54.0
19	102°42.9	-21°12.2	320°43.1	11.3	24°41.6	4.8	54.0
20	117°42.7	-21°11.8	335°13.4	11.3	24°46.4	4.7	54.0
21	132°42.5	-21°11.3	349°43.6	11.2	24°51.0	4.6	54.0
22	147°42.3	-21°10.9	4°13.9	11.2	24°55.6	4.5	54.0
23	162°42.0	-21°10.4	18°44.0	11.2	25°00.0	4.4	54.1
	SD.=16.3	d=0.4	S.D.=14.7				

Sa	AHG	Dec	AHG	v	Dec	d	HP
0	177°41.8	-21°10.0	33°14.2	11.1	25°04.3	4.2	54.1
1	192°41.6	-21°09.5	47°44.2	11.1	25°08.5	4.1	54.1
2	207°41.4	-21°09.1	62°14.3	11.0	25°12.6	4.0	54.1
3	222°41.2	-21°08.6	76°44.3	11.0	25°16.5	3.9	54.1
4	237°40.9	-21°08.1	91°14.3	10.9	25°20.4	3.8	54.1
5	252°40.7	-21°07.7	105°44.2	10.9	25°24.1	3.7	54.1
6	267°40.5	-21°07.2	120°14.1	10.9	25°27.7	3.5	54.1
7	282°40.3	-21°06.8	134°43.9	10.8	25°31.2	3.4	54.1
8	297°40.1	-21°06.3	149°13.7	10.8	25°34.5	3.3	54.1
9	312°39.8	-21°05.8	163°43.5	10.7	25°37.8	3.2	54.1
10	327°39.6	-21°05.4	178°13.2	10.7	25°40.9	3.1	54.1
11	342°39.4	-21°04.9	192°42.9	10.7	25°43.9	2.9	54.1
12	357°39.2	-21°04.5	207°12.5	10.6	25°46.8	2.8	54.1
13	12°39.0	-21°04.0	221°42.1	10.6	25°49.5	2.7	54.1
14	27°38.8	-21°03.5	236°11.7	10.6	25°52.2	2.6	54.1
15	42°38.5	-21°03.1	250°41.3	10.5	25°54.7	2.4	54.1
16	57°38.3	-21°02.6	265°10.8	10.5	25°57.1	2.3	54.1
17	72°38.1	-21°02.1	279°40.3	10.5	25°59.3	2.2	54.1
18	87°37.9	-21°01.7	294°09.7	10.4	26°01.5	2.1	54.1
19	102°37.7	-21°01.2	308°39.2	10.4	26°03.5	1.9	54.1
20	117°37.5	-21°00.7	323°08.6	10.4	26°05.4	1.8	54.1
21	132°37.2	-21°00.3	337°37.9	10.4	26°07.1	1.7	54.2
22	147°37.0	-20°59.8	352°07.3	10.3	26°08.8	1.6	54.2
23	162°36.8	-20°59.3	6°36.6	10.3	26°10.3	1.4	54.2
	SD.=16.3	d=0.5	S.D.=14.7				

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	08:03	09:56	–:–	–:–	14:23	16:16
70	07:48	09:21	–:–	–:–	14:58	16:31
68	07:36	08:56	10:38	13:41	15:23	16:43
66	07:25	08:36	09:56	14:23	15:42	16:54
64	07:16	08:21	09:28	14:51	15:58	17:02
62	07:09	08:07	09:06	15:12	16:11	17:10
60	07:02	07:56	08:49	15:29	16:23	17:17
58	06:56	07:46	08:35	15:44	16:32	17:23
56	06:50	07:38	08:22	15:56	16:41	17:28
54	06:45	07:30	08:12	16:07	16:49	17:33
52	06:40	07:23	08:02	16:17	16:56	17:38
50	06:36	07:16	07:53	16:25	17:02	17:43
45	06:26	07:02	07:35	16:43	17:16	17:52
40	06:17	06:51	07:20	16:58	17:28	18:01
35	06:09	06:40	07:08	17:11	17:38	18:09
30	06:01	06:31	06:57	17:22	17:47	18:17
20	05:47	06:14	06:38	17:40	18:04	18:31
10	05:33	05:59	06:21	17:57	18:20	18:45
0	05:17	05:43	06:05	18:13	18:35	19:01
S 10	05:00	05:27	05:50	18:28	18:51	19:18
20	04:40	05:08	05:32	18:45	19:10	19:38
30	04:13	04:46	05:13	19:05	19:32	20:04
35	03:57	04:32	05:01	19:17	19:46	20:21
40	03:36	04:16	04:48	19:30	20:02	20:41
45	03:09	03:56	04:32	19:46	20:22	21:08
50	02:32	03:30	04:12	20:06	20:47	21:45
52	02:11	03:17	04:02	20:15	21:00	22:06
54	01:43	03:02	03:52	20:25	21:15	22:33
56	00:57	02:44	03:40	20:37	21:32	23:16
58	–:–	02:22	03:25	20:51	21:54	–:–
60	–:–	01:52	03:09	21:08	22:23	–:–

	Orto luna			Ocaso luna		
Lat.	Jue	Vie	Sa	Jue	Vie	Sa
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	–:–	–:–	–:–
68	09:48	–:–	–:–	07:01	–:–	–:–
66	10:35	09:51	–:–	06:14	08:37	–:–
64	11:06	11:00	10:50	05:44	07:28	09:21
62	11:29	11:36	11:52	05:22	06:53	08:19
60	11:48	12:02	12:26	05:04	06:27	07:45
58	12:04	12:22	12:51	04:49	06:07	07:20
56	12:17	12:39	13:11	04:36	05:51	07:00
54	12:28	12:53	13:28	04:25	05:37	06:44
52	12:39	13:06	13:42	04:15	05:25	06:30
50	12:48	13:17	13:55	04:06	05:14	06:17
45	13:07	13:40	14:20	03:48	04:51	05:52
40	13:23	13:59	14:41	03:33	04:33	05:32
35	13:37	14:15	14:58	03:20	04:18	05:15
30	13:48	14:28	15:13	03:09	04:05	05:00
20	14:09	14:51	15:38	02:51	03:43	04:36
10	14:26	15:12	16:00	02:34	03:24	04:14
0	14:43	15:31	16:20	02:19	03:06	03:54
S 10	15:00	15:50	16:41	02:04	02:48	03:35
20	15:17	16:10	17:03	01:48	02:29	03:13
30	15:38	16:34	17:28	01:29	02:07	02:49
35	15:50	16:48	17:43	01:19	01:54	02:35
40	16:04	17:04	18:01	01:06	01:39	02:18
45	16:21	17:23	18:22	00:52	01:22	01:58
50	16:42	17:48	18:48	00:35	01:00	01:33
52	16:52	17:59	19:01	00:26	00:50	01:21
54	17:03	18:13	19:16	00:17	00:38	01:07
56	17:16	18:29	19:34	00:07	00:25	00:52
58	17:30	18:47	19:55	–:–	00:10	00:33
60	17:48	19:10	20:22	23:52	–:–	00:09

Día	Sol			Luna		
	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
13	08:29	08:40	12:08	20:54	08:30	11(83%)
14	08:51	09:02	12:09	21:42	09:18	12(89%)
15	09:13	09:23	12:09	22:32	10:07	13(94%)

Enero 16, 17, 18 (Dom, Lun, Mar)

	Aries	Venus		Martes		Júpiter		Saturno	
Dom	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	115°24.7	190°09.6	-16°34.1	212°08.7	-23°35.7	139°30.1	-11°05.3	159°06.3	-17°32.5
1	130°27.1	205°13.5	-16°33.9	227°09.2	-23°35.8	154°32.1	-11°05.1	174°08.4	-17°32.4
2	145°29.6	220°17.3	-16°33.7	242°09.7	-23°35.9	169°34.0	-11°04.9	189°10.6	-17°32.3
3	160°32.1	235°21.1	-16°33.5	257°10.2	-23°36.0	184°36.0	-11°04.7	204°12.8	-17°32.2
4	175°34.5	250°24.9	-16°33.3	272°10.7	-23°36.1	199°37.9	-11°04.5	219°15.0	-17°32.1
5	190°37.0	265°28.7	-16°33.1	287°11.3	-23°36.2	214°39.9	-11°04.3	234°17.1	-17°32.0
6	205°39.5	280°32.5	-16°32.9	302°11.8	-23°36.4	229°41.8	-11°04.1	249°19.3	-17°32.0
7	220°41.9	295°36.3	-16°32.7	317°12.3	-23°36.5	244°43.8	-11°03.9	264°21.5	-17°31.9
8	235°44.4	310°40.1	-16°32.5	332°12.8	-23°36.6	259°45.7	-11°03.7	279°23.6	-17°31.8
9	250°46.9	325°43.9	-16°32.3	347°13.3	-23°36.7	274°47.7	-11°03.5	294°25.8	-17°31.7
10	265°49.3	340°47.7	-16°32.1	2°13.8	-23°36.8	289°49.6	-11°03.3	309°28.0	-17°31.6
11	280°51.8	355°51.5	-16°31.9	17°14.3	-23°36.9	304°51.6	-11°03.1	324°30.2	-17°31.6
12	295°54.3	10°55.3	-16°31.7	32°14.8	-23°37.0	319°53.5	-11°02.9	339°32.3	-17°31.5
13	310°56.7	25°59.1	-16°31.5	47°15.3	-23°37.1	334°55.5	-11°02.7	354°34.5	-17°31.4
14	325°59.2	41°02.8	-16°31.3	62°15.8	-23°37.2	349°57.4	-11°02.5	9°36.7	-17°31.3
15	341°01.6	56°06.6	-16°31.1	77°16.3	-23°37.3	4°59.4	-11°02.3	24°38.8	-17°31.2
16	356°04.1	71°10.4	-16°31.0	92°16.8	-23°37.4	20°01.4	-11°02.1	39°41.0	-17°31.1
17	11°06.6	86°14.2	-16°30.8	107°17.3	-23°37.5	35°03.3	-11°01.9	54°43.2	-17°31.1
18	26°09.0	101°17.9	-16°30.6	122°17.8	-23°37.6	50°05.3	-11°01.7	69°45.4	-17°31.0
19	41°11.5	116°21.7	-16°30.4	137°18.3	-23°37.8	65°07.2	-11°01.5	84°47.5	-17°30.9
20	56°14.0	131°25.4	-16°30.2	152°18.8	-23°37.9	80°09.2	-11°01.3	99°49.7	-17°30.8
21	71°16.4	146°29.2	-16°30.0	167°19.3	-23°38.0	95°11.1	-11°01.1	114°51.9	-17°30.7
22	86°18.9	161°32.9	-16°29.8	182°19.8	-23°38.1	110°13.1	-11°00.9	129°54.0	-17°30.6
23	101°21.4	176°36.7	-16°29.7	197°20.3	-23°38.2	125°15.0	-11°00.7	144°56.2	-17°30.6
Mer.pass.:16:15		v3.8 d0.2 m-3.7		v0.5 d-0.1 m1.5		v2.0 d0.2 m-1.9		v2.2 d0.1 m0.7	

Lun	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	116°23.8	191°40.4	-16°29.5	212°20.8	-23°38.3	140°17.0	-11°00.5	159°58.4	-17°30.5
1	131°26.3	206°44.2	-16°29.3	227°21.3	-23°38.4	155°18.9	-11°00.3	175°00.6	-17°30.4
2	146°28.7	221°47.9	-16°29.1	242°21.8	-23°38.5	170°20.9	-11°00.1	190°02.7	-17°30.3
3	161°31.2	236°51.7	-16°28.9	257°22.3	-23°38.6	185°22.8	-10°59.9	205°04.9	-17°30.2
4	176°33.7	251°55.4	-16°28.8	272°22.8	-23°38.7	200°24.8	-10°59.7	220°07.1	-17°30.2
5	191°36.1	266°59.1	-16°28.6	287°23.3	-23°38.8	215°26.7	-10°59.5	235°09.2	-17°30.1
6	206°38.6	282°02.8	-16°28.4	302°23.8	-23°38.9	230°28.7	-10°59.3	250°11.4	-17°30.0
7	221°41.1	297°06.6	-16°28.2	317°24.3	-23°39.0	245°30.6	-10°59.1	265°13.6	-17°29.9
8	236°43.5	312°10.3	-16°28.1	332°24.8	-23°39.1	260°32.6	-10°58.9	280°15.8	-17°29.8
9	251°46.0	327°14.0	-16°27.9	347°25.3	-23°39.2	275°34.5	-10°58.7	295°17.9	-17°29.7
10	266°48.5	342°17.7	-16°27.7	2°25.8	-23°39.3	290°36.5	-10°58.5	310°20.1	-17°29.7
11	281°50.9	357°21.4	-16°27.5	17°26.3	-23°39.4	305°38.4	-10°58.3	325°22.3	-17°29.6
12	296°53.4	12°25.1	-16°27.4	32°26.8	-23°39.5	320°40.4	-10°58.1	340°24.4	-17°29.5
13	311°55.9	27°28.8	-16°27.2	47°27.3	-23°39.6	335°42.3	-10°57.9	355°26.6	-17°29.4
14	326°58.3	42°32.5	-16°27.0	62°27.8	-23°39.7	350°44.3	-10°57.7	10°28.8	-17°29.3
15	342°00.8	57°36.2	-16°26.9	77°28.3	-23°39.8	5°46.2	-10°57.5	25°31.0	-17°29.3
16	357°03.2	72°39.9	-16°26.7	92°28.8	-23°39.9	20°48.2	-10°57.3	40°33.1	-17°29.2
17	12°05.7	87°43.6	-16°26.5	107°29.3	-23°40.0	35°50.1	-10°57.1	55°35.3	-17°29.1
18	27°08.2	102°47.2	-16°26.4	122°29.8	-23°40.1	50°52.1	-10°56.9	70°37.5	-17°29.0
19	42°10.6	117°50.9	-16°26.2	137°30.3	-23°40.2	65°54.0	-10°56.7	85°39.6	-17°28.9
20	57°13.1	132°54.6	-16°26.0	152°30.8	-23°40.3	80°56.0	-10°56.5	100°41.8	-17°28.8
21	72°15.6	147°58.3	-16°25.9	167°31.3	-23°40.4	95°57.9	-10°56.3	115°44.0	-17°28.8
22	87°18.0	163°01.9	-16°25.7	182°31.8	-23°40.4	110°59.9	-10°56.1	130°46.2	-17°28.7
23	102°20.5	178°05.6	-16°25.5	197°32.3	-23°40.5	126°01.8	-10°55.9	145°48.3	-17°28.6
Mer.pass.:16:11		v3.7 d0.2 m-3.7		v0.5 d-0.1 m1.5		v2.0 d0.2 m-1.9		v2.2 d0.1 m0.7	

Mar	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	117°23.0	193°09.2	-16°25.4	212°32.8	-23°40.6	141°03.8	-10°55.7	160°50.5	-17°28.5
1	132°25.4	208°12.9	-16°25.2	227°33.3	-23°40.7	156°05.7	-10°55.5	175°52.7	-17°28.4
2	147°27.9	223°16.6	-16°25.1	242°33.8	-23°40.8	171°07.7	-10°55.3	190°54.8	-17°28.3
3	162°30.4	238°20.2	-16°24.9	257°34.3	-23°40.9	186°09.6	-10°55.1	205°57.0	-17°28.3
4	177°32.8	253°23.8	-16°24.7	272°34.8	-23°41.0	201°11.6	-10°54.9	220°59.2	-17°28.2
5	192°35.3	268°27.5	-16°24.6	287°35.3	-23°41.1	216°13.5	-10°54.7	236°01.3	-17°28.1
6	207°37.7	283°31.1	-16°24.4	302°35.8	-23°41.2	231°15.5	-10°54.5	251°03.5	-17°28.0
7	222°40.2	298°34.8	-16°24.3	317°36.2	-23°41.3	246°17.4	-10°54.3	266°05.7	-17°27.9
8	237°42.7	313°38.4	-16°24.1	332°36.7	-23°41.4	261°19.3	-10°54.1	281°07.9	-17°27.9
9	252°45.1	328°42.0	-16°24.0	347°37.2	-23°41.5	276°21.3	-10°53.9	296°10.0	-17°27.8
10	267°47.6	343°45.6	-16°23.8	2°37.7	-23°41.6	291°23.2	-10°53.7	311°12.2	-17°27.7
11	282°50.1	358°49.2	-16°23.7	17°38.2	-23°41.6	306°25.2	-10°53.5	326°14.4	-17°27.6
12	297°52.5	13°52.9	-16°23.5	32°38.7	-23°41.7	321°27.1	-10°53.3	341°16.5	-17°27.5
13	312°55.0	28°56.5	-16°23.4	47°39.2	-23°41.8	336°29.1	-10°53.1	356°18.7	-17°27.4
14	327°57.5	44°00.1	-16°23.2	62°39.7	-23°41.9	351°31.0	-10°52.9	11°20.9	-17°27.4
15	342°59.9	59°03.7	-16°23.1	77°40.2	-23°42.0	6°33.0	-10°52.7	26°23.0	-17°27.3
16	358°02.4	74°07.3	-16°22.9	92°40.7	-23°42.1	21°34.9	-10°52.5	41°25.2	-17°27.2
17	13°04.9	89°10.9	-16°22.8	107°41.2	-23°42.2	36°36.9	-10°52.3	56°27.4	-17°27.1
18	28°07.3	104°14.5	-16°22.6	122°41.7	-23°42.3	51°38.8	-10°52.1	71°29.6	-17°27.0
19	43°09.8	119°18.0	-16°22.5	137°42.2	-23°42.3	66°40.8	-10°51.9	86°31.7	-17°26.9
20	58°12.2	134°21.6	-16°22.3	152°42.7	-23°42.4	81°42.7	-10°51.7	101°33.9	-17°26.9
21	73°14.7	149°25.2	-16°22.2	167°43.2	-23°42.5	96°44.7	-10°51.5	116°36.1	-17°26.8
22	88°17.2	164°28.8	-16°22.1	182°43.7	-23°42.6	111°46.6	-10°51.3	131°38.2	-17°26.7
23	103°19.6	179°32.3	-16°21.9	197°44.2	-23°42.7	126°48.6	-10°51.1	146°40.4	-17°26.6
Mer.pass.:16:07		v3.7 d0.2 m-3.7		v0.5 d-0.1 m1.5		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.7	

Estrellas

	AHS	Dec
Alpheratz	357°37.4	29°12.8
Ankaa	353°09.7	-42°11.5
Schedar	349°33.9	56°39.6
Diphda	348°49.7	-17°52.2
Achernar	335°22.1	-57°07.9
Hamal	327°53.9	23°34.0
Polaris	314°59.5	89°21.7
Akamar	315°13.5	-40°13.3
Menkar	314°08.6	4°10.5
Mirfak	308°31.5	49°56.5
Aldebaran	290°42.2	16°33.2
Rigel	281°05.9	-8°10.7
Capella	280°25.1	46°01.3
Bellatrix	278°25.2	6°22.1
Elnath	278°04.6	28°37.6
Alnilam	275°39.9	-1°11.4
Betelgeuse	270°54.4	7°24.6
Canopus	263°53.0	-52°42.6
Sirius	258°27.9	-16°44.7
Adara	255°07.4	-29°00.2
Procyon	244°53.0	5°10.2
Pollux	243°19.8	27°58.3
Avior	234°15.0	-59°34.7
Suhail	222°47.6	-43°31.2
Miaplacidus	221°37.8	-69°48.3
Alphard	217°49.8	-8°45.2
Regulus	207°36.7	11°51.5
Dubhe	193°43.6	61°37.7
Denebola	182°27.2	14°26.9
Gienah	175°45.9	-17°39.7
Acrux	173°02.5	-63°12.9
Gacrux	171°54.1	-57°13.9
Alioth	166°15.1	55°50.2
Spica	158°24.8	-11°16.5
Alcaid	152°54.0	49°12.0
Hadar	148°39.5	-60°28.4
Menkent	148°00.5	-36°28.5
Arcturus	145°50.1	19°04.3
Rigil Kent.	139°43.8	-60°55.2
Zubenelg.	136°58.8	-16°07.9
Kochab	137°20.2	74°03.6
Alphecca	126°06.0	26°38.3
Antares	112°19.1	-26°28.7
Atria	107°15.9	-69°03.8
Sabik	102°05.8	-15°45.1
Shaula	96°14.0	-37°07.1
Rasalhague	96°01.1	12°32.6
Etamin	90°43.8	51°29.0
Kaus Aust.	83°36.1	-34°22.4
Vega	80°35.3	38°48.1
Nunki	75°51.1	-26°16.2
Altair	62°02.7	8°55.5
Peacock	53°10.2	-56°39.9
Deneb	49°27.9	45°21.5
Enif	33°41.5	9°58.5
Alnair	27°36.4	-46°51.5
Fomalhaut	15°17.5	-29°30.6
Scheat	13°47.8	28°12.1
Markab	13°32.5	15°19.4

Ene 16 Dom	AHS	Paso Merid
Venus	74°45.0	11:16
Mars	96°44.1	09:51
Jupiter	24°05.4	14:40
Saturn	43°41.6	13:22

Ene 17 Lun	AHS	Paso Merid
Venus	75°16.6	11:11
Mars	95°57.0	09:50
Jupiter	23°53.1	14:37
Saturn	43°34.6	13:18

Ene 18 Mar	AHS	Paso Merid
Venus	75°46.3	11:05
Mars	95°09.8	09:49
Jupiter	23°40.8	14:34
Saturn	43°27.5	13:15

Paralelaje Horizontal	
Venus:	0.5
Mars:	0.1

h Sol Luna

Dom	AHG	Dec	AHG	v	Dec	d	HP
0	177°36.6	-20°58.8	21°05.9	10.3	26°11.7	1.3	54.2
1	192°36.4	-20°58.4	35°35.2	10.3	26°12.9	1.2	54.2
2	207°36.2	-20°57.9	50°04.4	10.2	26°14.0	1.1	54.2
3	222°35.9	-20°57.4	64°33.7	10.2	26°15.0	0.9	54.2
4	237°35.7	-20°56.9	79°02.9	10.2	26°15.9	0.8	54.2
5	252°35.5	-20°56.5	93°32.1	10.2	26°16.7	0.7	54.2
6	267°35.3	-20°56.0	108°01.2	10.2	26°17.3	0.6	54.2
7	282°35.1	-20°55.5	122°30.4	10.1	26°17.8	0.4	54.2
8	297°34.9	-20°55.0	136°59.5	10.1	26°18.1	0.3	54.2
9	312°34.7	-20°54.6	151°28.6	10.1	26°18.4	0.2	54.2
10	327°34.5	-20°54.1	165°57.8	10.1	26°18.5	0.0	54.3
11	342°34.2	-20°53.6	180°26.8	10.1	26°18.4	-0.1	54.3
12	357°34.0	-20°53.1	194°55.9	10.1	26°18.3	-0.2	54.3
13	12°33.8	-20°52.6	209°25.0	10.1	26°18.0	-0.3	54.3
14	27°33.6	-20°52.2	223°54.1	10.1	26°17.6	-0.5	54.3
15	42°33.4	-20°51.7	238°23.1	10.1	26°17.0	-0.6	54.3
16	57°33.2	-20°51.2	252°52.2	10.0	26°16.4	-0.7	54.3
17	72°33.0	-20°50.7	267°21.2	10.0	26°15.6	-0.9	54.3
18	87°32.8	-20°50.2	281°50.3	10.0	26°14.6	-1.0	54.3
19	102°32.6	-20°49.7	296°19.3	10.0	26°13.6	-1.1	54.3
20	117°32.4	-20°49.3	310°48.3	10.0	26°12.4	-1.3	54.3
21	132°32.1	-20°48.8	325°17.4	10.0	26°11.1	-1.4	54.4
22	147°31.9	-20°48.3	339°46.4	10.0	26°09.6	-1.5	54.4
23	162°31.7	-20°47.8	354°15.4	10.0	26°08.0	-1.6	54.4
	SD.=16.3	d=0.5		S.D.=14.8			

Lun	AHG	Dec	AHG	v	Dec	d	HP
0	177°31.5	-20°47.3	8°44.5	10.0	26°06.3	-1.8	54.4
1	192°31.3	-20°46.8	23°13.5	10.0	26°04.5	-1.9	54.4
2	207°31.1	-20°46.3	37°42.5	10.0	26°02.5	-2.0	54.4
3	222°30.9	-20°45.8	52°11.6	10.0	26°00.4	-2.2	54.4
4	237°30.7	-20°45.3	66°40.6	10.1	25°58.2	-2.3	54.4
5	252°30.5	-20°44.9	81°09.7	10.1	25°55.8	-2.4	54.4
6	267°30.3	-20°44.4	95°38.7	10.1	25°53.3	-2.6	54.5
7	282°30.1	-20°43.9	110°07.8	10.1	25°50.7	-2.7	54.5
8	297°29.9	-20°43.4	124°36.9	10.1	25°48.0	-2.8	54.5
9	312°29.7	-20°42.9	139°06.0	10.1	25°45.1	-2.9	54.5
10	327°29.5	-20°42.4	153°35.1	10.1	25°42.1	-3.1	54.5
11	342°29.3	-20°41.9	168°04.2	10.1	25°39.0	-3.2	54.5
12	357°29.1	-20°41.4	182°33.4	10.1	25°35.7	-3.3	54.5
13	12°28.9	-20°40.9	197°02.5	10.2	25°32.3	-3.4	54.5
14	27°28.7	-20°40.4	211°31.7	10.2	25°28.8	-3.6	54.6
15	42°28.4	-20°39.9	226°00.9	10.2	25°25.2	-3.7	54.6
16	57°28.2	-20°39.4	240°30.1	10.2	25°21.4	-3.8	54.6
17	72°28.0	-20°38.9	254°59.3	10.2	25°17.5	-4.0	54.6
18	87°27.8	-20°38.4	269°28.6	10.3	25°13.5	-4.1	54.6
19	102°27.6	-20°37.9	283°57.8	10.3	25°09.4	-4.2	54.6
20	117°27.4	-20°37.4	298°27.1	10.3	25°05.1	-4.3	54.6
21	132°27.2	-20°36.9	312°56.4	10.3	25°00.7	-4.5	54.6
22	147°27.0	-20°36.4	327°25.8	10.4	24°56.2	-4.6	54.7
23	162°26.8	-20°35.9	341°55.1	10.4	24°51.5	-4.7	54.7
	SD.=16.3	d=0.5		S.D.=14.8			

Mar	AHG	Dec	AHG	v	Dec	d	HP
0	177°26.6	-20°35.4	356°24.5	10.4	24°46.8	-4.8	54.7
1	192°26.4	-20°34.9	10°53.9	10.4	24°41.9	-5.0	54.7
2	207°26.2	-20°34.4	25°23.4	10.5	24°36.9	-5.1	54.7
3	222°26.0	-20°33.9	39°52.8	10.5	24°31.7	-5.2	54.7
4	237°25.8	-20°33.4	54°22.4	10.5	24°26.4	-5.3	54.7
5	252°25.6	-20°32.8	68°51.9	10.5	24°21.1	-5.4	54.7
6	267°25.4	-20°32.3	83°21.4	10.6	24°15.6	-5.6	54.8
7	282°25.2	-20°31.8	97°51.0	10.6	24°09.9	-5.7	54.8
8	297°25.0	-20°31.3	112°20.7	10.6	24°04.2	-5.8	54.8
9	312°24.9	-20°30.8	126°50.3	10.7	23°58.3	-5.9	54.8
10	327°24.7	-20°30.3	141°20.0	10.7	23°52.3	-6.0	54.8
11	342°24.5	-20°29.8	155°49.7	10.7	23°46.2	-6.2	54.8
12	357°24.3	-20°29.3	170°19.5	10.8	23°40.0	-6.3	54.8
13	12°24.1	-20°28.8	184°49.3	10.8	23°33.7	-6.4	54.9
14	27°23.9	-20°28.2	199°19.1	10.9	23°27.2	-6.5	54.9
15	42°23.7	-20°27.7	213°49.0	10.9	23°20.6	-6.6	54.9
16	57°23.5	-20°27.2	228°18.9	10.9	23°13.9	-6.8	54.9
17	72°23.3	-20°26.7	242°48.9	11.0	23°07.1	-6.9	54.9
18	87°23.1	-20°26.2	257°18.8	11.0	23°00.2	-7.0	54.9
19	102°22.9	-20°25.7	271°48.9	11.0	22°53.2	-7.1	55.0
20	117°22.7	-20°25.1	286°18.9	11.1	22°46.0	-7.2	55.0
21	132°22.5	-20°24.6	300°49.0	11.1	22°38.7	-7.3	55.0
22	147°22.3	-20°24.1	315°19.2	11.2	22°31.4	-7.4	55.0
23	162°22.1	-20°23.6	329°49.4	11.2	22°23.9	-7.5	55.0
	SD.=16.3	d=0.5		S.D.=14.9			

Lat.	Crepúsculo Naut.	Crepúsculo Civil	Orto Sol	Crepúsculo Civil	Crepúsculo Naut.	Ocaso Sol
N 72	07:56	09:43	–:–	–:–	14:38	16:25
70	07:42	09:12	11:41	12:39	15:09	16:39
68	07:30	08:49	10:23	13:57	15:32	16:51
66	07:21	08:30	09:47	14:34	15:50	17:00
64	07:12	08:16	09:21	15:00	16:05	17:08
62	07:05	08:03	09:01	15:20	16:18	17:16
60	06:59	07:52	08:44	15:36	16:28	17:22
58	06:53	07:43	08:31	15:50	16:38	17:28
56	06:48	07:35	08:19	16:02	16:46	17:33
54	06:43	07:27	08:08	16:12	16:53	17:38
52	06:38	07:21	07:59	16:21	17:00	17:42
50	06:34	07:14	07:51	16:30	17:06	17:46
45	06:25	07:01	07:34	16:47	17:20	17:56
40	06:16	06:50	07:19	17:01	17:31	18:04
35	06:09	06:40	07:07	17:13	17:41	18:12
30	06:01	06:31	06:56	17:24	17:50	18:19
20	05:47	06:14	06:38	17:42	18:06	18:33
10	05:33	05:59	06:22	17:59	18:21	18:47
0	05:19	05:44	06:06	18:14	18:36	19:01
S 10	05:02	05:28	05:51	18:29	18:52	19:18
20	04:42	05:10	05:34	18:46	19:09	19:38
30	04:16	04:49	05:15	19:05	19:31	20:03
35	04:00	04:35	05:04	19:16	19:44	20:19
40	03:40	04:19	04:51	19:29	20:00	20:39
45	03:14	04:00	04:35	19:44	20:19	21:05
50	02:38	03:35	04:16	20:03	20:44	21:40
52	02:19	03:23	04:07	20:12	20:56	22:00
54	01:53	03:08	03:57	20:22	21:10	22:24
56	01:15	02:51	03:45	20:34	21:27	23:01
58	–:–	02:30	03:32	20:47	21:48	–:–
60	–:–	02:03	03:16	21:02	22:14	–:–

Lat.	Orto luna Dom	Orto luna Lun	Orto luna Mar	Ocaso luna Dom	Ocaso luna Lun	Ocaso luna Mar
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	–:–	–:–	–:–
68	–:–	–:–	–:–	–:–	–:–	–:–
66	–:–	–:–	13:36	–:–	–:–	11:53
64	–:–	12:41	14:36	–:–	11:02	10:53
62	12:30	13:40	15:10	09:26	10:03	10:19
60	13:09	14:13	15:34	08:48	09:29	09:53
58	13:36	14:38	15:54	08:21	09:05	09:34
56	13:57	14:58	16:10	07:59	08:45	09:17
54	14:14	15:14	16:24	07:42	08:28	09:03
52	14:29	15:28	16:36	07:27	08:14	08:50
50	14:42	15:40	16:47	07:14	08:02	08:39
45	15:09	16:06	17:09	06:47	07:36	08:16
40	15:30	16:26	17:26	06:26	07:15	07:58
35	15:48	16:43	17:41	06:09	06:58	07:42
30	16:03	16:57	17:54	05:53	06:43	07:29
20	16:29	17:22	18:16	05:28	06:18	07:06
10	16:51	17:43	18:35	05:06	05:57	06:46
0	17:11	18:03	18:53	04:45	05:36	06:27
S 10	17:32	18:22	19:11	04:24	05:16	06:08
20	17:54	18:43	19:29	04:02	04:54	05:48
30	18:20	19:08	19:51	03:36	04:29	05:24
35	18:35	19:22	20:04	03:21	04:13	05:11
40	18:53	19:39	20:18	03:04	03:56	04:54
45	19:14	19:58	20:35	02:42	03:35	04:35
50	19:41	20:23	20:57	02:16	03:09	04:11
52	19:54	20:35	21:07	02:03	02:56	03:59
54	20:09	20:49	21:18	01:48	02:41	03:46
56	20:26	21:04	21:31	01:30	02:23	03:31
58	20:47	21:23	21:46	01:09	02:02	03:12
60	21:14	21:46	22:04	00:42	01:35	02:50

Día	Sol Ec. tiempo 00:00 h	Sol Ec. tiempo 12:00 h	Sol Paso Merid	Luna Paso Meridiano Superior	Luna Paso Meridiano Inferior	Luna Edad
16	09:34	09:44	12:09	23:23	10:58	14(98%)
17	09:54	10:04	12:10	00:14	11:49	15(100%)
18	10:14	10:23	12:10	00:14	12:40	16(100%)

Enero 19, 20, 21 (Mie, Jue, Vie)

	Aries	Venus		Martes		Júpiter		Saturno	
Mie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	118°22.1	194°35.9	-16°21.8	212°44.7	-23°42.8	141°50.5	-10°50.9	161°42.6	-17°26.5
1	133°24.6	209°39.5	-16°21.6	227°45.2	-23°42.9	156°52.5	-10°50.7	176°44.7	-17°26.4
2	148°27.0	224°43.0	-16°21.5	242°45.7	-23°42.9	171°54.4	-10°50.5	191°46.9	-17°26.4
3	163°29.5	239°46.6	-16°21.4	257°46.2	-23°43.0	186°56.3	-10°50.3	206°49.1	-17°26.3
4	178°32.0	254°50.1	-16°21.2	272°46.7	-23°43.1	201°58.3	-10°50.1	221°51.3	-17°26.2
5	193°34.4	269°53.7	-16°21.1	287°47.2	-23°43.2	217°00.2	-10°49.9	236°53.4	-17°26.1
6	208°36.9	284°57.2	-16°20.9	302°47.6	-23°43.3	232°02.2	-10°49.7	251°55.6	-17°26.0
7	223°39.4	300°00.8	-16°20.8	317°48.1	-23°43.3	247°04.1	-10°49.5	266°57.8	-17°25.9
8	238°41.8	315°04.3	-16°20.7	332°48.6	-23°43.4	262°06.1	-10°49.3	281°59.9	-17°25.9
9	253°44.3	330°07.8	-16°20.5	347°49.1	-23°43.5	277°08.0	-10°49.1	297°02.1	-17°25.8
10	268°46.7	345°11.4	-16°20.4	2°49.6	-23°43.6	292°10.0	-10°48.9	312°04.3	-17°25.7
11	283°49.2	0°14.9	-16°20.3	17°50.1	-23°43.7	307°11.9	-10°48.7	327°06.4	-17°25.6
12	298°51.7	15°18.4	-16°20.2	32°50.6	-23°43.7	322°13.9	-10°48.5	342°08.6	-17°25.5
13	313°54.1	30°21.9	-16°20.0	47°51.1	-23°43.8	337°15.8	-10°48.3	357°10.8	-17°25.5
14	328°56.6	45°25.4	-16°19.9	62°51.6	-23°43.9	352°17.7	-10°48.1	12°12.9	-17°25.4
15	343°59.1	60°28.9	-16°19.8	77°52.1	-23°44.0	7°19.7	-10°47.9	27°15.1	-17°25.3
16	359°01.5	75°32.4	-16°19.6	92°52.6	-23°44.1	22°21.6	-10°47.7	42°17.3	-17°25.2
17	14°04.0	90°35.9	-16°19.5	107°53.1	-23°44.1	37°23.6	-10°47.5	57°19.5	-17°25.1
18	29°06.5	105°39.4	-16°19.4	122°53.6	-23°44.2	52°25.5	-10°47.3	72°21.6	-17°25.0
19	44°08.9	120°42.9	-16°19.3	137°54.1	-23°44.3	67°27.5	-10°47.1	87°23.8	-17°25.0
20	59°11.4	135°46.4	-16°19.1	152°54.6	-23°44.4	82°29.4	-10°46.9	102°26.0	-17°24.9
21	74°13.8	150°49.9	-16°19.0	167°55.0	-23°44.4	97°31.4	-10°46.7	117°28.1	-17°24.8
22	89°16.3	165°53.4	-16°18.9	182°55.5	-23°44.5	112°33.3	-10°46.5	132°30.3	-17°24.7
23	104°18.8	180°56.8	-16°18.8	197°56.0	-23°44.6	127°35.2	-10°46.3	147°32.5	-17°24.6
Mer.pass.:16:03		v3.6 d0.1 m-3.8		v0.5 d-0.1 m1.5		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.7	

Jue	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	119°21.2	196°00.3	-16°18.7	212°56.5	-23°44.7	142°37.2	-10°46.1	162°34.6	-17°24.5
1	134°23.7	211°03.8	-16°18.5	227°57.0	-23°44.7	157°39.1	-10°45.9	177°36.8	-17°24.5
2	149°26.2	226°07.2	-16°18.4	242°57.5	-23°44.8	172°41.1	-10°45.7	192°39.0	-17°24.4
3	164°28.6	241°10.7	-16°18.3	257°58.0	-23°44.9	187°43.0	-10°45.5	207°41.1	-17°24.3
4	179°31.1	256°14.1	-16°18.2	272°58.5	-23°45.0	202°45.0	-10°45.3	222°43.3	-17°24.2
5	194°33.6	271°17.6	-16°18.1	287°59.0	-23°45.0	217°46.9	-10°45.1	237°45.5	-17°24.1
6	209°36.0	286°21.0	-16°18.0	302°59.5	-23°45.1	232°48.9	-10°44.9	252°47.7	-17°24.0
7	224°38.5	301°24.5	-16°17.8	318°00.0	-23°45.2	247°50.8	-10°44.7	267°49.8	-17°24.0
8	239°41.0	316°27.9	-16°17.7	333°00.5	-23°45.2	262°52.7	-10°44.5	282°52.0	-17°23.9
9	254°43.4	331°31.3	-16°17.6	348°01.0	-23°45.3	277°54.7	-10°44.3	297°54.2	-17°23.8
10	269°45.9	346°34.8	-16°17.5	3°01.4	-23°45.4	292°56.6	-10°44.1	312°56.3	-17°23.7
11	284°48.3	1°38.2	-16°17.4	18°01.9	-23°45.5	307°58.6	-10°43.9	327°58.5	-17°23.6
12	299°50.8	16°41.6	-16°17.3	33°02.4	-23°45.5	323°00.5	-10°43.7	343°00.7	-17°23.5
13	314°53.3	31°45.0	-16°17.2	48°02.9	-23°45.6	338°02.5	-10°43.5	358°02.8	-17°23.5
14	329°55.7	46°48.4	-16°17.1	63°03.4	-23°45.7	353°04.4	-10°43.3	13°05.0	-17°23.4
15	344°58.2	61°51.8	-16°17.0	78°03.9	-23°45.7	8°06.3	-10°43.1	28°07.2	-17°23.3
16	0°00.7	76°55.3	-16°16.9	93°04.4	-23°45.8	23°08.3	-10°42.9	43°09.3	-17°23.2
17	15°03.1	91°58.6	-16°16.8	108°04.9	-23°45.9	38°10.2	-10°42.6	58°11.5	-17°23.1
18	30°05.6	107°02.0	-16°16.7	123°05.4	-23°45.9	53°12.2	-10°42.4	73°13.7	-17°23.0
19	45°08.1	122°05.4	-16°16.6	138°05.9	-23°46.0	68°14.1	-10°42.2	88°15.8	-17°23.0
20	60°10.5	137°08.8	-16°16.4	153°06.3	-23°46.1	83°16.1	-10°42.0	103°18.0	-17°22.9
21	75°13.0	152°12.2	-16°16.3	168°06.8	-23°46.1	98°18.0	-10°41.8	118°20.2	-17°22.8
22	90°15.5	167°15.6	-16°16.2	183°07.3	-23°46.2	113°19.9	-10°41.6	133°22.3	-17°22.7
23	105°17.9	182°18.9	-16°16.1	198°07.8	-23°46.3	128°21.9	-10°41.4	148°24.5	-17°22.6
Mer.pass.:15:59		v3.5 d0.1 m-3.9		v0.5 d-0.1 m1.5		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.7	

Vie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	120°20.4	197°22.3	-16°16.0	213°08.3	-23°46.3	143°23.8	-10°41.2	163°26.7	-17°22.5
1	135°22.8	212°25.7	-16°15.9	228°08.8	-23°46.4	158°25.8	-10°41.0	178°28.9	-17°22.5
2	150°25.3	227°29.0	-16°15.9	243°09.3	-23°46.5	173°27.7	-10°40.8	193°31.0	-17°22.4
3	165°27.8	242°32.4	-16°15.8	258°09.8	-23°46.5	188°29.7	-10°40.6	208°33.2	-17°22.3
4	180°30.2	257°35.7	-16°15.7	273°10.3	-23°46.6	203°31.6	-10°40.4	223°35.4	-17°22.2
5	195°32.7	272°39.1	-16°15.6	288°10.8	-23°46.6	218°33.5	-10°40.2	238°37.5	-17°22.1
6	210°35.2	287°42.4	-16°15.5	303°11.2	-23°46.7	233°35.5	-10°40.0	253°39.7	-17°22.0
7	225°37.6	302°45.8	-16°15.4	318°11.7	-23°46.8	248°37.4	-10°39.8	268°41.9	-17°22.0
8	240°40.1	317°49.1	-16°15.3	333°12.2	-23°46.8	263°39.4	-10°39.6	283°44.0	-17°21.9
9	255°42.6	332°52.4	-16°15.2	348°12.7	-23°46.9	278°41.3	-10°39.4	298°46.2	-17°21.8
10	270°45.0	347°55.8	-16°15.1	3°13.2	-23°47.0	293°43.2	-10°39.2	313°48.4	-17°21.7
11	285°47.5	2°59.1	-16°15.0	18°13.7	-23°47.0	308°45.2	-10°39.0	328°50.5	-17°21.6
12	300°49.9	18°02.4	-16°14.9	33°14.2	-23°47.1	323°47.1	-10°38.8	343°52.7	-17°21.5
13	315°52.4	33°05.7	-16°14.8	48°14.7	-23°47.1	338°49.1	-10°38.6	358°54.9	-17°21.5
14	330°54.9	48°09.0	-16°14.7	63°15.2	-23°47.2	353°51.0	-10°38.4	13°57.0	-17°21.4
15	345°57.3	63°12.3	-16°14.7	78°15.6	-23°47.3	8°52.9	-10°38.2	28°59.2	-17°21.3
16	0°59.8	78°15.6	-16°14.6	93°16.1	-23°47.3	23°54.9	-10°38.0	44°01.4	-17°21.2
17	16°02.3	93°18.9	-16°14.5	108°16.6	-23°47.4	38°56.8	-10°37.8	59°03.5	-17°21.1
18	31°04.7	108°22.2	-16°14.4	123°17.1	-23°47.4	53°58.8	-10°37.6	74°05.7	-17°21.0
19	46°07.2	123°25.5	-16°14.3	138°17.6	-23°47.5	69°00.7	-10°37.3	89°07.9	-17°20.9
20	61°09.7	138°28.8	-16°14.2	153°18.1	-23°47.5	84°02.6	-10°37.1	104°10.0	-17°20.9
21	76°12.1	153°32.0	-16°14.2	168°18.6	-23°47.6	99°04.6	-10°36.9	119°12.2	-17°20.8
22	91°14.6	168°35.3	-16°14.1	183°19.1	-23°47.7	114°06.5	-10°36.7	134°14.4	-17°20.7
23	106°17.1	183°38.6	-16°14.0	198°19.5	-23°47.7	129°08.5	-10°36.5	149°16.5	-17°20.6
Mer.pass.:15:56		v3.4 d0.1 m-4.0		v0.5 d-0.1 m1.5		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.7	

Estrellas

	AHS	Dec
Alpheratz	357°37.4	29°12.8
Ankaa	353°09.7	-42°11.5
Schedar	349°33.9	56°39.6
Diphda	348°49.7	-17°52.2
Achernar	335°22.1	-57°07.9
Hamal	327°53.9	23°34.0
Polaris	315°00.9	89°21.7
Akamar	315°13.5	-40°13.3
Menkar	314°08.6	4°10.5
Mirfak	308°31.5	49°56.5
Aldebaran	290°42.2	16°33.2
Rigel	281°05.9	-8°10.7
Capella	280°25.1	46°01.3
Bellatrix	278°25.2	6°22.1
Elnath	278°04.6	28°37.6
Alnilam	275°39.9	-1°11.4
Betelgeuse	270°54.4	7°24.6
Canopus	263°53.0	-52°42.6
Sirius	258°27.9	-16°44.7
Adara	255°07.4	-29°00.2
Procyon	244°52.9	5°10.2
Pollux	243°19.8	27°58.3
Avior	234°15.0	-59°34.7
Suhail	222°47.6	-43°31.2
Miaplacidus	221°37.8	-69°48.3
Alphard	217°49.8	-8°45.2
Regulus	207°36.7	11°51.5
Dubhe	193°43.6	61°37.8
Denebola	182°27.2	14°26.9
Gienah	175°45.9	-17°39.7
Acrux	173°02.5	-63°12.9
Gacrux	171°54.1	-57°13.9
Alioth	166°15.1	55°50.2
Spica	158°24.8	-11°16.5
Alcaid	152°53.9	49°12.0
Hadar	148°39.4	-60°28.4
Menkent	148°00.5	-36°28.5
Arcturus	145°50.0	19°04.3
Rigil Kent.	139°43.7	-60°55.2
Zubenelg.	136°58.8	-16°07.9
Kochab	137°20.2	74°03.6
Alphecca	126°06.0	26°38.3
Antares	112°19.0	-26°28.7
Atria	107°15.9	-69°03.7
Sabik	102°05.8	-15°45.1
Shaula	96°14.0	-37°07.1
Rasalhague	96°01.1	12°32.6
Etamin	90°43.8	51°29.0
Kaus Aust.	83°36.1	-34°22.4
Vega	80°35.3	38°48.1
Nunki	75°51.1	-26°16.2
Altair	62°02.7	8°55.5
Peacock	53°10.2	-56°39.9
Deneb	49°27.9	45°21.5
Enif	33°41.5	9°58.5
Alnair	27°36.4	-46°51.5
Fomalhaut	15°17.5	-29°30.6
Scheat	13°47.8	28°12.1
Markab	13°32.5	15°19.4

Ene 19 Mie	AHS	Paso Merid
Venus	76°13.8	10:59
Mars	94°22.6	09:49
Jupiter	23°28.4	14:31
Saturn	43°20.5	13:11

Ene 20 Jue	AHS	Paso Merid
Venus	76°39.1	10:53
Mars	93°35.3	09:48
Jupiter	23°16.0	14:28
Saturn	43°13.4	13:08

Ene 21 Vie	AHS	Paso Merid
Venus	77°01.9	10:48
Mars	92°47.9	09:47
Jupiter	23°03.4	14:25
Saturn	43°06.3	13:04

Paralelaje Horizontal	
Venus:	0.5
Mars:	0.1

h	Sol		Luna				
Mie	AHG	Dec	AHG	v	Dec	d	HP
0	177°21.9	-20°23.1	344°19.6	11.2	22°16.3	-7.7	55.0
1	192°21.7	-20°22.5	358°49.9	11.3	22°08.6	-7.8	55.0
2	207°21.5	-20°22.0	13°20.2	11.3	22°00.7	-7.9	55.1
3	222°21.4	-20°21.5	27°50.5	11.4	21°52.8	-8.0	55.1
4	237°21.2	-20°21.0	42°20.9	11.4	21°44.8	-8.1	55.1
5	252°21.0	-20°20.4	56°51.4	11.5	21°36.6	-8.2	55.1
6	267°20.8	-20°19.9	71°21.8	11.5	21°28.4	-8.3	55.1
7	282°20.6	-20°19.4	85°52.4	11.5	21°20.0	-8.4	55.1
8	297°20.4	-20°18.9	100°22.9	11.6	21°11.6	-8.5	55.2
9	312°20.2	-20°18.3	114°53.5	11.6	21°03.0	-8.6	55.2
10	327°20.0	-20°17.8	129°24.2	11.7	20°54.3	-8.7	55.2
11	342°19.8	-20°17.3	143°54.9	11.7	20°45.6	-8.8	55.2
12	357°19.6	-20°16.8	158°25.6	11.8	20°36.7	-8.9	55.2
13	12°19.5	-20°16.2	172°56.4	11.8	20°27.7	-9.0	55.2
14	27°19.3	-20°15.7	187°27.3	11.9	20°18.6	-9.1	55.3
15	42°19.1	-20°15.2	201°58.1	11.9	20°09.4	-9.2	55.3
16	57°18.9	-20°14.6	216°29.1	11.9	20°00.2	-9.3	55.3
17	72°18.7	-20°14.1	231°00.0	12.0	19°50.8	-9.4	55.3
18	87°18.5	-20°13.6	245°31.0	12.0	19°41.3	-9.5	55.3
19	102°18.3	-20°13.0	260°02.1	12.1	19°31.7	-9.6	55.3
20	117°18.1	-20°12.5	274°33.2	12.1	19°22.1	-9.7	55.4
21	132°18.0	-20°12.0	289°04.3	12.2	19°12.3	-9.8	55.4
22	147°17.8	-20°11.4	303°35.5	12.2	19°02.4	-9.9	55.4
23	162°17.6	-20°10.9	318°06.8	12.3	18°52.5	-10.0	55.4
	SD.=16.3	d=0.5			S.D.=15.0		

Jue	AHG	Dec	AHG	v	Dec	d	HP
0	177°17.4	-20°10.4	332°38.0	12.3	18°42.4	-10.1	55.4
1	192°17.2	-20°09.8	347°09.4	12.3	18°32.3	-10.2	55.4
2	207°17.0	-20°09.3	1°40.7	12.4	18°22.1	-10.3	55.5
3	222°16.8	-20°08.7	16°12.1	12.4	18°11.8	-10.4	55.5
4	237°16.7	-20°08.2	30°43.6	12.5	18°01.4	-10.5	55.5
5	252°16.5	-20°07.7	45°15.1	12.5	17°50.9	-10.5	55.5
6	267°16.3	-20°07.1	59°46.6	12.6	17°40.3	-10.6	55.5
7	282°16.1	-20°06.6	74°18.2	12.6	17°29.6	-10.7	55.6
8	297°15.9	-20°06.0	88°49.8	12.6	17°18.8	-10.8	55.6
9	312°15.7	-20°05.5	103°21.5	12.7	17°08.0	-10.9	55.6
10	327°15.6	-20°05.0	117°53.2	12.7	16°57.1	-11.0	55.6
11	342°15.4	-20°04.4	132°24.9	12.8	16°46.1	-11.1	55.6
12	357°15.2	-20°03.9	146°56.7	12.8	16°35.0	-11.1	55.7
13	12°15.0	-20°03.3	161°28.6	12.9	16°23.8	-11.2	55.7
14	27°14.8	-20°02.8	176°00.4	12.9	16°12.5	-11.3	55.7
15	42°14.7	-20°02.2	190°32.4	12.9	16°01.2	-11.4	55.7
16	57°14.5	-20°01.7	205°04.3	13.0	15°49.8	-11.5	55.7
17	72°14.3	-20°01.1	219°36.3	13.0	15°38.3	-11.5	55.7
18	87°14.1	-20°00.6	234°08.3	13.0	15°26.7	-11.6	55.8
19	102°13.9	-20°00.0	248°40.4	13.1	15°15.1	-11.7	55.8
20	117°13.8	-19°59.5	263°12.5	13.1	15°03.4	-11.8	55.8
21	132°13.6	-19°58.9	277°44.6	13.2	14°51.6	-11.8	55.8
22	147°13.4	-19°58.4	292°16.8	13.2	14°39.7	-11.9	55.8
23	162°13.2	-19°57.8	306°49.0	13.2	14°27.7	-12.0	55.9
	SD.=16.3	d=0.5			S.D.=15.1		

Vie	AHG	Dec	AHG	v	Dec	d	HP
0	177°13.1	-19°57.3	321°21.3	13.3	14°15.7	-12.1	55.9
1	192°12.9	-19°56.7	335°53.6	13.3	14°03.6	-12.1	55.9
2	207°12.7	-19°56.2	350°25.9	13.3	13°51.5	-12.2	55.9
3	222°12.5	-19°55.6	4°58.2	13.4	13°39.2	-12.3	55.9
4	237°12.3	-19°55.1	19°30.6	13.4	13°26.9	-12.3	56.0
5	252°12.2	-19°54.5	34°03.1	13.4	13°14.6	-12.4	56.0
6	267°12.0	-19°54.0	48°35.5	13.5	13°02.2	-12.5	56.0
7	282°11.8	-19°53.4	63°08.0	13.5	12°49.7	-12.5	56.0
8	297°11.6	-19°52.8	77°40.5	13.5	12°37.1	-12.6	56.0
9	312°11.5	-19°52.3	92°13.0	13.6	12°24.5	-12.7	56.1
10	327°11.3	-19°51.7	106°45.6	13.6	12°11.8	-12.7	56.1
11	342°11.1	-19°51.2	121°18.2	13.6	11°59.0	-12.8	56.1
12	357°11.0	-19°50.6	135°50.8	13.6	11°46.2	-12.8	56.1
13	12°10.8	-19°50.0	150°23.5	13.7	11°33.3	-12.9	56.1
14	27°10.6	-19°49.5	164°56.2	13.7	11°20.4	-13.0	56.2
15	42°10.4	-19°48.9	179°28.9	13.7	11°07.4	-13.0	56.2
16	57°10.3	-19°48.4	194°01.6	13.7	10°54.4	-13.1	56.2
17	72°10.1	-19°47.8	208°34.4	13.8	10°41.3	-13.1	56.2
18	87°09.9	-19°47.2	223°07.2	13.8	10°28.1	-13.2	56.3
19	102°09.7	-19°46.7	237°40.0	13.8	10°14.9	-13.2	56.3
20	117°09.6	-19°46.1	252°12.8	13.8	10°01.6	-13.3	56.3
21	132°09.4	-19°45.5	266°45.6	13.9	9°48.3	-13.3	56.3
22	147°09.2	-19°45.0	281°18.5	13.9	9°34.9	-13.4	56.3
23	162°09.1	-19°44.4	295°51.4	13.9	9°21.5	-13.5	56.4
	SD.=16.3	d=0.6			S.D.=15.2		

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	07:48	09:31	–:–	–:–	14:52	16:35
70	07:35	09:02	11:05	13:18	15:21	16:48
68	07:24	08:41	10:10	14:13	15:42	16:59
66	07:15	08:24	09:37	14:46	15:59	17:07
64	07:08	08:10	09:13	15:09	16:13	17:15
62	07:01	07:58	08:55	15:28	16:24	17:22
60	06:55	07:48	08:39	15:43	16:35	17:28
58	06:50	07:39	08:26	15:56	16:43	17:33
56	06:45	07:31	08:15	16:08	16:51	17:38
54	06:40	07:24	08:05	16:18	16:58	17:42
52	06:36	07:18	07:56	16:26	17:05	17:47
50	06:32	07:12	07:48	16:34	17:10	17:50
45	06:23	06:59	07:31	16:51	17:23	17:59
40	06:15	06:48	07:18	17:05	17:34	18:07
35	06:08	06:39	07:06	17:16	17:44	18:15
30	06:01	06:30	06:56	17:27	17:52	18:21
20	05:47	06:14	06:38	17:44	18:08	18:35
10	05:34	06:00	06:22	18:00	18:22	18:48
0	05:20	05:45	06:07	18:15	18:37	19:02
S 10	05:04	05:30	05:52	18:29	18:52	19:18
20	04:44	05:13	05:36	18:45	19:09	19:37
30	04:19	04:51	05:18	19:04	19:30	20:02
35	04:04	04:38	05:07	19:15	19:43	20:18
40	03:44	04:23	04:54	19:27	19:58	20:37
45	03:20	04:04	04:39	19:42	20:17	21:01
50	02:45	03:40	04:21	20:00	20:40	21:35
52	02:27	03:29	04:12	20:09	20:52	21:53
54	02:03	03:15	04:03	20:18	21:05	22:16
56	01:30	02:59	03:51	20:29	21:21	22:47
58	–:–	02:39	03:39	20:42	21:40	–:–
60	–:–	02:14	03:24	20:57	22:05	–:–

	Orto luna			Ocaso luna		
Lat.	Mie	Jue	Vie	Mie	Jue	Vie
N 72	–:–	16:22	18:55	–:–	12:32	11:35
70	–:–	17:03	19:13	–:–	11:50	11:16
68	15:15	17:30	19:26	11:58	11:21	11:00
66	15:56	17:51	19:37	11:16	10:59	10:48
64	16:24	18:07	19:46	10:47	10:42	10:37
62	16:45	18:21	19:54	10:25	10:27	10:28
60	17:02	18:32	20:01	10:07	10:15	10:20
58	17:17	18:42	20:07	09:52	10:04	10:13
56	17:29	18:50	20:12	09:39	09:55	10:07
54	17:40	18:58	20:16	09:28	09:47	10:01
52	17:49	19:05	20:21	09:18	09:39	09:56
50	17:58	19:11	20:24	09:09	09:33	09:52
45	18:15	19:24	20:33	08:50	09:18	09:42
40	18:30	19:34	20:39	08:35	09:06	09:34
35	18:42	19:44	20:45	08:21	08:56	09:27
30	18:53	19:52	20:50	08:10	08:47	09:20
20	19:11	20:05	20:59	07:50	08:31	09:09
10	19:27	20:17	21:07	07:33	08:17	09:00
0	19:42	20:29	21:14	07:17	08:04	08:50
S 10	19:56	20:40	21:21	07:00	07:51	08:41
20	20:12	20:51	21:29	06:43	07:37	08:31
30	20:30	21:05	21:37	06:22	07:21	08:20
35	20:40	21:13	21:42	06:10	07:12	08:13
40	20:52	21:21	21:48	05:57	07:01	08:06
45	21:06	21:32	21:54	05:40	06:48	07:57
50	21:23	21:44	22:02	05:20	06:32	07:46
52	21:31	21:50	22:06	05:10	06:25	07:41
54	21:40	21:56	22:09	05:00	06:17	07:35
56	21:50	22:03	22:14	04:47	06:08	07:29
58	22:01	22:11	22:18	04:33	05:57	07:22
60	22:14	22:20	22:24	04:16	05:45	07:14

Día	Sol			Luna		
	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
19	10:32	10:42	12:10	01:04	13:29	17(98%)
20	10:51	10:59	12:10	01:53	14:16	18(94%)
21	11:08	11:16	12:11	02:39	15:02	19(88%)

Enero 22, 23, 24 (Sa, Dom, Lun)

	Aries	Venus		Martes		Júpiter		Saturno	
Sa	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	121°19.5	198°41.9	-16°13.9	213°20.0	-23°47.8	144°10.4	-10°36.3	164°18.7	-17°20.5
1	136°22.0	213°45.1	-16°13.8	228°20.5	-23°47.8	159°12.3	-10°36.1	179°20.9	-17°20.4
2	151°24.4	228°48.4	-16°13.8	243°21.0	-23°47.9	174°14.3	-10°35.9	194°23.1	-17°20.4
3	166°26.9	243°51.6	-16°13.7	258°21.5	-23°47.9	189°16.2	-10°35.7	209°25.2	-17°20.3
4	181°29.4	258°54.9	-16°13.6	273°22.0	-23°48.0	204°18.2	-10°35.5	224°27.4	-17°20.2
5	196°31.8	273°58.1	-16°13.5	288°22.5	-23°48.0	219°20.1	-10°35.3	239°29.6	-17°20.1
6	211°34.3	289°01.3	-16°13.5	303°23.0	-23°48.1	234°22.0	-10°35.1	254°31.7	-17°20.0
7	226°36.8	304°04.6	-16°13.4	318°23.4	-23°48.1	249°24.0	-10°34.9	269°33.9	-17°19.9
8	241°39.2	319°07.8	-16°13.3	333°23.9	-23°48.2	264°25.9	-10°34.7	284°36.1	-17°19.9
9	256°41.7	334°11.0	-16°13.2	348°24.4	-23°48.2	279°27.9	-10°34.5	299°38.2	-17°19.8
10	271°44.2	349°14.2	-16°13.2	3°24.9	-23°48.3	294°29.8	-10°34.3	314°40.4	-17°19.7
11	286°46.6	4°17.5	-16°13.1	18°25.4	-23°48.3	309°31.7	-10°34.1	329°42.6	-17°19.6
12	301°49.1	19°20.7	-16°13.0	33°25.9	-23°48.4	324°33.7	-10°33.9	344°44.7	-17°19.5
13	316°51.6	34°23.9	-16°13.0	48°26.4	-23°48.4	339°35.6	-10°33.7	359°46.9	-17°19.4
14	331°54.0	49°27.1	-16°12.9	63°26.8	-23°48.5	354°37.6	-10°33.5	14°49.1	-17°19.4
15	346°56.5	64°30.3	-16°12.8	78°27.3	-23°48.5	9°39.5	-10°33.3	29°51.2	-17°19.3
16	1°58.9	79°33.5	-16°12.8	93°27.8	-23°48.6	24°41.4	-10°33.0	44°53.4	-17°19.2
17	17°01.4	94°36.7	-16°12.7	108°28.3	-23°48.6	39°43.4	-10°32.8	59°55.6	-17°19.1
18	32°03.9	109°39.8	-16°12.6	123°28.8	-23°48.7	54°45.3	-10°32.6	74°57.7	-17°19.0
19	47°06.3	124°43.0	-16°12.6	138°29.3	-23°48.7	69°47.3	-10°32.4	89°59.9	-17°18.9
20	62°08.8	139°46.2	-16°12.5	153°29.8	-23°48.8	84°49.2	-10°32.2	105°02.1	-17°18.9
21	77°11.3	154°49.4	-16°12.4	168°30.2	-23°48.8	99°51.1	-10°32.0	120°04.2	-17°18.8
22	92°13.7	169°52.5	-16°12.4	183°30.7	-23°48.9	114°53.1	-10°31.8	135°06.4	-17°18.7
23	107°16.2	184°55.7	-16°12.3	198°31.2	-23°48.9	129°55.0	-10°31.6	150°08.6	-17°18.6
Mer.pass.:15:52		v3.3 d0.1 m-4.0		v0.5 d-0.1 m1.5		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.7	

Dom	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	122°18.7	199°58.9	-16°12.2	213°31.7	-23°49.0	144°56.9	-10°31.4	165°10.7	-17°18.5
1	137°21.1	215°02.0	-16°12.2	228°32.2	-23°49.0	159°58.9	-10°31.2	180°12.9	-17°18.4
2	152°23.6	230°05.2	-16°12.1	243°32.7	-23°49.0	175°00.8	-10°31.0	195°15.1	-17°18.3
3	167°26.0	245°08.3	-16°12.1	258°33.2	-23°49.1	190°02.8	-10°30.8	210°17.2	-17°18.3
4	182°28.5	260°11.4	-16°12.0	273°33.6	-23°49.1	205°04.7	-10°30.6	225°19.4	-17°18.2
5	197°31.0	275°14.6	-16°12.0	288°34.1	-23°49.2	220°06.6	-10°30.4	240°21.6	-17°18.1
6	212°33.4	290°17.7	-16°11.9	303°34.6	-23°49.2	235°08.6	-10°30.2	255°23.7	-17°18.0
7	227°35.9	305°20.8	-16°11.8	318°35.1	-23°49.3	250°10.5	-10°30.0	270°25.9	-17°17.9
8	242°38.4	320°23.9	-16°11.8	333°35.6	-23°49.3	265°12.4	-10°29.8	285°28.1	-17°17.8
9	257°40.8	335°27.1	-16°11.7	348°36.1	-23°49.3	280°14.4	-10°29.5	300°30.2	-17°17.8
10	272°43.3	350°30.2	-16°11.7	3°36.5	-23°49.4	295°16.3	-10°29.3	315°32.4	-17°17.7
11	287°45.8	5°33.3	-16°11.6	18°37.0	-23°49.4	310°18.3	-10°29.1	330°34.6	-17°17.6
12	302°48.2	20°36.4	-16°11.6	33°37.5	-23°49.5	325°20.2	-10°28.9	345°36.7	-17°17.5
13	317°50.7	35°39.5	-16°11.5	48°38.0	-23°49.5	340°22.1	-10°28.7	0°38.9	-17°17.4
14	332°53.2	50°42.6	-16°11.5	63°38.5	-23°49.5	355°24.1	-10°28.5	15°41.1	-17°17.3
15	347°55.6	65°45.7	-16°11.4	78°39.0	-23°49.6	10°26.0	-10°28.3	30°43.2	-17°17.3
16	2°58.1	80°48.7	-16°11.4	93°39.4	-23°49.6	25°27.9	-10°28.1	45°45.4	-17°17.2
17	18°00.5	95°51.8	-16°11.3	108°39.9	-23°49.7	40°29.9	-10°27.9	60°47.6	-17°17.1
18	33°03.0	110°54.9	-16°11.3	123°40.4	-23°49.7	55°31.8	-10°27.7	75°49.7	-17°17.0
19	48°05.5	125°58.0	-16°11.2	138°40.9	-23°49.7	70°33.7	-10°27.5	90°51.9	-17°16.9
20	63°07.9	141°01.0	-16°11.2	153°41.4	-23°49.8	85°35.7	-10°27.3	105°54.1	-17°16.8
21	78°10.4	156°04.1	-16°11.2	168°41.9	-23°49.8	100°37.6	-10°27.1	120°56.2	-17°16.7
22	93°12.9	171°07.2	-16°11.1	183°42.3	-23°49.8	115°39.6	-10°26.9	135°58.4	-17°16.7
23	108°15.3	186°10.2	-16°11.1	198°42.8	-23°49.9	130°41.5	-10°26.7	151°00.6	-17°16.6
Mer.pass.:15:48		v3.2 d0.1 m-4.1		v0.5 d-0.0 m1.5		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.7	

Lun	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	123°17.8	201°13.3	-16°11.0	213°43.3	-23°49.9	145°43.4	-10°26.4	166°02.7	-17°16.5
1	138°20.3	216°16.3	-16°11.0	228°43.8	-23°49.9	160°45.4	-10°26.2	181°04.9	-17°16.4
2	153°22.7	231°19.3	-16°11.0	243°44.3	-23°50.0	175°47.3	-10°26.0	196°07.1	-17°16.3
3	168°25.2	246°22.4	-16°10.9	258°44.8	-23°50.0	190°49.2	-10°25.8	211°09.2	-17°16.2
4	183°27.6	261°25.4	-16°10.9	273°45.2	-23°50.0	205°51.2	-10°25.6	226°11.4	-17°16.2
5	198°30.1	276°28.4	-16°10.8	288°45.7	-23°50.1	220°53.1	-10°25.4	241°13.6	-17°16.1
6	213°32.6	291°31.4	-16°10.8	303°46.2	-23°50.1	235°55.0	-10°25.2	256°15.7	-17°16.0
7	228°35.0	306°34.5	-16°10.8	318°46.7	-23°50.1	250°57.0	-10°25.0	271°17.9	-17°15.9
8	243°37.5	321°37.5	-16°10.7	333°47.2	-23°50.2	265°58.9	-10°24.8	286°20.1	-17°15.8
9	258°40.0	336°40.5	-16°10.7	348°47.7	-23°50.2	281°00.8	-10°24.6	301°22.2	-17°15.7
10	273°42.4	351°43.5	-16°10.7	3°48.1	-23°50.2	296°02.8	-10°24.4	316°24.4	-17°15.6
11	288°44.9	6°46.5	-16°10.6	18°48.6	-23°50.3	311°04.7	-10°24.2	331°26.6	-17°15.6
12	303°47.4	21°49.5	-16°10.6	33°49.1	-23°50.3	326°06.7	-10°24.0	346°28.7	-17°15.5
13	318°49.8	36°52.5	-16°10.6	48°49.6	-23°50.3	341°08.6	-10°23.8	1°30.9	-17°15.4
14	333°52.3	51°55.4	-16°10.5	63°50.1	-23°50.4	356°10.5	-10°23.5	16°33.1	-17°15.3
15	348°54.8	66°58.4	-16°10.5	78°50.5	-23°50.4	11°12.5	-10°23.3	31°35.2	-17°15.2
16	3°57.2	82°01.4	-16°10.5	93°51.0	-23°50.4	26°14.4	-10°23.1	46°37.4	-17°15.1
17	18°59.7	97°04.4	-16°10.4	108°51.5	-23°50.4	41°16.3	-10°22.9	61°39.6	-17°15.1
18	34°02.1	112°07.3	-16°10.4	123°52.0	-23°50.5	56°18.3	-10°22.7	76°41.7	-17°15.0
19	49°04.6	127°10.3	-16°10.4	138°52.5	-23°50.5	71°20.2	-10°22.5	91°43.9	-17°14.9
20	64°07.1	142°13.3	-16°10.4	153°52.9	-23°50.5	86°22.1	-10°22.3	106°46.1	-17°14.8
21	79°09.5	157°16.2	-16°10.3	168°53.4	-23°50.6	101°24.1	-10°22.1	121°48.2	-17°14.7
22	94°12.0	172°19.2	-16°10.3	183°53.9	-23°50.6	116°26.0	-10°21.9	136°50.4	-17°14.6
23	109°14.5	187°22.1	-16°10.3	198°54.4	-23°50.6	131°27.9	-10°21.7	151°52.6	-17°14.5
Mer.pass.:15:44		v3.0 d0.0 m-4.1		v0.5 d-0.0 m1.4		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.7	

Estrellas

	AHS	Dec
Alpheratz	357°37.4	29°12.7
Ankaa	353°09.7	-42°11.5
Schedar	349°34.0	56°39.6
Diphda	348°49.7	-17°52.2
Achernar	335°22.1	-57°07.9
Hamal	327°53.9	23°34.0
Polaris	315°02.4	89°21.7
Akamar	315°13.5	-40°13.3
Menkar	314°08.6	4°10.5
Mirfak	308°31.5	49°56.5
Aldebaran	290°42.2	16°33.2
Rigel	281°05.9	-8°10.7
Capella	280°25.1	46°01.3
Bellatrix	278°25.2	6°22.1
Elnath	278°04.6	28°37.6
Alnilam	275°39.9	-1°11.4
Betelgeuse	270°54.4	7°24.6
Canopus	263°53.0	-52°42.6
Sirius	258°27.9	-16°44.7
Adara	255°07.4	-29°00.2
Procyon	244°52.9	5°10.2
Pollux	243°19.8	27°58.3
Avior	234°15.0	-59°34.8
Suhail	222°47.6	-43°31.2
Miaplacidus	221°37.8	-69°48.3
Alphard	217°49.8	-8°45.2
Regulus	207°36.7	11°51.5
Dubhe	193°43.5	61°37.8
Denebola	182°27.2	14°26.9
Gienah	175°45.9	-17°39.8
Acrux	173°02.5	-63°12.9
Gacrux	171°54.1	-57°13.9
Alioth	166°15.0	55°50.2
Spica	158°24.8	-11°16.5
Alcaid	152°53.9	49°12.0
Hadar	148°39.4	-60°28.4
Menkent	148°00.5	-36°28.5
Arcturus	145°50.0	19°04.2
Rigil Kent.	139°43.7	-60°55.2
Zubenelg.	136°58.8	-16°07.9
Kochab	137°20.1	74°03.6
Alphecca	126°06.0	26°38.3
Antares	112°19.0	-26°28.7
Atria	107°15.8	-69°03.7
Sabik	102°05.8	-15°45.1
Shaula	96°14.0	-37°07.1
Rasalhague	96°01.1	12°32.6
Etamin	90°43.8	51°29.0
Kaus Aust.	83°36.1	-34°22.4
Vega	80°35.3	38°48.1
Nunki	75°51.1	-26°16.2
Altair	62°02.7	8°55.4
Peacock	53°10.1	-56°39.9
Deneb	49°27.9	45°21.5
Enif	33°41.5	9°58.5
Alnair	27°36.4	-46°51.5
Fomalhaut	15°17.5	-29°30.6
Scheat	13°47.8	28°12.1
Markab	13°32.5	15°19.4

Ene 22 Sa	AHS	Paso Merid
Venus	77°22.3	10:43
Mars	92°00.5	09:46
Jupiter	22°50.9	14:21
Saturn	42°59.2	13:01

Ene 23 Dom	AHS	Paso Merid
Venus	77°40.2	10:38
Mars	91°13.0	09:46
Jupiter	22°38.3	14:18
Saturn	42°52.1	12:57

Ene 24 Lun	AHS	Paso Merid
Venus	77°55.5	10:33
Mars	90°25.5	09:45
Jupiter	22°25.6	14:15
Saturn	42°44.9	12:54

Paralelaje Horizontal	
Venus:	0.5
Mars:	0.1

h Sol Luna

Sa	AHG	Dec	AHG	v	Dec	d	HP
0	177°08.9	-19°43.8	310°24.3	13.9	9°08.0	-13.5	56.4
1	192°08.7	-19°43.3	324°57.2	13.9	8°54.5	-13.6	56.4
2	207°08.6	-19°42.7	339°30.1	13.9	8°40.9	-13.6	56.4
3	222°08.4	-19°42.1	354°03.1	14.0	8°27.3	-13.6	56.4
4	237°08.2	-19°41.6	8°36.0	14.0	8°13.6	-13.7	56.5
5	252°08.1	-19°41.0	23°09.0	14.0	7°59.9	-13.7	56.5
6	267°07.9	-19°40.4	37°42.0	14.0	7°46.1	-13.8	56.5
7	282°07.7	-19°39.8	52°15.0	14.0	7°32.3	-13.8	56.5
8	297°07.5	-19°39.3	66°48.0	14.0	7°18.5	-13.9	56.6
9	312°07.4	-19°38.7	81°21.0	14.0	7°04.6	-13.9	56.6
10	327°07.2	-19°38.1	95°54.1	14.0	6°50.7	-13.9	56.6
11	342°07.1	-19°37.5	110°27.1	14.0	6°36.7	-14.0	56.6
12	357°06.9	-19°37.0	125°00.1	14.0	6°22.7	-14.0	56.7
13	12°06.7	-19°36.4	139°33.2	14.1	6°08.7	-14.1	56.7
14	27°06.6	-19°35.8	154°06.2	14.1	5°54.6	-14.1	56.7
15	42°06.4	-19°35.2	168°39.3	14.1	5°40.4	-14.1	56.7
16	57°06.2	-19°34.7	183°12.4	14.1	5°26.3	-14.2	56.7
17	72°06.1	-19°34.1	197°45.4	14.1	5°12.1	-14.2	56.8
18	87°05.9	-19°33.5	212°18.5	14.1	4°57.9	-14.2	56.8
19	102°05.7	-19°32.9	226°51.5	14.1	4°43.6	-14.3	56.8
20	117°05.6	-19°32.3	241°24.6	14.1	4°29.3	-14.3	56.8
21	132°05.4	-19°31.8	255°57.7	14.1	4°15.0	-14.3	56.9
22	147°05.2	-19°31.2	270°30.7	14.1	4°00.7	-14.4	56.9
23	162°05.1	-19°30.6	285°03.8	14.0	3°46.3	-14.4	56.9
	SD.=16.3	d=0.6			S.D.=15.4		

Dom	AHG	Dec	AHG	v	Dec	d	HP
0	177°04.9	-19°30.0	299°36.8	14.0	3°31.9	-14.4	56.9
1	192°04.8	-19°29.4	314°09.8	14.0	3°17.5	-14.4	57.0
2	207°04.6	-19°28.8	328°42.9	14.0	3°03.0	-14.5	57.0
3	222°04.4	-19°28.3	343°15.9	14.0	2°48.5	-14.5	57.0
4	237°04.3	-19°27.7	357°48.9	14.0	2°34.0	-14.5	57.0
5	252°04.1	-19°27.1	12°21.9	14.0	2°19.5	-14.5	57.1
6	267°04.0	-19°26.5	26°54.9	14.0	2°04.9	-14.6	57.1
7	282°03.8	-19°25.9	41°27.8	14.0	1°50.4	-14.6	57.1
8	297°03.6	-19°25.3	56°00.8	13.9	1°35.8	-14.6	57.1
9	312°03.5	-19°24.7	70°33.7	13.9	1°21.2	-14.6	57.1
10	327°03.3	-19°24.1	85°06.6	13.9	1°06.5	-14.6	57.2
11	342°03.2	-19°23.6	99°39.5	13.9	0°51.9	-14.7	57.2
12	357°03.0	-19°23.0	114°12.4	13.9	0°37.2	-14.7	57.2
13	12°02.9	-19°22.4	128°45.3	13.9	0°22.6	-14.7	57.2
14	27°02.7	-19°21.8	143°18.1	13.8	0°07.9	-14.7	57.3
15	42°02.5	-19°21.2	157°50.9	13.8	-0°06.8	-14.7	57.3
16	57°02.4	-19°20.6	172°23.7	13.8	-0°21.5	-14.7	57.3
17	72°02.2	-19°20.0	186°56.5	13.8	-0°36.2	-14.7	57.3
18	87°02.1	-19°19.4	201°29.2	13.7	-0°51.0	-14.7	57.4
19	102°01.9	-19°18.8	216°02.0	13.7	-1°05.7	-14.7	57.4
20	117°01.8	-19°18.2	230°34.6	13.7	-1°20.5	-14.7	57.4
21	132°01.6	-19°17.6	245°07.3	13.6	-1°35.2	-14.8	57.4
22	147°01.4	-19°17.0	259°39.9	13.6	-1°50.0	-14.8	57.5
23	162°01.3	-19°16.4	274°12.5	13.6	-2°04.7	-14.8	57.5
	SD.=16.3	d=0.6			S.D.=15.5		

Lun	AHG	Dec	AHG	v	Dec	d	HP
0	177°01.1	-19°15.8	288°45.1	13.5	-2°19.5	-14.8	57.5
1	192°01.0	-19°15.2	303°17.6	13.5	-2°34.3	-14.8	57.5
2	207°00.8	-19°14.6	317°50.1	13.5	-2°49.0	-14.8	57.6
3	222°00.7	-19°14.0	332°22.5	13.4	-3°03.8	-14.8	57.6
4	237°00.5	-19°13.4	346°54.9	13.4	-3°18.6	-14.8	57.6
5	252°00.4	-19°12.8	1°27.3	13.3	-3°33.3	-14.8	57.7
6	267°00.2	-19°12.2	15°59.6	13.3	-3°48.1	-14.8	57.7
7	282°00.1	-19°11.6	30°31.9	13.3	-4°02.8	-14.8	57.7
8	296°59.9	-19°11.0	45°04.1	13.2	-4°17.6	-14.7	57.7
9	311°59.8	-19°10.4	59°36.3	13.2	-4°32.3	-14.7	57.8
10	326°59.6	-19°09.8	74°08.4	13.1	-4°47.1	-14.7	57.8
11	341°59.5	-19°09.2	88°40.5	13.1	-5°01.8	-14.7	57.8
12	356°59.3	-19°08.6	103°12.6	13.0	-5°16.5	-14.7	57.8
13	11°59.2	-19°08.0	117°44.6	13.0	-5°31.2	-14.7	57.9
14	26°59.0	-19°07.4	132°16.5	12.9	-5°45.9	-14.7	57.9
15	41°58.9	-19°06.8	146°48.4	12.9	-6°00.6	-14.7	57.9
16	56°58.7	-19°06.2	161°20.2	12.8	-6°15.2	-14.7	57.9
17	71°58.6	-19°05.6	175°52.0	12.8	-6°29.9	-14.6	58.0
18	86°58.4	-19°05.0	190°23.7	12.7	-6°44.5	-14.6	58.0
19	101°58.3	-19°04.4	204°55.4	12.6	-6°59.1	-14.6	58.0
20	116°58.1	-19°03.7	219°27.0	12.6	-7°13.7	-14.6	58.0
21	131°58.0	-19°03.1	233°58.6	12.5	-7°28.3	-14.6	58.1
22	146°57.8	-19°02.5	248°30.0	12.5	-7°42.8	-14.5	58.1
23	161°57.7	-19°01.9	263°01.5	12.4	-7°57.3	-14.5	58.1
	SD.=16.2	d=0.6			S.D.=15.7		

Lat.	Crepúsculo Naut.	Crepúsculo Civil	Orto Sol	Crepúsculo Civil	Crepúsculo Naut.	Ocaso Sol
N 72	07:39	09:18	–:–	–:–	15:07	16:46
70	07:28	08:52	10:41	13:44	15:32	16:57
68	07:18	08:33	09:56	14:28	15:52	17:07
66	07:10	08:17	09:27	14:57	16:08	17:15
64	07:03	08:04	09:05	15:19	16:20	17:22
62	06:56	07:53	08:48	15:36	16:31	17:28
60	06:51	07:43	08:33	15:51	16:41	17:33
58	06:46	07:35	08:21	16:03	16:49	17:38
56	06:41	07:28	08:10	16:14	16:57	17:43
54	06:37	07:21	08:01	16:23	17:03	17:47
52	06:33	07:15	07:53	16:31	17:09	17:51
50	06:30	07:09	07:45	16:39	17:15	17:55
45	06:21	06:57	07:29	16:55	17:27	18:03
40	06:14	06:47	07:16	17:08	17:37	18:10
35	06:07	06:37	07:04	17:19	17:47	18:17
30	06:00	06:29	06:55	17:29	17:55	18:24
20	05:47	06:14	06:37	17:46	18:10	18:36
10	05:35	06:00	06:22	18:01	18:23	18:49
0	05:21	05:46	06:08	18:15	18:37	19:03
S 10	05:05	05:31	05:54	18:30	18:52	19:18
20	04:47	05:15	05:38	18:45	19:09	19:37
30	04:23	04:54	05:20	19:03	19:29	20:01
35	04:07	04:42	05:10	19:13	19:41	20:16
40	03:49	04:27	04:58	19:25	19:56	20:34
45	03:25	04:09	04:44	19:39	20:14	20:58
50	02:52	03:46	04:26	19:57	20:36	21:30
52	02:35	03:35	04:18	20:05	20:47	21:47
54	02:14	03:22	04:08	20:14	21:00	22:07
56	01:45	03:07	03:58	20:24	21:15	22:35
58	00:55	02:48	03:46	20:36	21:33	23:21
60	–:–	02:26	03:32	20:50	21:55	–:–

Lat.	Orto luna Sa	Orto luna Dom	Orto luna Lun	Ocaso luna Sa	Ocaso luna Dom	Ocaso luna Lun
N 72	21:05	23:11	–:–	11:00	10:31	10:02
70	21:11	23:08	–:–	10:51	10:30	10:09
68	21:16	23:06	–:–	10:44	10:29	10:14
66	21:20	23:03	–:–	10:38	10:28	10:19
64	21:24	23:02	–:–	10:32	10:27	10:23
62	21:27	23:00	–:–	10:28	10:27	10:26
60	21:29	22:59	–:–	10:23	10:26	10:29
58	21:32	22:57	–:–	10:20	10:26	10:32
56	21:34	22:56	–:–	10:17	10:25	10:34
54	21:35	22:55	–:–	10:14	10:25	10:36
52	21:37	22:54	–:–	10:11	10:25	10:38
50	21:38	22:54	–:–	10:09	10:24	10:40
45	21:42	22:52	–:–	10:03	10:24	10:44
40	21:44	22:50	23:58	09:59	10:23	10:47
35	21:47	22:49	23:53	09:55	10:22	10:50
30	21:49	22:48	23:49	09:52	10:22	10:53
20	21:52	22:46	23:42	09:46	10:21	10:57
10	21:55	22:45	23:35	09:40	10:20	11:01
0	21:58	22:43	23:29	09:35	10:20	11:05
S 10	22:01	22:42	23:23	09:30	10:19	11:09
20	22:04	22:40	23:17	09:25	10:18	11:13
30	22:08	22:39	23:10	09:18	10:17	11:17
35	22:10	22:38	23:06	09:15	10:17	11:20
40	22:12	22:36	23:02	09:11	10:16	11:23
45	22:15	22:35	22:57	09:06	10:15	11:26
50	22:18	22:34	22:50	09:00	10:14	11:30
52	22:20	22:33	22:47	08:57	10:14	11:32
54	22:21	22:32	22:44	08:54	10:13	11:34
56	22:23	22:32	22:41	08:51	10:13	11:36
58	22:25	22:31	22:37	08:47	10:12	11:39
60	22:27	22:30	22:33	08:43	10:12	11:42

Día	Sol Ec. tiempo 00:00 h	Sol Ec. tiempo 12:00 h	Sol Paso Merid	Luna Paso Meridiano Superior	Luna Paso Meridiano Inferior	Luna Edad
22	11:25	11:33	12:11	03:24	15:46	20(81%)
23	11:40	11:48	12:11	04:09	16:31	21(72%)
24	11:56	12:03	12:12	04:54	17:17	22(62%)

Enero 25, 26, 27 (Mar, Mie, Jue)

	Aries	Venus		Martes		Júpiter		Saturno	
Mar	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	124°16.9	202°25.0	-16°10.3	213°54.9	-23°50.6	146°29.9	-10°21.5	166°54.7	-17°14.5
1	139°19.4	217°28.0	-16°10.2	228°55.4	-23°50.7	161°31.8	-10°21.3	181°56.9	-17°14.4
2	154°21.9	232°30.9	-16°10.2	243°55.8	-23°50.7	176°33.7	-10°21.1	196°59.1	-17°14.3
3	169°24.3	247°33.8	-16°10.2	258°56.3	-23°50.7	191°35.7	-10°20.8	212°01.2	-17°14.2
4	184°26.8	262°36.7	-16°10.2	273°56.8	-23°50.7	206°37.6	-10°20.6	227°03.4	-17°14.1
5	199°29.3	277°39.7	-16°10.1	288°57.3	-23°50.8	221°39.5	-10°20.4	242°05.6	-17°14.0
6	214°31.7	292°42.6	-16°10.1	303°57.8	-23°50.8	236°41.5	-10°20.2	257°07.7	-17°14.0
7	229°34.2	307°45.5	-16°10.1	318°58.2	-23°50.8	251°43.4	-10°20.0	272°09.9	-17°13.9
8	244°36.6	322°48.4	-16°10.1	333°58.7	-23°50.8	266°45.3	-10°19.8	287°12.1	-17°13.8
9	259°39.1	337°51.3	-16°10.1	348°59.2	-23°50.8	281°47.3	-10°19.6	302°14.2	-17°13.7
10	274°41.6	352°54.2	-16°10.1	3°59.7	-23°50.9	296°49.2	-10°19.4	317°16.4	-17°13.6
11	289°44.0	7°57.1	-16°10.0	19°00.2	-23°50.9	311°51.1	-10°19.2	332°18.6	-17°13.5
12	304°46.5	22°59.9	-16°10.0	34°00.6	-23°50.9	326°53.1	-10°19.0	347°20.7	-17°13.4
13	319°49.0	38°02.8	-16°10.0	49°01.1	-23°50.9	341°55.0	-10°18.8	2°22.9	-17°13.4
14	334°51.4	53°05.7	-16°10.0	64°01.6	-23°50.9	356°56.9	-10°18.6	17°25.1	-17°13.3
15	349°53.9	68°08.6	-16°10.0	79°02.1	-23°51.0	11°58.9	-10°18.3	32°27.2	-17°13.2
16	4°56.4	83°11.4	-16°10.0	94°02.5	-23°51.0	27°00.8	-10°18.1	47°29.4	-17°13.1
17	19°58.8	98°14.3	-16°10.0	109°03.0	-23°51.0	42°02.7	-10°17.9	62°31.6	-17°13.0
18	35°01.3	113°17.1	-16°09.9	124°03.5	-23°51.0	57°04.7	-10°17.7	77°33.7	-17°12.9
19	50°03.7	128°20.0	-16°09.9	139°04.0	-23°51.0	72°06.6	-10°17.5	92°35.9	-17°12.9
20	65°06.2	143°22.8	-16°09.9	154°04.5	-23°51.1	87°08.5	-10°17.3	107°38.1	-17°12.8
21	80°08.7	158°25.7	-16°09.9	169°04.9	-23°51.1	102°10.5	-10°17.1	122°40.2	-17°12.7
22	95°11.1	173°28.5	-16°09.9	184°05.4	-23°51.1	117°12.4	-10°16.9	137°42.4	-17°12.6
23	110°13.6	188°31.4	-16°09.9	199°05.9	-23°51.1	132°14.3	-10°16.7	152°44.5	-17°12.5
Mer.pass.:15:40		v2.9 d0.0 m-4.2		v0.5 d-0.0 m1.4		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.7	

Mie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	125°16.1	203°34.2	-16°09.9	214°06.4	-23°51.1	147°16.3	-10°16.5	167°46.7	-17°12.4
1	140°18.5	218°37.0	-16°09.9	229°06.9	-23°51.1	162°18.2	-10°16.3	182°48.9	-17°12.3
2	155°21.0	233°39.8	-16°09.9	244°07.3	-23°51.1	177°20.1	-10°16.0	197°51.0	-17°12.3
3	170°23.5	248°42.6	-16°09.9	259°07.8	-23°51.2	192°22.0	-10°15.8	212°53.2	-17°12.2
4	185°25.9	263°45.4	-16°09.9	274°08.3	-23°51.2	207°24.0	-10°15.6	227°55.4	-17°12.1
5	200°28.4	278°48.3	-16°09.9	289°08.8	-23°51.2	222°25.9	-10°15.4	242°57.5	-17°12.0
6	215°30.9	293°51.1	-16°09.9	304°09.3	-23°51.2	237°27.8	-10°15.2	257°59.7	-17°11.9
7	230°33.3	308°53.9	-16°09.9	319°09.7	-23°51.2	252°29.8	-10°15.0	273°01.9	-17°11.8
8	245°35.8	323°56.6	-16°09.9	334°10.2	-23°51.2	267°31.7	-10°14.8	288°04.0	-17°11.7
9	260°38.2	338°59.4	-16°09.9	349°10.7	-23°51.2	282°33.6	-10°14.6	303°06.2	-17°11.7
10	275°40.7	354°02.2	-16°09.8	4°11.2	-23°51.2	297°35.6	-10°14.4	318°08.4	-17°11.6
11	290°43.2	9°05.0	-16°09.8	19°11.6	-23°51.3	312°37.5	-10°14.2	333°10.5	-17°11.5
12	305°45.6	24°07.8	-16°09.9	34°12.1	-23°51.3	327°39.4	-10°14.0	348°12.7	-17°11.4
13	320°48.1	39°10.5	-16°09.9	49°12.6	-23°51.3	342°41.4	-10°13.7	3°14.9	-17°11.3
14	335°50.6	54°13.3	-16°09.9	64°13.1	-23°51.3	357°43.3	-10°13.5	18°17.0	-17°11.2
15	350°53.0	69°16.1	-16°09.9	79°13.6	-23°51.3	12°45.2	-10°13.3	33°19.2	-17°11.1
16	5°55.5	84°18.8	-16°09.9	94°14.0	-23°51.3	27°47.2	-10°13.1	48°21.4	-17°11.1
17	20°58.0	99°21.6	-16°09.9	109°14.5	-23°51.3	42°49.1	-10°12.9	63°23.5	-17°11.0
18	36°00.4	114°24.3	-16°09.9	124°15.0	-23°51.3	57°51.0	-10°12.7	78°25.7	-17°10.9
19	51°02.9	129°27.0	-16°09.9	139°15.5	-23°51.3	72°52.9	-10°12.5	93°27.9	-17°10.8
20	66°05.4	144°29.8	-16°09.9	154°15.9	-23°51.3	87°54.9	-10°12.3	108°30.0	-17°10.7
21	81°07.8	159°32.5	-16°09.9	169°16.4	-23°51.3	102°56.8	-10°12.1	123°32.2	-17°10.6
22	96°10.3	174°35.2	-16°09.9	184°16.9	-23°51.3	117°58.7	-10°11.9	138°34.4	-17°10.6
23	111°12.7	189°38.0	-16°09.9	199°17.4	-23°51.4	133°00.7	-10°11.6	153°36.5	-17°10.5
Mer.pass.:15:36		v2.8 d0.0 m-4.2		v0.5 d-0.0 m1.4		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.7	

Jue	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	126°15.2	204°40.7	-16°09.9	214°17.8	-23°51.4	148°02.6	-10°11.4	168°38.7	-17°10.4
1	141°17.7	219°43.4	-16°09.9	229°18.3	-23°51.4	163°04.5	-10°11.2	183°40.9	-17°10.3
2	156°20.1	234°46.1	-16°09.9	244°18.8	-23°51.4	178°06.5	-10°11.0	198°43.0	-17°10.2
3	171°22.6	249°48.8	-16°09.9	259°19.3	-23°51.4	193°08.4	-10°10.8	213°45.2	-17°10.1
4	186°25.1	264°51.5	-16°09.9	274°19.8	-23°51.4	208°10.3	-10°10.6	228°47.3	-17°10.0
5	201°27.5	279°54.2	-16°10.0	289°20.2	-23°51.4	223°12.2	-10°10.4	243°49.5	-17°10.0
6	216°30.0	294°56.9	-16°10.0	304°20.7	-23°51.4	238°14.2	-10°10.2	258°51.7	-17°09.9
7	231°32.5	309°59.6	-16°10.0	319°21.2	-23°51.4	253°16.1	-10°10.0	273°53.8	-17°09.8
8	246°34.9	325°02.3	-16°10.0	334°21.7	-23°51.4	268°18.0	-10°09.8	288°56.0	-17°09.7
9	261°37.4	340°05.0	-16°10.0	349°22.1	-23°51.4	283°20.0	-10°09.5	303°58.2	-17°09.6
10	276°39.8	355°07.6	-16°10.0	4°22.6	-23°51.4	298°21.9	-10°09.3	319°00.3	-17°09.5
11	291°42.3	10°10.3	-16°10.0	19°23.1	-23°51.4	313°23.8	-10°09.1	334°02.5	-17°09.4
12	306°44.8	25°13.0	-16°10.1	34°23.6	-23°51.4	328°25.8	-10°08.9	349°04.7	-17°09.4
13	321°47.2	40°15.6	-16°10.1	49°24.0	-23°51.4	343°27.7	-10°08.7	4°06.8	-17°09.3
14	336°49.7	55°18.3	-16°10.1	64°24.5	-23°51.4	358°29.6	-10°08.5	19°09.0	-17°09.2
15	351°52.2	70°20.9	-16°10.1	79°25.0	-23°51.4	13°31.5	-10°08.3	34°11.2	-17°09.1
16	6°54.6	85°23.6	-16°10.1	94°25.5	-23°51.4	28°33.5	-10°08.1	49°13.3	-17°09.0
17	21°57.1	100°26.2	-16°10.1	109°25.9	-23°51.4	43°35.4	-10°07.9	64°15.5	-17°08.9
18	36°59.6	115°28.8	-16°10.2	124°26.4	-23°51.4	58°37.3	-10°07.6	79°17.7	-17°08.8
19	52°02.0	130°31.5	-16°10.2	139°26.9	-23°51.4	73°39.3	-10°07.4	94°19.8	-17°08.8
20	67°04.5	145°34.1	-16°10.2	154°27.4	-23°51.4	88°41.2	-10°07.2	109°22.0	-17°08.7
21	82°07.0	160°36.7	-16°10.2	169°27.8	-23°51.4	103°43.1	-10°07.0	124°24.2	-17°08.6
22	97°09.4	175°39.3	-16°10.3	184°28.3	-23°51.4	118°45.0	-10°06.8	139°26.3	-17°08.5
23	112°11.9	190°42.0	-16°10.3	199°28.8	-23°51.4	133°47.0	-10°06.6	154°28.5	-17°08.4
Mer.pass.:15:32		v2.7 d-0.0 m-4.2		v0.5 d-0.0 m1.4		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.7	

Estrellas

	AHS	Dec
Alpheratz	357°37.5	29°12.7
Ankaa	353°09.7	-42°11.5
Schedar	349°34.0	56°39.6
Diphda	348°49.8	-17°52.2
Achernar	335°22.1	-57°07.9
Hamal	327°53.9	23°34.0
Polaris	315°03.8	89°21.7
Akamar	315°13.5	-40°13.3
Menkar	314°08.6	4°10.5
Mirfak	308°31.5	49°56.5
Aldebaran	290°42.2	16°33.2
Rigel	281°05.9	-8°10.7
Capella	280°25.1	46°01.3
Bellatrix	278°25.2	6°22.1
Elnath	278°04.6	28°37.6
Alnilam	275°39.9	-1°11.4
Betelgeuse	270°54.4	7°24.6
Canopus	263°53.0	-52°42.6
Sirius	258°28.0	-16°44.7
Adara	255°07.4	-29°00.2
Procyon	244°52.9	5°10.2
Pollux	243°19.8	27°58.3
Avior	234°15.0	-59°34.8
Suhail	222°47.6	-43°31.2
Miaplacidus	221°37.8	-69°48.3
Alphard	217°49.8	-8°45.3
Regulus	207°36.7	11°51.5
Dubhe	193°43.5	61°37.8
Denebola	182°27.1	14°26.9
Gienah	175°45.9	-17°39.8
Acrux	173°02.4	-63°13.0
Gacrux	171°54.0	-57°13.9
Alioth	166°15.0	55°50.2
Spica	158°24.8	-11°16.5
Alcaid	152°53.9	49°12.0
Hadar	148°39.4	-60°28.4
Menkent	148°00.5	-36°28.5
Arcturus	145°50.0	19°04.2
Rigil Kent.	139°43.7	-60°55.2
Zubenelg.	136°58.8	-16°07.9
Kochab	137°20.0	74°03.6
Alphecca	126°06.0	26°38.3
Antares	112°19.0	-26°28.7
Atria	107°15.8	-69°03.7
Sabik	102°05.8	-15°45.1
Shaula	96°14.0	-37°07.1
Rasalhague	96°01.1	12°32.6
Etamin	90°43.7	51°29.0
Kaus Aust.	83°36.1	-34°22.4
Vega	80°35.3	38°48.0
Nunki	75°51.1	-26°16.2
Altair	62°02.7	8°55.4
Peacock	53°10.1	-56°39.9
Deneb	49°27.9	45°21.5
Enif	33°41.5	9°58.5
Alnair	27°36.4	-46°51.5
Fomalhaut	15°17.5	-29°30.6
Scheat	13°47.8	28°12.1
Markab	13°32.6	15°19.3

Ene 25 Mar	AHS	Paso Merid
Venus	78°08.1	10:28
Mars	89°37.9	09:44
Jupiter	22°12.9	14:12
Saturn	42°37.8	12:50

Ene 26 Mie	AHS	Paso Merid
Venus	78°18.1	10:24
Mars	88°50.3	09:43
Jupiter	22°00.2	14:09
Saturn	42°30.6	12:47

Ene 27 Jue	AHS	Paso Merid
Venus	78°25.5	10:19
Mars	88°02.6	09:43
Jupiter	21°47.4	14:06
Saturn	42°23.5	12:44

Paralelaje Horizontal	
Venus:	0.5
Mars:	0.1

h	Sol		Luna				
Mar	AHG	Dec	AHG	v	Dec	d	HP
0	176°57.6	-19°01.3	277°32.8	12.3	-8°11.8	-14.5	58.2
1	191°57.4	-19°00.7	292°04.1	12.3	-8°26.3	-14.5	58.2
2	206°57.3	-19°00.1	306°35.3	12.2	-8°40.7	-14.4	58.2
3	221°57.1	-18°59.5	321°06.5	12.1	-8°55.1	-14.4	58.2
4	236°57.0	-18°58.8	335°37.6	12.1	-9°09.5	-14.4	58.3
5	251°56.8	-18°58.2	350°08.6	12.0	-9°23.8	-14.3	58.3
6	266°56.7	-18°57.6	4°39.5	11.9	-9°38.1	-14.3	58.3
7	281°56.5	-18°57.0	19°10.4	11.8	-9°52.4	-14.3	58.3
8	296°56.4	-18°56.4	33°41.2	11.8	-10°06.7	-14.2	58.4
9	311°56.3	-18°55.8	48°11.9	11.7	-10°20.9	-14.2	58.4
10	326°56.1	-18°55.1	62°42.6	11.6	-10°35.0	-14.1	58.4
11	341°56.0	-18°54.5	77°13.2	11.5	-10°49.1	-14.1	58.4
12	356°55.8	-18°53.9	91°43.6	11.4	-11°03.2	-14.1	58.5
13	11°55.7	-18°53.3	106°14.1	11.4	-11°17.3	-14.0	58.5
14	26°55.5	-18°52.7	120°44.4	11.3	-11°31.2	-14.0	58.5
15	41°55.4	-18°52.0	135°14.6	11.2	-11°45.2	-13.9	58.6
16	56°55.3	-18°51.4	149°44.8	11.1	-11°59.1	-13.9	58.6
17	71°55.1	-18°50.8	164°14.9	11.0	-12°12.9	-13.8	58.6
18	86°55.0	-18°50.2	178°44.8	10.9	-12°26.7	-13.8	58.6
19	101°54.8	-18°49.5	193°14.8	10.9	-12°40.5	-13.7	58.7
20	116°54.7	-18°48.9	207°44.6	10.8	-12°54.2	-13.7	58.7
21	131°54.6	-18°48.3	222°14.3	10.7	-13°07.8	-13.6	58.7
22	146°54.4	-18°47.7	236°43.9	10.6	-13°21.4	-13.6	58.7
23	161°54.3	-18°47.0	251°13.5	10.5	-13°34.9	-13.5	58.8
	SD.=16.2	d=0.6	S.D.=15.9				

Mie	AHG	Dec	AHG	v	Dec	d	HP
0	176°54.2	-18°46.4	265°42.9	10.4	-13°48.4	-13.4	58.8
1	191°54.0	-18°45.8	280°12.3	10.3	-14°01.8	-13.4	58.8
2	206°53.9	-18°45.2	294°41.5	10.2	-14°15.1	-13.3	58.8
3	221°53.7	-18°44.5	309°10.7	10.1	-14°28.4	-13.2	58.9
4	236°53.6	-18°43.9	323°39.8	10.0	-14°41.6	-13.2	58.9
5	251°53.5	-18°43.3	338°08.7	9.9	-14°54.7	-13.1	58.9
6	266°53.3	-18°42.6	352°37.6	9.8	-15°07.8	-13.0	58.9
7	281°53.2	-18°42.0	7°06.4	9.7	-15°20.8	-13.0	59.0
8	296°53.1	-18°41.4	21°35.1	9.6	-15°33.7	-12.9	59.0
9	311°52.9	-18°40.7	36°03.6	9.5	-15°46.6	-12.8	59.0
10	326°52.8	-18°40.1	50°32.1	9.4	-15°59.3	-12.7	59.1
11	341°52.7	-18°39.5	65°00.5	9.3	-16°12.0	-12.7	59.1
12	356°52.5	-18°38.8	79°28.7	9.2	-16°24.7	-12.6	59.1
13	11°52.4	-18°38.2	93°56.9	9.1	-16°37.2	-12.5	59.1
14	26°52.3	-18°37.6	108°24.9	9.0	-16°49.6	-12.4	59.2
15	41°52.1	-18°36.9	122°52.9	8.9	-17°02.0	-12.3	59.2
16	56°52.0	-18°36.3	137°20.7	8.8	-17°14.3	-12.2	59.2
17	71°51.9	-18°35.7	151°48.5	8.7	-17°26.5	-12.1	59.2
18	86°51.7	-18°35.0	166°16.1	8.6	-17°38.6	-12.1	59.3
19	101°51.6	-18°34.4	180°43.6	8.5	-17°50.6	-12.0	59.3
20	116°51.5	-18°33.7	195°11.0	8.4	-18°02.5	-11.9	59.3
21	131°51.3	-18°33.1	209°38.3	8.2	-18°14.3	-11.8	59.3
22	146°51.2	-18°32.5	224°05.5	8.1	-18°26.1	-11.7	59.4
23	161°51.1	-18°31.8	238°32.6	8.0	-18°37.7	-11.6	59.4
	SD.=16.2	d=0.6	S.D.=16.0				

Jue	AHG	Dec	AHG	v	Dec	d	HP
0	176°51.0	-18°31.2	252°59.5	7.9	-18°49.2	-11.5	59.4
1	191°50.8	-18°30.5	267°26.4	7.8	-19°00.6	-11.4	59.4
2	206°50.7	-18°29.9	281°53.1	7.7	-19°12.0	-11.3	59.4
3	221°50.6	-18°29.3	296°19.8	7.6	-19°23.2	-11.2	59.5
4	236°50.4	-18°28.6	310°46.3	7.5	-19°34.3	-11.0	59.5
5	251°50.3	-18°28.0	325°12.7	7.3	-19°45.3	-10.9	59.5
6	266°50.2	-18°27.3	339°39.0	7.2	-19°56.2	-10.8	59.5
7	281°50.1	-18°26.7	354°05.2	7.1	-20°06.9	-10.7	59.6
8	296°49.9	-18°26.0	8°31.2	7.0	-20°17.6	-10.6	59.6
9	311°49.8	-18°25.4	22°57.2	6.9	-20°28.1	-10.5	59.6
10	326°49.7	-18°24.7	37°23.0	6.8	-20°38.5	-10.4	59.6
11	341°49.5	-18°24.1	51°48.7	6.7	-20°48.8	-10.2	59.7
12	356°49.4	-18°23.4	66°14.3	6.6	-20°59.0	-10.1	59.7
13	11°49.3	-18°22.8	80°39.8	6.4	-21°09.1	-10.0	59.7
14	26°49.2	-18°22.1	95°05.2	6.3	-21°19.0	-9.9	59.7
15	41°49.0	-18°21.5	109°30.5	6.2	-21°28.8	-9.7	59.7
16	56°48.9	-18°20.8	123°55.7	6.1	-21°38.4	-9.6	59.8
17	71°48.8	-18°20.2	138°20.7	6.0	-21°48.0	-9.5	59.8
18	86°48.7	-18°19.5	152°45.6	5.9	-21°57.4	-9.3	59.8
19	101°48.6	-18°18.9	167°10.5	5.8	-22°06.6	-9.2	59.8
20	116°48.4	-18°18.2	181°35.2	5.7	-22°15.8	-9.1	59.9
21	131°48.3	-18°17.6	195°59.8	5.5	-22°24.8	-8.9	59.9
22	146°48.2	-18°16.9	210°24.3	5.4	-22°33.6	-8.8	59.9
23	161°48.1	-18°16.3	224°48.7	5.3	-22°42.3	-8.6	59.9
	SD.=16.2	d=0.6	S.D.=16.2				

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	07:30	09:05	11:39	12:48	15:21	16:57
70	07:19	08:42	10:21	14:05	15:44	17:07
68	07:11	08:24	09:43	14:43	16:02	17:15
66	07:03	08:09	09:17	15:09	16:17	17:23
64	06:57	07:57	08:57	15:29	16:29	17:29
62	06:51	07:47	08:41	15:45	16:39	17:34
60	06:46	07:38	08:27	15:58	16:48	17:39
58	06:42	07:30	08:16	16:10	16:55	17:44
56	06:38	07:23	08:06	16:20	17:02	17:48
54	06:34	07:17	07:57	16:29	17:09	17:52
52	06:30	07:11	07:49	16:37	17:14	17:56
50	06:27	07:06	07:42	16:44	17:20	17:59
45	06:19	06:55	07:26	16:59	17:31	18:07
40	06:12	06:45	07:14	17:12	17:41	18:14
35	06:05	06:36	07:03	17:22	17:49	18:20
30	05:59	06:28	06:53	17:32	17:57	18:26
20	05:47	06:14	06:37	17:48	18:11	18:38
10	05:35	06:00	06:23	18:03	18:25	18:50
0	05:22	05:47	06:09	18:16	18:38	19:03
S 10	05:07	05:33	05:55	18:30	18:52	19:18
20	04:49	05:17	05:40	18:44	19:08	19:36
30	04:26	04:57	05:23	19:01	19:28	19:59
35	04:11	04:45	05:13	19:11	19:39	20:13
40	03:53	04:31	05:02	19:23	19:53	20:31
45	03:30	04:14	04:48	19:36	20:10	20:53
50	02:59	03:52	04:31	19:53	20:32	21:24
52	02:43	03:41	04:23	20:01	20:43	21:40
54	02:24	03:29	04:14	20:09	20:55	21:59
56	01:58	03:15	04:04	20:19	21:09	22:24
58	01:19	02:58	03:53	20:31	21:25	23:00
60	–:–	02:37	03:40	20:44	21:46	–:–

	Orto luna			Ocaso luna		
Lat.	Mar	Mie	Jue	Mar	Mie	Jue
N 72	01:25	04:04	–:–	09:27	08:32	–:–
70	01:11	03:29	–:–	09:44	09:09	–:–
68	00:59	03:05	05:38	09:57	09:35	08:54
66	00:50	02:46	04:57	10:08	09:56	09:37
64	00:43	02:31	04:29	10:18	10:12	10:06
62	00:36	02:18	04:07	10:26	10:26	10:28
60	00:31	02:07	03:50	10:33	10:38	10:46
58	00:26	01:58	03:36	10:39	10:48	11:01
56	00:21	01:50	03:23	10:44	10:57	11:14
54	00:17	01:43	03:13	10:49	11:05	11:26
52	00:14	01:37	03:03	10:53	11:12	11:36
50	00:11	01:31	02:55	10:58	11:18	11:45
45	00:04	01:19	02:37	11:06	11:32	12:04
40	–:–	01:09	02:22	11:14	11:44	12:20
35	–:–	01:00	02:10	11:20	11:54	12:33
30	–:–	00:53	02:00	11:26	12:02	12:44
20	–:–	00:40	01:42	11:36	12:17	13:04
10	–:–	00:29	01:26	11:44	12:31	13:22
0	–:–	00:18	01:11	11:52	12:43	13:38
S 10	–:–	00:08	00:57	12:00	12:55	13:55
20	23:57	–:–	00:42	12:09	13:09	14:12
30	23:45	–:–	00:24	12:19	13:24	14:32
35	23:38	–:–	00:14	12:25	13:33	14:44
40	23:30	–:–	00:02	12:32	13:44	14:58
45	23:20	23:49	–:–	12:39	13:56	15:14
50	23:09	23:33	–:–	12:49	14:10	15:35
52	23:04	23:25	23:54	12:53	14:17	15:44
54	22:58	23:17	23:42	12:58	14:25	15:55
56	22:52	23:07	23:29	13:03	14:34	16:07
58	22:45	22:57	23:15	13:09	14:44	16:22
60	22:37	22:44	22:57	13:16	14:55	16:39

Día	Sol			Luna		
	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
25	12:10	12:17	12:12	05:40	18:05	23(51%)
26	12:23	12:30	12:12	06:30	18:56	24(40%)
27	12:36	12:42	12:12	07:24	19:53	25(29%)

Enero 28, 29, 30 (Vie, Sa, Dom)

	Aries	Venus		Martes		Júpiter		Saturno	
Vie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	127°14.3	205°44.6	-16°10.3	214°29.3	-23°51.4	148°48.9	-10°06.4	169°30.6	-17°08.3
1	142°16.8	220°47.2	-16°10.3	229°29.7	-23°51.4	163°50.8	-10°06.2	184°32.8	-17°08.2
2	157°19.3	235°49.8	-16°10.3	244°30.2	-23°51.4	178°52.8	-10°06.0	199°35.0	-17°08.2
3	172°21.7	250°52.4	-16°10.4	259°30.7	-23°51.3	193°54.7	-10°05.7	214°37.1	-17°08.1
4	187°24.2	265°55.0	-16°10.4	274°31.2	-23°51.3	208°56.6	-10°05.5	229°39.3	-17°08.0
5	202°26.7	280°57.5	-16°10.4	289°31.6	-23°51.3	223°58.5	-10°05.3	244°41.5	-17°07.9
6	217°29.1	296°00.1	-16°10.4	304°32.1	-23°51.3	239°00.5	-10°05.1	259°43.6	-17°07.8
7	232°31.6	311°02.7	-16°10.5	319°32.6	-23°51.3	254°02.4	-10°04.9	274°45.8	-17°07.7
8	247°34.1	326°05.3	-16°10.5	334°33.1	-23°51.3	269°04.3	-10°04.7	289°48.0	-17°07.6
9	262°36.5	341°07.9	-16°10.5	349°33.5	-23°51.3	284°06.3	-10°04.5	304°50.1	-17°07.6
10	277°39.0	356°10.4	-16°10.6	4°34.0	-23°51.3	299°08.2	-10°04.3	319°52.3	-17°07.5
11	292°41.5	11°13.0	-16°10.6	19°34.5	-23°51.3	314°10.1	-10°04.1	334°54.5	-17°07.4
12	307°43.9	26°15.5	-16°10.6	34°35.0	-23°51.3	329°12.0	-10°03.8	349°56.6	-17°07.3
13	322°46.4	41°18.1	-16°10.7	49°35.4	-23°51.3	344°14.0	-10°03.6	4°58.8	-17°07.2
14	337°48.8	56°20.6	-16°10.7	64°35.9	-23°51.3	359°15.9	-10°03.4	20°01.0	-17°07.1
15	352°51.3	71°23.2	-16°10.7	79°36.4	-23°51.2	14°17.8	-10°03.2	35°03.1	-17°07.0
16	7°53.8	86°25.7	-16°10.7	94°36.9	-23°51.2	29°19.7	-10°03.0	50°05.3	-17°07.0
17	22°56.2	101°28.2	-16°10.8	109°37.3	-23°51.2	44°21.7	-10°02.8	65°07.5	-17°06.9
18	37°58.7	116°30.8	-16°10.8	124°37.8	-23°51.2	59°23.6	-10°02.6	80°09.6	-17°06.8
19	53°01.2	131°33.3	-16°10.8	139°38.3	-23°51.2	74°25.5	-10°02.4	95°11.8	-17°06.7
20	68°03.6	146°35.8	-16°10.9	154°38.8	-23°51.2	89°27.5	-10°02.1	110°13.9	-17°06.6
21	83°06.1	161°38.3	-16°10.9	169°39.2	-23°51.2	104°29.4	-10°01.9	125°16.1	-17°06.5
22	98°08.6	176°40.8	-16°11.0	184°39.7	-23°51.2	119°31.3	-10°01.7	140°18.3	-17°06.4
23	113°11.0	191°43.3	-16°11.0	199°40.2	-23°51.1	134°33.2	-10°01.5	155°20.4	-17°06.4
Mer.pass.:15:28		v2.6 d-0.0 m-4.3		v0.5 d0.0 m1.4		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.7	

Sa	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	128°13.5	206°45.9	-16°11.0	214°40.7	-23°51.1	149°35.2	-10°01.3	170°22.6	-17°06.3
1	143°16.0	221°48.3	-16°11.1	229°41.1	-23°51.1	164°37.1	-10°01.1	185°24.8	-17°06.2
2	158°18.4	236°50.8	-16°11.1	244°41.6	-23°51.1	179°39.0	-10°00.9	200°26.9	-17°06.1
3	173°20.9	251°53.3	-16°11.1	259°42.1	-23°51.1	194°40.9	-10°00.7	215°29.1	-17°06.0
4	188°23.3	266°55.8	-16°11.2	274°42.5	-23°51.1	209°42.9	-10°00.4	230°31.3	-17°05.9
5	203°25.8	281°58.3	-16°11.2	289°43.0	-23°51.0	224°44.8	-10°00.2	245°33.4	-17°05.8
6	218°28.3	297°00.8	-16°11.3	304°43.5	-23°51.0	239°46.7	-10°00.0	260°35.6	-17°05.8
7	233°30.7	312°03.2	-16°11.3	319°44.0	-23°51.0	254°48.6	-9°59.8	275°37.8	-17°05.7
8	248°33.2	327°05.7	-16°11.3	334°44.4	-23°51.0	269°50.6	-9°59.6	290°39.9	-17°05.6
9	263°35.7	342°08.2	-16°11.4	349°44.9	-23°51.0	284°52.5	-9°59.4	305°42.1	-17°05.5
10	278°38.1	357°10.6	-16°11.4	4°45.4	-23°51.0	299°54.4	-9°59.2	320°44.2	-17°05.4
11	293°40.6	12°13.1	-16°11.5	19°45.9	-23°50.9	314°56.3	-9°59.0	335°46.4	-17°05.3
12	308°43.1	27°15.5	-16°11.5	34°46.3	-23°50.9	329°58.3	-9°58.7	350°48.6	-17°05.2
13	323°45.5	42°18.0	-16°11.6	49°46.8	-23°50.9	345°00.2	-9°58.5	5°50.7	-17°05.2
14	338°48.0	57°20.4	-16°11.6	64°47.3	-23°50.9	0°02.1	-9°58.3	20°52.9	-17°05.1
15	353°50.5	72°22.8	-16°11.6	79°47.8	-23°50.9	15°04.1	-9°58.1	35°55.1	-17°05.0
16	8°52.9	87°25.3	-16°11.7	94°48.2	-23°50.8	30°06.0	-9°57.9	50°57.2	-17°04.9
17	23°55.4	102°27.7	-16°11.7	109°48.7	-23°50.8	45°07.9	-9°57.7	65°59.4	-17°04.8
18	38°57.8	117°30.1	-16°11.8	124°49.2	-23°50.8	60°09.8	-9°57.5	81°01.6	-17°04.7
19	54°00.3	132°32.5	-16°11.8	139°49.6	-23°50.8	75°11.8	-9°57.3	96°03.7	-17°04.6
20	69°02.8	147°35.0	-16°11.9	154°50.1	-23°50.7	90°13.7	-9°57.0	111°05.9	-17°04.6
21	84°05.2	162°37.4	-16°11.9	169°50.6	-23°50.7	105°15.6	-9°56.8	126°08.1	-17°04.5
22	99°07.7	177°39.8	-16°12.0	184°51.1	-23°50.7	120°17.5	-9°56.6	141°10.2	-17°04.4
23	114°10.2	192°42.2	-16°12.0	199°51.5	-23°50.7	135°19.5	-9°56.4	156°12.4	-17°04.3
Mer.pass.:15:24		v2.5 d-0.0 m-4.3		v0.5 d0.0 m1.4		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.7	

Dom	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	129°12.6	207°44.6	-16°12.1	214°52.0	-23°50.6	150°21.4	-9°56.2	171°14.6	-17°04.2
1	144°15.1	222°47.0	-16°12.1	229°52.5	-23°50.6	165°23.3	-9°56.0	186°16.7	-17°04.1
2	159°17.6	237°49.3	-16°12.2	244°52.9	-23°50.6	180°25.2	-9°55.8	201°18.9	-17°04.0
3	174°20.0	252°51.7	-16°12.2	259°53.4	-23°50.6	195°27.2	-9°55.6	216°21.0	-17°04.0
4	189°22.5	267°54.1	-16°12.3	274°53.9	-23°50.5	210°29.1	-9°55.3	231°23.2	-17°03.9
5	204°25.0	282°56.5	-16°12.3	289°54.4	-23°50.5	225°31.0	-9°55.1	246°25.4	-17°03.8
6	219°27.4	297°58.9	-16°12.4	304°54.8	-23°50.5	240°32.9	-9°54.9	261°27.5	-17°03.7
7	234°29.9	313°01.2	-16°12.4	319°55.3	-23°50.5	255°34.9	-9°54.7	276°29.7	-17°03.6
8	249°32.3	328°03.6	-16°12.5	334°55.8	-23°50.4	270°36.8	-9°54.5	291°31.9	-17°03.5
9	264°34.8	343°05.9	-16°12.5	349°56.3	-23°50.4	285°38.7	-9°54.3	306°34.0	-17°03.4
10	279°37.3	358°08.3	-16°12.6	4°56.7	-23°50.4	300°40.6	-9°54.1	321°36.2	-17°03.4
11	294°39.7	13°10.6	-16°12.6	19°57.2	-23°50.4	315°42.5	-9°53.8	336°38.4	-17°03.3
12	309°42.2	28°13.0	-16°12.7	34°57.7	-23°50.3	330°44.5	-9°53.6	351°40.5	-17°03.2
13	324°44.7	43°15.3	-16°12.7	49°58.1	-23°50.3	345°46.4	-9°53.4	6°42.7	-17°03.1
14	339°47.1	58°17.7	-16°12.8	64°58.6	-23°50.3	0°48.3	-9°53.2	21°44.9	-17°03.0
15	354°49.6	73°20.0	-16°12.9	79°59.1	-23°50.2	15°50.2	-9°53.0	36°47.0	-17°02.9
16	9°52.1	88°22.3	-16°12.9	94°59.6	-23°50.2	30°52.2	-9°52.8	51°49.2	-17°02.8
17	24°54.5	103°24.6	-16°13.0	110°00.0	-23°50.2	45°54.1	-9°52.6	66°51.3	-17°02.8
18	39°57.0	118°26.9	-16°13.0	125°00.5	-23°50.1	60°56.0	-9°52.3	81°53.5	-17°02.7
19	54°59.5	133°29.3	-16°13.1	140°01.0	-23°50.1	75°57.9	-9°52.1	96°55.7	-17°02.6
20	70°01.9	148°31.6	-16°13.1	155°01.4	-23°50.1	90°59.9	-9°51.9	111°57.8	-17°02.5
21	85°04.4	163°33.9	-16°13.2	170°01.9	-23°50.0	106°01.8	-9°51.7	127°00.0	-17°02.4
22	100°06.8	178°36.2	-16°13.3	185°02.4	-23°50.0	121°03.7	-9°51.5	142°02.2	-17°02.3
23	115°09.3	193°38.5	-16°13.3	200°02.9	-23°50.0	136°05.6	-9°51.3	157°04.3	-17°02.2
Mer.pass.:15:20		v2.4 d-0.0 m-4.3		v0.5 d0.0 m1.4		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.7	

Estrellas

	AHS	Dec
Alpheratz	357°37.5	29°12.7
Ankaa	353°09.8	-42°11.5
Schedar	349°34.0	56°39.6
Diphda	348°49.8	-17°52.2
Achernar	335°22.2	-57°07.9
Hamal	327°54.0	23°34.0
Polaris	315°04.9	89°21.7
Akamar	315°13.6	-40°13.3
Menkar	314°08.6	4°10.5
Mirfak	308°31.5	49°56.5
Aldebaran	290°42.2	16°33.2
Rigel	281°06.0	-8°10.7
Capella	280°25.1	46°01.3
Bellatrix	278°25.2	6°22.1
Elnath	278°04.6	28°37.6
Alnilam	275°39.9	-1°11.4
Betelgeuse	270°54.4	7°24.6
Canopus	263°53.0	-52°42.6
Sirius	258°28.0	-16°44.7
Adara	255°07.4	-29°00.2
Procyon	244°52.9	5°10.2
Pollux	243°19.8	27°58.3
Avior	234°15.0	-59°34.8
Suhail	222°47.6	-43°31.3
Miaplacidus	221°37.8	-69°48.3
Alphard	217°49.8	-8°45.3
Regulus	207°36.7	11°51.5
Dubhe	193°43.5	61°37.8
Denebola	182°27.1	14°26.9
Gienah	175°45.8	-17°39.8
Acrux	173°02.4	-63°13.0
Gacrux	171°54.0	-57°13.9
Alioth	166°15.0	55°50.2
Spica	158°24.7	-11°16.5
Alcaid	152°53.9	49°12.0
Hadar	148°39.3	-60°28.4
Menkent	148°00.4	-36°28.5
Arcturus	145°50.0	19°04.2
Rigil Kent.	139°43.6	-60°55.2
Zubenelg.	136°58.7	-16°07.9
Kochab	137°20.0	74°03.6
Alphecca	126°05.9	26°38.3
Antares	112°19.0	-26°28.7
Atria	107°15.7	-69°03.7
Sabik	102°05.8	-15°45.1
Shaula	96°13.9	-37°07.1
Rasalhague	96°01.1	12°32.6
Etamin	90°43.7	51°28.9
Kaus Aust.	83°36.0	-34°22.4
Vega	80°35.3	38°48.0
Nunki	75°51.1	-26°16.2
Altair	62°02.7	8°55.4
Peacock	53°10.1	-56°39.9
Deneb	49°27.9	45°21.4
Enif	33°41.5	9°58.4
Alnair	27°36.4	-46°51.4
Fomalhaut	15°17.5	-29°30.5
Scheat	13°47.8	28°12.1
Markab	13°32.6	15°19.3

Ene 28 Vie	AHS	Paso Merid
Venus	78°30.2	10:15
Mars	87°14.9	09:42
Jupiter	21°34.6	14:03
Saturn	42°16.3	12:40

Ene 29 Sa	AHS	Paso Merid
Venus	78°32.4	10:11
Mars	86°27.2	09:41
Jupiter	21°21.7	14:00
Saturn	42°09.1	12:37

Ene 30 Dom	AHS	Paso Merid
Venus	78°31.9	10:07
Mars	85°39.4	09:40
Jupiter	21°08.7	13:57
Saturn	42°01.9	12:33

Paralelaje Horizontal	
Venus:	0.4
Mars:	0.1

h	Sol		Luna				
Vie	AHG	Dec	AHG	v	Dec	d	HP
0	176°47.9	-18°15.6	239°12.9	5.2	-22°50.9	-8.5	59.9
1	191°47.8	-18°15.0	253°37.1	5.1	-22°59.3	-8.3	60.0
2	206°47.7	-18°14.3	268°01.2	5.0	-23°07.5	-8.2	60.0
3	221°47.6	-18°13.6	282°25.1	4.9	-23°15.7	-8.0	60.0
4	236°47.5	-18°13.0	296°49.0	4.8	-23°23.6	-7.9	60.0
5	251°47.3	-18°12.3	311°12.7	4.7	-23°31.4	-7.7	60.0
6	266°47.2	-18°11.7	325°36.4	4.6	-23°39.1	-7.6	60.0
7	281°47.1	-18°11.0	339°59.9	4.5	-23°46.6	-7.4	60.1
8	296°47.0	-18°10.3	354°23.4	4.4	-23°53.9	-7.3	60.1
9	311°46.9	-18°09.7	8°46.7	4.3	-24°01.1	-7.1	60.1
10	326°46.7	-18°09.0	23°10.0	4.2	-24°08.1	-6.9	60.1
11	341°46.6	-18°08.4	37°33.1	4.1	-24°15.0	-6.8	60.1
12	356°46.5	-18°07.7	51°56.2	4.0	-24°21.7	-6.6	60.2
13	11°46.4	-18°07.0	66°19.2	3.9	-24°28.2	-6.4	60.2
14	26°46.3	-18°06.4	80°42.0	3.8	-24°34.6	-6.3	60.2
15	41°46.2	-18°05.7	95°04.8	3.7	-24°40.7	-6.1	60.2
16	56°46.0	-18°05.0	109°27.5	3.7	-24°46.8	-5.9	60.2
17	71°45.9	-18°04.4	123°50.1	3.6	-24°52.6	-5.8	60.2
18	86°45.8	-18°03.7	138°12.6	3.5	-24°58.3	-5.6	60.2
19	101°45.7	-18°03.1	152°35.1	3.4	-25°03.8	-5.4	60.3
20	116°45.6	-18°02.4	166°57.4	3.3	-25°09.1	-5.2	60.3
21	131°45.5	-18°01.7	181°19.7	3.2	-25°14.2	-5.1	60.3
22	146°45.4	-18°01.1	195°41.9	3.2	-25°19.2	-4.9	60.3
23	161°45.2	-18°00.4	210°04.1	3.1	-25°24.0	-4.7	60.3
	SD.=16.2	d=0.7			S.D.=16.4		

Sa	AHG	Dec	AHG	v	Dec	d	HP
0	176°45.1	-17°59.7	224°26.1	3.0	-25°28.6	-4.5	60.3
1	191°45.0	-17°59.0	238°48.1	3.0	-25°33.0	-4.3	60.3
2	206°44.9	-17°58.4	253°10.0	2.9	-25°37.2	-4.1	60.3
3	221°44.8	-17°57.7	267°31.9	2.8	-25°41.3	-4.0	60.4
4	236°44.7	-17°57.0	281°53.7	2.8	-25°45.1	-3.8	60.4
5	251°44.6	-17°56.4	296°15.4	2.7	-25°48.8	-3.6	60.4
6	266°44.5	-17°55.7	310°37.1	2.6	-25°52.3	-3.4	60.4
7	281°44.4	-17°55.0	324°58.7	2.6	-25°55.6	-3.2	60.4
8	296°44.2	-17°54.3	339°20.2	2.5	-25°58.7	-3.0	60.4
9	311°44.1	-17°53.7	353°41.7	2.5	-26°01.6	-2.8	60.4
10	326°44.0	-17°53.0	8°03.2	2.4	-26°04.3	-2.6	60.4
11	341°43.9	-17°52.3	22°24.6	2.4	-26°06.9	-2.4	60.4
12	356°43.8	-17°51.6	36°46.0	2.4	-26°09.2	-2.2	60.4
13	11°43.7	-17°51.0	51°07.3	2.3	-26°11.4	-2.0	60.5
14	26°43.6	-17°50.3	65°28.6	2.3	-26°13.3	-1.9	60.5
15	41°43.5	-17°49.6	79°49.9	2.2	-26°15.1	-1.7	60.5
16	56°43.4	-17°48.9	94°11.1	2.2	-26°16.6	-1.5	60.5
17	71°43.3	-17°48.3	108°32.3	2.2	-26°18.0	-1.3	60.5
18	86°43.2	-17°47.6	122°53.5	2.2	-26°19.1	-1.1	60.5
19	101°43.1	-17°46.9	137°14.6	2.1	-26°20.1	-0.9	60.5
20	116°42.9	-17°46.2	151°35.8	2.1	-26°20.9	-0.7	60.5
21	131°42.8	-17°45.5	165°56.9	2.1	-26°21.5	-0.5	60.5
22	146°42.7	-17°44.9	180°18.0	2.1	-26°21.8	-0.3	60.5
23	161°42.6	-17°44.2	194°39.0	2.1	-26°22.0	-0.1	60.5
	SD.=16.2	d=0.7			S.D.=16.5		

Dom	AHG	Dec	AHG	v	Dec	d	HP
0	176°42.5	-17°43.5	209°00.1	2.1	-26°22.0	0.1	60.5
1	191°42.4	-17°42.8	223°21.2	2.1	-26°21.8	0.3	60.5
2	206°42.3	-17°42.1	237°42.3	2.1	-26°21.3	0.5	60.5
3	221°42.2	-17°41.4	252°03.3	2.1	-26°20.7	0.7	60.5
4	236°42.1	-17°40.8	266°24.4	2.1	-26°19.9	0.9	60.5
5	251°42.0	-17°40.1	280°45.5	2.1	-26°18.9	1.1	60.5
6	266°41.9	-17°39.4	295°06.6	2.1	-26°17.7	1.3	60.5
7	281°41.8	-17°38.7	309°27.7	2.1	-26°16.2	1.5	60.5
8	296°41.7	-17°38.0	323°48.8	2.1	-26°14.6	1.7	60.5
9	311°41.6	-17°37.3	338°09.9	2.1	-26°12.8	1.9	60.5
10	326°41.5	-17°36.6	352°31.1	2.2	-26°10.8	2.1	60.5
11	341°41.4	-17°36.0	6°52.3	2.2	-26°08.6	2.3	60.5
12	356°41.3	-17°35.3	21°13.5	2.2	-26°06.2	2.5	60.5
13	11°41.2	-17°34.6	35°34.7	2.3	-26°03.6	2.7	60.5
14	26°41.1	-17°33.9	49°56.0	2.3	-26°00.8	2.9	60.5
15	41°41.0	-17°33.2	64°17.3	2.3	-25°57.8	3.1	60.5
16	56°40.9	-17°32.5	78°38.6	2.4	-25°54.7	3.3	60.5
17	71°40.8	-17°31.8	93°00.0	2.4	-25°51.3	3.5	60.5
18	86°40.7	-17°31.1	107°21.4	2.5	-25°47.7	3.7	60.5
19	101°40.6	-17°30.4	121°42.9	2.5	-25°44.0	3.9	60.5
20	116°40.5	-17°29.7	136°04.4	2.6	-25°40.0	4.0	60.5
21	131°40.4	-17°29.0	150°26.0	2.6	-25°35.9	4.2	60.5
22	146°40.3	-17°28.3	164°47.7	2.7	-25°31.5	4.4	60.5
23	161°40.2	-17°27.6	179°09.3	2.7	-25°27.0	4.6	60.5
	SD.=16.2	d=0.7			S.D.=16.5		

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	07:20	08:52	10:55	13:32	15:36	17:08
70	07:11	08:31	10:02	14:25	15:56	17:17
68	07:03	08:15	09:30	14:57	16:12	17:24
66	06:57	08:01	09:07	15:20	16:26	17:31
64	06:51	07:50	08:48	15:39	16:37	17:36
62	06:46	07:41	08:33	15:54	16:46	17:41
60	06:41	07:33	08:21	16:06	16:54	17:46
58	06:37	07:25	08:10	16:17	17:02	17:50
56	06:33	07:19	08:00	16:26	17:08	17:54
54	06:30	07:13	07:52	16:35	17:14	17:57
52	06:27	07:08	07:45	16:42	17:19	18:00
50	06:23	07:03	07:38	16:49	17:24	18:03
45	06:16	06:52	07:23	17:03	17:35	18:10
40	06:10	06:42	07:11	17:15	17:44	18:17
35	06:04	06:34	07:01	17:26	17:52	18:23
30	05:58	06:27	06:52	17:35	18:00	18:28
20	05:47	06:13	06:36	17:50	18:13	18:40
10	05:35	06:01	06:23	18:04	18:26	18:51
0	05:23	05:48	06:10	18:17	18:38	19:04
S 10	05:08	05:34	05:56	18:30	18:52	19:18
20	04:51	05:19	05:42	18:44	19:07	19:35
30	04:29	05:00	05:26	19:00	19:26	19:57
35	04:15	04:48	05:16	19:09	19:37	20:11
40	03:58	04:35	05:05	19:20	19:51	20:28
45	03:36	04:18	04:52	19:33	20:07	20:49
50	03:07	03:58	04:36	19:49	20:27	21:18
52	02:52	03:48	04:29	19:56	20:37	21:33
54	02:33	03:36	04:20	20:05	20:49	21:50
56	02:10	03:23	04:11	20:14	21:02	22:13
58	01:38	03:07	04:00	20:24	21:17	22:43
60	00:19	02:48	03:48	20:36	21:36	00:07

	Orto luna			Ocaso luna		
Lat.	Vie	Sa	Dom	Vie	Sa	Dom
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	–:–	–:–	–:–
68	–:–	–:–	–:–	–:–	–:–	–:–
66	–:–	–:–	–:–	–:–	–:–	–:–
64	06:40	–:–	–:–	09:56	–:–	–:–
62	06:02	07:52	09:03	10:35	10:57	12:03
60	05:35	07:13	08:23	11:02	11:36	12:42
58	05:15	06:46	07:55	11:24	12:04	13:10
56	04:57	06:25	07:34	11:41	12:25	13:32
54	04:43	06:07	07:16	11:56	12:43	13:49
52	04:30	05:52	07:00	12:09	12:58	14:04
50	04:19	05:39	06:47	12:21	13:11	14:17
45	03:56	05:12	06:20	12:45	13:38	14:44
40	03:38	04:51	05:59	13:04	13:59	15:06
35	03:22	04:34	05:41	13:20	14:17	15:23
30	03:09	04:19	05:25	13:34	14:32	15:38
20	02:46	03:53	04:59	13:58	14:58	16:04
10	02:27	03:31	04:37	14:19	15:21	16:26
0	02:09	03:11	04:16	14:38	15:42	16:47
S 10	01:51	02:51	03:55	14:57	16:03	17:07
20	01:32	02:29	03:32	15:18	16:25	17:29
30	01:10	02:04	03:07	15:42	16:51	17:54
35	00:57	01:49	02:51	15:57	17:06	18:09
40	00:43	01:32	02:33	16:13	17:24	18:26
45	00:25	01:12	02:12	16:33	17:45	18:47
50	00:04	00:47	01:45	16:57	18:12	19:12
52	–:–	00:35	01:32	17:09	18:25	19:25
54	–:–	00:21	01:17	17:23	18:40	19:39
56	–:–	00:04	00:59	17:39	18:58	19:55
58	23:45	–:–	00:38	17:58	19:19	20:15
60	23:21	–:–	00:11	18:21	19:46	20:39

Día	Sol			Luna		
	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
28	12:48	12:54	12:12	08:23	20:54	26(19%)
29	13:00	13:05	12:13	09:26	21:58	27(11%)
30	13:10	13:15	12:13	10:31	23:03	28(4%)

Enero 31, 01, 02 (Lun, Mar, Mie)

	Aries	Venus		Martes		Júpiter		Saturno	
Lun	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	130°11.8	208°40.8	-16°13.4	215°03.3	-23°49.9	151°07.6	-9°51.1	172°06.5	-17°02.1
1	145°14.2	223°43.1	-16°13.4	230°03.8	-23°49.9	166°09.5	-9°50.8	187°08.7	-17°02.1
2	160°16.7	238°45.3	-16°13.5	245°04.3	-23°49.9	181°11.4	-9°50.6	202°10.8	-17°02.0
3	175°19.2	253°47.6	-16°13.6	260°04.7	-23°49.8	196°13.3	-9°50.4	217°13.0	-17°01.9
4	190°21.6	268°49.9	-16°13.6	275°05.2	-23°49.8	211°15.2	-9°50.2	232°15.2	-17°01.8
5	205°24.1	283°52.2	-16°13.7	290°05.7	-23°49.8	226°17.2	-9°50.0	247°17.3	-17°01.7
6	220°26.6	298°54.4	-16°13.8	305°06.1	-23°49.7	241°19.1	-9°49.8	262°19.5	-17°01.6
7	235°29.0	313°56.7	-16°13.8	320°06.6	-23°49.7	256°21.0	-9°49.6	277°21.6	-17°01.5
8	250°31.5	328°58.9	-16°13.9	335°07.1	-23°49.6	271°22.9	-9°49.3	292°23.8	-17°01.5
9	265°34.0	344°01.2	-16°14.0	350°07.6	-23°49.6	286°24.9	-9°49.1	307°26.0	-17°01.4
10	280°36.4	359°03.4	-16°14.0	5°08.0	-23°49.6	301°26.8	-9°48.9	322°28.1	-17°01.3
11	295°38.9	14°05.7	-16°14.1	20°08.5	-23°49.5	316°28.7	-9°48.7	337°30.3	-17°01.2
12	310°41.3	29°07.9	-16°14.1	35°09.0	-23°49.5	331°30.6	-9°48.5	352°32.5	-17°01.1
13	325°43.8	44°10.2	-16°14.2	50°09.4	-23°49.4	346°32.6	-9°48.3	7°34.6	-17°01.0
14	340°46.3	59°12.4	-16°14.3	65°09.9	-23°49.4	1°34.5	-9°48.1	22°36.8	-17°00.9
15	355°48.7	74°14.6	-16°14.3	80°10.4	-23°49.4	16°36.4	-9°47.8	37°39.0	-17°00.9
16	10°51.2	89°16.9	-16°14.4	95°10.9	-23°49.3	31°38.3	-9°47.6	52°41.1	-17°00.8
17	25°53.7	104°19.1	-16°14.5	110°11.3	-23°49.3	46°40.2	-9°47.4	67°43.3	-17°00.7
18	40°56.1	119°21.3	-16°14.6	125°11.8	-23°49.2	61°42.2	-9°47.2	82°45.5	-17°00.6
19	55°58.6	134°23.5	-16°14.6	140°12.3	-23°49.2	76°44.1	-9°47.0	97°47.6	-17°00.5
20	71°01.1	149°25.7	-16°14.7	155°12.7	-23°49.2	91°46.0	-9°46.8	112°49.8	-17°00.4
21	86°03.5	164°27.9	-16°14.8	170°13.2	-23°49.1	106°47.9	-9°46.6	127°51.9	-17°00.3
22	101°06.0	179°30.1	-16°14.8	185°13.7	-23°49.1	121°49.9	-9°46.3	142°54.1	-17°00.3
23	116°08.4	194°32.3	-16°14.9	200°14.1	-23°49.0	136°51.8	-9°46.1	157°56.3	-17°00.2
Mer.pass.:15:16		v2.3 d-0.1 m-4.3		v0.5 d0.0 m1.4		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.7	

Mar	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	131°10.9	209°34.5	-16°15.0	215°14.6	-23°49.0	151°53.7	-9°45.9	172°58.4	-17°00.1
1	146°13.4	224°36.7	-16°15.0	230°15.1	-23°48.9	166°55.6	-9°45.7	188°00.6	-17°00.0
2	161°15.8	239°38.9	-16°15.1	245°15.6	-23°48.9	181°57.5	-9°45.5	203°02.8	-16°59.9
3	176°18.3	254°41.0	-16°15.2	260°16.0	-23°48.8	196°59.5	-9°45.3	218°04.9	-16°59.8
4	191°20.8	269°43.2	-16°15.3	275°16.5	-23°48.8	212°01.4	-9°45.1	233°07.1	-16°59.7
5	206°23.2	284°45.4	-16°15.3	290°17.0	-23°48.7	227°03.3	-9°44.8	248°09.3	-16°59.6
6	221°25.7	299°47.5	-16°15.4	305°17.4	-23°48.7	242°05.2	-9°44.6	263°11.4	-16°59.6
7	236°28.2	314°49.7	-16°15.5	320°17.9	-23°48.7	257°07.1	-9°44.4	278°13.6	-16°59.5
8	251°30.6	329°51.9	-16°15.5	335°18.4	-23°48.6	272°09.1	-9°44.2	293°15.7	-16°59.4
9	266°33.1	344°54.0	-16°15.6	350°18.8	-23°48.6	287°11.0	-9°44.0	308°17.9	-16°59.3
10	281°35.6	359°56.2	-16°15.7	5°19.3	-23°48.5	302°12.9	-9°43.8	323°20.1	-16°59.2
11	296°38.0	14°58.3	-16°15.8	20°19.8	-23°48.5	317°14.8	-9°43.5	338°22.2	-16°59.1
12	311°40.5	30°00.4	-16°15.8	35°20.3	-23°48.4	332°16.8	-9°43.3	353°24.4	-16°59.0
13	326°42.9	45°02.6	-16°15.9	50°20.7	-23°48.4	347°18.7	-9°43.1	8°26.6	-16°59.0
14	341°45.4	60°04.7	-16°16.0	65°21.2	-23°48.3	2°20.6	-9°42.9	23°28.7	-16°58.9
15	356°47.9	75°06.8	-16°16.1	80°21.7	-23°48.3	17°22.5	-9°42.7	38°30.9	-16°58.8
16	11°50.3	90°09.0	-16°16.1	95°22.1	-23°48.2	32°24.4	-9°42.5	53°33.1	-16°58.7
17	26°52.8	105°11.1	-16°16.2	110°22.6	-23°48.2	47°26.4	-9°42.3	68°35.2	-16°58.6
18	41°55.3	120°13.2	-16°16.3	125°23.1	-23°48.1	62°28.3	-9°42.0	83°37.4	-16°58.5
19	56°57.7	135°15.3	-16°16.4	140°23.5	-23°48.0	77°30.2	-9°41.8	98°39.6	-16°58.4
20	72°00.2	150°17.4	-16°16.5	155°24.0	-23°48.0	92°32.1	-9°41.6	113°41.7	-16°58.3
21	87°02.7	165°19.5	-16°16.5	170°24.5	-23°47.9	107°34.0	-9°41.4	128°43.9	-16°58.3
22	102°05.1	180°21.6	-16°16.6	185°24.9	-23°47.9	122°36.0	-9°41.2	143°46.0	-16°58.2
23	117°07.6	195°23.7	-16°16.7	200°25.4	-23°47.8	137°37.9	-9°41.0	158°48.2	-16°58.1
Mer.pass.:15:12		v2.2 d-0.1 m-4.3		v0.5 d0.0 m1.4		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.7	

Mie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	132°10.1	210°25.8	-16°16.8	215°25.9	-23°47.8	152°39.8	-9°40.7	173°50.4	-16°58.0
1	147°12.5	225°27.9	-16°16.9	230°26.4	-23°47.7	167°41.7	-9°40.5	188°52.5	-16°57.9
2	162°15.0	240°30.0	-16°16.9	245°26.8	-23°47.7	182°43.6	-9°40.3	203°54.7	-16°57.8
3	177°17.4	255°32.0	-16°17.0	260°27.3	-23°47.6	197°45.6	-9°40.1	218°56.9	-16°57.7
4	192°19.9	270°34.1	-16°17.1	275°27.8	-23°47.6	212°47.5	-9°39.9	233°59.0	-16°57.7
5	207°22.4	285°36.2	-16°17.2	290°28.2	-23°47.5	227°49.4	-9°39.7	249°01.2	-16°57.6
6	222°24.8	300°38.3	-16°17.3	305°28.7	-23°47.4	242°51.3	-9°39.4	264°03.4	-16°57.5
7	237°27.3	315°40.3	-16°17.3	320°29.2	-23°47.4	257°53.2	-9°39.2	279°05.5	-16°57.4
8	252°29.8	330°42.4	-16°17.4	335°29.6	-23°47.3	272°55.2	-9°39.0	294°07.7	-16°57.3
9	267°32.2	345°44.4	-16°17.5	350°30.1	-23°47.3	287°57.1	-9°38.8	309°09.8	-16°57.2
10	282°34.7	0°46.5	-16°17.6	5°30.6	-23°47.2	302°59.0	-9°38.6	324°12.0	-16°57.1
11	297°37.2	15°48.5	-16°17.7	20°31.0	-23°47.1	318°00.9	-9°38.4	339°14.2	-16°57.1
12	312°39.6	30°50.6	-16°17.8	35°31.5	-23°47.1	333°02.8	-9°38.1	354°16.3	-16°57.0
13	327°42.1	45°52.6	-16°17.8	50°32.0	-23°47.0	348°04.8	-9°37.9	9°18.5	-16°56.9
14	342°44.6	60°54.6	-16°17.9	65°32.4	-23°47.0	3°06.7	-9°37.7	24°20.7	-16°56.8
15	357°47.0	75°56.7	-16°18.0	80°32.9	-23°46.9	18°08.6	-9°37.5	39°22.8	-16°56.7
16	12°49.5	90°58.7	-16°18.1	95°33.4	-23°46.8	33°10.5	-9°37.3	54°25.0	-16°56.6
17	27°51.9	106°00.7	-16°18.2	110°33.9	-23°46.8	48°12.4	-9°37.1	69°27.2	-16°56.5
18	42°54.4	121°02.7	-16°18.3	125°34.3	-23°46.7	63°14.4	-9°36.8	84°29.3	-16°56.4
19	57°56.9	136°04.7	-16°18.3	140°34.8	-23°46.7	78°16.3	-9°36.6	99°31.5	-16°56.4
20	72°59.3	151°06.7	-16°18.4	155°35.3	-23°46.6	93°18.2	-9°36.4	114°33.7	-16°56.3
21	88°01.8	166°08.8	-16°18.5	170°35.7	-23°46.5	108°20.1	-9°36.2	129°35.8	-16°56.2
22	103°04.3	181°10.8	-16°18.6	185°36.2	-23°46.5	123°22.0	-9°36.0	144°38.0	-16°56.1
23	118°06.7	196°12.8	-16°18.7	200°36.7	-23°46.4	138°24.0	-9°35.8	159°40.1	-16°56.0
Mer.pass.:15:08		v2.1 d-0.1 m-4.4		v0.5 d0.1 m1.4		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.7	

Estrellas

	AHS	Dec
Alpheratz	357°37.5	29°12.7
Ankaa	353°09.8	-42°11.5
Schedar	349°34.0	56°39.6
Diphda	348°49.8	-17°52.2
Achernar	335°22.2	-57°07.9
Hamal	327°54.0	23°34.0
Polaris	315°06.2	89°21.7
Akamar	315°13.6	-40°13.3
Menkar	314°08.6	4°10.5
Mirfak	308°31.5	49°56.5
Aldebaran	290°42.2	16°33.2
Rigel	281°06.0	-8°10.7
Capella	280°25.1	46°01.3
Bellatrix	278°25.2	6°22.1
Elnath	278°04.6	28°37.6
Alnilam	275°39.9	-1°11.4
Betelgeuse	270°54.4	7°24.6
Canopus	263°53.0	-52°42.6
Sirius	258°27.9	-16°44.7
Adara	255°07.4	-29°00.3
Procyon	244°52.9	5°10.2
Pollux	243°19.8	27°58.3
Avior	234°15.0	-59°34.8
Suhail	222°47.6	-43°31.3
Miaplacidus	221°37.8	-69°48.4
Alphard	217°49.8	-8°45.3
Regulus	207°36.6	11°51.5
Dubhe	193°43.4	61°37.8
Denebola	182°27.1	14°26.9
Gienah	175°45.8	-17°39.8
Acrux	173°02.3	-63°13.0
Gacrux	171°54.0	-57°13.9
Alioth	166°14.9	55°50.2
Spica	158°24.7	-11°16.5
Alcaid	152°53.8	49°12.0
Hadar	148°39.3	-60°28.4
Menkent	148°00.4	-36°28.5
Arcturus	145°49.9	19°04.2
Rigil Kent.	139°43.6	-60°55.2
Zubenelg.	136°58.7	-16°07.9
Kochab	137°19.9	74°03.6
Alphecca	126°05.9	26°38.3
Antares	112°18.9	-26°28.7
Atria	107°15.6	-69°03.7
Sabik	102°05.7	-15°45.1
Shaula	96°13.9	-37°07.1
Rasalhague	96°01.0	12°32.6
Etamin	90°43.7	51°28.9
Kaus Aust.	83°36.0	-34°22.4
Vega	80°35.2	38°48.0
Nunki	75°51.1	-26°16.2
Altair	62°02.7	8°55.4
Peacock	53°10.1	-56°39.9
Deneb	49°27.9	45°21.4
Enif	33°41.5	9°58.4
Alnair	27°36.4	-46°51.4
Fomalhaut	15°17.5	-29°30.5
Scheat	13°47.8	28°12.1
Markab	13°32.6	15°19.3

Ene 31 Lun	AHS	Paso Merid
Venus	78°29.0	10:04
Mars	84°51.5	09:39
Jupiter	20°55.8	13:54
Saturn	41°54.7	12:30

Ene 01 Mar	AHS	Paso Merid
Venus	78°23.6	10:00
Mars	84°03.7	09:39
Jupiter	20°42.8	13:51
Saturn	41°47.5	12:26

Ene 02 Mie	AHS	Paso Merid
Venus	78°15.7	09:57
Mars	83°15.8	09:38
Jupiter	20°29.8	13:48
Saturn	41°40.3	12:23

Paralelaje Horizontal	
Venus:	0.4
Mars:	0.1

h Sol Luna

Lun	AHG	Dec	AHG	v	Dec	d	HP
0	176°40.1	-17°27.0	193°31.1	2.8	-25°22.3	4.8	60.5
1	191°40.0	-17°26.3	207°52.9	2.8	-25°17.4	5.0	60.5
2	206°39.9	-17°25.6	222°14.8	2.9	-25°12.4	5.2	60.4
3	221°39.8	-17°24.9	236°36.7	3.0	-25°07.1	5.3	60.4
4	236°39.7	-17°24.2	250°58.8	3.1	-25°01.7	5.5	60.4
5	251°39.6	-17°23.5	265°20.8	3.1	-24°56.1	5.7	60.4
6	266°39.5	-17°22.8	279°43.0	3.2	-24°50.3	5.9	60.4
7	281°39.4	-17°22.1	294°05.2	3.3	-24°44.3	6.1	60.4
8	296°39.4	-17°21.4	308°27.6	3.4	-24°38.1	6.2	60.4
9	311°39.3	-17°20.7	322°49.9	3.4	-24°31.8	6.4	60.4
10	326°39.2	-17°20.0	337°12.4	3.5	-24°25.3	6.6	60.4
11	341°39.1	-17°19.3	351°35.0	3.6	-24°18.6	6.8	60.4
12	356°39.0	-17°18.6	5°57.6	3.7	-24°11.8	6.9	60.3
13	11°38.9	-17°17.9	20°20.4	3.8	-24°04.7	7.1	60.3
14	26°38.8	-17°17.2	34°43.2	3.9	-23°57.6	7.3	60.3
15	41°38.7	-17°16.5	49°06.1	4.0	-23°50.2	7.4	60.3
16	56°38.6	-17°15.8	63°29.1	4.1	-23°42.7	7.6	60.3
17	71°38.5	-17°15.1	77°52.2	4.2	-23°35.0	7.8	60.3
18	86°38.4	-17°14.3	92°15.5	4.3	-23°27.2	7.9	60.3
19	101°38.4	-17°13.6	106°38.8	4.4	-23°19.2	8.1	60.2
20	116°38.3	-17°12.9	121°02.2	4.5	-23°11.0	8.2	60.2
21	131°38.2	-17°12.2	135°25.7	4.6	-23°02.7	8.4	60.2
22	146°38.1	-17°11.5	149°49.3	4.7	-22°54.2	8.5	60.2
23	161°38.0	-17°10.8	164°13.0	4.8	-22°45.6	8.7	60.2
	SD.=16.2	d=0.7			S.D.=16.5		

Mar	AHG	Dec	AHG	v	Dec	d	HP
0	176°37.9	-17°10.1	178°36.8	4.9	-22°36.8	8.8	60.2
1	191°37.8	-17°09.4	193°00.7	5.0	-22°27.9	9.0	60.1
2	206°37.7	-17°08.7	207°24.7	5.1	-22°18.8	9.1	60.1
3	221°37.6	-17°08.0	221°48.9	5.2	-22°09.6	9.3	60.1
4	236°37.6	-17°07.3	236°13.1	5.3	-22°00.3	9.4	60.1
5	251°37.5	-17°06.6	250°37.5	5.4	-21°50.8	9.6	60.1
6	266°37.4	-17°05.8	265°01.9	5.5	-21°41.1	9.7	60.0
7	281°37.3	-17°05.1	279°26.5	5.6	-21°31.3	9.8	60.0
8	296°37.2	-17°04.4	293°51.2	5.7	-21°21.4	10.0	60.0
9	311°37.1	-17°03.7	308°16.0	5.9	-21°11.4	10.1	60.0
10	326°37.0	-17°03.0	322°40.9	6.0	-21°01.2	10.2	60.0
11	341°37.0	-17°02.3	337°05.9	6.1	-20°50.9	10.4	59.9
12	356°36.9	-17°01.6	351°31.1	6.2	-20°40.5	10.5	59.9
13	11°36.8	-17°00.9	5°56.3	6.3	-20°29.9	10.6	59.9
14	26°36.7	-17°00.1	20°21.7	6.4	-20°19.2	10.7	59.9
15	41°36.6	-16°59.4	34°47.2	6.5	-20°08.4	10.9	59.8
16	56°36.6	-16°58.7	49°12.8	6.7	-19°57.5	11.0	59.8
17	71°36.5	-16°58.0	63°38.5	6.8	-19°46.4	11.1	59.8
18	86°36.4	-16°57.3	78°04.4	6.9	-19°35.3	11.2	59.8
19	101°36.3	-16°56.6	92°30.3	7.0	-19°24.0	11.3	59.7
20	116°36.2	-16°55.8	106°56.4	7.1	-19°12.6	11.4	59.7
21	131°36.1	-16°55.1	121°22.6	7.2	-19°01.1	11.5	59.7
22	146°36.1	-16°54.4	135°48.9	7.4	-18°49.5	11.7	59.7
23	161°36.0	-16°53.7	150°15.3	7.5	-18°37.8	11.8	59.6
	SD.=16.2	d=0.7			S.D.=16.4		

Mie	AHG	Dec	AHG	v	Dec	d	HP
0	176°35.9	-16°53.0	164°41.8	7.6	-18°26.0	11.9	59.6
1	191°35.8	-16°52.2	179°08.5	7.7	-18°14.1	12.0	59.6
2	206°35.7	-16°51.5	193°35.3	7.8	-18°02.1	12.1	59.6
3	221°35.7	-16°50.8	208°02.2	7.9	-17°50.0	12.2	59.5
4	236°35.6	-16°50.1	222°29.2	8.1	-17°37.7	12.3	59.5
5	251°35.5	-16°49.3	236°56.3	8.2	-17°25.4	12.3	59.5
6	266°35.4	-16°48.6	251°23.5	8.3	-17°13.1	12.4	59.4
7	281°35.4	-16°47.9	265°50.8	8.4	-17°00.6	12.5	59.4
8	296°35.3	-16°47.2	280°18.3	8.5	-16°48.0	12.6	59.4
9	311°35.2	-16°46.4	294°45.9	8.6	-16°35.4	12.7	59.3
10	326°35.1	-16°45.7	309°13.6	8.7	-16°22.6	12.8	59.3
11	341°35.1	-16°45.0	323°41.4	8.9	-16°09.8	12.9	59.3
12	356°35.0	-16°44.3	338°09.3	9.0	-15°56.9	12.9	59.3
13	11°34.9	-16°43.5	352°37.3	9.1	-15°43.9	13.0	59.2
14	26°34.8	-16°42.8	7°05.4	9.2	-15°30.9	13.1	59.2
15	41°34.8	-16°42.1	21°33.7	9.3	-15°17.7	13.2	59.2
16	56°34.7	-16°41.4	36°02.0	9.4	-15°04.5	13.2	59.1
17	71°34.6	-16°40.6	50°30.5	9.5	-14°51.3	13.3	59.1
18	86°34.5	-16°39.9	64°59.1	9.6	-14°37.9	13.4	59.1
19	101°34.5	-16°39.2	79°27.8	9.7	-14°24.5	13.4	59.0
20	116°34.4	-16°38.4	93°56.5	9.8	-14°11.1	13.5	59.0
21	131°34.3	-16°37.7	108°25.4	9.9	-13°57.5	13.6	59.0
22	146°34.2	-16°37.0	122°54.4	10.0	-13°43.9	13.6	58.9
23	161°34.2	-16°36.2	137°23.5	10.2	-13°30.3	13.7	58.9
	SD.=16.2	d=0.7			S.D.=16.3		

Lat.	Crepúsculo Naut.	Crepúsculo Civil	Orto Sol	Ocaso Sol Civil	Ocaso Sol Naut.	Ocaso Sol
N 72	07:10	08:38	10:27	14:01	15:50	17:19
70	07:02	08:20	09:45	14:43	16:08	17:27
68	06:55	08:05	09:17	15:11	16:23	17:33
66	06:49	07:53	08:56	15:32	16:35	17:39
64	06:44	07:43	08:39	15:49	16:45	17:44
62	06:40	07:34	08:26	16:02	16:54	17:48
60	06:36	07:27	08:14	16:14	17:01	17:52
58	06:32	07:20	08:04	16:24	17:08	17:56
56	06:29	07:14	07:55	16:33	17:14	17:59
54	06:26	07:08	07:47	16:41	17:19	18:02
52	06:23	07:03	07:40	16:48	17:24	18:05
50	06:20	06:59	07:34	16:54	17:29	18:08
45	06:14	06:49	07:20	17:08	17:39	18:14
40	06:08	06:40	07:09	17:19	17:48	18:20
35	06:02	06:32	06:59	17:29	17:55	18:25
30	05:57	06:25	06:50	17:37	18:02	18:31
20	05:46	06:13	06:35	17:52	18:15	18:41
10	05:35	06:00	06:22	18:05	18:27	18:52
0	05:23	05:48	06:10	18:17	18:39	19:04
S 10	05:10	05:35	05:58	18:29	18:51	19:17
20	04:53	05:21	05:44	18:43	19:06	19:34
30	04:32	05:03	05:28	18:58	19:24	19:55
35	04:18	04:52	05:19	19:07	19:35	20:08
40	04:02	04:39	05:09	19:18	19:47	20:24
45	03:41	04:23	04:57	19:30	20:03	20:44
50	03:14	04:04	04:42	19:45	20:22	21:11
52	03:00	03:54	04:34	19:52	20:32	21:25
54	02:43	03:43	04:27	19:59	20:42	21:42
56	02:22	03:31	04:18	20:08	20:55	22:02
58	01:55	03:16	04:08	20:18	21:09	22:28
60	01:10	02:58	03:56	20:29	21:26	23:09

Lat.	Orto luna Lun	Orto luna Mar	Orto luna Mie	Ocaso luna Lun	Ocaso luna Mar	Ocaso luna Mie
N 72	–:–	–:–	11:39	–:–	–:–	15:47
70	–:–	–:–	10:59	–:–	–:–	16:25
68	–:–	11:18	10:32	–:–	14:10	16:51
66	–:–	10:31	10:10	–:–	14:56	17:11
64	10:10	10:00	09:53	13:10	15:26	17:26
62	09:28	09:36	09:39	13:51	15:48	17:40
60	09:00	09:18	09:27	14:19	16:06	17:51
58	08:38	09:02	09:16	14:40	16:21	18:00
56	08:20	08:49	09:07	14:58	16:34	18:08
54	08:04	08:37	08:59	15:13	16:45	18:16
52	07:51	08:27	08:52	15:26	16:54	18:22
50	07:39	08:17	08:45	15:37	17:03	18:28
45	07:15	07:58	08:31	16:01	17:21	18:41
40	06:55	07:42	08:19	16:20	17:36	18:51
35	06:39	07:28	08:09	16:35	17:49	19:00
30	06:25	07:16	08:00	16:49	17:59	19:08
20	06:01	06:56	07:44	17:12	18:18	19:21
10	05:40	06:38	07:31	17:31	18:34	19:32
0	05:20	06:21	07:18	17:50	18:49	19:43
S 10	05:01	06:05	07:05	18:08	19:04	19:54
20	04:40	05:47	06:51	18:28	19:19	20:05
30	04:15	05:26	06:36	18:50	19:37	20:18
35	04:01	05:14	06:26	19:03	19:48	20:25
40	03:44	05:00	06:16	19:18	19:59	20:33
45	03:24	04:43	06:03	19:35	20:13	20:43
50	02:59	04:22	05:48	19:57	20:30	20:54
52	02:47	04:13	05:41	20:08	20:38	20:59
54	02:33	04:01	05:33	20:19	20:46	21:05
56	02:17	03:49	05:24	20:33	20:56	21:12
58	01:57	03:34	05:14	20:48	21:07	21:19
60	01:33	03:16	05:02	21:06	21:20	21:27

Día	Sol Ec. tiempo 00:00 h	Sol Ec. tiempo 12:00 h	Sol Paso Merid	Luna Paso Meridiano Superior	Luna Paso Meridiano Inferior	Luna Edad
31	13:20	13:24	12:13	11:35	00:05	29(1%)
1	13:28	13:33	12:13	12:35	00:05	0(0%)
2	13:36	13:40	12:13	13:30	01:03	1(2%)

Febrero 03, 04, 05 (Jue, Vie, Sa)

	Aries	Venus		Martes		Júpiter		Saturno	
Jue	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	133°09.2	211°14.7	-16°18.8	215°37.1	-23°46.3	153°25.9	-9°35.5	174°42.3	-16°55.9
1	148°11.7	226°16.7	-16°18.9	230°37.6	-23°46.3	168°27.8	-9°35.3	189°44.5	-16°55.8
2	163°14.1	241°18.7	-16°19.0	245°38.1	-23°46.2	183°29.7	-9°35.1	204°46.6	-16°55.8
3	178°16.6	256°20.7	-16°19.0	260°38.5	-23°46.1	198°31.6	-9°34.9	219°48.8	-16°55.7
4	193°19.0	271°22.7	-16°19.1	275°39.0	-23°46.1	213°33.5	-9°34.7	234°51.0	-16°55.6
5	208°21.5	286°24.7	-16°19.2	290°39.5	-23°46.0	228°35.5	-9°34.5	249°53.1	-16°55.5
6	223°24.0	301°26.6	-16°19.3	305°39.9	-23°45.9	243°37.4	-9°34.2	264°55.3	-16°55.4
7	238°26.4	316°28.6	-16°19.4	320°40.4	-23°45.9	258°39.3	-9°34.0	279°57.5	-16°55.3
8	253°28.9	331°30.5	-16°19.5	335°40.9	-23°45.8	273°41.2	-9°33.8	294°59.6	-16°55.2
9	268°31.4	346°32.5	-16°19.6	350°41.3	-23°45.7	288°43.1	-9°33.6	310°01.8	-16°55.1
10	283°33.8	1°34.5	-16°19.7	5°41.8	-23°45.7	303°45.1	-9°33.4	325°04.0	-16°55.1
11	298°36.3	16°36.4	-16°19.8	20°42.3	-23°45.6	318°47.0	-9°33.2	340°06.1	-16°55.0
12	313°38.8	31°38.4	-16°19.8	35°42.8	-23°45.5	333°48.9	-9°32.9	355°08.3	-16°54.9
13	328°41.2	46°40.3	-16°19.9	50°43.2	-23°45.5	348°50.8	-9°32.7	10°10.4	-16°54.8
14	343°43.7	61°42.2	-16°20.0	65°43.7	-23°45.4	3°52.7	-9°32.5	25°12.6	-16°54.7
15	358°46.2	76°44.2	-16°20.1	80°44.2	-23°45.3	18°54.7	-9°32.3	40°14.8	-16°54.6
16	13°48.6	91°46.1	-16°20.2	95°44.6	-23°45.2	33°56.6	-9°32.1	55°16.9	-16°54.5
17	28°51.1	106°48.0	-16°20.3	110°45.1	-23°45.2	48°58.5	-9°31.9	70°19.1	-16°54.5
18	43°53.5	121°49.9	-16°20.4	125°45.6	-23°45.1	64°00.4	-9°31.6	85°21.3	-16°54.4
19	58°56.0	136°51.9	-16°20.5	140°46.0	-23°45.0	79°02.3	-9°31.4	100°23.4	-16°54.3
20	73°58.5	151°53.8	-16°20.6	155°46.5	-23°45.0	94°04.2	-9°31.2	115°25.6	-16°54.2
21	89°00.9	166°55.7	-16°20.7	170°47.0	-23°44.9	109°06.2	-9°31.0	130°27.8	-16°54.1
22	104°03.4	181°57.6	-16°20.8	185°47.4	-23°44.8	124°08.1	-9°30.8	145°29.9	-16°54.0
23	119°05.9	196°59.5	-16°20.9	200°47.9	-23°44.7	139°10.0	-9°30.5	160°32.1	-16°53.9
Mer.pass.:15:04		v2.0 d-0.1 m-4.4		v0.5 d0.1 m1.4		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.7	

Vie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	134°08.3	212°01.4	-16°21.0	215°48.4	-23°44.7	154°11.9	-9°30.3	175°34.2	-16°53.8
1	149°10.8	227°03.3	-16°21.0	230°48.8	-23°44.6	169°13.8	-9°30.1	190°36.4	-16°53.8
2	164°13.3	242°05.2	-16°21.1	245°49.3	-23°44.5	184°15.7	-9°29.9	205°38.6	-16°53.7
3	179°15.7	257°07.1	-16°21.2	260°49.8	-23°44.4	199°17.7	-9°29.7	220°40.7	-16°53.6
4	194°18.2	272°09.0	-16°21.3	275°50.2	-23°44.4	214°19.6	-9°29.5	235°42.9	-16°53.5
5	209°20.6	287°10.8	-16°21.4	290°50.7	-23°44.3	229°21.5	-9°29.2	250°45.1	-16°53.4
6	224°23.1	302°12.7	-16°21.5	305°51.2	-23°44.2	244°23.4	-9°29.0	265°47.2	-16°53.3
7	239°25.6	317°14.6	-16°21.6	320°51.6	-23°44.1	259°25.3	-9°28.8	280°49.4	-16°53.2
8	254°28.0	332°16.4	-16°21.7	335°52.1	-23°44.0	274°27.3	-9°28.6	295°51.6	-16°53.2
9	269°30.5	347°18.3	-16°21.8	350°52.6	-23°44.0	289°29.2	-9°28.4	310°53.7	-16°53.1
10	284°33.0	2°20.2	-16°21.9	5°53.0	-23°43.9	304°31.1	-9°28.2	325°55.9	-16°53.0
11	299°35.4	17°22.0	-16°22.0	20°53.5	-23°43.8	319°33.0	-9°27.9	340°58.1	-16°52.9
12	314°37.9	32°23.9	-16°22.1	35°54.0	-23°43.7	334°34.9	-9°27.7	356°00.2	-16°52.8
13	329°40.4	47°25.7	-16°22.2	50°54.4	-23°43.6	349°36.8	-9°27.5	11°02.4	-16°52.7
14	344°42.8	62°27.6	-16°22.3	65°54.9	-23°43.6	4°38.8	-9°27.3	26°04.5	-16°52.6
15	359°45.3	77°29.4	-16°22.4	80°55.4	-23°43.5	19°40.7	-9°27.1	41°06.7	-16°52.5
16	14°47.8	92°31.2	-16°22.5	95°55.9	-23°43.4	34°42.6	-9°26.8	56°08.9	-16°52.5
17	29°50.2	107°33.1	-16°22.6	110°56.3	-23°43.3	49°44.5	-9°26.6	71°11.0	-16°52.4
18	44°52.7	122°34.9	-16°22.7	125°56.8	-23°43.2	64°46.4	-9°26.4	86°13.2	-16°52.3
19	59°55.1	137°36.7	-16°22.8	140°57.3	-23°43.2	79°48.3	-9°26.2	101°15.4	-16°52.2
20	74°57.6	152°38.6	-16°22.9	155°57.7	-23°43.1	94°50.3	-9°26.0	116°17.5	-16°52.1
21	90°00.1	167°40.4	-16°23.0	170°58.2	-23°43.0	109°52.2	-9°25.8	131°19.7	-16°52.0
22	105°02.5	182°42.2	-16°23.1	185°58.7	-23°42.9	124°54.1	-9°25.5	146°21.9	-16°51.9
23	120°05.0	197°44.0	-16°23.2	200°59.1	-23°42.8	139°56.0	-9°25.3	161°24.0	-16°51.8
Mer.pass.:15:00		v1.9 d-0.1 m-4.4		v0.5 d0.1 m1.4		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.7	

Sa	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	135°07.5	212°45.8	-16°23.3	215°59.6	-23°42.7	154°57.9	-9°25.1	176°26.2	-16°51.8
1	150°09.9	227°47.6	-16°23.4	231°00.1	-23°42.6	169°59.8	-9°24.9	191°28.4	-16°51.7
2	165°12.4	242°49.4	-16°23.5	246°00.5	-23°42.6	185°01.8	-9°24.7	206°30.5	-16°51.6
3	180°14.9	257°51.2	-16°23.6	261°01.0	-23°42.5	200°03.7	-9°24.4	221°32.7	-16°51.5
4	195°17.3	272°53.0	-16°23.7	276°01.5	-23°42.4	215°05.6	-9°24.2	236°34.8	-16°51.4
5	210°19.8	287°54.8	-16°23.8	291°01.9	-23°42.3	230°07.5	-9°24.0	251°37.0	-16°51.3
6	225°22.3	302°56.6	-16°23.9	306°02.4	-23°42.2	245°09.4	-9°23.8	266°39.2	-16°51.2
7	240°24.7	317°58.4	-16°24.0	321°02.9	-23°42.1	260°11.3	-9°23.6	281°41.3	-16°51.2
8	255°27.2	333°00.1	-16°24.1	336°03.3	-23°42.0	275°13.2	-9°23.3	296°43.5	-16°51.1
9	270°29.6	348°01.9	-16°24.2	351°03.8	-23°42.0	290°15.2	-9°23.1	311°45.7	-16°51.0
10	285°32.1	3°03.7	-16°24.3	6°04.3	-23°41.9	305°17.1	-9°22.9	326°47.8	-16°50.9
11	300°34.6	18°05.4	-16°24.4	21°04.7	-23°41.8	320°19.0	-9°22.7	341°50.0	-16°50.8
12	315°37.0	33°07.2	-16°24.5	36°05.2	-23°41.7	335°20.9	-9°22.5	356°52.2	-16°50.7
13	330°39.5	48°09.0	-16°24.6	51°05.7	-23°41.6	350°22.8	-9°22.3	11°54.3	-16°50.6
14	345°42.0	63°10.7	-16°24.7	66°06.1	-23°41.5	5°24.7	-9°22.0	26°56.5	-16°50.5
15	0°44.4	78°12.5	-16°24.8	81°06.6	-23°41.4	20°26.7	-9°21.8	41°58.6	-16°50.5
16	15°46.9	93°14.2	-16°24.9	96°07.1	-23°41.3	35°28.6	-9°21.6	57°00.8	-16°50.4
17	30°49.4	108°16.0	-16°25.0	111°07.5	-23°41.2	50°30.5	-9°21.4	72°03.0	-16°50.3
18	45°51.8	123°17.7	-16°25.1	126°08.0	-23°41.1	65°32.4	-9°21.2	87°05.1	-16°50.2
19	60°54.3	138°19.4	-16°25.2	141°08.5	-23°41.0	80°34.3	-9°20.9	102°07.3	-16°50.1
20	75°56.7	153°21.2	-16°25.3	156°08.9	-23°40.9	95°36.2	-9°20.7	117°09.5	-16°50.0
21	90°59.2	168°22.9	-16°25.4	171°09.4	-23°40.9	110°38.2	-9°20.5	132°11.6	-16°49.9
22	106°01.7	183°24.6	-16°25.5	186°09.9	-23°40.8	125°40.1	-9°20.3	147°13.8	-16°49.8
23	121°04.1	198°26.3	-16°25.6	201°10.3	-23°40.7	140°42.0	-9°20.1	162°16.0	-16°49.8
Mer.pass.:14:57		v1.8 d-0.1 m-4.4		v0.5 d0.1 m1.4		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.7	

Estrellas

	AHS	Dec
Alpheratz	357°37.5	29°12.7
Ankaa	353°09.8	-42°11.5
Schedar	349°34.0	56°39.6
Diphda	348°49.8	-17°52.2
Achernar	335°22.2	-57°07.9
Hamal	327°54.0	23°34.0
Polaris	315°07.8	89°21.7
Akamar	315°13.6	-40°13.3
Menkar	314°08.6	4°10.5
Mirfak	308°31.6	49°56.5
Aldebaran	290°42.2	16°33.2
Rigel	281°06.0	-8°10.7
Capella	280°25.1	46°01.3
Bellatrix	278°25.2	6°22.1
Elnath	278°04.7	28°37.6
Alnilam	275°39.9	-1°11.4
Betelgeuse	270°54.4	7°24.6
Canopus	263°53.0	-52°42.6
Sirius	258°28.0	-16°44.7
Adara	255°07.4	-29°00.3
Procyon	244°52.9	5°10.2
Pollux	243°19.8	27°58.3
Avior	234°15.0	-59°34.8
Suhail	222°47.6	-43°31.3
Miaplacidus	221°37.8	-69°48.4
Alphard	217°49.8	-8°45.3
Regulus	207°36.6	11°51.5
Dubhe	193°43.4	61°37.8
Denebola	182°27.1	14°26.9
Gienah	175°45.8	-17°39.8
Acrux	173°02.3	-63°13.0
Gacrux	171°53.9	-57°13.9
Alioth	166°14.9	55°50.2
Spica	158°24.7	-11°16.5
Alcaid	152°53.8	49°12.0
Hadar	148°39.2	-60°28.4
Menkent	148°00.4	-36°28.5
Arcturus	145°49.9	19°04.2
Rigil Kent.	139°43.5	-60°55.3
Zubenelg.	136°58.7	-16°07.9
Kochab	137°19.8	74°03.6
Alphecca	126°05.9	26°38.3
Antares	112°18.9	-26°28.7
Atria	107°15.6	-69°03.7
Sabik	102°05.7	-15°45.1
Shaula	96°13.9	-37°07.1
Rasalhague	96°01.0	12°32.5
Etamin	90°43.7	51°28.9
Kaus Aust.	83°36.0	-34°22.4
Vega	80°35.2	38°48.0
Nunki	75°51.0	-26°16.2
Altair	62°02.7	8°55.4
Peacock	53°10.1	-56°39.9
Deneb	49°27.9	45°21.4
Enif	33°41.5	9°58.4
Alnair	27°36.4	-46°51.4
Fomalhaut	15°17.5	-29°30.5
Scheat	13°47.8	28°12.1
Markab	13°32.6	15°19.3

Feb 03 Jue	AHS	Paso Merid
Venus	78°05.6	09:54
Mars	82°27.9	09:37
Jupiter	20°16.7	13:45
Saturn	41°33.1	12:19

Feb 04 Vie	AHS	Paso Merid
Venus	77°53.1	09:51
Mars	81°40.0	09:36
Jupiter	20°03.6	13:41
Saturn	41°25.9	12:16

Feb 05 Sa	AHS	Paso Merid
Venus	77°38.3	09:48
Mars	80°52.1	09:36
Jupiter	19°50.5	13:38
Saturn	41°18.7	12:12

Paralelaje Horizontal	
Venus:	0.4
Mars:	0.1

h	Sol		Luna				
Jue	AHG	Dec	AHG	v	Dec	d	HP
0	176°34.1	-16°35.5	151°52.7	10.3	-13°16.6	13.7	58.9
1	191°34.0	-16°34.8	166°22.0	10.4	-13°02.8	13.8	58.8
2	206°34.0	-16°34.0	180°51.4	10.5	-12°49.0	13.8	58.8
3	221°33.9	-16°33.3	195°21.0	10.6	-12°35.1	13.9	58.8
4	236°33.8	-16°32.6	209°50.6	10.7	-12°21.2	13.9	58.7
5	251°33.8	-16°31.8	224°20.3	10.8	-12°07.2	14.0	58.7
6	266°33.7	-16°31.1	238°50.1	10.9	-11°53.2	14.0	58.7
7	281°33.6	-16°30.4	253°20.0	10.9	-11°39.1	14.1	58.6
8	296°33.6	-16°29.6	267°50.0	11.0	-11°25.0	14.1	58.6
9	311°33.5	-16°28.9	282°20.1	11.1	-11°10.9	14.2	58.6
10	326°33.4	-16°28.1	296°50.3	11.2	-10°56.7	14.2	58.5
11	341°33.4	-16°27.4	311°20.5	11.3	-10°42.5	14.2	58.5
12	356°33.3	-16°26.7	325°50.9	11.4	-10°28.2	14.3	58.5
13	11°33.2	-16°25.9	340°21.4	11.5	-10°13.9	14.3	58.4
14	26°33.2	-16°25.2	354°51.9	11.6	-9°59.6	14.4	58.4
15	41°33.1	-16°24.5	9°22.5	11.7	-9°45.2	14.4	58.4
16	56°33.0	-16°23.7	23°53.3	11.8	-9°30.8	14.4	58.3
17	71°33.0	-16°23.0	38°24.1	11.9	-9°16.4	14.4	58.3
18	86°32.9	-16°22.2	52°55.0	11.9	-9°01.9	14.5	58.2
19	101°32.8	-16°21.5	67°26.0	12.0	-8°47.4	14.5	58.2
20	116°32.8	-16°20.7	81°57.0	12.1	-8°32.9	14.5	58.2
21	131°32.7	-16°20.0	96°28.2	12.2	-8°18.4	14.5	58.1
22	146°32.6	-16°19.3	110°59.4	12.3	-8°03.8	14.6	58.1
23	161°32.6	-16°18.5	125°30.7	12.3	-7°49.3	14.6	58.1
	SD.=16.2	d=0.7	S.D.=16.1				

Vie	AHG	Dec	AHG	v	Dec	d	HP
0	176°32.5	-16°17.8	140°02.1	12.4	-7°34.7	14.6	58.0
1	191°32.5	-16°17.0	154°33.5	12.5	-7°20.1	14.6	58.0
2	206°32.4	-16°16.3	169°05.0	12.6	-7°05.4	14.6	58.0
3	221°32.3	-16°15.5	183°36.7	12.6	-6°50.8	14.6	57.9
4	236°32.3	-16°14.8	198°08.3	12.7	-6°36.1	14.7	57.9
5	251°32.2	-16°14.0	212°40.1	12.8	-6°21.5	14.7	57.8
6	266°32.2	-16°13.3	227°11.9	12.9	-6°06.8	14.7	57.8
7	281°32.1	-16°12.5	241°43.8	12.9	-5°52.1	14.7	57.8
8	296°32.0	-16°11.8	256°15.8	13.0	-5°37.4	14.7	57.7
9	311°32.0	-16°11.0	270°47.8	13.1	-5°22.7	14.7	57.7
10	326°31.9	-16°10.3	285°19.9	13.1	-5°08.0	14.7	57.7
11	341°31.9	-16°09.5	299°52.0	13.2	-4°53.3	14.7	57.6
12	356°31.8	-16°08.8	314°24.2	13.3	-4°38.6	14.7	57.6
13	11°31.7	-16°08.0	328°56.5	13.3	-4°23.9	14.7	57.6
14	26°31.7	-16°07.3	343°28.9	13.4	-4°09.2	14.7	57.5
15	41°31.6	-16°06.5	358°01.3	13.4	-3°54.5	14.7	57.5
16	56°31.6	-16°05.8	12°33.7	13.5	-3°39.8	14.7	57.4
17	71°31.5	-16°05.0	27°06.2	13.5	-3°25.0	14.7	57.4
18	86°31.5	-16°04.3	41°38.8	13.6	-3°10.3	14.7	57.4
19	101°31.4	-16°03.5	56°11.5	13.7	-2°55.6	14.7	57.3
20	116°31.3	-16°02.8	70°44.1	13.7	-2°40.9	14.7	57.3
21	131°31.3	-16°02.0	85°16.9	13.8	-2°26.3	14.7	57.3
22	146°31.2	-16°01.3	99°49.7	13.8	-2°11.6	14.7	57.2
23	161°31.2	-16°00.5	114°22.5	13.9	-1°56.9	14.7	57.2
	SD.=16.2	d=0.7	S.D.=15.8				

Sa	AHG	Dec	AHG	v	Dec	d	HP
0	176°31.1	-15°59.7	128°55.4	13.9	-1°42.3	14.7	57.1
1	191°31.1	-15°59.0	143°28.3	14.0	-1°27.6	14.6	57.1
2	206°31.0	-15°58.2	158°01.3	14.0	-1°13.0	14.6	57.1
3	221°31.0	-15°57.5	172°34.3	14.0	-0°58.4	14.6	57.0
4	236°30.9	-15°56.7	187°07.4	14.1	-0°43.8	14.6	57.0
5	251°30.9	-15°56.0	201°40.5	14.1	-0°29.2	14.6	57.0
6	266°30.8	-15°55.2	216°13.6	14.2	-0°14.6	14.6	56.9
7	281°30.8	-15°54.4	230°46.8	14.2	-0°00.1	14.5	56.9
8	296°30.7	-15°53.7	245°20.1	14.3	0°14.5	14.5	56.9
9	311°30.7	-15°52.9	259°53.3	14.3	0°29.0	14.5	56.8
10	326°30.6	-15°52.2	274°26.6	14.3	0°43.5	14.5	56.8
11	341°30.6	-15°51.4	289°00.0	14.4	0°57.9	14.5	56.8
12	356°30.5	-15°50.6	303°33.4	14.4	1°12.4	14.4	56.7
13	11°30.5	-15°49.9	318°06.8	14.4	1°26.8	14.4	56.7
14	26°30.4	-15°49.1	332°40.2	14.5	1°41.2	14.4	56.7
15	41°30.4	-15°48.3	347°13.7	14.5	1°55.6	14.4	56.6
16	56°30.3	-15°47.6	1°47.2	14.5	2°09.9	14.3	56.6
17	71°30.3	-15°46.8	16°20.7	14.5	2°24.2	14.3	56.5
18	86°30.2	-15°46.1	30°54.3	14.6	2°38.5	14.3	56.5
19	101°30.2	-15°45.3	45°27.8	14.6	2°52.8	14.2	56.5
20	116°30.1	-15°44.5	60°01.5	14.6	3°07.0	14.2	56.4
21	131°30.1	-15°43.8	74°35.1	14.6	3°21.2	14.2	56.4
22	146°30.0	-15°43.0	89°08.7	14.7	3°35.4	14.1	56.4
23	161°30.0	-15°42.2	103°42.4	14.7	3°49.5	14.1	56.3
	SD.=16.2	d=0.8	S.D.=15.6				

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	06:59	08:25	10:04	14:25	16:04	17:31
70	06:52	08:09	09:29	15:00	16:21	17:37
68	06:46	07:55	09:05	15:24	16:34	17:43
66	06:42	07:44	08:46	15:43	16:44	17:47
64	06:37	07:35	08:30	15:58	16:54	17:52
62	06:34	07:27	08:18	16:11	17:02	17:55
60	06:30	07:20	08:07	16:22	17:08	17:59
58	06:27	07:14	07:57	16:31	17:15	18:02
56	06:24	07:09	07:49	16:39	17:20	18:05
54	06:21	07:04	07:42	16:47	17:25	18:07
52	06:19	06:59	07:35	16:53	17:30	18:10
50	06:16	06:55	07:29	16:59	17:34	18:12
45	06:10	06:45	07:16	17:12	17:43	18:18
40	06:05	06:37	07:06	17:23	17:51	18:23
35	06:00	06:30	06:57	17:32	17:58	18:28
30	05:55	06:24	06:48	17:40	18:05	18:33
20	05:45	06:12	06:34	17:54	18:16	18:43
10	05:35	06:00	06:22	18:06	18:28	18:53
0	05:24	05:49	06:10	18:17	18:39	19:04
S 10	05:11	05:37	05:59	18:29	18:51	19:17
20	04:55	05:23	05:46	18:42	19:05	19:32
30	04:35	05:06	05:31	18:56	19:22	19:52
35	04:22	04:55	05:22	19:05	19:32	20:05
40	04:07	04:43	05:13	19:14	19:44	20:20
45	03:47	04:28	05:01	19:26	19:59	20:39
50	03:21	04:09	04:47	19:40	20:17	21:05
52	03:08	04:00	04:40	19:46	20:26	21:18
54	02:52	03:50	04:33	19:54	20:36	21:33
56	02:34	03:39	04:25	20:02	20:47	21:51
58	02:09	03:25	04:15	20:11	21:01	22:15
60	01:34	03:09	04:04	20:21	21:17	22:47

	Orto luna			Ocaso luna		
Lat.	Jue	Vie	Sa	Jue	Vie	Sa
N 72	10:40	10:05	09:35	18:32	20:46	22:50
70	10:23	09:57	09:36	18:47	20:50	22:45
68	10:09	09:52	09:37	18:59	20:53	22:41
66	09:57	09:47	09:37	19:08	20:55	22:37
64	09:48	09:42	09:37	19:16	20:58	22:34
62	09:39	09:39	09:38	19:23	20:59	22:31
60	09:32	09:35	09:38	19:29	21:01	22:29
58	09:26	09:33	09:38	19:34	21:02	22:27
56	09:20	09:30	09:39	19:38	21:04	22:25
54	09:15	09:28	09:39	19:43	21:05	22:24
52	09:10	09:26	09:39	19:46	21:06	22:22
50	09:06	09:24	09:39	19:49	21:07	22:21
45	08:57	09:19	09:40	19:57	21:09	22:18
40	08:49	09:16	09:40	20:03	21:10	22:16
35	08:43	09:13	09:40	20:08	21:12	22:13
30	08:37	09:10	09:41	20:12	21:13	22:12
20	08:27	09:05	09:41	20:20	21:15	22:08
10	08:18	09:01	09:42	20:26	21:17	22:06
0	08:10	08:57	09:42	20:33	21:19	22:03
S 10	08:01	08:53	09:43	20:39	21:21	22:00
20	07:52	08:49	09:43	20:45	21:22	21:58
30	07:42	08:44	09:44	20:53	21:24	21:54
35	07:36	08:42	09:44	20:57	21:26	21:53
40	07:29	08:38	09:45	21:02	21:27	21:51
45	07:21	08:35	09:45	21:07	21:28	21:48
50	07:11	08:30	09:46	21:13	21:30	21:45
52	07:07	08:28	09:46	21:16	21:31	21:44
54	07:02	08:26	09:46	21:20	21:32	21:43
56	06:56	08:24	09:47	21:23	21:33	21:41
58	06:50	08:21	09:47	21:27	21:34	21:39
60	06:43	08:18	09:47	21:32	21:35	21:38

Día	Sol			Luna		
	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
3	13:44	13:47	12:13	14:21	01:56	2(7%)
4	13:50	13:53	12:13	15:08	02:45	3(13%)
5	13:56	13:58	12:13	15:52	03:30	4(21%)

Febrero 06, 07, 08 (Dom, Lun, Mar)

	Aries	Venus		Martes		Júpiter		Saturno	
Dom	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	136°06.6	213°28.1	-16°25.7	216°10.8	-23°40.6	155°43.9	-9°19.8	177°18.1	-16°49.7
1	151°09.1	228°29.8	-16°25.8	231°11.3	-23°40.5	170°45.8	-9°19.6	192°20.3	-16°49.6
2	166°11.5	243°31.5	-16°25.9	246°11.7	-23°40.4	185°47.7	-9°19.4	207°22.5	-16°49.5
3	181°14.0	258°33.2	-16°26.0	261°12.2	-23°40.3	200°49.6	-9°19.2	222°24.6	-16°49.4
4	196°16.5	273°34.9	-16°26.1	276°12.7	-23°40.2	215°51.6	-9°19.0	237°26.8	-16°49.3
5	211°18.9	288°36.6	-16°26.2	291°13.1	-23°40.1	230°53.5	-9°18.7	252°28.9	-16°49.2
6	226°21.4	303°38.3	-16°26.3	306°13.6	-23°40.0	245°55.4	-9°18.5	267°31.1	-16°49.2
7	241°23.9	318°40.0	-16°26.4	321°14.1	-23°39.9	260°57.3	-9°18.3	282°33.3	-16°49.1
8	256°26.3	333°41.7	-16°26.5	336°14.5	-23°39.8	275°59.2	-9°18.1	297°35.4	-16°49.0
9	271°28.8	348°43.3	-16°26.6	351°15.0	-23°39.7	291°01.1	-9°17.9	312°37.6	-16°48.9
10	286°31.2	3°45.0	-16°26.7	6°15.5	-23°39.6	306°03.0	-9°17.6	327°39.8	-16°48.8
11	301°33.7	18°46.7	-16°26.8	21°15.9	-23°39.5	321°05.0	-9°17.4	342°41.9	-16°48.7
12	316°36.2	33°48.4	-16°26.9	36°16.4	-23°39.4	336°06.9	-9°17.2	357°44.1	-16°48.6
13	331°38.6	48°50.1	-16°27.0	51°16.9	-23°39.3	351°08.8	-9°17.0	12°46.3	-16°48.5
14	346°41.1	63°51.7	-16°27.1	66°17.3	-23°39.2	6°10.7	-9°16.8	27°48.4	-16°48.5
15	1°43.6	78°53.4	-16°27.2	81°17.8	-23°39.1	21°12.6	-9°16.5	42°50.6	-16°48.4
16	16°46.0	93°55.0	-16°27.3	96°18.3	-23°39.0	36°14.5	-9°16.3	57°52.8	-16°48.3
17	31°48.5	108°56.7	-16°27.5	111°18.7	-23°38.9	51°16.4	-9°16.1	72°54.9	-16°48.2
18	46°51.0	123°58.4	-16°27.6	126°19.2	-23°38.8	66°18.4	-9°15.9	87°57.1	-16°48.1
19	61°53.4	139°00.0	-16°27.7	141°19.7	-23°38.7	81°20.3	-9°15.7	102°59.3	-16°48.0
20	76°55.9	154°01.6	-16°27.8	156°20.1	-23°38.6	96°22.2	-9°15.4	118°01.4	-16°47.9
21	91°58.3	169°03.3	-16°27.9	171°20.6	-23°38.5	111°24.1	-9°15.2	133°03.6	-16°47.8
22	107°00.8	184°04.9	-16°28.0	186°21.1	-23°38.4	126°26.0	-9°15.0	148°05.7	-16°47.8
23	122°03.3	199°06.6	-16°28.1	201°21.5	-23°38.3	141°27.9	-9°14.8	163°07.9	-16°47.7
Mer.pass.:14:53		v1.7 d-0.1 m-4.4		v0.5 d0.1 m1.4		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.7	

Lun	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	137°05.7	214°08.2	-16°28.2	216°22.0	-23°38.2	156°29.8	-9°14.6	178°10.1	-16°47.6
1	152°08.2	229°09.8	-16°28.3	231°22.5	-23°38.1	171°31.8	-9°14.3	193°12.2	-16°47.5
2	167°10.7	244°11.4	-16°28.4	246°22.9	-23°38.0	186°33.7	-9°14.1	208°14.4	-16°47.4
3	182°13.1	259°13.1	-16°28.5	261°23.4	-23°37.8	201°35.6	-9°13.9	223°16.6	-16°47.3
4	197°15.6	274°14.7	-16°28.6	276°23.9	-23°37.7	216°37.5	-9°13.7	238°18.7	-16°47.2
5	212°18.1	289°16.3	-16°28.7	291°24.3	-23°37.6	231°39.4	-9°13.5	253°20.9	-16°47.1
6	227°20.5	304°17.9	-16°28.8	306°24.8	-23°37.5	246°41.3	-9°13.2	268°23.1	-16°47.1
7	242°23.0	319°19.5	-16°28.9	321°25.3	-23°37.4	261°43.2	-9°13.0	283°25.2	-16°47.0
8	257°25.5	334°21.1	-16°29.0	336°25.7	-23°37.3	276°45.2	-9°12.8	298°27.4	-16°46.9
9	272°27.9	349°22.7	-16°29.1	351°26.2	-23°37.2	291°47.1	-9°12.6	313°29.6	-16°46.8
10	287°30.4	4°24.3	-16°29.2	6°26.7	-23°37.1	306°49.0	-9°12.4	328°31.7	-16°46.7
11	302°32.8	19°25.9	-16°29.4	21°27.1	-23°37.0	321°50.9	-9°12.1	343°33.9	-16°46.6
12	317°35.3	34°27.5	-16°29.5	36°27.6	-23°36.9	336°52.8	-9°11.9	358°36.0	-16°46.5
13	332°37.8	49°29.1	-16°29.6	51°28.1	-23°36.8	351°54.7	-9°11.7	13°38.2	-16°46.5
14	347°40.2	64°30.7	-16°29.7	66°28.5	-23°36.6	6°56.6	-9°11.5	28°40.4	-16°46.4
15	2°42.7	79°32.2	-16°29.8	81°29.0	-23°36.5	21°58.5	-9°11.3	43°42.5	-16°46.3
16	17°45.2	94°33.8	-16°29.9	96°29.5	-23°36.4	37°00.5	-9°11.0	58°44.7	-16°46.2
17	32°47.6	109°35.4	-16°30.0	111°29.9	-23°36.3	52°02.4	-9°10.8	73°46.9	-16°46.1
18	47°50.1	124°36.9	-16°30.1	126°30.4	-23°36.2	67°04.3	-9°10.6	88°49.0	-16°46.0
19	62°52.6	139°38.5	-16°30.2	141°30.9	-23°36.1	82°06.2	-9°10.4	103°51.2	-16°45.9
20	77°55.0	154°40.1	-16°30.3	156°31.3	-23°36.0	97°08.1	-9°10.2	118°53.4	-16°45.8
21	92°57.5	169°41.6	-16°30.4	171°31.8	-23°35.9	112°10.0	-9°09.9	133°55.5	-16°45.8
22	108°00.0	184°43.2	-16°30.5	186°32.3	-23°35.7	127°11.9	-9°09.7	148°57.7	-16°45.7
23	123°02.4	199°44.7	-16°30.6	201°32.7	-23°35.6	142°13.9	-9°09.5	163°59.9	-16°45.6
Mer.pass.:14:49		v1.6 d-0.1 m-4.4		v0.5 d0.1 m1.4		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.7	

Mar	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	138°04.9	214°46.3	-16°30.7	216°33.2	-23°35.5	157°15.8	-9°09.3	179°02.0	-16°45.5
1	153°07.3	229°47.8	-16°30.8	231°33.7	-23°35.4	172°17.7	-9°09.1	194°04.2	-16°45.4
2	168°09.8	244°49.4	-16°31.0	246°34.1	-23°35.3	187°19.6	-9°08.8	209°06.4	-16°45.3
3	183°12.3	259°50.9	-16°31.1	261°34.6	-23°35.2	202°21.5	-9°08.6	224°08.5	-16°45.2
4	198°14.7	274°52.4	-16°31.2	276°35.1	-23°35.0	217°23.4	-9°08.4	239°10.7	-16°45.1
5	213°17.2	289°54.0	-16°31.3	291°35.5	-23°34.9	232°25.3	-9°08.2	254°12.8	-16°45.1
6	228°19.7	304°55.5	-16°31.4	306°36.0	-23°34.8	247°27.2	-9°07.9	269°15.0	-16°45.0
7	243°22.1	319°57.0	-16°31.5	321°36.5	-23°34.7	262°29.2	-9°07.7	284°17.2	-16°44.9
8	258°24.6	334°58.5	-16°31.6	336°36.9	-23°34.6	277°31.1	-9°07.5	299°19.3	-16°44.8
9	273°27.1	350°00.1	-16°31.7	351°37.4	-23°34.5	292°33.0	-9°07.3	314°21.5	-16°44.7
10	288°29.5	5°01.6	-16°31.8	6°37.9	-23°34.3	307°34.9	-9°07.1	329°23.7	-16°44.6
11	303°32.0	20°03.1	-16°31.9	21°38.3	-23°34.2	322°36.8	-9°06.8	344°25.8	-16°44.5
12	318°34.4	35°04.6	-16°32.0	36°38.8	-23°34.1	337°38.7	-9°06.6	359°28.0	-16°44.4
13	333°36.9	50°06.1	-16°32.1	51°39.3	-23°34.0	352°40.6	-9°06.4	14°30.2	-16°44.4
14	348°39.4	65°07.6	-16°32.2	66°39.7	-23°33.9	7°42.5	-9°06.2	29°32.3	-16°44.3
15	3°41.8	80°09.1	-16°32.4	81°40.2	-23°33.7	22°44.5	-9°06.0	44°34.5	-16°44.2
16	18°44.3	95°10.6	-16°32.5	96°40.7	-23°33.6	37°46.4	-9°05.7	59°36.7	-16°44.1
17	33°46.8	110°12.1	-16°32.6	111°41.1	-23°33.5	52°48.3	-9°05.5	74°38.8	-16°44.0
18	48°49.2	125°13.6	-16°32.7	126°41.6	-23°33.4	67°50.2	-9°05.3	89°41.0	-16°43.9
19	63°51.7	140°15.0	-16°32.8	141°42.1	-23°33.2	82°52.1	-9°05.1	104°43.2	-16°43.8
20	78°54.2	155°16.5	-16°32.9	156°42.5	-23°33.1	97°54.0	-9°04.8	119°45.3	-16°43.7
21	93°56.6	170°18.0	-16°33.0	171°43.0	-23°33.0	112°55.9	-9°04.6	134°47.5	-16°43.7
22	108°59.1	185°19.5	-16°33.1	186°43.5	-23°32.9	127°57.8	-9°04.4	149°49.7	-16°43.6
23	124°01.6	200°20.9	-16°33.2	201°43.9	-23°32.8	142°59.8	-9°04.2	164°51.8	-16°43.5
Mer.pass.:14:45		v1.5 d-0.1 m-4.4		v0.5 d0.1 m1.4		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.7	

Estrellas

	AHS	Dec
Alpheratz	357°37.5	29°12.7
Ankaa	353°09.8	-42°11.5
Schedar	349°34.1	56°39.6
Diphda	348°49.8	-17°52.2
Achernar	335°22.2	-57°07.9
Hamal	327°54.0	23°34.0
Polaris	315°09.3	89°21.7
Akamar	315°13.6	-40°13.3
Menkar	314°08.6	4°10.5
Mirfak	308°31.6	49°56.5
Aldebaran	290°42.2	16°33.2
Rigel	281°06.0	-8°10.7
Capella	280°25.2	46°01.3
Bellatrix	278°25.2	6°22.1
Elnath	278°04.7	28°37.6
Alnilam	275°40.0	-1°11.4
Betelgeuse	270°54.4	7°24.6
Canopus	263°53.0	-52°42.6
Sirius	258°28.0	-16°44.7
Adara	255°07.4	-29°00.3
Procyon	244°52.9	5°10.2
Pollux	243°19.8	27°58.3
Avior	234°15.1	-59°34.8
Suhail	222°47.6	-43°31.3
Miaplacidus	221°37.8	-69°48.4
Alphard	217°49.8	-8°45.3
Regulus	207°36.6	11°51.5
Dubhe	193°43.4	61°37.8
Denebola	182°27.1	14°26.9
Gienah	175°45.8	-17°39.8
Acrux	173°02.3	-63°13.0
Gacrux	171°53.9	-57°14.0
Alioth	166°14.9	55°50.2
Spica	158°24.7	-11°16.5
Alcaid	152°53.8	49°12.0
Hadar	148°39.2	-60°28.5
Menkent	148°00.3	-36°28.5
Arcturus	145°49.9	19°04.2
Rigil Kent.	139°43.5	-60°55.3
Zubenelg.	136°58.7	-16°07.9
Kochab	137°19.8	74°03.6
Alphecca	126°05.9	26°38.3
Antares	112°18.9	-26°28.7
Atria	107°15.5	-69°03.7
Sabik	102°05.7	-15°45.1
Shaula	96°13.9	-37°07.1
Rasalhague	96°01.0	12°32.5
Etamin	90°43.6	51°28.9
Kaus Aust.	83°36.0	-34°22.4
Vega	80°35.2	38°48.0
Nunki	75°51.0	-26°16.2
Altair	62°02.7	8°55.4
Peacock	53°10.1	-56°39.9
Deneb	49°27.9	45°21.4
Enif	33°41.5	9°58.4
Alnair	27°36.4	-46°51.4
Fomalhaut	15°17.5	-29°30.5
Scheat	13°47.9	28°12.1
Markab	13°32.6	15°19.3

Feb 06 Dom	AHS	Paso Merid
Venus	77°21.5	09:45
Mars	80°04.2	09:35
Jupiter	19°37.3	13:35
Saturn	41°11.5	12:09

Feb 07 Lun	AHS	Paso Merid
Venus	77°02.5	09:42
Mars	79°16.3	09:34
Jupiter	19°24.1	13:32
Saturn	41°04.3	12:06

Feb 08 Mar	AHS	Paso Merid
Venus	76°41.4	09:40
Mars	78°28.3	09:33
Jupiter	19°10.9	13:29
Saturn	40°57.1	12:02

Paralelaje Horizontal	
Venus:	0.4
Mars:	0.1

h Sol Luna

Dom	AHG	Dec	AHG	v	Dec	d	HP
0	176°30.0	-15°41.5	118°16.1	14.7	4°03.6	14.1	56.3
1	191°29.9	-15°40.7	132°49.8	14.7	4°17.7	14.0	56.3
2	206°29.9	-15°39.9	147°23.6	14.7	4°31.7	14.0	56.2
3	221°29.8	-15°39.1	161°57.3	14.8	4°45.7	14.0	56.2
4	236°29.8	-15°38.4	176°31.1	14.8	4°59.7	13.9	56.2
5	251°29.7	-15°37.6	191°04.9	14.8	5°13.6	13.9	56.1
6	266°29.7	-15°36.8	205°38.7	14.8	5°27.5	13.9	56.1
7	281°29.6	-15°36.1	220°12.5	14.8	5°41.3	13.8	56.1
8	296°29.6	-15°35.3	234°46.3	14.8	5°55.1	13.8	56.1
9	311°29.6	-15°34.5	249°20.1	14.8	6°08.9	13.7	56.0
10	326°29.5	-15°33.8	263°54.0	14.8	6°22.6	13.7	56.0
11	341°29.5	-15°33.0	278°27.8	14.9	6°36.3	13.7	56.0
12	356°29.4	-15°32.2	293°01.7	14.9	6°49.9	13.6	55.9
13	11°29.4	-15°31.4	307°35.6	14.9	7°03.5	13.6	55.9
14	26°29.4	-15°30.7	322°09.4	14.9	7°17.0	13.5	55.9
15	41°29.3	-15°29.9	336°43.3	14.9	7°30.5	13.5	55.8
16	56°29.3	-15°29.1	351°17.2	14.9	7°44.0	13.4	55.8
17	71°29.2	-15°28.3	5°51.1	14.9	7°57.4	13.4	55.8
18	86°29.2	-15°27.6	20°25.0	14.9	8°10.7	13.3	55.7
19	101°29.2	-15°26.8	34°58.8	14.9	8°24.1	13.3	55.7
20	116°29.1	-15°26.0	49°32.7	14.9	8°37.3	13.2	55.7
21	131°29.1	-15°25.2	64°06.6	14.9	8°50.5	13.2	55.7
22	146°29.1	-15°24.4	78°40.5	14.9	9°03.7	13.1	55.6
23	161°29.0	-15°23.7	93°14.3	14.9	9°16.8	13.1	55.6
	SD.=16.2	d=0.8	S.D.=15.4				

Lun	AHG	Dec	AHG	v	Dec	d	HP
0	176°29.0	-15°22.9	107°48.2	14.9	9°29.9	13.0	55.6
1	191°28.9	-15°22.1	122°22.1	14.9	9°42.9	13.0	55.5
2	206°28.9	-15°21.3	136°55.9	14.9	9°55.8	12.9	55.5
3	221°28.9	-15°20.6	151°29.8	14.8	10°08.7	12.9	55.5
4	236°28.8	-15°19.8	166°03.6	14.8	10°21.6	12.8	55.5
5	251°28.8	-15°19.0	180°37.5	14.8	10°34.4	12.8	55.4
6	266°28.8	-15°18.2	195°11.3	14.8	10°47.1	12.7	55.4
7	281°28.7	-15°17.4	209°45.1	14.8	10°59.8	12.6	55.4
8	296°28.7	-15°16.6	224°18.9	14.8	11°12.4	12.6	55.4
9	311°28.7	-15°15.9	238°52.7	14.8	11°24.9	12.5	55.3
10	326°28.6	-15°15.1	253°26.4	14.8	11°37.4	12.5	55.3
11	341°28.6	-15°14.3	268°00.2	14.7	11°49.9	12.4	55.3
12	356°28.6	-15°13.5	282°33.9	14.7	12°02.3	12.4	55.2
13	11°28.5	-15°12.7	297°07.6	14.7	12°14.6	12.3	55.2
14	26°28.5	-15°11.9	311°41.3	14.7	12°26.9	12.2	55.2
15	41°28.5	-15°11.2	326°15.0	14.7	12°39.1	12.2	55.2
16	56°28.4	-15°10.4	340°48.7	14.7	12°51.2	12.1	55.2
17	71°28.4	-15°09.6	355°22.3	14.6	13°03.3	12.0	55.1
18	86°28.4	-15°08.8	9°56.0	14.6	13°15.3	12.0	55.1
19	101°28.4	-15°08.0	24°29.6	14.6	13°27.2	11.9	55.1
20	116°28.3	-15°07.2	39°03.2	14.6	13°39.1	11.8	55.1
21	131°28.3	-15°06.4	53°36.7	14.5	13°50.9	11.8	55.0
22	146°28.3	-15°05.6	68°10.2	14.5	14°02.7	11.7	55.0
23	161°28.2	-15°04.9	82°43.8	14.5	14°14.4	11.6	55.0
	SD.=16.2	d=0.8	S.D.=15.2				

Mar	AHG	Dec	AHG	v	Dec	d	HP
0	176°28.2	-15°04.1	97°17.2	14.5	14°26.0	11.6	55.0
1	191°28.2	-15°03.3	111°50.7	14.4	14°37.5	11.5	54.9
2	206°28.2	-15°02.5	126°24.1	14.4	14°49.0	11.4	54.9
3	221°28.1	-15°01.7	140°57.5	14.4	15°00.4	11.4	54.9
4	236°28.1	-15°00.9	155°30.9	14.4	15°11.7	11.3	54.9
5	251°28.1	-15°00.1	170°04.2	14.3	15°23.0	11.2	54.9
6	266°28.0	-14°59.3	184°37.5	14.3	15°34.2	11.2	54.8
7	281°28.0	-14°58.5	199°10.8	14.3	15°45.3	11.1	54.8
8	296°28.0	-14°57.7	213°44.1	14.2	15°56.4	11.0	54.8
9	311°28.0	-14°56.9	228°17.3	14.2	16°07.3	10.9	54.8
10	326°27.9	-14°56.1	242°50.5	14.2	16°18.2	10.9	54.8
11	341°27.9	-14°55.4	257°23.6	14.1	16°29.1	10.8	54.7
12	356°27.9	-14°54.6	271°56.7	14.1	16°39.8	10.7	54.7
13	11°27.9	-14°53.8	286°29.8	14.1	16°50.5	10.6	54.7
14	26°27.9	-14°53.0	301°02.9	14.0	17°01.1	10.6	54.7
15	41°27.8	-14°52.2	315°35.9	14.0	17°11.6	10.5	54.7
16	56°27.8	-14°51.4	330°08.9	14.0	17°22.0	10.4	54.7
17	71°27.8	-14°50.6	344°41.8	13.9	17°32.4	10.3	54.6
18	86°27.8	-14°49.8	359°14.7	13.9	17°42.7	10.2	54.6
19	101°27.7	-14°49.0	13°47.5	13.8	17°52.9	10.2	54.6
20	116°27.7	-14°48.2	28°20.4	13.8	18°03.0	10.1	54.6
21	131°27.7	-14°47.4	42°53.1	13.8	18°13.0	10.0	54.6
22	146°27.7	-14°46.6	57°25.9	13.7	18°23.0	9.9	54.6
23	161°27.7	-14°45.8	71°58.6	13.7	18°32.9	9.8	54.5
	SD.=16.2	d=0.8	S.D.=15.0				

Lat.	Crepúsculo Naut.	Crepúsculo Civil	Orto Sol	Crepúsculo Civil	Crepúsculo Naut.	Ocaso Sol
N 72	06:47	08:11	09:43	14:47	16:18	17:43
70	06:42	07:57	09:14	15:16	16:33	17:48
68	06:37	07:45	08:52	15:38	16:44	17:52
66	06:33	07:35	08:35	15:55	16:54	17:56
64	06:30	07:27	08:21	16:08	17:02	17:59
62	06:27	07:20	08:09	16:20	17:09	18:03
60	06:24	07:14	07:59	16:30	17:16	18:05
58	06:21	07:08	07:51	16:38	17:21	18:08
56	06:19	07:03	07:43	16:46	17:26	18:10
54	06:16	06:58	07:36	16:53	17:31	18:13
52	06:14	06:54	07:30	16:59	17:35	18:15
50	06:12	06:50	07:24	17:04	17:39	18:17
45	06:07	06:42	07:12	17:16	17:47	18:22
40	06:02	06:34	07:02	17:26	17:54	18:27
35	05:58	06:28	06:54	17:35	18:01	18:31
30	05:53	06:22	06:46	17:42	18:07	18:35
20	05:44	06:10	06:33	17:55	18:18	18:44
10	05:35	06:00	06:22	18:07	18:28	18:53
0	05:24	05:49	06:11	18:18	18:39	19:04
S 10	05:12	05:38	06:00	18:29	18:50	19:16
20	04:57	05:24	05:48	18:40	19:03	19:31
30	04:38	05:08	05:34	18:54	19:19	19:50
35	04:26	04:58	05:26	19:02	19:29	20:02
40	04:11	04:47	05:16	19:11	19:41	20:16
45	03:53	04:33	05:05	19:22	19:54	20:34
50	03:28	04:15	04:52	19:35	20:12	20:58
52	03:16	04:07	04:46	19:41	20:20	21:10
54	03:02	03:57	04:39	19:48	20:29	21:24
56	02:44	03:47	04:31	19:55	20:40	21:41
58	02:23	03:34	04:23	20:04	20:52	22:02
60	01:54	03:19	04:13	20:14	21:07	22:29

Lat.	Orto luna Dom	Orto luna Lun	Orto luna Mar	Ocaso luna Dom	Ocaso luna Lun	Ocaso luna Mar
N 72	09:07	08:33	07:43	–:–	00:56	03:18
70	09:15	08:51	08:20	–:–	00:40	02:43
68	09:22	09:06	08:46	–:–	00:27	02:18
66	09:28	09:18	09:06	–:–	00:17	01:59
64	09:33	09:28	09:22	–:–	00:09	01:44
62	09:37	09:36	09:36	–:–	00:01	01:31
60	09:41	09:44	09:48	23:55	–:–	01:20
58	09:44	09:50	09:58	23:50	–:–	01:11
56	09:47	09:56	10:07	23:45	–:–	01:03
54	09:50	10:01	10:15	23:40	–:–	00:56
52	09:52	10:06	10:22	23:36	–:–	00:49
50	09:54	10:10	10:28	23:33	–:–	00:44
45	09:59	10:20	10:42	23:25	–:–	00:31
40	10:04	10:27	10:53	23:19	–:–	00:21
35	10:07	10:34	11:03	23:13	–:–	00:12
30	10:10	10:40	11:12	23:09	–:–	00:05
20	10:16	10:51	11:27	23:00	23:52	–:–
10	10:21	11:00	11:40	22:53	23:40	–:–
0	10:26	11:09	11:52	22:46	23:30	–:–
S 10	10:30	11:17	12:05	22:39	23:19	00:00
20	10:35	11:27	12:18	22:32	23:08	23:45
30	10:41	11:38	12:34	22:24	22:55	23:28
35	10:45	11:44	12:43	22:19	22:47	23:18
40	10:49	11:51	12:53	22:14	22:39	23:06
45	10:53	12:00	13:05	22:08	22:29	22:53
50	10:58	12:10	13:20	22:01	22:17	22:37
52	11:01	12:14	13:27	21:57	22:12	22:29
54	11:04	12:20	13:35	21:54	22:06	22:21
56	11:07	12:26	13:44	21:50	21:59	22:12
58	11:10	12:32	13:54	21:45	21:52	22:01
60	11:14	12:40	14:05	21:40	21:44	21:49

Día	Sol Ec. tiempo 00:00 h	Sol Ec. tiempo 12:00 h	Sol Paso Merid	Luna Paso Meridiano Superior	Luna Paso Meridiano Inferior	Luna Edad
6	14:00	14:02	12:14	16:35	04:14	5(30%)
7	14:04	14:06	12:14	17:19	04:57	6(40%)
8	14:07	14:08	12:14	18:03	05:40	7(49%)

Febrero 09, 10, 11 (Mie, Jue, Vie)

	Aries	Venus		Martes		Júpiter		Saturno	
Mie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	139°04.0	215°22.4	-16°33.3	216°44.4	-23°32.6	158°01.7	-9°04.0	179°54.0	-16°43.4
1	154°06.5	230°23.9	-16°33.4	231°44.9	-23°32.5	173°03.6	-9°03.7	194°56.1	-16°43.3
2	169°08.9	245°25.3	-16°33.5	246°45.3	-23°32.4	188°05.5	-9°03.5	209°58.3	-16°43.2
3	184°11.4	260°26.8	-16°33.6	261°45.8	-23°32.2	203°07.4	-9°03.3	225°00.5	-16°43.1
4	199°13.9	275°28.2	-16°33.8	276°46.3	-23°32.1	218°09.3	-9°03.1	240°02.6	-16°43.0
5	214°16.3	290°29.7	-16°33.9	291°46.7	-23°32.0	233°11.2	-9°02.9	255°04.8	-16°43.0
6	229°18.8	305°31.1	-16°34.0	306°47.2	-23°31.9	248°13.1	-9°02.6	270°07.0	-16°42.9
7	244°21.3	320°32.6	-16°34.1	321°47.7	-23°31.7	263°15.0	-9°02.4	285°09.1	-16°42.8
8	259°23.7	335°34.0	-16°34.2	336°48.1	-23°31.6	278°17.0	-9°02.2	300°11.3	-16°42.7
9	274°26.2	350°35.4	-16°34.3	351°48.6	-23°31.5	293°18.9	-9°02.0	315°13.5	-16°42.6
10	289°28.7	5°36.9	-16°34.4	6°49.1	-23°31.4	308°20.8	-9°01.7	330°15.6	-16°42.5
11	304°31.1	20°38.3	-16°34.5	21°49.5	-23°31.2	323°22.7	-9°01.5	345°17.8	-16°42.4
12	319°33.6	35°39.7	-16°34.6	36°50.0	-23°31.1	338°24.6	-9°01.3	0°20.0	-16°42.4
13	334°36.1	50°41.2	-16°34.7	51°50.5	-23°31.0	353°26.5	-9°01.1	15°22.1	-16°42.3
14	349°38.5	65°42.6	-16°34.8	66°50.9	-23°30.8	8°28.4	-9°00.9	30°24.3	-16°42.2
15	4°41.0	80°44.0	-16°34.9	81°51.4	-23°30.7	23°30.3	-9°00.6	45°26.5	-16°42.1
16	19°43.4	95°45.4	-16°35.0	96°51.9	-23°30.6	38°32.2	-9°00.4	60°28.6	-16°42.0
17	34°45.9	110°46.8	-16°35.1	111°52.3	-23°30.4	53°34.2	-9°00.2	75°30.8	-16°41.9
18	49°48.4	125°48.2	-16°35.3	126°52.8	-23°30.3	68°36.1	-9°00.0	90°33.0	-16°41.8
19	64°50.8	140°49.6	-16°35.4	141°53.3	-23°30.2	83°38.0	-8°59.7	105°35.1	-16°41.7
20	79°53.3	155°51.0	-16°35.5	156°53.7	-23°30.0	98°39.9	-8°59.5	120°37.3	-16°41.7
21	94°55.8	170°52.4	-16°35.6	171°54.2	-23°29.9	113°41.8	-8°59.3	135°39.4	-16°41.6
22	109°58.2	185°53.8	-16°35.7	186°54.7	-23°29.8	128°43.7	-8°59.1	150°41.6	-16°41.5
23	125°00.7	200°55.2	-16°35.8	201°55.1	-23°29.6	143°45.6	-8°58.9	165°43.8	-16°41.4
Mer.pass.:14:41		v1.5 d-0.1 m-4.4		v0.5 d0.1 m1.4		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.7	

Jue	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	140°03.2	215°56.6	-16°35.9	216°55.6	-23°29.5	158°47.5	-8°58.6	180°45.9	-16°41.3
1	155°05.6	230°58.0	-16°36.0	231°56.1	-23°29.4	173°49.4	-8°58.4	195°48.1	-16°41.2
2	170°08.1	245°59.4	-16°36.1	246°56.6	-23°29.2	188°51.4	-8°58.2	210°50.3	-16°41.1
3	185°10.5	261°00.7	-16°36.2	261°57.0	-23°29.1	203°53.3	-8°58.0	225°52.4	-16°41.0
4	200°13.0	276°02.1	-16°36.3	276°57.5	-23°29.0	218°55.2	-8°57.7	240°54.6	-16°41.0
5	215°15.5	291°03.5	-16°36.4	291°58.0	-23°28.8	233°57.1	-8°57.5	255°56.8	-16°40.9
6	230°17.9	306°04.9	-16°36.5	306°58.4	-23°28.7	248°59.0	-8°57.3	270°58.9	-16°40.8
7	245°20.4	321°06.2	-16°36.6	321°58.9	-23°28.5	264°00.9	-8°57.1	286°01.1	-16°40.7
8	260°22.9	336°07.6	-16°36.8	336°59.4	-23°28.4	279°02.8	-8°56.9	301°03.3	-16°40.6
9	275°25.3	351°08.9	-16°36.9	351°59.8	-23°28.3	294°04.7	-8°56.6	316°05.4	-16°40.5
10	290°27.8	6°10.3	-16°37.0	7°00.3	-23°28.1	309°06.6	-8°56.4	331°07.6	-16°40.4
11	305°30.3	21°11.7	-16°37.1	22°00.8	-23°28.0	324°08.6	-8°56.2	346°09.8	-16°40.3
12	320°32.7	36°13.0	-16°37.2	37°01.2	-23°27.8	339°10.5	-8°56.0	1°11.9	-16°40.3
13	335°35.2	51°14.3	-16°37.3	52°01.7	-23°27.7	354°12.4	-8°55.7	16°14.1	-16°40.2
14	350°37.7	66°15.7	-16°37.4	67°02.2	-23°27.6	9°14.3	-8°55.5	31°16.3	-16°40.1
15	5°40.1	81°17.0	-16°37.5	82°02.6	-23°27.4	24°16.2	-8°55.3	46°18.4	-16°40.0
16	20°42.6	96°18.4	-16°37.6	97°03.1	-23°27.3	39°18.1	-8°55.1	61°20.6	-16°39.9
17	35°45.0	111°19.7	-16°37.7	112°03.6	-23°27.1	54°20.0	-8°54.9	76°22.8	-16°39.8
18	50°47.5	126°21.0	-16°37.8	127°04.0	-23°27.0	69°21.9	-8°54.6	91°24.9	-16°39.7
19	65°50.0	141°22.4	-16°37.9	142°04.5	-23°26.8	84°23.8	-8°54.4	106°27.1	-16°39.6
20	80°52.4	156°23.7	-16°38.0	157°05.0	-23°26.7	99°25.7	-8°54.2	121°29.3	-16°39.6
21	95°54.9	171°25.0	-16°38.1	172°05.4	-23°26.6	114°27.7	-8°54.0	136°31.4	-16°39.5
22	110°57.4	186°26.3	-16°38.2	187°05.9	-23°26.4	129°29.6	-8°53.7	151°33.6	-16°39.4
23	125°59.8	201°27.6	-16°38.3	202°06.4	-23°26.3	144°31.5	-8°53.5	166°35.8	-16°39.3
Mer.pass.:14:37		v1.4 d-0.1 m-4.4		v0.5 d0.1 m1.4		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.7	

Vie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	141°02.3	216°28.9	-16°38.4	217°06.8	-23°26.1	159°33.4	-8°53.3	181°37.9	-16°39.2
1	156°04.8	231°30.3	-16°38.5	232°07.3	-23°26.0	174°35.3	-8°53.1	196°40.1	-16°39.1
2	171°07.2	246°31.6	-16°38.7	247°07.8	-23°25.8	189°37.2	-8°52.8	211°42.2	-16°39.0
3	186°09.7	261°32.9	-16°38.8	262°08.2	-23°25.7	204°39.1	-8°52.6	226°44.4	-16°38.9
4	201°12.2	276°34.2	-16°38.9	277°08.7	-23°25.5	219°41.0	-8°52.4	241°46.6	-16°38.9
5	216°14.6	291°35.5	-16°39.0	292°09.2	-23°25.4	234°42.9	-8°52.2	256°48.7	-16°38.8
6	231°17.1	306°36.8	-16°39.1	307°09.6	-23°25.2	249°44.8	-8°52.0	271°50.9	-16°38.7
7	246°19.5	321°38.0	-16°39.2	322°10.1	-23°25.1	264°46.8	-8°51.7	286°53.1	-16°38.6
8	261°22.0	336°39.3	-16°39.3	337°10.6	-23°25.0	279°48.7	-8°51.5	301°55.2	-16°38.5
9	276°24.5	351°40.6	-16°39.4	352°11.0	-23°24.8	294°50.6	-8°51.3	316°57.4	-16°38.4
10	291°26.9	6°41.9	-16°39.5	7°11.5	-23°24.7	309°52.5	-8°51.1	331°59.6	-16°38.3
11	306°29.4	21°43.2	-16°39.6	22°12.0	-23°24.5	324°54.4	-8°50.8	347°01.7	-16°38.2
12	321°31.9	36°44.4	-16°39.7	37°12.4	-23°24.4	339°56.3	-8°50.6	2°03.9	-16°38.2
13	336°34.3	51°45.7	-16°39.8	52°12.9	-23°24.2	354°58.2	-8°50.4	17°06.1	-16°38.1
14	351°36.8	66°47.0	-16°39.9	67°13.4	-23°24.1	10°00.1	-8°50.2	32°08.2	-16°38.0
15	6°39.3	81°48.3	-16°40.0	82°13.8	-23°23.9	25°02.0	-8°49.9	47°10.4	-16°37.9
16	21°41.7	96°49.5	-16°40.1	97°14.3	-23°23.7	40°03.9	-8°49.7	62°12.6	-16°37.8
17	36°44.2	111°50.8	-16°40.2	112°14.8	-23°23.6	55°05.8	-8°49.5	77°14.7	-16°37.7
18	51°46.7	126°52.0	-16°40.3	127°15.2	-23°23.4	70°07.8	-8°49.3	92°16.9	-16°37.6
19	66°49.1	141°53.3	-16°40.4	142°15.7	-23°23.3	85°09.7	-8°49.0	107°19.1	-16°37.5
20	81°51.6	156°54.5	-16°40.5	157°16.2	-23°23.1	100°11.6	-8°48.8	122°21.2	-16°37.5
21	96°54.0	171°55.8	-16°40.6	172°16.6	-23°23.0	115°13.5	-8°48.6	137°23.4	-16°37.4
22	111°56.5	186°57.0	-16°40.7	187°17.1	-23°22.8	130°15.4	-8°48.4	152°25.6	-16°37.3
23	126°59.0	201°58.3	-16°40.8	202°17.6	-23°22.7	145°17.3	-8°48.2	167°27.7	-16°37.2
Mer.pass.:14:33		v1.3 d-0.1 m-4.4		v0.5 d0.1 m1.4		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.7	

Estrellas

	AHS	Dec
Alpheratz	357°37.5	29°12.7
Ankaa	353°09.8	-42°11.5
Schedar	349°34.1	56°39.6
Diphda	348°49.8	-17°52.2
Achernar	335°22.3	-57°07.8
Hamal	327°54.0	23°34.0
Polaris	315°10.6	89°21.7
Akamar	315°13.6	-40°13.3
Menkar	314°08.6	4°10.4
Mirfak	308°31.6	49°56.5
Aldebaran	290°42.2	16°33.2
Rigel	281°06.0	-8°10.7
Capella	280°25.2	46°01.3
Bellatrix	278°25.2	6°22.1
Elnath	278°04.7	28°37.6
Alnilam	275°40.0	-1°11.4
Betelgeuse	270°54.5	7°24.6
Canopus	263°53.1	-52°42.7
Sirius	258°28.0	-16°44.7
Adara	255°07.4	-29°00.3
Procyon	244°52.9	5°10.2
Pollux	243°19.8	27°58.3
Avior	234°15.1	-59°34.9
Suhail	222°47.6	-43°31.3
Miaplacidus	221°37.8	-69°48.4
Alphard	217°49.8	-8°45.3
Regulus	207°36.6	11°51.5
Dubhe	193°43.3	61°37.8
Denebola	182°27.1	14°26.9
Gienah	175°45.8	-17°39.8
Acrux	173°02.2	-63°13.0
Gacrux	171°53.9	-57°14.0
Alioth	166°14.8	55°50.2
Spica	158°24.7	-11°16.5
Alcaid	152°53.7	49°12.0
Hadar	148°39.2	-60°28.5
Menkent	148°00.3	-36°28.5
Arcturus	145°49.9	19°04.2
Rigil Kent.	139°43.5	-60°55.3
Zubenelg.	136°58.6	-16°07.9
Kochab	137°19.7	74°03.6
Alphecca	126°05.8	26°38.2
Antares	112°18.9	-26°28.8
Atria	107°15.5	-69°03.7
Sabik	102°05.7	-15°45.1
Shaula	96°13.8	-37°07.1
Rasalhague	96°01.0	12°32.5
Etamin	90°43.6	51°28.9
Kaus Aust.	83°35.9	-34°22.4
Vega	80°35.2	38°48.0
Nunki	75°51.0	-26°16.2
Altair	62°02.7	8°55.4
Peacock	53°10.1	-56°39.9
Deneb	49°27.9	45°21.4
Enif	33°41.5	9°58.4
Alnair	27°36.4	-46°51.4
Fomalhaut	15°17.5	-29°30.5
Scheat	13°47.9	28°12.0
Markab	13°32.6	15°19.3

Feb 09 Mie	AHS	Paso Merid
Venus	76°18.4	09:38
Mars	77°40.4	09:33
Jupiter	18°57.6	13:26
Saturn	40°50.0	11:59

Feb 10 Jue	AHS	Paso Merid
Venus	75°53.4	09:35
Mars	76°52.5	09:32
Jupiter	18°44.4	13:23
Saturn	40°42.8	11:55

Feb 11 Vie	AHS	Paso Merid
Venus	75°26.7	09:33
Mars	76°04.5	09:31
Jupiter	18°31.1	13:20
Saturn	40°35.6	11:52

Paralelaje Horizontal	
Venus:	0.4
Mars:	0.1

h	Sol		Luna				
Mie	AHG	Dec	AHG	v	Dec	d	HP
0	176°27.6	-14°45.0	86°31.2	13.6	18°42.7	9.8	54.5
1	191°27.6	-14°44.2	101°03.9	13.6	18°52.4	9.7	54.5
2	206°27.6	-14°43.4	115°36.4	13.6	19°02.0	9.6	54.5
3	221°27.6	-14°42.6	130°09.0	13.5	19°11.5	9.5	54.5
4	236°27.6	-14°41.8	144°41.5	13.5	19°21.0	9.4	54.5
5	251°27.5	-14°41.0	159°13.9	13.4	19°30.4	9.3	54.5
6	266°27.5	-14°40.2	173°46.3	13.4	19°39.7	9.2	54.4
7	281°27.5	-14°39.4	188°18.7	13.3	19°48.8	9.1	54.4
8	296°27.5	-14°38.6	202°51.0	13.3	19°57.9	9.1	54.4
9	311°27.5	-14°37.8	217°23.2	13.2	20°07.0	9.0	54.4
10	326°27.5	-14°37.0	231°55.5	13.2	20°15.9	8.9	54.4
11	341°27.4	-14°36.2	246°27.7	13.2	20°24.7	8.8	54.4
12	356°27.4	-14°35.4	260°59.8	13.1	20°33.5	8.7	54.4
13	11°27.4	-14°34.6	275°31.9	13.1	20°42.1	8.6	54.4
14	26°27.4	-14°33.7	290°03.9	13.0	20°50.7	8.5	54.3
15	41°27.4	-14°32.9	304°35.9	13.0	20°59.2	8.4	54.3
16	56°27.4	-14°32.1	319°07.9	12.9	21°07.5	8.3	54.3
17	71°27.4	-14°31.3	333°39.8	12.9	21°15.8	8.2	54.3
18	86°27.3	-14°30.5	348°11.6	12.8	21°24.0	8.1	54.3
19	101°27.3	-14°29.7	2°43.4	12.8	21°32.1	8.0	54.3
20	116°27.3	-14°28.9	17°15.2	12.7	21°40.1	7.9	54.3
21	131°27.3	-14°28.1	31°46.9	12.7	21°48.0	7.8	54.3
22	146°27.3	-14°27.3	46°18.5	12.6	21°55.8	7.8	54.3
23	161°27.3	-14°26.5	60°50.2	12.6	22°03.5	7.7	54.3
	SD.=16.2	d=0.8	S.D.=14.9				

Jue	AHG	Dec	AHG	v	Dec	d	HP
0	176°27.3	-14°25.7	75°21.7	12.5	22°11.1	7.6	54.3
1	191°27.3	-14°24.9	89°53.2	12.5	22°18.6	7.5	54.2
2	206°27.3	-14°24.0	104°24.7	12.4	22°26.0	7.4	54.2
3	221°27.2	-14°23.2	118°56.1	12.4	22°33.3	7.3	54.2
4	236°27.2	-14°22.4	133°27.5	12.3	22°40.5	7.2	54.2
5	251°27.2	-14°21.6	147°58.8	12.3	22°47.6	7.1	54.2
6	266°27.2	-14°20.8	162°30.1	12.3	22°54.6	6.9	54.2
7	281°27.2	-14°20.0	177°01.3	12.2	23°01.5	6.8	54.2
8	296°27.2	-14°19.2	191°32.5	12.2	23°08.3	6.7	54.2
9	311°27.2	-14°18.4	206°03.6	12.1	23°15.0	6.6	54.2
10	326°27.2	-14°17.5	220°34.7	12.1	23°21.6	6.5	54.2
11	341°27.2	-14°16.7	235°05.8	12.0	23°28.1	6.4	54.2
12	356°27.2	-14°15.9	249°36.8	12.0	23°34.4	6.3	54.2
13	11°27.2	-14°15.1	264°07.7	11.9	23°40.7	6.2	54.2
14	26°27.1	-14°14.3	278°38.6	11.9	23°46.9	6.1	54.2
15	41°27.1	-14°13.5	293°09.4	11.8	23°52.9	6.0	54.2
16	56°27.1	-14°12.6	307°40.2	11.8	23°58.9	5.9	54.2
17	71°27.1	-14°11.8	322°11.0	11.7	24°04.7	5.8	54.2
18	86°27.1	-14°11.0	336°41.7	11.7	24°10.4	5.7	54.2
19	101°27.1	-14°10.2	351°12.3	11.6	24°16.0	5.6	54.2
20	116°27.1	-14°09.4	5°43.0	11.6	24°21.5	5.4	54.2
21	131°27.1	-14°08.6	20°13.5	11.5	24°26.9	5.3	54.2
22	146°27.1	-14°07.7	34°44.0	11.5	24°32.2	5.2	54.2
23	161°27.1	-14°06.9	49°14.5	11.5	24°37.4	5.1	54.2
	SD.=16.2	d=0.8	S.D.=14.8				

Vie	AHG	Dec	AHG	v	Dec	d	HP
0	176°27.1	-14°06.1	63°44.9	11.4	24°42.5	5.0	54.2
1	191°27.1	-14°05.3	78°15.3	11.4	24°47.4	4.9	54.2
2	206°27.1	-14°04.5	92°45.7	11.3	24°52.2	4.8	54.2
3	221°27.1	-14°03.6	107°16.0	11.3	24°56.9	4.7	54.2
4	236°27.1	-14°02.8	121°46.2	11.2	25°01.5	4.5	54.2
5	251°27.1	-14°02.0	136°16.4	11.2	25°06.0	4.4	54.2
6	266°27.1	-14°01.2	150°46.6	11.1	25°10.4	4.3	54.2
7	281°27.1	-14°00.4	165°16.7	11.1	25°14.6	4.2	54.2
8	296°27.1	-13°59.5	179°46.8	11.1	25°18.8	4.1	54.2
9	311°27.1	-13°58.7	194°16.9	11.0	25°22.8	4.0	54.2
10	326°27.1	-13°57.9	208°46.9	11.0	25°26.7	3.8	54.2
11	341°27.1	-13°57.1	223°16.8	10.9	25°30.5	3.7	54.2
12	356°27.1	-13°56.2	237°46.8	10.9	25°34.1	3.6	54.2
13	11°27.1	-13°55.4	252°16.7	10.9	25°37.7	3.5	54.2
14	26°27.1	-13°54.6	266°46.5	10.8	25°41.1	3.4	54.2
15	41°27.1	-13°53.8	281°16.3	10.8	25°44.4	3.2	54.2
16	56°27.1	-13°52.9	295°46.1	10.8	25°47.6	3.1	54.2
17	71°27.1	-13°52.1	310°15.8	10.7	25°50.6	3.0	54.2
18	86°27.1	-13°51.3	324°45.5	10.7	25°53.6	2.9	54.2
19	101°27.1	-13°50.4	339°15.2	10.7	25°56.4	2.8	54.2
20	116°27.1	-13°49.6	353°44.9	10.6	25°59.1	2.6	54.2
21	131°27.1	-13°48.8	8°14.5	10.6	26°01.6	2.5	54.2
22	146°27.1	-13°48.0	22°44.0	10.6	26°04.1	2.4	54.2
23	161°27.1	-13°47.1	37°13.6	10.5	26°06.4	2.3	54.2
	SD.=16.2	d=0.8	S.D.=14.8				

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	06:35	07:58	09:24	15:06	16:32	17:55
70	06:31	07:45	08:58	15:31	16:45	17:59
68	06:28	07:35	08:39	15:50	16:55	18:02
66	06:25	07:26	08:24	16:06	17:04	18:05
64	06:22	07:19	08:11	16:18	17:11	18:08
62	06:20	07:12	08:01	16:29	17:17	18:10
60	06:17	07:07	07:52	16:38	17:23	18:12
58	06:15	07:02	07:44	16:46	17:28	18:14
56	06:13	06:57	07:37	16:53	17:32	18:16
54	06:11	06:53	07:30	16:59	17:36	18:18
52	06:09	06:49	07:25	17:05	17:40	18:20
50	06:08	06:46	07:19	17:10	17:43	18:22
45	06:03	06:38	07:08	17:21	17:51	18:26
40	05:59	06:31	06:59	17:30	17:58	18:30
35	05:55	06:25	06:51	17:38	18:04	18:34
30	05:51	06:19	06:44	17:45	18:09	18:38
20	05:43	06:09	06:32	17:57	18:19	18:46
10	05:34	05:59	06:21	18:07	18:29	18:54
0	05:25	05:49	06:11	18:18	18:39	19:04
S 10	05:13	05:39	06:00	18:28	18:50	19:15
20	04:59	05:26	05:49	18:39	19:02	19:29
30	04:41	05:11	05:36	18:52	19:17	19:47
35	04:29	05:02	05:29	18:59	19:26	19:58
40	04:15	04:51	05:20	19:08	19:37	20:12
45	03:58	04:38	05:10	19:18	19:50	20:29
50	03:35	04:21	04:57	19:30	20:06	20:52
52	03:24	04:13	04:52	19:35	20:14	21:03
54	03:11	04:04	04:45	19:42	20:22	21:16
56	02:55	03:54	04:38	19:49	20:32	21:31
58	02:36	03:43	04:30	19:57	20:44	21:50
60	02:11	03:29	04:21	20:06	20:57	22:14

	Orto luna			Ocaso luna		
Lat.	Mie	Jue	Vie	Mie	Jue	Vie
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	07:06	–:–	–:–	05:30	–:–	–:–
68	08:14	–:–	–:–	04:23	–:–	–:–
66	08:51	08:22	–:–	03:47	05:53	–:–
64	09:17	09:11	09:00	03:22	05:05	06:56
62	09:37	09:42	09:53	03:02	04:34	06:04
60	09:54	10:05	10:25	02:46	04:11	05:32
58	10:08	10:24	10:49	02:32	03:53	05:08
56	10:21	10:40	11:08	02:21	03:37	04:49
54	10:31	10:54	11:24	02:11	03:24	04:33
52	10:41	11:05	11:38	02:02	03:13	04:20
50	10:49	11:16	11:50	01:54	03:02	04:08
45	11:07	11:38	12:16	01:37	02:41	03:43
40	11:22	11:56	12:36	01:23	02:24	03:23
35	11:35	12:11	12:53	01:11	02:09	03:07
30	11:46	12:24	13:07	01:01	01:57	02:53
20	12:05	12:47	13:32	00:43	01:36	02:28
10	12:22	13:06	13:54	00:28	01:17	02:08
0	12:38	13:25	14:14	00:14	01:00	01:48
S 10	12:53	13:43	14:34	–:–	00:43	01:29
20	13:10	14:03	14:56	–:–	00:25	01:08
30	13:30	14:26	15:21	–:–	00:04	00:44
35	13:41	14:39	15:36	23:51	–:–	00:30
40	13:55	14:55	15:53	23:37	–:–	00:14
45	14:10	15:14	16:14	23:21	23:55	–:–
50	14:30	15:37	16:40	23:00	23:31	–:–
52	14:39	15:48	16:53	22:51	23:19	23:57
54	14:49	16:01	17:07	22:40	23:06	23:42
56	15:01	16:16	17:25	22:28	22:51	23:24
58	15:15	16:34	17:45	22:14	22:33	23:03
60	15:31	16:55	18:12	21:57	22:11	22:37

Día	Sol			Luna		
	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
9	14:09	14:10	12:14	18:48	06:25	8(59%)
10	14:11	14:11	12:14	19:36	07:12	9(68%)
11	14:12	14:12	12:14	20:25	08:00	10(76%)

Febrero 12, 13, 14 (Sa, Dom, Lun)

	Aries	Venus		Martes		Júpiter		Saturno	
Sa	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	142°01.4	216°59.5	-16°40.9	217°18.0	-23°22.5	160°19.2	-8°47.9	182°29.9	-16°37.1
1	157°03.9	232°00.7	-16°41.0	232°18.5	-23°22.4	175°21.1	-8°47.7	197°32.1	-16°37.0
2	172°06.4	247°02.0	-16°41.1	247°19.0	-23°22.2	190°23.0	-8°47.5	212°34.2	-16°36.9
3	187°08.8	262°03.2	-16°41.2	262°19.4	-23°22.1	205°24.9	-8°47.3	227°36.4	-16°36.8
4	202°11.3	277°04.4	-16°41.3	277°19.9	-23°21.9	220°26.8	-8°47.0	242°38.6	-16°36.8
5	217°13.8	292°05.7	-16°41.4	292°20.4	-23°21.7	235°28.8	-8°46.8	257°40.7	-16°36.7
6	232°16.2	307°06.9	-16°41.5	307°20.8	-23°21.6	250°30.7	-8°46.6	272°42.9	-16°36.6
7	247°18.7	322°08.1	-16°41.6	322°21.3	-23°21.4	265°32.6	-8°46.4	287°45.1	-16°36.5
8	262°21.1	337°09.3	-16°41.7	337°21.8	-23°21.3	280°34.5	-8°46.1	302°47.2	-16°36.4
9	277°23.6	352°10.5	-16°41.8	352°22.2	-23°21.1	295°36.4	-8°45.9	317°49.4	-16°36.3
10	292°26.1	7°11.7	-16°41.9	7°22.7	-23°20.9	310°38.3	-8°45.7	332°51.6	-16°36.2
11	307°28.5	22°12.9	-16°42.0	22°23.2	-23°20.8	325°40.2	-8°45.5	347°53.7	-16°36.1
12	322°31.0	37°14.1	-16°42.1	37°23.7	-23°20.6	340°42.1	-8°45.2	2°55.9	-16°36.1
13	337°33.5	52°15.3	-16°42.3	52°24.1	-23°20.5	355°44.0	-8°45.0	17°58.1	-16°36.0
14	352°35.9	67°16.5	-16°42.4	67°24.6	-23°20.3	10°45.9	-8°44.8	33°00.2	-16°35.9
15	7°38.4	82°17.7	-16°42.5	82°25.1	-23°20.1	25°47.8	-8°44.6	48°02.4	-16°35.8
16	22°40.9	97°18.9	-16°42.6	97°25.5	-23°20.0	40°49.8	-8°44.3	63°04.6	-16°35.7
17	37°43.3	112°20.1	-16°42.6	112°26.0	-23°19.8	55°51.7	-8°44.1	78°06.7	-16°35.6
18	52°45.8	127°21.3	-16°42.7	127°26.5	-23°19.7	70°53.6	-8°43.9	93°08.9	-16°35.5
19	67°48.3	142°22.5	-16°42.8	142°26.9	-23°19.5	85°55.5	-8°43.7	108°11.1	-16°35.4
20	82°50.7	157°23.7	-16°42.9	157°27.4	-23°19.3	100°57.4	-8°43.4	123°13.2	-16°35.4
21	97°53.2	172°24.8	-16°43.0	172°27.9	-23°19.2	115°59.3	-8°43.2	138°15.4	-16°35.3
22	112°55.6	187°26.0	-16°43.1	187°28.3	-23°19.0	131°01.2	-8°43.0	153°17.6	-16°35.2
23	127°58.1	202°27.2	-16°43.2	202°28.8	-23°18.8	146°03.1	-8°42.8	168°19.7	-16°35.1
Mer.pass.:14:29		v1.2 d-0.1 m-4.5		v0.5 d0.2 m1.4		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.7	

Dom	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	143°00.6	217°28.3	-16°43.3	217°29.3	-23°18.7	161°05.0	-8°42.6	183°21.9	-16°35.0
1	158°03.0	232°29.5	-16°43.4	232°29.7	-23°18.5	176°06.9	-8°42.3	198°24.1	-16°34.9
2	173°05.5	247°30.7	-16°43.5	247°30.2	-23°18.3	191°08.8	-8°42.1	213°26.2	-16°34.8
3	188°08.0	262°31.8	-16°43.6	262°30.7	-23°18.2	206°10.7	-8°41.9	228°28.4	-16°34.8
4	203°10.4	277°33.0	-16°43.7	277°31.1	-23°18.0	221°12.7	-8°41.7	243°30.6	-16°34.7
5	218°12.9	292°34.1	-16°43.8	292°31.6	-23°17.8	236°14.6	-8°41.4	258°32.7	-16°34.6
6	233°15.4	307°35.3	-16°43.9	307°32.1	-23°17.7	251°16.5	-8°41.2	273°34.9	-16°34.5
7	248°17.8	322°36.4	-16°44.0	322°32.5	-23°17.5	266°18.4	-8°41.0	288°37.1	-16°34.4
8	263°20.3	337°37.6	-16°44.1	337°33.0	-23°17.3	281°20.3	-8°40.8	303°39.2	-16°34.3
9	278°22.8	352°38.7	-16°44.2	352°33.5	-23°17.2	296°22.2	-8°40.5	318°41.4	-16°34.2
10	293°25.2	7°39.9	-16°44.3	7°33.9	-23°17.0	311°24.1	-8°40.3	333°43.6	-16°34.1
11	308°27.7	22°41.0	-16°44.4	22°34.4	-23°16.8	326°26.0	-8°40.1	348°45.7	-16°34.1
12	323°30.1	37°42.1	-16°44.5	37°34.9	-23°16.7	341°27.9	-8°39.9	3°47.9	-16°34.0
13	338°32.6	52°43.3	-16°44.6	52°35.4	-23°16.5	356°29.8	-8°39.6	18°50.1	-16°33.9
14	353°35.1	67°44.4	-16°44.7	67°35.8	-23°16.3	11°31.7	-8°39.4	33°52.2	-16°33.8
15	8°37.5	82°45.5	-16°44.8	82°36.3	-23°16.1	26°33.6	-8°39.2	48°54.4	-16°33.7
16	23°40.0	97°46.6	-16°44.9	97°36.8	-23°16.0	41°35.5	-8°39.0	63°56.6	-16°33.6
17	38°42.5	112°47.8	-16°45.0	112°37.2	-23°15.8	56°37.5	-8°38.7	78°58.7	-16°33.5
18	53°44.9	127°48.9	-16°45.1	127°37.7	-23°15.6	71°39.4	-8°38.5	94°00.9	-16°33.4
19	68°47.4	142°50.0	-16°45.2	142°38.2	-23°15.5	86°41.3	-8°38.3	109°03.1	-16°33.4
20	83°49.9	157°51.1	-16°45.3	157°38.6	-23°15.3	101°43.2	-8°38.1	124°05.2	-16°33.3
21	98°52.3	172°52.2	-16°45.4	172°39.1	-23°15.1	116°45.1	-8°37.8	139°07.4	-16°33.2
22	113°54.8	187°53.3	-16°45.5	187°39.6	-23°14.9	131°47.0	-8°37.6	154°09.6	-16°33.1
23	128°57.3	202°54.4	-16°45.6	202°40.0	-23°14.8	146°48.9	-8°37.4	169°11.7	-16°33.0
Mer.pass.:14:25		v1.2 d-0.1 m-4.5		v0.5 d0.2 m1.4		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.7	

Lun	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	143°59.7	217°55.5	-16°45.6	217°40.5	-23°14.6	161°50.8	-8°37.2	184°13.9	-16°32.9
1	159°02.2	232°56.6	-16°45.7	232°41.0	-23°14.4	176°52.7	-8°36.9	199°16.1	-16°32.8
2	174°04.6	247°57.7	-16°45.8	247°41.4	-23°14.2	191°54.6	-8°36.7	214°18.2	-16°32.7
3	189°07.1	262°58.8	-16°45.9	262°41.9	-23°14.1	206°56.5	-8°36.5	229°20.4	-16°32.7
4	204°09.6	277°59.9	-16°46.0	277°42.4	-23°13.9	221°58.4	-8°36.3	244°22.6	-16°32.6
5	219°12.0	293°01.0	-16°46.1	292°42.8	-23°13.7	237°00.3	-8°36.0	259°24.7	-16°32.5
6	234°14.5	308°02.1	-16°46.2	307°43.3	-23°13.5	252°02.3	-8°35.8	274°26.9	-16°32.4
7	249°17.0	323°03.1	-16°46.3	322°43.8	-23°13.3	267°04.2	-8°35.6	289°29.1	-16°32.3
8	264°19.4	338°04.2	-16°46.4	337°44.3	-23°13.2	282°06.1	-8°35.4	304°31.2	-16°32.2
9	279°21.9	353°05.3	-16°46.5	352°44.7	-23°13.0	297°08.0	-8°35.1	319°33.4	-16°32.1
10	294°24.4	8°06.4	-16°46.6	7°45.2	-23°12.8	312°09.9	-8°34.9	334°35.6	-16°32.0
11	309°26.8	23°07.4	-16°46.7	22°45.7	-23°12.6	327°11.8	-8°34.7	349°37.7	-16°32.0
12	324°29.3	38°08.5	-16°46.7	37°46.1	-23°12.5	342°13.7	-8°34.5	4°39.9	-16°31.9
13	339°31.8	53°09.6	-16°46.8	52°46.6	-23°12.3	357°15.6	-8°34.2	19°42.1	-16°31.8
14	354°34.2	68°10.6	-16°46.9	67°47.1	-23°12.1	12°17.5	-8°34.0	34°44.2	-16°31.7
15	9°36.7	83°11.7	-16°47.0	82°47.5	-23°11.9	27°19.4	-8°33.8	49°46.4	-16°31.6
16	24°39.1	98°12.7	-16°47.1	97°48.0	-23°11.7	42°21.3	-8°33.6	64°48.6	-16°31.5
17	39°41.6	113°13.8	-16°47.2	112°48.5	-23°11.5	57°23.2	-8°33.3	79°50.7	-16°31.4
18	54°44.1	128°14.8	-16°47.3	127°48.9	-23°11.4	72°25.1	-8°33.1	94°52.9	-16°31.3
19	69°46.5	143°15.9	-16°47.4	142°49.4	-23°11.2	87°27.0	-8°32.9	109°55.1	-16°31.3
20	84°49.0	158°16.9	-16°47.5	157°49.9	-23°11.0	102°29.0	-8°32.7	124°57.2	-16°31.2
21	99°51.5	173°18.0	-16°47.6	172°50.4	-23°10.8	117°30.9	-8°32.4	139°59.4	-16°31.1
22	114°53.9	188°19.0	-16°47.6	187°50.8	-23°10.6	132°32.8	-8°32.2	155°01.6	-16°31.0
23	129°56.4	203°20.1	-16°47.7	202°51.3	-23°10.4	147°34.7	-8°32.0	170°03.7	-16°30.9
Mer.pass.:14:21		v1.1 d-0.1 m-4.5		v0.5 d0.2 m1.4		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.7	

Estrellas

	AHS	Dec
Alpheratz	357°37.5	29°12.7
Ankaa	353°09.8	-42°11.5
Schedar	349°34.1	56°39.6
Diphda	348°49.8	-17°52.2
Achernar	335°22.3	-57°07.8
Hamal	327°54.0	23°34.0
Polaris	315°11.9	89°21.7
Akamar	315°13.6	-40°13.3
Menkar	314°08.7	4°10.4
Mirfak	308°31.6	49°56.5
Aldebaran	290°42.2	16°33.2
Rigel	281°06.0	-8°10.7
Capella	280°25.2	46°01.4
Bellatrix	278°25.2	6°22.1
Elnath	278°04.7	28°37.6
Alnilam	275°40.0	-1°11.4
Betelgeuse	270°54.5	7°24.6
Canopus	263°53.1	-52°42.7
Sirius	258°28.0	-16°44.8
Adara	255°07.4	-29°00.3
Procyon	244°52.9	5°10.2
Pollux	243°19.8	27°58.4
Avior	234°15.1	-59°34.9
Suhail	222°47.6	-43°31.3
Miaplacidus	221°37.8	-69°48.4
Alphard	217°49.7	-8°45.3
Regulus	207°36.6	11°51.5
Dubhe	193°43.3	61°37.8
Denebola	182°27.0	14°26.8
Gienah	175°45.7	-17°39.8
Acrux	173°02.2	-63°13.0
Gacrux	171°53.8	-57°14.0
Alioth	166°14.8	55°50.2
Spica	158°24.6	-11°16.6
Alcaid	152°53.7	49°12.0
Hadar	148°39.1	-60°28.5
Menkent	148°00.3	-36°28.5
Arcturus	145°49.8	19°04.2
Rigil Kent.	139°43.4	-60°55.3
Zubenelg.	136°58.6	-16°08.0
Kochab	137°19.6	74°03.6
Alphecca	126°05.8	26°38.2
Antares	112°18.8	-26°28.8
Atria	107°15.4	-69°03.7
Sabik	102°05.7	-15°45.1
Shaula	96°13.8	-37°07.1
Rasalhague	96°00.9	12°32.5
Etamin	90°43.6	51°28.9
Kaus Aust.	83°35.9	-34°22.4
Vega	80°35.2	38°48.0
Nunki	75°51.0	-26°16.1
Altair	62°02.6	8°55.4
Peacock	53°10.0	-56°39.8
Deneb	49°27.8	45°21.4
Enif	33°41.5	9°58.4
Alnair	27°36.4	-46°51.4
Fomalhaut	15°17.5	-29°30.5
Scheat	13°47.9	28°12.0
Markab	13°32.6	15°19.3

Feb 12 Sa	AHS	Paso Merid
Venus	74°58.1	09:31
Mars	75°16.6	09:31
Jupiter	18°17.8	13:17
Saturn	40°28.5	11:48

Feb 13 Dom	AHS	Paso Merid
Venus	74°27.8	09:29
Mars	74°28.7	09:30
Jupiter	18°04.4	13:14
Saturn	40°21.3	11:45

Feb 14 Lun	AHS	Paso Merid
Venus	73°55.8	09:28
Mars	73°40.8	09:29
Jupiter	17°51.1	13:11
Saturn	40°14.2	11:41

Paralelaje Horizontal	
Venus:	0.3
Mars:	0.1

h	Sol		Luna				
Sa	AHG	Dec	AHG	v	Dec	d	HP
0	176°27.1	-13°46.3	51°43.1	10.5	26°08.6	2.1	54.2
1	191°27.1	-13°45.5	66°12.6	10.5	26°10.7	2.0	54.2
2	206°27.1	-13°44.6	80°42.0	10.4	26°12.6	1.9	54.2
3	221°27.1	-13°43.8	95°11.5	10.4	26°14.4	1.8	54.2
4	236°27.2	-13°43.0	109°40.8	10.4	26°16.1	1.6	54.2
5	251°27.2	-13°42.2	124°10.2	10.4	26°17.7	1.5	54.2
6	266°27.2	-13°41.3	138°39.6	10.3	26°19.1	1.4	54.3
7	281°27.2	-13°40.5	153°08.9	10.3	26°20.4	1.3	54.3
8	296°27.2	-13°39.7	167°38.2	10.3	26°21.6	1.1	54.3
9	311°27.2	-13°38.8	182°07.5	10.3	26°22.7	1.0	54.3
10	326°27.2	-13°38.0	196°36.7	10.2	26°23.6	0.9	54.3
11	341°27.2	-13°37.2	211°05.9	10.2	26°24.4	0.7	54.3
12	356°27.2	-13°36.3	225°35.1	10.2	26°25.1	0.6	54.3
13	11°27.2	-13°35.5	240°04.3	10.2	26°25.7	0.5	54.3
14	26°27.2	-13°34.7	254°33.5	10.2	26°26.1	0.4	54.3
15	41°27.2	-13°33.8	269°02.7	10.1	26°26.4	0.2	54.3
16	56°27.3	-13°33.0	283°31.8	10.1	26°26.5	0.1	54.3
17	71°27.3	-13°32.1	298°00.9	10.1	26°26.6	-0.0	54.3
18	86°27.3	-13°31.3	312°30.0	10.1	26°26.5	-0.2	54.4
19	101°27.3	-13°30.5	326°59.1	10.1	26°26.2	-0.3	54.4
20	116°27.3	-13°29.6	341°28.2	10.1	26°25.9	-0.4	54.4
21	131°27.3	-13°28.8	355°57.3	10.1	26°25.4	-0.5	54.4
22	146°27.3	-13°28.0	10°26.4	10.1	26°24.8	-0.7	54.4
23	161°27.3	-13°27.1	24°55.4	10.0	26°24.0	-0.8	54.4
	SD.=16.2	d=0.8	S.D.=14.8				

Dom	AHG	Dec	AHG	v	Dec	d	HP
0	176°27.3	-13°26.3	39°24.5	10.0	26°23.2	-0.9	54.4
1	191°27.4	-13°25.4	53°53.5	10.0	26°22.2	-1.1	54.4
2	206°27.4	-13°24.6	68°22.5	10.0	26°21.0	-1.2	54.4
3	221°27.4	-13°23.8	82°51.5	10.0	26°19.8	-1.3	54.4
4	236°27.4	-13°22.9	97°20.6	10.0	26°18.4	-1.5	54.5
5	251°27.4	-13°22.1	111°49.6	10.0	26°16.8	-1.6	54.5
6	266°27.4	-13°21.2	126°18.6	10.0	26°15.2	-1.7	54.5
7	281°27.4	-13°20.4	140°47.6	10.0	26°13.4	-1.9	54.5
8	296°27.5	-13°19.6	155°16.6	10.0	26°11.5	-2.0	54.5
9	311°27.5	-13°18.7	169°45.6	10.0	26°09.4	-2.1	54.5
10	326°27.5	-13°17.9	184°14.7	10.0	26°07.3	-2.2	54.5
11	341°27.5	-13°17.0	198°43.7	10.0	26°05.0	-2.4	54.5
12	356°27.5	-13°16.2	213°12.7	10.0	26°02.5	-2.5	54.6
13	11°27.5	-13°15.3	227°41.7	10.0	25°59.9	-2.6	54.6
14	26°27.6	-13°14.5	242°10.7	10.0	25°57.2	-2.8	54.6
15	41°27.6	-13°13.7	256°39.8	10.0	25°54.4	-2.9	54.6
16	56°27.6	-13°12.8	271°08.8	10.1	25°51.5	-3.0	54.6
17	71°27.6	-13°12.0	285°37.9	10.1	25°48.4	-3.2	54.6
18	86°27.6	-13°11.1	300°07.0	10.1	25°45.2	-3.3	54.6
19	101°27.7	-13°10.3	314°36.0	10.1	25°41.8	-3.4	54.7
20	116°27.7	-13°09.4	329°05.1	10.1	25°38.3	-3.5	54.7
21	131°27.7	-13°08.6	343°34.2	10.1	25°34.7	-3.7	54.7
22	146°27.7	-13°07.7	358°03.3	10.1	25°31.0	-3.8	54.7
23	161°27.7	-13°06.9	12°32.5	10.1	25°27.1	-3.9	54.7
	SD.=16.2	d=0.8	S.D.=14.8				

Lun	AHG	Dec	AHG	v	Dec	d	HP
0	176°27.8	-13°06.0	27°01.6	10.2	25°23.1	-4.1	54.7
1	191°27.8	-13°05.2	41°30.8	10.2	25°19.0	-4.2	54.7
2	206°27.8	-13°04.4	55°59.9	10.2	25°14.8	-4.3	54.8
3	221°27.8	-13°03.5	70°29.1	10.2	25°10.4	-4.4	54.8
4	236°27.8	-13°02.7	84°58.3	10.2	25°05.9	-4.6	54.8
5	251°27.9	-13°01.8	99°27.6	10.2	25°01.3	-4.7	54.8
6	266°27.9	-13°01.0	113°56.8	10.3	24°56.5	-4.8	54.8
7	281°27.9	-13°00.1	128°26.1	10.3	24°51.6	-4.9	54.8
8	296°27.9	-12°59.3	142°55.4	10.3	24°46.6	-5.1	54.9
9	311°28.0	-12°58.4	157°24.7	10.3	24°41.5	-5.2	54.9
10	326°28.0	-12°57.6	171°54.1	10.4	24°36.2	-5.3	54.9
11	341°28.0	-12°56.7	186°23.4	10.4	24°30.9	-5.4	54.9
12	356°28.0	-12°55.8	200°52.8	10.4	24°25.3	-5.6	54.9
13	11°28.1	-12°55.0	215°22.2	10.4	24°19.7	-5.7	54.9
14	26°28.1	-12°54.1	229°51.7	10.5	24°14.0	-5.8	55.0
15	41°28.1	-12°53.3	244°21.1	10.5	24°08.1	-5.9	55.0
16	56°28.1	-12°52.4	258°50.6	10.5	24°02.1	-6.1	55.0
17	71°28.2	-12°51.6	273°20.2	10.5	23°56.0	-6.2	55.0
18	86°28.2	-12°50.7	287°49.7	10.6	23°49.7	-6.3	55.0
19	101°28.2	-12°49.9	302°19.3	10.6	23°43.4	-6.4	55.0
20	116°28.2	-12°49.0	316°48.9	10.6	23°36.9	-6.5	55.1
21	131°28.3	-12°48.2	331°18.6	10.7	23°30.3	-6.7	55.1
22	146°28.3	-12°47.3	345°48.3	10.7	23°23.5	-6.8	55.1
23	161°28.3	-12°46.5	0°18.0	10.7	23°16.7	-6.9	55.1
	SD.=16.2	d=0.8	S.D.=14.9				

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	06:23	07:44	09:05	15:24	16:46	18:07
70	06:20	07:33	08:44	15:46	16:57	18:10
68	06:18	07:24	08:27	16:03	17:06	18:12
66	06:16	07:16	08:13	16:17	17:13	18:14
64	06:14	07:10	08:02	16:28	17:20	18:16
62	06:12	07:04	07:52	16:37	17:25	18:17
60	06:10	06:59	07:44	16:46	17:30	18:19
58	06:09	06:55	07:36	16:53	17:34	18:21
56	06:07	06:51	07:30	16:59	17:38	18:22
54	06:06	06:47	07:24	17:05	17:42	18:24
52	06:04	06:44	07:19	17:10	17:45	18:25
50	06:03	06:41	07:14	17:15	17:48	18:26
45	05:59	06:34	07:04	17:25	17:55	18:30
40	05:56	06:28	06:56	17:33	18:01	18:33
35	05:52	06:22	06:48	17:41	18:07	18:36
30	05:49	06:17	06:42	17:47	18:12	18:40
20	05:42	06:08	06:30	17:58	18:21	18:47
10	05:34	05:59	06:20	18:08	18:30	18:55
0	05:25	05:50	06:11	18:18	18:39	19:03
S 10	05:14	05:39	06:01	18:27	18:49	19:14
20	05:01	05:28	05:51	18:37	19:00	19:27
30	04:44	05:14	05:39	18:49	19:14	19:44
35	04:33	05:05	05:32	18:56	19:23	19:55
40	04:20	04:55	05:24	19:04	19:33	20:08
45	04:03	04:42	05:14	19:13	19:45	20:24
50	03:42	04:27	05:03	19:24	20:00	20:45
52	03:31	04:20	04:57	19:30	20:07	20:55
54	03:19	04:11	04:52	19:35	20:15	21:07
56	03:05	04:02	04:45	19:42	20:24	21:21
58	02:47	03:51	04:38	19:49	20:35	21:38
60	02:26	03:39	04:29	19:57	20:47	21:59

	Orto luna			Ocaso luna		
Lat.	Sa	Dom	Lun	Sa	Dom	Lun
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	–:–	–:–	–:–
68	–:–	–:–	–:–	–:–	–:–	–:–
66	–:–	–:–	–:–	–:–	–:–	–:–
64	–:–	–:–	12:05	–:–	–:–	09:09
62	10:21	11:20	12:46	07:20	08:08	08:28
60	11:00	11:57	13:15	06:41	07:30	07:59
58	11:27	12:24	13:36	06:14	07:04	07:37
56	11:49	12:44	13:54	05:53	06:43	07:19
54	12:06	13:02	14:09	05:35	06:26	07:04
52	12:21	13:16	14:22	05:20	06:11	06:51
50	12:34	13:29	14:33	05:07	05:58	06:39
45	13:01	13:55	14:57	04:40	05:31	06:15
40	13:22	14:16	15:15	04:19	05:10	05:55
35	13:40	14:33	15:31	04:02	04:53	05:39
30	13:55	14:48	15:45	03:47	04:38	05:25
20	14:21	15:14	16:08	03:21	04:12	05:01
10	14:44	15:35	16:28	02:59	03:50	04:40
0	15:04	15:56	16:47	02:38	03:29	04:20
S 10	15:25	16:16	17:05	02:17	03:08	04:01
20	15:48	16:38	17:25	01:55	02:46	03:40
30	16:14	17:03	17:48	01:30	02:20	03:15
35	16:29	17:18	18:01	01:15	02:05	03:01
40	16:47	17:35	18:17	00:57	01:47	02:44
45	17:08	17:55	18:35	00:36	01:26	02:24
50	17:35	18:21	18:58	00:09	00:59	01:58
52	17:49	18:34	19:09	–:–	00:46	01:46
54	18:04	18:48	19:21	–:–	00:30	01:32
56	18:22	19:05	19:35	–:–	00:12	01:15
58	18:44	19:25	19:51	23:51	–:–	00:56
60	19:12	19:50	20:11	23:22	–:–	00:31

Día	Sol			Luna		
	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
12	14:11	14:11	12:14	21:16	08:51	11(84%)
13	14:11	14:10	12:14	22:08	09:42	12(90%)
14	14:09	14:08	12:14	22:58	10:33	13(95%)

Febrero 15, 16, 17 (Mar, Mie, Jue)

	Aries	Venus		Martes		Júpiter		Saturno	
Mar	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	144°58.9	218°21.1	-16°47.8	217°51.8	-23°10.3	162°36.6	-8°31.8	185°05.9	-16°30.8
1	160°01.3	233°22.1	-16°47.9	232°52.2	-23°10.1	177°38.5	-8°31.5	200°08.1	-16°30.7
2	175°03.8	248°23.2	-16°48.0	247°52.7	-23°09.9	192°40.4	-8°31.3	215°10.2	-16°30.6
3	190°06.2	263°24.2	-16°48.1	262°53.2	-23°09.7	207°42.3	-8°31.1	230°12.4	-16°30.6
4	205°08.7	278°25.2	-16°48.2	277°53.6	-23°09.5	222°44.2	-8°30.9	245°14.6	-16°30.5
5	220°11.2	293°26.2	-16°48.2	292°54.1	-23°09.3	237°46.1	-8°30.6	260°16.7	-16°30.4
6	235°13.6	308°27.2	-16°48.3	307°54.6	-23°09.1	252°48.0	-8°30.4	275°18.9	-16°30.3
7	250°16.1	323°28.3	-16°48.4	322°55.0	-23°09.0	267°49.9	-8°30.2	290°21.1	-16°30.2
8	265°18.6	338°29.3	-16°48.5	337°55.5	-23°08.8	282°51.8	-8°29.9	305°23.3	-16°30.1
9	280°21.0	353°30.3	-16°48.6	352°56.0	-23°08.6	297°53.7	-8°29.7	320°25.4	-16°30.0
10	295°23.5	8°31.3	-16°48.7	7°56.5	-23°08.4	312°55.6	-8°29.5	335°27.6	-16°29.9
11	310°26.0	23°32.3	-16°48.8	22°56.9	-23°08.2	327°57.6	-8°29.3	350°29.8	-16°29.9
12	325°28.4	38°33.3	-16°48.8	37°57.4	-23°08.0	342°59.5	-8°29.0	5°31.9	-16°29.8
13	340°30.9	53°34.3	-16°48.9	52°57.9	-23°07.8	358°01.4	-8°28.8	20°34.1	-16°29.7
14	355°33.4	68°35.3	-16°49.0	67°58.3	-23°07.6	13°03.3	-8°28.6	35°36.3	-16°29.6
15	10°35.8	83°36.3	-16°49.1	82°58.8	-23°07.4	28°05.2	-8°28.4	50°38.4	-16°29.5
16	25°38.3	98°37.3	-16°49.2	97°59.3	-23°07.2	43°07.1	-8°28.1	65°40.6	-16°29.4
17	40°40.7	113°38.3	-16°49.3	112°59.7	-23°07.1	58°09.0	-8°27.9	80°42.8	-16°29.3
18	55°43.2	128°39.3	-16°49.3	128°00.2	-23°06.9	73°10.9	-8°27.7	95°44.9	-16°29.3
19	70°45.7	143°40.2	-16°49.4	143°00.7	-23°06.7	88°12.8	-8°27.5	110°47.1	-16°29.2
20	85°48.1	158°41.2	-16°49.5	158°01.2	-23°06.5	103°14.7	-8°27.2	125°49.3	-16°29.1
21	100°50.6	173°42.2	-16°49.6	173°01.6	-23°06.3	118°16.6	-8°27.0	140°51.4	-16°29.0
22	115°53.1	188°43.2	-16°49.7	188°02.1	-23°06.1	133°18.5	-8°26.8	155°53.6	-16°28.9
23	130°55.5	203°44.1	-16°49.8	203°02.6	-23°05.9	148°20.4	-8°26.6	170°55.8	-16°28.8
Mer.pass.:14:17		v1.0 d-0.1 m-4.5		v0.5 d0.2 m1.3		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.7	

Mie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	145°58.0	218°45.1	-16°49.8	218°03.0	-23°05.7	163°22.3	-8°26.3	185°57.9	-16°28.7
1	161°00.5	233°46.1	-16°49.9	233°03.5	-23°05.5	178°24.2	-8°26.1	201°00.1	-16°28.6
2	176°02.9	248°47.1	-16°50.0	248°04.0	-23°05.3	193°26.1	-8°25.9	216°02.3	-16°28.6
3	191°05.4	263°48.0	-16°50.1	263°04.4	-23°05.1	208°28.0	-8°25.7	231°04.4	-16°28.5
4	206°07.9	278°49.0	-16°50.2	278°04.9	-23°04.9	223°30.0	-8°25.4	246°06.6	-16°28.4
5	221°10.3	293°49.9	-16°50.2	293°05.4	-23°04.7	238°31.9	-8°25.2	261°08.8	-16°28.3
6	236°12.8	308°50.9	-16°50.3	308°05.9	-23°04.5	253°33.8	-8°25.0	276°10.9	-16°28.2
7	251°15.2	323°51.8	-16°50.4	323°06.3	-23°04.3	268°35.7	-8°24.8	291°13.1	-16°28.1
8	266°17.7	338°52.8	-16°50.5	338°06.8	-23°04.1	283°37.6	-8°24.5	306°15.3	-16°28.0
9	281°20.2	353°53.7	-16°50.5	353°07.3	-23°03.9	298°39.5	-8°24.3	321°17.5	-16°27.9
10	296°22.6	8°54.7	-16°50.6	8°07.7	-23°03.7	313°41.4	-8°24.1	336°19.6	-16°27.9
11	311°25.1	23°55.6	-16°50.7	23°08.2	-23°03.5	328°43.3	-8°23.8	351°21.8	-16°27.8
12	326°27.6	38°56.6	-16°50.8	38°08.7	-23°03.3	343°45.2	-8°23.6	6°24.0	-16°27.7
13	341°30.0	53°57.5	-16°50.9	53°09.1	-23°03.1	358°47.1	-8°23.4	21°26.1	-16°27.6
14	356°32.5	68°58.4	-16°50.9	68°09.6	-23°02.9	13°49.0	-8°23.2	36°28.3	-16°27.5
15	11°35.0	83°59.4	-16°51.0	83°10.1	-23°02.7	28°50.9	-8°22.9	51°30.5	-16°27.4
16	26°37.4	99°00.3	-16°51.1	98°10.6	-23°02.5	43°52.8	-8°22.7	66°32.6	-16°27.3
17	41°39.9	114°01.2	-16°51.2	113°11.0	-23°02.3	58°54.7	-8°22.5	81°34.8	-16°27.2
18	56°42.3	129°02.2	-16°51.2	128°11.5	-23°02.1	73°56.6	-8°22.3	96°37.0	-16°27.2
19	71°44.8	144°03.1	-16°51.3	143°12.0	-23°01.9	88°58.5	-8°22.0	111°39.1	-16°27.1
20	86°47.3	159°04.0	-16°51.4	158°12.4	-23°01.7	104°00.4	-8°21.8	126°41.3	-16°27.0
21	101°49.7	174°04.9	-16°51.5	173°12.9	-23°01.5	119°02.4	-8°21.6	141°43.5	-16°26.9
22	116°52.2	189°05.8	-16°51.5	188°13.4	-23°01.3	134°04.3	-8°21.4	156°45.6	-16°26.8
23	131°54.7	204°06.7	-16°51.6	203°13.9	-23°01.1	149°06.2	-8°21.1	171°47.8	-16°26.7
Mer.pass.:14:13		v1.0 d-0.1 m-4.5		v0.5 d0.2 m1.3		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.7	

Jue	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	146°57.1	219°07.7	-16°51.7	218°14.3	-23°00.9	164°08.1	-8°20.9	186°50.0	-16°26.6
1	161°59.6	234°08.6	-16°51.7	233°14.8	-23°00.7	179°10.0	-8°20.7	201°52.2	-16°26.5
2	177°02.1	249°09.5	-16°51.8	248°15.3	-23°00.5	194°11.9	-8°20.4	216°54.3	-16°26.5
3	192°04.5	264°10.4	-16°51.9	263°15.7	-23°00.3	209°13.8	-8°20.2	231°56.5	-16°26.4
4	207°07.0	279°11.3	-16°52.0	278°16.2	-23°00.1	224°15.7	-8°20.0	246°58.7	-16°26.3
5	222°09.5	294°12.2	-16°52.0	293°16.7	-22°59.9	239°17.6	-8°19.8	262°00.8	-16°26.2
6	237°11.9	309°13.1	-16°52.1	308°17.2	-22°59.7	254°19.5	-8°19.5	277°03.0	-16°26.1
7	252°14.4	324°14.0	-16°52.2	323°17.6	-22°59.5	269°21.4	-8°19.3	292°05.2	-16°26.0
8	267°16.8	339°14.9	-16°52.2	338°18.1	-22°59.3	284°23.3	-8°19.1	307°07.3	-16°25.9
9	282°19.3	354°15.7	-16°52.3	353°18.6	-22°59.0	299°25.2	-8°18.9	322°09.5	-16°25.9
10	297°21.8	9°16.6	-16°52.4	8°19.0	-22°58.8	314°27.1	-8°18.6	337°11.7	-16°25.8
11	312°24.2	24°17.5	-16°52.4	23°19.5	-22°58.6	329°29.0	-8°18.4	352°13.8	-16°25.7
12	327°26.7	39°18.4	-16°52.5	38°20.0	-22°58.4	344°30.9	-8°18.2	7°16.0	-16°25.6
13	342°29.2	54°19.3	-16°52.6	53°20.4	-22°58.2	359°32.8	-8°18.0	22°18.2	-16°25.5
14	357°31.6	69°20.1	-16°52.7	68°20.9	-22°58.0	14°34.7	-8°17.7	37°20.4	-16°25.4
15	12°34.1	84°21.0	-16°52.7	83°21.4	-22°57.8	29°36.6	-8°17.5	52°22.5	-16°25.3
16	27°36.6	99°21.9	-16°52.8	98°21.9	-22°57.6	44°38.6	-8°17.3	67°24.7	-16°25.2
17	42°39.0	114°22.8	-16°52.9	113°22.3	-22°57.4	59°40.5	-8°17.0	82°26.9	-16°25.2
18	57°41.5	129°23.6	-16°52.9	128°22.8	-22°57.1	74°42.4	-8°16.8	97°29.0	-16°25.1
19	72°44.0	144°24.5	-16°53.0	143°23.3	-22°56.9	89°44.3	-8°16.6	112°31.2	-16°25.0
20	87°46.4	159°25.3	-16°53.1	158°23.8	-22°56.7	104°46.2	-8°16.4	127°33.4	-16°24.9
21	102°48.9	174°26.2	-16°53.1	173°24.2	-22°56.5	119°48.1	-8°16.1	142°35.5	-16°24.8
22	117°51.3	189°27.1	-16°53.2	188°24.7	-22°56.3	134°50.0	-8°15.9	157°37.7	-16°24.7
23	132°53.8	204°27.9	-16°53.2	203°25.2	-22°56.1	149°51.9	-8°15.7	172°39.9	-16°24.6
Mer.pass.:14:09		v0.9 d-0.1 m-4.5		v0.5 d0.2 m1.3		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.7	

Estrellas

	AHS	Dec
Alpheratz	357°37.5	29°12.7
Ankaa	353°09.8	-42°11.5
Schedar	349°34.1	56°39.6
Diphda	348°49.8	-17°52.2
Achernar	335°22.3	-57°07.8
Hamal	327°54.0	23°34.0
Polaris	315°13.4	89°21.7
Akamar	315°13.6	-40°13.3
Menkar	314°08.7	4°10.4
Mirfak	308°31.6	49°56.5
Aldebaran	290°42.3	16°33.2
Rigel	281°06.0	-8°10.7
Capella	280°25.2	46°01.4
Bellatrix	278°25.3	6°22.1
Elnath	278°04.7	28°37.6
Alnilam	275°40.0	-1°11.4
Betelgeuse	270°54.5	7°24.6
Canopus	263°53.1	-52°42.7
Sirius	258°28.0	-16°44.8
Adara	255°07.4	-29°00.3
Procyon	244°52.9	5°10.2
Pollux	243°19.8	27°58.4
Avior	234°15.1	-59°34.9
Suhail	222°47.6	-43°31.3
Miaplacidus	221°37.8	-69°48.5
Alphard	217°49.7	-8°45.3
Regulus	207°36.6	11°51.5
Dubhe	193°43.3	61°37.8
Denebola	182°27.0	14°26.8
Gienah	175°45.7	-17°39.8
Acrux	173°02.2	-63°13.1
Gacrux	171°53.8	-57°14.0
Alioth	166°14.8	55°50.2
Spica	158°24.6	-11°16.6
Alcaid	152°53.7	49°12.0
Hadar	148°39.1	-60°28.5
Menkent	148°00.3	-36°28.6
Arcturus	145°49.8	19°04.2
Rigil Kent.	139°43.4	-60°55.3
Zubenelg.	136°58.6	-16°08.0
Kochab	137°19.6	74°03.6
Alphecca	126°05.8	26°38.2
Antares	112°18.8	-26°28.8
Atria	107°15.4	-69°03.7
Sabik	102°05.6	-15°45.1
Shaula	96°13.8	-37°07.1
Rasalhague	96°00.9	12°32.5
Etamin	90°43.6	51°28.9
Kaus Aust.	83°35.9	-34°22.4
Vega	80°35.1	38°48.0
Nunki	75°51.0	-26°16.1
Altair	62°02.6	8°55.4
Peacock	53°10.0	-56°39.8
Deneb	49°27.8	45°21.4
Enif	33°41.5	9°58.4
Alnair	27°36.4	-46°51.4
Fomalhaut	15°17.5	-29°30.5
Scheat	13°47.9	28°12.0
Markab	13°32.6	15°19.3

Feb 15 Mar	AHS	Paso Merid
Venus	73°22.2	09:26
Mars	72°52.9	09:28
Jupiter	17°37.7	13:08
Saturn	40°07.1	11:38

Feb 16 Mie	AHS	Paso Merid
Venus	72°47.1	09:24
Mars	72°05.0	09:28
Jupiter	17°24.3	13:05
Saturn	39°59.9	11:34

Feb 17 Jue	AHS	Paso Merid
Venus	72°10.5	09:23
Mars	71°17.2	09:27
Jupiter	17°10.9	13:02
Saturn	39°52.9	11:31

Paralelaje Horizontal	
Venus:	0.3
Mars:	0.1

h	Sol		Luna				
Mar	AHG	Dec	AHG	v	Dec	d	HP
0	176°28.4	-12°45.6	14°47.7	10.8	23°09.7	-7.0	55.1
1	191°28.4	-12°44.7	29°17.5	10.8	23°02.7	-7.1	55.2
2	206°28.4	-12°43.9	43°47.3	10.8	22°55.5	-7.3	55.2
3	221°28.4	-12°43.0	58°17.2	10.9	22°48.1	-7.4	55.2
4	236°28.5	-12°42.2	72°47.1	10.9	22°40.7	-7.5	55.2
5	251°28.5	-12°41.3	87°17.0	10.9	22°33.2	-7.6	55.2
6	266°28.5	-12°40.5	101°47.0	11.0	22°25.5	-7.7	55.2
7	281°28.6	-12°39.6	116°17.0	11.0	22°17.7	-7.8	55.3
8	296°28.6	-12°38.7	130°47.0	11.1	22°09.8	-7.9	55.3
9	311°28.6	-12°37.9	145°17.1	11.1	22°01.8	-8.1	55.3
10	326°28.7	-12°37.0	159°47.2	11.1	21°53.7	-8.2	55.3
11	341°28.7	-12°36.2	174°17.3	11.2	21°45.5	-8.3	55.3
12	356°28.7	-12°35.3	188°47.5	11.2	21°37.2	-8.4	55.4
13	11°28.7	-12°34.4	203°17.7	11.2	21°28.7	-8.5	55.4
14	26°28.8	-12°33.6	217°48.0	11.3	21°20.2	-8.6	55.4
15	41°28.8	-12°32.7	232°18.3	11.3	21°11.5	-8.7	55.4
16	56°28.8	-12°31.8	246°48.6	11.4	21°02.7	-8.8	55.4
17	71°28.9	-12°31.0	261°19.0	11.4	20°53.8	-8.9	55.5
18	86°28.9	-12°30.1	275°49.4	11.4	20°44.8	-9.0	55.5
19	101°29.0	-12°29.3	290°19.9	11.5	20°35.7	-9.1	55.5
20	116°29.0	-12°28.4	304°50.4	11.5	20°26.5	-9.3	55.5
21	131°29.0	-12°27.5	319°20.9	11.6	20°17.2	-9.4	55.5
22	146°29.1	-12°26.7	333°51.5	11.6	20°07.8	-9.5	55.6
23	161°29.1	-12°25.8	348°22.1	11.6	19°58.3	-9.6	55.6
	SD.=16.2	d=0.9			S.D.=15.0		

Mie	AHG	Dec	AHG	v	Dec	d	HP
0	176°29.1	-12°24.9	2°52.8	11.7	19°48.7	-9.7	55.6
1	191°29.2	-12°24.1	17°23.5	11.7	19°39.0	-9.8	55.6
2	206°29.2	-12°23.2	31°54.2	11.8	19°29.2	-9.9	55.6
3	221°29.2	-12°22.3	46°25.0	11.8	19°19.3	-10.0	55.7
4	236°29.3	-12°21.5	60°55.8	11.8	19°09.2	-10.1	55.7
5	251°29.3	-12°20.6	75°26.7	11.9	18°59.1	-10.2	55.7
6	266°29.4	-12°19.7	89°57.6	11.9	18°48.9	-10.3	55.7
7	281°29.4	-12°18.9	104°28.5	12.0	18°38.6	-10.4	55.7
8	296°29.4	-12°18.0	118°59.5	12.0	18°28.2	-10.5	55.8
9	311°29.5	-12°17.1	133°30.5	12.0	18°17.7	-10.5	55.8
10	326°29.5	-12°16.3	148°01.6	12.1	18°07.1	-10.6	55.8
11	341°29.5	-12°15.4	162°32.7	12.1	17°56.4	-10.7	55.8
12	356°29.6	-12°14.5	177°03.9	12.2	17°45.7	-10.8	55.8
13	11°29.6	-12°13.7	191°35.1	12.2	17°34.8	-10.9	55.9
14	26°29.7	-12°12.8	206°06.3	12.2	17°23.8	-11.0	55.9
15	41°29.7	-12°11.9	220°37.5	12.3	17°12.8	-11.1	55.9
16	56°29.7	-12°11.1	235°08.9	12.3	17°01.6	-11.2	55.9
17	71°29.8	-12°10.2	249°40.2	12.4	16°50.4	-11.3	56.0
18	86°29.8	-12°09.3	264°11.6	12.4	16°39.1	-11.4	56.0
19	101°29.9	-12°08.4	278°43.0	12.4	16°27.7	-11.4	56.0
20	116°29.9	-12°07.6	293°14.5	12.5	16°16.2	-11.5	56.0
21	131°30.0	-12°06.7	307°46.0	12.5	16°04.7	-11.6	56.0
22	146°30.0	-12°05.8	322°17.5	12.6	15°53.0	-11.7	56.1
23	161°30.0	-12°05.0	336°49.1	12.6	15°41.3	-11.8	56.1
	SD.=16.2	d=0.9			S.D.=15.2		

Jue	AHG	Dec	AHG	v	Dec	d	HP
0	176°30.1	-12°04.1	351°20.7	12.6	15°29.5	-11.9	56.1
1	191°30.1	-12°03.2	5°52.3	12.7	15°17.6	-11.9	56.1
2	206°30.2	-12°02.3	20°24.0	12.7	15°05.6	-12.0	56.1
3	221°30.2	-12°01.5	34°55.7	12.7	14°53.6	-12.1	56.2
4	236°30.3	-12°00.6	49°27.5	12.8	14°41.4	-12.2	56.2
5	251°30.3	-11°59.7	63°59.3	12.8	14°29.2	-12.2	56.2
6	266°30.4	-11°58.8	78°31.1	12.8	14°16.9	-12.3	56.2
7	281°30.4	-11°58.0	93°02.9	12.9	14°04.6	-12.4	56.2
8	296°30.4	-11°57.1	107°34.8	12.9	13°52.2	-12.5	56.3
9	311°30.5	-11°56.2	122°06.7	12.9	13°39.7	-12.5	56.3
10	326°30.5	-11°55.3	136°38.7	13.0	13°27.1	-12.6	56.3
11	341°30.6	-11°54.5	151°10.7	13.0	13°14.4	-12.7	56.3
12	356°30.6	-11°53.6	165°42.7	13.0	13°01.7	-12.7	56.4
13	11°30.7	-11°52.7	180°14.7	13.1	12°48.9	-12.8	56.4
14	26°30.7	-11°51.8	194°46.8	13.1	12°36.1	-12.9	56.4
15	41°30.8	-11°51.0	209°18.9	13.1	12°23.2	-13.0	56.4
16	56°30.8	-11°50.1	223°51.0	13.1	12°10.2	-13.0	56.4
17	71°30.9	-11°49.2	238°23.2	13.2	11°57.1	-13.1	56.5
18	86°30.9	-11°48.3	252°55.4	13.2	11°44.0	-13.1	56.5
19	101°31.0	-11°47.4	267°27.6	13.2	11°30.9	-13.2	56.5
20	116°31.0	-11°46.6	281°59.9	13.3	11°17.6	-13.3	56.5
21	131°31.1	-11°45.7	296°32.1	13.3	11°04.3	-13.3	56.5
22	146°31.1	-11°44.8	311°04.4	13.3	10°51.0	-13.4	56.6
23	161°31.2	-11°43.9	325°36.7	13.3	10°37.5	-13.4	56.6
	SD.=16.2	d=0.9			S.D.=15.3		

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	06:10	07:30	08:48	15:42	17:00	18:20
70	06:09	07:21	08:29	16:01	17:09	18:21
68	06:08	07:13	08:14	16:15	17:17	18:22
66	06:07	07:07	08:02	16:28	17:23	18:23
64	06:05	07:01	07:52	16:38	17:28	18:24
62	06:04	06:56	07:43	16:46	17:33	18:25
60	06:03	06:52	07:36	16:54	17:37	18:26
58	06:02	06:48	07:29	17:00	17:41	18:27
56	06:01	06:44	07:23	17:06	17:45	18:28
54	06:00	06:41	07:18	17:11	17:48	18:29
52	05:59	06:38	07:13	17:16	17:51	18:30
50	05:58	06:36	07:09	17:20	17:53	18:31
45	05:55	06:29	07:00	17:29	17:59	18:34
40	05:52	06:24	06:52	17:37	18:05	18:36
35	05:50	06:19	06:45	17:44	18:09	18:39
30	05:47	06:15	06:39	17:49	18:14	18:42
20	05:40	06:06	06:29	18:00	18:22	18:48
10	05:33	05:58	06:19	18:09	18:30	18:55
0	05:25	05:49	06:11	18:17	18:39	19:03
S 10	05:15	05:40	06:02	18:26	18:48	19:13
20	05:03	05:29	05:52	18:36	18:58	19:25
30	04:47	05:16	05:41	18:47	19:11	19:41
35	04:36	05:08	05:35	18:53	19:19	19:51
40	04:24	04:59	05:27	19:00	19:29	20:03
45	04:09	04:47	05:19	19:09	19:40	20:18
50	03:49	04:33	05:08	19:19	19:54	20:38
52	03:39	04:26	05:03	19:24	20:01	20:47
54	03:28	04:18	04:58	19:29	20:08	20:58
56	03:15	04:10	04:52	19:35	20:17	21:11
58	02:59	04:00	04:45	19:41	20:26	21:26
60	02:39	03:48	04:37	19:49	20:37	21:45

	Orto luna			Ocaso luna		
Lat.	Mar	Mie	Jue	Mar	Mie	Jue
N 72	–:–	13:14	16:22	–:–	11:31	10:01
70	–:–	14:23	16:45	–:–	10:20	09:36
68	12:18	14:59	17:02	10:42	09:43	09:18
66	13:23	15:24	17:15	09:37	09:16	09:03
64	13:57	15:44	17:26	09:01	08:55	08:50
62	14:23	16:00	17:36	08:36	08:39	08:39
60	14:42	16:13	17:44	08:15	08:24	08:30
58	14:58	16:24	17:51	07:59	08:12	08:22
56	15:12	16:34	17:57	07:44	08:02	08:15
54	15:24	16:43	18:03	07:32	07:53	08:08
52	15:34	16:50	18:08	07:21	07:44	08:03
50	15:44	16:57	18:12	07:11	07:37	07:57
45	16:03	17:12	18:22	06:51	07:21	07:46
40	16:19	17:24	18:30	06:34	07:07	07:36
35	16:32	17:34	18:37	06:20	06:56	07:28
30	16:44	17:43	18:43	06:08	06:46	07:21
20	17:03	17:59	18:53	05:47	06:29	07:08
10	17:20	18:12	19:02	05:28	06:14	06:57
0	17:36	18:24	19:11	05:11	06:00	06:47
S 10	17:52	18:37	19:19	04:53	05:45	06:36
20	18:09	18:50	19:28	04:35	05:30	06:25
30	18:29	19:05	19:39	04:13	05:12	06:12
35	18:40	19:14	19:44	04:00	05:02	06:04
40	18:53	19:24	19:51	03:46	04:50	05:56
45	19:08	19:35	19:59	03:28	04:36	05:46
50	19:26	19:49	20:08	03:06	04:19	05:33
52	19:35	19:56	20:12	02:56	04:10	05:27
54	19:45	20:03	20:17	02:44	04:01	05:21
56	19:56	20:11	20:22	02:30	03:51	05:14
58	20:08	20:20	20:28	02:14	03:39	05:06
60	20:23	20:30	20:34	01:55	03:25	04:56

Día	Sol			Luna		
	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
15	14:07	14:05	12:14	23:48	11:23	14(98%)
16	14:03	14:02	12:14	00:35	12:12	15(100%)
17	14:00	13:57	12:13	00:35	12:58	16(99%)

Febrero 18, 19, 20 (Vie, Sa, Dom)

	Aries	Venus		Martes		Júpiter		Saturno	
Vie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	147°56.3	219°28.8	-16°53.3	218°25.6	-22°55.9	164°53.8	-8°15.5	187°42.0	-16°24.5
1	162°58.7	234°29.6	-16°53.4	233°26.1	-22°55.7	179°55.7	-8°15.2	202°44.2	-16°24.5
2	178°01.2	249°30.5	-16°53.4	248°26.6	-22°55.4	194°57.6	-8°15.0	217°46.4	-16°24.4
3	193°03.7	264°31.3	-16°53.5	263°27.1	-22°55.2	209°59.5	-8°14.8	232°48.6	-16°24.3
4	208°06.1	279°32.2	-16°53.6	278°27.5	-22°55.0	225°01.4	-8°14.5	247°50.7	-16°24.2
5	223°08.6	294°33.0	-16°53.6	293°28.0	-22°54.8	240°03.3	-8°14.3	262°52.9	-16°24.1
6	238°11.1	309°33.8	-16°53.7	308°28.5	-22°54.6	255°05.2	-8°14.1	277°55.1	-16°24.0
7	253°13.5	324°34.7	-16°53.7	323°28.9	-22°54.4	270°07.1	-8°13.9	292°57.2	-16°23.9
8	268°16.0	339°35.5	-16°53.8	338°29.4	-22°54.1	285°09.0	-8°13.6	307°59.4	-16°23.8
9	283°18.4	354°36.3	-16°53.9	353°29.9	-22°53.9	300°10.9	-8°13.4	323°01.6	-16°23.8
10	298°20.9	9°37.2	-16°53.9	8°30.4	-22°53.7	315°12.8	-8°13.2	338°03.7	-16°23.7
11	313°23.4	24°38.0	-16°54.0	23°30.8	-22°53.5	330°14.7	-8°13.0	353°05.9	-16°23.6
12	328°25.8	39°38.8	-16°54.0	38°31.3	-22°53.3	345°16.6	-8°12.7	8°08.1	-16°23.5
13	343°28.3	54°39.6	-16°54.1	53°31.8	-22°53.0	0°18.6	-8°12.5	23°10.3	-16°23.4
14	358°30.8	69°40.4	-16°54.2	68°32.2	-22°52.8	15°20.5	-8°12.3	38°12.4	-16°23.3
15	13°33.2	84°41.3	-16°54.2	83°32.7	-22°52.6	30°22.4	-8°12.0	53°14.6	-16°23.2
16	28°35.7	99°42.1	-16°54.3	98°33.2	-22°52.4	45°24.3	-8°11.8	68°16.8	-16°23.2
17	43°38.2	114°42.9	-16°54.3	113°33.7	-22°52.2	60°26.2	-8°11.6	83°18.9	-16°23.1
18	58°40.6	129°43.7	-16°54.4	128°34.1	-22°51.9	75°28.1	-8°11.4	98°21.1	-16°23.0
19	73°43.1	144°44.5	-16°54.5	143°34.6	-22°51.7	90°30.0	-8°11.1	113°23.3	-16°22.9
20	88°45.6	159°45.3	-16°54.5	158°35.1	-22°51.5	105°31.9	-8°10.9	128°25.4	-16°22.8
21	103°48.0	174°46.1	-16°54.6	173°35.6	-22°51.3	120°33.8	-8°10.7	143°27.6	-16°22.7
22	118°50.5	189°46.9	-16°54.6	188°36.0	-22°51.0	135°35.7	-8°10.5	158°29.8	-16°22.6
23	133°52.9	204°47.7	-16°54.7	203°36.5	-22°50.8	150°37.6	-8°10.2	173°32.0	-16°22.5
Mer.pass.:14:05		v0.8 d-0.1 m-4.5		v0.5 d0.2 m1.3		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.8	

Sa	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	148°55.4	219°48.5	-16°54.7	218°37.0	-22°50.6	165°39.5	-8°10.0	188°34.1	-16°22.5
1	163°57.9	234°49.3	-16°54.8	233°37.5	-22°50.4	180°41.4	-8°09.8	203°36.3	-16°22.4
2	179°00.3	249°50.1	-16°54.8	248°37.9	-22°50.2	195°43.3	-8°09.5	218°38.5	-16°22.3
3	194°02.8	264°50.9	-16°54.9	263°38.4	-22°49.9	210°45.2	-8°09.3	233°40.6	-16°22.2
4	209°05.3	279°51.7	-16°54.9	278°38.9	-22°49.7	225°47.1	-8°09.1	248°42.8	-16°22.1
5	224°07.7	294°52.4	-16°55.0	293°39.3	-22°49.5	240°49.0	-8°08.9	263°45.0	-16°22.0
6	239°10.2	309°53.2	-16°55.0	308°39.8	-22°49.2	255°50.9	-8°08.6	278°47.1	-16°21.9
7	254°12.7	324°54.0	-16°55.1	323°40.3	-22°49.0	270°52.8	-8°08.4	293°49.3	-16°21.8
8	269°15.1	339°54.8	-16°55.1	338°40.8	-22°48.8	285°54.7	-8°08.2	308°51.5	-16°21.8
9	284°17.6	354°55.6	-16°55.2	353°41.2	-22°48.6	300°56.6	-8°08.0	323°53.7	-16°21.7
10	299°20.0	9°56.3	-16°55.2	8°41.7	-22°48.3	315°58.5	-8°07.7	338°55.8	-16°21.6
11	314°22.5	24°57.1	-16°55.3	23°42.2	-22°48.1	331°00.4	-8°07.5	353°58.0	-16°21.5
12	329°25.0	39°57.9	-16°55.3	38°42.7	-22°47.9	346°02.3	-8°07.3	9°00.2	-16°21.4
13	344°27.4	54°58.6	-16°55.4	53°43.1	-22°47.6	1°04.3	-8°07.0	24°02.3	-16°21.3
14	359°29.9	69°59.4	-16°55.4	68°43.6	-22°47.4	16°06.2	-8°06.8	39°04.5	-16°21.2
15	14°32.4	85°00.2	-16°55.5	83°44.1	-22°47.2	31°08.1	-8°06.6	54°06.7	-16°21.2
16	29°34.8	100°00.9	-16°55.5	98°44.6	-22°47.0	46°10.0	-8°06.4	69°08.8	-16°21.1
17	44°37.3	115°01.7	-16°55.6	113°45.0	-22°46.7	61°11.9	-8°06.1	84°11.0	-16°21.0
18	59°39.8	130°02.4	-16°55.6	128°45.5	-22°46.5	76°13.8	-8°05.9	99°13.2	-16°20.9
19	74°42.2	145°03.2	-16°55.7	143°46.0	-22°46.3	91°15.7	-8°05.7	114°15.4	-16°20.8
20	89°44.7	160°03.9	-16°55.7	158°46.4	-22°46.0	106°17.6	-8°05.4	129°17.5	-16°20.7
21	104°47.2	175°04.7	-16°55.8	173°46.9	-22°45.8	121°19.5	-8°05.2	144°19.7	-16°20.6
22	119°49.6	190°05.4	-16°55.8	188°47.4	-22°45.6	136°21.4	-8°05.0	159°21.9	-16°20.5
23	134°52.1	205°06.2	-16°55.9	203°47.9	-22°45.3	151°23.3	-8°04.8	174°24.0	-16°20.5
Mer.pass.:14:02		v0.8 d-0.1 m-4.4		v0.5 d0.2 m1.3		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.8	

Dom	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	149°54.5	220°06.9	-16°55.9	218°48.3	-22°45.1	166°25.2	-8°04.5	189°26.2	-16°20.4
1	164°57.0	235°07.7	-16°55.9	233°48.8	-22°44.9	181°27.1	-8°04.3	204°28.4	-16°20.3
2	179°59.5	250°08.4	-16°56.0	248°49.3	-22°44.6	196°29.0	-8°04.1	219°30.6	-16°20.2
3	195°01.9	265°09.1	-16°56.0	263°49.8	-22°44.4	211°30.9	-8°03.8	234°32.7	-16°20.1
4	210°04.4	280°09.9	-16°56.1	278°50.2	-22°44.2	226°32.8	-8°03.6	249°34.9	-16°20.0
5	225°06.9	295°10.6	-16°56.1	293°50.7	-22°43.9	241°34.7	-8°03.4	264°37.1	-16°19.9
6	240°09.3	310°11.3	-16°56.2	308°51.2	-22°43.7	256°36.6	-8°03.2	279°39.2	-16°19.8
7	255°11.8	325°12.1	-16°56.2	323°51.7	-22°43.4	271°38.5	-8°02.9	294°41.4	-16°19.8
8	270°14.3	340°12.8	-16°56.2	338°52.1	-22°43.2	286°40.4	-8°02.7	309°43.6	-16°19.7
9	285°16.7	355°13.5	-16°56.3	353°52.6	-22°43.0	301°42.3	-8°02.5	324°45.8	-16°19.6
10	300°19.2	10°14.2	-16°56.3	8°53.1	-22°42.7	316°44.2	-8°02.2	339°47.9	-16°19.5
11	315°21.6	25°14.9	-16°56.4	23°53.6	-22°42.5	331°46.1	-8°02.0	354°50.1	-16°19.4
12	330°24.1	40°15.7	-16°56.4	38°54.0	-22°42.3	346°48.0	-8°01.8	9°52.3	-16°19.3
13	345°26.6	55°16.4	-16°56.4	53°54.5	-22°42.0	1°49.9	-8°01.6	24°54.4	-16°19.2
14	0°29.0	70°17.1	-16°56.5	68°55.0	-22°41.8	16°51.8	-8°01.3	39°56.6	-16°19.2
15	15°31.5	85°17.8	-16°56.5	83°55.5	-22°41.5	31°53.7	-8°01.1	54°58.8	-16°19.1
16	30°34.0	100°18.5	-16°56.5	98°55.9	-22°41.3	46°55.7	-8°00.9	70°01.0	-16°19.0
17	45°36.4	115°19.2	-16°56.6	113°56.4	-22°41.1	61°57.6	-8°00.7	85°03.1	-16°18.9
18	60°38.9	130°19.9	-16°56.6	128°56.9	-22°40.8	76°59.5	-8°00.4	100°05.3	-16°18.8
19	75°41.4	145°20.6	-16°56.7	143°57.4	-22°40.6	92°01.4	-8°00.2	115°07.5	-16°18.7
20	90°43.8	160°21.3	-16°56.7	158°57.8	-22°40.3	107°03.3	-8°00.0	130°09.6	-16°18.6
21	105°46.3	175°22.0	-16°56.7	173°58.3	-22°40.1	122°05.2	-7°59.7	145°11.8	-16°18.5
22	120°48.8	190°22.7	-16°56.8	188°58.8	-22°39.8	137°07.1	-7°59.5	160°14.0	-16°18.5
23	135°51.2	205°23.4	-16°56.8	203°59.3	-22°39.6	152°09.0	-7°59.3	175°16.2	-16°18.4
Mer.pass.:13:58		v0.7 d-0.0 m-4.4		v0.5 d0.2 m1.3		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.8	

Estrellas

	AHS	Dec
Alpheratz	357°37.5	29°12.7
Ankaa	353°09.8	-42°11.4
Schedar	349°34.1	56°39.6
Diphda	348°49.8	-17°52.2
Achernar	335°22.3	-57°07.8
Hamal	327°54.0	23°34.0
Polaris	315°15.0	89°21.7
Akamar	315°13.7	-40°13.3
Menkar	314°08.7	4°10.4
Mirfak	308°31.7	49°56.5
Aldebaran	290°42.3	16°33.2
Rigel	281°06.0	-8°10.7
Capella	280°25.2	46°01.4
Bellatrix	278°25.3	6°22.1
Elnath	278°04.7	28°37.6
Alnilam	275°40.0	-1°11.4
Betelgeuse	270°54.5	7°24.6
Canopus	263°53.1	-52°42.7
Sirius	258°28.0	-16°44.8
Adara	255°07.4	-29°00.3
Procyon	244°52.9	5°10.2
Pollux	243°19.8	27°58.4
Avior	234°15.1	-59°34.9
Suhail	222°47.6	-43°31.4
Miaplacidus	221°37.8	-69°48.5
Alphard	217°49.7	-8°45.3
Regulus	207°36.6	11°51.5
Dubhe	193°43.3	61°37.8
Denebola	182°27.0	14°26.8
Gienah	175°45.7	-17°39.9
Acrux	173°02.2	-63°13.1
Gacrux	171°53.8	-57°14.0
Alioth	166°14.7	55°50.2
Spica	158°24.6	-11°16.6
Alcaid	152°53.6	49°12.0
Hadar	148°39.1	-60°28.5
Menkent	148°00.2	-36°28.6
Arcturus	145°49.8	19°04.2
Rigil Kent.	139°43.3	-60°55.3
Zubenelg.	136°58.6	-16°08.0
Kochab	137°19.5	74°03.6
Alphecca	126°05.8	26°38.2
Antares	112°18.8	-26°28.8
Atria	107°15.3	-69°03.7
Sabik	102°05.6	-15°45.1
Shaula	96°13.8	-37°07.1
Rasalhague	96°00.9	12°32.5
Etamin	90°43.5	51°28.8
Kaus Aust.	83°35.9	-34°22.4
Vega	80°35.1	38°47.9
Nunki	75°51.0	-26°16.1
Altair	62°02.6	8°55.4
Peacock	53°10.0	-56°39.8
Deneb	49°27.8	45°21.3
Enif	33°41.4	9°58.4
Alnair	27°36.4	-46°51.4
Fomalhaut	15°17.5	-29°30.5
Scheat	13°47.9	28°12.0
Markab	13°32.6	15°19.3

Feb 18 Vie	AHS	Paso Merid
Venus	71°32.5	09:22
Mars	70°29.4	09:26
Jupiter	16°57.5	12:59
Saturn	39°45.8	11:28

Feb 19 Sa	AHS	Paso Merid
Venus	70°53.1	09:20
Mars	69°41.6	09:25
Jupiter	16°44.1	12:56
Saturn	39°38.7	11:24

Feb 20 Dom	AHS	Paso Merid
Venus	70°12.4	09:19
Mars	68°53.8	09:24
Jupiter	16°30.7	12:53
Saturn	39°31.7	11:21

Paralelaje Horizontal	
Venus:	0.3
Mars:	0.1

h	Sol		Luna				
Vie	AHG	Dec	AHG	v	Dec	d	HP
0	176°31.2	-11°43.0	340°09.1	13.4	10°24.1	-13.5	56.6
1	191°31.3	-11°42.2	354°41.4	13.4	10°10.5	-13.6	56.6
2	206°31.3	-11°41.3	9°13.8	13.4	9°57.0	-13.6	56.6
3	221°31.4	-11°40.4	23°46.2	13.4	9°43.3	-13.7	56.7
4	236°31.4	-11°39.5	38°18.7	13.4	9°29.6	-13.7	56.7
5	251°31.5	-11°38.6	52°51.1	13.5	9°15.9	-13.8	56.7
6	266°31.5	-11°37.8	67°23.6	13.5	9°02.1	-13.8	56.7
7	281°31.6	-11°36.9	81°56.1	13.5	8°48.2	-13.9	56.7
8	296°31.6	-11°36.0	96°28.6	13.5	8°34.3	-13.9	56.8
9	311°31.7	-11°35.1	111°01.1	13.5	8°20.4	-14.0	56.8
10	326°31.7	-11°34.2	125°33.6	13.5	8°06.4	-14.0	56.8
11	341°31.8	-11°33.3	140°06.2	13.6	7°52.4	-14.1	56.8
12	356°31.8	-11°32.4	154°38.7	13.6	7°38.3	-14.1	56.9
13	11°31.9	-11°31.6	169°11.3	13.6	7°24.2	-14.1	56.9
14	26°32.0	-11°30.7	183°43.9	13.6	7°10.0	-14.2	56.9
15	41°32.0	-11°29.8	198°16.5	13.6	6°55.8	-14.2	56.9
16	56°32.1	-11°28.9	212°49.1	13.6	6°41.5	-14.3	56.9
17	71°32.1	-11°28.0	227°21.7	13.6	6°27.2	-14.3	57.0
18	86°32.2	-11°27.1	241°54.3	13.6	6°12.9	-14.4	57.0
19	101°32.2	-11°26.2	256°27.0	13.6	5°58.5	-14.4	57.0
20	116°32.3	-11°25.4	270°59.6	13.6	5°44.1	-14.4	57.0
21	131°32.3	-11°24.5	285°32.3	13.7	5°29.7	-14.5	57.0
22	146°32.4	-11°23.6	300°04.9	13.7	5°15.2	-14.5	57.1
23	161°32.5	-11°22.7	314°37.6	13.7	5°00.7	-14.5	57.1
	SD.=16.2	d=0.9	S.D.=15.4				

Sa	AHG	Dec	AHG	v	Dec	d	HP
0	176°32.5	-11°21.8	329°10.2	13.7	4°46.1	-14.6	57.1
1	191°32.6	-11°20.9	343°42.9	13.7	4°31.6	-14.6	57.1
2	206°32.6	-11°20.0	358°15.6	13.7	4°17.0	-14.6	57.1
3	221°32.7	-11°19.1	12°48.2	13.7	4°02.3	-14.6	57.2
4	236°32.8	-11°18.3	27°20.9	13.7	3°47.7	-14.7	57.2
5	251°32.8	-11°17.4	41°53.6	13.7	3°33.0	-14.7	57.2
6	266°32.9	-11°16.5	56°26.2	13.7	3°18.3	-14.7	57.2
7	281°32.9	-11°15.6	70°58.9	13.7	3°03.6	-14.7	57.2
8	296°33.0	-11°14.7	85°31.5	13.6	2°48.8	-14.8	57.3
9	311°33.0	-11°13.8	100°04.2	13.6	2°34.0	-14.8	57.3
10	326°33.1	-11°12.9	114°36.8	13.6	2°19.2	-14.8	57.3
11	341°33.2	-11°12.0	129°09.5	13.6	2°04.4	-14.8	57.3
12	356°33.2	-11°11.1	143°42.1	13.6	1°49.6	-14.8	57.3
13	11°33.3	-11°10.2	158°14.7	13.6	1°34.7	-14.9	57.4
14	26°33.4	-11°09.3	172°47.3	13.6	1°19.8	-14.9	57.4
15	41°33.4	-11°08.5	187°19.9	13.6	1°04.9	-14.9	57.4
16	56°33.5	-11°07.6	201°52.5	13.6	0°50.0	-14.9	57.4
17	71°33.5	-11°06.7	216°25.0	13.6	0°35.1	-14.9	57.4
18	86°33.6	-11°05.8	230°57.6	13.5	0°20.2	-14.9	57.4
19	101°33.7	-11°04.9	245°30.1	13.5	0°05.2	-14.9	57.5
20	116°33.7	-11°04.0	260°02.6	13.5	-0°09.7	-15.0	57.5
21	131°33.8	-11°03.1	274°35.1	13.5	-0°24.7	-15.0	57.5
22	146°33.9	-11°02.2	289°07.6	13.5	-0°39.6	-15.0	57.5
23	161°33.9	-11°01.3	303°40.1	13.4	-0°54.6	-15.0	57.5
	SD.=16.2	d=0.9	S.D.=15.6				

Dom	AHG	Dec	AHG	v	Dec	d	HP
0	176°34.0	-11°00.4	318°12.5	13.4	-1°09.6	-15.0	57.6
1	191°34.1	-10°59.5	332°44.9	13.4	-1°24.6	-15.0	57.6
2	206°34.1	-10°58.6	347°17.3	13.4	-1°39.5	-15.0	57.6
3	221°34.2	-10°57.7	1°49.7	13.4	-1°54.5	-15.0	57.6
4	236°34.2	-10°56.8	16°22.0	13.3	-2°09.5	-15.0	57.6
5	251°34.3	-10°55.9	30°54.3	13.3	-2°24.5	-15.0	57.7
6	266°34.4	-10°55.0	45°26.6	13.3	-2°39.5	-15.0	57.7
7	281°34.4	-10°54.1	59°58.9	13.2	-2°54.4	-15.0	57.7
8	296°34.5	-10°53.2	74°31.1	13.2	-3°09.4	-15.0	57.7
9	311°34.6	-10°52.3	89°03.3	13.2	-3°24.4	-15.0	57.7
10	326°34.6	-10°51.4	103°35.5	13.1	-3°39.3	-15.0	57.8
11	341°34.7	-10°50.5	118°07.6	13.1	-3°54.3	-14.9	57.8
12	356°34.8	-10°49.6	132°39.7	13.1	-4°09.2	-14.9	57.8
13	11°34.8	-10°48.7	147°11.7	13.0	-4°24.2	-14.9	57.8
14	26°34.9	-10°47.8	161°43.8	13.0	-4°39.1	-14.9	57.8
15	41°35.0	-10°46.9	176°15.7	13.0	-4°54.0	-14.9	57.8
16	56°35.1	-10°46.0	190°47.7	12.9	-5°08.9	-14.9	57.9
17	71°35.1	-10°45.1	205°19.6	12.9	-5°23.8	-14.9	57.9
18	86°35.2	-10°44.2	219°51.4	12.8	-5°38.6	-14.8	57.9
19	101°35.3	-10°43.3	234°23.3	12.8	-5°53.5	-14.8	57.9
20	116°35.3	-10°42.4	248°55.0	12.8	-6°08.3	-14.8	57.9
21	131°35.4	-10°41.5	263°26.8	12.7	-6°23.1	-14.8	58.0
22	146°35.5	-10°40.6	277°58.5	12.7	-6°37.8	-14.8	58.0
23	161°35.5	-10°39.7	292°30.1	12.6	-6°52.6	-14.7	58.0
	SD.=16.2	d=0.9	S.D.=15.7				

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	05:57	07:16	08:31	15:58	17:14	18:33
70	05:57	07:08	08:15	16:15	17:21	18:32
68	05:57	07:02	08:01	16:28	17:27	18:32
66	05:57	06:57	07:51	16:38	17:33	18:32
64	05:57	06:52	07:42	16:47	17:37	18:32
62	05:56	06:48	07:34	16:55	17:41	18:33
60	05:56	06:44	07:27	17:01	17:45	18:33
58	05:55	06:41	07:21	17:07	17:48	18:34
56	05:55	06:38	07:16	17:12	17:51	18:34
54	05:54	06:35	07:11	17:17	17:53	18:35
52	05:53	06:33	07:07	17:21	17:56	18:35
50	05:53	06:30	07:03	17:25	17:58	18:36
45	05:51	06:25	06:55	17:33	18:03	18:38
40	05:49	06:20	06:48	17:40	18:08	18:40
35	05:46	06:16	06:42	17:46	18:12	18:42
30	05:44	06:12	06:36	17:52	18:16	18:44
20	05:39	06:04	06:27	18:01	18:23	18:49
10	05:32	05:57	06:18	18:09	18:31	18:55
0	05:25	05:49	06:10	18:17	18:38	19:03
S 10	05:16	05:41	06:02	18:25	18:47	19:12
20	05:04	05:31	05:54	18:34	18:56	19:23
30	04:49	05:19	05:43	18:44	19:08	19:38
35	04:40	05:11	05:37	18:49	19:16	19:47
40	04:28	05:02	05:31	18:56	19:24	19:58
45	04:14	04:52	05:23	19:04	19:35	20:12
50	03:55	04:39	05:13	19:13	19:48	20:31
52	03:46	04:32	05:09	19:18	19:54	20:40
54	03:36	04:25	05:04	19:22	20:01	20:50
56	03:24	04:17	04:59	19:28	20:09	21:01
58	03:09	04:08	04:52	19:34	20:17	21:15
60	02:52	03:58	04:46	19:40	20:28	21:32

	Orto luna			Ocaso luna		
Lat.	Vie	Sa	Dom	Vie	Sa	Dom
N 72	18:39	20:47	22:59	09:21	08:50	08:21
70	18:48	20:47	22:48	09:09	08:47	08:25
68	18:55	20:46	22:39	09:00	08:44	08:29
66	19:01	20:46	22:32	08:52	08:42	08:32
64	19:06	20:45	22:26	08:45	08:40	08:35
62	19:10	20:45	22:21	08:39	08:38	08:37
60	19:14	20:45	22:17	08:34	08:36	08:39
58	19:18	20:44	22:13	08:29	08:35	08:41
56	19:21	20:44	22:09	08:25	08:34	08:42
54	19:23	20:44	22:06	08:21	08:33	08:44
52	19:26	20:44	22:03	08:18	08:32	08:45
50	19:28	20:44	22:01	08:15	08:31	08:47
45	19:32	20:43	21:55	08:08	08:29	08:49
40	19:36	20:43	21:51	08:03	08:27	08:51
35	19:40	20:43	21:47	07:58	08:26	08:53
30	19:43	20:43	21:43	07:53	08:24	08:55
20	19:48	20:42	21:38	07:46	08:22	08:58
10	19:52	20:42	21:32	07:39	08:20	09:01
0	19:56	20:42	21:28	07:33	08:18	09:03
S 10	20:01	20:41	21:23	07:26	08:16	09:06
20	20:05	20:41	21:18	07:20	08:14	09:08
30	20:10	20:41	21:12	07:12	08:11	09:12
35	20:13	20:41	21:09	07:07	08:10	09:13
40	20:16	20:41	21:05	07:02	08:08	09:15
45	20:20	20:40	21:01	06:56	08:06	09:18
50	20:25	20:40	20:56	06:48	08:04	09:20
52	20:27	20:40	20:54	06:45	08:03	09:22
54	20:29	20:40	20:52	06:41	08:02	09:23
56	20:31	20:40	20:49	06:37	08:00	09:24
58	20:34	20:40	20:46	06:32	07:59	09:26
60	20:37	20:40	20:43	06:27	07:57	09:28

Día	Sol			Luna		
	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
18	13:55	13:53	12:13	01:21	13:44	17(96%)
19	13:50	13:47	12:13	02:07	14:29	18(92%)
20	13:44	13:41	12:13	02:52	15:15	19(85%)

Febrero 21, 22, 23 (Lun, Mar, Mie)

	Aries	Venus		Martes		Júpiter		Saturno	
Lun	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	150°53.7	220°24.1	-16°56.8	218°59.7	-22°39.4	167°10.9	-7°59.1	190°18.3	-16°18.3
1	165°56.1	235°24.8	-16°56.9	234°00.2	-22°39.1	182°12.8	-7°58.8	205°20.5	-16°18.2
2	180°58.6	250°25.4	-16°56.9	249°00.7	-22°38.9	197°14.7	-7°58.6	220°22.7	-16°18.1
3	196°01.1	265°26.1	-16°56.9	264°01.2	-22°38.6	212°16.6	-7°58.4	235°24.8	-16°18.0
4	211°03.5	280°26.8	-16°56.9	279°01.6	-22°38.4	227°18.5	-7°58.1	250°27.0	-16°17.9
5	226°06.0	295°27.5	-16°57.0	294°02.1	-22°38.1	242°20.4	-7°57.9	265°29.2	-16°17.9
6	241°08.5	310°28.2	-16°57.0	309°02.6	-22°37.9	257°22.3	-7°57.7	280°31.4	-16°17.8
7	256°10.9	325°28.8	-16°57.0	324°03.1	-22°37.6	272°24.2	-7°57.4	295°33.5	-16°17.7
8	271°13.4	340°29.5	-16°57.1	339°03.5	-22°37.4	287°26.1	-7°57.2	310°35.7	-16°17.6
9	286°15.9	355°30.2	-16°57.1	354°04.0	-22°37.1	302°28.0	-7°57.0	325°37.9	-16°17.5
10	301°18.3	10°30.9	-16°57.1	9°04.5	-22°36.9	317°29.9	-7°56.8	340°40.0	-16°17.4
11	316°20.8	25°31.5	-16°57.2	24°05.0	-22°36.7	332°31.8	-7°56.5	355°42.2	-16°17.3
12	331°23.3	40°32.2	-16°57.2	39°05.5	-22°36.4	347°33.7	-7°56.3	10°44.4	-16°17.2
13	346°25.7	55°32.9	-16°57.2	54°05.9	-22°36.2	2°35.6	-7°56.1	25°46.6	-16°17.2
14	1°28.2	70°33.5	-16°57.2	69°06.4	-22°35.9	17°37.5	-7°55.8	40°48.7	-16°17.1
15	16°30.6	85°34.2	-16°57.3	84°06.9	-22°35.7	32°39.4	-7°55.6	55°50.9	-16°17.0
16	31°33.1	100°34.8	-16°57.3	99°07.4	-22°35.4	47°41.3	-7°55.4	70°53.1	-16°16.9
17	46°35.6	115°35.5	-16°57.3	114°07.8	-22°35.2	62°43.2	-7°55.2	85°55.3	-16°16.8
18	61°38.0	130°36.1	-16°57.3	129°08.3	-22°34.9	77°45.1	-7°54.9	100°57.4	-16°16.7
19	76°40.5	145°36.8	-16°57.4	144°08.8	-22°34.7	92°47.0	-7°54.7	115°59.6	-16°16.6
20	91°43.0	160°37.4	-16°57.4	159°09.3	-22°34.4	107°48.9	-7°54.5	131°01.8	-16°16.6
21	106°45.4	175°38.1	-16°57.4	174°09.7	-22°34.1	122°50.8	-7°54.2	146°03.9	-16°16.5
22	121°47.9	190°38.7	-16°57.4	189°10.2	-22°33.9	137°52.7	-7°54.0	161°06.1	-16°16.4
23	136°50.4	205°39.4	-16°57.4	204°10.7	-22°33.6	152°54.7	-7°53.8	176°08.3	-16°16.3
Mer.pass.:13:54		v0.7 d-0.0 m-4.4		v0.5 d0.2 m1.3		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.8	

Mar	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	151°52.8	220°40.0	-16°57.5	219°11.2	-22°33.4	167°56.6	-7°53.6	191°10.5	-16°16.2
1	166°55.3	235°40.6	-16°57.5	234°11.6	-22°33.1	182°58.5	-7°53.3	206°12.6	-16°16.1
2	181°57.7	250°41.3	-16°57.5	249°12.1	-22°32.9	198°00.4	-7°53.1	221°14.8	-16°16.0
3	197°00.2	265°41.9	-16°57.5	264°12.6	-22°32.6	213°02.3	-7°52.9	236°17.0	-16°15.9
4	212°02.7	280°42.6	-16°57.5	279°13.1	-22°32.4	228°04.2	-7°52.6	251°19.2	-16°15.9
5	227°05.1	295°43.2	-16°57.6	294°13.6	-22°32.1	243°06.1	-7°52.4	266°21.3	-16°15.8
6	242°07.6	310°43.8	-16°57.6	309°14.0	-22°31.9	258°08.0	-7°52.2	281°23.5	-16°15.7
7	257°10.1	325°44.4	-16°57.6	324°14.5	-22°31.6	273°09.9	-7°52.0	296°25.7	-16°15.6
8	272°12.5	340°45.1	-16°57.6	339°15.0	-22°31.3	288°11.8	-7°51.7	311°27.8	-16°15.5
9	287°15.0	355°45.7	-16°57.6	354°15.5	-22°31.1	303°13.7	-7°51.5	326°30.0	-16°15.4
10	302°17.5	10°46.3	-16°57.6	9°15.9	-22°30.8	318°15.6	-7°51.3	341°32.2	-16°15.3
11	317°19.9	25°46.9	-16°57.7	24°16.4	-22°30.6	333°17.5	-7°51.0	356°34.4	-16°15.3
12	332°22.4	40°47.5	-16°57.7	39°16.9	-22°30.3	348°19.4	-7°50.8	11°36.5	-16°15.2
13	347°24.9	55°48.2	-16°57.7	54°17.4	-22°30.1	3°21.3	-7°50.6	26°38.7	-16°15.1
14	2°27.3	70°48.8	-16°57.7	69°17.9	-22°29.8	18°23.2	-7°50.3	41°40.9	-16°15.0
15	17°29.8	85°49.4	-16°57.7	84°18.3	-22°29.5	33°25.1	-7°50.1	56°43.1	-16°14.9
16	32°32.2	100°50.0	-16°57.7	99°18.8	-22°29.3	48°27.0	-7°49.9	71°45.2	-16°14.8
17	47°34.7	115°50.6	-16°57.7	114°19.3	-22°29.0	63°28.9	-7°49.7	86°47.4	-16°14.7
18	62°37.2	130°51.2	-16°57.7	129°19.8	-22°28.8	78°30.8	-7°49.4	101°49.6	-16°14.6
19	77°39.6	145°51.8	-16°57.8	144°20.2	-22°28.5	93°32.7	-7°49.2	116°51.7	-16°14.6
20	92°42.1	160°52.4	-16°57.8	159°20.7	-22°28.2	108°34.6	-7°49.0	131°53.9	-16°14.5
21	107°44.6	175°53.0	-16°57.8	174°21.2	-22°28.0	123°36.5	-7°48.7	146°56.1	-16°14.4
22	122°47.0	190°53.6	-16°57.8	189°21.7	-22°27.7	138°38.4	-7°48.5	161°58.3	-16°14.3
23	137°49.5	205°54.2	-16°57.8	204°22.2	-22°27.5	153°40.3	-7°48.3	177°00.4	-16°14.2
Mer.pass.:13:50		v0.6 d-0.0 m-4.4		v0.5 d0.3 m1.3		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.8	

Mie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	152°52.0	220°54.8	-16°57.8	219°22.6	-22°27.2	168°42.2	-7°48.1	192°02.6	-16°14.1
1	167°54.4	235°55.4	-16°57.8	234°23.1	-22°26.9	183°44.1	-7°47.8	207°04.8	-16°14.0
2	182°56.9	250°56.0	-16°57.8	249°23.6	-22°26.7	198°46.0	-7°47.6	222°07.0	-16°14.0
3	197°59.3	265°56.6	-16°57.8	264°24.1	-22°26.4	213°47.9	-7°47.4	237°09.1	-16°13.9
4	213°01.8	280°57.1	-16°57.8	279°24.5	-22°26.1	228°49.8	-7°47.1	252°11.3	-16°13.8
5	228°04.3	295°57.7	-16°57.8	294°25.0	-22°25.9	243°51.7	-7°46.9	267°13.5	-16°13.7
6	243°06.7	310°58.3	-16°57.8	309°25.5	-22°25.6	258°53.6	-7°46.7	282°15.7	-16°13.6
7	258°09.2	325°58.9	-16°57.8	324°26.0	-22°25.3	273°55.5	-7°46.4	297°17.8	-16°13.5
8	273°11.7	340°59.5	-16°57.8	339°26.5	-22°25.1	288°57.4	-7°46.2	312°20.0	-16°13.4
9	288°14.1	356°00.0	-16°57.9	354°26.9	-22°24.8	303°59.3	-7°46.0	327°22.2	-16°13.3
10	303°16.6	11°00.6	-16°57.9	9°27.4	-22°24.5	319°01.2	-7°45.8	342°24.4	-16°13.3
11	318°19.1	26°01.2	-16°57.9	24°27.9	-22°24.3	334°03.1	-7°45.5	357°26.5	-16°13.2
12	333°21.5	41°01.8	-16°57.9	39°28.4	-22°24.0	349°05.0	-7°45.3	12°28.7	-16°13.1
13	348°24.0	56°02.3	-16°57.9	54°28.9	-22°23.7	4°06.9	-7°45.1	27°30.9	-16°13.0
14	3°26.5	71°02.9	-16°57.9	69°29.3	-22°23.5	19°08.8	-7°44.8	42°33.0	-16°12.9
15	18°28.9	86°03.5	-16°57.9	84°29.8	-22°23.2	34°10.8	-7°44.6	57°35.2	-16°12.8
16	33°31.4	101°04.0	-16°57.9	99°30.3	-22°22.9	49°12.7	-7°44.4	72°37.4	-16°12.7
17	48°33.8	116°04.6	-16°57.9	114°30.8	-22°22.7	64°14.6	-7°44.2	87°39.6	-16°12.7
18	63°36.3	131°05.1	-16°57.9	129°31.3	-22°22.4	79°16.5	-7°43.9	102°41.7	-16°12.6
19	78°38.8	146°05.7	-16°57.9	144°31.7	-22°22.1	94°18.4	-7°43.7	117°43.9	-16°12.5
20	93°41.2	161°06.2	-16°57.9	159°32.2	-22°21.8	109°20.3	-7°43.5	132°46.1	-16°12.4
21	108°43.7	176°06.8	-16°57.8	174°32.7	-22°21.6	124°22.2	-7°43.2	147°48.3	-16°12.3
22	123°46.2	191°07.4	-16°57.8	189°33.2	-22°21.3	139°24.1	-7°43.0	162°50.4	-16°12.2
23	138°48.6	206°07.9	-16°57.8	204°33.7	-22°21.0	154°26.0	-7°42.8	177°52.6	-16°12.1
Mer.pass.:13:46		v0.6 d-0.0 m-4.4		v0.5 d0.3 m1.3		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.8	

Estrellas

	AHS	Dec
Alpheratz	357°37.5	29°12.7
Ankaa	353°09.8	-42°11.4
Schedar	349°34.1	56°39.6
Diphda	348°49.8	-17°52.2
Achernar	335°22.3	-57°07.8
Hamal	327°54.0	23°34.0
Polaris	315°16.4	89°21.7
Akamar	315°13.7	-40°13.3
Menkar	314°08.7	4°10.4
Mirfak	308°31.7	49°56.5
Aldebaran	290°42.3	16°33.2
Rigel	281°06.0	-8°10.7
Capella	280°25.2	46°01.4
Bellatrix	278°25.3	6°22.1
Elnath	278°04.7	28°37.6
Alnilam	275°40.0	-1°11.4
Betelgeuse	270°54.5	7°24.6
Canopus	263°53.1	-52°42.7
Sirius	258°28.0	-16°44.8
Adara	255°07.4	-29°00.3
Procyon	244°53.0	5°10.2
Pollux	243°19.8	27°58.4
Avior	234°15.1	-59°34.9
Suhail	222°47.6	-43°31.4
Miaplacidus	221°37.8	-69°48.5
Alphard	217°49.7	-8°45.3
Regulus	207°36.6	11°51.5
Dubhe	193°43.3	61°37.8
Denebola	182°27.0	14°26.8
Gienah	175°45.7	-17°39.9
Acrux	173°02.1	-63°13.1
Gacrux	171°53.8	-57°14.0
Alioth	166°14.7	55°50.2
Spica	158°24.6	-11°16.6
Alcaid	152°53.6	49°12.0
Hadar	148°39.0	-60°28.5
Menkent	148°00.2	-36°28.6
Arcturus	145°49.8	19°04.2
Rigil Kent.	139°43.3	-60°55.3
Zubenelg.	136°58.5	-16°08.0
Kochab	137°19.4	74°03.6
Alphecca	126°05.7	26°38.2
Antares	112°18.8	-26°28.8
Atria	107°15.3	-69°03.7
Sabik	102°05.6	-15°45.1
Shaula	96°13.7	-37°07.1
Rasalhague	96°00.9	12°32.5
Etamin	90°43.5	51°28.8
Kaus Aust.	83°35.9	-34°22.4
Vega	80°35.1	38°47.9
Nunki	75°50.9	-26°16.1
Altair	62°02.6	8°55.4
Peacock	53°10.0	-56°39.8
Deneb	49°27.8	45°21.3
Enif	33°41.4	9°58.4
Alnair	27°36.4	-46°51.4
Fomalhaut	15°17.5	-29°30.5
Scheat	13°47.9	28°12.0
Markab	13°32.6	15°19.3

Feb 21 Lun	AHS	Paso Merid
Venus	69°30.4	09:18
Mars	68°06.1	09:24
Jupiter	16°17.2	12:50
Saturn	39°24.6	11:17

Feb 22 Mar	AHS	Paso Merid
Venus	68°47.2	09:17
Mars	67°18.4	09:23
Jupiter	16°03.7	12:47
Saturn	39°17.6	11:14

Feb 23 Mie	AHS	Paso Merid
Venus	68°02.8	09:16
Mars	66°30.7	09:22
Jupiter	15°50.3	12:44
Saturn	39°10.7	11:10

Paralelaje Horizontal	
Venus:	0.3
Mars:	0.1

h Sol Luna

Lun	AHG	Dec	AHG	v	Dec	d	HP
0	176°35.6	-10°38.8	307°01.7	12.6	-7°07.3	-14.7	58.0
1	191°35.7	-10°37.9	321°33.2	12.5	-7°22.0	-14.7	58.0
2	206°35.8	-10°37.0	336°04.7	12.5	-7°36.7	-14.7	58.0
3	221°35.8	-10°36.1	350°36.1	12.4	-7°51.4	-14.6	58.1
4	236°35.9	-10°35.2	5°07.5	12.4	-8°06.0	-14.6	58.1
5	251°36.0	-10°34.3	19°38.8	12.3	-8°20.6	-14.6	58.1
6	266°36.0	-10°33.4	34°10.1	12.2	-8°35.1	-14.5	58.1
7	281°36.1	-10°32.5	48°41.3	12.2	-8°49.6	-14.5	58.1
8	296°36.2	-10°31.6	63°12.5	12.1	-9°04.1	-14.5	58.1
9	311°36.3	-10°30.7	77°43.6	12.1	-9°18.6	-14.4	58.2
10	326°36.3	-10°29.8	92°14.6	12.0	-9°33.0	-14.4	58.2
11	341°36.4	-10°28.9	106°45.6	12.0	-9°47.3	-14.3	58.2
12	356°36.5	-10°28.0	121°16.6	11.9	-10°01.7	-14.3	58.2
13	11°36.6	-10°27.1	135°47.4	11.8	-10°15.9	-14.3	58.2
14	26°36.6	-10°26.2	150°18.2	11.8	-10°30.2	-14.2	58.2
15	41°36.7	-10°25.2	164°48.9	11.7	-10°44.4	-14.2	58.3
16	56°36.8	-10°24.3	179°19.6	11.6	-10°58.5	-14.1	58.3
17	71°36.9	-10°23.4	193°50.2	11.6	-11°12.6	-14.1	58.3
18	86°36.9	-10°22.5	208°20.7	11.5	-11°26.7	-14.0	58.3
19	101°37.0	-10°21.6	222°51.2	11.4	-11°40.7	-14.0	58.3
20	116°37.1	-10°20.7	237°21.6	11.4	-11°54.7	-13.9	58.3
21	131°37.2	-10°19.8	251°51.9	11.3	-12°08.6	-13.9	58.4
22	146°37.2	-10°18.9	266°22.1	11.2	-12°22.4	-13.8	58.4
23	161°37.3	-10°18.0	280°52.3	11.1	-12°36.2	-13.8	58.4
	SD.=16.2	d=0.9			S.D.=15.8		

Mar	AHG	Dec	AHG	v	Dec	d	HP
0	176°37.4	-10°17.1	295°22.4	11.1	-12°49.9	-13.7	58.4
1	191°37.5	-10°16.2	309°52.4	11.0	-13°03.6	-13.6	58.4
2	206°37.6	-10°15.3	324°22.4	10.9	-13°17.2	-13.6	58.4
3	221°37.6	-10°14.3	338°52.3	10.8	-13°30.7	-13.5	58.5
4	236°37.7	-10°13.4	353°22.1	10.8	-13°44.2	-13.5	58.5
5	251°37.8	-10°12.5	7°51.8	10.7	-13°57.7	-13.4	58.5
6	266°37.9	-10°11.6	22°21.4	10.6	-14°11.0	-13.3	58.5
7	281°38.0	-10°10.7	36°51.0	10.5	-14°24.3	-13.3	58.5
8	296°38.0	-10°09.8	51°20.4	10.4	-14°37.5	-13.2	58.5
9	311°38.1	-10°08.9	65°49.8	10.4	-14°50.7	-13.1	58.6
10	326°38.2	-10°08.0	80°19.2	10.3	-15°03.7	-13.0	58.6
11	341°38.3	-10°07.0	94°48.4	10.2	-15°16.7	-13.0	58.6
12	356°38.4	-10°06.1	109°17.5	10.1	-15°29.6	-12.9	58.6
13	11°38.4	-10°05.2	123°46.6	10.0	-15°42.5	-12.8	58.6
14	26°38.5	-10°04.3	138°15.5	9.9	-15°55.3	-12.7	58.6
15	41°38.6	-10°03.4	152°44.4	9.8	-16°08.0	-12.6	58.7
16	56°38.7	-10°02.5	167°13.2	9.8	-16°20.6	-12.6	58.7
17	71°38.8	-10°01.6	181°41.9	9.7	-16°33.1	-12.5	58.7
18	86°38.8	-10°00.7	196°10.5	9.6	-16°45.5	-12.4	58.7
19	101°38.9	-9°59.7	210°39.1	9.5	-16°57.9	-12.3	58.7
20	116°39.0	-9°58.8	225°07.5	9.4	-17°10.1	-12.2	58.7
21	131°39.1	-9°57.9	239°35.9	9.3	-17°22.3	-12.1	58.7
22	146°39.2	-9°57.0	254°04.1	9.2	-17°34.4	-12.0	58.8
23	161°39.3	-9°56.1	268°32.3	9.1	-17°46.4	-11.9	58.8
	SD.=16.2	d=0.9			S.D.=15.9		

Mie	AHG	Dec	AHG	v	Dec	d	HP
0	176°39.3	-9°55.2	283°00.4	9.0	-17°58.3	-11.9	58.8
1	191°39.4	-9°54.2	297°28.3	8.9	-18°10.1	-11.8	58.8
2	206°39.5	-9°53.3	311°56.2	8.8	-18°21.8	-11.7	58.8
3	221°39.6	-9°52.4	326°24.0	8.7	-18°33.4	-11.6	58.8
4	236°39.7	-9°51.5	340°51.7	8.6	-18°44.9	-11.5	58.8
5	251°39.8	-9°50.6	355°19.3	8.6	-18°56.3	-11.4	58.9
6	266°39.9	-9°49.7	9°46.8	8.5	-19°07.6	-11.2	58.9
7	281°39.9	-9°48.7	24°14.2	8.4	-19°18.8	-11.1	58.9
8	296°40.0	-9°47.8	38°41.5	8.3	-19°29.9	-11.0	58.9
9	311°40.1	-9°46.9	53°08.7	8.2	-19°40.9	-10.9	58.9
10	326°40.2	-9°46.0	67°35.9	8.1	-19°51.7	-10.8	58.9
11	341°40.3	-9°45.1	82°02.9	8.0	-20°02.5	-10.7	58.9
12	356°40.4	-9°44.2	96°29.8	7.9	-20°13.2	-10.6	59.0
13	11°40.5	-9°43.2	110°56.7	7.8	-20°23.7	-10.5	59.0
14	26°40.5	-9°42.3	125°23.4	7.7	-20°34.1	-10.4	59.0
15	41°40.6	-9°41.4	139°50.0	7.6	-20°44.4	-10.2	59.0
16	56°40.7	-9°40.5	154°16.6	7.5	-20°54.6	-10.1	59.0
17	71°40.8	-9°39.6	168°43.0	7.4	-21°04.6	-10.0	59.0
18	86°40.9	-9°38.6	183°09.4	7.3	-21°14.6	-9.9	59.0
19	101°41.0	-9°37.7	197°35.6	7.2	-21°24.4	-9.7	59.1
20	116°41.1	-9°36.8	212°01.8	7.1	-21°34.1	-9.6	59.1
21	131°41.2	-9°35.9	226°27.8	7.0	-21°43.6	-9.5	59.1
22	146°41.3	-9°34.9	240°53.8	6.9	-21°53.0	-9.4	59.1
23	161°41.3	-9°34.0	255°19.7	6.8	-22°02.3	-9.2	59.1
	SD.=16.2	d=0.9			S.D.=16.0		

Lat.	Crepúsculo Naut.	Crepúsculo Civil	Orto Sol	Crepúsculo Civil	Crepúsculo Naut.	Ocaso Sol
N 72	05:44	07:02	08:14	16:14	17:27	18:46
70	05:45	06:56	08:00	16:28	17:33	18:44
68	05:46	06:51	07:49	16:40	17:38	18:43
66	05:47	06:46	07:39	16:49	17:42	18:42
64	05:48	06:42	07:32	16:57	17:46	18:41
62	05:48	06:39	07:25	17:03	17:49	18:41
60	05:48	06:36	07:19	17:09	17:52	18:40
58	05:48	06:33	07:14	17:14	17:55	18:40
56	05:48	06:31	07:09	17:19	17:57	18:40
54	05:48	06:29	07:05	17:23	17:59	18:40
52	05:48	06:27	07:01	17:27	18:01	18:40
50	05:47	06:25	06:58	17:30	18:03	18:41
45	05:46	06:20	06:50	17:38	18:07	18:41
40	05:45	06:16	06:44	17:44	18:11	18:43
35	05:43	06:13	06:38	17:49	18:15	18:44
30	05:41	06:09	06:33	17:54	18:18	18:46
20	05:37	06:03	06:25	18:02	18:25	18:50
10	05:31	05:56	06:17	18:10	18:31	18:56
0	05:25	05:49	06:10	18:17	18:38	19:02
S 10	05:16	05:41	06:03	18:24	18:45	19:10
20	05:06	05:32	05:55	18:32	18:54	19:21
30	04:52	05:21	05:46	18:41	19:05	19:34
35	04:43	05:14	05:40	18:46	19:12	19:43
40	04:32	05:06	05:34	18:52	19:20	19:54
45	04:19	04:56	05:27	18:59	19:30	20:07
50	04:02	04:44	05:19	19:07	19:41	20:24
52	03:53	04:38	05:15	19:11	19:47	20:32
54	03:44	04:32	05:10	19:15	19:53	20:41
56	03:33	04:25	05:05	19:20	20:01	20:52
58	03:20	04:16	05:00	19:26	20:09	21:05
60	03:04	04:07	04:54	19:32	20:18	21:20

Lat.	Orto luna Lun	Orto luna Mar	Orto luna Mie	Ocaso luna Lun	Ocaso luna Mar	Ocaso luna Mie
N 72	–:–	01:28	–:–	07:48	07:01	–:–
70	–:–	01:01	03:56	08:01	07:30	06:23
68	–:–	00:41	03:02	08:12	07:52	07:18
66	–:–	00:25	02:30	08:22	08:09	07:52
64	–:–	00:12	02:06	08:29	08:24	08:17
62	–:–	00:01	01:48	08:36	08:36	08:37
60	23:52	–:–	01:32	08:42	08:46	08:53
58	23:44	–:–	01:19	08:47	08:55	09:06
56	23:37	–:–	01:08	08:52	09:03	09:18
54	23:31	–:–	00:59	08:56	09:10	09:29
52	23:25	–:–	00:50	09:00	09:17	09:38
50	23:20	–:–	00:42	09:03	09:22	09:46
45	23:09	–:–	00:26	09:11	09:35	10:04
40	23:01	–:–	00:13	09:17	09:45	10:19
35	22:53	–:–	00:01	09:23	09:54	10:31
30	22:46	23:51	–:–	09:27	10:02	10:42
20	22:35	23:35	–:–	09:36	10:16	11:01
10	22:25	23:20	–:–	09:43	10:28	11:17
0	22:16	23:07	–:–	09:50	10:39	11:32
S 10	22:06	22:53	23:45	09:57	10:51	11:48
20	21:57	22:39	23:26	10:05	11:03	12:04
30	21:46	22:23	23:06	10:13	11:17	12:23
35	21:39	22:14	22:53	10:18	11:25	12:35
40	21:32	22:03	22:40	10:24	11:35	12:47
45	21:24	21:51	22:23	10:30	11:46	13:03
50	21:14	21:36	22:03	10:38	11:59	13:22
52	21:10	21:29	21:54	10:42	12:05	13:30
54	21:05	21:21	21:43	10:46	12:12	13:40
56	20:59	21:12	21:31	10:51	12:20	13:52
58	20:53	21:03	21:17	10:56	12:29	14:05
60	20:46	20:52	21:01	11:01	12:39	14:20

Día	Sol Ec. tiempo 00:00 h	Sol Ec. tiempo 12:00 h	Sol Paso Merid	Luna Paso Meridiano Superior	Luna Paso Meridiano Inferior	Luna Edad
21	13:37	13:34	12:13	03:38	16:02	20(76%)
22	13:30	13:27	12:13	04:27	16:52	21(66%)
23	13:23	13:18	12:13	05:19	17:46	22(55%)

Febrero 24, 25, 26 (Jue, Vie, Sa)

	Aries	Venus		Martes		Júpiter		Saturno	
Jue	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	153°51.1	221°08.4	-16°57.8	219°34.1	-22°20.8	169°27.9	-7°42.5	192°54.8	-16°12.1
1	168°53.6	236°09.0	-16°57.8	234°34.6	-22°20.5	184°29.8	-7°42.3	207°57.0	-16°12.0
2	183°56.0	251°09.5	-16°57.8	249°35.1	-22°20.2	199°31.7	-7°42.1	222°59.1	-16°11.9
3	198°58.5	266°10.1	-16°57.8	264°35.6	-22°19.9	214°33.6	-7°41.9	238°01.3	-16°11.8
4	214°01.0	281°10.6	-16°57.8	279°36.1	-22°19.7	229°35.5	-7°41.6	253°03.5	-16°11.7
5	229°03.4	296°11.2	-16°57.8	294°36.5	-22°19.4	244°37.4	-7°41.4	268°05.7	-16°11.6
6	244°05.9	311°11.7	-16°57.8	309°37.0	-22°19.1	259°39.3	-7°41.2	283°07.8	-16°11.5
7	259°08.3	326°12.2	-16°57.8	324°37.5	-22°18.8	274°41.2	-7°40.9	298°10.0	-16°11.4
8	274°10.8	341°12.8	-16°57.8	339°38.0	-22°18.6	289°43.1	-7°40.7	313°12.2	-16°11.4
9	289°13.3	356°13.3	-16°57.8	354°38.5	-22°18.3	304°45.0	-7°40.5	328°14.4	-16°11.3
10	304°15.7	11°13.8	-16°57.8	9°38.9	-22°18.0	319°46.9	-7°40.2	343°16.5	-16°11.2
11	319°18.2	26°14.4	-16°57.7	24°39.4	-22°17.7	334°48.8	-7°40.0	358°18.7	-16°11.1
12	334°20.7	41°14.9	-16°57.7	39°39.9	-22°17.5	349°50.7	-7°39.8	13°20.9	-16°11.0
13	349°23.1	56°15.4	-16°57.7	54°40.4	-22°17.2	4°52.6	-7°39.6	28°23.1	-16°10.9
14	4°25.6	71°15.9	-16°57.7	69°40.9	-22°16.9	19°54.5	-7°39.3	43°25.2	-16°10.8
15	19°28.1	86°16.4	-16°57.7	84°41.3	-22°16.6	34°56.4	-7°39.1	58°27.4	-16°10.8
16	34°30.5	101°17.0	-16°57.7	99°41.8	-22°16.3	49°58.3	-7°38.9	73°29.6	-16°10.7
17	49°33.0	116°17.5	-16°57.7	114°42.3	-22°16.1	65°00.2	-7°38.6	88°31.8	-16°10.6
18	64°35.5	131°18.0	-16°57.6	129°42.8	-22°15.8	80°02.1	-7°38.4	103°33.9	-16°10.5
19	79°37.9	146°18.5	-16°57.6	144°43.3	-22°15.5	95°04.0	-7°38.2	118°36.1	-16°10.4
20	94°40.4	161°19.0	-16°57.6	159°43.7	-22°15.2	110°05.9	-7°37.9	133°38.3	-16°10.3
21	109°42.8	176°19.5	-16°57.6	174°44.2	-22°14.9	125°07.8	-7°37.7	148°40.5	-16°10.2
22	124°45.3	191°20.0	-16°57.6	189°44.7	-22°14.7	140°09.7	-7°37.5	163°42.6	-16°10.2
23	139°47.8	206°20.5	-16°57.6	204°45.2	-22°14.4	155°11.6	-7°37.2	178°44.8	-16°10.1
Mer.pass.:13:42		v0.5 d0.0 m-4.4		v0.5 d0.3 m1.3		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.8	

Vie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	154°50.2	221°21.1	-16°57.5	219°45.7	-22°14.1	170°13.5	-7°37.0	193°47.0	-16°10.0
1	169°52.7	236°21.6	-16°57.5	234°46.2	-22°13.8	185°15.4	-7°36.8	208°49.2	-16°09.9
2	184°55.2	251°22.1	-16°57.5	249°46.6	-22°13.5	200°17.3	-7°36.6	223°51.3	-16°09.8
3	199°57.6	266°22.6	-16°57.5	264°47.1	-22°13.2	215°19.2	-7°36.3	238°53.5	-16°09.7
4	215°00.1	281°23.1	-16°57.5	279°47.6	-22°13.0	230°21.1	-7°36.1	253°55.7	-16°09.6
5	230°02.6	296°23.5	-16°57.4	294°48.1	-22°12.7	245°23.0	-7°35.9	268°57.9	-16°09.5
6	245°05.0	311°24.0	-16°57.4	309°48.6	-22°12.4	260°24.9	-7°35.6	284°00.0	-16°09.5
7	260°07.5	326°24.5	-16°57.4	324°49.1	-22°12.1	275°26.8	-7°35.4	299°02.2	-16°09.4
8	275°10.0	341°25.0	-16°57.4	339°49.5	-22°11.8	290°28.7	-7°35.2	314°04.4	-16°09.3
9	290°12.4	356°25.5	-16°57.3	354°50.0	-22°11.5	305°30.6	-7°34.9	329°06.6	-16°09.2
10	305°14.9	11°26.0	-16°57.3	9°50.5	-22°11.3	320°32.5	-7°34.7	344°08.7	-16°09.1
11	320°17.3	26°26.5	-16°57.3	24°51.0	-22°11.0	335°34.4	-7°34.5	359°10.9	-16°09.0
12	335°19.8	41°27.0	-16°57.3	39°51.5	-22°10.7	350°36.3	-7°34.3	14°13.1	-16°08.9
13	350°22.3	56°27.5	-16°57.2	54°51.9	-22°10.4	5°38.2	-7°34.0	29°15.3	-16°08.9
14	5°24.7	71°27.9	-16°57.2	69°52.4	-22°10.1	20°40.1	-7°33.8	44°17.5	-16°08.8
15	20°27.2	86°28.4	-16°57.2	84°52.9	-22°09.8	35°42.0	-7°33.6	59°19.6	-16°08.7
16	35°29.7	101°28.9	-16°57.1	99°53.4	-22°09.5	50°43.9	-7°33.3	74°21.8	-16°08.6
17	50°32.1	116°29.4	-16°57.1	114°53.9	-22°09.2	65°45.8	-7°33.1	89°24.0	-16°08.5
18	65°34.6	131°29.8	-16°57.1	129°54.4	-22°09.0	80°47.8	-7°32.9	104°26.2	-16°08.4
19	80°37.1	146°30.3	-16°57.1	144°54.8	-22°08.7	95°49.7	-7°32.6	119°28.3	-16°08.3
20	95°39.5	161°30.8	-16°57.0	159°55.3	-22°08.4	110°51.6	-7°32.4	134°30.5	-16°08.3
21	110°42.0	176°31.2	-16°57.0	174°55.8	-22°08.1	125°53.5	-7°32.2	149°32.7	-16°08.2
22	125°44.4	191°31.7	-16°57.0	189°56.3	-22°07.8	140°55.4	-7°31.9	164°34.9	-16°08.1
23	140°46.9	206°32.2	-16°56.9	204°56.8	-22°07.5	155°57.3	-7°31.7	179°37.0	-16°08.0
Mer.pass.:13:38		v0.5 d0.0 m-4.4		v0.5 d0.3 m1.3		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.8	

Sa	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	155°49.4	221°32.6	-16°56.9	219°57.3	-22°07.2	170°59.2	-7°31.5	194°39.2	-16°07.9
1	170°51.8	236°33.1	-16°56.9	234°57.7	-22°06.9	186°01.1	-7°31.3	209°41.4	-16°07.8
2	185°54.3	251°33.6	-16°56.8	249°58.2	-22°06.6	201°03.0	-7°31.0	224°43.6	-16°07.7
3	200°56.8	266°34.0	-16°56.8	264°58.7	-22°06.3	216°04.9	-7°30.8	239°45.7	-16°07.7
4	215°59.2	281°34.5	-16°56.8	279°59.2	-22°06.0	231°06.8	-7°30.6	254°47.9	-16°07.6
5	231°01.7	296°34.9	-16°56.7	294°59.7	-22°05.7	246°08.7	-7°30.3	269°50.1	-16°07.5
6	246°04.2	311°35.4	-16°56.7	310°00.2	-22°05.5	261°10.6	-7°30.1	284°52.3	-16°07.4
7	261°06.6	326°35.8	-16°56.6	325°00.6	-22°05.2	276°12.5	-7°29.9	299°54.4	-16°07.3
8	276°09.1	341°36.3	-16°56.6	340°01.1	-22°04.9	291°14.4	-7°29.6	314°56.6	-16°07.2
9	291°11.6	356°36.7	-16°56.6	355°01.6	-22°04.6	306°16.3	-7°29.4	329°58.8	-16°07.1
10	306°14.0	11°37.2	-16°56.5	10°02.1	-22°04.3	321°18.2	-7°29.2	345°01.0	-16°07.1
11	321°16.5	26°37.6	-16°56.5	25°02.6	-22°04.0	336°20.1	-7°28.9	0°03.2	-16°07.0
12	336°18.9	41°38.1	-16°56.4	40°03.1	-22°03.7	351°22.0	-7°28.7	15°05.3	-16°06.9
13	351°21.4	56°38.5	-16°56.4	55°03.6	-22°03.4	6°23.9	-7°28.5	30°07.5	-16°06.8
14	6°23.9	71°39.0	-16°56.4	70°04.0	-22°03.1	21°25.8	-7°28.3	45°09.7	-16°06.7
15	21°26.3	86°39.4	-16°56.3	85°04.5	-22°02.8	36°27.7	-7°28.0	60°11.9	-16°06.6
16	36°28.8	101°39.8	-16°56.3	100°05.0	-22°02.5	51°29.6	-7°27.8	75°14.0	-16°06.5
17	51°31.3	116°40.3	-16°56.2	115°05.5	-22°02.2	66°31.5	-7°27.6	90°16.2	-16°06.5
18	66°33.7	131°40.7	-16°56.2	130°06.0	-22°01.9	81°33.4	-7°27.3	105°18.4	-16°06.4
19	81°36.2	146°41.1	-16°56.1	145°06.5	-22°01.6	96°35.3	-7°27.1	120°20.6	-16°06.3
20	96°38.7	161°41.6	-16°56.1	160°07.0	-22°01.3	111°37.2	-7°26.9	135°22.8	-16°06.2
21	111°41.1	176°42.0	-16°56.0	175°07.4	-22°01.0	126°39.1	-7°26.6	150°24.9	-16°06.1
22	126°43.6	191°42.4	-16°56.0	190°07.9	-22°00.7	141°41.0	-7°26.4	165°27.1	-16°06.0
23	141°46.1	206°42.8	-16°56.0	205°08.4	-22°00.4	156°42.9	-7°26.2	180°29.3	-16°05.9
Mer.pass.:13:34		v0.5 d0.0 m-4.4		v0.5 d0.3 m1.3		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.8	

Estrellas

	AHS	Dec
Alpheratz	357°37.5	29°12.7
Ankaa	353°09.8	-42°11.4
Schedar	349°34.2	56°39.5
Diphda	348°49.8	-17°52.2
Achernar	335°22.4	-57°07.8
Hamal	327°54.0	23°34.0
Polaris	315°17.6	89°21.7
Akamar	315°13.7	-40°13.3
Menkar	314°08.7	4°10.4
Mirfak	308°31.7	49°56.5
Aldebaran	290°42.3	16°33.2
Rigel	281°06.0	-8°10.8
Capella	280°25.2	46°01.4
Bellatrix	278°25.3	6°22.1
Elnath	278°04.7	28°37.6
Alnilam	275°40.0	-1°11.4
Betelgeuse	270°54.5	7°24.6
Canopus	263°53.2	-52°42.7
Sirius	258°28.0	-16°44.8
Adara	255°07.5	-29°00.3
Procyon	244°53.0	5°10.2
Pollux	243°19.8	27°58.4
Avior	234°15.1	-59°34.9
Suhail	222°47.6	-43°31.4
Miaplacidus	221°37.8	-69°48.5
Alphard	217°49.7	-8°45.3
Regulus	207°36.6	11°51.5
Dubhe	193°43.3	61°37.9
Denebola	182°27.0	14°26.8
Gienah	175°45.7	-17°39.9
Acrux	173°02.1	-63°13.1
Gacrux	171°53.8	-57°14.1
Alioth	166°14.7	55°50.2
Spica	158°24.6	-11°16.6
Alcaid	152°53.6	49°12.0
Hadar	148°39.0	-60°28.5
Menkent	148°00.2	-36°28.6
Arcturus	145°49.8	19°04.2
Rigil Kent.	139°43.3	-60°55.3
Zubenelg.	136°58.5	-16°08.0
Kochab	137°19.4	74°03.6
Alphecca	126°05.7	26°38.2
Antares	112°18.7	-26°28.8
Atria	107°15.2	-69°03.7
Sabik	102°05.6	-15°45.1
Shaula	96°13.7	-37°07.1
Rasalhague	96°00.9	12°32.5
Etamin	90°43.5	51°28.8
Kaus Aust.	83°35.8	-34°22.4
Vega	80°35.1	38°47.9
Nunki	75°50.9	-26°16.1
Altair	62°02.6	8°55.4
Peacock	53°09.9	-56°39.8
Deneb	49°27.8	45°21.3
Enif	33°41.4	9°58.4
Alnair	27°36.4	-46°51.3
Fomalhaut	15°17.5	-29°30.5
Scheat	13°47.9	28°12.0
Markab	13°32.6	15°19.3

Feb 24 Jue	AHS	Paso Merid
Venus	67°17.4	09:15
Mars	65°43.0	09:21
Jupiter	15°36.8	12:41
Saturn	39°03.7	11:07

Feb 25 Vie	AHS	Paso Merid
Venus	66°30.8	09:14
Mars	64°55.4	09:21
Jupiter	15°23.3	12:37
Saturn	38°56.8	11:03

Feb 26 Sa	AHS	Paso Merid
Venus	65°43.3	09:14
Mars	64°07.9	09:20
Jupiter	15°09.8	12:34
Saturn	38°49.8	11:00

Paralelaje Horizontal	
Venus:	0.3
Mars:	0.1

h	Sol		Luna				
Jue	AHG	Dec	AHG	v	Dec	d	HP
0	176°41.4	-9°33.1	269°45.4	6.7	-22°11.5	-9.1	59.1
1	191°41.5	-9°32.2	284°11.1	6.6	-22°20.5	-9.0	59.1
2	206°41.6	-9°31.3	298°36.7	6.5	-22°29.4	-8.8	59.1
3	221°41.7	-9°30.3	313°02.2	6.4	-22°38.2	-8.7	59.2
4	236°41.8	-9°29.4	327°27.6	6.3	-22°46.8	-8.6	59.2
5	251°41.9	-9°28.5	341°52.9	6.3	-22°55.3	-8.4	59.2
6	266°42.0	-9°27.6	356°18.1	6.2	-23°03.7	-8.3	59.2
7	281°42.1	-9°26.6	10°43.2	6.1	-23°11.9	-8.1	59.2
8	296°42.2	-9°25.7	25°08.2	6.0	-23°19.9	-8.0	59.2
9	311°42.3	-9°24.8	39°33.2	5.9	-23°27.8	-7.8	59.2
10	326°42.3	-9°23.9	53°58.0	5.8	-23°35.6	-7.7	59.2
11	341°42.4	-9°22.9	68°22.8	5.7	-23°43.2	-7.5	59.2
12	356°42.5	-9°22.0	82°47.5	5.6	-23°50.7	-7.4	59.3
13	11°42.6	-9°21.1	97°12.0	5.5	-23°58.0	-7.2	59.3
14	26°42.7	-9°20.2	111°36.5	5.5	-24°05.1	-7.1	59.3
15	41°42.8	-9°19.2	126°01.0	5.4	-24°12.1	-6.9	59.3
16	56°42.9	-9°18.3	140°25.3	5.3	-24°19.0	-6.8	59.3
17	71°43.0	-9°17.4	154°49.5	5.2	-24°25.7	-6.6	59.3
18	86°43.1	-9°16.5	169°13.7	5.1	-24°32.2	-6.5	59.3
19	101°43.2	-9°15.5	183°37.8	5.0	-24°38.6	-6.3	59.3
20	116°43.3	-9°14.6	198°01.8	5.0	-24°44.8	-6.1	59.3
21	131°43.4	-9°13.7	212°25.7	4.9	-24°50.9	-6.0	59.4
22	146°43.5	-9°12.7	226°49.6	4.8	-24°56.8	-5.8	59.4
23	161°43.6	-9°11.8	241°13.4	4.7	-25°02.5	-5.6	59.4
	SD.=16.2	d=0.9	S.D.=16.1				

Vie	AHG	Dec	AHG	v	Dec	d	HP
0	176°43.7	-9°10.9	255°37.1	4.7	-25°08.1	-5.5	59.4
1	191°43.8	-9°10.0	270°00.7	4.6	-25°13.5	-5.3	59.4
2	206°43.9	-9°09.0	284°24.3	4.5	-25°18.7	-5.1	59.4
3	221°44.0	-9°08.1	298°47.7	4.5	-25°23.8	-5.0	59.4
4	236°44.0	-9°07.2	313°11.2	4.4	-25°28.7	-4.8	59.4
5	251°44.1	-9°06.2	327°34.5	4.3	-25°33.4	-4.6	59.4
6	266°44.2	-9°05.3	341°57.8	4.3	-25°37.9	-4.5	59.4
7	281°44.3	-9°04.4	356°21.1	4.2	-25°42.3	-4.3	59.4
8	296°44.4	-9°03.5	10°44.3	4.1	-25°46.5	-4.1	59.5
9	311°44.5	-9°02.5	25°07.4	4.1	-25°50.5	-3.9	59.5
10	326°44.6	-9°01.6	39°30.4	4.0	-25°54.4	-3.8	59.5
11	341°44.7	-9°00.7	53°53.4	4.0	-25°58.1	-3.6	59.5
12	356°44.8	-8°59.7	68°16.4	3.9	-26°01.6	-3.4	59.5
13	11°44.9	-8°58.8	82°39.3	3.9	-26°04.9	-3.2	59.5
14	26°45.0	-8°57.9	97°02.2	3.8	-26°08.0	-3.0	59.5
15	41°45.1	-8°56.9	111°25.0	3.8	-26°11.0	-2.9	59.5
16	56°45.2	-8°56.0	125°47.8	3.7	-26°13.8	-2.7	59.5
17	71°45.3	-8°55.1	140°10.5	3.7	-26°16.4	-2.5	59.5
18	86°45.4	-8°54.1	154°33.2	3.7	-26°18.8	-2.3	59.5
19	101°45.5	-8°53.2	168°55.8	3.6	-26°21.0	-2.1	59.5
20	116°45.6	-8°52.3	183°18.4	3.6	-26°23.1	-2.0	59.5
21	131°45.7	-8°51.3	197°41.0	3.6	-26°24.9	-1.8	59.5
22	146°45.8	-8°50.4	212°03.6	3.5	-26°26.6	-1.6	59.5
23	161°45.9	-8°49.5	226°26.1	3.5	-26°28.1	-1.4	59.6
	SD.=16.2	d=0.9	S.D.=16.2				

Sa	AHG	Dec	AHG	v	Dec	d	HP
0	176°46.0	-8°48.5	240°48.6	3.5	-26°29.4	-1.2	59.6
1	191°46.1	-8°47.6	255°11.1	3.5	-26°30.5	-1.0	59.6
2	206°46.2	-8°46.7	269°33.5	3.4	-26°31.5	-0.8	59.6
3	221°46.3	-8°45.7	283°56.0	3.4	-26°32.2	-0.7	59.6
4	236°46.4	-8°44.8	298°18.4	3.4	-26°32.8	-0.5	59.6
5	251°46.5	-8°43.9	312°40.8	3.4	-26°33.2	-0.3	59.6
6	266°46.7	-8°42.9	327°03.2	3.4	-26°33.4	-0.1	59.6
7	281°46.8	-8°42.0	341°25.6	3.4	-26°33.4	0.1	59.6
8	296°46.9	-8°41.1	355°47.9	3.4	-26°33.2	0.3	59.6
9	311°47.0	-8°40.1	10°10.3	3.4	-26°32.8	0.5	59.6
10	326°47.1	-8°39.2	24°32.7	3.4	-26°32.3	0.6	59.6
11	341°47.2	-8°38.3	38°55.0	3.4	-26°31.5	0.8	59.6
12	356°47.3	-8°37.3	53°17.4	3.4	-26°30.6	1.0	59.6
13	11°47.4	-8°36.4	67°39.8	3.4	-26°29.5	1.2	59.6
14	26°47.5	-8°35.4	82°02.2	3.4	-26°28.2	1.4	59.6
15	41°47.6	-8°34.5	96°24.6	3.4	-26°26.7	1.6	59.6
16	56°47.7	-8°33.6	110°47.0	3.4	-26°25.0	1.8	59.6
17	71°47.8	-8°32.6	125°09.4	3.4	-26°23.2	2.0	59.6
18	86°47.9	-8°31.7	139°31.9	3.5	-26°21.1	2.1	59.6
19	101°48.0	-8°30.8	153°54.4	3.5	-26°18.9	2.3	59.6
20	116°48.1	-8°29.8	168°16.8	3.5	-26°16.5	2.5	59.6
21	131°48.2	-8°28.9	182°39.4	3.5	-26°13.9	2.7	59.6
22	146°48.3	-8°27.9	197°01.9	3.6	-26°11.1	2.9	59.6
23	161°48.4	-8°27.0	211°24.5	3.6	-26°08.1	3.1	59.6
	SD.=16.2	d=0.9	S.D.=16.2				

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	05:30	06:47	07:58	16:30	17:41	18:59
70	05:33	06:43	07:46	16:42	17:45	18:56
68	05:35	06:39	07:36	16:51	17:49	18:53
66	05:37	06:36	07:28	16:59	17:52	18:51
64	05:38	06:33	07:21	17:06	17:55	18:50
62	05:39	06:30	07:15	17:12	17:57	18:48
60	05:40	06:28	07:10	17:17	17:59	18:47
58	05:41	06:26	07:06	17:21	18:01	18:47
56	05:41	06:24	07:02	17:25	18:03	18:46
54	05:41	06:22	06:58	17:29	18:05	18:46
52	05:42	06:21	06:55	17:32	18:06	18:46
50	05:42	06:19	06:52	17:35	18:08	18:45
45	05:41	06:15	06:45	17:42	18:11	18:45
40	05:41	06:12	06:39	17:47	18:15	18:46
35	05:40	06:09	06:35	17:52	18:17	18:47
30	05:38	06:06	06:30	17:56	18:20	18:48
20	05:35	06:01	06:23	18:03	18:26	18:51
10	05:30	05:55	06:16	18:10	18:31	18:56
0	05:24	05:49	06:10	18:16	18:37	19:02
S 10	05:17	05:42	06:03	18:23	18:44	19:09
20	05:07	05:34	05:56	18:30	18:52	19:18
30	04:55	05:23	05:48	18:38	19:02	19:31
35	04:46	05:17	05:43	18:42	19:08	19:39
40	04:36	05:10	05:38	18:48	19:15	19:49
45	04:24	05:01	05:31	18:54	19:24	20:01
50	04:08	04:50	05:24	19:01	19:35	20:16
52	04:00	04:44	05:20	19:05	19:40	20:24
54	03:51	04:39	05:16	19:09	19:46	20:33
56	03:41	04:32	05:12	19:13	19:52	20:43
58	03:30	04:24	05:07	19:17	20:00	20:54
60	03:16	04:16	05:02	19:23	20:08	21:08

	Orto luna			Ocaso luna		
Lat.	Jue	Vie	Sa	Jue	Vie	Sa
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	–:–	–:–	–:–
68	–:–	–:–	–:–	–:–	–:–	–:–
66	05:05	–:–	–:–	07:13	–:–	–:–
64	04:12	06:47	–:–	08:08	07:38	–:–
62	03:40	05:31	06:59	08:40	08:53	09:37
60	03:16	04:56	06:15	09:05	09:30	10:20
58	02:57	04:30	05:46	09:24	09:56	10:50
56	02:41	04:09	05:23	09:41	10:16	11:12
54	02:27	03:52	05:05	09:55	10:34	11:30
52	02:16	03:38	04:49	10:07	10:48	11:46
50	02:05	03:25	04:36	10:18	11:01	12:00
45	01:44	02:59	04:08	10:41	11:28	12:27
40	01:26	02:39	03:46	10:59	11:49	12:49
35	01:12	02:22	03:28	11:14	12:06	13:07
30	00:59	02:07	03:13	11:28	12:21	13:23
20	00:37	01:42	02:46	11:51	12:47	13:49
10	00:19	01:21	02:24	12:11	13:09	14:11
0	00:02	01:01	02:03	12:29	13:30	14:33
S 10	–:–	00:41	01:42	12:48	13:51	14:54
20	–:–	00:20	01:19	13:08	14:13	15:16
30	23:55	–:–	00:53	13:31	14:39	15:42
35	23:41	–:–	00:37	13:45	14:54	15:57
40	23:25	–:–	00:20	14:01	15:11	16:15
45	23:05	23:58	–:–	14:20	15:33	16:36
50	22:40	23:31	–:–	14:43	15:59	17:03
52	22:29	23:18	–:–	14:55	16:12	17:16
54	22:15	23:03	–:–	15:08	16:27	17:31
56	22:00	22:45	23:52	15:23	16:45	17:49
58	21:42	22:24	23:31	15:41	17:06	18:10
60	21:20	21:56	23:04	16:02	17:34	18:37

Día	Sol			Luna		
	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
24	13:14	13:10	12:13	06:15	18:44	23(44%)
25	13:05	13:01	12:13	07:15	19:46	24(33%)
26	12:56	12:51	12:12	08:17	20:48	25(22%)

Febrero 27, 28, 01 (Dom, Lun, Mar)

	Aries	Venus		Martes		Júpiter		Saturno	
Dom	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	156°48.5	221°43.3	-16°55.9	220°08.9	-22°00.1	171°44.8	-7°25.9	195°31.5	-16°05.9
1	171°51.0	236°43.7	-16°55.9	235°09.4	-21°59.8	186°46.7	-7°25.7	210°33.6	-16°05.8
2	186°53.4	251°44.1	-16°55.8	250°09.9	-21°59.5	201°48.6	-7°25.5	225°35.8	-16°05.7
3	201°55.9	266°44.5	-16°55.8	265°10.4	-21°59.2	216°50.5	-7°25.3	240°38.0	-16°05.6
4	216°58.4	281°44.9	-16°55.7	280°10.8	-21°58.9	231°52.4	-7°25.0	255°40.2	-16°05.5
5	232°00.8	296°45.4	-16°55.7	295°11.3	-21°58.6	246°54.3	-7°24.8	270°42.3	-16°05.4
6	247°03.3	311°45.8	-16°55.6	310°11.8	-21°58.3	261°56.2	-7°24.6	285°44.5	-16°05.3
7	262°05.8	326°46.2	-16°55.5	325°12.3	-21°58.0	276°58.1	-7°24.3	300°46.7	-16°05.3
8	277°08.2	341°46.6	-16°55.5	340°12.8	-21°57.7	292°00.0	-7°24.1	315°48.9	-16°05.2
9	292°10.7	356°47.0	-16°55.4	355°13.3	-21°57.4	307°01.9	-7°23.9	330°51.1	-16°05.1
10	307°13.2	11°47.4	-16°55.4	10°13.8	-21°57.1	322°03.8	-7°23.6	345°53.2	-16°05.0
11	322°15.6	26°47.8	-16°55.3	25°14.2	-21°56.8	337°05.7	-7°23.4	0°55.4	-16°04.9
12	337°18.1	41°48.2	-16°55.3	40°14.7	-21°56.5	352°07.6	-7°23.2	15°57.6	-16°04.8
13	352°20.6	56°48.6	-16°55.2	55°15.2	-21°56.1	7°09.5	-7°22.9	30°59.8	-16°04.7
14	7°23.0	71°49.0	-16°55.2	70°15.7	-21°55.8	22°11.4	-7°22.7	46°02.0	-16°04.7
15	22°25.5	86°49.4	-16°55.1	85°16.2	-21°55.5	37°13.3	-7°22.5	61°04.1	-16°04.6
16	37°27.9	101°49.8	-16°55.0	100°16.7	-21°55.2	52°15.2	-7°22.2	76°06.3	-16°04.5
17	52°30.4	116°50.2	-16°55.0	115°17.2	-21°54.9	67°17.1	-7°22.0	91°08.5	-16°04.4
18	67°32.9	131°50.6	-16°54.9	130°17.6	-21°54.6	82°19.0	-7°21.8	106°10.7	-16°04.3
19	82°35.3	146°51.0	-16°54.9	145°18.1	-21°54.3	97°20.9	-7°21.6	121°12.8	-16°04.2
20	97°37.8	161°51.4	-16°54.8	160°18.6	-21°54.0	112°22.8	-7°21.3	136°15.0	-16°04.1
21	112°40.3	176°51.8	-16°54.7	175°19.1	-21°53.7	127°24.7	-7°21.1	151°17.2	-16°04.1
22	127°42.7	191°52.2	-16°54.7	190°19.6	-21°53.4	142°26.6	-7°20.9	166°19.4	-16°04.0
23	142°45.2	206°52.6	-16°54.6	205°20.1	-21°53.1	157°28.5	-7°20.6	181°21.6	-16°03.9
Mer.pass.:13:30		v0.4 d0.0 m-4.4		v0.5 d0.3 m1.3		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.8	

Lun	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	157°47.7	221°53.0	-16°54.5	220°20.6	-21°52.8	172°30.4	-7°20.4	196°23.7	-16°03.8
1	172°50.1	236°53.4	-16°54.5	235°21.1	-21°52.4	187°32.3	-7°20.2	211°25.9	-16°03.7
2	187°52.6	251°53.7	-16°54.4	250°21.6	-21°52.1	202°34.2	-7°19.9	226°28.1	-16°03.6
3	202°55.1	266°54.1	-16°54.3	265°22.0	-21°51.8	217°36.1	-7°19.7	241°30.3	-16°03.5
4	217°57.5	281°54.5	-16°54.3	280°22.5	-21°51.5	232°38.0	-7°19.5	256°32.4	-16°03.5
5	233°00.0	296°54.9	-16°54.2	295°23.0	-21°51.2	247°39.9	-7°19.2	271°34.6	-16°03.4
6	248°02.4	311°55.3	-16°54.1	310°23.5	-21°50.9	262°41.8	-7°19.0	286°36.8	-16°03.3
7	263°04.9	326°55.6	-16°54.1	325°24.0	-21°50.6	277°43.7	-7°18.8	301°39.0	-16°03.2
8	278°07.4	341°56.0	-16°54.0	340°24.5	-21°50.3	292°45.6	-7°18.5	316°41.2	-16°03.1
9	293°09.8	356°56.4	-16°53.9	355°25.0	-21°49.9	307°47.5	-7°18.3	331°43.3	-16°03.0
10	308°12.3	11°56.8	-16°53.9	10°25.5	-21°49.6	322°49.4	-7°18.1	346°45.5	-16°02.9
11	323°14.8	26°57.1	-16°53.8	25°25.9	-21°49.3	337°51.3	-7°17.9	1°47.7	-16°02.9
12	338°17.2	41°57.5	-16°53.7	40°26.4	-21°49.0	352°53.2	-7°17.6	16°49.9	-16°02.8
13	353°19.7	56°57.9	-16°53.7	55°26.9	-21°48.7	7°55.1	-7°17.4	31°52.1	-16°02.7
14	8°22.2	71°58.2	-16°53.6	70°27.4	-21°48.4	22°57.0	-7°17.2	46°54.2	-16°02.6
15	23°24.6	86°58.6	-16°53.5	85°27.9	-21°48.1	37°58.9	-7°16.9	61°56.4	-16°02.5
16	38°27.1	101°58.9	-16°53.4	100°28.4	-21°47.7	53°00.9	-7°16.7	76°58.6	-16°02.4
17	53°29.5	116°59.3	-16°53.4	115°28.9	-21°47.4	68°02.8	-7°16.5	92°00.8	-16°02.3
18	68°32.0	131°59.7	-16°53.3	130°29.4	-21°47.1	83°04.7	-7°16.2	107°03.0	-16°02.3
19	83°34.5	147°00.0	-16°53.2	145°29.9	-21°46.8	98°06.6	-7°16.0	122°05.1	-16°02.2
20	98°36.9	162°00.4	-16°53.1	160°30.3	-21°46.5	113°08.5	-7°15.8	137°07.3	-16°02.1
21	113°39.4	177°00.7	-16°53.0	175°30.8	-21°46.2	128°10.4	-7°15.5	152°09.5	-16°02.0
22	128°41.9	192°01.1	-16°53.0	190°31.3	-21°45.8	143°12.3	-7°15.3	167°11.7	-16°01.9
23	143°44.3	207°01.4	-16°52.9	205°31.8	-21°45.5	158°14.2	-7°15.1	182°13.9	-16°01.8
Mer.pass.:13:26		v0.4 d0.1 m-4.4		v0.5 d0.3 m1.3		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.8	

Mar	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	158°46.8	222°01.8	-16°52.8	220°32.3	-21°45.2	173°16.1	-7°14.8	197°16.0	-16°01.7
1	173°49.3	237°02.1	-16°52.7	235°32.8	-21°44.9	188°18.0	-7°14.6	212°18.2	-16°01.7
2	188°51.7	252°02.5	-16°52.6	250°33.3	-21°44.6	203°19.9	-7°14.4	227°20.4	-16°01.6
3	203°54.2	267°02.8	-16°52.6	265°33.8	-21°44.2	218°21.8	-7°14.2	242°22.6	-16°01.5
4	218°56.7	282°03.2	-16°52.5	280°34.3	-21°43.9	233°23.7	-7°13.9	257°24.8	-16°01.4
5	233°59.1	297°03.5	-16°52.4	295°34.8	-21°43.6	248°25.6	-7°13.7	272°26.9	-16°01.3
6	249°01.6	312°03.9	-16°52.3	310°35.3	-21°43.3	263°27.5	-7°13.5	287°29.1	-16°01.2
7	264°04.0	327°04.2	-16°52.2	325°35.7	-21°42.9	278°29.4	-7°13.2	302°31.3	-16°01.2
8	279°06.5	342°04.6	-16°52.1	340°36.2	-21°42.6	293°31.3	-7°13.0	317°33.5	-16°01.1
9	294°09.0	357°04.9	-16°52.1	355°36.7	-21°42.3	308°33.2	-7°12.8	332°35.7	-16°01.0
10	309°11.4	12°05.2	-16°52.0	10°37.2	-21°42.0	323°35.1	-7°12.5	347°37.8	-16°00.9
11	324°13.9	27°05.6	-16°51.9	25°37.7	-21°41.7	338°37.0	-7°12.3	2°40.0	-16°00.8
12	339°16.4	42°05.9	-16°51.8	40°38.2	-21°41.3	353°38.9	-7°12.1	17°42.2	-16°00.7
13	354°18.8	57°06.2	-16°51.7	55°38.7	-21°41.0	8°40.8	-7°11.8	32°44.4	-16°00.6
14	9°21.3	72°06.6	-16°51.6	70°39.2	-21°40.7	23°42.7	-7°11.6	47°46.6	-16°00.6
15	24°23.8	87°06.9	-16°51.5	85°39.7	-21°40.4	38°44.6	-7°11.4	62°48.7	-16°00.5
16	39°26.2	102°07.2	-16°51.4	100°40.2	-21°40.0	53°46.5	-7°11.1	77°50.9	-16°00.4
17	54°28.7	117°07.5	-16°51.3	115°40.7	-21°39.7	68°48.4	-7°10.9	92°53.1	-16°00.3
18	69°31.2	132°07.9	-16°51.2	130°41.1	-21°39.4	83°50.3	-7°10.7	107°55.3	-16°00.2
19	84°33.6	147°08.2	-16°51.2	145°41.6	-21°39.1	98°52.2	-7°10.4	122°57.5	-16°00.1
20	99°36.1	162°08.5	-16°51.1	160°42.1	-21°38.7	113°54.1	-7°10.2	137°59.6	-16°00.0
21	114°38.5	177°08.8	-16°51.0	175°42.6	-21°38.4	128°56.0	-7°10.0	153°01.8	-16°00.0
22	129°41.0	192°09.2	-16°50.9	190°43.1	-21°38.1	143°57.9	-7°09.7	168°04.0	-15°59.9
23	144°43.5	207°09.5	-16°50.8	205°43.6	-21°37.7	158°59.8	-7°09.5	183°06.2	-15°59.8
Mer.pass.:13:22		v0.3 d0.1 m-4.4		v0.5 d0.3 m1.3		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.8	

Estrellas

	AHS	Dec
Alpheratz	357°37.5	29°12.7
Ankaa	353°09.8	-42°11.4
Schedar	349°34.2	56°39.5
Diphda	348°49.8	-17°52.2
Achernar	335°22.4	-57°07.8
Hamal	327°54.1	23°34.0
Polaris	315°18.8	89°21.7
Akamar	315°13.7	-40°13.3
Menkar	314°08.7	4°10.4
Mirfak	308°31.7	49°56.5
Aldebaran	290°42.3	16°33.2
Rigel	281°06.0	-8°10.8
Capella	280°25.3	46°01.4
Bellatrix	278°25.3	6°22.1
Elnath	278°04.7	28°37.6
Alnilam	275°40.0	-1°11.4
Betelgeuse	270°54.5	7°24.6
Canopus	263°53.2	-52°42.7
Sirius	258°28.0	-16°44.8
Adara	255°07.5	-29°00.3
Procyon	244°53.0	5°10.2
Pollux	243°19.8	27°58.4
Avior	234°15.1	-59°35.0
Suhail	222°47.6	-43°31.4
Miaplacidus	221°37.9	-69°48.5
Alphard	217°49.7	-8°45.4
Regulus	207°36.6	11°51.5
Dubhe	193°43.2	61°37.9
Denebola	182°27.0	14°26.8
Gienah	175°45.7	-17°39.9
Acrux	173°02.1	-63°13.1
Gacrux	171°53.7	-57°14.1
Alioth	166°14.7	55°50.2
Spica	158°24.5	-11°16.6
Alcaid	152°53.6	49°12.0
Hadar	148°38.9	-60°28.5
Menkent	148°00.2	-36°28.6
Arcturus	145°49.7	19°04.2
Rigil Kent.	139°43.2	-60°55.3
Zubenelg.	136°58.5	-16°08.0
Kochab	137°19.3	74°03.6
Alphecca	126°05.7	26°38.2
Antares	112°18.7	-26°28.8
Atria	107°15.1	-69°03.7
Sabik	102°05.5	-15°45.1
Shaula	96°13.7	-37°07.1
Rasalhague	96°00.8	12°32.5
Etamin	90°43.5	51°28.8
Kaus Aust.	83°35.8	-34°22.4
Vega	80°35.1	38°47.9
Nunki	75°50.9	-26°16.1
Altair	62°02.6	8°55.4
Peacock	53°09.9	-56°39.8
Deneb	49°27.8	45°21.3
Enif	33°41.4	9°58.4
Alnair	27°36.4	-46°51.3
Fomalhaut	15°17.5	-29°30.5
Scheat	13°47.9	28°12.0
Markab	13°32.6	15°19.3

Feb 27 Dom	AHS	Paso Merid
Venus	64°54.7	09:13
Mars	63°20.4	09:19
Jupiter	14°56.3	12:31
Saturn	38°42.9	10:56

Feb 28 Lun	AHS	Paso Merid
Venus	64°05.3	09:12
Mars	62°32.9	09:18
Jupiter	14°42.8	12:28
Saturn	38°36.1	10:53

Mar 01 Mar	AHS	Paso Merid
Venus	63°15.0	09:12
Mars	61°45.5	09:18
Jupiter	14°29.3	12:25
Saturn	38°29.2	10:49

Paralelaje Horizontal	
Venus:	0.3
Mars:	0.1

h	Sol		Luna				
Dom	AHG	Dec	AHG	v	Dec	d	HP
0	176°48.5	-8°26.1	225°47.1	3.6	-26°04.9	3.2	59.6
1	191°48.7	-8°25.1	240°09.7	3.7	-26°01.6	3.4	59.6
2	206°48.8	-8°24.2	254°32.4	3.7	-25°58.1	3.6	59.6
3	221°48.9	-8°23.2	268°55.1	3.7	-25°54.4	3.8	59.6
4	236°49.0	-8°22.3	283°17.9	3.8	-25°50.5	4.0	59.6
5	251°49.1	-8°21.4	297°40.7	3.8	-25°46.4	4.2	59.6
6	266°49.2	-8°20.4	312°03.5	3.9	-25°42.2	4.3	59.6
7	281°49.3	-8°19.5	326°26.4	3.9	-25°37.8	4.5	59.6
8	296°49.4	-8°18.5	340°49.3	4.0	-25°33.2	4.7	59.6
9	311°49.5	-8°17.6	355°12.3	4.0	-25°28.4	4.9	59.6
10	326°49.6	-8°16.7	9°35.4	4.1	-25°23.4	5.0	59.6
11	341°49.7	-8°15.7	23°58.5	4.1	-25°18.3	5.2	59.6
12	356°49.9	-8°14.8	38°21.6	4.2	-25°13.0	5.4	59.6
13	11°50.0	-8°13.8	52°44.9	4.3	-25°07.5	5.6	59.6
14	26°50.1	-8°12.9	67°08.1	4.3	-25°01.9	5.7	59.6
15	41°50.2	-8°11.9	81°31.5	4.4	-24°56.1	5.9	59.6
16	56°50.3	-8°11.0	95°54.9	4.4	-24°50.1	6.1	59.6
17	71°50.4	-8°10.1	110°18.4	4.5	-24°43.9	6.2	59.6
18	86°50.5	-8°09.1	124°41.9	4.6	-24°37.6	6.4	59.6
19	101°50.6	-8°08.2	139°05.6	4.7	-24°31.1	6.6	59.6
20	116°50.7	-8°07.2	153°29.2	4.7	-24°24.5	6.7	59.6
21	131°50.9	-8°06.3	167°53.0	4.8	-24°17.6	6.9	59.5
22	146°51.0	-8°05.3	182°16.8	4.9	-24°10.7	7.1	59.5
23	161°51.1	-8°04.4	196°40.8	5.0	-24°03.5	7.2	59.5
	SD.=16.2	d=0.9			S.D.=16.3		

Lun	AHG	Dec	AHG	v	Dec	d	HP
0	176°51.2	-8°03.5	211°04.8	5.0	-23°56.2	7.4	59.5
1	191°51.3	-8°02.5	225°28.8	5.1	-23°48.8	7.5	59.5
2	206°51.4	-8°01.6	239°53.0	5.2	-23°41.1	7.7	59.5
3	221°51.5	-8°00.6	254°17.2	5.3	-23°33.4	7.9	59.5
4	236°51.6	-7°59.7	268°41.5	5.4	-23°25.4	8.0	59.5
5	251°51.8	-7°58.7	283°05.9	5.4	-23°17.4	8.2	59.5
6	266°51.9	-7°57.8	297°30.4	5.5	-23°09.1	8.3	59.5
7	281°52.0	-7°56.8	311°55.0	5.6	-23°00.7	8.5	59.5
8	296°52.1	-7°55.9	326°19.7	5.7	-22°52.2	8.6	59.5
9	311°52.2	-7°54.9	340°44.4	5.8	-22°43.5	8.7	59.5
10	326°52.3	-7°54.0	355°09.3	5.9	-22°34.7	8.9	59.4
11	341°52.4	-7°53.1	9°34.2	6.0	-22°25.7	9.0	59.4
12	356°52.6	-7°52.1	23°59.2	6.1	-22°16.6	9.2	59.4
13	11°52.7	-7°51.2	38°24.4	6.2	-22°07.4	9.3	59.4
14	26°52.8	-7°50.2	52°49.6	6.3	-21°58.0	9.5	59.4
15	41°52.9	-7°49.3	67°14.9	6.4	-21°48.5	9.6	59.4
16	56°53.0	-7°48.3	81°40.3	6.5	-21°38.8	9.7	59.4
17	71°53.1	-7°47.4	96°05.8	6.5	-21°29.0	9.9	59.4
18	86°53.3	-7°46.4	110°31.4	6.6	-21°19.1	10.0	59.4
19	101°53.4	-7°45.5	124°57.1	6.7	-21°09.0	10.1	59.3
20	116°53.5	-7°44.5	139°22.9	6.8	-20°58.9	10.2	59.3
21	131°53.6	-7°43.6	153°48.7	6.9	-20°48.6	10.4	59.3
22	146°53.7	-7°42.6	168°14.7	7.0	-20°38.1	10.5	59.3
23	161°53.8	-7°41.7	182°40.8	7.1	-20°27.6	10.6	59.3
	SD.=16.1	d=0.9			S.D.=16.2		

Mar	AHG	Dec	AHG	v	Dec	d	HP
0	176°54.0	-7°40.7	197°07.0	7.2	-20°16.9	10.7	59.3
1	191°54.1	-7°39.8	211°33.3	7.3	-20°06.1	10.9	59.3
2	206°54.2	-7°38.8	225°59.6	7.4	-19°55.1	11.0	59.3
3	221°54.3	-7°37.9	240°26.1	7.5	-19°44.1	11.1	59.2
4	236°54.4	-7°36.9	254°52.7	7.6	-19°33.0	11.2	59.2
5	251°54.6	-7°36.0	269°19.4	7.7	-19°21.7	11.3	59.2
6	266°54.7	-7°35.0	283°46.1	7.8	-19°10.3	11.4	59.2
7	281°54.8	-7°34.1	298°13.0	7.9	-18°58.8	11.5	59.2
8	296°54.9	-7°33.1	312°40.0	8.0	-18°47.2	11.6	59.2
9	311°55.0	-7°32.2	327°07.1	8.1	-18°35.5	11.8	59.1
10	326°55.2	-7°31.2	341°34.3	8.2	-18°23.7	11.9	59.1
11	341°55.3	-7°30.3	356°01.5	8.3	-18°11.8	12.0	59.1
12	356°55.4	-7°29.3	10°28.9	8.4	-17°59.8	12.1	59.1
13	11°55.5	-7°28.4	24°56.4	8.5	-17°47.7	12.2	59.1
14	26°55.6	-7°27.4	39°23.9	8.6	-17°35.5	12.3	59.1
15	41°55.8	-7°26.5	53°51.6	8.7	-17°23.2	12.3	59.0
16	56°55.9	-7°25.5	68°19.4	8.8	-17°10.8	12.4	59.0
17	71°56.0	-7°24.6	82°47.2	8.9	-16°58.3	12.5	59.0
18	86°56.1	-7°23.6	97°15.2	9.0	-16°45.8	12.6	59.0
19	101°56.2	-7°22.7	111°43.3	9.1	-16°33.1	12.7	59.0
20	116°56.4	-7°21.7	126°11.4	9.2	-16°20.4	12.8	58.9
21	131°56.5	-7°20.8	140°39.7	9.3	-16°07.5	12.9	58.9
22	146°56.6	-7°19.8	155°08.0	9.4	-15°54.6	13.0	58.9
23	161°56.7	-7°18.8	169°36.5	9.5	-15°41.6	13.0	58.9
	SD.=16.1	d=0.9			S.D.=16.2		

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	05:15	06:33	07:42	16:45	17:54	19:13
70	05:20	06:30	07:32	16:55	17:57	19:08
68	05:23	06:27	07:24	17:03	18:00	19:04
66	05:26	06:25	07:17	17:10	18:02	19:01
64	05:28	06:23	07:11	17:15	18:03	18:58
62	05:30	06:21	07:06	17:20	18:05	18:56
60	05:32	06:20	07:02	17:25	18:07	18:55
58	05:33	06:18	06:58	17:28	18:08	18:53
56	05:34	06:17	06:54	17:32	18:09	18:52
54	05:35	06:16	06:51	17:35	18:11	18:51
52	05:35	06:14	06:48	17:38	18:12	18:51
50	05:36	06:13	06:46	17:40	18:13	18:50
45	05:36	06:10	06:40	17:46	18:15	18:49
40	05:37	06:08	06:35	17:51	18:18	18:49
35	05:36	06:05	06:31	17:55	18:20	18:49
30	05:35	06:03	06:27	17:58	18:22	18:50
20	05:33	05:58	06:21	18:05	18:27	18:52
10	05:29	05:54	06:15	18:10	18:31	18:56
0	05:24	05:48	06:09	18:16	18:37	19:01
S 10	05:18	05:42	06:03	18:21	18:43	19:07
20	05:09	05:35	05:57	18:27	18:50	19:16
30	04:57	05:26	05:50	18:34	18:59	19:27
35	04:50	05:20	05:46	18:38	19:04	19:35
40	04:40	05:13	05:41	18:43	19:11	19:44
45	04:29	05:05	05:36	18:49	19:19	19:55
50	04:14	04:55	05:29	18:55	19:29	20:09
52	04:07	04:50	05:26	18:58	19:33	20:16
54	03:59	04:45	05:22	19:02	19:38	20:24
56	03:50	04:39	05:18	19:05	19:44	20:33
58	03:39	04:32	05:14	19:09	19:51	20:44
60	03:26	04:25	05:09	19:14	19:58	20:56

	Orto luna			Ocaso luna		
Lat.	Dom	Lun	Mar	Dom	Lun	Mar
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	09:44	–:–	–:–	13:10
68	–:–	–:–	09:00	–:–	–:–	13:52
66	–:–	09:03	08:31	–:–	11:51	14:20
64	08:38	08:17	08:08	10:09	12:36	14:42
62	07:36	07:47	07:50	11:11	13:05	14:59
60	07:02	07:24	07:35	11:45	13:27	15:13
58	06:36	07:05	07:22	12:10	13:45	15:24
56	06:16	06:50	07:11	12:29	14:00	15:35
54	05:59	06:36	07:01	12:46	14:13	15:44
52	05:45	06:25	06:53	13:00	14:25	15:52
50	05:32	06:14	06:45	13:12	14:35	15:59
45	05:06	05:52	06:28	13:38	14:55	16:15
40	04:45	05:34	06:14	13:58	15:12	16:27
35	04:28	05:19	06:02	14:15	15:26	16:38
30	04:13	05:06	05:52	14:29	15:39	16:47
20	03:48	04:44	05:34	14:54	15:59	17:03
10	03:26	04:24	05:18	15:15	16:17	17:17
0	03:05	04:06	05:03	15:35	16:34	17:29
S 10	02:45	03:48	04:49	15:54	16:51	17:42
20	02:23	03:28	04:33	16:15	17:08	17:55
30	01:57	03:06	04:15	16:39	17:28	18:11
35	01:42	02:52	04:04	16:53	17:40	18:19
40	01:25	02:37	03:52	17:09	17:53	18:29
45	01:04	02:18	03:37	17:28	18:09	18:41
50	00:37	01:55	03:19	17:52	18:28	18:55
52	00:24	01:44	03:11	18:04	18:37	19:02
54	00:09	01:32	03:01	18:17	18:47	19:09
56	–:–	01:17	02:50	18:32	18:59	19:17
58	–:–	01:00	02:38	18:49	19:12	19:26
60	–:–	00:39	02:24	19:10	19:27	19:36

Día	Sol			Luna		
	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
27	12:46	12:40	12:12	09:20	21:50	26(13%)
28	12:35	12:30	12:12	10:20	22:48	27(7%)
1	12:24	12:18	12:12	11:16	23:43	28(2%)

Marzo 02, 03, 04 (Mie, Jue, Vie)

	Aries	Venus		Martes		Júpiter		Saturno	
Mie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	159°45.9	222°09.8	-16°50.7	220°44.1	-21°37.4	174°01.7	-7°09.3	198°08.4	-15°59.7
1	174°48.4	237°10.1	-16°50.6	235°44.6	-21°37.1	189°03.6	-7°09.1	213°10.5	-15°59.6
2	189°50.9	252°10.4	-16°50.5	250°45.1	-21°36.8	204°05.5	-7°08.8	228°12.7	-15°59.5
3	204°53.3	267°10.7	-16°50.4	265°45.6	-21°36.4	219°07.4	-7°08.6	243°14.9	-15°59.5
4	219°55.8	282°11.0	-16°50.3	280°46.1	-21°36.1	234°09.3	-7°08.4	258°17.1	-15°59.4
5	234°58.3	297°11.4	-16°50.2	295°46.6	-21°35.8	249°11.2	-7°08.1	273°19.3	-15°59.3
6	250°00.7	312°11.7	-16°50.1	310°47.1	-21°35.4	264°13.1	-7°07.9	288°21.5	-15°59.2
7	265°03.2	327°12.0	-16°50.0	325°47.5	-21°35.1	279°15.0	-7°07.7	303°23.6	-15°59.1
8	280°05.6	342°12.3	-16°49.9	340°48.0	-21°34.8	294°16.9	-7°07.4	318°25.8	-15°59.0
9	295°08.1	357°12.6	-16°49.8	355°48.5	-21°34.4	309°18.8	-7°07.2	333°28.0	-15°58.9
10	310°10.6	12°12.9	-16°49.7	10°49.0	-21°34.1	324°20.7	-7°07.0	348°30.2	-15°58.9
11	325°13.0	27°13.2	-16°49.6	25°49.5	-21°33.8	339°22.6	-7°06.7	3°32.4	-15°58.8
12	340°15.5	42°13.5	-16°49.5	40°50.0	-21°33.4	354°24.5	-7°06.5	18°34.5	-15°58.7
13	355°18.0	57°13.8	-16°49.4	55°50.5	-21°33.1	9°26.4	-7°06.3	33°36.7	-15°58.6
14	10°20.4	72°14.1	-16°49.3	70°51.0	-21°32.8	24°28.3	-7°06.0	48°38.9	-15°58.5
15	25°22.9	87°14.4	-16°49.1	85°51.5	-21°32.4	39°30.2	-7°05.8	63°41.1	-15°58.4
16	40°25.4	102°14.7	-16°49.0	100°52.0	-21°32.1	54°32.1	-7°05.6	78°43.3	-15°58.3
17	55°27.8	117°15.0	-16°48.9	115°52.5	-21°31.8	69°34.0	-7°05.3	93°45.5	-15°58.3
18	70°30.3	132°15.3	-16°48.8	130°53.0	-21°31.4	84°35.9	-7°05.1	108°47.6	-15°58.2
19	85°32.8	147°15.6	-16°48.7	145°53.5	-21°31.1	99°37.8	-7°04.9	123°49.8	-15°58.1
20	100°35.2	162°15.9	-16°48.6	160°54.0	-21°30.8	114°39.7	-7°04.6	138°52.0	-15°58.0
21	115°37.7	177°16.1	-16°48.5	175°54.5	-21°30.4	129°41.6	-7°04.4	153°54.2	-15°57.9
22	130°40.1	192°16.4	-16°48.4	190°55.0	-21°30.1	144°43.5	-7°04.2	168°56.4	-15°57.8
23	145°42.6	207°16.7	-16°48.3	205°55.5	-21°29.7	159°45.4	-7°04.0	183°58.5	-15°57.8
Mer.pass.:13:18		v0.3 d0.1 m-4.4		v0.5 d0.3 m1.3		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.8	

Jue	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	160°45.1	222°17.0	-16°48.2	220°55.9	-21°29.4	174°47.3	-7°03.7	199°00.7	-15°57.7
1	175°47.5	237°17.3	-16°48.0	235°56.4	-21°29.1	189°49.2	-7°03.5	214°02.9	-15°57.6
2	190°50.0	252°17.6	-16°47.9	250°56.9	-21°28.7	204°51.1	-7°03.3	229°05.1	-15°57.5
3	205°52.5	267°17.8	-16°47.8	265°57.4	-21°28.4	219°53.0	-7°03.0	244°07.3	-15°57.4
4	220°54.9	282°18.1	-16°47.7	280°57.9	-21°28.1	234°54.9	-7°02.8	259°09.5	-15°57.3
5	235°57.4	297°18.4	-16°47.6	295°58.4	-21°27.7	249°56.8	-7°02.6	274°11.6	-15°57.2
6	250°59.9	312°18.7	-16°47.5	310°58.9	-21°27.4	264°58.7	-7°02.3	289°13.8	-15°57.2
7	266°02.3	327°19.0	-16°47.3	325°59.4	-21°27.0	280°00.6	-7°02.1	304°16.0	-15°57.1
8	281°04.8	342°19.2	-16°47.2	340°59.9	-21°26.7	295°02.5	-7°01.9	319°18.2	-15°57.0
9	296°07.2	357°19.5	-16°47.1	356°00.4	-21°26.4	310°04.4	-7°01.6	334°20.4	-15°56.9
10	311°09.7	12°19.8	-16°47.0	11°00.9	-21°26.0	325°06.3	-7°01.4	349°22.6	-15°56.8
11	326°12.2	27°20.1	-16°46.9	26°01.4	-21°25.7	340°08.2	-7°01.2	4°24.7	-15°56.7
12	341°14.6	42°20.3	-16°46.7	41°01.9	-21°25.3	355°10.1	-7°00.9	19°26.9	-15°56.7
13	356°17.1	57°20.6	-16°46.6	56°02.4	-21°25.0	10°12.0	-7°00.7	34°29.1	-15°56.6
14	11°19.6	72°20.9	-16°46.5	71°02.9	-21°24.6	25°13.9	-7°00.5	49°31.3	-15°56.5
15	26°22.0	87°21.1	-16°46.4	86°03.4	-21°24.3	40°15.8	-7°00.2	64°33.5	-15°56.4
16	41°24.5	102°21.4	-16°46.2	101°03.9	-21°24.0	55°17.7	-7°00.0	79°35.7	-15°56.3
17	56°27.0	117°21.6	-16°46.1	116°04.4	-21°23.6	70°19.6	-6°59.8	94°37.8	-15°56.2
18	71°29.4	132°21.9	-16°46.0	131°04.9	-21°23.3	85°21.5	-6°59.5	109°40.0	-15°56.2
19	86°31.9	147°22.2	-16°45.9	146°05.4	-21°22.9	100°23.4	-6°59.3	124°42.2	-15°56.1
20	101°34.4	162°22.4	-16°45.7	161°05.9	-21°22.6	115°25.3	-6°59.1	139°44.4	-15°56.0
21	116°36.8	177°22.7	-16°45.6	176°06.4	-21°22.2	130°27.2	-6°58.8	154°46.6	-15°55.9
22	131°39.3	192°22.9	-16°45.5	191°06.9	-21°21.9	145°29.1	-6°58.6	169°48.8	-15°55.8
23	146°41.7	207°23.2	-16°45.3	206°07.4	-21°21.5	160°31.0	-6°58.4	184°50.9	-15°55.7
Mer.pass.:13:14		v0.3 d0.1 m-4.4		v0.5 d0.3 m1.2		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.8	

Vie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	161°44.2	222°23.5	-16°45.2	221°07.9	-21°21.2	175°32.9	-6°58.2	199°53.1	-15°55.6
1	176°46.7	237°23.7	-16°45.1	236°08.4	-21°20.8	190°34.8	-6°57.9	214°55.3	-15°55.6
2	191°49.1	252°24.0	-16°45.0	251°08.9	-21°20.5	205°36.8	-6°57.7	229°57.5	-15°55.5
3	206°51.6	267°24.2	-16°44.8	266°09.4	-21°20.1	220°38.7	-6°57.5	244°59.7	-15°55.4
4	221°54.1	282°24.5	-16°44.7	281°09.8	-21°19.8	235°40.6	-6°57.2	260°01.9	-15°55.3
5	236°56.5	297°24.7	-16°44.6	296°10.3	-21°19.5	250°42.5	-6°57.0	275°04.0	-15°55.2
6	251°59.0	312°25.0	-16°44.4	311°10.8	-21°19.1	265°44.4	-6°56.8	290°06.2	-15°55.1
7	267°01.5	327°25.2	-16°44.3	326°11.3	-21°18.8	280°46.3	-6°56.5	305°08.4	-15°55.1
8	282°03.9	342°25.4	-16°44.1	341°11.8	-21°18.4	295°48.2	-6°56.3	320°10.6	-15°55.0
9	297°06.4	357°25.7	-16°44.0	356°12.3	-21°18.1	310°50.1	-6°56.1	335°12.8	-15°54.9
10	312°08.9	12°25.9	-16°43.9	11°12.8	-21°17.7	325°52.0	-6°55.8	350°15.0	-15°54.8
11	327°11.3	27°26.2	-16°43.7	26°13.3	-21°17.3	340°53.9	-6°55.6	5°17.1	-15°54.7
12	342°13.8	42°26.4	-16°43.6	41°13.8	-21°17.0	355°55.8	-6°55.4	20°19.3	-15°54.6
13	357°16.2	57°26.7	-16°43.5	56°14.3	-21°16.6	10°57.7	-6°55.1	35°21.5	-15°54.5
14	12°18.7	72°26.9	-16°43.3	71°14.8	-21°16.3	25°59.6	-6°54.9	50°23.7	-15°54.5
15	27°21.2	87°27.1	-16°43.2	86°15.3	-21°15.9	41°01.5	-6°54.7	65°25.9	-15°54.4
16	42°23.6	102°27.4	-16°43.0	101°15.8	-21°15.6	56°03.4	-6°54.4	80°28.1	-15°54.3
17	57°26.1	117°27.6	-16°42.9	116°16.3	-21°15.2	71°05.3	-6°54.2	95°30.3	-15°54.2
18	72°28.6	132°27.8	-16°42.7	131°16.8	-21°14.9	86°07.2	-6°54.0	110°32.4	-15°54.1
19	87°31.0	147°28.1	-16°42.6	146°17.3	-21°14.5	101°09.1	-6°53.7	125°34.6	-15°54.0
20	102°33.5	162°28.3	-16°42.5	161°17.8	-21°14.2	116°11.0	-6°53.5	140°36.8	-15°54.0
21	117°36.0	177°28.5	-16°42.3	176°18.3	-21°13.8	131°12.9	-6°53.3	155°39.0	-15°53.9
22	132°38.4	192°28.7	-16°42.2	191°18.8	-21°13.5	146°14.8	-6°53.0	170°41.2	-15°53.8
23	147°40.9	207°29.0	-16°42.0	206°19.3	-21°13.1	161°16.7	-6°52.8	185°43.4	-15°53.7
Mer.pass.:13:10		v0.3 d0.1 m-4.4		v0.5 d0.3 m1.2		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.8	

Estrellas	AHS	Dec
Alpheratz	357°37.5	29°12.7
Ankaa	353°09.8	-42°11.4
Schedar	349°34.2	56°39.5
Diphda	348°49.8	-17°52.2
Achernar	335°22.4	-57°07.8
Hamal	327°54.1	23°34.0
Polaris	315°20.3	89°21.7
Akamar	315°13.7	-40°13.3
Menkar	314°08.7	4°10.4
Mirfak	308°31.7	49°56.5
Aldebaran	290°42.3	16°33.2
Rigel	281°06.1	-8°10.8
Capella	280°25.3	46°01.4
Bellatrix	278°25.3	6°22.1
Elnath	278°04.7	28°37.6
Alnilam	275°40.0	-1°11.4
Betelgeuse	270°54.5	7°24.6
Canopus	263°53.2	-52°42.7
Sirius	258°28.0	-16°44.8
Adara	255°07.5	-29°00.3
Procyon	244°53.0	5°10.2
Pollux	243°19.8	27°58.4
Avior	234°15.2	-59°35.0
Suhail	222°47.6	-43°31.4
Miaplacidus	221°37.9	-69°48.5
Alphard	217°49.7	-8°45.4
Regulus	207°36.6	11°51.5
Dubhe	193°43.2	61°37.9
Denebola	182°27.0	14°26.8
Gienah	175°45.7	-17°39.9
Acrux	173°02.1	-63°13.2
Gacrux	171°53.7	-57°14.1
Alioth	166°14.6	55°50.2
Spica	158°24.5	-11°16.6
Alcaid	152°53.5	49°12.0
Hadar	148°38.9	-60°28.6
Menkent	148°00.1	-36°28.6
Arcturus	145°49.7	19°04.2
Rigil Kent.	139°43.2	-60°55.3
Zubenelg.	136°58.5	-16°08.0
Kochab	137°19.3	74°03.6
Alphecca	126°05.7	26°38.2
Antares	112°18.7	-26°28.8
Atria	107°15.1	-69°03.7
Sabik	102°05.5	-15°45.1
Shaula	96°13.6	-37°07.1
Rasalhague	96°00.8	12°32.5
Etamin	90°43.4	51°28.8
Kaus Aust.	83°35.8	-34°22.4
Vega	80°35.0	38°47.9
Nunki	75°50.9	-26°16.1
Altair	62°02.5	8°55.4
Peacock	53°09.9	-56°39.8
Deneb	49°27.8	45°21.3
Enif	33°41.4	9°58.4
Alnair	27°36.3	-46°51.3
Fomalhaut	15°17.5	-29°30.5
Scheat	13°47.9	28°12.0
Markab	13°32.6	15°19.3

Mar 02 Mie	AHS	Paso Merid
Venus	62°23.9	09:11
Mars	60°58.2	09:17
Jupiter	14°15.8	12:22
Saturn	38°22.4	10:46

Mar 03 Jue	AHS	Paso Merid
Venus	61°31.9	09:11
Mars	60°10.9	09:16
Jupiter	14°02.2	12:19
Saturn	38°15.7	10:42

Mar 04 Vie	AHS	Paso Merid
Venus	60°39.2	09:10
Mars	59°23.6	09:15
Jupiter	13°48.7	12:16
Saturn	38°08.9	10:39

Paralelaje Horizontal	
Venus:	0.3
Mars:	0.1

h	Sol		Luna				
Mie	AHG	Dec	AHG	v	Dec	d	HP
0	176°56.9	-7°17.9	184°05.0	9.6	-15°28.5	13.1	58.9
1	191°57.0	-7°16.9	198°33.7	9.7	-15°15.4	13.2	58.8
2	206°57.1	-7°16.0	213°02.4	9.8	-15°02.2	13.3	58.8
3	221°57.2	-7°15.0	227°31.2	9.9	-14°48.9	13.3	58.8
4	236°57.4	-7°14.1	242°00.1	10.0	-14°35.5	13.4	58.8
5	251°57.5	-7°13.1	256°29.1	10.1	-14°22.0	13.5	58.8
6	266°57.6	-7°12.2	270°58.2	10.1	-14°08.5	13.5	58.7
7	281°57.7	-7°11.2	285°27.4	10.2	-13°54.9	13.6	58.7
8	296°57.9	-7°10.3	299°56.7	10.3	-13°41.3	13.7	58.7
9	311°58.0	-7°09.3	314°26.1	10.4	-13°27.6	13.7	58.7
10	326°58.1	-7°08.3	328°55.5	10.5	-13°13.8	13.8	58.6
11	341°58.2	-7°07.4	343°25.1	10.6	-13°00.0	13.9	58.6
12	356°58.4	-7°06.4	357°54.7	10.7	-12°46.1	13.9	58.6
13	11°58.5	-7°05.5	12°24.4	10.8	-12°32.2	14.0	58.6
14	26°58.6	-7°04.5	26°54.2	10.8	-12°18.2	14.0	58.6
15	41°58.7	-7°03.6	41°24.1	10.9	-12°04.1	14.1	58.5
16	56°58.9	-7°02.6	55°54.1	11.0	-11°50.0	14.1	58.5
17	71°59.0	-7°01.7	70°24.2	11.1	-11°35.8	14.2	58.5
18	86°59.1	-7°00.7	84°54.3	11.2	-11°21.6	14.2	58.5
19	101°59.2	-6°59.7	99°24.5	11.3	-11°07.4	14.3	58.4
20	116°59.4	-6°58.8	113°54.8	11.3	-10°53.1	14.3	58.4
21	131°59.5	-6°57.8	128°25.2	11.4	-10°38.7	14.4	58.4
22	146°59.6	-6°56.9	142°55.7	11.5	-10°24.4	14.4	58.4
23	161°59.8	-6°55.9	157°26.2	11.6	-10°09.9	14.4	58.3
	SD.=16.1	d=1.0	S.D.=16.1				

Jue	AHG	Dec	AHG	v	Dec	d	HP
0	176°59.9	-6°55.0	171°56.8	11.6	-9°55.5	14.5	58.3
1	192°00.0	-6°54.0	186°27.5	11.7	-9°41.0	14.5	58.3
2	207°00.1	-6°53.0	200°58.3	11.8	-9°26.4	14.6	58.3
3	222°00.3	-6°52.1	215°29.1	11.9	-9°11.9	14.6	58.2
4	237°00.4	-6°51.1	230°00.0	11.9	-8°57.3	14.6	58.2
5	252°00.5	-6°50.2	244°31.0	12.0	-8°42.6	14.6	58.2
6	267°00.7	-6°49.2	259°02.0	12.1	-8°28.0	14.7	58.1
7	282°00.8	-6°48.2	273°33.2	12.2	-8°13.3	14.7	58.1
8	297°00.9	-6°47.3	288°04.3	12.2	-7°58.5	14.7	58.1
9	312°01.0	-6°46.3	302°35.6	12.3	-7°43.8	14.8	58.1
10	327°01.2	-6°45.4	317°06.9	12.4	-7°29.0	14.8	58.0
11	342°01.3	-6°44.4	331°38.3	12.4	-7°14.2	14.8	58.0
12	357°01.4	-6°43.4	346°09.8	12.5	-6°59.4	14.8	58.0
13	12°01.6	-6°42.5	0°41.3	12.5	-6°44.6	14.8	58.0
14	27°01.7	-6°41.5	15°12.9	12.6	-6°29.7	14.9	57.9
15	42°01.8	-6°40.6	29°44.5	12.7	-6°14.9	14.9	57.9
16	57°02.0	-6°39.6	44°16.2	12.7	-6°00.0	14.9	57.9
17	72°02.1	-6°38.6	58°48.0	12.8	-5°45.1	14.9	57.8
18	87°02.2	-6°37.7	73°19.8	12.8	-5°30.2	14.9	57.8
19	102°02.4	-6°36.7	87°51.7	12.9	-5°15.3	14.9	57.8
20	117°02.5	-6°35.8	102°23.6	13.0	-5°00.3	14.9	57.8
21	132°02.6	-6°34.8	116°55.6	13.0	-4°45.4	14.9	57.7
22	147°02.8	-6°33.8	131°27.6	13.1	-4°30.5	14.9	57.7
23	162°02.9	-6°32.9	145°59.7	13.1	-4°15.5	15.0	57.7
	SD.=16.1	d=1.0	S.D.=15.9				

Vie	AHG	Dec	AHG	v	Dec	d	HP
0	177°03.0	-6°31.9	160°31.9	13.2	-4°00.6	15.0	57.6
1	192°03.2	-6°30.9	175°04.1	13.2	-3°45.6	15.0	57.6
2	207°03.3	-6°30.0	189°36.3	13.3	-3°30.6	15.0	57.6
3	222°03.4	-6°29.0	204°08.6	13.3	-3°15.7	15.0	57.5
4	237°03.6	-6°28.1	218°40.9	13.4	-3°00.7	15.0	57.5
5	252°03.7	-6°27.1	233°13.3	13.4	-2°45.8	15.0	57.5
6	267°03.8	-6°26.1	247°45.8	13.5	-2°30.8	15.0	57.5
7	282°04.0	-6°25.2	262°18.2	13.5	-2°15.9	14.9	57.4
8	297°04.1	-6°24.2	276°50.8	13.5	-2°00.9	14.9	57.4
9	312°04.2	-6°23.2	291°23.3	13.6	-1°46.0	14.9	57.4
10	327°04.4	-6°22.3	305°55.9	13.6	-1°31.0	14.9	57.3
11	342°04.5	-6°21.3	320°28.6	13.7	-1°16.1	14.9	57.3
12	357°04.6	-6°20.4	335°01.3	13.7	-1°01.2	14.9	57.3
13	12°04.8	-6°19.4	349°34.0	13.7	-0°46.3	14.9	57.3
14	27°04.9	-6°18.4	4°06.7	13.8	-0°31.4	14.9	57.2
15	42°05.0	-6°17.5	18°39.5	13.8	-0°16.6	14.9	57.2
16	57°05.2	-6°16.5	33°12.4	13.8	-0°01.7	14.8	57.2
17	72°05.3	-6°15.5	47°45.2	13.9	0°13.1	14.8	57.1
18	87°05.5	-6°14.6	62°18.1	13.9	0°28.0	14.8	57.1
19	102°05.6	-6°13.6	76°51.0	13.9	0°42.8	14.8	57.1
20	117°05.7	-6°12.6	91°24.0	14.0	0°57.6	14.8	57.0
21	132°05.9	-6°11.7	105°57.0	14.0	1°12.3	14.8	57.0
22	147°06.0	-6°10.7	120°30.0	14.0	1°27.1	14.7	57.0
23	162°06.1	-6°09.7	135°03.0	14.1	1°41.8	14.7	56.9
	SD.=16.1	d=1.0	S.D.=15.7				

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	05:00	06:18	07:26	16:59	18:08	19:27
70	05:06	06:17	07:18	17:08	18:09	19:20
68	05:11	06:15	07:11	17:14	18:10	19:15
66	05:15	06:14	07:06	17:20	18:11	19:11
64	05:18	06:13	07:01	17:24	18:12	19:07
62	05:21	06:12	06:57	17:29	18:13	19:05
60	05:23	06:11	06:53	17:32	18:14	19:02
58	05:25	06:10	06:50	17:35	18:15	19:00
56	05:27	06:09	06:47	17:38	18:16	18:59
54	05:28	06:09	06:44	17:41	18:16	18:57
52	05:29	06:08	06:42	17:43	18:17	18:56
50	05:30	06:07	06:39	17:45	18:18	18:55
45	05:31	06:05	06:35	17:50	18:19	18:53
40	05:32	06:03	06:31	17:54	18:21	18:52
35	05:32	06:02	06:27	17:57	18:23	18:52
30	05:32	06:00	06:24	18:00	18:24	18:52
20	05:31	05:56	06:18	18:06	18:28	18:53
10	05:28	05:52	06:13	18:11	18:32	18:56
0	05:24	05:48	06:09	18:15	18:36	19:00
S 10	05:18	05:43	06:04	18:20	18:41	19:06
20	05:10	05:36	05:58	18:25	18:47	19:13
30	04:59	05:28	05:52	18:31	18:55	19:24
35	04:53	05:23	05:49	18:35	19:00	19:30
40	04:44	05:17	05:44	18:39	19:06	19:39
45	04:34	05:10	05:40	18:43	19:13	19:49
50	04:20	05:01	05:34	18:49	19:22	20:02
52	04:14	04:56	05:31	18:52	19:26	20:09
54	04:06	04:51	05:28	18:54	19:31	20:16
56	03:58	04:46	05:25	18:58	19:36	20:24
58	03:48	04:40	05:21	19:01	19:42	20:34
60	03:37	04:33	05:17	19:05	19:49	20:45

	Orto luna			Ocaso luna		
Lat.	Mie	Jue	Vie	Mie	Jue	Vie
N 72	09:14	08:31	07:59	15:30	17:56	20:05
70	08:49	08:20	07:56	15:53	18:04	20:04
68	08:30	08:10	07:54	16:11	18:11	20:03
66	08:14	08:02	07:52	16:24	18:17	20:02
64	08:02	07:56	07:50	16:36	18:21	20:01
62	07:51	07:50	07:49	16:45	18:25	20:01
60	07:41	07:45	07:48	16:53	18:29	20:00
58	07:33	07:41	07:46	17:01	18:32	20:00
56	07:26	07:37	07:45	17:07	18:35	19:59
54	07:19	07:33	07:44	17:12	18:37	19:59
52	07:13	07:30	07:44	17:17	18:40	19:58
50	07:08	07:27	07:43	17:22	18:42	19:58
45	06:56	07:20	07:41	17:32	18:46	19:57
40	06:47	07:15	07:40	17:40	18:50	19:57
35	06:38	07:10	07:38	17:47	18:53	19:56
30	06:31	07:06	07:37	17:53	18:56	19:56
20	06:18	06:58	07:35	18:03	19:00	19:55
10	06:07	06:52	07:34	18:12	19:04	19:54
0	05:57	06:46	07:32	18:20	19:08	19:54
S 10	05:46	06:40	07:31	18:29	19:12	19:53
20	05:35	06:33	07:29	18:38	19:16	19:52
30	05:22	06:26	07:27	18:47	19:21	19:51
35	05:14	06:22	07:26	18:53	19:23	19:51
40	05:05	06:17	07:25	19:00	19:26	19:50
45	04:55	06:11	07:24	19:07	19:29	19:50
50	04:43	06:04	07:22	19:16	19:33	19:49
52	04:37	06:01	07:21	19:20	19:35	19:49
54	04:31	05:57	07:20	19:24	19:37	19:48
56	04:24	05:54	07:19	19:29	19:39	19:48
58	04:16	05:49	07:18	19:35	19:42	19:47
60	04:07	05:44	07:17	19:41	19:44	19:47

Día	Sol			Luna		
	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
2	12:12	12:06	12:12	12:08	00:33	29(0%)
3	12:00	11:54	12:11	12:57	00:33	1(1%)
4	11:48	11:41	12:11	13:43	01:20	2(4%)

Marzo 05, 06, 07 (Sa, Dom, Lun)

	Aries	Venus		Martes		Júpiter		Saturno	
Sa	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	162°43.3	222°29.2	-16°41.9	221°19.8	-21°12.8	176°18.6	-6°52.6	200°45.5	-15°53.6
1	177°45.8	237°29.4	-16°41.7	236°20.3	-21°12.4	191°20.5	-6°52.3	215°47.7	-15°53.5
2	192°48.3	252°29.6	-16°41.6	251°20.8	-21°12.0	206°22.4	-6°52.1	230°49.9	-15°53.5
3	207°50.7	267°29.9	-16°41.4	266°21.3	-21°11.7	221°24.3	-6°51.9	245°52.1	-15°53.4
4	222°53.2	282°30.1	-16°41.3	281°21.8	-21°11.3	236°26.2	-6°51.6	260°54.3	-15°53.3
5	237°55.7	297°30.3	-16°41.1	296°22.3	-21°11.0	251°28.1	-6°51.4	275°56.5	-15°53.2
6	252°58.1	312°30.5	-16°41.0	311°22.8	-21°10.6	266°30.0	-6°51.2	290°58.7	-15°53.1
7	268°00.6	327°30.7	-16°40.8	326°23.3	-21°10.3	281°31.9	-6°50.9	306°00.8	-15°53.0
8	283°03.1	342°31.0	-16°40.7	341°23.8	-21°09.9	296°33.8	-6°50.7	321°03.0	-15°53.0
9	298°05.5	357°31.2	-16°40.5	356°24.3	-21°09.5	311°35.7	-6°50.5	336°05.2	-15°52.9
10	313°08.0	12°31.4	-16°40.3	11°24.8	-21°09.2	326°37.6	-6°50.3	351°07.4	-15°52.8
11	328°10.5	27°31.6	-16°40.2	26°25.3	-21°08.8	341°39.5	-6°50.0	6°09.6	-15°52.7
12	343°12.9	42°31.8	-16°40.0	41°25.8	-21°08.5	356°41.4	-6°49.8	21°11.8	-15°52.6
13	358°15.4	57°32.0	-16°39.9	56°26.3	-21°08.1	11°43.3	-6°49.6	36°14.0	-15°52.5
14	13°17.8	72°32.2	-16°39.7	71°26.8	-21°07.7	26°45.2	-6°49.3	51°16.1	-15°52.4
15	28°20.3	87°32.4	-16°39.6	86°27.3	-21°07.4	41°47.1	-6°49.1	66°18.3	-15°52.4
16	43°22.8	102°32.6	-16°39.4	101°27.8	-21°07.0	56°49.0	-6°48.9	81°20.5	-15°52.3
17	58°25.2	117°32.9	-16°39.2	116°28.4	-21°06.6	71°50.9	-6°48.6	96°22.7	-15°52.2
18	73°27.7	132°33.1	-16°39.1	131°28.9	-21°06.3	86°52.8	-6°48.4	111°24.9	-15°52.1
19	88°30.2	147°33.3	-16°38.9	146°29.4	-21°05.9	101°54.7	-6°48.2	126°27.1	-15°52.0
20	103°32.6	162°33.5	-16°38.8	161°29.9	-21°05.6	116°56.6	-6°47.9	141°29.3	-15°51.9
21	118°35.1	177°33.7	-16°38.6	176°30.4	-21°05.2	131°58.5	-6°47.7	156°31.4	-15°51.9
22	133°37.6	192°33.9	-16°38.4	191°30.9	-21°04.8	147°00.4	-6°47.5	171°33.6	-15°51.8
23	148°40.0	207°34.1	-16°38.3	206°31.4	-21°04.5	162°02.3	-6°47.2	186°35.8	-15°51.7
Mer.pass.:13:06		v0.2 d0.1 m-4.4		v0.5 d0.4 m1.2		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.8	

Dom	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	163°42.5	222°34.3	-16°38.1	221°31.9	-21°04.1	177°04.2	-6°47.0	201°38.0	-15°51.6
1	178°44.9	237°34.5	-16°37.9	236°32.4	-21°03.7	192°06.1	-6°46.8	216°40.2	-15°51.5
2	193°47.4	252°34.7	-16°37.8	251°32.9	-21°03.4	207°08.0	-6°46.5	231°42.4	-15°51.4
3	208°49.9	267°34.8	-16°37.6	266°33.4	-21°03.0	222°09.9	-6°46.3	246°44.6	-15°51.4
4	223°52.3	282°35.0	-16°37.4	281°33.9	-21°02.6	237°11.8	-6°46.1	261°46.7	-15°51.3
5	238°54.8	297°35.2	-16°37.3	296°34.4	-21°02.3	252°13.7	-6°45.8	276°48.9	-15°51.2
6	253°57.3	312°35.4	-16°37.1	311°34.9	-21°01.9	267°15.6	-6°45.6	291°51.1	-15°51.1
7	268°59.7	327°35.6	-16°36.9	326°35.4	-21°01.5	282°17.5	-6°45.4	306°53.3	-15°51.0
8	284°02.2	342°35.8	-16°36.7	341°35.9	-21°01.2	297°19.4	-6°45.1	321°55.5	-15°50.9
9	299°04.7	357°36.0	-16°36.6	356°36.4	-21°00.8	312°21.3	-6°44.9	336°57.7	-15°50.9
10	314°07.1	12°36.2	-16°36.4	11°36.9	-21°00.4	327°23.2	-6°44.7	351°59.9	-15°50.8
11	329°09.6	27°36.4	-16°36.2	26°37.4	-21°00.1	342°25.1	-6°44.4	7°02.1	-15°50.7
12	344°12.1	42°36.5	-16°36.0	41°37.9	-20°59.7	357°27.0	-6°44.2	22°04.2	-15°50.6
13	359°14.5	57°36.7	-16°35.9	56°38.4	-20°59.3	12°28.9	-6°44.0	37°06.4	-15°50.5
14	14°17.0	72°36.9	-16°35.7	71°38.9	-20°59.0	27°30.8	-6°43.7	52°08.6	-15°50.4
15	29°19.4	87°37.1	-16°35.5	86°39.4	-20°58.6	42°32.7	-6°43.5	67°10.8	-15°50.4
16	44°21.9	102°37.3	-16°35.3	101°39.9	-20°58.2	57°34.6	-6°43.3	82°13.0	-15°50.3
17	59°24.4	117°37.5	-16°35.2	116°40.4	-20°57.8	72°36.5	-6°43.0	97°15.2	-15°50.2
18	74°26.8	132°37.6	-16°35.0	131°40.9	-20°57.5	87°38.5	-6°42.8	112°17.4	-15°50.1
19	89°29.3	147°37.8	-16°34.8	146°41.4	-20°57.1	102°40.4	-6°42.6	127°19.6	-15°50.0
20	104°31.8	162°38.0	-16°34.6	161°42.0	-20°56.7	117°42.3	-6°42.3	142°21.7	-15°49.9
21	119°34.2	177°38.2	-16°34.4	176°42.5	-20°56.4	132°44.2	-6°42.1	157°23.9	-15°49.9
22	134°36.7	192°38.3	-16°34.3	191°43.0	-20°56.0	147°46.1	-6°41.9	172°26.1	-15°49.8
23	149°39.2	207°38.5	-16°34.1	206°43.5	-20°55.6	162°48.0	-6°41.6	187°28.3	-15°49.7
Mer.pass.:13:03		v0.2 d0.2 m-4.4		v0.5 d0.4 m1.2		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.8	

Lun	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	164°41.6	222°38.7	-16°33.9	221°44.0	-20°55.2	177°49.9	-6°41.4	202°30.5	-15°49.6
1	179°44.1	237°38.8	-16°33.7	236°44.5	-20°54.9	192°51.8	-6°41.2	217°32.7	-15°49.5
2	194°46.5	252°39.0	-16°33.5	251°45.0	-20°54.5	207°53.7	-6°41.0	232°34.9	-15°49.4
3	209°49.0	267°39.2	-16°33.3	266°45.5	-20°54.1	222°55.6	-6°40.7	247°37.1	-15°49.4
4	224°51.5	282°39.4	-16°33.1	281°46.0	-20°53.7	237°57.5	-6°40.5	262°39.2	-15°49.3
5	239°53.9	297°39.5	-16°33.0	296°46.5	-20°53.4	252°59.4	-6°40.3	277°41.4	-15°49.2
6	254°56.4	312°39.7	-16°32.8	311°47.0	-20°53.0	268°01.3	-6°40.0	292°43.6	-15°49.1
7	269°58.9	327°39.8	-16°32.6	326°47.5	-20°52.6	283°03.2	-6°39.8	307°45.8	-15°49.0
8	285°01.3	342°40.0	-16°32.4	341°48.0	-20°52.2	298°05.1	-6°39.6	322°48.0	-15°48.9
9	300°03.8	357°40.2	-16°32.2	356°48.5	-20°51.9	313°07.0	-6°39.3	337°50.2	-15°48.9
10	315°06.3	12°40.3	-16°32.0	11°49.0	-20°51.5	328°08.9	-6°39.1	352°52.4	-15°48.8
11	330°08.7	27°40.5	-16°31.8	26°49.5	-20°51.1	343°10.8	-6°38.9	7°54.6	-15°48.7
12	345°11.2	42°40.7	-16°31.6	41°50.1	-20°50.7	358°12.7	-6°38.6	22°56.8	-15°48.6
13	0°13.7	57°40.8	-16°31.4	56°50.6	-20°50.3	13°14.6	-6°38.4	37°58.9	-15°48.5
14	15°16.1	72°41.0	-16°31.2	71°51.1	-20°50.0	28°16.5	-6°38.2	53°01.1	-15°48.4
15	30°18.6	87°41.1	-16°31.0	86°51.6	-20°49.6	43°18.4	-6°37.9	68°03.3	-15°48.4
16	45°21.0	102°41.3	-16°30.8	101°52.1	-20°49.2	58°20.3	-6°37.7	83°05.5	-15°48.3
17	60°23.5	117°41.4	-16°30.7	116°52.6	-20°48.8	73°22.2	-6°37.5	98°07.7	-15°48.2
18	75°26.0	132°41.6	-16°30.5	131°53.1	-20°48.4	88°24.1	-6°37.2	113°09.9	-15°48.1
19	90°28.4	147°41.7	-16°30.3	146°53.6	-20°48.1	103°26.0	-6°37.0	128°12.1	-15°48.0
20	105°30.9	162°41.9	-16°30.1	161°54.1	-20°47.7	118°27.9	-6°36.8	143°14.3	-15°47.9
21	120°33.4	177°42.0	-16°29.9	176°54.6	-20°47.3	133°29.8	-6°36.5	158°16.5	-15°47.9
22	135°35.8	192°42.2	-16°29.7	191°55.1	-20°46.9	148°31.7	-6°36.3	173°18.6	-15°47.8
23	150°38.3	207°42.3	-16°29.5	206°55.6	-20°46.5	163°33.6	-6°36.1	188°20.8	-15°47.7
Mer.pass.:12:59		v0.2 d0.2 m-4.4		v0.5 d0.4 m1.2		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.8	

Estrellas

	AHS	Dec
Alpheratz	357°37.5	29°12.6
Ankaa	353°09.8	-42°11.4
Schedar	349°34.2	56°39.5
Diphda	348°49.8	-17°52.2
Achernar	335°22.4	-57°07.8
Hamal	327°54.1	23°34.0
Polaris	315°21.7	89°21.7
Akamar	315°13.7	-40°13.3
Menkar	314°08.7	4°10.4
Mirfak	308°31.8	49°56.5
Aldebaran	290°42.3	16°33.2
Rigel	281°06.1	-8°10.8
Capella	280°25.3	46°01.4
Bellatrix	278°25.3	6°22.1
Elnath	278°04.8	28°37.6
Alnilam	275°40.0	-1°11.4
Betelgeuse	270°54.5	7°24.6
Canopus	263°53.2	-52°42.7
Sirius	258°28.0	-16°44.8
Adara	255°07.5	-29°00.3
Procyon	244°53.0	5°10.2
Pollux	243°19.8	27°58.4
Avior	234°15.2	-59°35.0
Suhail	222°47.6	-43°31.4
Miaplacidus	221°37.9	-69°48.6
Alphard	217°49.7	-8°45.4
Regulus	207°36.6	11°51.5
Dubhe	193°43.2	61°37.9
Denebola	182°26.9	14°26.8
Gienah	175°45.7	-17°39.9
Acrux	173°02.0	-63°13.2
Gacrux	171°53.7	-57°14.1
Alioth	166°14.6	55°50.2
Spica	158°24.5	-11°16.6
Alcaid	152°53.5	49°12.0
Hadar	148°38.9	-60°28.6
Menkent	148°00.1	-36°28.6
Arcturus	145°49.7	19°04.2
Rigil Kent.	139°43.2	-60°55.4
Zubenelg.	136°58.4	-16°08.0
Kochab	137°19.2	74°03.6
Alphecca	126°05.6	26°38.2
Antares	112°18.7	-26°28.8
Atria	107°15.0	-69°03.7
Sabik	102°05.5	-15°45.1
Shaula	96°13.6	-37°07.1
Rasalhague	96°00.8	12°32.5
Etamin	90°43.4	51°28.8
Kaus Aust.	83°35.7	-34°22.4
Vega	80°35.0	38°47.9
Nunki	75°50.8	-26°16.1
Altair	62°02.5	8°55.4
Peacock	53°09.9	-56°39.8
Deneb	49°27.8	45°21.3
Enif	33°41.4	9°58.4
Alnair	27°36.3	-46°51.3
Fomalhaut	15°17.5	-29°30.5
Scheat	13°47.9	28°12.0
Markab	13°32.6	15°19.3

Mar 05 Sa	AHS	Paso Merid
Venus	59°45.9	09:10
Mars	58°36.5	09:14
Jupiter	13°35.2	12:13
Saturn	38°02.2	10:35

Mar 06 Dom	AHS	Paso Merid
Venus	58°51.8	09:10
Mars	57°49.4	09:14
Jupiter	13°21.7	12:10
Saturn	37°55.5	10:32

Mar 07 Lun	AHS	Paso Merid
Venus	57°57.1	09:09
Mars	57°02.4	09:13
Jupiter	13°08.2	12:07
Saturn	37°48.9	10:28

Paralelaje Horizontal	
Venus:	0.3
Mars:	0.1

h Sol Luna

Sa	AHG	Dec	AHG	v	Dec	d	HP
0	177°06.3	-6°08.8	149°36.1	14.1	1°56.5	14.7	56.9
1	192°06.4	-6°07.8	164°09.2	14.1	2°11.2	14.7	56.9
2	207°06.6	-6°06.8	178°42.3	14.1	2°25.8	14.6	56.9
3	222°06.7	-6°05.9	193°15.4	14.1	2°40.4	14.6	56.8
4	237°06.8	-6°04.9	207°48.6	14.2	2°55.0	14.6	56.8
5	252°07.0	-6°03.9	222°21.8	14.2	3°09.6	14.5	56.8
6	267°07.1	-6°03.0	236°55.0	14.2	3°24.1	14.5	56.7
7	282°07.3	-6°02.0	251°28.2	14.2	3°38.6	14.5	56.7
8	297°07.4	-6°01.0	266°01.4	14.2	3°53.1	14.5	56.7
9	312°07.5	-6°00.1	280°34.7	14.3	4°07.5	14.4	56.6
10	327°07.7	-5°59.1	295°07.9	14.3	4°21.9	14.4	56.6
11	342°07.8	-5°58.1	309°41.2	14.3	4°36.3	14.4	56.6
12	357°08.0	-5°57.2	324°14.5	14.3	4°50.6	14.3	56.6
13	12°08.1	-5°56.2	338°47.8	14.3	5°04.9	14.3	56.5
14	27°08.2	-5°55.2	353°21.2	14.3	5°19.2	14.2	56.5
15	42°08.4	-5°54.3	7°54.5	14.3	5°33.4	14.2	56.5
16	57°08.5	-5°53.3	22°27.8	14.3	5°47.6	14.2	56.4
17	72°08.7	-5°52.3	37°01.2	14.4	6°01.7	14.1	56.4
18	87°08.8	-5°51.4	51°34.5	14.4	6°15.8	14.1	56.4
19	102°08.9	-5°50.4	66°07.9	14.4	6°29.9	14.0	56.3
20	117°09.1	-5°49.4	80°41.3	14.4	6°43.9	14.0	56.3
21	132°09.2	-5°48.5	95°14.6	14.4	6°57.9	13.9	56.3
22	147°09.4	-5°47.5	109°48.0	14.4	7°11.8	13.9	56.3
23	162°09.5	-5°46.5	124°21.4	14.4	7°25.7	13.9	56.2
	SD.=16.1	d=1.0	S.D.=15.5				

Dom	AHG	Dec	AHG	v	Dec	d	HP
0	177°09.7	-5°45.6	138°54.8	14.4	7°39.5	13.8	56.2
1	192°09.8	-5°44.6	153°28.2	14.4	7°53.3	13.8	56.2
2	207°09.9	-5°43.6	168°01.6	14.4	8°07.0	13.7	56.1
3	222°10.1	-5°42.7	182°35.0	14.4	8°20.7	13.7	56.1
4	237°10.2	-5°41.7	197°08.3	14.4	8°34.4	13.6	56.1
5	252°10.4	-5°40.7	211°41.7	14.4	8°47.9	13.6	56.1
6	267°10.5	-5°39.7	226°15.1	14.4	9°01.5	13.5	56.0
7	282°10.7	-5°38.8	240°48.5	14.4	9°15.0	13.5	56.0
8	297°10.8	-5°37.8	255°21.8	14.4	9°28.4	13.4	56.0
9	312°10.9	-5°36.8	269°55.2	14.4	9°41.8	13.3	55.9
10	327°11.1	-5°35.9	284°28.6	14.4	9°55.1	13.3	55.9
11	342°11.2	-5°34.9	299°01.9	14.3	10°08.3	13.2	55.9
12	357°11.4	-5°33.9	313°35.2	14.3	10°21.5	13.2	55.9
13	12°11.5	-5°33.0	328°08.6	14.3	10°34.7	13.1	55.8
14	27°11.7	-5°32.0	342°41.9	14.3	10°47.8	13.1	55.8
15	42°11.8	-5°31.0	357°15.2	14.3	11°00.8	13.0	55.8
16	57°12.0	-5°30.0	11°48.5	14.3	11°13.8	12.9	55.8
17	72°12.1	-5°29.1	26°21.8	14.3	11°26.7	12.9	55.7
18	87°12.2	-5°28.1	40°55.0	14.3	11°39.5	12.8	55.7
19	102°12.4	-5°27.1	55°28.3	14.2	11°52.3	12.8	55.7
20	117°12.5	-5°26.2	70°01.5	14.2	12°05.1	12.7	55.6
21	132°12.7	-5°25.2	84°34.8	14.2	12°17.7	12.6	55.6
22	147°12.8	-5°24.2	99°08.0	14.2	12°30.3	12.6	55.6
23	162°13.0	-5°23.2	113°41.2	14.2	12°42.8	12.5	55.6
	SD.=16.1	d=1.0	S.D.=15.3				

Lun	AHG	Dec	AHG	v	Dec	d	HP
0	177°13.1	-5°22.3	128°14.3	14.2	12°55.3	12.4	55.5
1	192°13.3	-5°21.3	142°47.5	14.1	13°07.7	12.4	55.5
2	207°13.4	-5°20.3	157°20.6	14.1	13°20.0	12.3	55.5
3	222°13.6	-5°19.4	171°53.7	14.1	13°32.3	12.2	55.5
4	237°13.7	-5°18.4	186°26.8	14.1	13°44.5	12.2	55.4
5	252°13.9	-5°17.4	200°59.9	14.1	13°56.6	12.1	55.4
6	267°14.0	-5°16.4	215°32.9	14.0	14°08.7	12.0	55.4
7	282°14.2	-5°15.5	230°05.9	14.0	14°20.7	11.9	55.4
8	297°14.3	-5°14.5	244°38.9	14.0	14°32.6	11.9	55.3
9	312°14.5	-5°13.5	259°11.9	14.0	14°44.4	11.8	55.3
10	327°14.6	-5°12.5	273°44.9	13.9	14°56.2	11.7	55.3
11	342°14.8	-5°11.6	288°17.8	13.9	15°07.9	11.7	55.3
12	357°14.9	-5°10.6	302°50.7	13.9	15°19.5	11.6	55.3
13	12°15.1	-5°09.6	317°23.6	13.9	15°31.0	11.5	55.2
14	27°15.2	-5°08.6	331°56.4	13.8	15°42.5	11.4	55.2
15	42°15.4	-5°07.7	346°29.2	13.8	15°53.9	11.4	55.2
16	57°15.5	-5°06.7	1°02.0	13.8	16°05.2	11.3	55.2
17	72°15.7	-5°05.7	15°34.7	13.7	16°16.4	11.2	55.1
18	87°15.8	-5°04.7	30°07.5	13.7	16°27.6	11.1	55.1
19	102°16.0	-5°03.8	44°40.2	13.7	16°38.7	11.0	55.1
20	117°16.1	-5°02.8	59°12.8	13.6	16°49.7	11.0	55.1
21	132°16.3	-5°01.8	73°45.4	13.6	17°00.6	10.9	55.1
22	147°16.4	-5°00.9	88°18.0	13.6	17°11.4	10.8	55.0
23	162°16.6	-4°59.9	102°50.6	13.5	17°22.1	10.7	55.0
	SD.=16.1	d=1.0	S.D.=15.2				

Lat.	Crepúsculo Naut.	Crepúsculo Civil	Orto Sol	Crepúsculo Civil	Crepúsculo Naut.	Ocaso Sol
N 72	04:45	06:03	07:11	17:14	18:22	19:41
70	04:52	06:03	07:04	17:20	18:21	19:33
68	04:59	06:03	06:59	17:25	18:21	19:26
66	05:04	06:03	06:54	17:30	18:21	19:21
64	05:08	06:03	06:50	17:34	18:21	19:16
62	05:11	06:03	06:47	17:37	18:21	19:13
60	05:14	06:03	06:44	17:40	18:21	19:10
58	05:17	06:02	06:41	17:42	18:22	19:07
56	05:19	06:02	06:39	17:45	18:22	19:05
54	05:21	06:02	06:37	17:47	18:22	19:03
52	05:22	06:01	06:35	17:48	18:22	19:01
50	05:24	06:01	06:33	17:50	18:22	19:00
45	05:26	06:00	06:29	17:54	18:23	18:57
40	05:28	05:59	06:26	17:57	18:24	18:56
35	05:29	05:58	06:23	18:00	18:25	18:55
30	05:29	05:57	06:21	18:02	18:26	18:54
20	05:28	05:54	06:16	18:07	18:29	18:54
10	05:26	05:51	06:12	18:11	18:32	18:56
0	05:23	05:47	06:08	18:15	18:35	18:59
S 10	05:18	05:43	06:04	18:18	18:40	19:04
20	05:11	05:37	05:59	18:23	18:45	19:11
30	05:02	05:30	05:54	18:28	18:52	19:20
35	04:56	05:26	05:51	18:31	18:56	19:26
40	04:48	05:20	05:48	18:34	19:01	19:34
45	04:38	05:14	05:44	18:38	19:08	19:43
50	04:26	05:06	05:39	18:43	19:15	19:55
52	04:20	05:02	05:37	18:45	19:19	20:01
54	04:13	04:58	05:34	18:47	19:23	20:08
56	04:06	04:53	05:31	18:50	19:28	20:15
58	03:57	04:48	05:28	18:53	19:33	20:24
60	03:47	04:41	05:25	18:56	19:39	20:34

Lat.	Orto luna Sa	Orto luna Dom	Orto luna Lun	Ocaso luna Sa	Ocaso luna Dom	Ocaso luna Lun
N 72	07:30	06:58	06:16	22:12	–:–	00:27
70	07:35	07:12	06:43	22:01	–:–	00:02
68	07:39	07:23	07:04	21:52	23:43	–:–
66	07:42	07:32	07:20	21:45	23:28	–:–
64	07:45	07:40	07:34	21:38	23:15	–:–
62	07:48	07:46	07:46	21:33	23:05	–:–
60	07:50	07:52	07:56	21:29	22:56	–:–
58	07:52	07:57	08:04	21:25	22:48	–:–
56	07:54	08:02	08:12	21:21	22:42	–:–
54	07:55	08:06	08:19	21:18	22:36	23:53
52	07:57	08:10	08:25	21:15	22:30	23:44
50	07:58	08:14	08:30	21:12	22:25	23:37
45	08:01	08:21	08:43	21:07	22:15	23:22
40	08:04	08:27	08:53	21:02	22:06	23:09
35	08:06	08:33	09:01	20:58	21:59	22:59
30	08:08	08:38	09:09	20:54	21:52	22:49
20	08:11	08:46	09:22	20:48	21:41	22:33
10	08:14	08:54	09:34	20:43	21:31	22:20
0	08:17	09:01	09:45	20:38	21:22	22:07
S 10	08:20	09:08	09:56	20:33	21:13	21:54
20	08:23	09:16	10:08	20:28	21:03	21:40
30	08:26	09:24	10:22	20:22	20:52	21:24
35	08:29	09:30	10:30	20:18	20:46	21:15
40	08:31	09:35	10:39	20:14	20:39	21:05
45	08:34	09:42	10:50	20:10	20:30	20:53
50	08:37	09:50	11:03	20:04	20:20	20:38
52	08:39	09:54	11:09	20:02	20:16	20:32
54	08:40	09:58	11:16	19:59	20:11	20:24
56	08:42	10:03	11:23	19:56	20:05	20:16
58	08:44	10:08	11:32	19:53	19:59	20:07
60	08:47	10:14	11:42	19:49	19:52	19:56

Día	Sol Ec. tiempo 00:00 h	Sol Ec. tiempo 12:00 h	Sol Paso Merid	Luna Paso Meridiano Superior	Luna Paso Meridiano Inferior	Luna Edad
5	11:35	11:28	12:11	14:27	02:05	3(9%)
6	11:21	11:14	12:11	15:11	02:49	4(15%)
7	11:07	11:00	12:11	15:55	03:33	5(23%)

Marzo 08, 09, 10 (Mar, Mie, Jue)

	Aries	Venus		Martes		Júpiter		Saturno	
Mar	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	165°40.8	222°42.5	-16°29.3	221°56.1	-20°46.2	178°35.5	-6°35.8	203°23.0	-15°47.6
1	180°43.2	237°42.6	-16°29.0	236°56.7	-20°45.8	193°37.4	-6°35.6	218°25.2	-15°47.5
2	195°45.7	252°42.8	-16°28.8	251°57.2	-20°45.4	208°39.3	-6°35.4	233°27.4	-15°47.4
3	210°48.2	267°42.9	-16°28.6	266°57.7	-20°45.0	223°41.2	-6°35.1	248°29.6	-15°47.4
4	225°50.6	282°43.1	-16°28.4	281°58.2	-20°44.6	238°43.1	-6°34.9	263°31.8	-15°47.3
5	240°53.1	297°43.2	-16°28.2	296°58.7	-20°44.2	253°45.0	-6°34.7	278°34.0	-15°47.2
6	255°55.5	312°43.3	-16°28.0	311°59.2	-20°43.9	268°46.9	-6°34.4	293°36.2	-15°47.1
7	270°58.0	327°43.5	-16°27.8	326°59.7	-20°43.5	283°48.8	-6°34.2	308°38.3	-15°47.0
8	286°00.5	342°43.6	-16°27.6	342°00.2	-20°43.1	298°50.7	-6°34.0	323°40.5	-15°46.9
9	301°02.9	357°43.8	-16°27.4	357°00.7	-20°42.7	313°52.6	-6°33.7	338°42.7	-15°46.9
10	316°05.4	12°43.9	-16°27.2	12°01.2	-20°42.3	328°54.5	-6°33.5	353°44.9	-15°46.8
11	331°07.9	27°44.0	-16°27.0	27°01.8	-20°41.9	343°56.4	-6°33.3	8°47.1	-15°46.7
12	346°10.3	42°44.2	-16°26.8	42°02.3	-20°41.5	358°58.3	-6°33.0	23°49.3	-15°46.6
13	1°12.8	57°44.3	-16°26.6	57°02.8	-20°41.2	14°00.2	-6°32.8	38°51.5	-15°46.5
14	16°15.3	72°44.4	-16°26.3	72°03.3	-20°40.8	29°02.1	-6°32.6	53°53.7	-15°46.4
15	31°17.7	87°44.6	-16°26.1	87°03.8	-20°40.4	44°04.0	-6°32.3	68°55.9	-15°46.4
16	46°20.2	102°44.7	-16°25.9	102°04.3	-20°40.0	59°05.9	-6°32.1	83°58.1	-15°46.3
17	61°22.6	117°44.8	-16°25.7	117°04.8	-20°39.6	74°07.9	-6°31.9	99°00.3	-15°46.2
18	76°25.1	132°45.0	-16°25.5	132°05.3	-20°39.2	89°09.8	-6°31.6	114°02.4	-15°46.1
19	91°27.6	147°45.1	-16°25.3	147°05.8	-20°38.8	104°11.7	-6°31.4	129°04.6	-15°46.0
20	106°30.0	162°45.2	-16°25.0	162°06.3	-20°38.4	119°13.6	-6°31.2	144°06.8	-15°46.0
21	121°32.5	177°45.3	-16°24.8	177°06.9	-20°38.0	134°15.5	-6°30.9	159°09.0	-15°45.9
22	136°35.0	192°45.5	-16°24.6	192°07.4	-20°37.7	149°17.4	-6°30.7	174°11.2	-15°45.8
23	151°37.4	207°45.6	-16°24.4	207°07.9	-20°37.3	164°19.3	-6°30.5	189°13.4	-15°45.7
Mer.pass.:12:55		v0.1 d0.2 m-4.3		v0.5 d0.4 m1.2		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.8	

Mie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	166°39.9	222°45.7	-16°24.2	222°08.4	-20°36.9	179°21.2	-6°30.2	204°15.6	-15°45.6
1	181°42.4	237°45.8	-16°23.9	237°08.9	-20°36.5	194°23.1	-6°30.0	219°17.8	-15°45.5
2	196°44.8	252°46.0	-16°23.7	252°09.4	-20°36.1	209°25.0	-6°29.8	234°20.0	-15°45.5
3	211°47.3	267°46.1	-16°23.5	267°09.9	-20°35.7	224°26.9	-6°29.5	249°22.2	-15°45.4
4	226°49.8	282°46.2	-16°23.3	282°10.4	-20°35.3	239°28.8	-6°29.3	264°24.4	-15°45.3
5	241°52.2	297°46.3	-16°23.1	297°11.0	-20°34.9	254°30.7	-6°29.1	279°26.5	-15°45.2
6	256°54.7	312°46.4	-16°22.8	312°11.5	-20°34.5	269°32.6	-6°28.8	294°28.7	-15°45.1
7	271°57.1	327°46.5	-16°22.6	327°12.0	-20°34.1	284°34.5	-6°28.6	309°30.9	-15°45.0
8	286°59.6	342°46.7	-16°22.4	342°12.5	-20°33.7	299°36.4	-6°28.4	324°33.1	-15°45.0
9	302°02.1	357°46.8	-16°22.1	357°13.0	-20°33.3	314°38.3	-6°28.2	339°35.3	-15°44.9
10	317°04.5	12°46.9	-16°21.9	12°13.5	-20°32.9	329°40.2	-6°27.9	354°37.5	-15°44.8
11	332°07.0	27°47.0	-16°21.7	27°14.0	-20°32.6	344°42.1	-6°27.7	9°39.7	-15°44.7
12	347°09.5	42°47.1	-16°21.5	42°14.5	-20°32.2	359°44.0	-6°27.5	24°41.9	-15°44.6
13	2°11.9	57°47.2	-16°21.2	57°15.1	-20°31.8	14°45.9	-6°27.2	39°44.1	-15°44.5
14	17°14.4	72°47.3	-16°21.0	72°15.6	-20°31.4	29°47.8	-6°27.0	54°46.3	-15°44.5
15	32°16.9	87°47.4	-16°20.8	87°16.1	-20°31.0	44°49.7	-6°26.8	69°48.5	-15°44.4
16	47°19.3	102°47.6	-16°20.5	102°16.6	-20°30.6	59°51.6	-6°26.5	84°50.7	-15°44.3
17	62°21.8	117°47.7	-16°20.3	117°17.1	-20°30.2	74°53.5	-6°26.3	99°52.8	-15°44.2
18	77°24.3	132°47.8	-16°20.1	132°17.6	-20°29.8	89°55.4	-6°26.1	114°55.0	-15°44.1
19	92°26.7	147°47.9	-16°19.8	147°18.1	-20°29.4	104°57.3	-6°25.8	129°57.2	-15°44.1
20	107°29.2	162°48.0	-16°19.6	162°18.7	-20°29.0	119°59.2	-6°25.6	144°59.4	-15°44.0
21	122°31.6	177°48.1	-16°19.4	177°19.2	-20°28.6	135°01.1	-6°25.4	160°01.6	-15°43.9
22	137°34.1	192°48.2	-16°19.1	192°19.7	-20°28.2	150°03.0	-6°25.1	175°03.8	-15°43.8
23	152°36.6	207°48.3	-16°18.9	207°20.2	-20°27.8	165°04.9	-6°24.9	190°06.0	-15°43.7
Mer.pass.:12:51		v0.1 d0.2 m-4.3		v0.5 d0.4 m1.2		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.8	

Jue	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	167°39.0	222°48.4	-16°18.6	222°20.7	-20°27.4	180°06.8	-6°24.7	205°08.2	-15°43.6
1	182°41.5	237°48.5	-16°18.4	237°21.2	-20°27.0	195°08.7	-6°24.4	220°10.4	-15°43.6
2	197°44.0	252°48.6	-16°18.2	252°21.7	-20°26.6	210°10.6	-6°24.2	235°12.6	-15°43.5
3	212°46.4	267°48.7	-16°17.9	267°22.3	-20°26.2	225°12.5	-6°24.0	250°14.8	-15°43.4
4	227°48.9	282°48.8	-16°17.7	282°22.8	-20°25.8	240°14.4	-6°23.7	265°17.0	-15°43.3
5	242°51.4	297°48.9	-16°17.4	297°23.3	-20°25.4	255°16.4	-6°23.5	280°19.2	-15°43.2
6	257°53.8	312°49.0	-16°17.2	312°23.8	-20°25.0	270°18.3	-6°23.3	295°21.3	-15°43.1
7	272°56.3	327°49.1	-16°16.9	327°24.3	-20°24.6	285°20.2	-6°23.0	310°23.5	-15°43.1
8	287°58.7	342°49.2	-16°16.7	342°24.8	-20°24.2	300°22.1	-6°22.8	325°25.7	-15°43.0
9	303°01.2	357°49.3	-16°16.4	357°25.3	-20°23.8	315°24.0	-6°22.6	340°27.9	-15°42.9
10	318°03.7	12°49.3	-16°16.2	12°25.9	-20°23.4	330°25.9	-6°22.3	355°30.1	-15°42.8
11	333°06.1	27°49.4	-16°16.0	27°26.4	-20°23.0	345°27.8	-6°22.1	10°32.3	-15°42.7
12	348°08.6	42°49.5	-16°15.7	42°26.9	-20°22.6	0°29.7	-6°21.9	25°34.5	-15°42.7
13	3°11.1	57°49.6	-16°15.5	57°27.4	-20°22.2	15°31.6	-6°21.6	40°36.7	-15°42.6
14	18°13.5	72°49.7	-16°15.2	72°27.9	-20°21.8	30°33.5	-6°21.4	55°38.9	-15°42.5
15	33°16.0	87°49.8	-16°15.0	87°28.4	-20°21.3	45°35.4	-6°21.2	70°41.1	-15°42.4
16	48°18.5	102°49.9	-16°14.7	102°29.0	-20°20.9	60°37.3	-6°20.9	85°43.3	-15°42.3
17	63°20.9	117°50.0	-16°14.5	117°29.5	-20°20.5	75°39.2	-6°20.7	100°45.5	-15°42.2
18	78°23.4	132°50.0	-16°14.2	132°30.0	-20°20.1	90°41.1	-6°20.5	115°47.7	-15°42.2
19	93°25.9	147°50.1	-16°13.9	147°30.5	-20°19.7	105°43.0	-6°20.2	130°49.9	-15°42.1
20	108°28.3	162°50.2	-16°13.7	162°31.0	-20°19.3	120°44.9	-6°20.0	145°52.1	-15°42.0
21	123°30.8	177°50.3	-16°13.4	177°31.5	-20°18.9	135°46.8	-6°19.8	160°54.2	-15°41.9
22	138°33.2	192°50.4	-16°13.2	192°32.1	-20°18.5	150°48.7	-6°19.5	175°56.4	-15°41.8
23	153°35.7	207°50.5	-16°12.9	207°32.6	-20°18.1	165°50.6	-6°19.3	190°58.6	-15°41.8
Mer.pass.:12:47		v0.1 d0.2 m-4.3		v0.5 d0.4 m1.2		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.8	

Estrellas

	AHS	Dec
Alpheratz	357°37.5	29°12.6
Ankaa	353°09.8	-42°11.4
Schedar	349°34.2	56°39.5
Diphda	348°49.8	-17°52.1
Achernar	335°22.4	-57°07.8
Hamal	327°54.1	23°33.9
Polaris	315°22.9	89°21.7
Akamar	315°13.8	-40°13.3
Menkar	314°08.7	4°10.4
Mirfak	308°31.8	49°56.4
Aldebaran	290°42.3	16°33.2
Rigel	281°06.1	-8°10.8
Capella	280°25.3	46°01.4
Bellatrix	278°25.3	6°22.1
Elnath	278°04.8	28°37.6
Alnilam	275°40.1	-1°11.4
Betelgeuse	270°54.5	7°24.6
Canopus	263°53.3	-52°42.7
Sirius	258°28.1	-16°44.8
Adara	255°07.5	-29°00.4
Procyon	244°53.0	5°10.2
Pollux	243°19.8	27°58.4
Avior	234°15.2	-59°35.0
Suhail	222°47.6	-43°31.4
Miaplacidus	221°37.9	-69°48.6
Alphard	217°49.7	-8°45.4
Regulus	207°36.6	11°51.5
Dubhe	193°43.2	61°37.9
Denebola	182°26.9	14°26.8
Gienah	175°45.6	-17°39.9
Acrux	173°02.0	-63°13.2
Gacrux	171°53.7	-57°14.1
Alioth	166°14.6	55°50.2
Spica	158°24.5	-11°16.6
Alcaid	152°53.5	49°12.0
Hadar	148°38.9	-60°28.6
Menkent	148°00.1	-36°28.6
Arcturus	145°49.7	19°04.2
Rigil Kent.	139°43.1	-60°55.4
Zubenelg.	136°58.4	-16°08.0
Kochab	137°19.2	74°03.6
Alphecca	126°05.6	26°38.2
Antares	112°18.6	-26°28.8
Atria	107°15.0	-69°03.7
Sabik	102°05.5	-15°45.1
Shaula	96°13.6	-37°07.1
Rasalhague	96°00.8	12°32.5
Etamin	90°43.4	51°28.8
Kaus Aust.	83°35.7	-34°22.4
Vega	80°35.0	38°47.9
Nunki	75°50.8	-26°16.1
Altair	62°02.5	8°55.4
Peacock	53°09.8	-56°39.7
Deneb	49°27.7	45°21.3
Enif	33°41.4	9°58.4
Alnair	27°36.3	-46°51.3
Fomalhaut	15°17.5	-29°30.5
Scheat	13°47.8	28°12.0
Markab	13°32.6	15°19.3

Mar 08 Mar	AHS	Paso Merid
Venus	57°01.7	09:09
Mars	56°15.4	09:12
Jupiter	12°54.8	12:04
Saturn	37°42.3	10:25

Mar 09 Mie	AHS	Paso Merid
Venus	56°05.8	09:09
Mars	55°28.5	09:11
Jupiter	12°41.3	12:01
Saturn	37°35.7	10:21

Mar 10 Jue	AHS	Paso Merid
Venus	55°09.3	09:09
Mars	54°41.7	09:10
Jupiter	12°27.8	11:58
Saturn	37°29.2	10:18

Paralelaje Horizontal	
Venus:	0.2
Mars:	0.1

h	Sol		Luna				
Mar	AHG	Dec	AHG	v	Dec	d	HP
0	177°16.7	-4°58.9	117°23.1	13.5	17°32.8	10.6	55.0
1	192°16.9	-4°57.9	131°55.6	13.5	17°43.4	10.5	55.0
2	207°17.0	-4°57.0	146°28.1	13.4	17°53.9	10.5	54.9
3	222°17.2	-4°56.0	161°00.5	13.4	18°04.3	10.4	54.9
4	237°17.3	-4°55.0	175°32.9	13.4	18°14.6	10.3	54.9
5	252°17.5	-4°54.0	190°05.2	13.3	18°24.9	10.2	54.9
6	267°17.6	-4°53.1	204°37.6	13.3	18°35.0	10.1	54.9
7	282°17.8	-4°52.1	219°09.8	13.3	18°45.1	10.0	54.9
8	297°17.9	-4°51.1	233°42.1	13.2	18°55.1	9.9	54.8
9	312°18.1	-4°50.1	248°14.3	13.2	19°05.0	9.8	54.8
10	327°18.2	-4°49.1	262°46.5	13.1	19°14.8	9.8	54.8
11	342°18.4	-4°48.2	277°18.6	13.1	19°24.5	9.7	54.8
12	357°18.5	-4°47.2	291°50.7	13.1	19°34.1	9.6	54.8
13	12°18.7	-4°46.2	306°22.7	13.0	19°43.7	9.5	54.7
14	27°18.8	-4°45.2	320°54.7	13.0	19°53.1	9.4	54.7
15	42°19.0	-4°44.3	335°26.7	13.0	20°02.4	9.3	54.7
16	57°19.1	-4°43.3	349°58.6	12.9	20°11.7	9.2	54.7
17	72°19.3	-4°42.3	4°30.5	12.9	20°20.9	9.1	54.7
18	87°19.5	-4°41.3	19°02.4	12.8	20°29.9	9.0	54.7
19	102°19.6	-4°40.4	33°34.2	12.8	20°38.9	8.9	54.6
20	117°19.8	-4°39.4	48°06.0	12.7	20°47.8	8.8	54.6
21	132°19.9	-4°38.4	62°37.7	12.7	20°56.6	8.7	54.6
22	147°20.1	-4°37.4	77°09.4	12.7	21°05.2	8.6	54.6
23	162°20.2	-4°36.5	91°41.0	12.6	21°13.8	8.5	54.6
	SD.=16.1	d=1.0	S.D.=15.0				

Mie	AHG	Dec	AHG	v	Dec	d	HP
0	177°20.4	-4°35.5	106°12.6	12.6	21°22.3	8.4	54.6
1	192°20.5	-4°34.5	120°44.2	12.5	21°30.7	8.3	54.6
2	207°20.7	-4°33.5	135°15.7	12.5	21°39.0	8.2	54.5
3	222°20.8	-4°32.5	149°47.2	12.5	21°47.2	8.1	54.5
4	237°21.0	-4°31.6	164°18.6	12.4	21°55.2	8.0	54.5
5	252°21.2	-4°30.6	178°50.0	12.4	22°03.2	7.9	54.5
6	267°21.3	-4°29.6	193°21.4	12.3	22°11.1	7.8	54.5
7	282°21.5	-4°28.6	207°52.7	12.3	22°18.9	7.7	54.5
8	297°21.6	-4°27.7	222°23.9	12.2	22°26.6	7.6	54.5
9	312°21.8	-4°26.7	236°55.2	12.2	22°34.2	7.5	54.5
10	327°21.9	-4°25.7	251°26.3	12.2	22°41.6	7.4	54.4
11	342°22.1	-4°24.7	265°57.5	12.1	22°49.0	7.3	54.4
12	357°22.3	-4°23.7	280°28.6	12.1	22°56.3	7.2	54.4
13	12°22.4	-4°22.8	294°59.6	12.0	23°03.4	7.1	54.4
14	27°22.6	-4°21.8	309°30.6	12.0	23°10.5	7.0	54.4
15	42°22.7	-4°20.8	324°01.6	11.9	23°17.4	6.9	54.4
16	57°22.9	-4°19.8	338°32.5	11.9	23°24.2	6.8	54.4
17	72°23.0	-4°18.8	353°03.4	11.9	23°31.0	6.7	54.4
18	87°23.2	-4°17.9	7°34.3	11.8	23°37.6	6.6	54.4
19	102°23.4	-4°16.9	22°05.1	11.8	23°44.1	6.5	54.4
20	117°23.5	-4°15.9	36°35.8	11.7	23°50.5	6.3	54.3
21	132°23.7	-4°14.9	51°06.6	11.7	23°56.8	6.2	54.3
22	147°23.8	-4°13.9	65°37.2	11.7	24°02.9	6.1	54.3
23	162°24.0	-4°13.0	80°07.9	11.6	24°09.0	6.0	54.3
	SD.=16.1	d=1.0	S.D.=14.9				

Jue	AHG	Dec	AHG	v	Dec	d	HP
0	177°24.2	-4°12.0	94°38.5	11.6	24°15.0	5.9	54.3
1	192°24.3	-4°11.0	109°09.0	11.5	24°20.8	5.8	54.3
2	207°24.5	-4°10.0	123°39.5	11.5	24°26.5	5.7	54.3
3	222°24.6	-4°09.0	138°10.0	11.5	24°32.2	5.6	54.3
4	237°24.8	-4°08.1	152°40.4	11.4	24°37.7	5.4	54.3
5	252°25.0	-4°07.1	167°10.8	11.4	24°43.0	5.3	54.3
6	267°25.1	-4°06.1	181°41.2	11.3	24°48.3	5.2	54.3
7	282°25.3	-4°05.1	196°11.5	11.3	24°53.5	5.1	54.3
8	297°25.4	-4°04.1	210°41.8	11.3	24°58.5	5.0	54.3
9	312°25.6	-4°03.2	225°12.0	11.2	25°03.4	4.9	54.3
10	327°25.8	-4°02.2	239°42.2	11.2	25°08.2	4.7	54.3
11	342°25.9	-4°01.2	254°12.4	11.1	25°12.9	4.6	54.3
12	357°26.1	-4°00.2	268°42.5	11.1	25°17.5	4.5	54.3
13	12°26.2	-3°59.2	283°12.6	11.1	25°22.0	4.4	54.3
14	27°26.4	-3°58.3	297°42.7	11.0	25°26.3	4.3	54.3
15	42°26.6	-3°57.3	312°12.7	11.0	25°30.5	4.2	54.2
16	57°26.7	-3°56.3	326°42.7	11.0	25°34.6	4.0	54.2
17	72°26.9	-3°55.3	341°12.6	10.9	25°38.6	3.9	54.2
18	87°27.0	-3°54.3	355°42.6	10.9	25°42.5	3.8	54.2
19	102°27.2	-3°53.4	10°12.4	10.9	25°46.2	3.7	54.2
20	117°27.4	-3°52.4	24°42.3	10.8	25°49.8	3.6	54.2
21	132°27.5	-3°51.4	39°12.1	10.8	25°53.3	3.4	54.2
22	147°27.7	-3°50.4	53°41.9	10.8	25°56.7	3.3	54.2
23	162°27.9	-3°49.4	68°11.7	10.7	25°59.9	3.2	54.2
	SD.=16.1	d=1.0	S.D.=14.8				

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	04:28	05:48	06:55	17:28	18:35	19:56
70	04:38	05:50	06:50	17:33	18:33	19:46
68	04:46	05:51	06:46	17:37	18:32	19:38
66	04:52	05:52	06:43	17:40	18:31	19:31
64	04:57	05:53	06:40	17:43	18:30	19:26
62	05:02	05:53	06:37	17:45	18:29	19:21
60	05:05	05:54	06:35	17:47	18:29	19:17
58	05:09	05:54	06:33	17:49	18:28	19:14
56	05:11	05:54	06:31	17:51	18:28	19:11
54	05:14	05:54	06:30	17:52	18:28	19:09
52	05:16	05:55	06:28	17:54	18:27	19:07
50	05:17	05:55	06:27	17:55	18:27	19:05
45	05:21	05:55	06:24	17:58	18:27	19:01
40	05:23	05:54	06:21	18:00	18:27	18:59
35	05:25	05:54	06:19	18:02	18:28	18:57
30	05:26	05:53	06:17	18:04	18:28	18:56
20	05:26	05:52	06:14	18:08	18:30	18:55
10	05:25	05:49	06:10	18:11	18:32	18:56
0	05:22	05:47	06:07	18:14	18:35	18:59
S 10	05:18	05:43	06:04	18:17	18:38	19:02
20	05:13	05:38	06:00	18:20	18:42	19:08
30	05:04	05:32	05:56	18:24	18:48	19:16
35	04:58	05:28	05:54	18:27	18:52	19:22
40	04:51	05:24	05:51	18:29	18:56	19:29
45	04:43	05:18	05:48	18:32	19:02	19:37
50	04:32	05:11	05:44	18:36	19:09	19:48
52	04:26	05:08	05:42	18:38	19:12	19:53
54	04:20	05:04	05:40	18:40	19:16	19:59
56	04:13	05:00	05:38	18:42	19:20	20:06
58	04:05	04:55	05:35	18:44	19:24	20:14
60	03:56	04:50	05:32	18:47	19:30	20:23

	Orto luna			Ocaso luna		
Lat.	Mar	Mie	Jue	Mar	Mie	Jue
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	05:55	–:–	–:–	02:24	–:–	–:–
68	06:37	05:12	–:–	01:43	04:45	–:–
66	07:06	06:43	–:–	01:15	03:15	–:–
64	07:28	07:21	07:10	00:54	02:38	04:29
62	07:46	07:48	07:54	00:38	02:12	03:45
60	08:01	08:09	08:24	00:24	01:51	03:16
58	08:13	08:26	08:46	00:12	01:34	02:54
56	08:24	08:41	09:05	00:02	01:20	02:36
54	08:34	08:53	09:20	–:–	01:08	02:20
52	08:42	09:05	09:34	–:–	00:57	02:07
50	08:50	09:15	09:46	–:–	00:48	01:56
45	09:07	09:35	10:10	–:–	00:28	01:32
40	09:21	09:52	10:30	–:–	00:12	01:13
35	09:32	10:07	10:46	23:58	–:–	00:57
30	09:42	10:19	11:01	23:46	–:–	00:43
20	10:00	10:41	11:25	23:26	–:–	00:19
10	10:16	11:00	11:46	23:09	23:59	–:–
0	10:30	11:17	12:06	22:53	23:40	–:–
S 10	10:45	11:35	12:26	22:36	23:22	–:–
20	11:01	11:54	12:47	22:19	23:02	23:47
30	11:19	12:16	13:12	21:59	22:38	23:22
35	11:30	12:29	13:26	21:48	22:25	23:07
40	11:42	12:44	13:43	21:35	22:09	22:50
45	11:56	13:01	14:04	21:19	21:51	22:29
50	12:14	13:24	14:29	21:00	21:28	22:03
52	12:23	13:34	14:42	20:51	21:17	21:50
54	12:32	13:47	14:56	20:41	21:04	21:36
56	12:43	14:00	15:13	20:30	20:50	21:19
58	12:55	14:17	15:33	20:17	20:33	20:58
60	13:10	14:37	15:58	20:02	20:13	20:32

Día	Sol			Luna		
	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
8	10:53	10:46	12:10	16:41	04:18	6(32%)
9	10:38	10:31	12:10	17:28	05:04	7(41%)
10	10:23	10:16	12:10	18:17	05:53	8(51%)

Marzo 11, 12, 13 (Vie, Sa, Dom)

	Aries	Venus		Martes		Júpiter		Saturno	
Vie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	168°38.2	222°50.5	-16°12.7	222°33.1	-20°17.7	180°52.5	-6°19.1	206°00.8	-15°41.7
1	183°40.6	237°50.6	-16°12.4	237°33.6	-20°17.3	195°54.4	-6°18.8	221°03.0	-15°41.6
2	198°43.1	252°50.7	-16°12.1	252°34.1	-20°16.9	210°56.3	-6°18.6	236°05.2	-15°41.5
3	213°45.6	267°50.8	-16°11.9	267°34.7	-20°16.5	225°58.2	-6°18.4	251°07.4	-15°41.4
4	228°48.0	282°50.9	-16°11.6	282°35.2	-20°16.1	241°00.1	-6°18.1	266°09.6	-15°41.3
5	243°50.5	297°50.9	-16°11.4	297°35.7	-20°15.6	256°02.0	-6°17.9	281°11.8	-15°41.3
6	258°53.0	312°51.0	-16°11.1	312°36.2	-20°15.2	271°03.9	-6°17.7	296°14.0	-15°41.2
7	273°55.4	327°51.1	-16°10.8	327°36.7	-20°14.8	286°05.8	-6°17.4	311°16.2	-15°41.1
8	288°57.9	342°51.1	-16°10.6	342°37.2	-20°14.4	301°07.7	-6°17.2	326°18.4	-15°41.0
9	304°00.4	357°51.2	-16°10.3	357°37.8	-20°14.0	316°09.6	-6°17.0	341°20.6	-15°40.9
10	319°02.8	12°51.3	-16°10.0	12°38.3	-20°13.6	331°11.5	-6°16.7	356°22.8	-15°40.9
11	334°05.3	27°51.4	-16°09.8	27°38.8	-20°13.2	346°13.5	-6°16.5	11°25.0	-15°40.8
12	349°07.7	42°51.4	-16°09.5	42°39.3	-20°12.8	1°15.4	-6°16.3	26°27.2	-15°40.7
13	4°10.2	57°51.5	-16°09.2	57°39.8	-20°12.4	16°17.3	-6°16.0	41°29.4	-15°40.6
14	19°12.7	72°51.6	-16°09.0	72°40.4	-20°11.9	31°19.2	-6°15.8	56°31.6	-15°40.5
15	34°15.1	87°51.6	-16°08.7	87°40.9	-20°11.5	46°21.1	-6°15.6	71°33.7	-15°40.5
16	49°17.6	102°51.7	-16°08.4	102°41.4	-20°11.1	61°23.0	-6°15.3	86°35.9	-15°40.4
17	64°20.1	117°51.8	-16°08.1	117°41.9	-20°10.7	76°24.9	-6°15.1	101°38.1	-15°40.3
18	79°22.5	132°51.8	-16°07.9	132°42.4	-20°10.3	91°26.8	-6°14.9	116°40.3	-15°40.2
19	94°25.0	147°51.9	-16°07.6	147°43.0	-20°09.9	106°28.7	-6°14.6	131°42.5	-15°40.1
20	109°27.5	162°52.0	-16°07.3	162°43.5	-20°09.5	121°30.6	-6°14.4	146°44.7	-15°40.0
21	124°29.9	177°52.0	-16°07.1	177°44.0	-20°09.0	136°32.5	-6°14.2	161°46.9	-15°40.0
22	139°32.4	192°52.1	-16°06.8	192°44.5	-20°08.6	151°34.4	-6°13.9	176°49.1	-15°39.9
23	154°34.9	207°52.1	-16°06.5	207°45.0	-20°08.2	166°36.3	-6°13.7	191°51.3	-15°39.8
Mer.pass.:12:43		v0.1 d0.3 m-4.3		v0.5 d0.4 m1.2		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.8	

Sa	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	169°37.3	222°52.2	-16°06.2	222°45.6	-20°07.8	181°38.2	-6°13.5	206°53.5	-15°39.7
1	184°39.8	237°52.3	-16°05.9	237°46.1	-20°07.4	196°40.1	-6°13.2	221°55.7	-15°39.6
2	199°42.2	252°52.3	-16°05.7	252°46.6	-20°07.0	211°42.0	-6°13.0	236°57.9	-15°39.6
3	214°44.7	267°52.4	-16°05.4	267°47.1	-20°06.5	226°43.9	-6°12.8	252°00.1	-15°39.5
4	229°47.2	282°52.4	-16°05.1	282°47.6	-20°06.1	241°45.8	-6°12.6	267°02.3	-15°39.4
5	244°49.6	297°52.5	-16°04.8	297°48.2	-20°05.7	256°47.7	-6°12.3	282°04.5	-15°39.3
6	259°52.1	312°52.5	-16°04.5	312°48.7	-20°05.3	271°49.6	-6°12.1	297°06.7	-15°39.2
7	274°54.6	327°52.6	-16°04.3	327°49.2	-20°04.9	286°51.5	-6°11.9	312°08.9	-15°39.1
8	289°57.0	342°52.6	-16°04.0	342°49.7	-20°04.4	301°53.4	-6°11.6	327°11.1	-15°39.1
9	304°59.5	357°52.7	-16°03.7	357°50.3	-20°04.0	316°55.3	-6°11.4	342°13.3	-15°39.0
10	320°02.0	12°52.8	-16°03.4	12°50.8	-20°03.6	331°57.2	-6°11.2	357°15.5	-15°38.9
11	335°04.4	27°52.8	-16°03.1	27°51.3	-20°03.2	346°59.1	-6°10.9	12°17.7	-15°38.8
12	350°06.9	42°52.9	-16°02.8	42°51.8	-20°02.8	2°01.0	-6°10.7	27°19.9	-15°38.7
13	5°09.3	57°52.9	-16°02.5	57°52.3	-20°02.3	17°03.0	-6°10.5	42°22.1	-15°38.7
14	20°11.8	72°53.0	-16°02.3	72°52.9	-20°01.9	32°04.9	-6°10.2	57°24.3	-15°38.6
15	35°14.3	87°53.0	-16°02.0	87°53.4	-20°01.5	47°06.8	-6°10.0	72°26.5	-15°38.5
16	50°16.7	102°53.0	-16°01.7	102°53.9	-20°01.1	62°08.7	-6°09.8	87°28.7	-15°38.4
17	65°19.2	117°53.1	-16°01.4	117°54.4	-20°00.7	77°10.6	-6°09.5	102°30.8	-15°38.3
18	80°21.7	132°53.1	-16°01.1	132°55.0	-20°00.2	92°12.5	-6°09.3	117°33.0	-15°38.3
19	95°24.1	147°53.2	-16°00.8	147°55.5	-19°59.8	107°14.4	-6°09.1	132°35.2	-15°38.2
20	110°26.6	162°53.2	-16°00.5	162°56.0	-19°59.4	122°16.3	-6°08.8	147°37.4	-15°38.1
21	125°29.1	177°53.3	-16°00.2	177°56.5	-19°59.0	137°18.2	-6°08.6	162°39.6	-15°38.0
22	140°31.5	192°53.3	-15°59.9	192°57.1	-19°58.5	152°20.1	-6°08.4	177°41.8	-15°37.9
23	155°34.0	207°53.4	-15°59.6	207°57.6	-19°58.1	167°22.0	-6°08.1	192°44.0	-15°37.9
Mer.pass.:12:39		v0.1 d0.3 m-4.3		v0.5 d0.4 m1.2		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.8	

Dom	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	170°36.5	222°53.4	-15°59.3	222°58.1	-19°57.7	182°23.9	-6°07.9	207°46.2	-15°37.8
1	185°38.9	237°53.4	-15°59.0	237°58.6	-19°57.3	197°25.8	-6°07.7	222°48.4	-15°37.7
2	200°41.4	252°53.5	-15°58.7	252°59.1	-19°56.8	212°27.7	-6°07.4	237°50.6	-15°37.6
3	215°43.8	267°53.5	-15°58.4	267°59.7	-19°56.4	227°29.6	-6°07.2	252°52.8	-15°37.5
4	230°46.3	282°53.6	-15°58.1	283°00.2	-19°56.0	242°31.5	-6°07.0	267°55.0	-15°37.4
5	245°48.8	297°53.6	-15°57.8	298°00.7	-19°55.6	257°33.4	-6°06.7	282°57.2	-15°37.4
6	260°51.2	312°53.6	-15°57.5	313°01.2	-19°55.1	272°35.3	-6°06.5	297°59.4	-15°37.3
7	275°53.7	327°53.7	-15°57.2	328°01.8	-19°54.7	287°37.2	-6°06.3	313°01.6	-15°37.2
8	290°56.2	342°53.7	-15°56.9	343°02.3	-19°54.3	302°39.1	-6°06.0	328°03.8	-15°37.1
9	305°58.6	357°53.7	-15°56.6	358°02.8	-19°53.9	317°41.0	-6°05.8	343°06.0	-15°37.0
10	321°01.1	12°53.8	-15°56.3	13°03.3	-19°53.4	332°42.9	-6°05.6	358°08.2	-15°37.0
11	336°03.6	27°53.8	-15°56.0	28°03.9	-19°53.0	347°44.8	-6°05.3	13°10.4	-15°36.9
12	351°06.0	42°53.8	-15°55.7	43°04.4	-19°52.6	2°46.8	-6°05.1	28°12.6	-15°36.8
13	6°08.5	57°53.9	-15°55.4	58°04.9	-19°52.1	17°48.7	-6°04.9	43°14.8	-15°36.7
14	21°11.0	72°53.9	-15°55.1	73°05.5	-19°51.7	32°50.6	-6°04.6	58°17.0	-15°36.6
15	36°13.4	87°53.9	-15°54.8	88°06.0	-19°51.3	47°52.5	-6°04.4	73°19.2	-15°36.6
16	51°15.9	102°53.9	-15°54.5	103°06.5	-19°50.8	62°54.4	-6°04.2	88°21.4	-15°36.5
17	66°18.3	117°54.0	-15°54.2	118°07.0	-19°50.4	77°56.3	-6°03.9	103°23.6	-15°36.4
18	81°20.8	132°54.0	-15°53.9	133°07.6	-19°50.0	92°58.2	-6°03.7	118°25.8	-15°36.3
19	96°23.3	147°54.0	-15°53.5	148°08.1	-19°49.6	108°00.1	-6°03.5	133°28.0	-15°36.2
20	111°25.7	162°54.1	-15°53.2	163°08.6	-19°49.1	123°02.0	-6°03.2	148°30.2	-15°36.2
21	126°28.2	177°54.1	-15°52.9	178°09.1	-19°48.7	138°03.9	-6°03.0	163°32.4	-15°36.1
22	141°30.7	192°54.1	-15°52.6	193°09.7	-19°48.3	153°05.8	-6°02.8	178°34.6	-15°36.0
23	156°33.1	207°54.1	-15°52.3	208°10.2	-19°47.8	168°07.7	-6°02.5	193°36.8	-15°35.9
Mer.pass.:12:35		v0.0 d0.3 m-4.3		v0.5 d0.4 m1.2		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.8	

Estrellas

	AHS	Dec
Alpheratz	357°37.5	29°12.6
Ankaa	353°09.8	-42°11.4
Schedar	349°34.2	56°39.5
Diphda	348°49.8	-17°52.1
Achernar	335°22.4	-57°07.7
Hamal	327°54.1	23°33.9
Polaris	315°23.9	89°21.7
Akamar	315°13.8	-40°13.3
Menkar	314°08.7	4°10.4
Mirfak	308°31.8	49°56.4
Aldebaran	290°42.4	16°33.2
Rigel	281°06.1	-8°10.8
Capella	280°25.3	46°01.4
Bellatrix	278°25.4	6°22.1
Elnath	278°04.8	28°37.6
Alnilam	275°40.1	-1°11.4
Betelgeuse	270°54.6	7°24.6
Canopus	263°53.3	-52°42.7
Sirius	258°28.1	-16°44.8
Adara	255°07.5	-29°00.4
Procyon	244°53.0	5°10.2
Pollux	243°19.8	27°58.4
Avior	234°15.2	-59°35.0
Suhail	222°47.6	-43°31.5
Miaplacidus	221°38.0	-69°48.6
Alphard	217°49.7	-8°45.4
Regulus	207°36.6	11°51.5
Dubhe	193°43.2	61°37.9
Denebola	182°26.9	14°26.8
Gienah	175°45.6	-17°39.9
Acrux	173°02.0	-63°13.2
Gacrux	171°53.7	-57°14.1
Alioth	166°14.6	55°50.3
Spica	158°24.5	-11°16.6
Alcaid	152°53.5	49°12.0
Hadar	148°38.8	-60°28.6
Menkent	148°00.1	-36°28.6
Arcturus	145°49.7	19°04.2
Rigil Kent.	139°43.1	-60°55.4
Zubenelg.	136°58.4	-16°08.0
Kochab	137°19.1	74°03.6
Alphecca	126°05.6	26°38.2
Antares	112°18.6	-26°28.8
Atria	107°14.9	-69°03.7
Sabik	102°05.4	-15°45.1
Shaula	96°13.6	-37°07.1
Rasalhague	96°00.8	12°32.5
Etamin	90°43.3	51°28.8
Kaus Aust.	83°35.7	-34°22.4
Vega	80°35.0	38°47.9
Nunki	75°50.8	-26°16.1
Altair	62°02.5	8°55.4
Peacock	53°09.8	-56°39.7
Deneb	49°27.7	45°21.3
Enif	33°41.4	9°58.4
Alnair	27°36.3	-46°51.3
Fomalhaut	15°17.5	-29°30.4
Scheat	13°47.8	28°12.0
Markab	13°32.5	15°19.3

Mar 11 Vie	AHS	Paso Merid
Venus	54°12.4	09:09
Mars	53°54.9	09:09
Jupiter	12°14.3	11:55
Saturn	37°22.7	10:14

Mar 12 Sa	AHS	Paso Merid
Venus	53°14.9	09:08
Mars	53°08.2	09:09
Jupiter	12°00.9	11:52
Saturn	37°16.2	10:11

Mar 13 Dom	AHS	Paso Merid
Venus	52°16.9	09:08
Mars	52°21.6	09:08
Jupiter	11°47.4	11:49
Saturn	37°09.8	10:07

Paralelaje Horizontal	
Venus:	0.2
Mars:	0.1

h	Sol		Luna				
Vie	AHG	Dec	AHG	v	Dec	d	HP
0	177°28.0	-3°48.5	82°41.4	10.7	26°03.1	3.1	54.2
1	192°28.2	-3°47.5	97°11.1	10.7	26°06.1	2.9	54.2
2	207°28.3	-3°46.5	111°40.8	10.7	26°08.9	2.8	54.2
3	222°28.5	-3°45.5	126°10.4	10.6	26°11.7	2.7	54.2
4	237°28.7	-3°44.5	140°40.0	10.6	26°14.3	2.6	54.2
5	252°28.8	-3°43.5	155°09.6	10.6	26°16.8	2.4	54.2
6	267°29.0	-3°42.6	169°39.2	10.6	26°19.2	2.3	54.2
7	282°29.2	-3°41.6	184°08.7	10.5	26°21.5	2.2	54.2
8	297°29.3	-3°40.6	198°38.2	10.5	26°23.6	2.1	54.2
9	312°29.5	-3°39.6	213°07.7	10.5	26°25.6	1.9	54.3
10	327°29.6	-3°38.6	227°37.2	10.5	26°27.5	1.8	54.3
11	342°29.8	-3°37.6	242°06.6	10.4	26°29.3	1.7	54.3
12	357°30.0	-3°36.7	256°36.1	10.4	26°30.9	1.6	54.3
13	12°30.1	-3°35.7	271°05.5	10.4	26°32.4	1.4	54.3
14	27°30.3	-3°34.7	285°34.8	10.4	26°33.8	1.3	54.3
15	42°30.5	-3°33.7	300°04.2	10.4	26°35.0	1.2	54.3
16	57°30.6	-3°32.7	314°33.5	10.3	26°36.1	1.1	54.3
17	72°30.8	-3°31.8	329°02.9	10.3	26°37.1	0.9	54.3
18	87°31.0	-3°30.8	343°32.2	10.3	26°38.0	0.8	54.3
19	102°31.1	-3°29.8	358°01.5	10.3	26°38.7	0.7	54.3
20	117°31.3	-3°28.8	12°30.7	10.3	26°39.3	0.5	54.3
21	132°31.5	-3°27.8	27°00.0	10.3	26°39.8	0.4	54.3
22	147°31.6	-3°26.8	41°29.3	10.2	26°40.2	0.3	54.3
23	162°31.8	-3°25.9	55°58.5	10.2	26°40.4	0.2	54.3
	SD.=16.1	d=1.0	S.D.=14.8				

Sa	AHG	Dec	AHG	v	Dec	d	HP
0	177°32.0	-3°24.9	70°27.7	10.2	26°40.5	0.0	54.3
1	192°32.1	-3°23.9	84°56.9	10.2	26°40.5	-0.1	54.3
2	207°32.3	-3°22.9	99°26.1	10.2	26°40.3	-0.2	54.3
3	222°32.5	-3°21.9	113°55.3	10.2	26°40.0	-0.4	54.4
4	237°32.6	-3°20.9	128°24.5	10.2	26°39.6	-0.5	54.4
5	252°32.8	-3°20.0	142°53.7	10.2	26°39.0	-0.6	54.4
6	267°33.0	-3°19.0	157°22.9	10.2	26°38.3	-0.7	54.4
7	282°33.1	-3°18.0	171°52.0	10.2	26°37.5	-0.9	54.4
8	297°33.3	-3°17.0	186°21.2	10.2	26°36.6	-1.0	54.4
9	312°33.5	-3°16.0	200°50.3	10.2	26°35.5	-1.1	54.4
10	327°33.6	-3°15.0	215°19.5	10.2	26°34.3	-1.3	54.4
11	342°33.8	-3°14.0	229°48.6	10.1	26°33.0	-1.4	54.4
12	357°34.0	-3°13.1	244°17.8	10.1	26°31.5	-1.5	54.4
13	12°34.1	-3°12.1	258°46.9	10.1	26°29.9	-1.7	54.5
14	27°34.3	-3°11.1	273°16.1	10.1	26°28.2	-1.8	54.5
15	42°34.5	-3°10.1	287°45.2	10.2	26°26.4	-1.9	54.5
16	57°34.6	-3°09.1	302°14.4	10.2	26°24.4	-2.0	54.5
17	72°34.8	-3°08.1	316°43.5	10.2	26°22.3	-2.2	54.5
18	87°35.0	-3°07.2	331°12.7	10.2	26°20.0	-2.3	54.5
19	102°35.1	-3°06.2	345°41.9	10.2	26°17.7	-2.4	54.5
20	117°35.3	-3°05.2	0°11.0	10.2	26°15.2	-2.6	54.5
21	132°35.5	-3°04.2	14°40.2	10.2	26°12.5	-2.7	54.5
22	147°35.6	-3°03.2	29°09.4	10.2	26°09.8	-2.8	54.6
23	162°35.8	-3°02.2	43°38.6	10.2	26°06.9	-3.0	54.6
	SD.=16.1	d=1.0	S.D.=14.8				

Dom	AHG	Dec	AHG	v	Dec	d	HP
0	177°36.0	-3°01.2	58°07.8	10.2	26°03.9	-3.1	54.6
1	192°36.2	-3°00.3	72°37.0	10.2	26°00.7	-3.2	54.6
2	207°36.3	-2°59.3	87°06.2	10.2	25°57.5	-3.3	54.6
3	222°36.5	-2°58.3	101°35.4	10.2	25°54.0	-3.5	54.6
4	237°36.7	-2°57.3	116°04.7	10.2	25°50.5	-3.6	54.6
5	252°36.8	-2°56.3	130°33.9	10.3	25°46.9	-3.7	54.7
6	267°37.0	-2°55.3	145°03.2	10.3	25°43.1	-3.9	54.7
7	282°37.2	-2°54.4	159°32.5	10.3	25°39.2	-4.0	54.7
8	297°37.3	-2°53.4	174°01.8	10.3	25°35.1	-4.1	54.7
9	312°37.5	-2°52.4	188°31.1	10.3	25°30.9	-4.2	54.7
10	327°37.7	-2°51.4	203°00.4	10.3	25°26.6	-4.4	54.7
11	342°37.8	-2°50.4	217°29.8	10.4	25°22.2	-4.5	54.8
12	357°38.0	-2°49.4	231°59.1	10.4	25°17.7	-4.6	54.8
13	12°38.2	-2°48.4	246°28.5	10.4	25°13.0	-4.7	54.8
14	27°38.4	-2°47.5	260°57.9	10.4	25°08.2	-4.9	54.8
15	42°38.5	-2°46.5	275°27.3	10.4	25°03.2	-5.0	54.8
16	57°38.7	-2°45.5	289°56.8	10.5	24°58.2	-5.1	54.8
17	72°38.9	-2°44.5	304°26.3	10.5	24°53.0	-5.2	54.9
18	87°39.0	-2°43.5	318°55.7	10.5	24°47.7	-5.4	54.9
19	102°39.2	-2°42.5	333°25.3	10.5	24°42.3	-5.5	54.9
20	117°39.4	-2°41.5	347°54.8	10.5	24°36.7	-5.6	54.9
21	132°39.6	-2°40.6	2°24.4	10.6	24°31.0	-5.7	54.9
22	147°39.7	-2°39.6	16°53.9	10.6	24°25.2	-5.9	55.0
23	162°39.9	-2°38.6	31°23.6	10.6	24°19.3	-6.0	55.0
	SD.=16.1	d=1.0	S.D.=14.9				

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	04:11	05:33	06:40	17:42	18:49	20:12
70	04:23	05:36	06:36	17:45	18:46	19:59
68	04:33	05:39	06:34	17:48	18:43	19:50
66	04:40	05:41	06:31	17:50	18:41	19:42
64	04:47	05:42	06:29	17:52	18:39	19:35
62	04:52	05:44	06:28	17:53	18:37	19:30
60	04:56	05:45	06:26	17:55	18:36	19:25
58	05:00	05:46	06:25	17:56	18:35	19:21
56	05:03	05:47	06:23	17:57	18:34	19:18
54	05:06	05:47	06:22	17:58	18:33	19:15
52	05:09	05:48	06:21	17:59	18:33	19:12
50	05:11	05:48	06:20	18:00	18:32	19:10
45	05:15	05:49	06:18	18:02	18:31	19:05
40	05:18	05:50	06:17	18:04	18:31	19:02
35	05:21	05:50	06:15	18:05	18:30	19:00
30	05:22	05:50	06:14	18:06	18:30	18:58
20	05:24	05:49	06:11	18:09	18:31	18:56
10	05:23	05:48	06:09	18:11	18:32	18:56
0	05:22	05:46	06:06	18:13	18:34	18:58
S 10	05:19	05:43	06:04	18:15	18:36	19:01
20	05:14	05:39	06:01	18:18	18:40	19:05
30	05:06	05:34	05:58	18:21	18:45	19:13
35	05:01	05:31	05:56	18:22	18:48	19:18
40	04:55	05:27	05:54	18:24	18:52	19:24
45	04:47	05:22	05:52	18:27	18:56	19:31
50	04:37	05:16	05:49	18:30	19:02	19:41
52	04:32	05:13	05:47	18:31	19:05	19:46
54	04:27	05:10	05:46	18:33	19:08	19:51
56	04:21	05:06	05:44	18:34	19:12	19:57
58	04:13	05:02	05:42	18:36	19:16	20:04
60	04:05	04:58	05:40	18:38	19:20	20:12

	Orto luna			Ocaso luna		
Lat.	Vie	Sa	Dom	Vie	Sa	Dom
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	–:–	–:–	–:–
68	–:–	–:–	–:–	–:–	–:–	–:–
66	–:–	–:–	–:–	–:–	–:–	–:–
64	–:–	–:–	09:20	–:–	–:–	07:36
62	08:12	08:58	10:17	05:11	06:11	06:38
60	08:51	09:39	10:50	04:32	05:29	06:05
58	09:18	10:08	11:14	04:05	05:01	05:40
56	09:40	10:29	11:34	03:43	04:39	05:20
54	09:57	10:47	11:50	03:26	04:21	05:04
52	10:12	11:03	12:04	03:11	04:06	04:49
50	10:26	11:16	12:16	02:58	03:52	04:37
45	10:52	11:43	12:42	02:31	03:25	04:11
40	11:14	12:05	13:02	02:10	03:04	03:51
35	11:31	12:22	13:18	01:53	02:46	03:34
30	11:47	12:38	13:33	01:38	02:30	03:19
20	12:13	13:04	13:57	01:12	02:04	02:54
10	12:35	13:26	14:18	00:50	01:42	02:32
0	12:56	13:47	14:38	00:30	01:20	02:12
S 10	13:17	14:08	14:57	00:09	00:59	01:51
20	13:39	14:30	15:18	–:–	00:37	01:29
30	14:05	14:56	15:43	–:–	00:11	01:04
35	14:21	15:11	15:57	23:55	–:–	00:49
40	14:39	15:29	16:13	23:37	–:–	00:31
45	15:01	15:51	16:33	23:15	–:–	00:10
50	15:28	16:17	16:57	22:48	23:43	–:–
52	15:41	16:31	17:09	22:34	23:30	–:–
54	15:57	16:46	17:22	22:19	23:15	–:–
56	16:15	17:04	17:38	22:00	22:58	–:–
58	16:38	17:25	17:56	21:38	22:36	23:51
60	17:07	17:53	18:19	21:09	22:09	23:29

Día	Sol			Luna		
	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
11	10:08	10:00	12:10	19:08	06:42	9(60%)
12	09:52	09:44	12:09	19:59	07:33	10(69%)
13	09:36	09:28	12:09	20:50	08:24	11(77%)

Marzo 14, 15, 16 (Lun, Mar, Mie)

	Aries	Venus		Martes		Júpiter		Saturno	
Lun	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	171°35.6	222°54.1	-15°52.0	223°10.7	-19°47.4	183°09.6	-6°02.3	208°39.0	-15°35.8
1	186°38.1	237°54.2	-15°51.7	238°11.2	-19°47.0	198°11.5	-6°02.1	223°41.2	-15°35.8
2	201°40.5	252°54.2	-15°51.3	253°11.8	-19°46.5	213°13.4	-6°01.8	238°43.4	-15°35.7
3	216°43.0	267°54.2	-15°51.0	268°12.3	-19°46.1	228°15.3	-6°01.6	253°45.6	-15°35.6
4	231°45.5	282°54.2	-15°50.7	283°12.8	-19°45.7	243°17.2	-6°01.4	268°47.8	-15°35.5
5	246°47.9	297°54.3	-15°50.4	298°13.4	-19°45.2	258°19.1	-6°01.1	283°50.0	-15°35.4
6	261°50.4	312°54.3	-15°50.1	313°13.9	-19°44.8	273°21.0	-6°00.9	298°52.2	-15°35.4
7	276°52.8	327°54.3	-15°49.7	328°14.4	-19°44.4	288°22.9	-6°00.7	313°54.4	-15°35.3
8	291°55.3	342°54.3	-15°49.4	343°14.9	-19°43.9	303°24.9	-6°00.4	328°56.6	-15°35.2
9	306°57.8	357°54.3	-15°49.1	358°15.5	-19°43.5	318°26.8	-6°00.2	343°58.8	-15°35.1
10	322°00.2	12°54.3	-15°48.8	13°16.0	-19°43.0	333°28.7	-6°00.0	359°01.0	-15°35.0
11	337°02.7	27°54.4	-15°48.4	28°16.5	-19°42.6	348°30.6	-5°59.8	14°03.2	-15°35.0
12	352°05.2	42°54.4	-15°48.1	43°17.1	-19°42.2	3°32.5	-5°59.5	29°05.4	-15°34.9
13	7°07.6	57°54.4	-15°47.8	58°17.6	-19°41.7	18°34.4	-5°59.3	44°07.6	-15°34.8
14	22°10.1	72°54.4	-15°47.5	73°18.1	-19°41.3	33°36.3	-5°59.1	59°09.8	-15°34.7
15	37°12.6	87°54.4	-15°47.1	88°18.6	-19°40.9	48°38.2	-5°58.8	74°12.0	-15°34.6
16	52°15.0	102°54.4	-15°46.8	103°19.2	-19°40.4	63°40.1	-5°58.6	89°14.2	-15°34.6
17	67°17.5	117°54.4	-15°46.5	118°19.7	-19°40.0	78°42.0	-5°58.4	104°16.4	-15°34.5
18	82°19.9	132°54.4	-15°46.2	133°20.2	-19°39.5	93°43.9	-5°58.1	119°18.6	-15°34.4
19	97°22.4	147°54.4	-15°45.8	148°20.8	-19°39.1	108°45.8	-5°57.9	134°20.8	-15°34.3
20	112°24.9	162°54.5	-15°45.5	163°21.3	-19°38.7	123°47.7	-5°57.7	149°23.0	-15°34.2
21	127°27.3	177°54.5	-15°45.2	178°21.8	-19°38.2	138°49.6	-5°57.4	164°25.2	-15°34.2
22	142°29.8	192°54.5	-15°44.8	193°22.3	-19°37.8	153°51.5	-5°57.2	179°27.4	-15°34.1
23	157°32.3	207°54.5	-15°44.5	208°22.9	-19°37.3	168°53.4	-5°57.0	194°29.6	-15°34.0
Mer.pass.:12:31		v0.0 d0.3 m-4.3		v0.5 d0.4 m1.2		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.8	

Mar	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	172°34.7	222°54.5	-15°44.2	223°23.4	-19°36.9	183°55.3	-5°56.7	209°31.8	-15°33.9
1	187°37.2	237°54.5	-15°43.8	238°23.9	-19°36.5	198°57.2	-5°56.5	224°34.0	-15°33.8
2	202°39.7	252°54.5	-15°43.5	253°24.5	-19°36.0	213°59.1	-5°56.3	239°36.2	-15°33.8
3	217°42.1	267°54.5	-15°43.1	268°25.0	-19°35.6	229°01.1	-5°56.0	254°38.4	-15°33.7
4	232°44.6	282°54.5	-15°42.8	283°25.5	-19°35.1	244°03.0	-5°55.8	269°40.6	-15°33.6
5	247°47.1	297°54.5	-15°42.5	298°26.1	-19°34.7	259°04.9	-5°55.6	284°42.8	-15°33.5
6	262°49.5	312°54.5	-15°42.1	313°26.6	-19°34.2	274°06.8	-5°55.3	299°45.0	-15°33.4
7	277°52.0	327°54.5	-15°41.8	328°27.1	-19°33.8	289°08.7	-5°55.1	314°47.2	-15°33.4
8	292°54.4	342°54.5	-15°41.4	343°27.7	-19°33.4	304°10.6	-5°54.9	329°49.4	-15°33.3
9	307°56.9	357°54.5	-15°41.1	358°28.2	-19°32.9	319°12.5	-5°54.6	344°51.6	-15°33.2
10	322°59.4	12°54.5	-15°40.8	13°28.7	-19°32.5	334°14.4	-5°54.4	359°53.8	-15°33.1
11	338°01.8	27°54.5	-15°40.4	28°29.3	-19°32.0	349°16.3	-5°54.2	14°56.0	-15°33.0
12	353°04.3	42°54.5	-15°40.1	43°29.8	-19°31.6	4°18.2	-5°53.9	29°58.2	-15°33.0
13	8°06.8	57°54.5	-15°39.7	58°30.3	-19°31.1	19°20.1	-5°53.7	45°00.4	-15°32.9
14	23°09.2	72°54.5	-15°39.4	73°30.8	-19°30.7	34°22.0	-5°53.5	60°02.6	-15°32.8
15	38°11.7	87°54.5	-15°39.0	88°31.4	-19°30.2	49°23.9	-5°53.2	75°04.8	-15°32.7
16	53°14.2	102°54.5	-15°38.7	103°31.9	-19°29.8	64°25.8	-5°53.0	90°07.0	-15°32.6
17	68°16.6	117°54.5	-15°38.3	118°32.4	-19°29.3	79°27.7	-5°52.8	105°09.2	-15°32.6
18	83°19.1	132°54.5	-15°38.0	133°33.0	-19°28.9	94°29.6	-5°52.5	120°11.4	-15°32.5
19	98°21.6	147°54.5	-15°37.6	148°33.5	-19°28.5	109°31.5	-5°52.3	135°13.6	-15°32.4
20	113°24.0	162°54.5	-15°37.3	163°34.0	-19°28.0	124°33.5	-5°52.1	150°15.8	-15°32.3
21	128°26.5	177°54.5	-15°36.9	178°34.6	-19°27.6	139°35.4	-5°51.8	165°18.0	-15°32.2
22	143°28.9	192°54.4	-15°36.6	193°35.1	-19°27.1	154°37.3	-5°51.6	180°20.2	-15°32.2
23	158°31.4	207°54.4	-15°36.2	208°35.6	-19°26.7	169°39.2	-5°51.4	195°22.4	-15°32.1
Mer.pass.:12:27		v0.0 d0.3 m-4.3		v0.5 d0.4 m1.2		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.8	

Mie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	173°33.9	222°54.4	-15°35.9	223°36.2	-19°26.2	184°41.1	-5°51.1	210°24.6	-15°32.0
1	188°36.3	237°54.4	-15°35.5	238°36.7	-19°25.8	199°43.0	-5°50.9	225°26.8	-15°31.9
2	203°38.8	252°54.4	-15°35.2	253°37.2	-19°25.3	214°44.9	-5°50.7	240°29.1	-15°31.8
3	218°41.3	267°54.4	-15°34.8	268°37.8	-19°24.9	229°46.8	-5°50.4	255°31.3	-15°31.8
4	233°43.7	282°54.4	-15°34.4	283°38.3	-19°24.4	244°48.7	-5°50.2	270°33.5	-15°31.7
5	248°46.2	297°54.4	-15°34.1	298°38.8	-19°24.0	259°50.6	-5°50.0	285°35.7	-15°31.6
6	263°48.7	312°54.4	-15°33.7	313°39.4	-19°23.5	274°52.5	-5°49.7	300°37.9	-15°31.5
7	278°51.1	327°54.3	-15°33.4	328°39.9	-19°23.1	289°54.4	-5°49.5	315°40.1	-15°31.4
8	293°53.6	342°54.3	-15°33.0	343°40.5	-19°22.6	304°56.3	-5°49.3	330°42.3	-15°31.4
9	308°56.0	357°54.3	-15°32.6	358°41.0	-19°22.2	319°58.2	-5°49.1	345°44.5	-15°31.3
10	323°58.5	12°54.3	-15°32.3	13°41.5	-19°21.7	335°00.1	-5°48.8	0°46.7	-15°31.2
11	339°01.0	27°54.3	-15°31.9	28°42.1	-19°21.2	350°02.0	-5°48.6	15°48.9	-15°31.1
12	354°03.4	42°54.3	-15°31.6	43°42.6	-19°20.8	5°04.0	-5°48.4	30°51.1	-15°31.1
13	9°05.9	57°54.2	-15°31.2	58°43.1	-19°20.3	20°05.9	-5°48.1	45°53.3	-15°31.0
14	24°08.4	72°54.2	-15°30.8	73°43.7	-19°19.9	35°07.8	-5°47.9	60°55.5	-15°30.9
15	39°10.8	87°54.2	-15°30.5	88°44.2	-19°19.4	50°09.7	-5°47.7	75°57.7	-15°30.8
16	54°13.3	102°54.2	-15°30.1	103°44.7	-19°19.0	65°11.6	-5°47.4	90°59.9	-15°30.7
17	69°15.8	117°54.2	-15°29.7	118°45.3	-19°18.5	80°13.5	-5°47.2	106°02.1	-15°30.7
18	84°18.2	132°54.1	-15°29.4	133°45.8	-19°18.1	95°15.4	-5°47.0	121°04.3	-15°30.6
19	99°20.7	147°54.1	-15°29.0	148°46.3	-19°17.6	110°17.3	-5°46.7	136°06.5	-15°30.5
20	114°23.2	162°54.1	-15°28.6	163°46.9	-19°17.2	125°19.2	-5°46.5	151°08.7	-15°30.4
21	129°25.6	177°54.1	-15°28.2	178°47.4	-19°16.7	140°21.1	-5°46.3	166°10.9	-15°30.3
22	144°28.1	192°54.1	-15°27.9	193°48.0	-19°16.2	155°23.0	-5°46.0	181°13.1	-15°30.3
23	159°30.5	207°54.0	-15°27.5	208°48.5	-19°15.8	170°24.9	-5°45.8	196°15.3	-15°30.2
Mer.pass.:12:23		v-0.0 d0.4 m-4.3		v0.5 d0.4 m1.2		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.8	

Estrellas	AHS	Dec
Alpheratz	357°37.5	29°12.6
Ankaa	353°09.8	-42°11.4
Schedar	349°34.2	56°39.5
Diphda	348°49.8	-17°52.1
Achernar	335°22.4	-57°07.7
Hamal	327°54.1	23°33.9
Polaris	315°25.1	89°21.7
Akamar	315°13.8	-40°13.3
Menkar	314°08.8	4°10.4
Mirfak	308°31.8	49°56.4
Aldebaran	290°42.4	16°33.2
Rigel	281°06.1	-8°10.8
Capella	280°25.4	46°01.4
Bellatrix	278°25.4	6°22.1
Elnath	278°04.8	28°37.6
Alnilam	275°40.1	-1°11.4
Betelgeuse	270°54.6	7°24.6
Canopus	263°53.3	-52°42.7
Sirius	258°28.1	-16°44.8
Adara	255°07.5	-29°00.4
Procyon	244°53.0	5°10.2
Pollux	243°19.8	27°58.4
Avior	234°15.2	-59°35.0
Suhail	222°47.6	-43°31.5
Miaplacidus	221°38.0	-69°48.6
Alphard	217°49.7	-8°45.4
Regulus	207°36.6	11°51.5
Dubhe	193°43.2	61°37.9
Denebola	182°26.9	14°26.8
Gienah	175°45.6	-17°39.9
Acrux	173°02.0	-63°13.2
Gacrux	171°53.7	-57°14.2
Alioth	166°14.6	55°50.3
Spica	158°24.5	-11°16.6
Alcaid	152°53.5	49°12.0
Hadar	148°38.8	-60°28.6
Menkent	148°00.1	-36°28.7
Arcturus	145°49.6	19°04.2
Rigil Kent.	139°43.0	-60°55.4
Zubenelg.	136°58.4	-16°08.0
Kochab	137°19.1	74°03.6
Alphecca	126°05.6	26°38.2
Antares	112°18.6	-26°28.8
Atria	107°14.8	-69°03.7
Sabik	102°05.4	-15°45.2
Shaula	96°13.5	-37°07.1
Rasalhague	96°00.7	12°32.5
Etamin	90°43.3	51°28.8
Kaus Aust.	83°35.7	-34°22.4
Vega	80°34.9	38°47.9
Nunki	75°50.8	-26°16.1
Altair	62°02.5	8°55.4
Peacock	53°09.8	-56°39.7
Deneb	49°27.7	45°21.3
Enif	33°41.4	9°58.4
Alnair	27°36.3	-46°51.3
Fomalhaut	15°17.5	-29°30.4
Scheat	13°47.8	28°12.0
Markab	13°32.5	15°19.3

Mar 14 Lun	AHS	Paso Merid
Venus	51°18.6	09:08
Mars	51°35.1	09:07
Jupiter	11°34.0	11:46
Saturn	37°03.4	10:04

Mar 15 Mar	AHS	Paso Merid
Venus	50°19.8	09:08
Mars	50°48.7	09:06
Jupiter	11°20.6	11:43
Saturn	36°57.1	10:00

Mar 16 Mie	AHS	Paso Merid
Venus	49°20.6	09:08
Mars	50°02.3	09:05
Jupiter	11°07.2	11:40
Saturn	36°50.8	09:57

Paralelaje Horizontal	
Venus:	0.2
Mars:	0.1

h	Sol		Luna				
Lun	AHG	Dec	AHG	v	Dec	d	HP
0	177°40.1	-2°37.6	45°53.2	10.6	24°13.3	-6.1	55.0
1	192°40.2	-2°36.6	60°22.9	10.7	24°07.1	-6.2	55.0
2	207°40.4	-2°35.6	74°52.5	10.7	24°00.8	-6.4	55.0
3	222°40.6	-2°34.6	89°22.3	10.7	23°54.4	-6.5	55.1
4	237°40.8	-2°33.7	103°52.0	10.8	23°47.8	-6.6	55.1
5	252°40.9	-2°32.7	118°21.8	10.8	23°41.2	-6.7	55.1
6	267°41.1	-2°31.7	132°51.6	10.8	23°34.4	-6.8	55.1
7	282°41.3	-2°30.7	147°21.4	10.8	23°27.5	-7.0	55.1
8	297°41.5	-2°29.7	161°51.3	10.9	23°20.5	-7.1	55.2
9	312°41.6	-2°28.7	176°21.2	10.9	23°13.4	-7.2	55.2
10	327°41.8	-2°27.7	190°51.1	10.9	23°06.1	-7.3	55.2
11	342°42.0	-2°26.7	205°21.0	11.0	22°58.7	-7.4	55.2
12	357°42.1	-2°25.8	219°51.0	11.0	22°51.3	-7.5	55.2
13	12°42.3	-2°24.8	234°21.0	11.0	22°43.7	-7.7	55.3
14	27°42.5	-2°23.8	248°51.1	11.1	22°35.9	-7.8	55.3
15	42°42.7	-2°22.8	263°21.2	11.1	22°28.1	-7.9	55.3
16	57°42.8	-2°21.8	277°51.3	11.1	22°20.1	-8.0	55.3
17	72°43.0	-2°20.8	292°21.4	11.2	22°12.1	-8.1	55.4
18	87°43.2	-2°19.8	306°51.6	11.2	22°03.9	-8.2	55.4
19	102°43.4	-2°18.9	321°21.8	11.2	21°55.6	-8.3	55.4
20	117°43.5	-2°17.9	335°52.1	11.3	21°47.2	-8.5	55.4
21	132°43.7	-2°16.9	350°22.3	11.3	21°38.7	-8.6	55.4
22	147°43.9	-2°15.9	4°52.7	11.3	21°30.1	-8.7	55.5
23	162°44.1	-2°14.9	19°23.0	11.4	21°21.3	-8.8	55.5
	SD.=16.1	d=1.0	S.D.=15.0				

Mar	AHG	Dec	AHG	v	Dec	d	HP
0	177°44.2	-2°13.9	33°53.4	11.4	21°12.5	-8.9	55.5
1	192°44.4	-2°12.9	48°23.8	11.4	21°03.5	-9.0	55.5
2	207°44.6	-2°11.9	62°54.3	11.5	20°54.5	-9.1	55.6
3	222°44.8	-2°11.0	77°24.7	11.5	20°45.3	-9.2	55.6
4	237°44.9	-2°10.0	91°55.3	11.5	20°36.0	-9.3	55.6
5	252°45.1	-2°09.0	106°25.8	11.6	20°26.6	-9.4	55.6
6	267°45.3	-2°08.0	120°56.4	11.6	20°17.1	-9.5	55.7
7	282°45.5	-2°07.0	135°27.0	11.6	20°07.5	-9.7	55.7
8	297°45.6	-2°06.0	149°57.7	11.7	19°57.8	-9.8	55.7
9	312°45.8	-2°05.0	164°28.4	11.7	19°48.0	-9.9	55.7
10	327°46.0	-2°04.1	178°59.1	11.7	19°38.1	-10.0	55.8
11	342°46.2	-2°03.1	193°29.9	11.8	19°28.1	-10.1	55.8
12	357°46.3	-2°02.1	208°00.7	11.8	19°17.9	-10.2	55.8
13	12°46.5	-2°01.1	222°31.5	11.9	19°07.7	-10.3	55.8
14	27°46.7	-2°00.1	237°02.4	11.9	18°57.4	-10.4	55.9
15	42°46.9	-1°59.1	251°33.3	11.9	18°47.0	-10.5	55.9
16	57°47.0	-1°58.1	266°04.2	12.0	18°36.5	-10.6	55.9
17	72°47.2	-1°57.1	280°35.2	12.0	18°25.8	-10.7	55.9
18	87°47.4	-1°56.2	295°06.2	12.0	18°15.1	-10.8	56.0
19	102°47.6	-1°55.2	309°37.2	12.1	18°04.3	-10.9	56.0
20	117°47.8	-1°54.2	324°08.3	12.1	17°53.4	-11.0	56.0
21	132°47.9	-1°53.2	338°39.4	12.1	17°42.4	-11.0	56.0
22	147°48.1	-1°52.2	353°10.6	12.2	17°31.3	-11.1	56.1
23	162°48.3	-1°51.2	7°41.7	12.2	17°20.1	-11.2	56.1
	SD.=16.1	d=1.0	S.D.=15.1				

Mie	AHG	Dec	AHG	v	Dec	d	HP
0	177°48.5	-1°50.2	22°12.9	12.2	17°08.9	-11.3	56.1
1	192°48.6	-1°49.2	36°44.2	12.3	16°57.5	-11.4	56.1
2	207°48.8	-1°48.3	51°15.4	12.3	16°46.0	-11.5	56.2
3	222°49.0	-1°47.3	65°46.7	12.3	16°34.5	-11.6	56.2
4	237°49.2	-1°46.3	80°18.1	12.3	16°22.8	-11.7	56.2
5	252°49.4	-1°45.3	94°49.4	12.4	16°11.1	-11.8	56.3
6	267°49.5	-1°44.3	109°20.8	12.4	15°59.3	-11.9	56.3
7	282°49.7	-1°43.3	123°52.2	12.4	15°47.4	-11.9	56.3
8	297°49.9	-1°42.3	138°23.7	12.5	15°35.4	-12.0	56.3
9	312°50.1	-1°41.3	152°55.2	12.5	15°23.3	-12.1	56.4
10	327°50.2	-1°40.3	167°26.7	12.5	15°11.1	-12.2	56.4
11	342°50.4	-1°39.4	181°58.2	12.6	14°58.9	-12.3	56.4
12	357°50.6	-1°38.4	196°29.8	12.6	14°46.6	-12.4	56.4
13	12°50.8	-1°37.4	211°01.4	12.6	14°34.2	-12.4	56.5
14	27°51.0	-1°36.4	225°33.0	12.6	14°21.7	-12.5	56.5
15	42°51.1	-1°35.4	240°04.7	12.7	14°09.1	-12.6	56.5
16	57°51.3	-1°34.4	254°36.3	12.7	13°56.5	-12.7	56.5
17	72°51.5	-1°33.4	269°08.0	12.7	13°43.7	-12.8	56.6
18	87°51.7	-1°32.4	283°39.8	12.7	13°30.9	-12.8	56.6
19	102°51.8	-1°31.5	298°11.5	12.8	13°18.1	-12.9	56.6
20	117°52.0	-1°30.5	312°43.3	12.8	13°05.1	-13.0	56.7
21	132°52.2	-1°29.5	327°15.1	12.8	12°52.1	-13.1	56.7
22	147°52.4	-1°28.5	341°46.9	12.8	12°39.0	-13.1	56.7
23	162°52.6	-1°27.5	356°18.8	12.9	12°25.8	-13.2	56.7
	SD.=16.1	d=1.0	S.D.=15.3				

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	03:54	05:17	06:24	17:56	19:03	20:28
70	04:08	05:22	06:23	17:57	18:58	20:13
68	04:19	05:26	06:21	17:59	18:54	20:02
66	04:28	05:29	06:20	18:00	18:51	19:52
64	04:35	05:32	06:19	18:01	18:48	19:45
62	04:42	05:34	06:18	18:01	18:46	19:38
60	04:47	05:36	06:17	18:02	18:44	19:33
58	04:51	05:37	06:16	18:03	18:42	19:28
56	04:55	05:39	06:16	18:03	18:40	19:24
54	04:59	05:40	06:15	18:04	18:39	19:21
52	05:02	05:41	06:14	18:04	18:38	19:17
50	05:04	05:42	06:14	18:05	18:37	19:15
45	05:09	05:44	06:13	18:06	18:35	19:09
40	05:13	05:45	06:12	18:07	18:34	19:05
35	05:16	05:46	06:11	18:07	18:33	19:02
30	05:18	05:46	06:10	18:08	18:32	19:00
20	05:21	05:47	06:09	18:10	18:32	18:57
10	05:22	05:46	06:07	18:11	18:32	18:56
0	05:21	05:45	06:06	18:12	18:33	18:57
S 10	05:19	05:43	06:04	18:14	18:35	18:59
20	05:15	05:40	06:02	18:15	18:37	19:03
30	05:08	05:36	06:00	18:17	18:41	19:09
35	05:04	05:34	05:59	18:18	18:44	19:13
40	04:58	05:30	05:57	18:20	18:47	19:19
45	04:51	05:26	05:56	18:21	18:51	19:25
50	04:43	05:21	05:54	18:23	18:56	19:34
52	04:38	05:19	05:53	18:24	18:58	19:38
54	04:33	05:16	05:52	18:25	19:01	19:43
56	04:28	05:13	05:50	18:26	19:04	19:48
58	04:21	05:09	05:49	18:27	19:07	19:55
60	04:14	05:05	05:47	18:29	19:11	20:02

	Orto luna			Ocaso luna		
Lat.	Lun	Mar	Mie	Lun	Mar	Mie
N 72	–:–	–:–	13:29	–:–	–:–	08:38
70	–:–	11:08	14:01	–:–	09:18	08:04
68	–:–	12:11	14:24	–:–	08:13	07:40
66	10:30	12:46	14:42	08:11	07:37	07:21
64	11:21	13:11	14:56	07:20	07:11	07:05
62	11:52	13:30	15:08	06:48	06:51	06:52
60	12:15	13:46	15:18	06:24	06:34	06:41
58	12:34	13:59	15:27	06:05	06:20	06:31
56	12:49	14:11	15:35	05:49	06:08	06:22
54	13:03	14:21	15:42	05:35	05:58	06:15
52	13:14	14:30	15:48	05:23	05:48	06:08
50	13:25	14:38	15:53	05:12	05:40	06:02
45	13:46	14:55	16:05	04:50	05:22	05:48
40	14:04	15:08	16:15	04:32	05:07	05:37
35	14:18	15:20	16:23	04:16	04:54	05:28
30	14:31	15:30	16:30	04:03	04:43	05:19
20	14:52	15:48	16:43	03:40	04:24	05:05
10	15:11	16:03	16:54	03:21	04:07	04:52
0	15:28	16:17	17:04	03:02	03:52	04:40
S 10	15:45	16:31	17:14	02:44	03:36	04:27
20	16:04	16:46	17:25	02:24	03:19	04:14
30	16:25	17:03	17:37	02:00	02:59	03:59
35	16:37	17:12	17:44	01:47	02:48	03:50
40	16:51	17:24	17:52	01:31	02:34	03:40
45	17:08	17:37	18:02	01:12	02:19	03:28
50	17:28	17:53	18:13	00:48	01:59	03:14
52	17:38	18:00	18:18	00:37	01:50	03:07
54	17:49	18:09	18:24	00:24	01:40	02:59
56	18:01	18:18	18:30	00:09	01:28	02:51
58	18:16	18:28	18:37	–:–	01:14	02:41
60	18:32	18:40	18:45	–:–	00:58	02:30

Día	Sol			Luna		
	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
14	09:20	09:11	12:09	21:39	09:15	12(85%)
15	09:03	08:55	12:08	22:28	10:04	13(91%)
16	08:46	08:38	12:08	23:15	10:51	14(96%)

Marzo 17, 18, 19 (Jue, Vie, Sa)

	Aries	Venus		Martes		Júpiter		Saturno	
Jue	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	174°33.0	222°54.0	-15°27.1	223°49.0	-19°15.3	185°26.8	-5°45.6	211°17.5	-15°30.1
1	189°35.5	237°54.0	-15°26.7	238°49.6	-19°14.9	200°28.7	-5°45.3	226°19.7	-15°30.0
2	204°37.9	252°53.9	-15°26.4	253°50.1	-19°14.4	215°30.7	-5°45.1	241°21.9	-15°29.9
3	219°40.4	267°53.9	-15°26.0	268°50.6	-19°14.0	230°32.6	-5°44.9	256°24.2	-15°29.9
4	234°42.9	282°53.9	-15°25.6	283°51.2	-19°13.5	245°34.5	-5°44.6	271°26.4	-15°29.8
5	249°45.3	297°53.9	-15°25.2	298°51.7	-19°13.0	260°36.4	-5°44.4	286°28.6	-15°29.7
6	264°47.8	312°53.8	-15°24.9	313°52.3	-19°12.6	275°38.3	-5°44.2	301°30.8	-15°29.6
7	279°50.3	327°53.8	-15°24.5	328°52.8	-19°12.1	290°40.2	-5°43.9	316°33.0	-15°29.6
8	294°52.7	342°53.8	-15°24.1	343°53.3	-19°11.7	305°42.1	-5°43.7	331°35.2	-15°29.5
9	309°55.2	357°53.8	-15°23.7	358°53.9	-19°11.2	320°44.0	-5°43.5	346°37.4	-15°29.4
10	324°57.6	12°53.7	-15°23.3	13°54.4	-19°10.7	335°45.9	-5°43.2	1°39.6	-15°29.3
11	340°00.1	27°53.7	-15°23.0	28°54.9	-19°10.3	350°47.8	-5°43.0	16°41.8	-15°29.2
12	355°02.6	42°53.7	-15°22.6	43°55.5	-19°09.8	5°49.7	-5°42.8	31°44.0	-15°29.2
13	10°05.0	57°53.6	-15°22.2	58°56.0	-19°09.4	20°51.6	-5°42.5	46°46.2	-15°29.1
14	25°07.5	72°53.6	-15°21.8	73°56.6	-19°08.9	35°53.5	-5°42.3	61°48.4	-15°29.0
15	40°10.0	87°53.6	-15°21.4	88°57.1	-19°08.4	50°55.4	-5°42.1	76°50.6	-15°28.9
16	55°12.4	102°53.5	-15°21.0	103°57.6	-19°08.0	65°57.4	-5°41.9	91°52.8	-15°28.8
17	70°14.9	117°53.5	-15°20.6	118°58.2	-19°07.5	80°59.3	-5°41.6	106°55.0	-15°28.8
18	85°17.4	132°53.5	-15°20.3	133°58.7	-19°07.0	96°01.2	-5°41.4	121°57.2	-15°28.7
19	100°19.8	147°53.4	-15°19.9	148°59.3	-19°06.6	111°03.1	-5°41.2	136°59.4	-15°28.6
20	115°22.3	162°53.4	-15°19.5	163°59.8	-19°06.1	126°05.0	-5°40.9	152°01.6	-15°28.5
21	130°24.8	177°53.3	-15°19.1	179°00.3	-19°05.7	141°06.9	-5°40.7	167°03.9	-15°28.5
22	145°27.2	192°53.3	-15°18.7	194°00.9	-19°05.2	156°08.8	-5°40.5	182°06.1	-15°28.4
23	160°29.7	207°53.3	-15°18.3	209°01.4	-19°04.7	171°10.7	-5°40.2	197°08.3	-15°28.3
Mer.pass.:12:19		v-0.0 d0.4 m-4.3		v0.5 d0.5 m1.2		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.8	

Vie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	175°32.1	222°53.2	-15°17.9	224°02.0	-19°04.3	186°12.6	-5°40.0	212°10.5	-15°28.2
1	190°34.6	237°53.2	-15°17.5	239°02.5	-19°03.8	201°14.5	-5°39.8	227°12.7	-15°28.1
2	205°37.1	252°53.1	-15°17.1	254°03.0	-19°03.3	216°16.4	-5°39.5	242°14.9	-15°28.1
3	220°39.5	267°53.1	-15°16.7	269°03.6	-19°02.9	231°18.3	-5°39.3	257°17.1	-15°28.0
4	235°42.0	282°53.1	-15°16.3	284°04.1	-19°02.4	246°20.2	-5°39.1	272°19.3	-15°27.9
5	250°44.5	297°53.0	-15°15.9	299°04.7	-19°01.9	261°22.2	-5°38.8	287°21.5	-15°27.8
6	265°46.9	312°53.0	-15°15.5	314°05.2	-19°01.5	276°24.1	-5°38.6	302°23.7	-15°27.7
7	280°49.4	327°52.9	-15°15.1	329°05.7	-19°01.0	291°26.0	-5°38.4	317°25.9	-15°27.7
8	295°51.9	342°52.9	-15°14.7	344°06.3	-19°00.5	306°27.9	-5°38.1	332°28.1	-15°27.6
9	310°54.3	357°52.9	-15°14.3	359°06.8	-19°00.1	321°29.8	-5°37.9	347°30.3	-15°27.5
10	325°56.8	12°52.8	-15°13.9	14°07.4	-18°59.6	336°31.7	-5°37.7	2°32.5	-15°27.4
11	340°59.2	27°52.8	-15°13.5	29°07.9	-18°59.1	351°33.6	-5°37.4	17°34.8	-15°27.4
12	356°01.7	42°52.7	-15°13.1	44°08.5	-18°58.7	6°35.5	-5°37.2	32°37.0	-15°27.3
13	11°04.2	57°52.7	-15°12.7	59°09.0	-18°58.2	21°37.4	-5°37.0	47°39.2	-15°27.2
14	26°06.6	72°52.6	-15°12.3	74°09.5	-18°57.7	36°39.3	-5°36.7	62°41.4	-15°27.1
15	41°09.1	87°52.6	-15°11.9	89°10.1	-18°57.2	51°41.2	-5°36.5	77°43.6	-15°27.0
16	56°11.6	102°52.5	-15°11.5	104°10.6	-18°56.8	66°43.1	-5°36.3	92°45.8	-15°27.0
17	71°14.0	117°52.5	-15°11.1	119°11.2	-18°56.3	81°45.0	-5°36.0	107°48.0	-15°26.9
18	86°16.5	132°52.4	-15°10.7	134°11.7	-18°55.8	96°47.0	-5°35.8	122°50.2	-15°26.8
19	101°19.0	147°52.4	-15°10.3	149°12.2	-18°55.4	111°48.9	-5°35.6	137°52.4	-15°26.7
20	116°21.4	162°52.3	-15°09.9	164°12.8	-18°54.9	126°50.8	-5°35.4	152°54.6	-15°26.7
21	131°23.9	177°52.3	-15°09.5	179°13.3	-18°54.4	141°52.7	-5°35.1	167°56.8	-15°26.6
22	146°26.4	192°52.2	-15°09.0	194°13.9	-18°53.9	156°54.6	-5°34.9	182°59.0	-15°26.5
23	161°28.8	207°52.2	-15°08.6	209°14.4	-18°53.5	171°56.5	-5°34.7	198°01.2	-15°26.4
Mer.pass.:12:15		v-0.0 d0.4 m-4.3		v0.5 d0.5 m1.2		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.8	

Sa	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	176°31.3	222°52.1	-15°08.2	224°15.0	-18°53.0	186°58.4	-5°34.4	213°03.5	-15°26.3
1	191°33.7	237°52.1	-15°07.8	239°15.5	-18°52.5	202°00.3	-5°34.2	228°05.7	-15°26.3
2	206°36.2	252°52.0	-15°07.4	254°16.1	-18°52.1	217°02.2	-5°34.0	243°07.9	-15°26.2
3	221°38.7	267°52.0	-15°07.0	269°16.6	-18°51.6	232°04.1	-5°33.7	258°10.1	-15°26.1
4	236°41.1	282°51.9	-15°06.6	284°17.1	-18°51.1	247°06.0	-5°33.5	273°12.3	-15°26.0
5	251°43.6	297°51.9	-15°06.1	299°17.7	-18°50.6	262°07.9	-5°33.3	288°14.5	-15°26.0
6	266°46.1	312°51.8	-15°05.7	314°18.2	-18°50.2	277°09.9	-5°33.0	303°16.7	-15°25.9
7	281°48.5	327°51.7	-15°05.3	329°18.8	-18°49.7	292°11.8	-5°32.8	318°18.9	-15°25.8
8	296°51.0	342°51.7	-15°04.9	344°19.3	-18°49.2	307°13.7	-5°32.6	333°21.1	-15°25.7
9	311°53.5	357°51.6	-15°04.5	359°19.9	-18°48.7	322°15.6	-5°32.3	348°23.3	-15°25.6
10	326°55.9	12°51.6	-15°04.0	14°20.4	-18°48.3	337°17.5	-5°32.1	3°25.5	-15°25.6
11	341°58.4	27°51.5	-15°03.6	29°21.0	-18°47.8	352°19.4	-5°31.9	18°27.8	-15°25.5
12	357°00.9	42°51.5	-15°03.2	44°21.5	-18°47.3	7°21.3	-5°31.6	33°30.0	-15°25.4
13	12°03.3	57°51.4	-15°02.8	59°22.0	-18°46.8	22°23.2	-5°31.4	48°32.2	-15°25.3
14	27°05.8	72°51.3	-15°02.4	74°22.6	-18°46.3	37°25.1	-5°31.2	63°34.4	-15°25.3
15	42°08.2	87°51.3	-15°01.9	89°23.1	-18°45.9	52°27.0	-5°30.9	78°36.6	-15°25.2
16	57°10.7	102°51.2	-15°01.5	104°23.7	-18°45.4	67°28.9	-5°30.7	93°38.8	-15°25.1
17	72°13.2	117°51.2	-15°01.1	119°24.2	-18°44.9	82°30.9	-5°30.5	108°41.0	-15°25.0
18	87°15.6	132°51.1	-15°00.6	134°24.8	-18°44.4	97°32.8	-5°30.2	123°43.2	-15°25.0
19	102°18.1	147°51.0	-15°00.2	149°25.3	-18°44.0	112°34.7	-5°30.0	138°45.4	-15°24.9
20	117°20.6	162°51.0	-14°59.8	164°25.9	-18°43.5	127°36.6	-5°29.8	153°47.6	-15°24.8
21	132°23.0	177°50.9	-14°59.4	179°26.4	-18°43.0	142°38.5	-5°29.6	168°49.9	-15°24.7
22	147°25.5	192°50.8	-14°58.9	194°27.0	-18°42.5	157°40.4	-5°29.3	183°52.1	-15°24.6
23	162°28.0	207°50.8	-14°58.5	209°27.5	-18°42.0	172°42.3	-5°29.1	198°54.3	-15°24.6
Mer.pass.:12:11		v-0.1 d0.4 m-4.3		v0.5 d0.5 m1.1		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.8	

Estrellas

	AHS	Dec
Alpheratz	357°37.5	29°12.6
Ankaa	353°09.8	-42°11.3
Schedar	349°34.2	56°39.5
Diphda	348°49.8	-17°52.1
Achernar	335°22.5	-57°07.7
Hamal	327°54.1	23°33.9
Polaris	315°26.4	89°21.7
Akamar	315°13.8	-40°13.3
Menkar	314°08.8	4°10.4
Mirfak	308°31.8	49°56.4
Aldebaran	290°42.4	16°33.2
Rigel	281°06.1	-8°10.8
Capella	280°25.4	46°01.4
Bellatrix	278°25.4	6°22.1
Elnath	278°04.8	28°37.6
Alnilam	275°40.1	-1°11.4
Betelgeuse	270°54.6	7°24.6
Canopus	263°53.3	-52°42.7
Sirius	258°28.1	-16°44.8
Adara	255°07.6	-29°00.4
Procyon	244°53.0	5°10.2
Pollux	243°19.9	27°58.4
Avior	234°15.3	-59°35.0
Suhail	222°47.7	-43°31.5
Miaplacidus	221°38.0	-69°48.6
Alphard	217°49.8	-8°45.4
Regulus	207°36.6	11°51.5
Dubhe	193°43.2	61°37.9
Denebola	182°26.9	14°26.8
Gienah	175°45.6	-17°39.9
Acrux	173°02.0	-63°13.2
Gacrux	171°53.6	-57°14.2
Alioth	166°14.5	55°50.3
Spica	158°24.5	-11°16.6
Alcaid	152°53.4	49°12.0
Hadar	148°38.8	-60°28.6
Menkent	148°00.0	-36°28.7
Arcturus	145°49.6	19°04.2
Rigil Kent.	139°43.0	-60°55.4
Zubenelg.	136°58.4	-16°08.0
Kochab	137°19.0	74°03.6
Alphecca	126°05.5	26°38.2
Antares	112°18.6	-26°28.8
Atria	107°14.8	-69°03.7
Sabik	102°05.4	-15°45.2
Shaula	96°13.5	-37°07.1
Rasalhague	96°00.7	12°32.5
Etamin	90°43.3	51°28.8
Kaus Aust.	83°35.6	-34°22.4
Vega	80°34.9	38°47.9
Nunki	75°50.7	-26°16.1
Altair	62°02.5	8°55.4
Peacock	53°09.7	-56°39.7
Deneb	49°27.7	45°21.2
Enif	33°41.4	9°58.4
Alnair	27°36.3	-46°51.3
Fomalhaut	15°17.5	-29°30.4
Scheat	13°47.8	28°11.9
Markab	13°32.5	15°19.3

Mar 17 Jue	AHS	Paso Merid
Venus	48°21.0	09:08
Mars	49°16.0	09:04
Jupiter	10°53.8	11:37
Saturn	36°44.5	09:53

Mar 18 Vie	AHS	Paso Merid
Venus	47°21.1	09:08
Mars	48°29.8	09:04
Jupiter	10°40.5	11:34
Saturn	36°38.3	09:50

Mar 19 Sa	AHS	Paso Merid
Venus	46°20.8	09:09
Mars	47°43.7	09:03
Jupiter	10°27.1	11:31
Saturn	36°32.2	09:46

Paralelaje Horizontal	
Venus:	0.2
Mars:	0.1

h	Sol		Luna				
Jue	AHG	Dec	AHG	v	Dec	d	HP
0	177°52.7	-1°26.5	10°50.6	12.9	12°12.6	-13.3	56.8
1	192°52.9	-1°25.5	25°22.5	12.9	11°59.3	-13.3	56.8
2	207°53.1	-1°24.5	39°54.4	12.9	11°45.9	-13.4	56.8
3	222°53.3	-1°23.6	54°26.3	12.9	11°32.5	-13.5	56.8
4	237°53.5	-1°22.6	68°58.3	13.0	11°19.0	-13.5	56.9
5	252°53.6	-1°21.6	83°30.3	13.0	11°05.4	-13.6	56.9
6	267°53.8	-1°20.6	98°02.2	13.0	10°51.8	-13.7	56.9
7	282°54.0	-1°19.6	112°34.2	13.0	10°38.0	-13.7	56.9
8	297°54.2	-1°18.6	127°06.3	13.0	10°24.3	-13.8	57.0
9	312°54.4	-1°17.6	141°38.3	13.0	10°10.5	-13.9	57.0
10	327°54.5	-1°16.6	156°10.3	13.1	9°56.6	-13.9	57.0
11	342°54.7	-1°15.6	170°42.4	13.1	9°42.6	-14.0	57.1
12	357°54.9	-1°14.7	185°14.5	13.1	9°28.6	-14.0	57.1
13	12°55.1	-1°13.7	199°46.6	13.1	9°14.5	-14.1	57.1
14	27°55.3	-1°12.7	214°18.7	13.1	9°00.4	-14.1	57.1
15	42°55.4	-1°11.7	228°50.8	13.1	8°46.2	-14.2	57.2
16	57°55.6	-1°10.7	243°22.9	13.1	8°32.0	-14.3	57.2
17	72°55.8	-1°09.7	257°55.0	13.1	8°17.7	-14.3	57.2
18	87°56.0	-1°08.7	272°27.1	13.1	8°03.4	-14.4	57.2
19	102°56.2	-1°07.7	286°59.3	13.1	7°49.0	-14.4	57.3
20	117°56.4	-1°06.8	301°31.4	13.2	7°34.6	-14.5	57.3
21	132°56.5	-1°05.8	316°03.6	13.2	7°20.1	-14.5	57.3
22	147°56.7	-1°04.8	330°35.8	13.2	7°05.6	-14.6	57.3
23	162°56.9	-1°03.8	345°07.9	13.2	6°51.0	-14.6	57.4
	SD.=16.1	d=1.0			S.D.=15.5		

Vie	AHG	Dec	AHG	v	Dec	d	HP
0	177°57.1	-1°02.8	359°40.1	13.2	6°36.4	-14.6	57.4
1	192°57.3	-1°01.8	14°12.3	13.2	6°21.7	-14.7	57.4
2	207°57.4	-1°00.8	28°44.5	13.2	6°07.0	-14.7	57.4
3	222°57.6	-0°59.8	43°16.6	13.2	5°52.2	-14.8	57.5
4	237°57.8	-0°58.8	57°48.8	13.2	5°37.5	-14.8	57.5
5	252°58.0	-0°57.9	72°21.0	13.2	5°22.6	-14.9	57.5
6	267°58.2	-0°56.9	86°53.2	13.2	5°07.8	-14.9	57.5
7	282°58.4	-0°55.9	101°25.3	13.2	4°52.8	-14.9	57.6
8	297°58.5	-0°54.9	115°57.5	13.2	4°37.9	-15.0	57.6
9	312°58.7	-0°53.9	130°29.7	13.2	4°22.9	-15.0	57.6
10	327°58.9	-0°52.9	145°01.8	13.2	4°07.9	-15.0	57.6
11	342°59.1	-0°51.9	159°34.0	13.2	3°52.9	-15.1	57.7
12	357°59.3	-0°50.9	174°06.1	13.1	3°37.8	-15.1	57.7
13	12°59.4	-0°50.0	188°38.3	13.1	3°22.7	-15.1	57.7
14	27°59.6	-0°49.0	203°10.4	13.1	3°07.6	-15.1	57.7
15	42°59.8	-0°48.0	217°42.5	13.1	2°52.4	-15.2	57.8
16	58°00.0	-0°47.0	232°14.6	13.1	2°37.2	-15.2	57.8
17	73°00.2	-0°46.0	246°46.7	13.1	2°22.0	-15.2	57.8
18	88°00.4	-0°45.0	261°18.8	13.1	2°06.8	-15.2	57.8
19	103°00.5	-0°44.0	275°50.9	13.1	1°51.5	-15.3	57.9
20	118°00.7	-0°43.0	290°22.9	13.0	1°36.2	-15.3	57.9
21	133°00.9	-0°42.0	304°55.0	13.0	1°21.0	-15.3	57.9
22	148°01.1	-0°41.1	319°27.0	13.0	1°05.6	-15.3	57.9
23	163°01.3	-0°40.1	333°59.0	13.0	0°50.3	-15.3	57.9
	SD.=16.1	d=1.0			S.D.=15.7		

Sa	AHG	Dec	AHG	v	Dec	d	HP
0	178°01.5	-0°39.1	348°31.0	13.0	0°35.0	-15.4	58.0
1	193°01.6	-0°38.1	3°03.0	13.0	0°19.6	-15.4	58.0
2	208°01.8	-0°37.1	17°34.9	12.9	0°04.2	-15.4	58.0
3	223°02.0	-0°36.1	32°06.8	12.9	-0°11.2	-15.4	58.0
4	238°02.2	-0°35.1	46°38.7	12.9	-0°26.6	-15.4	58.1
5	253°02.4	-0°34.1	61°10.6	12.9	-0°42.0	-15.4	58.1
6	268°02.6	-0°33.2	75°42.4	12.8	-0°57.4	-15.4	58.1
7	283°02.7	-0°32.2	90°14.3	12.8	-1°12.8	-15.4	58.1
8	298°02.9	-0°31.2	104°46.1	12.8	-1°28.3	-15.4	58.1
9	313°03.1	-0°30.2	119°17.8	12.8	-1°43.7	-15.4	58.2
10	328°03.3	-0°29.2	133°49.6	12.7	-1°59.1	-15.4	58.2
11	343°03.5	-0°28.2	148°21.3	12.7	-2°14.6	-15.4	58.2
12	358°03.7	-0°27.2	162°52.9	12.7	-2°30.0	-15.4	58.2
13	13°03.8	-0°26.2	177°24.6	12.6	-2°45.4	-15.4	58.3
14	28°04.0	-0°25.2	191°56.2	12.6	-3°00.9	-15.4	58.3
15	43°04.2	-0°24.3	206°27.8	12.6	-3°16.3	-15.4	58.3
16	58°04.4	-0°23.3	220°59.3	12.5	-3°31.7	-15.4	58.3
17	73°04.6	-0°22.3	235°30.8	12.5	-3°47.1	-15.4	58.3
18	88°04.8	-0°21.3	250°02.3	12.4	-4°02.5	-15.4	58.3
19	103°04.9	-0°20.3	264°33.7	12.4	-4°17.9	-15.4	58.4
20	118°05.1	-0°19.3	279°05.1	12.4	-4°33.3	-15.4	58.4
21	133°05.3	-0°18.3	293°36.4	12.3	-4°48.7	-15.4	58.4
22	148°05.5	-0°17.3	308°07.8	12.3	-5°04.1	-15.4	58.4
23	163°05.7	-0°16.4	322°39.0	12.2	-5°19.4	-15.3	58.4
	SD.=16.1	d=1.0			S.D.=15.8		

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	03:35	05:02	06:09	18:10	19:18	20:46
70	03:52	05:08	06:09	18:09	19:11	20:28
68	04:05	05:13	06:09	18:09	19:05	20:14
66	04:15	05:17	06:08	18:09	19:01	20:03
64	04:24	05:21	06:08	18:09	18:57	19:55
62	04:31	05:24	06:08	18:09	18:54	19:47
60	04:37	05:27	06:08	18:09	18:51	19:41
58	04:42	05:29	06:08	18:09	18:49	19:35
56	04:47	05:31	06:08	18:09	18:47	19:31
54	04:51	05:32	06:08	18:10	18:45	19:27
52	04:54	05:34	06:08	18:10	18:43	19:23
50	04:57	05:35	06:07	18:10	18:42	19:20
45	05:04	05:38	06:07	18:10	18:39	19:13
40	05:08	05:40	06:07	18:10	18:37	19:08
35	05:12	05:41	06:07	18:10	18:35	19:05
30	05:15	05:43	06:06	18:10	18:34	19:02
20	05:18	05:44	06:06	18:10	18:32	18:58
10	05:20	05:44	06:05	18:11	18:32	18:56
0	05:20	05:44	06:05	18:11	18:32	18:56
S 10	05:19	05:43	06:04	18:12	18:33	18:57
20	05:16	05:41	06:03	18:13	18:35	19:00
30	05:10	05:38	06:02	18:14	18:37	19:05
35	05:07	05:36	06:01	18:14	18:39	19:09
40	05:02	05:34	06:01	18:15	18:42	19:13
45	04:56	05:30	06:00	18:16	18:45	19:19
50	04:48	05:26	05:58	18:17	18:49	19:27
52	04:44	05:24	05:58	18:17	18:51	19:31
54	04:40	05:22	05:57	18:18	18:53	19:35
56	04:35	05:19	05:57	18:18	18:55	19:40
58	04:29	05:16	05:56	18:19	18:58	19:45
60	04:22	05:13	05:55	18:20	19:01	19:52

	Orto luna			Ocaso luna		
Lat.	Jue	Vie	Sa	Jue	Vie	Sa
N 72	15:58	18:11	20:24	07:48	07:13	06:43
70	16:12	18:14	20:17	07:32	07:07	06:44
68	16:22	18:16	20:12	07:19	07:02	06:46
66	16:31	18:18	20:07	07:08	06:57	06:47
64	16:39	18:20	20:03	06:59	06:53	06:48
62	16:45	18:21	19:59	06:51	06:50	06:49
60	16:50	18:23	19:56	06:45	06:47	06:50
58	16:55	18:24	19:54	06:39	06:45	06:50
56	16:59	18:25	19:51	06:33	06:42	06:51
54	17:03	18:25	19:49	06:28	06:40	06:51
52	17:06	18:26	19:47	06:24	06:38	06:52
50	17:10	18:27	19:46	06:20	06:37	06:52
45	17:16	18:28	19:42	06:12	06:33	06:53
40	17:22	18:30	19:39	06:04	06:30	06:54
35	17:27	18:31	19:36	05:58	06:27	06:55
30	17:31	18:32	19:34	05:53	06:24	06:56
20	17:38	18:33	19:30	05:43	06:20	06:57
10	17:44	18:35	19:26	05:34	06:16	06:58
0	17:50	18:36	19:23	05:26	06:12	06:58
S 10	17:56	18:38	19:20	05:18	06:09	06:59
20	18:03	18:39	19:17	05:09	06:05	07:00
30	18:10	18:41	19:13	04:59	06:00	07:01
35	18:14	18:42	19:11	04:54	05:57	07:02
40	18:18	18:43	19:08	04:47	05:54	07:03
45	18:24	18:45	19:05	04:39	05:51	07:03
50	18:30	18:46	19:02	04:30	05:46	07:04
52	18:33	18:47	19:01	04:25	05:44	07:05
54	18:36	18:48	18:59	04:20	05:42	07:05
56	18:40	18:49	18:57	04:15	05:40	07:06
58	18:44	18:49	18:55	04:09	05:37	07:06
60	18:48	18:51	18:53	04:02	05:34	07:07

Día	Sol			Luna		
	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
17	08:29	08:20	12:08	00:01	11:38	15(99%)
18	08:12	08:03	12:08	00:01	12:24	16(100%)
19	07:54	07:45	12:07	00:47	13:10	17(98%)

Marzo 20, 21, 22 (Dom, Lun, Mar)

	Aries	Venus		Martes		Júpiter		Saturno	
Dom	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	177°30.4	222°50.7	-14°58.1	224°28.1	-18°41.6	187°44.2	-5°28.9	213°56.5	-15°24.5
1	192°32.9	237°50.7	-14°57.6	239°28.6	-18°41.1	202°46.1	-5°28.6	228°58.7	-15°24.4
2	207°35.3	252°50.6	-14°57.2	254°29.1	-18°40.6	217°48.0	-5°28.4	244°00.9	-15°24.3
3	222°37.8	267°50.5	-14°56.8	269°29.7	-18°40.1	232°49.9	-5°28.2	259°03.1	-15°24.3
4	237°40.3	282°50.5	-14°56.3	284°30.2	-18°39.6	247°51.9	-5°27.9	274°05.3	-15°24.2
5	252°42.7	297°50.4	-14°55.9	299°30.8	-18°39.1	262°53.8	-5°27.7	289°07.5	-15°24.1
6	267°45.2	312°50.3	-14°55.5	314°31.3	-18°38.7	277°55.7	-5°27.5	304°09.8	-15°24.0
7	282°47.7	327°50.3	-14°55.0	329°31.9	-18°38.2	292°57.6	-5°27.2	319°12.0	-15°23.9
8	297°50.1	342°50.2	-14°54.6	344°32.4	-18°37.7	307°59.5	-5°27.0	334°14.2	-15°23.9
9	312°52.6	357°50.1	-14°54.1	359°33.0	-18°37.2	323°01.4	-5°26.8	349°16.4	-15°23.8
10	327°55.1	12°50.0	-14°53.7	14°33.5	-18°36.7	338°03.3	-5°26.5	4°18.6	-15°23.7
11	342°57.5	27°50.0	-14°53.3	29°34.1	-18°36.3	353°05.2	-5°26.3	19°20.8	-15°23.6
12	358°00.0	42°49.9	-14°52.8	44°34.6	-18°35.8	8°07.1	-5°26.1	34°23.0	-15°23.6
13	13°02.5	57°49.8	-14°52.4	59°35.2	-18°35.3	23°09.0	-5°25.8	49°25.2	-15°23.5
14	28°04.9	72°49.8	-14°51.9	74°35.7	-18°34.8	38°10.9	-5°25.6	64°27.4	-15°23.4
15	43°07.4	87°49.7	-14°51.5	89°36.3	-18°34.3	53°12.9	-5°25.4	79°29.7	-15°23.3
16	58°09.8	102°49.6	-14°51.0	104°36.8	-18°33.8	68°14.8	-5°25.1	94°31.9	-15°23.3
17	73°12.3	117°49.5	-14°50.6	119°37.4	-18°33.3	83°16.7	-5°24.9	109°34.1	-15°23.2
18	88°14.8	132°49.5	-14°50.1	134°37.9	-18°32.9	98°18.6	-5°24.7	124°36.3	-15°23.1
19	103°17.2	147°49.4	-14°49.7	149°38.5	-18°32.4	113°20.5	-5°24.5	139°38.5	-15°23.0
20	118°19.7	162°49.3	-14°49.2	164°39.0	-18°31.9	128°22.4	-5°24.2	154°40.7	-15°22.9
21	133°22.2	177°49.2	-14°48.8	179°39.6	-18°31.4	143°24.3	-5°24.0	169°42.9	-15°22.9
22	148°24.6	192°49.2	-14°48.3	194°40.1	-18°30.9	158°26.2	-5°23.8	184°45.1	-15°22.8
23	163°27.1	207°49.1	-14°47.9	209°40.7	-18°30.4	173°28.1	-5°23.5	199°47.4	-15°22.7
Mer.pass.:12:07		v-0.1 d0.4 m-4.3		v0.5 d0.5 m1.1		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.8	

Lun	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	178°29.6	222°49.0	-14°47.4	224°41.2	-18°29.9	188°30.0	-5°23.3	214°49.6	-15°22.6
1	193°32.0	237°48.9	-14°47.0	239°41.8	-18°29.4	203°32.0	-5°23.1	229°51.8	-15°22.6
2	208°34.5	252°48.9	-14°46.5	254°42.3	-18°29.0	218°33.9	-5°22.8	244°54.0	-15°22.5
3	223°36.9	267°48.8	-14°46.1	269°42.9	-18°28.5	233°35.8	-5°22.6	259°56.2	-15°22.4
4	238°39.4	282°48.7	-14°45.6	284°43.4	-18°28.0	248°37.7	-5°22.4	274°58.4	-15°22.3
5	253°41.9	297°48.6	-14°45.2	299°44.0	-18°27.5	263°39.6	-5°22.1	290°00.6	-15°22.3
6	268°44.3	312°48.6	-14°44.7	314°44.5	-18°27.0	278°41.5	-5°21.9	305°02.8	-15°22.2
7	283°46.8	327°48.5	-14°44.3	329°45.1	-18°26.5	293°43.4	-5°21.7	320°05.1	-15°22.1
8	298°49.3	342°48.4	-14°43.8	344°45.6	-18°26.0	308°45.3	-5°21.4	335°07.3	-15°22.0
9	313°51.7	357°48.3	-14°43.3	359°46.2	-18°25.5	323°47.2	-5°21.2	350°09.5	-15°22.0
10	328°54.2	12°48.2	-14°42.9	14°46.7	-18°25.0	338°49.1	-5°21.0	5°11.7	-15°21.9
11	343°56.7	27°48.2	-14°42.4	29°47.3	-18°24.5	353°51.1	-5°20.7	20°13.9	-15°21.8
12	358°59.1	42°48.1	-14°42.0	44°47.8	-18°24.0	8°53.0	-5°20.5	35°16.1	-15°21.7
13	14°01.6	57°48.0	-14°41.5	59°48.4	-18°23.6	23°54.9	-5°20.3	50°18.3	-15°21.6
14	29°04.1	72°47.9	-14°41.0	74°48.9	-18°23.1	38°56.8	-5°20.1	65°20.6	-15°21.6
15	44°06.5	87°47.8	-14°40.6	89°49.5	-18°22.6	53°58.7	-5°19.8	80°22.8	-15°21.5
16	59°09.0	102°47.7	-14°40.1	104°50.0	-18°22.1	69°00.6	-5°19.6	95°25.0	-15°21.4
17	74°11.4	117°47.7	-14°39.6	119°50.6	-18°21.6	84°02.5	-5°19.4	110°27.2	-15°21.3
18	89°13.9	132°47.6	-14°39.2	134°51.2	-18°21.1	99°04.4	-5°19.1	125°29.4	-15°21.3
19	104°16.4	147°47.5	-14°38.7	149°51.7	-18°20.6	114°06.3	-5°18.9	140°31.6	-15°21.2
20	119°18.8	162°47.4	-14°38.2	164°52.3	-18°20.1	129°08.3	-5°18.7	155°33.8	-15°21.1
21	134°21.3	177°47.3	-14°37.8	179°52.8	-18°19.6	144°10.2	-5°18.4	170°36.1	-15°21.0
22	149°23.8	192°47.2	-14°37.3	194°53.4	-18°19.1	159°12.1	-5°18.2	185°38.3	-15°21.0
23	164°26.2	207°47.1	-14°36.8	209°53.9	-18°18.6	174°14.0	-5°18.0	200°40.5	-15°20.9
Mer.pass.:12:04		v-0.1 d0.5 m-4.3		v0.6 d0.5 m1.1		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.8	

Mar	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	179°28.7	222°47.1	-14°36.4	224°54.5	-18°18.1	189°15.9	-5°17.7	215°42.7	-15°20.8
1	194°31.2	237°47.0	-14°35.9	239°55.0	-18°17.6	204°17.8	-5°17.5	230°44.9	-15°20.7
2	209°33.6	252°46.9	-14°35.4	254°55.6	-18°17.1	219°19.7	-5°17.3	245°47.1	-15°20.7
3	224°36.1	267°46.8	-14°34.9	269°56.1	-18°16.6	234°21.6	-5°17.0	260°49.3	-15°20.6
4	239°38.6	282°46.7	-14°34.5	284°56.7	-18°16.1	249°23.5	-5°16.8	275°51.6	-15°20.5
5	254°41.0	297°46.6	-14°34.0	299°57.2	-18°15.6	264°25.5	-5°16.6	290°53.8	-15°20.4
6	269°43.5	312°46.5	-14°33.5	314°57.8	-18°15.1	279°27.4	-5°16.3	305°56.0	-15°20.4
7	284°45.9	327°46.4	-14°33.0	329°58.4	-18°14.6	294°29.3	-5°16.1	320°58.2	-15°20.3
8	299°48.4	342°46.3	-14°32.6	344°58.9	-18°14.1	309°31.2	-5°15.9	336°00.4	-15°20.2
9	314°50.9	357°46.3	-14°32.1	359°59.5	-18°13.6	324°33.1	-5°15.7	351°02.6	-15°20.1
10	329°53.3	12°46.2	-14°31.6	15°00.0	-18°13.1	339°35.0	-5°15.4	6°04.8	-15°20.0
11	344°55.8	27°46.1	-14°31.1	30°00.6	-18°12.6	354°36.9	-5°15.2	21°07.1	-15°20.0
12	359°58.3	42°46.0	-14°30.6	45°01.1	-18°12.1	9°38.8	-5°15.0	36°09.3	-15°19.9
13	15°00.7	57°45.9	-14°30.2	60°01.7	-18°11.6	24°40.7	-5°14.7	51°11.5	-15°19.8
14	30°03.2	72°45.8	-14°29.7	75°02.2	-18°11.1	39°42.7	-5°14.5	66°13.7	-15°19.7
15	45°05.7	87°45.7	-14°29.2	90°02.8	-18°10.6	54°44.6	-5°14.3	81°15.9	-15°19.7
16	60°08.1	102°45.6	-14°28.7	105°03.4	-18°10.1	69°46.5	-5°14.0	96°18.1	-15°19.6
17	75°10.6	117°45.5	-14°28.2	120°03.9	-18°09.6	84°48.4	-5°13.8	111°20.4	-15°19.5
18	90°13.0	132°45.4	-14°27.7	135°04.5	-18°09.1	99°50.3	-5°13.6	126°22.6	-15°19.4
19	105°15.5	147°45.3	-14°27.3	150°05.0	-18°08.6	114°52.2	-5°13.3	141°24.8	-15°19.4
20	120°18.0	162°45.2	-14°26.8	165°05.6	-18°08.1	129°54.1	-5°13.1	156°27.0	-15°19.3
21	135°20.4	177°45.1	-14°26.3	180°06.1	-18°07.6	144°56.0	-5°12.9	171°29.2	-15°19.2
22	150°22.9	192°45.0	-14°25.8	195°06.7	-18°07.1	159°57.9	-5°12.6	186°31.4	-15°19.1
23	165°25.4	207°44.9	-14°25.3	210°07.2	-18°06.6	174°59.9	-5°12.4	201°33.7	-15°19.1
Mer.pass.:12:00		v-0.1 d0.5 m-4.2		v0.6 d0.5 m1.1		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.8	

Estrellas

	AHS	Dec
Alpheratz	357°37.5	29°12.6
Ankaa	353°09.9	-42°11.3
Schedar	349°34.2	56°39.4
Diphda	348°49.8	-17°52.1
Achernar	335°22.5	-57°07.7
Hamal	327°54.1	23°33.9
Polaris	315°27.5	89°21.6
Akamar	315°13.8	-40°13.2
Menkar	314°08.8	4°10.4
Mirfak	308°31.9	49°56.4
Aldebaran	290°42.4	16°33.2
Rigel	281°06.1	-8°10.8
Capella	280°25.4	46°01.4
Bellatrix	278°25.4	6°22.1
Elnath	278°04.8	28°37.6
Alnilam	275°40.1	-1°11.4
Betelgeuse	270°54.6	7°24.6
Canopus	263°53.4	-52°42.7
Sirius	258°28.1	-16°44.8
Adara	255°07.6	-29°00.4
Procyon	244°53.0	5°10.2
Pollux	243°19.9	27°58.4
Avior	234°15.3	-59°35.0
Suhail	222°47.7	-43°31.5
Miaplacidus	221°38.0	-69°48.6
Alphard	217°49.8	-8°45.4
Regulus	207°36.6	11°51.5
Dubhe	193°43.2	61°38.0
Denebola	182°26.9	14°26.8
Gienah	175°45.6	-17°39.9
Acrux	173°02.0	-63°13.3
Gacrux	171°53.6	-57°14.2
Alioth	166°14.5	55°50.3
Spica	158°24.4	-11°16.6
Alcaid	152°53.4	49°12.0
Hadar	148°38.7	-60°28.6
Menkent	148°00.0	-36°28.7
Arcturus	145°49.6	19°04.2
Rigil Kent.	139°43.0	-60°55.4
Zubenelg.	136°58.4	-16°08.0
Kochab	137°19.0	74°03.6
Alphecca	126°05.5	26°38.2
Antares	112°18.5	-26°28.8
Atria	107°14.7	-69°03.7
Sabik	102°05.4	-15°45.2
Shaula	96°13.5	-37°07.1
Rasalhague	96°00.7	12°32.5
Etamin	90°43.3	51°28.8
Kaus Aust.	83°35.6	-34°22.4
Vega	80°34.9	38°47.9
Nunki	75°50.7	-26°16.1
Altair	62°02.4	8°55.4
Peacock	53°09.7	-56°39.7
Deneb	49°27.7	45°21.2
Enif	33°41.3	9°58.4
Alnair	27°36.3	-46°51.2
Fomalhaut	15°17.5	-29°30.4
Scheat	13°47.8	28°11.9
Markab	13°32.5	15°19.2

Mar 20 Dom	HS	Paso Merid
Venus	45°20.3	09:09
Mars	46°57.6	09:02
Jupiter	10°13.8	11:28
Saturn	36°26.1	09:43

Mar 21 Lun	AHS	Paso Merid
Venus	44°19.5	09:09
Mars	46°11.7	09:01
Jupiter	10°00.5	11:25
Saturn	36°20.0	09:39

Mar 22 Mar	AHS	Paso Merid
Venus	43°18.4	09:09
Mars	45°25.8	09:00
Jupiter	9°47.2	11:21
Saturn	36°14.0	09:36

Paralelaje Horizontal	
Venus:	0.2
Mars:	0.1

h	Sol		Luna				
Dom	AHG	Dec	AHG	v	Dec	d	HP
0	178°05.9	-0°15.4	337°10.2	12.2	-5°34.7	-15.3	58.5
1	193°06.1	-0°14.4	351°41.4	12.1	-5°50.0	-15.3	58.5
2	208°06.2	-0°13.4	6°12.5	12.1	-6°05.3	-15.3	58.5
3	223°06.4	-0°12.4	20°43.6	12.1	-6°20.6	-15.3	58.5
4	238°06.6	-0°11.4	35°14.6	12.0	-6°35.8	-15.2	58.5
5	253°06.8	-0°10.4	49°45.6	12.0	-6°51.1	-15.2	58.6
6	268°07.0	-0°09.4	64°16.6	11.9	-7°06.3	-15.2	58.6
7	283°07.2	-0°08.4	78°47.4	11.9	-7°21.4	-15.2	58.6
8	298°07.3	-0°07.5	93°18.3	11.8	-7°36.6	-15.1	58.6
9	313°07.5	-0°06.5	107°49.0	11.7	-7°51.7	-15.1	58.6
10	328°07.7	-0°05.5	122°19.8	11.7	-8°06.8	-15.1	58.6
11	343°07.9	-0°04.5	136°50.4	11.6	-8°21.8	-15.0	58.7
12	358°08.1	-0°03.5	151°21.0	11.6	-8°36.8	-15.0	58.7
13	13°08.3	-0°02.5	165°51.6	11.5	-8°51.8	-15.0	58.7
14	28°08.5	-0°01.5	180°22.1	11.5	-9°06.7	-14.9	58.7
15	43°08.6	-0°00.5	194°52.5	11.4	-9°21.6	-14.9	58.7
16	58°08.8	0°00.4	209°22.9	11.3	-9°36.5	-14.8	58.7
17	73°09.0	0°01.4	223°53.2	11.3	-9°51.3	-14.8	58.7
18	88°09.2	0°02.4	238°23.5	11.2	-10°06.0	-14.7	58.8
19	103°09.4	0°03.4	252°53.6	11.2	-10°20.8	-14.7	58.8
20	118°09.6	0°04.4	267°23.8	11.1	-10°35.4	-14.7	58.8
21	133°09.8	0°05.4	281°53.8	11.0	-10°50.1	-14.6	58.8
22	148°09.9	0°06.4	296°23.8	11.0	-11°04.6	-14.6	58.8
23	163°10.1	0°07.4	310°53.7	10.9	-11°19.2	-14.5	58.8
	SD.=16.1	d=1.0	S.D.=15.9				

Lun	AHG	Dec	AHG	v	Dec	d	HP
0	178°10.3	0°08.3	325°23.6	10.8	-11°33.6	-14.4	58.8
1	193°10.5	0°09.3	339°53.4	10.8	-11°48.1	-14.4	58.9
2	208°10.7	0°10.3	354°23.1	10.7	-12°02.4	-14.3	58.9
3	223°10.9	0°11.3	8°52.8	10.6	-12°16.7	-14.3	58.9
4	238°11.1	0°12.3	23°22.3	10.5	-12°31.0	-14.2	58.9
5	253°11.2	0°13.3	37°51.9	10.5	-12°45.1	-14.1	58.9
6	268°11.4	0°14.3	52°21.3	10.4	-12°59.3	-14.1	58.9
7	283°11.6	0°15.3	66°50.7	10.3	-13°13.3	-14.0	58.9
8	298°11.8	0°16.2	81°19.9	10.2	-13°27.3	-14.0	58.9
9	313°12.0	0°17.2	95°49.2	10.2	-13°41.2	-13.9	59.0
10	328°12.2	0°18.2	110°18.3	10.1	-13°55.1	-13.8	59.0
11	343°12.4	0°19.2	124°47.3	10.0	-14°08.9	-13.7	59.0
12	358°12.5	0°20.2	139°16.3	9.9	-14°22.6	-13.7	59.0
13	13°12.7	0°21.2	153°45.2	9.9	-14°36.2	-13.6	59.0
14	28°12.9	0°22.2	168°14.1	9.8	-14°49.7	-13.5	59.0
15	43°13.1	0°23.2	182°42.8	9.7	-15°03.2	-13.4	59.0
16	58°13.3	0°24.1	197°11.5	9.6	-15°16.6	-13.4	59.0
17	73°13.5	0°25.1	211°40.1	9.5	-15°29.9	-13.3	59.0
18	88°13.7	0°26.1	226°08.6	9.5	-15°43.2	-13.2	59.1
19	103°13.9	0°27.1	240°37.0	9.4	-15°56.3	-13.1	59.1
20	118°14.0	0°28.1	255°05.3	9.3	-16°09.4	-13.0	59.1
21	133°14.2	0°29.1	269°33.6	9.2	-16°22.4	-12.9	59.1
22	148°14.4	0°30.1	284°01.7	9.1	-16°35.3	-12.8	59.1
23	163°14.6	0°31.0	298°29.8	9.0	-16°48.1	-12.8	59.1
	SD.=16.1	d=1.0	S.D.=16.1				

Mar	AHG	Dec	AHG	v	Dec	d	HP
0	178°14.8	0°32.0	312°57.8	9.0	-17°00.8	-12.7	59.1
1	193°15.0	0°33.0	327°25.7	8.9	-17°13.4	-12.6	59.1
2	208°15.2	0°34.0	341°53.6	8.8	-17°25.9	-12.5	59.1
3	223°15.3	0°35.0	356°21.3	8.7	-17°38.3	-12.4	59.1
4	238°15.5	0°36.0	10°49.0	8.6	-17°50.6	-12.3	59.1
5	253°15.7	0°37.0	25°16.6	8.5	-18°02.9	-12.2	59.1
6	268°15.9	0°38.0	39°44.1	8.4	-18°15.0	-12.1	59.2
7	283°16.1	0°38.9	54°11.5	8.4	-18°27.0	-12.0	59.2
8	298°16.3	0°39.9	68°38.8	8.3	-18°38.9	-11.9	59.2
9	313°16.5	0°40.9	83°06.0	8.2	-18°50.7	-11.7	59.2
10	328°16.7	0°41.9	97°33.1	8.1	-19°02.4	-11.6	59.2
11	343°16.8	0°42.9	112°00.2	8.0	-19°14.0	-11.5	59.2
12	358°17.0	0°43.9	126°27.1	7.9	-19°25.4	-11.4	59.2
13	13°17.2	0°44.9	140°54.0	7.8	-19°36.8	-11.3	59.2
14	28°17.4	0°45.8	155°20.8	7.7	-19°48.0	-11.2	59.2
15	43°17.6	0°46.8	169°47.5	7.7	-19°59.2	-11.1	59.2
16	58°17.8	0°47.8	184°14.1	7.6	-20°10.2	-10.9	59.2
17	73°18.0	0°48.8	198°40.6	7.5	-20°21.1	-10.8	59.2
18	88°18.2	0°49.8	213°07.1	7.4	-20°31.8	-10.7	59.2
19	103°18.3	0°50.8	227°33.4	7.3	-20°42.5	-10.6	59.2
20	118°18.5	0°51.8	241°59.7	7.2	-20°53.0	-10.5	59.2
21	133°18.7	0°52.8	256°25.9	7.1	-21°03.4	-10.3	59.2
22	148°18.9	0°53.7	270°51.9	7.0	-21°13.6	-10.2	59.2
23	163°19.1	0°54.7	285°17.9	7.0	-21°23.8	-10.1	59.3
	SD.=16.1	d=1.0	S.D.=16.1				

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	03:15	04:45	05:54	18:23	19:32	21:04
70	03:35	04:54	05:55	18:22	19:24	20:43
68	03:50	05:00	05:56	18:20	19:17	20:28
66	04:02	05:06	05:57	18:19	19:11	20:15
64	04:12	05:10	05:58	18:18	19:06	20:05
62	04:20	05:14	05:58	18:17	19:02	19:56
60	04:27	05:17	05:59	18:17	18:59	19:49
58	04:33	05:20	05:59	18:16	18:56	19:43
56	04:39	05:23	06:00	18:16	18:53	19:37
54	04:43	05:25	06:00	18:15	18:51	19:33
52	04:47	05:27	06:01	18:15	18:48	19:29
50	04:51	05:29	06:01	18:14	18:47	19:25
45	04:58	05:32	06:02	18:14	18:43	19:17
40	05:03	05:35	06:02	18:13	18:40	19:12
35	05:08	05:37	06:03	18:12	18:38	19:07
30	05:11	05:39	06:03	18:12	18:36	19:04
20	05:16	05:41	06:03	18:11	18:33	18:59
10	05:18	05:43	06:04	18:11	18:32	18:56
0	05:19	05:43	06:04	18:10	18:31	18:55
S 10	05:19	05:43	06:04	18:10	18:31	18:55
20	05:16	05:42	06:04	18:10	18:32	18:58
30	05:12	05:40	06:04	18:10	18:34	19:02
35	05:09	05:39	06:04	18:10	18:35	19:05
40	05:05	05:37	06:04	18:10	18:37	19:08
45	05:00	05:34	06:03	18:10	18:39	19:14
50	04:53	05:31	06:03	18:10	18:42	19:20
52	04:50	05:29	06:03	18:10	18:44	19:24
54	04:46	05:28	06:03	18:10	18:46	19:27
56	04:41	05:26	06:03	18:10	18:47	19:31
58	04:36	05:23	06:02	18:11	18:50	19:36
60	04:31	05:21	06:02	18:11	18:52	19:42

	Orto luna			Ocaso luna		
Lat.	Dom	Lun	Mar	Dom	Lun	Mar
N 72	22:50	–:–	02:29	06:10	05:28	03:39
70	22:29	–:–	01:08	06:21	05:51	05:01
68	22:13	–:–	00:30	06:29	06:09	05:40
66	22:00	–:–	00:04	06:36	06:24	06:08
64	21:50	23:44	–:–	06:42	06:36	06:29
62	21:41	23:28	–:–	06:47	06:46	06:46
60	21:33	23:15	–:–	06:52	06:55	07:01
58	21:27	23:03	–:–	06:56	07:03	07:13
56	21:21	22:53	–:–	07:00	07:10	07:24
54	21:15	22:44	–:–	07:03	07:16	07:33
52	21:11	22:37	–:–	07:06	07:22	07:42
50	21:06	22:30	23:54	07:09	07:27	07:49
45	20:57	22:15	23:34	07:15	07:38	08:06
40	20:50	22:03	23:17	07:20	07:47	08:19
35	20:43	21:52	23:03	07:24	07:55	08:31
30	20:38	21:43	22:51	07:28	08:02	08:41
20	20:28	21:28	22:31	07:34	08:14	08:58
10	20:19	21:15	22:13	07:40	08:25	09:14
0	20:11	21:02	21:57	07:46	08:35	09:28
S 10	20:04	20:50	21:41	07:51	08:45	09:42
20	19:55	20:37	21:24	07:57	08:56	09:58
30	19:46	20:22	21:04	08:04	09:09	10:16
35	19:41	20:14	20:52	08:08	09:16	10:26
40	19:35	20:04	20:39	08:12	09:24	10:38
45	19:28	19:53	20:24	08:18	09:34	10:52
50	19:19	19:40	20:05	08:24	09:46	11:10
52	19:16	19:33	19:56	08:27	09:51	11:18
54	19:11	19:26	19:46	08:30	09:57	11:27
56	19:07	19:19	19:35	08:33	10:04	11:38
58	19:02	19:10	19:23	08:37	10:12	11:50
60	18:56	19:00	19:08	08:42	10:20	12:03

Día	Sol			Luna		
	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
20	07:36	07:28	12:07	01:34	13:58	18(94%)
21	07:19	07:10	12:07	02:23	14:48	19(88%)
22	07:01	06:52	12:06	03:15	15:42	20(79%)

Marzo 23, 24, 25 (Mie, Jue, Vie)

	Aries	Venus		Martes		Júpiter		Saturno	
Mie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	180°27.8	222°44.8	-14°24.8	225°07.8	-18°06.1	190°01.8	-5°12.2	216°35.9	-15°19.0
1	195°30.3	237°44.8	-14°24.3	240°08.4	-18°05.6	205°03.7	-5°12.0	231°38.1	-15°18.9
2	210°32.8	252°44.7	-14°23.8	255°08.9	-18°05.1	220°05.6	-5°11.7	246°40.3	-15°18.8
3	225°35.2	267°44.6	-14°23.3	270°09.5	-18°04.6	235°07.5	-5°11.5	261°42.5	-15°18.8
4	240°37.7	282°44.5	-14°22.8	285°10.0	-18°04.1	250°09.4	-5°11.3	276°44.7	-15°18.7
5	255°40.2	297°44.4	-14°22.3	300°10.6	-18°03.6	265°11.3	-5°11.0	291°47.0	-15°18.6
6	270°42.6	312°44.3	-14°21.8	315°11.2	-18°03.1	280°13.2	-5°10.8	306°49.2	-15°18.5
7	285°45.1	327°44.2	-14°21.4	330°11.7	-18°02.6	295°15.2	-5°10.6	321°51.4	-15°18.5
8	300°47.5	342°44.1	-14°20.9	345°12.3	-18°02.1	310°17.1	-5°10.3	336°53.6	-15°18.4
9	315°50.0	357°44.0	-14°20.4	0°12.8	-18°01.6	325°19.0	-5°10.1	351°55.8	-15°18.3
10	330°52.5	12°43.9	-14°19.9	15°13.4	-18°01.1	340°20.9	-5°09.9	6°58.0	-15°18.2
11	345°54.9	27°43.8	-14°19.4	30°13.9	-18°00.6	355°22.8	-5°09.6	22°00.3	-15°18.2
12	0°57.4	42°43.7	-14°18.9	45°14.5	-18°00.1	10°24.7	-5°09.4	37°02.5	-15°18.1
13	15°59.9	57°43.6	-14°18.4	60°15.1	-17°59.6	25°26.6	-5°09.2	52°04.7	-15°18.0
14	31°02.3	72°43.5	-14°17.9	75°15.6	-17°59.1	40°28.5	-5°09.0	67°06.9	-15°17.9
15	46°04.8	87°43.3	-14°17.4	90°16.2	-17°58.5	55°30.5	-5°08.7	82°09.1	-15°17.9
16	61°07.3	102°43.2	-14°16.9	105°16.7	-17°58.0	70°32.4	-5°08.5	97°11.4	-15°17.8
17	76°09.7	117°43.1	-14°16.3	120°17.3	-17°57.5	85°34.3	-5°08.3	112°13.6	-15°17.7
18	91°12.2	132°43.0	-14°15.8	135°17.9	-17°57.0	100°36.2	-5°08.0	127°15.8	-15°17.6
19	106°14.7	147°42.9	-14°15.3	150°18.4	-17°56.5	115°38.1	-5°07.8	142°18.0	-15°17.6
20	121°17.1	162°42.8	-14°14.8	165°19.0	-17°56.0	130°40.0	-5°07.6	157°20.2	-15°17.5
21	136°19.6	177°42.7	-14°14.3	180°19.5	-17°55.5	145°41.9	-5°07.3	172°22.4	-15°17.4
22	151°22.0	192°42.6	-14°13.8	195°20.1	-17°55.0	160°43.8	-5°07.1	187°24.7	-15°17.3
23	166°24.5	207°42.5	-14°13.3	210°20.7	-17°54.5	175°45.8	-5°06.9	202°26.9	-15°17.3
Mer.pass.:11:56		v-0.1 d0.5 m-4.2		v0.6 d0.5 m1.1		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.8	

Jue	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	181°27.0	222°42.4	-14°12.8	225°21.2	-17°54.0	190°47.7	-5°06.6	217°29.1	-15°17.2
1	196°29.4	237°42.3	-14°12.3	240°21.8	-17°53.5	205°49.6	-5°06.4	232°31.3	-15°17.1
2	211°31.9	252°42.2	-14°11.8	255°22.3	-17°52.9	220°51.5	-5°06.2	247°33.5	-15°17.0
3	226°34.4	267°42.1	-14°11.3	270°22.9	-17°52.4	235°53.4	-5°05.9	262°35.8	-15°17.0
4	241°36.8	282°42.0	-14°10.8	285°23.5	-17°51.9	250°55.3	-5°05.7	277°38.0	-15°16.9
5	256°39.3	297°41.9	-14°10.2	300°24.0	-17°51.4	265°57.2	-5°05.5	292°40.2	-15°16.8
6	271°41.8	312°41.8	-14°09.7	315°24.6	-17°50.9	280°59.1	-5°05.3	307°42.4	-15°16.7
7	286°44.2	327°41.7	-14°09.2	330°25.1	-17°50.4	296°01.1	-5°05.0	322°44.6	-15°16.7
8	301°46.7	342°41.5	-14°08.7	345°25.7	-17°49.9	311°03.0	-5°04.8	337°46.9	-15°16.6
9	316°49.2	357°41.4	-14°08.2	0°26.3	-17°49.4	326°04.9	-5°04.6	352°49.1	-15°16.5
10	331°51.6	12°41.3	-14°07.7	15°26.8	-17°48.8	341°06.8	-5°04.3	7°51.3	-15°16.4
11	346°54.1	27°41.2	-14°07.1	30°27.4	-17°48.3	356°08.7	-5°04.1	22°53.5	-15°16.4
12	1°56.5	42°41.1	-14°06.6	45°28.0	-17°47.8	11°10.6	-5°03.9	37°55.7	-15°16.3
13	16°59.0	57°41.0	-14°06.1	60°28.5	-17°47.3	26°12.5	-5°03.6	52°58.0	-15°16.2
14	32°01.5	72°40.9	-14°05.6	75°29.1	-17°46.8	41°14.4	-5°03.4	68°00.2	-15°16.1
15	47°03.9	87°40.8	-14°05.1	90°29.6	-17°46.3	56°16.4	-5°03.2	83°02.4	-15°16.1
16	62°06.4	102°40.7	-14°04.5	105°30.2	-17°45.8	71°18.3	-5°02.9	98°04.6	-15°16.0
17	77°08.9	117°40.5	-14°04.0	120°30.8	-17°45.2	86°20.2	-5°02.7	113°06.8	-15°15.9
18	92°11.3	132°40.4	-14°03.5	135°31.3	-17°44.7	101°22.1	-5°02.5	128°09.1	-15°15.8
19	107°13.8	147°40.3	-14°03.0	150°31.9	-17°44.2	116°24.0	-5°02.3	143°11.3	-15°15.8
20	122°16.3	162°40.2	-14°02.4	165°32.5	-17°43.7	131°25.9	-5°02.0	158°13.5	-15°15.7
21	137°18.7	177°40.1	-14°01.9	180°33.0	-17°43.2	146°27.8	-5°01.8	173°15.7	-15°15.6
22	152°21.2	192°40.0	-14°01.4	195°33.6	-17°42.7	161°29.8	-5°01.6	188°17.9	-15°15.5
23	167°23.6	207°39.9	-14°00.9	210°34.2	-17°42.1	176°31.7	-5°01.3	203°20.2	-15°15.5
Mer.pass.:11:52		v-0.1 d0.5 m-4.2		v0.6 d0.5 m1.1		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.8	

Vie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	182°26.1	222°39.8	-14°00.3	225°34.7	-17°41.6	191°33.6	-5°01.1	218°22.4	-15°15.4
1	197°28.6	237°39.6	-13°59.8	240°35.3	-17°41.1	206°35.5	-5°00.9	233°24.6	-15°15.3
2	212°31.0	252°39.5	-13°59.3	255°35.8	-17°40.6	221°37.4	-5°00.6	248°26.8	-15°15.2
3	227°33.5	267°39.4	-13°58.7	270°36.4	-17°40.1	236°39.3	-5°00.4	263°29.0	-15°15.2
4	242°36.0	282°39.3	-13°58.2	285°37.0	-17°39.5	251°41.2	-5°00.2	278°31.3	-15°15.1
5	257°38.4	297°39.2	-13°57.7	300°37.5	-17°39.0	266°43.2	-5°00.0	293°33.5	-15°15.0
6	272°40.9	312°39.1	-13°57.1	315°38.1	-17°38.5	281°45.1	-4°59.7	308°35.7	-15°15.0
7	287°43.4	327°38.9	-13°56.6	330°38.7	-17°38.0	296°47.0	-4°59.5	323°37.9	-15°14.9
8	302°45.8	342°38.8	-13°56.1	345°39.2	-17°37.5	311°48.9	-4°59.3	338°40.1	-15°14.8
9	317°48.3	357°38.7	-13°55.5	0°39.8	-17°37.0	326°50.8	-4°59.0	353°42.4	-15°14.7
10	332°50.8	12°38.6	-13°55.0	15°40.4	-17°36.4	341°52.7	-4°58.8	8°44.6	-15°14.7
11	347°53.2	27°38.5	-13°54.5	30°40.9	-17°35.9	356°54.6	-4°58.6	23°46.8	-15°14.6
12	2°55.7	42°38.4	-13°53.9	45°41.5	-17°35.4	11°56.5	-4°58.3	38°49.0	-15°14.5
13	17°58.1	57°38.2	-13°53.4	60°42.1	-17°34.9	26°58.5	-4°58.1	53°51.3	-15°14.4
14	33°00.6	72°38.1	-13°52.8	75°42.6	-17°34.3	42°00.4	-4°57.9	68°53.5	-15°14.4
15	48°03.1	87°38.0	-13°52.3	90°43.2	-17°33.8	57°02.3	-4°57.6	83°55.7	-15°14.3
16	63°05.5	102°37.9	-13°51.8	105°43.8	-17°33.3	72°04.2	-4°57.4	98°57.9	-15°14.2
17	78°08.0	117°37.8	-13°51.2	120°44.3	-17°32.8	87°06.1	-4°57.2	114°00.1	-15°14.1
18	93°10.5	132°37.6	-13°50.7	135°44.9	-17°32.3	102°08.0	-4°57.0	129°02.4	-15°14.1
19	108°12.9	147°37.5	-13°50.1	150°45.5	-17°31.7	117°10.0	-4°56.7	144°04.6	-15°14.0
20	123°15.4	162°37.4	-13°49.6	165°46.0	-17°31.2	132°11.9	-4°56.5	159°06.8	-15°13.9
21	138°17.9	177°37.3	-13°49.1	180°46.6	-17°30.7	147°13.8	-4°56.3	174°09.0	-15°13.8
22	153°20.3	192°37.2	-13°48.5	195°47.2	-17°30.2	162°15.7	-4°56.0	189°11.3	-15°13.8
23	168°22.8	207°37.0	-13°48.0	210°47.7	-17°29.6	177°17.6	-4°55.8	204°13.5	-15°13.7
Mer.pass.:11:48		v-0.1 d0.5 m-4.2		v0.6 d0.5 m1.1		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.8	

Estrellas

	AHS	Dec
Alpheratz	357°37.5	29°12.6
Ankaa	353°09.9	-42°11.3
Schedar	349°34.2	56°39.4
Diphda	348°49.8	-17°52.1
Achernar	335°22.5	-57°07.7
Hamal	327°54.1	23°33.9
Polaris	315°28.3	89°21.6
Akamar	315°13.8	-40°13.2
Menkar	314°08.8	4°10.4
Mirfak	308°31.9	49°56.4
Aldebaran	290°42.4	16°33.2
Rigel	281°06.2	-8°10.8
Capella	280°25.4	46°01.4
Bellatrix	278°25.4	6°22.1
Elnath	278°04.9	28°37.6
Alnilam	275°40.1	-1°11.4
Betelgeuse	270°54.6	7°24.6
Canopus	263°53.4	-52°42.7
Sirius	258°28.1	-16°44.8
Adara	255°07.6	-29°00.4
Procyon	244°53.0	5°10.2
Pollux	243°19.9	27°58.4
Avior	234°15.3	-59°35.1
Suhail	222°47.7	-43°31.5
Miaplacidus	221°38.1	-69°48.7
Alphard	217°49.8	-8°45.4
Regulus	207°36.6	11°51.5
Dubhe	193°43.2	61°38.0
Denebola	182°26.9	14°26.8
Gienah	175°45.6	-17°40.0
Acrux	173°02.0	-63°13.3
Gacrux	171°53.6	-57°14.2
Alioth	166°14.5	55°50.3
Spica	158°24.4	-11°16.6
Alcaid	152°53.4	49°12.0
Hadar	148°38.7	-60°28.6
Menkent	148°00.0	-36°28.7
Arcturus	145°49.6	19°04.2
Rigil Kent.	139°43.0	-60°55.4
Zubenelg.	136°58.3	-16°08.0
Kochab	137°18.9	74°03.6
Alphecca	126°05.5	26°38.2
Antares	112°18.5	-26°28.8
Atria	107°14.7	-69°03.7
Sabik	102°05.3	-15°45.2
Shaula	96°13.5	-37°07.1
Rasalhague	96°00.7	12°32.5
Etamin	90°43.2	51°28.8
Kaus Aust.	83°35.6	-34°22.3
Vega	80°34.9	38°47.9
Nunki	75°50.7	-26°16.1
Altair	62°02.4	8°55.4
Peacock	53°09.7	-56°39.7
Deneb	49°27.6	45°21.2
Enif	33°41.3	9°58.4
Alnair	27°36.2	-46°51.2
Fomalhaut	15°17.5	-29°30.4
Scheat	13°47.8	28°11.9
Markab	13°32.5	15°19.2

Mar 23 Mie	AHS	Paso Merid
Venus	42°17.0	09:09
Mars	44°40.0	08:59
Jupiter	9°33.9	11:18
Saturn	36°08.0	09:32

Mar 24 Jue	AHS	Paso Merid
Venus	41°15.4	09:09
Mars	43°54.2	08:58
Jupiter	9°20.7	11:15
Saturn	36°02.1	09:29

Mar 25 Vie	AHS	Paso Merid
Venus	40°13.6	09:09
Mars	43°08.6	08:57
Jupiter	9°07.5	11:12
Saturn	35°56.3	09:25

Paralelaje Horizontal	
Venus:	0.2
Mars:	0.1

h	Sol		Luna				
Mie	AHG	Dec	AHG	v	Dec	d	HP
0	178°19.3	0°55.7	299°43.8	6.9	-21°33.8	-9.9	59.3
1	193°19.5	0°56.7	314°09.7	6.8	-21°43.7	-9.8	59.3
2	208°19.7	0°57.7	328°35.4	6.7	-21°53.4	-9.7	59.3
3	223°19.8	0°58.7	343°01.1	6.6	-22°03.0	-9.5	59.3
4	238°20.0	0°59.7	357°26.6	6.5	-22°12.5	-9.4	59.3
5	253°20.2	1°00.6	11°52.1	6.4	-22°21.8	-9.3	59.3
6	268°20.4	1°01.6	26°17.5	6.4	-22°31.0	-9.1	59.3
7	283°20.6	1°02.6	40°42.8	6.3	-22°40.0	-9.0	59.3
8	298°20.8	1°03.6	55°08.1	6.2	-22°48.9	-8.8	59.3
9	313°21.0	1°04.6	69°33.2	6.1	-22°57.7	-8.7	59.3
10	328°21.2	1°05.6	83°58.3	6.0	-23°06.3	-8.5	59.3
11	343°21.3	1°06.6	98°23.3	6.0	-23°14.8	-8.4	59.3
12	358°21.5	1°07.5	112°48.2	5.9	-23°23.1	-8.2	59.3
13	13°21.7	1°08.5	127°13.1	5.8	-23°31.3	-8.1	59.3
14	28°21.9	1°09.5	141°37.8	5.7	-23°39.3	-7.9	59.3
15	43°22.1	1°10.5	156°02.5	5.6	-23°47.2	-7.8	59.3
16	58°22.3	1°11.5	170°27.1	5.6	-23°54.9	-7.6	59.3
17	73°22.5	1°12.5	184°51.7	5.5	-24°02.4	-7.5	59.3
18	88°22.7	1°13.4	199°16.1	5.4	-24°09.8	-7.3	59.3
19	103°22.8	1°14.4	213°40.5	5.4	-24°17.1	-7.2	59.3
20	118°23.0	1°15.4	228°04.8	5.3	-24°24.2	-7.0	59.3
21	133°23.2	1°16.4	242°29.1	5.2	-24°31.1	-6.8	59.3
22	148°23.4	1°17.4	256°53.3	5.1	-24°37.9	-6.7	59.3
23	163°23.6	1°18.4	271°17.4	5.1	-24°44.5	-6.5	59.3
	SD.=16.0	d=1.0	S.D.=16.2				

Jue	AHG	Dec	AHG	v	Dec	d	HP
0	178°23.8	1°19.4	285°41.4	5.0	-24°50.9	-6.4	59.3
1	193°24.0	1°20.3	300°05.4	5.0	-24°57.2	-6.2	59.3
2	208°24.2	1°21.3	314°29.3	4.9	-25°03.3	-6.0	59.3
3	223°24.4	1°22.3	328°53.2	4.8	-25°09.2	-5.9	59.3
4	238°24.5	1°23.3	343°17.0	4.8	-25°15.0	-5.7	59.3
5	253°24.7	1°24.3	357°40.7	4.7	-25°20.6	-5.5	59.3
6	268°24.9	1°25.3	12°04.4	4.7	-25°26.1	-5.4	59.3
7	283°25.1	1°26.2	26°28.0	4.6	-25°31.4	-5.2	59.3
8	298°25.3	1°27.2	40°51.6	4.6	-25°36.5	-5.0	59.3
9	313°25.5	1°28.2	55°15.1	4.5	-25°41.4	-4.8	59.3
10	328°25.7	1°29.2	69°38.6	4.5	-25°46.1	-4.7	59.3
11	343°25.9	1°30.2	84°02.0	4.4	-25°50.7	-4.5	59.3
12	358°26.0	1°31.2	98°25.4	4.4	-25°55.1	-4.3	59.3
13	13°26.2	1°32.2	112°48.8	4.3	-25°59.4	-4.1	59.3
14	28°26.4	1°33.1	127°12.1	4.3	-26°03.4	-4.0	59.3
15	43°26.6	1°34.1	141°35.3	4.2	-26°07.3	-3.8	59.3
16	58°26.8	1°35.1	155°58.5	4.2	-26°11.0	-3.6	59.3
17	73°27.0	1°36.1	170°21.7	4.2	-26°14.5	-3.4	59.3
18	88°27.2	1°37.1	184°44.8	4.1	-26°17.9	-3.3	59.3
19	103°27.4	1°38.1	199°08.0	4.1	-26°21.0	-3.1	59.3
20	118°27.6	1°39.0	213°31.0	4.1	-26°24.0	-2.9	59.3
21	133°27.7	1°40.0	227°54.1	4.0	-26°26.8	-2.7	59.3
22	148°27.9	1°41.0	242°17.1	4.0	-26°29.5	-2.5	59.3
23	163°28.1	1°42.0	256°40.1	4.0	-26°31.9	-2.4	59.3
	SD.=16.0	d=1.0	S.D.=16.2				

Vie	AHG	Dec	AHG	v	Dec	d	HP
0	178°28.3	1°43.0	271°03.1	4.0	-26°34.2	-2.2	59.3
1	193°28.5	1°44.0	285°26.1	4.0	-26°36.3	-2.0	59.3
2	208°28.7	1°44.9	299°49.0	3.9	-26°38.2	-1.8	59.2
3	223°28.9	1°45.9	314°11.9	3.9	-26°39.9	-1.6	59.2
4	238°29.1	1°46.9	328°34.8	3.9	-26°41.4	-1.4	59.2
5	253°29.2	1°47.9	342°57.7	3.9	-26°42.8	-1.3	59.2
6	268°29.4	1°48.9	357°20.6	3.9	-26°43.9	-1.1	59.2
7	283°29.6	1°49.9	11°43.5	3.9	-26°44.9	-0.9	59.2
8	298°29.8	1°50.8	26°06.4	3.9	-26°45.7	-0.7	59.2
9	313°30.0	1°51.8	40°29.3	3.9	-26°46.3	-0.5	59.2
10	328°30.2	1°52.8	54°52.1	3.9	-26°46.8	-0.3	59.2
11	343°30.4	1°53.8	69°15.0	3.9	-26°47.0	-0.2	59.2
12	358°30.6	1°54.8	83°37.9	3.9	-26°47.1	0.0	59.2
13	13°30.8	1°55.8	98°00.8	3.9	-26°47.0	0.2	59.2
14	28°30.9	1°56.7	112°23.7	3.9	-26°46.7	0.4	59.2
15	43°31.1	1°57.7	126°46.6	3.9	-26°46.2	0.6	59.2
16	58°31.3	1°58.7	141°09.5	3.9	-26°45.6	0.8	59.2
17	73°31.5	1°59.7	155°32.5	3.9	-26°44.7	0.9	59.2
18	88°31.7	2°00.7	169°55.4	4.0	-26°43.7	1.1	59.2
19	103°31.9	2°01.6	184°18.4	4.0	-26°42.5	1.3	59.2
20	118°32.1	2°02.6	198°41.4	4.0	-26°41.1	1.5	59.2
21	133°32.3	2°03.6	213°04.4	4.0	-26°39.5	1.7	59.2
22	148°32.4	2°04.6	227°27.5	4.1	-26°37.7	1.8	59.1
23	163°32.6	2°05.6	241°50.6	4.1	-26°35.8	2.0	59.1
	SD.=16.0	d=1.0	S.D.=16.2				

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	02:53	04:29	05:38	18:37	19:47	21:25
70	03:17	04:39	05:41	18:34	19:37	21:00
68	03:35	04:47	05:43	18:31	19:28	20:41
66	03:49	04:54	05:45	18:29	19:21	20:27
64	04:00	04:59	05:47	18:27	19:15	20:15
62	04:09	05:04	05:49	18:26	19:10	20:05
60	04:17	05:08	05:50	18:24	19:06	19:57
58	04:24	05:12	05:51	18:23	19:02	19:50
56	04:30	05:15	05:52	18:22	18:59	19:44
54	04:35	05:17	05:53	18:21	18:56	19:39
52	04:40	05:20	05:54	18:20	18:54	19:34
50	04:44	05:22	05:54	18:19	18:52	19:30
45	04:52	05:27	05:56	18:17	18:47	19:21
40	04:58	05:30	05:57	18:16	18:43	19:15
35	05:03	05:33	05:58	18:15	18:40	19:10
30	05:07	05:35	05:59	18:14	18:38	19:06
20	05:13	05:39	06:01	18:12	18:34	19:00
10	05:17	05:41	06:02	18:11	18:32	18:56
0	05:18	05:42	06:03	18:10	18:30	18:54
S 10	05:19	05:43	06:04	18:08	18:29	18:54
20	05:17	05:43	06:05	18:07	18:29	18:55
30	05:14	05:42	06:06	18:06	18:30	18:58
35	05:12	05:41	06:06	18:06	18:31	19:00
40	05:08	05:40	06:07	18:05	18:32	19:03
45	05:04	05:38	06:07	18:04	18:34	19:08
50	04:58	05:36	06:08	18:04	18:36	19:13
52	04:55	05:35	06:08	18:03	18:37	19:16
54	04:52	05:33	06:09	18:03	18:38	19:19
56	04:48	05:32	06:09	18:03	18:39	19:23
58	04:44	05:30	06:09	18:02	18:41	19:27
60	04:39	05:28	06:10	18:02	18:43	19:32

	Orto luna			Ocaso luna		
Lat.	Mie	Jue	Vie	Mie	Jue	Vie
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	–:–	–:–	–:–
68	–:–	–:–	–:–	–:–	–:–	–:–
66	02:31	–:–	–:–	05:37	–:–	–:–
64	01:49	04:16	–:–	06:19	05:56	–:–
62	01:21	03:17	04:57	06:48	06:55	07:24
60	01:00	02:43	04:11	07:10	07:29	08:10
58	00:42	02:19	03:41	07:28	07:54	08:40
56	00:28	01:59	03:18	07:43	08:14	09:03
54	00:15	01:43	03:00	07:57	08:31	09:21
52	00:04	01:29	02:44	08:08	08:45	09:37
50	–:–	01:16	02:30	08:18	08:58	09:51
45	–:–	00:51	02:02	08:40	09:24	10:19
40	–:–	00:31	01:40	08:57	09:44	10:41
35	–:–	00:14	01:22	09:12	10:02	10:59
30	–:–	00:00	01:07	09:25	10:16	11:15
20	23:36	–:–	00:40	09:47	10:42	11:42
10	23:15	–:–	00:17	10:06	11:04	12:05
0	22:55	23:56	–:–	10:24	11:24	12:26
S 10	22:36	23:35	–:–	10:42	11:45	12:47
20	22:15	23:13	–:–	11:02	12:07	13:10
30	21:52	22:47	23:48	11:24	12:32	13:36
35	21:38	22:31	23:33	11:37	12:47	13:52
40	21:22	22:13	23:15	11:53	13:05	14:10
45	21:03	21:52	22:53	12:11	13:26	14:32
50	20:39	21:25	22:26	12:33	13:52	14:59
52	20:28	21:12	22:12	12:44	14:05	15:13
54	20:15	20:57	21:57	12:57	14:20	15:28
56	20:00	20:39	21:39	13:11	14:37	15:47
58	19:43	20:18	21:17	13:28	14:58	16:09
60	19:22	19:51	20:48	13:48	15:25	16:37

Día	Sol			Luna		
	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
23	06:43	06:34	12:06	04:10	16:39	21(69%)
24	06:25	06:16	12:06	05:09	17:40	22(59%)
25	06:07	05:58	12:05	06:11	18:42	23(47%)

Marzo 26, 27, 28 (Sa, Dom, Lun)

	Aries	Venus		Martes		Júpiter		Saturno	
Sa	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	183°25.3	222°36.9	-13°47.4	225°48.3	-17°29.1	192°19.5	-4°55.6	219°15.7	-15°13.6
1	198°27.7	237°36.8	-13°46.9	240°48.9	-17°28.6	207°21.4	-4°55.3	234°17.9	-15°13.6
2	213°30.2	252°36.7	-13°46.3	255°49.4	-17°28.1	222°23.4	-4°55.1	249°20.2	-15°13.5
3	228°32.6	267°36.5	-13°45.8	270°50.0	-17°27.5	237°25.3	-4°54.9	264°22.4	-15°13.4
4	243°35.1	282°36.4	-13°45.2	285°50.6	-17°27.0	252°27.2	-4°54.7	279°24.6	-15°13.3
5	258°37.6	297°36.3	-13°44.7	300°51.1	-17°26.5	267°29.1	-4°54.4	294°26.8	-15°13.3
6	273°40.0	312°36.2	-13°44.1	315°51.7	-17°26.0	282°31.0	-4°54.2	309°29.0	-15°13.2
7	288°42.5	327°36.0	-13°43.6	330°52.3	-17°25.4	297°32.9	-4°54.0	324°31.3	-15°13.1
8	303°45.0	342°35.9	-13°43.0	345°52.8	-17°24.9	312°34.8	-4°53.7	339°33.5	-15°13.0
9	318°47.4	357°35.8	-13°42.4	0°53.4	-17°24.4	327°36.8	-4°53.5	354°35.7	-15°13.0
10	333°49.9	12°35.7	-13°41.9	15°54.0	-17°23.8	342°38.7	-4°53.3	9°37.9	-15°12.9
11	348°52.4	27°35.5	-13°41.3	30°54.6	-17°23.3	357°40.6	-4°53.0	24°40.2	-15°12.8
12	3°54.8	42°35.4	-13°40.8	45°55.1	-17°22.8	12°42.5	-4°52.8	39°42.4	-15°12.7
13	18°57.3	57°35.3	-13°40.2	60°55.7	-17°22.3	27°44.4	-4°52.6	54°44.6	-15°12.7
14	33°59.8	72°35.2	-13°39.7	75°56.3	-17°21.7	42°46.3	-4°52.4	69°46.8	-15°12.6
15	49°02.2	87°35.0	-13°39.1	90°56.8	-17°21.2	57°48.3	-4°52.1	84°49.1	-15°12.5
16	64°04.7	102°34.9	-13°38.5	105°57.4	-17°20.7	72°50.2	-4°51.9	99°51.3	-15°12.5
17	79°07.1	117°34.8	-13°38.0	120°58.0	-17°20.1	87°52.1	-4°51.7	114°53.5	-15°12.4
18	94°09.6	132°34.7	-13°37.4	135°58.5	-17°19.6	102°54.0	-4°51.4	129°55.7	-15°12.3
19	109°12.1	147°34.5	-13°36.9	150°59.1	-17°19.1	117°55.9	-4°51.2	144°58.0	-15°12.2
20	124°14.5	162°34.4	-13°36.3	165°59.7	-17°18.6	132°57.8	-4°51.0	160°00.2	-15°12.2
21	139°17.0	177°34.3	-13°35.7	181°00.3	-17°18.0	147°59.7	-4°50.7	175°02.4	-15°12.1
22	154°19.5	192°34.1	-13°35.2	196°00.8	-17°17.5	163°01.7	-4°50.5	190°04.6	-15°12.0
23	169°21.9	207°34.0	-13°34.6	211°01.4	-17°17.0	178°03.6	-4°50.3	205°06.9	-15°11.9
Mer.pass.:11:44		v-0.1 d0.5 m-4.2		v0.6 d0.5 m1.1		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.8	

Dom	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	184°24.4	222°33.9	-13°34.0	226°02.0	-17°16.4	193°05.5	-4°50.1	220°09.1	-15°11.9
1	199°26.9	237°33.8	-13°33.5	241°02.5	-17°15.9	208°07.4	-4°49.8	235°11.3	-15°11.8
2	214°29.3	252°33.6	-13°32.9	256°03.1	-17°15.4	223°09.3	-4°49.6	250°13.5	-15°11.7
3	229°31.8	267°33.5	-13°32.3	271°03.7	-17°14.8	238°11.2	-4°49.4	265°15.8	-15°11.7
4	244°34.3	282°33.4	-13°31.8	286°04.3	-17°14.3	253°13.2	-4°49.1	280°18.0	-15°11.6
5	259°36.7	297°33.2	-13°31.2	301°04.8	-17°13.8	268°15.1	-4°48.9	295°20.2	-15°11.5
6	274°39.2	312°33.1	-13°30.6	316°05.4	-17°13.2	283°17.0	-4°48.7	310°22.4	-15°11.4
7	289°41.6	327°33.0	-13°30.1	331°06.0	-17°12.7	298°18.9	-4°48.4	325°24.7	-15°11.4
8	304°44.1	342°32.8	-13°29.5	346°06.5	-17°12.2	313°20.8	-4°48.2	340°26.9	-15°11.3
9	319°46.6	357°32.7	-13°28.9	1°07.1	-17°11.6	328°22.7	-4°48.0	355°29.1	-15°11.2
10	334°49.0	12°32.6	-13°28.3	16°07.7	-17°11.1	343°24.7	-4°47.8	10°31.4	-15°11.1
11	349°51.5	27°32.4	-13°27.8	31°08.3	-17°10.6	358°26.6	-4°47.5	25°33.6	-15°11.1
12	4°54.0	42°32.3	-13°27.2	46°08.8	-17°10.0	13°28.5	-4°47.3	40°35.8	-15°11.0
13	19°56.4	57°32.2	-13°26.6	61°09.4	-17°09.5	28°30.4	-4°47.1	55°38.0	-15°10.9
14	34°58.9	72°32.0	-13°26.0	76°10.0	-17°09.0	43°32.3	-4°46.8	70°40.3	-15°10.9
15	50°01.4	87°31.9	-13°25.5	91°10.6	-17°08.4	58°34.2	-4°46.6	85°42.5	-15°10.8
16	65°03.8	102°31.8	-13°24.9	106°11.1	-17°07.9	73°36.2	-4°46.4	100°44.7	-15°10.7
17	80°06.3	117°31.6	-13°24.3	121°11.7	-17°07.4	88°38.1	-4°46.1	115°46.9	-15°10.6
18	95°08.7	132°31.5	-13°23.7	136°12.3	-17°06.8	103°40.0	-4°45.9	130°49.2	-15°10.6
19	110°11.2	147°31.4	-13°23.1	151°12.9	-17°06.3	118°41.9	-4°45.7	145°51.4	-15°10.5
20	125°13.7	162°31.2	-13°22.6	166°13.4	-17°05.7	133°43.8	-4°45.5	160°53.6	-15°10.4
21	140°16.1	177°31.1	-13°22.0	181°14.0	-17°05.2	148°45.7	-4°45.2	175°55.9	-15°10.3
22	155°18.6	192°31.0	-13°21.4	196°14.6	-17°04.7	163°47.7	-4°45.0	190°58.1	-15°10.3
23	170°21.1	207°30.8	-13°20.8	211°15.2	-17°04.1	178°49.6	-4°44.8	206°00.3	-15°10.2
Mer.pass.:11:40		v-0.1 d0.6 m-4.2		v0.6 d0.5 m1.1		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.9	

Lun	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	185°23.5	222°30.7	-13°20.2	226°15.7	-17°03.6	193°51.5	-4°44.5	221°02.5	-15°10.1
1	200°26.0	237°30.6	-13°19.6	241°16.3	-17°03.0	208°53.4	-4°44.3	236°04.8	-15°10.1
2	215°28.5	252°30.4	-13°19.1	256°16.9	-17°02.5	223°55.3	-4°44.1	251°07.0	-15°10.0
3	230°30.9	267°30.3	-13°18.5	271°17.5	-17°02.0	238°57.2	-4°43.8	266°09.2	-15°09.9
4	245°33.4	282°30.2	-13°17.9	286°18.0	-17°01.4	253°59.2	-4°43.6	281°11.4	-15°09.8
5	260°35.9	297°30.0	-13°17.3	301°18.6	-17°00.9	269°01.1	-4°43.4	296°13.7	-15°09.8
6	275°38.3	312°29.9	-13°16.7	316°19.2	-17°00.4	284°03.0	-4°43.2	311°15.9	-15°09.7
7	290°40.8	327°29.7	-13°16.1	331°19.8	-16°59.8	299°04.9	-4°42.9	326°18.1	-15°09.6
8	305°43.2	342°29.6	-13°15.5	346°20.3	-16°59.3	314°06.8	-4°42.7	341°20.4	-15°09.6
9	320°45.7	357°29.5	-13°14.9	1°20.9	-16°58.7	329°08.7	-4°42.5	356°22.6	-15°09.5
10	335°48.2	12°29.3	-13°14.3	16°21.5	-16°58.2	344°10.7	-4°42.2	11°24.8	-15°09.4
11	350°50.6	27°29.2	-13°13.7	31°22.1	-16°57.6	359°12.6	-4°42.0	26°27.0	-15°09.3
12	5°53.1	42°29.1	-13°13.2	46°22.6	-16°57.1	14°14.5	-4°41.8	41°29.3	-15°09.3
13	20°55.6	57°28.9	-13°12.6	61°23.2	-16°56.6	29°16.4	-4°41.6	56°31.5	-15°09.2
14	35°58.0	72°28.8	-13°12.0	76°23.8	-16°56.0	44°18.3	-4°41.3	71°33.7	-15°09.1
15	51°00.5	87°28.6	-13°11.4	91°24.4	-16°55.5	59°20.2	-4°41.1	86°36.0	-15°09.1
16	66°03.0	102°28.5	-13°10.8	106°24.9	-16°54.9	74°22.2	-4°40.9	101°38.2	-15°09.0
17	81°05.4	117°28.4	-13°10.2	121°25.5	-16°54.4	89°24.1	-4°40.6	116°40.4	-15°08.9
18	96°07.9	132°28.2	-13°09.6	136°26.1	-16°53.8	104°26.0	-4°40.4	131°42.6	-15°08.8
19	111°10.4	147°28.1	-13°09.0	151°26.7	-16°53.3	119°27.9	-4°40.2	146°44.9	-15°08.8
20	126°12.8	162°27.9	-13°08.4	166°27.3	-16°52.8	134°29.8	-4°40.0	161°47.1	-15°08.7
21	141°15.3	177°27.8	-13°07.8	181°27.8	-16°52.2	149°31.8	-4°39.7	176°49.3	-15°08.6
22	156°17.7	192°27.7	-13°07.2	196°28.4	-16°51.7	164°33.7	-4°39.5	191°51.6	-15°08.6
23	171°20.2	207°27.5	-13°06.6	211°29.0	-16°51.1	179°35.6	-4°39.3	206°53.8	-15°08.5
Mer.pass.:11:36		v-0.1 d0.6 m-4.2		v0.6 d0.5 m1.1		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.9	

Estrellas

	AHS	Dec
Alpheratz	357°37.5	29°12.6
Ankaa	353°09.8	-42°11.3
Schedar	349°34.2	56°39.4
Diphda	348°49.8	-17°52.1
Achernar	335°22.5	-57°07.7
Hamal	327°54.1	23°33.9
Polaris	315°29.1	89°21.6
Akamar	315°13.8	-40°13.2
Menkar	314°08.8	4°10.4
Mirfak	308°31.9	49°56.4
Aldebaran	290°42.4	16°33.2
Rigel	281°06.2	-8°10.8
Capella	280°25.4	46°01.4
Bellatrix	278°25.4	6°22.1
Elnath	278°04.9	28°37.6
Alnilam	275°40.1	-1°11.4
Betelgeuse	270°54.6	7°24.6
Canopus	263°53.4	-52°42.7
Sirius	258°28.1	-16°44.8
Adara	255°07.6	-29°00.4
Procyon	244°53.0	5°10.1
Pollux	243°19.9	27°58.4
Avior	234°15.3	-59°35.1
Suhail	222°47.7	-43°31.5
Miaplacidus	221°38.1	-69°48.7
Alphard	217°49.8	-8°45.4
Regulus	207°36.6	11°51.5
Dubhe	193°43.2	61°38.0
Denebola	182°26.9	14°26.8
Gienah	175°45.6	-17°40.0
Acrux	173°01.9	-63°13.3
Gacrux	171°53.6	-57°14.2
Alioth	166°14.5	55°50.3
Spica	158°24.4	-11°16.7
Alcaid	152°53.4	49°12.0
Hadar	148°38.7	-60°28.7
Menkent	148°00.0	-36°28.7
Arcturus	145°49.6	19°04.2
Rigil Kent.	139°42.9	-60°55.4
Zubenelg.	136°58.3	-16°08.0
Kochab	137°18.9	74°03.7
Alphecca	126°05.5	26°38.2
Antares	112°18.5	-26°28.8
Atria	107°14.6	-69°03.8
Sabik	102°05.3	-15°45.2
Shaula	96°13.4	-37°07.1
Rasalhague	96°00.6	12°32.5
Etamin	90°43.2	51°28.8
Kaus Aust.	83°35.6	-34°22.3
Vega	80°34.8	38°47.9
Nunki	75°50.7	-26°16.1
Altair	62°02.4	8°55.4
Peacock	53°09.6	-56°39.7
Deneb	49°27.6	45°21.2
Enif	33°41.3	9°58.4
Alnair	27°36.2	-46°51.2
Fomalhaut	15°17.5	-29°30.4
Scheat	13°47.8	28°11.9
Markab	13°32.5	15°19.2

Mar 26 Sa	AHS	Paso Merid
Venus	39°11.7	09:10
Mars	42°23.0	08:56
Jupiter	8°54.3	11:09
Saturn	35°50.5	09:22

Mar 27 Dom	AHS	Paso Merid
Venus	38°09.5	09:10
Mars	41°37.6	08:56
Jupiter	8°41.1	11:06
Saturn	35°44.7	09:18

Mar 28 Lun	AHS	Paso Merid
Venus	37°07.2	09:10
Mars	40°52.2	08:55
Jupiter	8°28.0	11:03
Saturn	35°39.0	09:14

Paralelaje Horizontal	
Venus:	0.2
Mars:	0.1

h	Sol		Luna				
Sa	AHG	Dec	AHG	v	Dec	d	HP
0	178°32.8	2°06.6	256°13.7	4.1	-26°33.7	2.2	59.1
1	193°33.0	2°07.5	270°36.8	4.2	-26°31.4	2.4	59.1
2	208°33.2	2°08.5	285°00.0	4.2	-26°28.9	2.6	59.1
3	223°33.4	2°09.5	299°23.2	4.2	-26°26.3	2.7	59.1
4	238°33.6	2°10.5	313°46.5	4.3	-26°23.4	2.9	59.1
5	253°33.8	2°11.5	328°09.8	4.3	-26°20.4	3.1	59.1
6	268°34.0	2°12.4	342°33.1	4.4	-26°17.3	3.3	59.1
7	283°34.1	2°13.4	356°56.5	4.4	-26°13.9	3.4	59.1
8	298°34.3	2°14.4	11°19.9	4.5	-26°10.4	3.6	59.1
9	313°34.5	2°15.4	25°43.4	4.5	-26°06.7	3.8	59.1
10	328°34.7	2°16.4	40°06.9	4.6	-26°02.8	4.0	59.1
11	343°34.9	2°17.3	54°30.5	4.6	-25°58.7	4.1	59.1
12	358°35.1	2°18.3	68°54.2	4.7	-25°54.5	4.3	59.0
13	13°35.3	2°19.3	83°17.9	4.7	-25°50.1	4.5	59.0
14	28°35.5	2°20.3	97°41.6	4.8	-25°45.5	4.7	59.0
15	43°35.7	2°21.3	112°05.4	4.8	-25°40.8	4.8	59.0
16	58°35.8	2°22.3	126°29.3	4.9	-25°35.9	5.0	59.0
17	73°36.0	2°23.2	140°53.2	5.0	-25°30.8	5.2	59.0
18	88°36.2	2°24.2	155°17.2	5.0	-25°25.5	5.3	59.0
19	103°36.4	2°25.2	169°41.3	5.1	-25°20.1	5.5	59.0
20	118°36.6	2°26.2	184°05.4	5.2	-25°14.6	5.7	59.0
21	133°36.8	2°27.2	198°29.6	5.2	-25°08.8	5.8	59.0
22	148°37.0	2°28.1	212°53.9	5.3	-25°02.9	6.0	59.0
23	163°37.2	2°29.1	227°18.2	5.4	-24°56.9	6.1	59.0
	SD.=16.0	d=1.0	S.D.=16.1				

Dom	AHG	Dec	AHG	v	Dec	d	HP
0	178°37.3	2°30.1	241°42.7	5.5	-24°50.7	6.3	58.9
1	193°37.5	2°31.1	256°07.2	5.5	-24°44.3	6.5	58.9
2	208°37.7	2°32.1	270°31.7	5.6	-24°37.7	6.6	58.9
3	223°37.9	2°33.0	284°56.4	5.7	-24°31.1	6.8	58.9
4	238°38.1	2°34.0	299°21.1	5.8	-24°24.2	6.9	58.9
5	253°38.3	2°35.0	313°45.9	5.8	-24°17.2	7.1	58.9
6	268°38.5	2°36.0	328°10.8	5.9	-24°10.1	7.2	58.9
7	283°38.7	2°36.9	342°35.8	6.0	-24°02.8	7.4	58.9
8	298°38.9	2°37.9	357°00.8	6.1	-23°55.3	7.5	58.9
9	313°39.0	2°38.9	11°25.9	6.2	-23°47.7	7.7	58.9
10	328°39.2	2°39.9	25°51.2	6.3	-23°40.0	7.8	58.8
11	343°39.4	2°40.9	40°16.5	6.3	-23°32.1	8.0	58.8
12	358°39.6	2°41.8	54°41.9	6.4	-23°24.0	8.1	58.8
13	13°39.8	2°42.8	69°07.3	6.5	-23°15.8	8.3	58.8
14	28°40.0	2°43.8	83°32.9	6.6	-23°07.5	8.4	58.8
15	43°40.2	2°44.8	97°58.6	6.7	-22°59.1	8.5	58.8
16	58°40.4	2°45.8	112°24.3	6.8	-22°50.5	8.7	58.8
17	73°40.5	2°46.7	126°50.1	6.9	-22°41.7	8.8	58.8
18	88°40.7	2°47.7	141°16.0	7.0	-22°32.8	8.9	58.8
19	103°40.9	2°48.7	155°42.1	7.1	-22°23.8	9.1	58.7
20	118°41.1	2°49.7	170°08.2	7.2	-22°14.7	9.2	58.7
21	133°41.3	2°50.6	184°34.4	7.2	-22°05.4	9.3	58.7
22	148°41.5	2°51.6	199°00.7	7.3	-21°56.0	9.5	58.7
23	163°41.7	2°52.6	213°27.0	7.4	-21°46.5	9.6	58.7
	SD.=16.0	d=1.0	S.D.=16.1				

Lun	AHG	Dec	AHG	v	Dec	d	HP
0	178°41.9	2°53.6	227°53.5	7.5	-21°36.8	9.7	58.7
1	193°42.0	2°54.6	242°20.1	7.6	-21°27.0	9.8	58.7
2	208°42.2	2°55.5	256°46.7	7.7	-21°17.1	10.0	58.7
3	223°42.4	2°56.5	271°13.5	7.8	-21°07.1	10.1	58.6
4	238°42.6	2°57.5	285°40.3	7.9	-20°56.9	10.2	58.6
5	253°42.8	2°58.5	300°07.3	8.0	-20°46.7	10.3	58.6
6	268°43.0	2°59.4	314°34.3	8.1	-20°36.3	10.4	58.6
7	283°43.2	3°00.4	329°01.5	8.2	-20°25.8	10.6	58.6
8	298°43.4	3°01.4	343°28.7	8.3	-20°15.1	10.7	58.6
9	313°43.5	3°02.4	357°56.0	8.4	-20°04.4	10.8	58.6
10	328°43.7	3°03.4	12°23.4	8.5	-19°53.6	10.9	58.5
11	343°43.9	3°04.3	26°50.9	8.6	-19°42.6	11.0	58.5
12	358°44.1	3°05.3	41°18.5	8.6	-19°31.6	11.1	58.5
13	13°44.3	3°06.3	55°46.2	8.7	-19°20.4	11.2	58.5
14	28°44.5	3°07.3	70°14.0	8.8	-19°09.1	11.3	58.5
15	43°44.7	3°08.2	84°41.9	8.9	-18°57.7	11.4	58.5
16	58°44.9	3°09.2	99°09.9	9.0	-18°46.2	11.5	58.5
17	73°45.1	3°10.2	113°37.9	9.1	-18°34.7	11.6	58.4
18	88°45.2	3°11.2	128°06.1	9.2	-18°23.0	11.7	58.4
19	103°45.4	3°12.1	142°34.4	9.3	-18°11.2	11.8	58.4
20	118°45.6	3°13.1	157°02.7	9.4	-17°59.3	11.9	58.4
21	133°45.8	3°14.1	171°31.2	9.5	-17°47.4	12.0	58.4
22	148°46.0	3°15.1	185°59.7	9.6	-17°35.3	12.1	58.4
23	163°46.2	3°16.0	200°28.3	9.7	-17°23.2	12.2	58.4
	SD.=16.0	d=1.0	S.D.=16.0				

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	02:29	04:12	05:23	18:51	20:03	21:48
70	02:58	04:24	05:27	18:46	19:50	21:18
68	03:18	04:33	05:31	18:42	19:40	20:56
66	03:35	04:41	05:34	18:39	19:32	20:39
64	03:47	04:48	05:36	18:36	19:25	20:26
62	03:58	04:54	05:39	18:34	19:19	20:15
60	04:07	04:59	05:41	18:31	19:14	20:06
58	04:15	05:03	05:42	18:30	19:09	19:58
56	04:21	05:07	05:44	18:28	19:06	19:51
54	04:27	05:10	05:45	18:26	19:02	19:45
52	04:32	05:13	05:47	18:25	18:59	19:40
50	04:37	05:15	05:48	18:24	18:56	19:35
45	04:46	05:21	05:50	18:21	18:51	19:26
40	04:53	05:25	05:52	18:19	18:46	19:18
35	04:59	05:29	05:54	18:17	18:43	19:12
30	05:04	05:32	05:56	18:16	18:40	19:08
20	05:10	05:36	05:58	18:13	18:35	19:01
10	05:15	05:39	06:00	18:11	18:32	18:56
0	05:17	05:41	06:02	18:09	18:29	18:53
S 10	05:19	05:43	06:04	18:07	18:28	18:52
20	05:18	05:44	06:06	18:05	18:27	18:52
30	05:16	05:44	06:08	18:03	18:27	18:54
35	05:14	05:43	06:09	18:02	18:27	18:56
40	05:11	05:43	06:10	18:00	18:27	18:59
45	05:08	05:42	06:11	17:59	18:28	19:02
50	05:03	05:40	06:13	17:57	18:29	19:07
52	05:00	05:40	06:13	17:56	18:30	19:09
54	04:58	05:39	06:14	17:56	18:31	19:12
56	04:54	05:38	06:15	17:55	18:32	19:15
58	04:51	05:37	06:16	17:54	18:33	19:18
60	04:46	05:35	06:17	17:53	18:34	19:23

	Orto luna			Ocaso luna		
Lat.	Sa	Dom	Lun	Sa	Dom	Lun
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	–:–	–:–	–:–
68	–:–	–:–	07:35	–:–	–:–	10:59
66	–:–	–:–	06:54	–:–	–:–	11:39
64	–:–	06:38	06:25	–:–	09:57	12:07
62	05:47	06:00	06:04	08:44	10:35	12:28
60	05:06	05:33	05:46	09:24	11:01	12:45
58	04:38	05:12	05:31	09:51	11:22	12:59
56	04:17	04:54	05:18	10:13	11:39	13:11
54	03:59	04:39	05:07	10:30	11:53	13:21
52	03:43	04:27	04:57	10:46	12:06	13:31
50	03:30	04:15	04:48	10:59	12:17	13:39
45	03:03	03:51	04:29	11:25	12:40	13:57
40	02:41	03:32	04:13	11:47	12:58	14:11
35	02:23	03:16	04:00	12:04	13:13	14:23
30	02:08	03:02	03:49	12:19	13:26	14:34
20	01:42	02:38	03:29	12:45	13:49	14:51
10	01:19	02:18	03:12	13:07	14:08	15:07
0	00:58	01:58	02:56	13:27	14:26	15:21
S 10	00:37	01:39	02:39	13:48	14:44	15:36
20	00:14	01:18	02:22	14:09	15:03	15:51
30	–:–	00:54	02:02	14:34	15:25	16:08
35	–:–	00:40	01:50	14:49	15:38	16:18
40	–:–	00:24	01:36	15:06	15:52	16:29
45	–:–	00:04	01:20	15:26	16:09	16:43
50	23:39	–:–	01:00	15:52	16:30	16:59
52	23:27	–:–	00:51	16:04	16:41	17:06
54	23:14	–:–	00:40	16:18	16:52	17:15
56	22:58	–:–	00:28	16:34	17:05	17:24
58	22:39	–:–	00:13	16:54	17:19	17:35
60	22:15	23:57	–:–	17:18	17:37	17:47

Día	Sol			Luna		
	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
26	05:49	05:40	12:05	07:12	19:42	24(36%)
27	05:31	05:22	12:05	08:12	20:41	25(25%)
28	05:12	05:03	12:05	09:08	21:35	26(16%)

Marzo 29, 30, 31 (Mar, Mie, Jue)

	Aries	Venus		Martes		Júpiter		Saturno	
Mar	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	186°22.7	222°27.4	-13°06.0	226°29.6	-16°50.6	194°37.5	-4°39.0	221°56.0	-15°08.4
1	201°25.1	237°27.2	-13°05.4	241°30.1	-16°50.0	209°39.4	-4°38.8	236°58.3	-15°08.3
2	216°27.6	252°27.1	-13°04.8	256°30.7	-16°49.5	224°41.3	-4°38.6	252°00.5	-15°08.3
3	231°30.1	267°26.9	-13°04.2	271°31.3	-16°48.9	239°43.3	-4°38.3	267°02.7	-15°08.2
4	246°32.5	282°26.8	-13°03.6	286°31.9	-16°48.4	254°45.2	-4°38.1	282°05.0	-15°08.1
5	261°35.0	297°26.7	-13°03.0	301°32.5	-16°47.8	269°47.1	-4°37.9	297°07.2	-15°08.1
6	276°37.5	312°26.5	-13°02.3	316°33.0	-16°47.3	284°49.0	-4°37.7	312°09.4	-15°08.0
7	291°39.9	327°26.4	-13°01.7	331°33.6	-16°46.8	299°50.9	-4°37.4	327°11.6	-15°07.9
8	306°42.4	342°26.2	-13°01.1	346°34.2	-16°46.2	314°52.9	-4°37.2	342°13.9	-15°07.8
9	321°44.8	357°26.1	-13°00.5	1°34.8	-16°45.7	329°54.8	-4°37.0	357°16.1	-15°07.8
10	336°47.3	12°25.9	-12°59.9	16°35.4	-16°45.1	344°56.7	-4°36.7	12°18.3	-15°07.7
11	351°49.8	27°25.8	-12°59.3	31°35.9	-16°44.6	359°58.6	-4°36.5	27°20.6	-15°07.6
12	6°52.2	42°25.7	-12°58.7	46°36.5	-16°44.0	15°00.5	-4°36.3	42°22.8	-15°07.6
13	21°54.7	57°25.5	-12°58.1	61°37.1	-16°43.5	30°02.5	-4°36.1	57°25.0	-15°07.5
14	36°57.2	72°25.4	-12°57.5	76°37.7	-16°42.9	45°04.4	-4°35.8	72°27.3	-15°07.4
15	51°59.6	87°25.2	-12°56.8	91°38.3	-16°42.4	60°06.3	-4°35.6	87°29.5	-15°07.3
16	67°02.1	102°25.1	-12°56.2	106°38.8	-16°41.8	75°08.2	-4°35.4	102°31.7	-15°07.3
17	82°04.6	117°24.9	-12°55.6	121°39.4	-16°41.3	90°10.1	-4°35.1	117°34.0	-15°07.2
18	97°07.0	132°24.8	-12°55.0	136°40.0	-16°40.7	105°12.0	-4°34.9	132°36.2	-15°07.1
19	112°09.5	147°24.6	-12°54.4	151°40.6	-16°40.2	120°14.0	-4°34.7	147°38.4	-15°07.1
20	127°12.0	162°24.5	-12°53.8	166°41.2	-16°39.6	135°15.9	-4°34.5	162°40.7	-15°07.0
21	142°14.4	177°24.4	-12°53.1	181°41.8	-16°39.1	150°17.8	-4°34.2	177°42.9	-15°06.9
22	157°16.9	192°24.2	-12°52.5	196°42.3	-16°38.5	165°19.7	-4°34.0	192°45.1	-15°06.8
23	172°19.3	207°24.1	-12°51.9	211°42.9	-16°38.0	180°21.6	-4°33.8	207°47.3	-15°06.8
Mer.pass.:11:32		v-0.1 d0.6 m-4.2		v0.6 d0.5 m1.1		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.9	

Mie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	187°21.8	222°23.9	-12°51.3	226°43.5	-16°37.4	195°23.6	-4°33.5	222°49.6	-15°06.7
1	202°24.3	237°23.8	-12°50.7	241°44.1	-16°36.9	210°25.5	-4°33.3	237°51.8	-15°06.6
2	217°26.7	252°23.6	-12°50.0	256°44.7	-16°36.3	225°27.4	-4°33.1	252°54.0	-15°06.6
3	232°29.2	267°23.5	-12°49.4	271°45.3	-16°35.8	240°29.3	-4°32.9	267°56.3	-15°06.5
4	247°31.7	282°23.3	-12°48.8	286°45.8	-16°35.2	255°31.2	-4°32.6	282°58.5	-15°06.4
5	262°34.1	297°23.2	-12°48.2	301°46.4	-16°34.6	270°33.2	-4°32.4	298°00.7	-15°06.4
6	277°36.6	312°23.0	-12°47.5	316°47.0	-16°34.1	285°35.1	-4°32.2	313°03.0	-15°06.3
7	292°39.1	327°22.9	-12°46.9	331°47.6	-16°33.5	300°37.0	-4°31.9	328°05.2	-15°06.2
8	307°41.5	342°22.7	-12°46.3	346°48.2	-16°33.0	315°38.9	-4°31.7	343°07.4	-15°06.1
9	322°44.0	357°22.6	-12°45.7	1°48.8	-16°32.4	330°40.8	-4°31.5	358°09.7	-15°06.1
10	337°46.4	12°22.4	-12°45.0	16°49.3	-16°31.9	345°42.8	-4°31.3	13°11.9	-15°06.0
11	352°48.9	27°22.3	-12°44.4	31°49.9	-16°31.3	0°44.7	-4°31.0	28°14.1	-15°05.9
12	7°51.4	42°22.1	-12°43.8	46°50.5	-16°30.8	15°46.6	-4°30.8	43°16.4	-15°05.9
13	22°53.8	57°22.0	-12°43.2	61°51.1	-16°30.2	30°48.5	-4°30.6	58°18.6	-15°05.8
14	37°56.3	72°21.8	-12°42.5	76°51.7	-16°29.7	45°50.4	-4°30.3	73°20.8	-15°05.7
15	52°58.8	87°21.7	-12°41.9	91°52.3	-16°29.1	60°52.4	-4°30.1	88°23.1	-15°05.6
16	68°01.2	102°21.5	-12°41.3	106°52.8	-16°28.5	75°54.3	-4°29.9	103°25.3	-15°05.6
17	83°03.7	117°21.4	-12°40.6	121°53.4	-16°28.0	90°56.2	-4°29.7	118°27.5	-15°05.5
18	98°06.2	132°21.2	-12°40.0	136°54.0	-16°27.4	105°58.1	-4°29.4	133°29.8	-15°05.4
19	113°08.6	147°21.1	-12°39.4	151°54.6	-16°26.9	121°00.0	-4°29.2	148°32.0	-15°05.4
20	128°11.1	162°20.9	-12°38.7	166°55.2	-16°26.3	136°02.0	-4°29.0	163°34.3	-15°05.3
21	143°13.6	177°20.8	-12°38.1	181°55.8	-16°25.8	151°03.9	-4°28.7	178°36.5	-15°05.2
22	158°16.0	192°20.6	-12°37.5	196°56.4	-16°25.2	166°05.8	-4°28.5	193°38.7	-15°05.2
23	173°18.5	207°20.5	-12°36.8	211°56.9	-16°24.6	181°07.7	-4°28.3	208°41.0	-15°05.1
Mer.pass.:11:28		v-0.1 d0.6 m-4.2		v0.6 d0.6 m1.1		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.9	

Jue	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	188°20.9	222°20.3	-12°36.2	226°57.5	-16°24.1	196°09.6	-4°28.1	223°43.2	-15°05.0
1	203°23.4	237°20.2	-12°35.5	241°58.1	-16°23.5	211°11.6	-4°27.8	238°45.4	-15°04.9
2	218°25.9	252°20.0	-12°34.9	256°58.7	-16°23.0	226°13.5	-4°27.6	253°47.7	-15°04.9
3	233°28.3	267°19.9	-12°34.3	271°59.3	-16°22.4	241°15.4	-4°27.4	268°49.9	-15°04.8
4	248°30.8	282°19.7	-12°33.6	286°59.9	-16°21.9	256°17.3	-4°27.1	283°52.1	-15°04.7
5	263°33.3	297°19.6	-12°33.0	302°00.5	-16°21.3	271°19.2	-4°26.9	298°54.4	-15°04.7
6	278°35.7	312°19.4	-12°32.3	317°01.0	-16°20.7	286°21.2	-4°26.7	313°56.6	-15°04.6
7	293°38.2	327°19.3	-12°31.7	332°01.6	-16°20.2	301°23.1	-4°26.5	328°58.8	-15°04.5
8	308°40.7	342°19.1	-12°31.0	347°02.2	-16°19.6	316°25.0	-4°26.2	344°01.1	-15°04.5
9	323°43.1	357°19.0	-12°30.4	2°02.8	-16°19.0	331°26.9	-4°26.0	359°03.3	-15°04.4
10	338°45.6	12°18.8	-12°29.8	17°03.4	-16°18.5	346°28.9	-4°25.8	14°05.5	-15°04.3
11	353°48.0	27°18.7	-12°29.1	32°04.0	-16°17.9	1°30.8	-4°25.6	29°07.8	-15°04.3
12	8°50.5	42°18.5	-12°28.5	47°04.6	-16°17.4	16°32.7	-4°25.3	44°10.0	-15°04.2
13	23°53.0	57°18.4	-12°27.8	62°05.2	-16°16.8	31°34.6	-4°25.1	59°12.3	-15°04.1
14	38°55.4	72°18.2	-12°27.2	77°05.7	-16°16.2	46°36.5	-4°24.9	74°14.5	-15°04.0
15	53°57.9	87°18.0	-12°26.5	92°06.3	-16°15.7	61°38.5	-4°24.6	89°16.7	-15°04.0
16	69°00.4	102°17.9	-12°25.9	107°06.9	-16°15.1	76°40.4	-4°24.4	104°19.0	-15°03.9
17	84°02.8	117°17.7	-12°25.2	122°07.5	-16°14.6	91°42.3	-4°24.2	119°21.2	-15°03.8
18	99°05.3	132°17.6	-12°24.6	137°08.1	-16°14.0	106°44.2	-4°24.0	134°23.4	-15°03.8
19	114°07.8	147°17.4	-12°23.9	152°08.7	-16°13.4	121°46.1	-4°23.7	149°25.7	-15°03.7
20	129°10.2	162°17.3	-12°23.3	167°09.3	-16°12.9	136°48.1	-4°23.5	164°27.9	-15°03.6
21	144°12.7	177°17.1	-12°22.6	182°09.9	-16°12.3	151°50.0	-4°23.3	179°30.2	-15°03.6
22	159°15.2	192°17.0	-12°22.0	197°10.5	-16°11.7	166°51.9	-4°23.0	194°32.4	-15°03.5
23	174°17.6	207°16.8	-12°21.3	212°11.0	-16°11.2	181°53.8	-4°22.8	209°34.6	-15°03.4
Mer.pass.:11:24		v-0.2 d0.6 m-4.2		v0.6 d0.6 m1.1		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.9	

Estrellas

	AHS	Dec
Alpheratz	357°37.5	29°12.6
Ankaa	353°09.8	-42°11.3
Schedar	349°34.2	56°39.4
Diphda	348°49.8	-17°52.1
Achernar	335°22.5	-57°07.6
Hamal	327°54.1	23°33.9
Polaris	315°30.1	89°21.6
Akamar	315°13.8	-40°13.2
Menkar	314°08.8	4°10.4
Mirfak	308°31.9	49°56.4
Aldebaran	290°42.4	16°33.2
Rigel	281°06.2	-8°10.7
Capella	280°25.4	46°01.4
Bellatrix	278°25.4	6°22.1
Elnath	278°04.9	28°37.6
Alnilam	275°40.1	-1°11.4
Betelgeuse	270°54.6	7°24.6
Canopus	263°53.4	-52°42.7
Sirius	258°28.1	-16°44.8
Adara	255°07.6	-29°00.4
Procyon	244°53.1	5°10.2
Pollux	243°19.9	27°58.4
Avior	234°15.4	-59°35.1
Suhail	222°47.7	-43°31.5
Miaplacidus	221°38.2	-69°48.7
Alphard	217°49.8	-8°45.4
Regulus	207°36.6	11°51.5
Dubhe	193°43.2	61°38.0
Denebola	182°26.9	14°26.8
Gienah	175°45.6	-17°40.0
Acrux	173°01.9	-63°13.3
Gacrux	171°53.6	-57°14.2
Alioth	166°14.5	55°50.3
Spica	158°24.4	-11°16.7
Alcaid	152°53.4	49°12.0
Hadar	148°38.7	-60°28.7
Menkent	148°00.0	-36°28.7
Arcturus	145°49.6	19°04.2
Rigil Kent.	139°42.9	-60°55.5
Zubenelg.	136°58.3	-16°08.1
Kochab	137°18.8	74°03.7
Alphecca	126°05.5	26°38.2
Antares	112°18.5	-26°28.8
Atria	107°14.6	-69°03.8
Sabik	102°05.3	-15°45.2
Shaula	96°13.4	-37°07.1
Rasalhague	96°00.6	12°32.5
Etamin	90°43.2	51°28.8
Kaus Aust.	83°35.5	-34°22.3
Vega	80°34.8	38°47.9
Nunki	75°50.6	-26°16.1
Altair	62°02.4	8°55.4
Peacock	53°09.6	-56°39.7
Deneb	49°27.6	45°21.2
Enif	33°41.3	9°58.4
Alnair	27°36.2	-46°51.2
Fomalhaut	15°17.4	-29°30.4
Scheat	13°47.8	28°11.9
Markab	13°32.5	15°19.2

Mar 29 Mar	AHS	Paso Merid
Venus	36°04.7	09:10
Mars	40°06.9	08:54
Jupiter	8°14.8	11:00
Saturn	35°33.4	09:11

Mar 30 Mie	AHS	Paso Merid
Venus	35°02.1	09:10
Mars	39°21.7	08:53
Jupiter	8°01.8	10:57
Saturn	35°27.8	09:07

Mar 31 Jue	AHS	Paso Merid
Venus	33°59.4	09:11
Mars	38°36.6	08:52
Jupiter	7°48.7	10:54
Saturn	35°22.2	09:04

Paralelaje Horizontal	
Venus:	0.2
Mars:	0.1

h	Sol		Luna				
Mar	AHG	Dec	AHG	v	Dec	d	HP
0	178°46.4	3°17.0	214°57.0	9.8	-17°10.9	12.3	58.3
1	193°46.6	3°18.0	229°25.8	9.8	-16°58.6	12.4	58.3
2	208°46.7	3°19.0	243°54.7	9.9	-16°46.2	12.5	58.3
3	223°46.9	3°19.9	258°23.7	10.0	-16°33.7	12.5	58.3
4	238°47.1	3°20.9	272°52.8	10.1	-16°21.1	12.6	58.3
5	253°47.3	3°21.9	287°21.9	10.2	-16°08.4	12.7	58.3
6	268°47.5	3°22.9	301°51.2	10.3	-15°55.7	12.8	58.2
7	283°47.7	3°23.8	316°20.5	10.4	-15°42.9	12.9	58.2
8	298°47.9	3°24.8	330°49.9	10.5	-15°30.0	12.9	58.2
9	313°48.0	3°25.8	345°19.4	10.5	-15°17.0	13.0	58.2
10	328°48.2	3°26.8	359°49.0	10.6	-15°03.9	13.1	58.2
11	343°48.4	3°27.7	14°18.7	10.7	-14°50.8	13.2	58.2
12	358°48.6	3°28.7	28°48.4	10.8	-14°37.6	13.2	58.1
13	13°48.8	3°29.7	43°18.3	10.9	-14°24.4	13.3	58.1
14	28°49.0	3°30.7	57°48.2	11.0	-14°11.0	13.4	58.1
15	43°49.2	3°31.6	72°18.2	11.0	-13°57.6	13.4	58.1
16	58°49.4	3°32.6	86°48.3	11.1	-13°44.2	13.5	58.1
17	73°49.5	3°33.6	101°18.4	11.2	-13°30.6	13.6	58.1
18	88°49.7	3°34.5	115°48.7	11.3	-13°17.1	13.6	58.0
19	103°49.9	3°35.5	130°19.0	11.4	-13°03.4	13.7	58.0
20	118°50.1	3°36.5	144°49.4	11.4	-12°49.7	13.7	58.0
21	133°50.3	3°37.5	159°19.9	11.5	-12°35.9	13.8	58.0
22	148°50.5	3°38.4	173°50.4	11.6	-12°22.1	13.8	58.0
23	163°50.7	3°39.4	188°21.0	11.7	-12°08.3	13.9	58.0
	SD.=16.0	d=1.0	S.D.=15.9				

Mie	AHG	Dec	AHG	v	Dec	d	HP
0	178°50.9	3°40.4	202°51.7	11.7	-11°54.3	14.0	57.9
1	193°51.0	3°41.4	217°22.5	11.8	-11°40.4	14.0	57.9
2	208°51.2	3°42.3	231°53.3	11.9	-11°26.3	14.1	57.9
3	223°51.4	3°43.3	246°24.2	11.9	-11°12.3	14.1	57.9
4	238°51.6	3°44.3	260°55.2	12.0	-10°58.1	14.1	57.9
5	253°51.8	3°45.2	275°26.3	12.1	-10°44.0	14.2	57.8
6	268°52.0	3°46.2	289°57.4	12.2	-10°29.8	14.2	57.8
7	283°52.2	3°47.2	304°28.6	12.2	-10°15.5	14.3	57.8
8	298°52.3	3°48.2	318°59.8	12.3	-10°01.2	14.3	57.8
9	313°52.5	3°49.1	333°31.1	12.3	-9°46.9	14.4	57.8
10	328°52.7	3°50.1	348°02.5	12.4	-9°32.5	14.4	57.7
11	343°52.9	3°51.1	2°33.9	12.5	-9°18.1	14.4	57.7
12	358°53.1	3°52.0	17°05.4	12.5	-9°03.6	14.5	57.7
13	13°53.3	3°53.0	31°37.0	12.6	-8°49.2	14.5	57.7
14	28°53.5	3°54.0	46°08.6	12.7	-8°34.7	14.5	57.7
15	43°53.6	3°55.0	60°40.3	12.7	-8°20.1	14.6	57.6
16	58°53.8	3°55.9	75°12.1	12.8	-8°05.5	14.6	57.6
17	73°54.0	3°56.9	89°43.9	12.8	-7°50.9	14.6	57.6
18	88°54.2	3°57.9	104°15.7	12.9	-7°36.3	14.6	57.6
19	103°54.4	3°58.8	118°47.7	12.9	-7°21.6	14.7	57.6
20	118°54.6	3°59.8	133°19.6	13.0	-7°07.0	14.7	57.5
21	133°54.8	4°00.8	147°51.6	13.0	-6°52.3	14.7	57.5
22	148°55.0	4°01.7	162°23.7	13.1	-6°37.5	14.7	57.5
23	163°55.1	4°02.7	176°55.8	13.2	-6°22.8	14.8	57.5
	SD.=16.0	d=1.0	S.D.=15.8				

Jue	AHG	Dec	AHG	v	Dec	d	HP
0	178°55.3	4°03.7	191°28.0	13.2	-6°08.0	14.8	57.5
1	193°55.5	4°04.7	206°00.2	13.2	-5°53.2	14.8	57.4
2	208°55.7	4°05.6	220°32.5	13.3	-5°38.4	14.8	57.4
3	223°55.9	4°06.6	235°04.8	13.3	-5°23.6	14.8	57.4
4	238°56.1	4°07.6	249°37.2	13.4	-5°08.8	14.8	57.4
5	253°56.3	4°08.5	264°09.6	13.4	-4°53.9	14.9	57.3
6	268°56.4	4°09.5	278°42.1	13.5	-4°39.1	14.9	57.3
7	283°56.6	4°10.5	293°14.6	13.5	-4°24.2	14.9	57.3
8	298°56.8	4°11.4	307°47.1	13.6	-4°09.3	14.9	57.3
9	313°57.0	4°12.4	322°19.7	13.6	-3°54.4	14.9	57.3
10	328°57.2	4°13.4	336°52.3	13.6	-3°39.5	14.9	57.2
11	343°57.4	4°14.3	351°25.0	13.7	-3°24.6	14.9	57.2
12	358°57.6	4°15.3	5°57.7	13.7	-3°09.7	14.9	57.2
13	13°57.7	4°16.3	20°30.4	13.8	-2°54.8	14.9	57.2
14	28°57.9	4°17.2	35°03.2	13.8	-2°39.9	14.9	57.1
15	43°58.1	4°18.2	49°36.0	13.8	-2°25.0	14.9	57.1
16	58°58.3	4°19.2	64°08.8	13.9	-2°10.1	14.9	57.1
17	73°58.5	4°20.1	78°41.7	13.9	-1°55.2	14.9	57.1
18	88°58.7	4°21.1	93°14.6	13.9	-1°40.3	14.9	57.1
19	103°58.8	4°22.1	107°47.5	13.9	-1°25.4	14.9	57.0
20	118°59.0	4°23.1	122°20.5	14.0	-1°10.5	14.9	57.0
21	133°59.2	4°24.0	136°53.5	14.0	-0°55.6	14.9	57.0
22	148°59.4	4°25.0	151°26.5	14.0	-0°40.7	14.9	57.0
23	163°59.6	4°26.0	165°59.5	14.1	-0°25.8	14.9	56.9
	SD.=16.0	d=1.0	S.D.=15.7				

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	02:01	03:54	05:07	19:05	20:19	22:17
70	02:37	04:08	05:13	18:58	20:04	21:38
68	03:01	04:20	05:18	18:53	19:52	21:12
66	03:20	04:29	05:22	18:49	19:42	20:53
64	03:35	04:37	05:26	18:45	19:34	20:37
62	03:47	04:44	05:29	18:42	19:27	20:25
60	03:57	04:49	05:32	18:39	19:21	20:15
58	04:05	04:54	05:34	18:36	19:16	20:06
56	04:13	04:58	05:36	18:34	19:12	19:58
54	04:19	05:02	05:38	18:32	19:08	19:51
52	04:25	05:06	05:40	18:30	19:04	19:46
50	04:30	05:09	05:41	18:29	19:01	19:41
45	04:40	05:15	05:45	18:25	18:55	19:30
40	04:48	05:20	05:48	18:22	18:49	19:22
35	04:55	05:24	05:50	18:20	18:45	19:15
30	05:00	05:28	05:52	18:17	18:41	19:10
20	05:08	05:33	05:55	18:14	18:36	19:02
10	05:13	05:37	05:58	18:11	18:32	18:56
0	05:16	05:40	06:01	18:08	18:28	18:52
S 10	05:18	05:43	06:04	18:05	18:26	18:50
20	05:19	05:44	06:06	18:02	18:24	18:50
30	05:18	05:46	06:09	17:59	18:23	18:51
35	05:16	05:46	06:11	17:57	18:23	18:52
40	05:14	05:46	06:13	17:55	18:22	18:54
45	05:12	05:46	06:15	17:53	18:22	18:56
50	05:08	05:45	06:17	17:51	18:23	19:00
52	05:06	05:45	06:18	17:49	18:23	19:02
54	05:03	05:44	06:20	17:48	18:23	19:04
56	05:01	05:44	06:21	17:47	18:24	19:07
58	04:58	05:43	06:22	17:45	18:24	19:10
60	04:54	05:43	06:24	17:44	18:25	19:13

	Orto luna			Ocaso luna		
Lat.	Mar	Mie	Jue	Mar	Mie	Jue
N 72	07:55	07:00	06:24	12:32	15:09	17:22
70	07:19	06:43	06:18	13:05	15:23	17:25
68	06:53	06:31	06:13	13:29	15:33	17:27
66	06:34	06:20	06:09	13:48	15:42	17:29
64	06:17	06:11	06:05	14:03	15:49	17:30
62	06:04	06:03	06:01	14:15	15:56	17:32
60	05:52	05:56	05:59	14:25	16:01	17:33
58	05:42	05:50	05:56	14:34	16:06	17:34
56	05:34	05:45	05:54	14:42	16:10	17:35
54	05:26	05:40	05:52	14:49	16:14	17:36
52	05:19	05:36	05:50	14:55	16:17	17:36
50	05:12	05:32	05:48	15:01	16:20	17:37
45	04:59	05:23	05:44	15:13	16:27	17:39
40	04:47	05:16	05:41	15:23	16:33	17:40
35	04:37	05:10	05:38	15:31	16:37	17:41
30	04:29	05:04	05:36	15:39	16:41	17:42
20	04:14	04:55	05:32	15:51	16:49	17:43
10	04:01	04:46	05:28	16:02	16:55	17:45
0	03:49	04:38	05:25	16:13	17:01	17:46
S 10	03:36	04:30	05:21	16:23	17:06	17:47
20	03:23	04:22	05:17	16:34	17:12	17:49
30	03:08	04:12	05:13	16:46	17:19	17:50
35	02:59	04:06	05:11	16:53	17:23	17:51
40	02:49	04:00	05:08	17:01	17:27	17:52
45	02:37	03:52	05:05	17:10	17:32	17:53
50	02:22	03:43	05:01	17:21	17:39	17:54
52	02:15	03:39	04:59	17:26	17:41	17:55
54	02:08	03:34	04:57	17:31	17:44	17:55
56	01:59	03:29	04:55	17:37	17:48	17:56
58	01:50	03:23	04:52	17:44	17:51	17:57
60	01:38	03:16	04:50	17:52	17:55	17:58

Día	Sol			Luna		
	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
29	04:54	04:46	12:04	10:00	22:25	27(9%)
30	04:37	04:28	12:04	10:49	23:12	28(4%)
31	04:19	04:10	12:04	11:35	23:57	29(1%)

Abril 01, 02, 03 (Vie, Sa, Dom)

	Aries	Venus		Martes		Júpiter		Saturno	
Vie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	189°20.1	222°16.7	-12°20.6	227°11.6	-16°10.6	196°55.8	-4°22.6	224°36.9	-15°03.4
1	204°22.5	237°16.5	-12°20.0	242°12.2	-16°10.0	211°57.7	-4°22.4	239°39.1	-15°03.3
2	219°25.0	252°16.3	-12°19.3	257°12.8	-16°09.5	226°59.6	-4°22.1	254°41.3	-15°03.2
3	234°27.5	267°16.2	-12°18.7	272°13.4	-16°08.9	242°01.5	-4°21.9	269°43.6	-15°03.1
4	249°29.9	282°16.0	-12°18.0	287°14.0	-16°08.3	257°03.4	-4°21.7	284°45.8	-15°03.1
5	264°32.4	297°15.9	-12°17.4	302°14.6	-16°07.8	272°05.4	-4°21.5	299°48.1	-15°03.0
6	279°34.9	312°15.7	-12°16.7	317°15.2	-16°07.2	287°07.3	-4°21.2	314°50.3	-15°02.9
7	294°37.3	327°15.6	-12°16.0	332°15.8	-16°06.6	302°09.2	-4°21.0	329°52.5	-15°02.9
8	309°39.8	342°15.4	-12°15.4	347°16.4	-16°06.1	317°11.1	-4°20.8	344°54.8	-15°02.8
9	324°42.3	357°15.2	-12°14.7	2°17.0	-16°05.5	332°13.1	-4°20.5	359°57.0	-15°02.7
10	339°44.7	12°15.1	-12°14.0	17°17.5	-16°04.9	347°15.0	-4°20.3	14°59.2	-15°02.7
11	354°47.2	27°14.9	-12°13.4	32°18.1	-16°04.4	2°16.9	-4°20.1	30°01.5	-15°02.6
12	9°49.7	42°14.8	-12°12.7	47°18.7	-16°03.8	17°18.8	-4°19.9	45°03.7	-15°02.5
13	24°52.1	57°14.6	-12°12.1	62°19.3	-16°03.2	32°20.8	-4°19.6	60°06.0	-15°02.5
14	39°54.6	72°14.5	-12°11.4	77°19.9	-16°02.7	47°22.7	-4°19.4	75°08.2	-15°02.4
15	54°57.0	87°14.3	-12°10.7	92°20.5	-16°02.1	62°24.6	-4°19.2	90°10.4	-15°02.3
16	69°59.5	102°14.1	-12°10.1	107°21.1	-16°01.5	77°26.5	-4°19.0	105°12.7	-15°02.3
17	85°02.0	117°14.0	-12°09.4	122°21.7	-16°01.0	92°28.4	-4°18.7	120°14.9	-15°02.2
18	100°04.4	132°13.8	-12°08.7	137°22.3	-16°00.4	107°30.4	-4°18.5	135°17.2	-15°02.1
19	115°06.9	147°13.7	-12°08.0	152°22.9	-15°59.8	122°32.3	-4°18.3	150°19.4	-15°02.0
20	130°09.4	162°13.5	-12°07.4	167°23.5	-15°59.3	137°34.2	-4°18.0	165°21.6	-15°02.0
21	145°11.8	177°13.4	-12°06.7	182°24.1	-15°58.7	152°36.1	-4°17.8	180°23.9	-15°01.9
22	160°14.3	192°13.2	-12°06.0	197°24.7	-15°58.1	167°38.1	-4°17.6	195°26.1	-15°01.8
23	175°16.8	207°13.0	-12°05.4	212°25.2	-15°57.5	182°40.0	-4°17.4	210°28.4	-15°01.8
Mer.pass.:11:20		v-0.2 d0.7 m-4.2		v0.6 d0.6 m1.1		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.9	

Sa	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	190°19.2	222°12.9	-12°04.7	227°25.8	-15°57.0	197°41.9	-4°17.1	225°30.6	-15°01.7
1	205°21.7	237°12.7	-12°04.0	242°26.4	-15°56.4	212°43.8	-4°16.9	240°32.8	-15°01.6
2	220°24.1	252°12.6	-12°03.3	257°27.0	-15°55.8	227°45.8	-4°16.7	255°35.1	-15°01.6
3	235°26.6	267°12.4	-12°02.7	272°27.6	-15°55.3	242°47.7	-4°16.5	270°37.3	-15°01.5
4	250°29.1	282°12.2	-12°02.0	287°28.2	-15°54.7	257°49.6	-4°16.2	285°39.6	-15°01.4
5	265°31.5	297°12.1	-12°01.3	302°28.8	-15°54.1	272°51.5	-4°16.0	300°41.8	-15°01.4
6	280°34.0	312°11.9	-12°00.6	317°29.4	-15°53.5	287°53.4	-4°15.8	315°44.0	-15°01.3
7	295°36.5	327°11.8	-12°00.0	332°30.0	-15°53.0	302°55.4	-4°15.5	330°46.3	-15°01.2
8	310°38.9	342°11.6	-11°59.3	347°30.6	-15°52.4	317°57.3	-4°15.3	345°48.5	-15°01.2
9	325°41.4	357°11.4	-11°58.6	2°31.2	-15°51.8	332°59.2	-4°15.1	0°50.8	-15°01.1
10	340°43.9	12°11.3	-11°57.9	17°31.8	-15°51.3	348°01.1	-4°14.9	15°53.0	-15°01.0
11	355°46.3	27°11.1	-11°57.2	32°32.4	-15°50.7	3°03.1	-4°14.6	30°55.2	-15°01.0
12	10°48.8	42°11.0	-11°56.6	47°33.0	-15°50.1	18°05.0	-4°14.4	45°57.5	-15°00.9
13	25°51.3	57°10.8	-11°55.9	62°33.6	-15°49.5	33°06.9	-4°14.2	60°59.7	-15°00.8
14	40°53.7	72°10.6	-11°55.2	77°34.2	-15°49.0	48°08.8	-4°14.0	76°02.0	-15°00.7
15	55°56.2	87°10.5	-11°54.5	92°34.8	-15°48.4	63°10.8	-4°13.7	91°04.2	-15°00.7
16	70°58.6	102°10.3	-11°53.8	107°35.4	-15°47.8	78°12.7	-4°13.5	106°06.4	-15°00.6
17	86°01.1	117°10.2	-11°53.1	122°36.0	-15°47.2	93°14.6	-4°13.3	121°08.7	-15°00.5
18	101°03.6	132°10.0	-11°52.5	137°36.6	-15°46.7	108°16.5	-4°13.0	136°10.9	-15°00.5
19	116°06.0	147°09.8	-11°51.8	152°37.1	-15°46.1	123°18.5	-4°12.8	151°13.2	-15°00.4
20	131°08.5	162°09.7	-11°51.1	167°37.7	-15°45.5	138°20.4	-4°12.6	166°15.4	-15°00.3
21	146°11.0	177°09.5	-11°50.4	182°38.3	-15°44.9	153°22.3	-4°12.4	181°17.7	-15°00.3
22	161°13.4	192°09.3	-11°49.7	197°38.9	-15°44.3	168°24.2	-4°12.1	196°19.9	-15°00.2
23	176°15.9	207°09.2	-11°49.0	212°39.5	-15°43.8	183°26.2	-4°11.9	211°22.1	-15°00.1
Mer.pass.:11:16		v-0.2 d0.7 m-4.2		v0.6 d0.6 m1.1		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.9	

Dom	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	191°18.4	222°09.0	-11°48.3	227°40.1	-15°43.2	198°28.1	-4°11.7	226°24.4	-15°00.1
1	206°20.8	237°08.9	-11°47.6	242°40.7	-15°42.6	213°30.0	-4°11.5	241°26.6	-15°00.0
2	221°23.3	252°08.7	-11°47.0	257°41.3	-15°42.0	228°31.9	-4°11.2	256°28.9	-14°59.9
3	236°25.7	267°08.5	-11°46.3	272°41.9	-15°41.5	243°33.9	-4°11.0	271°31.1	-14°59.9
4	251°28.2	282°08.4	-11°45.6	287°42.5	-15°40.9	258°35.8	-4°10.8	286°33.4	-14°59.8
5	266°30.7	297°08.2	-11°44.9	302°43.1	-15°40.3	273°37.7	-4°10.6	301°35.6	-14°59.7
6	281°33.1	312°08.0	-11°44.2	317°43.7	-15°39.7	288°39.6	-4°10.3	316°37.8	-14°59.7
7	296°35.6	327°07.9	-11°43.5	332°44.3	-15°39.1	303°41.6	-4°10.1	331°40.1	-14°59.6
8	311°38.1	342°07.7	-11°42.8	347°44.9	-15°38.6	318°43.5	-4°09.9	346°42.3	-14°59.5
9	326°40.5	357°07.6	-11°42.1	2°45.5	-15°38.0	333°45.4	-4°09.7	1°44.6	-14°59.5
10	341°43.0	12°07.4	-11°41.4	17°46.1	-15°37.4	348°47.3	-4°09.4	16°46.8	-14°59.4
11	356°45.5	27°07.2	-11°40.7	32°46.7	-15°36.8	3°49.3	-4°09.2	31°49.1	-14°59.3
12	11°47.9	42°07.1	-11°40.0	47°47.3	-15°36.2	18°51.2	-4°09.0	46°51.3	-14°59.3
13	26°50.4	57°06.9	-11°39.3	62°47.9	-15°35.7	33°53.1	-4°08.7	61°53.5	-14°59.2
14	41°52.9	72°06.7	-11°38.6	77°48.5	-15°35.1	48°55.0	-4°08.5	76°55.8	-14°59.1
15	56°55.3	87°06.6	-11°37.9	92°49.1	-15°34.5	63°57.0	-4°08.3	91°58.0	-14°59.1
16	71°57.8	102°06.4	-11°37.2	107°49.7	-15°33.9	78°58.9	-4°08.1	107°00.3	-14°59.0
17	87°00.2	117°06.2	-11°36.5	122°50.3	-15°33.3	94°00.8	-4°07.8	122°02.5	-14°58.9
18	102°02.7	132°06.1	-11°35.8	137°50.9	-15°32.8	109°02.7	-4°07.6	137°04.8	-14°58.9
19	117°05.2	147°05.9	-11°35.1	152°51.5	-15°32.2	124°04.7	-4°07.4	152°07.0	-14°58.8
20	132°07.6	162°05.8	-11°34.4	167°52.1	-15°31.6	139°06.6	-4°07.2	167°09.3	-14°58.7
21	147°10.1	177°05.6	-11°33.7	182°52.7	-15°31.0	154°08.5	-4°06.9	182°11.5	-14°58.7
22	162°12.6	192°05.4	-11°33.0	197°53.3	-15°30.4	169°10.5	-4°06.7	197°13.7	-14°58.6
23	177°15.0	207°05.3	-11°32.3	212°53.9	-15°29.9	184°12.4	-4°06.5	212°16.0	-14°58.5
Mer.pass.:11:12		v-0.2 d0.7 m-4.2		v0.6 d0.6 m1.1		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.9	

Estrellas

	AHS	Dec
Alpheratz	357°37.5	29°12.6
Ankaa	353°09.8	-42°11.3
Schedar	349°34.2	56°39.4
Diphda	348°49.8	-17°52.1
Achernar	335°22.5	-57°07.6
Hamal	327°54.1	23°33.9
Polaris	315°31.1	89°21.6
Akamar	315°13.9	-40°13.2
Menkar	314°08.8	4°10.4
Mirfak	308°31.9	49°56.4
Aldebaran	290°42.4	16°33.2
Rigel	281°06.2	-8°10.7
Capella	280°25.5	46°01.4
Bellatrix	278°25.4	6°22.1
Elnath	278°04.9	28°37.6
Alnilam	275°40.2	-1°11.4
Betelgeuse	270°54.6	7°24.6
Canopus	263°53.5	-52°42.7
Sirius	258°28.2	-16°44.8
Adara	255°07.6	-29°00.4
Procyon	244°53.1	5°10.2
Pollux	243°19.9	27°58.4
Avior	234°15.4	-59°35.1
Suhail	222°47.7	-43°31.5
Miaplacidus	221°38.2	-69°48.7
Alphard	217°49.8	-8°45.4
Regulus	207°36.6	11°51.5
Dubhe	193°43.2	61°38.0
Denebola	182°26.9	14°26.9
Gienah	175°45.6	-17°40.0
Acrux	173°01.9	-63°13.3
Gacrux	171°53.6	-57°14.3
Alioth	166°14.5	55°50.3
Spica	158°24.4	-11°16.7
Alcaid	152°53.4	49°12.1
Hadar	148°38.7	-60°28.7
Menkent	148°00.0	-36°28.7
Arcturus	145°49.6	19°04.2
Rigil Kent.	139°42.9	-60°55.5
Zubenelg.	136°58.3	-16°08.1
Kochab	137°18.8	74°03.7
Alphecca	126°05.5	26°38.2
Antares	112°18.4	-26°28.8
Atria	107°14.5	-69°03.8
Sabik	102°05.3	-15°45.2
Shaula	96°13.4	-37°07.1
Rasalhague	96°00.6	12°32.5
Etamin	90°43.1	51°28.8
Kaus Aust.	83°35.5	-34°22.3
Vega	80°34.8	38°47.9
Nunki	75°50.6	-26°16.1
Altair	62°02.4	8°55.4
Peacock	53°09.6	-56°39.7
Deneb	49°27.6	45°21.2
Enif	33°41.3	9°58.4
Alnair	27°36.2	-46°51.2
Fomalhaut	15°17.4	-29°30.4
Scheat	13°47.8	28°11.9
Markab	13°32.5	15°19.2

Abr 01 Vie	AHS	Paso Merid
Venus	32°56.6	09:11
Mars	37°51.6	08:51
Jupiter	7°35.7	10:51
Saturn	35°16.8	09:00

Abr 02 Sa	AHS	Paso Merid
Venus	31°53.7	09:11
Mars	37°06.6	08:50
Jupiter	7°22.7	10:48
Saturn	35°11.4	08:57

Abr 03 Dom	AHS	Paso Merid
Venus	30°50.7	09:11
Mars	36°21.8	08:49
Jupiter	7°09.7	10:45
Saturn	35°06.0	08:53

Paralelaje Horizontal	
Venus:	0.2
Mars:	0.1

h	Sol		Luna				
Vie	AHG	Dec	AHG	v	Dec	d	HP
0	178°59.8	4°26.9	180°32.6	14.1	-0°11.0	14.9	56.9
1	194°00.0	4°27.9	195°05.7	14.1	0°03.9	14.8	56.9
2	209°00.1	4°28.8	209°38.8	14.1	0°18.7	14.8	56.9
3	224°00.3	4°29.8	224°12.0	14.2	0°33.6	14.8	56.8
4	239°00.5	4°30.8	238°45.1	14.2	0°48.4	14.8	56.8
5	254°00.7	4°31.7	253°18.3	14.2	1°03.2	14.8	56.8
6	269°00.9	4°32.7	267°51.5	14.2	1°18.0	14.8	56.8
7	284°01.1	4°33.7	282°24.7	14.2	1°32.7	14.8	56.8
8	299°01.3	4°34.6	296°58.0	14.2	1°47.5	14.7	56.7
9	314°01.4	4°35.6	311°31.2	14.3	2°02.2	14.7	56.7
10	329°01.6	4°36.6	326°04.5	14.3	2°16.9	14.7	56.7
11	344°01.8	4°37.5	340°37.8	14.3	2°31.6	14.7	56.7
12	359°02.0	4°38.5	355°11.1	14.3	2°46.3	14.7	56.6
13	14°02.2	4°39.5	9°44.4	14.3	3°00.9	14.6	56.6
14	29°02.4	4°40.4	24°17.7	14.3	3°15.5	14.6	56.6
15	44°02.5	4°41.4	38°51.1	14.3	3°30.1	14.6	56.6
16	59°02.7	4°42.4	53°24.4	14.3	3°44.6	14.5	56.5
17	74°02.9	4°43.3	67°57.8	14.4	3°59.2	14.5	56.5
18	89°03.1	4°44.3	82°31.1	14.4	4°13.7	14.5	56.5
19	104°03.3	4°45.3	97°04.5	14.4	4°28.2	14.5	56.5
20	119°03.5	4°46.2	111°37.9	14.4	4°42.6	14.4	56.4
21	134°03.6	4°47.2	126°11.2	14.4	4°57.0	14.4	56.4
22	149°03.8	4°48.1	140°44.6	14.4	5°11.4	14.4	56.4
23	164°04.0	4°49.1	155°18.0	14.4	5°25.7	14.3	56.4
	SD.=16.0	d=1.0	S.D.=15.5				

Sa	AHG	Dec	AHG	v	Dec	d	HP
0	179°04.2	4°50.1	169°51.4	14.4	5°40.0	14.3	56.4
1	194°04.4	4°51.0	184°24.8	14.4	5°54.3	14.3	56.3
2	209°04.6	4°52.0	198°58.2	14.4	6°08.5	14.2	56.3
3	224°04.7	4°53.0	213°31.6	14.4	6°22.7	14.2	56.3
4	239°04.9	4°53.9	228°04.9	14.4	6°36.9	14.1	56.3
5	254°05.1	4°54.9	242°38.3	14.4	6°51.0	14.1	56.2
6	269°05.3	4°55.8	257°11.7	14.4	7°05.1	14.1	56.2
7	284°05.5	4°56.8	271°45.1	14.4	7°19.1	14.0	56.2
8	299°05.7	4°57.8	286°18.5	14.4	7°33.1	14.0	56.2
9	314°05.8	4°58.7	300°51.8	14.4	7°47.0	13.9	56.1
10	329°06.0	4°59.7	315°25.2	14.4	8°00.9	13.9	56.1
11	344°06.2	5°00.6	329°58.5	14.3	8°14.8	13.8	56.1
12	359°06.4	5°01.6	344°31.9	14.3	8°28.6	13.8	56.1
13	14°06.6	5°02.6	359°05.2	14.3	8°42.4	13.7	56.0
14	29°06.8	5°03.5	13°38.5	14.3	8°56.1	13.7	56.0
15	44°06.9	5°04.5	28°11.9	14.3	9°09.7	13.6	56.0
16	59°07.1	5°05.5	42°45.2	14.3	9°23.3	13.6	56.0
17	74°07.3	5°06.4	57°18.5	14.3	9°36.9	13.5	56.0
18	89°07.5	5°07.4	71°51.7	14.3	9°50.4	13.5	55.9
19	104°07.7	5°08.3	86°25.0	14.3	10°03.8	13.4	55.9
20	119°07.9	5°09.3	100°58.2	14.2	10°17.2	13.4	55.9
21	134°08.0	5°10.3	115°31.5	14.2	10°30.6	13.3	55.9
22	149°08.2	5°11.2	130°04.7	14.2	10°43.9	13.3	55.8
23	164°08.4	5°12.2	144°37.9	14.2	10°57.1	13.2	55.8
	SD.=16.0	d=1.0	S.D.=15.4				

Dom	AHG	Dec	AHG	v	Dec	d	HP
0	179°08.6	5°13.1	159°11.1	14.2	11°10.3	13.1	55.8
1	194°08.8	5°14.1	173°44.2	14.2	11°23.4	13.1	55.8
2	209°09.0	5°15.0	188°17.4	14.1	11°36.4	13.0	55.7
3	224°09.1	5°16.0	202°50.5	14.1	11°49.4	13.0	55.7
4	239°09.3	5°17.0	217°23.6	14.1	12°02.4	12.9	55.7
5	254°09.5	5°17.9	231°56.7	14.1	12°15.2	12.8	55.7
6	269°09.7	5°18.9	246°29.8	14.1	12°28.1	12.8	55.7
7	284°09.9	5°19.8	261°02.8	14.0	12°40.8	12.7	55.6
8	299°10.0	5°20.8	275°35.8	14.0	12°53.5	12.6	55.6
9	314°10.2	5°21.8	290°08.8	14.0	13°06.1	12.6	55.6
10	329°10.4	5°22.7	304°41.8	14.0	13°18.6	12.5	55.6
11	344°10.6	5°23.7	319°14.7	13.9	13°31.1	12.4	55.5
12	359°10.8	5°24.6	333°47.6	13.9	13°43.5	12.4	55.5
13	14°11.0	5°25.6	348°20.5	13.9	13°55.9	12.3	55.5
14	29°11.1	5°26.5	2°53.4	13.8	14°08.1	12.2	55.5
15	44°11.3	5°27.5	17°26.2	13.8	14°20.3	12.2	55.5
16	59°11.5	5°28.5	31°59.0	13.8	14°32.5	12.1	55.4
17	74°11.7	5°29.4	46°31.8	13.8	14°44.5	12.0	55.4
18	89°11.9	5°30.4	61°04.6	13.7	14°56.5	11.9	55.4
19	104°12.0	5°31.3	75°37.3	13.7	15°08.4	11.9	55.4
20	119°12.2	5°32.3	90°10.0	13.7	15°20.3	11.8	55.4
21	134°12.4	5°33.2	104°42.6	13.6	15°32.0	11.7	55.3
22	149°12.6	5°34.2	119°15.2	13.6	15°43.7	11.6	55.3
23	164°12.8	5°35.1	133°47.8	13.6	15°55.3	11.6	55.3
	SD.=16.0	d=1.0	S.D.=15.2				

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	01:26	03:35	04:51	19:19	20:36	22:55
70	02:13	03:52	04:59	19:11	20:18	22:01
68	02:43	04:06	05:05	19:04	20:04	21:29
66	03:04	04:17	05:11	18:59	19:53	21:07
64	03:21	04:26	05:15	18:54	19:44	20:49
62	03:35	04:33	05:19	18:50	19:36	20:35
60	03:46	04:40	05:23	18:46	19:29	20:24
58	03:55	04:45	05:26	18:43	19:23	20:14
56	04:04	04:50	05:28	18:40	19:18	20:05
54	04:11	04:55	05:31	18:38	19:14	19:58
52	04:17	04:59	05:33	18:35	19:10	19:52
50	04:23	05:02	05:35	18:33	19:06	19:46
45	04:34	05:09	05:39	18:29	18:59	19:34
40	04:43	05:15	05:43	18:25	18:53	19:25
35	04:50	05:20	05:46	18:22	18:48	19:18
30	04:56	05:24	05:48	18:19	18:43	19:12
20	05:05	05:31	05:53	18:15	18:37	19:03
10	05:11	05:36	05:57	18:11	18:32	18:56
0	05:15	05:40	06:00	18:07	18:28	18:52
S 10	05:18	05:43	06:04	18:03	18:24	18:49
20	05:20	05:45	06:07	18:00	18:22	18:47
30	05:20	05:47	06:11	17:55	18:19	18:47
35	05:19	05:48	06:13	17:53	18:18	18:48
40	05:17	05:49	06:16	17:51	18:18	18:49
45	05:15	05:49	06:19	17:48	18:17	18:51
50	05:12	05:50	06:22	17:44	18:16	18:54
52	05:11	05:50	06:24	17:43	18:16	18:55
54	05:09	05:50	06:25	17:41	18:16	18:57
56	05:07	05:50	06:27	17:39	18:16	18:59
58	05:04	05:50	06:29	17:37	18:16	19:01
60	05:01	05:50	06:31	17:35	18:16	19:04

	Orto luna			Ocaso luna		
Lat.	Vie	Sa	Dom	Vie	Sa	Dom
N 72	05:54	05:24	04:47	19:28	21:39	–:–
70	05:56	05:33	05:07	19:22	21:21	23:32
68	05:57	05:41	05:23	19:16	21:06	23:03
66	05:58	05:48	05:36	19:12	20:55	22:42
64	05:59	05:53	05:47	19:08	20:45	22:24
62	06:00	05:58	05:57	19:05	20:37	22:11
60	06:01	06:02	06:05	19:02	20:30	21:59
58	06:01	06:06	06:12	19:00	20:24	21:49
56	06:02	06:10	06:18	18:57	20:19	21:40
54	06:02	06:13	06:24	18:55	20:14	21:32
52	06:03	06:15	06:29	18:54	20:10	21:25
50	06:03	06:18	06:34	18:52	20:06	21:19
45	06:04	06:24	06:44	18:48	19:57	21:05
40	06:05	06:28	06:53	18:46	19:50	20:54
35	06:06	06:32	07:00	18:43	19:44	20:45
30	06:06	06:36	07:07	18:41	19:39	20:37
20	06:07	06:42	07:18	18:37	19:30	20:23
10	06:08	06:48	07:28	18:34	19:22	20:10
0	06:09	06:53	07:37	18:30	19:14	19:59
S 10	06:10	06:59	07:47	18:27	19:07	19:47
20	06:11	07:04	07:57	18:24	18:59	19:35
30	06:13	07:11	08:09	18:20	18:50	19:22
35	06:13	07:15	08:16	18:18	18:45	19:14
40	06:14	07:19	08:23	18:15	18:39	19:05
45	06:15	07:24	08:33	18:12	18:32	18:54
50	06:16	07:30	08:44	18:09	18:24	18:41
52	06:17	07:33	08:49	18:08	18:21	18:35
54	06:17	07:36	08:55	18:06	18:17	18:29
56	06:18	07:40	09:01	18:04	18:12	18:22
58	06:19	07:44	09:08	18:02	18:07	18:14
60	06:20	07:48	09:16	18:00	18:02	18:05

Día	Sol			Luna		
	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
1	04:01	03:52	12:03	12:19	00:41	0(0%)
2	03:43	03:34	12:03	13:03	00:41	1(2%)
3	03:26	03:17	12:03	13:48	01:25	2(5%)

Abril 04, 05, 06 (Lun, Mar, Mie)

	Aries	Venus		Martes		Júpiter		Saturno	
Lun	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	192°17.5	222°05.1	-11°31.6	227°54.5	-15°29.3	199°14.3	-4°06.3	227°18.2	-14°58.5
1	207°20.0	237°04.9	-11°30.9	242°55.1	-15°28.7	214°16.2	-4°06.0	242°20.5	-14°58.4
2	222°22.4	252°04.8	-11°30.2	257°55.7	-15°28.1	229°18.2	-4°05.8	257°22.7	-14°58.3
3	237°24.9	267°04.6	-11°29.5	272°56.3	-15°27.5	244°20.1	-4°05.6	272°25.0	-14°58.3
4	252°27.3	282°04.4	-11°28.7	287°56.9	-15°26.9	259°22.0	-4°05.4	287°27.2	-14°58.2
5	267°29.8	297°04.3	-11°28.0	302°57.5	-15°26.3	274°23.9	-4°05.1	302°29.5	-14°58.1
6	282°32.3	312°04.1	-11°27.3	317°58.1	-15°25.8	289°25.9	-4°04.9	317°31.7	-14°58.1
7	297°34.7	327°03.9	-11°26.6	332°58.7	-15°25.2	304°27.8	-4°04.7	332°34.0	-14°58.0
8	312°37.2	342°03.8	-11°25.9	347°59.3	-15°24.6	319°29.7	-4°04.4	347°36.2	-14°57.9
9	327°39.7	357°03.6	-11°25.2	2°59.9	-15°24.0	334°31.6	-4°04.2	2°38.4	-14°57.9
10	342°42.1	12°03.4	-11°24.5	18°00.5	-15°23.4	349°33.6	-4°04.0	17°40.7	-14°57.8
11	357°44.6	27°03.3	-11°23.8	33°01.1	-15°22.8	4°35.5	-4°03.8	32°42.9	-14°57.7
12	12°47.1	42°03.1	-11°23.0	48°01.7	-15°22.3	19°37.4	-4°03.5	47°45.2	-14°57.7
13	27°49.5	57°02.9	-11°22.3	63°02.3	-15°21.7	34°39.4	-4°03.3	62°47.4	-14°57.6
14	42°52.0	72°02.8	-11°21.6	78°03.0	-15°21.1	49°41.3	-4°03.1	77°49.7	-14°57.5
15	57°54.5	87°02.6	-11°20.9	93°03.6	-15°20.5	64°43.2	-4°02.9	92°51.9	-14°57.5
16	72°56.9	102°02.4	-11°20.2	108°04.2	-15°19.9	79°45.1	-4°02.6	107°54.2	-14°57.4
17	87°59.4	117°02.3	-11°19.5	123°04.8	-15°19.3	94°47.1	-4°02.4	122°56.4	-14°57.3
18	103°01.8	132°02.1	-11°18.7	138°05.4	-15°18.7	109°49.0	-4°02.2	137°58.7	-14°57.3
19	118°04.3	147°01.9	-11°18.0	153°06.0	-15°18.1	124°50.9	-4°02.0	153°00.9	-14°57.2
20	133°06.8	162°01.8	-11°17.3	168°06.6	-15°17.6	139°52.8	-4°01.7	168°03.2	-14°57.1
21	148°09.2	177°01.6	-11°16.6	183°07.2	-15°17.0	154°54.8	-4°01.5	183°05.4	-14°57.1
22	163°11.7	192°01.4	-11°15.9	198°07.8	-15°16.4	169°56.7	-4°01.3	198°07.7	-14°57.0
23	178°14.2	207°01.3	-11°15.1	213°08.4	-15°15.8	184°58.6	-4°01.1	213°09.9	-14°56.9
Mer.pass.:11:09		v-0.2 d0.7 m-4.2		v0.6 d0.6 m1.1		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.9	

Mar	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	193°16.6	222°01.1	-11°14.4	228°09.0	-15°15.2	200°00.6	-4°00.8	228°12.2	-14°56.9
1	208°19.1	237°00.9	-11°13.7	243°09.6	-15°14.6	215°02.5	-4°00.6	243°14.4	-14°56.8
2	223°21.6	252°00.8	-11°13.0	258°10.2	-15°14.0	230°04.4	-4°00.4	258°16.6	-14°56.7
3	238°24.0	267°00.6	-11°12.3	273°10.8	-15°13.4	245°06.3	-4°00.2	273°18.9	-14°56.7
4	253°26.5	282°00.4	-11°11.5	288°11.4	-15°12.8	260°08.3	-3°59.9	288°21.1	-14°56.6
5	268°29.0	297°00.3	-11°10.8	303°12.0	-15°12.3	275°10.2	-3°59.7	303°23.4	-14°56.5
6	283°31.4	312°00.1	-11°10.1	318°12.6	-15°11.7	290°12.1	-3°59.5	318°25.6	-14°56.5
7	298°33.9	326°59.9	-11°09.3	333°13.2	-15°11.1	305°14.1	-3°59.3	333°27.9	-14°56.4
8	313°36.3	341°59.8	-11°08.6	348°13.8	-15°10.5	320°16.0	-3°59.0	348°30.1	-14°56.3
9	328°38.8	356°59.6	-11°07.9	3°14.4	-15°09.9	335°17.9	-3°58.8	3°32.4	-14°56.3
10	343°41.3	11°59.4	-11°07.2	18°15.1	-15°09.3	350°19.8	-3°58.6	18°34.6	-14°56.2
11	358°43.7	26°59.3	-11°06.4	33°15.7	-15°08.7	5°21.8	-3°58.4	33°36.9	-14°56.1
12	13°46.2	41°59.1	-11°05.7	48°16.3	-15°08.1	20°23.7	-3°58.1	48°39.1	-14°56.1
13	28°48.7	56°58.9	-11°05.0	63°16.9	-15°07.5	35°25.6	-3°57.9	63°41.4	-14°56.0
14	43°51.1	71°58.7	-11°04.2	78°17.5	-15°06.9	50°27.6	-3°57.7	78°43.6	-14°55.9
15	58°53.6	86°58.6	-11°03.5	93°18.1	-15°06.3	65°29.5	-3°57.5	93°45.9	-14°55.9
16	73°56.1	101°58.4	-11°02.8	108°18.7	-15°05.7	80°31.4	-3°57.2	108°48.1	-14°55.8
17	88°58.5	116°58.2	-11°02.0	123°19.3	-15°05.1	95°33.3	-3°57.0	123°50.4	-14°55.8
18	104°01.0	131°58.1	-11°01.3	138°19.9	-15°04.6	110°35.3	-3°56.8	138°52.6	-14°55.7
19	119°03.5	146°57.9	-11°00.6	153°20.5	-15°04.0	125°37.2	-3°56.6	153°54.9	-14°55.6
20	134°05.9	161°57.7	-10°59.8	168°21.1	-15°03.4	140°39.1	-3°56.3	168°57.1	-14°55.6
21	149°08.4	176°57.6	-10°59.1	183°21.7	-15°02.8	155°41.1	-3°56.1	183°59.4	-14°55.5
22	164°10.8	191°57.4	-10°58.4	198°22.3	-15°02.2	170°43.0	-3°55.9	199°01.6	-14°55.4
23	179°13.3	206°57.2	-10°57.6	213°23.0	-15°01.6	185°44.9	-3°55.7	214°03.9	-14°55.4
Mer.pass.:11:05		v-0.2 d0.7 m-4.2		v0.6 d0.6 m1.0		v1.9 d0.2 m-1.9		v2.2 d0.1 m0.9	

Mie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	194°15.8	221°57.1	-10°56.9	228°23.6	-15°01.0	200°46.9	-3°55.4	229°06.1	-14°55.3
1	209°18.2	236°56.9	-10°56.1	243°24.2	-15°00.4	215°48.8	-3°55.2	244°08.4	-14°55.2
2	224°20.7	251°56.7	-10°55.4	258°24.8	-14°59.8	230°50.7	-3°55.0	259°10.6	-14°55.2
3	239°23.2	266°56.5	-10°54.7	273°25.4	-14°59.2	245°52.6	-3°54.8	274°12.9	-14°55.1
4	254°25.6	281°56.4	-10°53.9	288°26.0	-14°58.6	260°54.6	-3°54.5	289°15.1	-14°55.0
5	269°28.1	296°56.2	-10°53.2	303°26.6	-14°58.0	275°56.5	-3°54.3	304°17.4	-14°55.0
6	284°30.6	311°56.0	-10°52.4	318°27.2	-14°57.4	290°58.4	-3°54.1	319°19.6	-14°54.9
7	299°33.0	326°55.9	-10°51.7	333°27.8	-14°56.8	306°00.4	-3°53.9	334°21.9	-14°54.8
8	314°35.5	341°55.7	-10°51.0	348°28.4	-14°56.2	321°02.3	-3°53.6	349°24.1	-14°54.8
9	329°37.9	356°55.5	-10°50.2	3°29.0	-14°55.6	336°04.2	-3°53.4	4°26.4	-14°54.7
10	344°40.4	11°55.3	-10°49.5	18°29.7	-14°55.0	351°06.2	-3°53.2	19°28.6	-14°54.6
11	359°42.9	26°55.2	-10°48.7	33°30.3	-14°54.4	6°08.1	-3°53.0	34°30.9	-14°54.6
12	14°45.3	41°55.0	-10°48.0	48°30.9	-14°53.8	21°10.0	-3°52.7	49°33.1	-14°54.5
13	29°47.8	56°54.8	-10°47.2	63°31.5	-14°53.2	36°11.9	-3°52.5	64°35.4	-14°54.5
14	44°50.3	71°54.7	-10°46.5	78°32.1	-14°52.6	51°13.9	-3°52.3	79°37.7	-14°54.4
15	59°52.7	86°54.5	-10°45.7	93°32.7	-14°52.0	66°15.8	-3°52.1	94°39.9	-14°54.3
16	74°55.2	101°54.3	-10°45.0	108°33.3	-14°51.4	81°17.7	-3°51.8	109°42.2	-14°54.3
17	89°57.7	116°54.2	-10°44.2	123°33.9	-14°50.8	96°19.7	-3°51.6	124°44.4	-14°54.2
18	105°00.1	131°54.0	-10°43.5	138°34.5	-14°50.2	111°21.6	-3°51.4	139°46.7	-14°54.1
19	120°02.6	146°53.8	-10°42.7	153°35.2	-14°49.6	126°23.5	-3°51.2	154°48.9	-14°54.1
20	135°05.1	161°53.6	-10°42.0	168°35.8	-14°49.0	141°25.5	-3°50.9	169°51.2	-14°54.0
21	150°07.5	176°53.5	-10°41.2	183°36.4	-14°48.4	156°27.4	-3°50.7	184°53.4	-14°53.9
22	165°10.0	191°53.3	-10°40.5	198°37.0	-14°47.8	171°29.3	-3°50.5	199°55.7	-14°53.9
23	180°12.4	206°53.1	-10°39.7	213°37.6	-14°47.2	186°31.3	-3°50.3	214°57.9	-14°53.8
Mer.pass.:11:01		v-0.2 d0.7 m-4.2		v0.6 d0.6 m1.0		v1.9 d0.2 m-1.9		v2.3 d0.1 m0.9	

Estrellas

	AHS	Dec
Alpheratz	357°37.5	29°12.6
Ankaa	353°09.8	-42°11.3
Schedar	349°34.2	56°39.4
Diphda	348°49.8	-17°52.1
Achernar	335°22.5	-57°07.6
Hamal	327°54.1	23°33.9
Polaris	315°31.7	89°21.6
Akamar	315°13.9	-40°13.2
Menkar	314°08.8	4°10.4
Mirfak	308°31.9	49°56.4
Aldebaran	290°42.5	16°33.2
Rigel	281°06.2	-8°10.7
Capella	280°25.5	46°01.4
Bellatrix	278°25.5	6°22.1
Elnath	278°04.9	28°37.6
Alnilam	275°40.2	-1°11.4
Betelgeuse	270°54.7	7°24.6
Canopus	263°53.5	-52°42.7
Sirius	258°28.2	-16°44.8
Adara	255°07.7	-29°00.4
Procyon	244°53.1	5°10.2
Pollux	243°19.9	27°58.4
Avior	234°15.4	-59°35.1
Suhail	222°47.7	-43°31.5
Miaplacidus	221°38.2	-69°48.7
Alphard	217°49.8	-8°45.4
Regulus	207°36.6	11°51.5
Dubhe	193°43.2	61°38.0
Denebola	182°26.9	14°26.9
Gienah	175°45.6	-17°40.0
Acrux	173°01.9	-63°13.3
Gacrux	171°53.6	-57°14.3
Alioth	166°14.5	55°50.4
Spica	158°24.4	-11°16.7
Alcaid	152°53.4	49°12.1
Hadar	148°38.6	-60°28.7
Menkent	148°00.0	-36°28.7
Arcturus	145°49.5	19°04.2
Rigil Kent.	139°42.9	-60°55.5
Zubenelg.	136°58.3	-16°08.1
Kochab	137°18.8	74°03.7
Alphecca	126°05.4	26°38.2
Antares	112°18.4	-26°28.8
Atria	107°14.5	-69°03.8
Sabik	102°05.3	-15°45.2
Shaula	96°13.3	-37°07.1
Rasalhague	96°00.6	12°32.5
Etamin	90°43.1	51°28.8
Kaus Aust.	83°35.5	-34°22.3
Vega	80°34.8	38°47.9
Nunki	75°50.6	-26°16.1
Altair	62°02.3	8°55.4
Peacock	53°09.5	-56°39.7
Deneb	49°27.5	45°21.2
Enif	33°41.3	9°58.4
Alnair	27°36.2	-46°51.2
Fomalhaut	15°17.4	-29°30.4
Scheat	13°47.8	28°11.9
Markab	13°32.5	15°19.2

Abr 04 Lun	AHS	Paso Merid
Venus	29°47.6	09:12
Mars	35°37.0	08:48
Jupiter	6°56.8	10:42
Saturn	35°00.7	08:49

Abr 05 Mar	AHS	Paso Merid
Venus	28°44.5	09:12
Mars	34°52.4	08:47
Jupiter	6°43.9	10:39
Saturn	34°55.5	08:46

Abr 06 Mie	AHS	Paso Merid
Venus	27°41.3	09:12
Mars	34°07.8	08:46
Jupiter	6°31.1	10:36
Saturn	34°50.4	08:42

Paralelaje Horizontal	
Venus:	0.2
Mars:	0.1

h	Sol		Luna				
Lun	AHG	Dec	AHG	v	Dec	d	HP
0	179°12.9	5°36.1	148°20.4	13.5	16°06.9	11.5	55.3
1	194°13.1	5°37.1	162°52.9	13.5	16°18.3	11.4	55.2
2	209°13.3	5°38.0	177°25.4	13.5	16°29.7	11.3	55.2
3	224°13.5	5°39.0	191°57.9	13.4	16°41.0	11.3	55.2
4	239°13.7	5°39.9	206°30.3	13.4	16°52.2	11.2	55.2
5	254°13.9	5°40.9	221°02.7	13.4	17°03.3	11.1	55.2
6	269°14.0	5°41.8	235°35.0	13.3	17°14.4	11.0	55.1
7	284°14.2	5°42.8	250°07.4	13.3	17°25.3	10.9	55.1
8	299°14.4	5°43.7	264°39.6	13.3	17°36.2	10.8	55.1
9	314°14.6	5°44.7	279°11.9	13.2	17°47.0	10.8	55.1
10	329°14.8	5°45.6	293°44.1	13.2	17°57.7	10.7	55.1
11	344°14.9	5°46.6	308°16.3	13.2	18°08.3	10.6	55.1
12	359°15.1	5°47.5	322°48.4	13.1	18°18.9	10.5	55.0
13	14°15.3	5°48.5	337°20.5	13.1	18°29.3	10.4	55.0
14	29°15.5	5°49.5	351°52.6	13.0	18°39.7	10.3	55.0
15	44°15.7	5°50.4	6°24.6	13.0	18°49.9	10.2	55.0
16	59°15.8	5°51.4	20°56.5	13.0	19°00.1	10.1	55.0
17	74°16.0	5°52.3	35°28.5	12.9	19°10.2	10.0	54.9
18	89°16.2	5°53.3	50°00.4	12.9	19°20.2	10.0	54.9
19	104°16.4	5°54.2	64°32.3	12.8	19°30.1	9.9	54.9
20	119°16.6	5°55.2	79°04.1	12.8	19°39.9	9.8	54.9
21	134°16.7	5°56.1	93°35.9	12.8	19°49.6	9.7	54.9
22	149°16.9	5°57.1	108°07.6	12.7	19°59.3	9.6	54.9
23	164°17.1	5°58.0	122°39.3	12.7	20°08.8	9.5	54.8
	SD.=16.0	d=1.0			S.D.=15.1		

Mar	AHG	Dec	AHG	v	Dec	d	HP
0	179°17.3	5°59.0	137°11.0	12.6	20°18.2	9.4	54.8
1	194°17.4	5°59.9	151°42.6	12.6	20°27.6	9.3	54.8
2	209°17.6	6°00.9	166°14.2	12.6	20°36.8	9.2	54.8
3	224°17.8	6°01.8	180°45.7	12.5	20°46.0	9.1	54.8
4	239°18.0	6°02.8	195°17.2	12.5	20°55.0	9.0	54.8
5	254°18.2	6°03.7	209°48.7	12.4	21°03.9	8.9	54.7
6	269°18.3	6°04.7	224°20.1	12.4	21°12.8	8.8	54.7
7	284°18.5	6°05.6	238°51.4	12.4	21°21.5	8.7	54.7
8	299°18.7	6°06.6	253°22.8	12.3	21°30.2	8.6	54.7
9	314°18.9	6°07.5	267°54.1	12.3	21°38.7	8.5	54.7
10	329°19.1	6°08.5	282°25.3	12.2	21°47.2	8.4	54.7
11	344°19.2	6°09.4	296°56.5	12.2	21°55.5	8.3	54.6
12	359°19.4	6°10.4	311°27.7	12.1	22°03.7	8.2	54.6
13	14°19.6	6°11.3	325°58.8	12.1	22°11.9	8.1	54.6
14	29°19.8	6°12.3	340°29.9	12.1	22°19.9	8.0	54.6
15	44°20.0	6°13.2	355°01.0	12.0	22°27.8	7.9	54.6
16	59°20.1	6°14.2	9°32.0	12.0	22°35.6	7.8	54.6
17	74°20.3	6°15.1	24°02.9	11.9	22°43.4	7.7	54.6
18	89°20.5	6°16.1	38°33.8	11.9	22°51.0	7.5	54.5
19	104°20.7	6°17.0	53°04.7	11.9	22°58.4	7.4	54.5
20	119°20.8	6°17.9	67°35.6	11.8	23°05.8	7.3	54.5
21	134°21.0	6°18.9	82°06.4	11.8	23°13.1	7.2	54.5
22	149°21.2	6°19.8	96°37.1	11.7	23°20.3	7.1	54.5
23	164°21.4	6°20.8	111°07.8	11.7	23°27.3	7.0	54.5
	SD.=16.0	d=1.0			S.D.=15.0		

Mie	AHG	Dec	AHG	v	Dec	d	HP
0	179°21.6	6°21.7	125°38.5	11.7	23°34.3	6.9	54.5
1	194°21.7	6°22.7	140°09.2	11.6	23°41.1	6.8	54.5
2	209°21.9	6°23.6	154°39.8	11.6	23°47.8	6.7	54.5
3	224°22.1	6°24.6	169°10.3	11.5	23°54.5	6.6	54.4
4	239°22.3	6°25.5	183°40.9	11.5	24°00.9	6.4	54.4
5	254°22.4	6°26.5	198°11.4	11.5	24°07.3	6.3	54.4
6	269°22.6	6°27.4	212°41.8	11.4	24°13.6	6.2	54.4
7	284°22.8	6°28.4	227°12.2	11.4	24°19.8	6.1	54.4
8	299°23.0	6°29.3	241°42.6	11.4	24°25.8	6.0	54.4
9	314°23.1	6°30.2	256°12.9	11.3	24°31.7	5.9	54.4
10	329°23.3	6°31.2	270°43.2	11.3	24°37.5	5.8	54.4
11	344°23.5	6°32.1	285°13.5	11.2	24°43.2	5.6	54.4
12	359°23.7	6°33.1	299°43.7	11.2	24°48.8	5.5	54.4
13	14°23.8	6°34.0	314°13.9	11.2	24°54.3	5.4	54.3
14	29°24.0	6°35.0	328°44.1	11.1	24°59.6	5.3	54.3
15	44°24.2	6°35.9	343°14.2	11.1	25°04.8	5.2	54.3
16	59°24.4	6°36.9	357°44.3	11.1	25°09.9	5.0	54.3
17	74°24.6	6°37.8	12°14.4	11.0	25°14.9	4.9	54.3
18	89°24.7	6°38.7	26°44.4	11.0	25°19.8	4.8	54.3
19	104°24.9	6°39.7	41°14.4	11.0	25°24.5	4.7	54.3
20	119°25.1	6°40.6	55°44.3	10.9	25°29.2	4.6	54.3
21	134°25.3	6°41.6	70°14.3	10.9	25°33.7	4.4	54.3
22	149°25.4	6°42.5	84°44.2	10.9	25°38.1	4.3	54.3
23	164°25.6	6°43.5	99°14.0	10.9	25°42.3	4.2	54.3
	SD.=16.0	d=0.9			S.D.=14.9		

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	00:13	03:16	04:35	19:34	20:54	–:–
70	01:46	03:36	04:45	19:23	20:33	22:28
68	02:23	03:51	04:53	19:15	20:17	21:48
66	02:48	04:04	04:59	19:08	20:04	21:22
64	03:07	04:14	05:05	19:03	19:54	21:02
62	03:22	04:23	05:09	18:58	19:45	20:46
60	03:35	04:30	05:14	18:53	19:37	20:33
58	03:46	04:36	05:17	18:50	19:31	20:22
56	03:55	04:42	05:20	18:46	19:25	20:13
54	04:02	04:47	05:23	18:43	19:20	20:05
52	04:09	04:51	05:26	18:41	19:15	19:58
50	04:15	04:55	05:28	18:38	19:11	19:51
45	04:28	05:04	05:34	18:33	19:03	19:38
40	04:38	05:10	05:38	18:28	18:56	19:28
35	04:46	05:16	05:42	18:24	18:50	19:20
30	04:52	05:21	05:45	18:21	18:45	19:14
20	05:02	05:28	05:50	18:15	18:38	19:04
10	05:09	05:34	05:55	18:10	18:32	18:56
0	05:15	05:39	05:59	18:06	18:27	18:51
S 10	05:18	05:43	06:04	18:02	18:23	18:47
20	05:20	05:46	06:08	17:57	18:19	18:45
30	05:21	05:49	06:13	17:52	18:16	18:44
35	05:21	05:50	06:16	17:49	18:14	18:44
40	05:20	05:52	06:19	17:46	18:13	18:44
45	05:19	05:53	06:22	17:42	18:12	18:45
50	05:17	05:54	06:27	17:38	18:10	18:47
52	05:16	05:55	06:29	17:36	18:10	18:48
54	05:14	05:55	06:31	17:34	18:09	18:50
56	05:13	05:56	06:33	17:31	18:08	18:51
58	05:11	05:56	06:36	17:29	18:08	18:53
60	05:09	05:57	06:39	17:26	18:07	18:55

	Orto luna			Ocaso luna		
Lat.	Lun	Mar	Mie	Lun	Mar	Mie
N 72	03:43	–:–	–:–	00:17	–:–	–:–
70	04:29	–:–	–:–	–:–	–:–	–:–
68	05:00	04:17	–:–	–:–	01:22	–:–
66	05:23	05:03	04:04	–:–	00:37	03:16
64	05:41	05:33	05:23	–:–	00:08	01:58
62	05:56	05:56	06:00	23:46	–:–	01:22
60	06:09	06:15	06:26	23:28	–:–	00:56
58	06:20	06:30	06:47	23:13	–:–	00:35
56	06:29	06:44	07:04	23:00	–:–	00:19
54	06:38	06:55	07:18	22:49	–:–	00:04
52	06:45	07:05	07:31	22:40	23:52	–:–
50	06:52	07:14	07:42	22:31	23:41	–:–
45	07:07	07:34	08:06	22:13	23:18	–:–
40	07:19	07:50	08:25	21:58	23:00	–:–
35	07:30	08:03	08:41	21:45	22:45	23:43
30	07:39	08:15	08:54	21:35	22:32	23:28
20	07:55	08:35	09:18	21:16	22:10	23:03
10	08:09	08:53	09:38	21:00	21:50	22:41
0	08:22	09:09	09:57	20:45	21:32	22:21
S 10	08:36	09:26	10:17	20:30	21:14	22:01
20	08:50	09:44	10:37	20:14	20:55	21:40
30	09:07	10:04	11:01	19:56	20:33	21:15
35	09:16	10:16	11:15	19:45	20:20	21:00
40	09:27	10:31	11:32	19:33	20:05	20:43
45	09:40	10:47	11:52	19:19	19:48	20:23
50	09:57	11:08	12:16	19:01	19:26	19:58
52	10:04	11:18	12:28	18:53	19:16	19:45
54	10:12	11:29	12:42	18:44	19:04	19:32
56	10:22	11:42	12:58	18:34	18:51	19:15
58	10:33	11:57	13:17	18:23	18:35	18:56
60	10:45	12:14	13:41	18:09	18:17	18:32

Día	Sol			Luna		
	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
4	03:08	03:00	12:03	14:33	02:10	3(10%)
5	02:51	02:42	12:02	15:20	02:56	4(17%)
6	02:34	02:25	12:02	16:09	03:44	5(25%)

Abril 07, 08, 09 (Jue, Vie, Sa)

	Aries	Venus		Martes		Júpiter		Saturno	
Jue	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	195°14.9	221°53.0	-10°39.0	228°38.2	-14°46.6	201°33.2	-3°50.0	230°00.2	-14°53.7
1	210°17.4	236°52.8	-10°38.2	243°38.8	-14°46.0	216°35.1	-3°49.8	245°02.4	-14°53.7
2	225°19.8	251°52.6	-10°37.5	258°39.4	-14°45.4	231°37.0	-3°49.6	260°04.7	-14°53.6
3	240°22.3	266°52.4	-10°36.7	273°40.1	-14°44.8	246°39.0	-3°49.4	275°06.9	-14°53.6
4	255°24.8	281°52.3	-10°35.9	288°40.7	-14°44.2	261°40.9	-3°49.2	290°09.2	-14°53.5
5	270°27.2	296°52.1	-10°35.2	303°41.3	-14°43.6	276°42.8	-3°48.9	305°11.4	-14°53.4
6	285°29.7	311°51.9	-10°34.4	318°41.9	-14°43.0	291°44.8	-3°48.7	320°13.7	-14°53.4
7	300°32.2	326°51.8	-10°33.7	333°42.5	-14°42.4	306°46.7	-3°48.5	335°16.0	-14°53.3
8	315°34.6	341°51.6	-10°32.9	348°43.1	-14°41.8	321°48.6	-3°48.3	350°18.2	-14°53.2
9	330°37.1	356°51.4	-10°32.2	3°43.7	-14°41.2	336°50.6	-3°48.0	5°20.5	-14°53.2
10	345°39.6	11°51.2	-10°31.4	18°44.4	-14°40.6	351°52.5	-3°47.8	20°22.7	-14°53.1
11	0°42.0	26°51.1	-10°30.6	33°45.0	-14°40.0	6°54.4	-3°47.6	35°25.0	-14°53.0
12	15°44.5	41°50.9	-10°29.9	48°45.6	-14°39.4	21°56.4	-3°47.4	50°27.2	-14°53.0
13	30°46.9	56°50.7	-10°29.1	63°46.2	-14°38.8	36°58.3	-3°47.1	65°29.5	-14°52.9
14	45°49.4	71°50.5	-10°28.3	78°46.8	-14°38.2	52°00.2	-3°46.9	80°31.7	-14°52.9
15	60°51.9	86°50.4	-10°27.6	93°47.4	-14°37.6	67°02.2	-3°46.7	95°34.0	-14°52.8
16	75°54.3	101°50.2	-10°26.8	108°48.0	-14°37.0	82°04.1	-3°46.5	110°36.2	-14°52.7
17	90°56.8	116°50.0	-10°26.1	123°48.7	-14°36.4	97°06.0	-3°46.2	125°38.5	-14°52.7
18	105°59.3	131°49.9	-10°25.3	138°49.3	-14°35.8	112°08.0	-3°46.0	140°40.8	-14°52.6
19	121°01.7	146°49.7	-10°24.5	153°49.9	-14°35.2	127°09.9	-3°45.8	155°43.0	-14°52.5
20	136°04.2	161°49.5	-10°23.8	168°50.5	-14°34.6	142°11.8	-3°45.6	170°45.3	-14°52.5
21	151°06.7	176°49.3	-10°23.0	183°51.1	-14°34.0	157°13.8	-3°45.3	185°47.5	-14°52.4
22	166°09.1	191°49.2	-10°22.2	198°51.7	-14°33.4	172°15.7	-3°45.1	200°49.8	-14°52.3
23	181°11.6	206°49.0	-10°21.5	213°52.4	-14°32.8	187°17.6	-3°44.9	215°52.0	-14°52.3
Mer.pass.:10:57		v-0.2 d0.8 m-4.1		v0.6 d0.6 m1.0		v1.9 d0.2 m-1.9		v2.3 d0.1 m0.9	

Vie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	196°14.1	221°48.8	-10°20.7	228°53.0	-14°32.2	202°19.6	-3°44.7	230°54.3	-14°52.2
1	211°16.5	236°48.6	-10°19.9	243°53.6	-14°31.6	217°21.5	-3°44.5	245°56.5	-14°52.2
2	226°19.0	251°48.5	-10°19.1	258°54.2	-14°30.9	232°23.4	-3°44.2	260°58.8	-14°52.1
3	241°21.4	266°48.3	-10°18.4	273°54.8	-14°30.3	247°25.4	-3°44.0	276°01.1	-14°52.0
4	256°23.9	281°48.1	-10°17.6	288°55.4	-14°29.7	262°27.3	-3°43.8	291°03.3	-14°52.0
5	271°26.4	296°47.9	-10°16.8	303°56.1	-14°29.1	277°29.2	-3°43.6	306°05.6	-14°51.9
6	286°28.8	311°47.8	-10°16.1	318°56.7	-14°28.5	292°31.2	-3°43.3	321°07.8	-14°51.8
7	301°31.3	326°47.6	-10°15.3	333°57.3	-14°27.9	307°33.1	-3°43.1	336°10.1	-14°51.8
8	316°33.8	341°47.4	-10°14.5	348°57.9	-14°27.3	322°35.0	-3°42.9	351°12.3	-14°51.7
9	331°36.2	356°47.3	-10°13.7	3°58.5	-14°26.7	337°37.0	-3°42.7	6°14.6	-14°51.6
10	346°38.7	11°47.1	-10°13.0	18°59.1	-14°26.1	352°38.9	-3°42.4	21°16.9	-14°51.6
11	1°41.2	26°46.9	-10°12.2	33°59.8	-14°25.5	7°40.8	-3°42.2	36°19.1	-14°51.5
12	16°43.6	41°46.7	-10°11.4	49°00.4	-14°24.9	22°42.8	-3°42.0	51°21.4	-14°51.5
13	31°46.1	56°46.6	-10°10.6	64°01.0	-14°24.3	37°44.7	-3°41.8	66°23.6	-14°51.4
14	46°48.5	71°46.4	-10°09.8	79°01.6	-14°23.7	52°46.6	-3°41.6	81°25.9	-14°51.3
15	61°51.0	86°46.2	-10°09.1	94°02.2	-14°23.0	67°48.6	-3°41.3	96°28.1	-14°51.3
16	76°53.5	101°46.0	-10°08.3	109°02.8	-14°22.4	82°50.5	-3°41.1	111°30.4	-14°51.2
17	91°55.9	116°45.9	-10°07.5	124°03.5	-14°21.8	97°52.4	-3°40.9	126°32.7	-14°51.1
18	106°58.4	131°45.7	-10°06.7	139°04.1	-14°21.2	112°54.4	-3°40.7	141°34.9	-14°51.1
19	122°00.9	146°45.5	-10°05.9	154°04.7	-14°20.6	127°56.3	-3°40.4	156°37.2	-14°51.0
20	137°03.3	161°45.3	-10°05.2	169°05.3	-14°20.0	142°58.2	-3°40.2	171°39.4	-14°51.0
21	152°05.8	176°45.2	-10°04.4	184°05.9	-14°19.4	158°00.2	-3°40.0	186°41.7	-14°50.9
22	167°08.3	191°45.0	-10°03.6	199°06.6	-14°18.8	173°02.1	-3°39.8	201°43.9	-14°50.8
23	182°10.7	206°44.8	-10°02.8	214°07.2	-14°18.2	188°04.0	-3°39.5	216°46.2	-14°50.8
Mer.pass.:10:53		v-0.2 d0.8 m-4.1		v0.6 d0.6 m1.0		v1.9 d0.2 m-1.9		v2.3 d0.1 m0.9	

Sa	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	197°13.2	221°44.6	-10°02.0	229°07.8	-14°17.6	203°06.0	-3°39.3	231°48.5	-14°50.7
1	212°15.7	236°44.5	-10°01.2	244°08.4	-14°16.9	218°07.9	-3°39.1	246°50.7	-14°50.6
2	227°18.1	251°44.3	-10°00.5	259°09.0	-14°16.3	233°09.8	-3°38.9	261°53.0	-14°50.6
3	242°20.6	266°44.1	-9°59.7	274°09.7	-14°15.7	248°11.8	-3°38.7	276°55.2	-14°50.5
4	257°23.0	281°43.9	-9°58.9	289°10.3	-14°15.1	263°13.7	-3°38.4	291°57.5	-14°50.5
5	272°25.5	296°43.8	-9°58.1	304°10.9	-14°14.5	278°15.6	-3°38.2	306°59.8	-14°50.4
6	287°28.0	311°43.6	-9°57.3	319°11.5	-14°13.9	293°17.6	-3°38.0	322°02.0	-14°50.3
7	302°30.4	326°43.4	-9°56.5	334°12.1	-14°13.3	308°19.5	-3°37.8	337°04.3	-14°50.3
8	317°32.9	341°43.2	-9°55.7	349°12.8	-14°12.7	323°21.4	-3°37.5	352°06.5	-14°50.2
9	332°35.4	356°43.1	-9°54.9	4°13.4	-14°12.0	338°23.4	-3°37.3	7°08.8	-14°50.1
10	347°37.8	11°42.9	-9°54.2	19°14.0	-14°11.4	353°25.3	-3°37.1	22°11.1	-14°50.1
11	2°40.3	26°42.7	-9°53.4	34°14.6	-14°10.8	8°27.3	-3°36.9	37°13.3	-14°50.0
12	17°42.8	41°42.5	-9°52.6	49°15.3	-14°10.2	23°29.2	-3°36.7	52°15.6	-14°50.0
13	32°45.2	56°42.4	-9°51.8	64°15.9	-14°09.6	38°31.1	-3°36.4	67°17.8	-14°49.9
14	47°47.7	71°42.2	-9°51.0	79°16.5	-14°09.0	53°33.1	-3°36.2	82°20.1	-14°49.8
15	62°50.2	86°42.0	-9°50.2	94°17.1	-14°08.4	68°35.0	-3°36.0	97°22.4	-14°49.8
16	77°52.6	101°41.8	-9°49.4	109°17.7	-14°07.7	83°36.9	-3°35.8	112°24.6	-14°49.7
17	92°55.1	116°41.7	-9°48.6	124°18.4	-14°07.1	98°38.9	-3°35.5	127°26.9	-14°49.7
18	107°57.5	131°41.5	-9°47.8	139°19.0	-14°06.5	113°40.8	-3°35.3	142°29.1	-14°49.6
19	123°00.0	146°41.3	-9°47.0	154°19.6	-14°05.9	128°42.7	-3°35.1	157°31.4	-14°49.5
20	138°02.5	161°41.1	-9°46.2	169°20.2	-14°05.3	143°44.7	-3°34.9	172°33.7	-14°49.5
21	153°04.9	176°41.0	-9°45.4	184°20.9	-14°04.7	158°46.6	-3°34.7	187°35.9	-14°49.4
22	168°07.4	191°40.8	-9°44.6	199°21.5	-14°04.0	173°48.5	-3°34.4	202°38.2	-14°49.3
23	183°09.9	206°40.6	-9°43.8	214°22.1	-14°03.4	188°50.5	-3°34.2	217°40.4	-14°49.3
Mer.pass.:10:49		v-0.2 d0.8 m-4.1		v0.6 d0.6 m1.0		v1.9 d0.2 m-1.9		v2.3 d0.1 m0.9	

Estrellas

	AHS	Dec
Alpheratz	357°37.5	29°12.6
Ankaa	353°09.8	-42°11.2
Schedar	349°34.2	56°39.4
Diphda	348°49.8	-17°52.1
Achernar	335°22.5	-57°07.6
Hamal	327°54.1	23°33.9
Polaris	315°32.2	89°21.6
Akamar	315°13.9	-40°13.2
Menkar	314°08.8	4°10.4
Mirfak	308°31.9	49°56.4
Aldebaran	290°42.5	16°33.2
Rigel	281°06.2	-8°10.7
Capella	280°25.5	46°01.3
Bellatrix	278°25.5	6°22.1
Elnath	278°04.9	28°37.6
Alnilam	275°40.2	-1°11.4
Betelgeuse	270°54.7	7°24.6
Canopus	263°53.5	-52°42.7
Sirius	258°28.2	-16°44.8
Adara	255°07.7	-29°00.4
Procyon	244°53.1	5°10.2
Pollux	243°19.9	27°58.4
Avior	234°15.5	-59°35.1
Suhail	222°47.8	-43°31.5
Miaplacidus	221°38.3	-69°48.7
Alphard	217°49.8	-8°45.4
Regulus	207°36.6	11°51.5
Dubhe	193°43.2	61°38.0
Denebola	182°26.9	14°26.9
Gienah	175°45.6	-17°40.0
Acrux	173°01.9	-63°13.4
Gacrux	171°53.6	-57°14.3
Alioth	166°14.5	55°50.4
Spica	158°24.4	-11°16.7
Alcaid	152°53.3	49°12.1
Hadar	148°38.6	-60°28.7
Menkent	147°59.9	-36°28.7
Arcturus	145°49.5	19°04.2
Rigil Kent.	139°42.8	-60°55.5
Zubenelg.	136°58.3	-16°08.1
Kochab	137°18.7	74°03.7
Alphecca	126°05.4	26°38.3
Antares	112°18.4	-26°28.8
Atria	107°14.4	-69°03.8
Sabik	102°05.2	-15°45.2
Shaula	96°13.3	-37°07.1
Rasalhague	96°00.6	12°32.5
Etamin	90°43.1	51°28.8
Kaus Aust.	83°35.4	-34°22.3
Vega	80°34.7	38°47.9
Nunki	75°50.6	-26°16.1
Altair	62°02.3	8°55.4
Peacock	53°09.5	-56°39.7
Deneb	49°27.5	45°21.2
Enif	33°41.2	9°58.4
Alnair	27°36.1	-46°51.2
Fomalhaut	15°17.4	-29°30.4
Scheat	13°47.7	28°11.9
Markab	13°32.5	15°19.2

Abr 07 Jue	AHS	Paso Merid
Venus	26°38.0	09:13
Mars	33°23.3	08:45
Jupiter	6°18.3	10:32
Saturn	34°45.3	08:39

Abr 08 Vie	AHS	Paso Merid
Venus	25°34.8	09:13
Mars	32°38.9	08:44
Jupiter	6°05.5	10:29
Saturn	34°40.2	08:35

Abr 09 Sa	AHS	Paso Merid
Venus	24°31.4	09:13
Mars	31°54.6	08:43
Jupiter	5°52.8	10:26
Saturn	34°35.3	08:31

Paralelaje Horizontal	
Venus:	0.2
Mars:	0.1

h	Sol		Luna				
Jue	AHG	Dec	AHG	v	Dec	d	HP
0	179°25.8	6°44.4	113°43.9	10.8	25°46.5	4.1	54.3
1	194°26.0	6°45.3	128°13.7	10.8	25°50.5	4.0	54.3
2	209°26.1	6°46.3	142°43.5	10.8	25°54.4	3.8	54.3
3	224°26.3	6°47.2	157°13.2	10.7	25°58.2	3.7	54.3
4	239°26.5	6°48.2	171°43.0	10.7	26°01.8	3.6	54.2
5	254°26.7	6°49.1	186°12.7	10.7	26°05.3	3.5	54.2
6	269°26.8	6°50.0	200°42.4	10.7	26°08.7	3.3	54.2
7	284°27.0	6°51.0	215°12.0	10.6	26°12.0	3.2	54.2
8	299°27.2	6°51.9	229°41.6	10.6	26°15.2	3.1	54.2
9	314°27.4	6°52.9	244°11.3	10.6	26°18.2	3.0	54.2
10	329°27.5	6°53.8	258°40.8	10.6	26°21.1	2.8	54.2
11	344°27.7	6°54.7	273°10.4	10.6	26°23.9	2.7	54.2
12	359°27.9	6°55.7	287°40.0	10.5	26°26.5	2.6	54.2
13	14°28.1	6°56.6	302°09.5	10.5	26°29.1	2.5	54.2
14	29°28.2	6°57.6	316°39.0	10.5	26°31.5	2.3	54.2
15	44°28.4	6°58.5	331°08.5	10.5	26°33.7	2.2	54.2
16	59°28.6	6°59.4	345°37.9	10.5	26°35.9	2.1	54.2
17	74°28.8	7°00.4	0°07.4	10.4	26°37.9	2.0	54.2
18	89°28.9	7°01.3	14°36.8	10.4	26°39.8	1.8	54.2
19	104°29.1	7°02.2	29°06.2	10.4	26°41.5	1.7	54.2
20	119°29.3	7°03.2	43°35.6	10.4	26°43.2	1.6	54.2
21	134°29.4	7°04.1	58°05.0	10.4	26°44.7	1.4	54.2
22	149°29.6	7°05.1	72°34.4	10.4	26°46.1	1.3	54.2
23	164°29.8	7°06.0	87°03.8	10.4	26°47.3	1.2	54.2
	SD.=16.0	d=0.9	S.D.=14.8				

Vie	AHG	Dec	AHG	v	Dec	d	HP
0	179°30.0	7°06.9	101°33.1	10.3	26°48.5	1.1	54.2
1	194°30.1	7°07.9	116°02.4	10.3	26°49.5	0.9	54.2
2	209°30.3	7°08.8	130°31.8	10.3	26°50.3	0.8	54.2
3	224°30.5	7°09.7	145°01.1	10.3	26°51.1	0.7	54.2
4	239°30.7	7°10.7	159°30.4	10.3	26°51.7	0.5	54.2
5	254°30.8	7°11.6	173°59.7	10.3	26°52.2	0.4	54.2
6	269°31.0	7°12.5	188°29.0	10.3	26°52.5	0.3	54.2
7	284°31.2	7°13.5	202°58.3	10.3	26°52.7	0.2	54.2
8	299°31.3	7°14.4	217°27.6	10.3	26°52.8	0.0	54.2
9	314°31.5	7°15.4	231°56.9	10.3	26°52.8	-0.1	54.2
10	329°31.7	7°16.3	246°26.2	10.3	26°52.6	-0.2	54.2
11	344°31.9	7°17.2	260°55.5	10.3	26°52.3	-0.4	54.3
12	359°32.0	7°18.2	275°24.7	10.3	26°51.9	-0.5	54.3
13	14°32.2	7°19.1	289°54.0	10.3	26°51.4	-0.6	54.3
14	29°32.4	7°20.0	304°23.3	10.3	26°50.7	-0.7	54.3
15	44°32.6	7°21.0	318°52.6	10.3	26°49.9	-0.9	54.3
16	59°32.7	7°21.9	333°21.9	10.3	26°48.9	-1.0	54.3
17	74°32.9	7°22.8	347°51.1	10.3	26°47.9	-1.1	54.3
18	89°33.1	7°23.8	2°20.4	10.3	26°46.7	-1.3	54.3
19	104°33.2	7°24.7	16°49.7	10.3	26°45.4	-1.4	54.3
20	119°33.4	7°25.6	31°19.0	10.3	26°43.9	-1.5	54.3
21	134°33.6	7°26.6	45°48.3	10.3	26°42.3	-1.6	54.3
22	149°33.8	7°27.5	60°17.6	10.3	26°40.6	-1.8	54.3
23	164°33.9	7°28.4	74°47.0	10.3	26°38.8	-1.9	54.3
	SD.=16.0	d=0.9	S.D.=14.8				

Sa	AHG	Dec	AHG	v	Dec	d	HP
0	179°34.1	7°29.3	89°16.3	10.3	26°36.8	-2.0	54.3
1	194°34.3	7°30.3	103°45.6	10.3	26°34.7	-2.2	54.3
2	209°34.4	7°31.2	118°15.0	10.4	26°32.5	-2.3	54.4
3	224°34.6	7°32.1	132°44.3	10.4	26°30.1	-2.4	54.4
4	239°34.8	7°33.1	147°13.7	10.4	26°27.6	-2.5	54.4
5	254°34.9	7°34.0	161°43.1	10.4	26°25.0	-2.7	54.4
6	269°35.1	7°34.9	176°12.5	10.4	26°22.3	-2.8	54.4
7	284°35.3	7°35.9	190°41.9	10.4	26°19.4	-2.9	54.4
8	299°35.5	7°36.8	205°11.3	10.4	26°16.4	-3.1	54.4
9	314°35.6	7°37.7	219°40.7	10.4	26°13.3	-3.2	54.4
10	329°35.8	7°38.6	234°10.2	10.5	26°10.1	-3.3	54.4
11	344°36.0	7°39.6	248°39.7	10.5	26°06.7	-3.4	54.5
12	359°36.1	7°40.5	263°09.2	10.5	26°03.2	-3.6	54.5
13	14°36.3	7°41.4	277°38.7	10.5	25°59.6	-3.7	54.5
14	29°36.5	7°42.4	292°08.2	10.5	25°55.8	-3.8	54.5
15	44°36.6	7°43.3	306°37.8	10.6	25°51.9	-3.9	54.5
16	59°36.8	7°44.2	321°07.3	10.6	25°47.9	-4.1	54.5
17	74°37.0	7°45.1	335°36.9	10.6	25°43.8	-4.2	54.5
18	89°37.2	7°46.1	350°06.5	10.6	25°39.5	-4.3	54.5
19	104°37.3	7°47.0	4°36.2	10.6	25°35.2	-4.4	54.6
20	119°37.5	7°47.9	19°05.8	10.7	25°30.7	-4.6	54.6
21	134°37.7	7°48.9	33°35.5	10.7	25°26.0	-4.7	54.6
22	149°37.8	7°49.8	48°05.2	10.7	25°21.3	-4.8	54.6
23	164°38.0	7°50.7	62°34.9	10.7	25°16.4	-4.9	54.6
	SD.=16.0	d=0.9	S.D.=14.8				

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	–:–	02:55	04:19	19:48	21:14	–:–
70	01:10	03:19	04:30	19:36	20:49	23:09
68	02:00	03:37	04:40	19:26	20:30	22:10
66	02:31	03:51	04:47	19:18	20:16	21:38
64	02:53	04:02	04:54	19:12	20:04	21:15
62	03:10	04:12	05:00	19:06	19:54	20:57
60	03:24	04:20	05:05	19:01	19:45	20:43
58	03:35	04:28	05:09	18:56	19:38	20:31
56	03:45	04:34	05:13	18:52	19:31	20:20
54	03:54	04:39	05:16	18:49	19:26	20:11
52	04:02	04:44	05:19	18:46	19:21	20:04
50	04:08	04:49	05:22	18:43	19:16	19:57
45	04:22	04:58	05:28	18:36	19:07	19:43
40	04:33	05:06	05:33	18:31	18:59	19:32
35	04:41	05:12	05:38	18:27	18:53	19:23
30	04:49	05:17	05:41	18:23	18:47	19:16
20	05:00	05:26	05:48	18:16	18:38	19:05
10	05:08	05:32	05:53	18:10	18:32	18:56
0	05:14	05:38	05:59	18:05	18:26	18:50
S 10	05:18	05:43	06:04	18:00	18:21	18:46
20	05:21	05:47	06:09	17:55	18:17	18:42
30	05:23	05:51	06:15	17:48	18:12	18:40
35	05:23	05:53	06:18	17:45	18:10	18:40
40	05:23	05:55	06:22	17:41	18:08	18:40
45	05:23	05:57	06:26	17:37	18:06	18:40
50	05:22	05:59	06:31	17:32	18:04	18:41
52	05:21	06:00	06:34	17:29	18:03	18:42
54	05:20	06:01	06:36	17:26	18:02	18:43
56	05:19	06:02	06:39	17:24	18:01	18:44
58	05:17	06:03	06:42	17:20	18:00	18:45
60	05:16	06:04	06:46	17:17	17:59	18:47

	Orto luna			Ocaso luna		
Lat.	Jue	Vie	Sa	Jue	Vie	Sa
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	–:–	–:–	–:–
68	–:–	–:–	–:–	–:–	–:–	–:–
66	–:–	–:–	–:–	–:–	–:–	–:–
64	04:43	–:–	–:–	04:21	–:–	–:–
62	06:10	06:41	07:48	02:54	04:09	04:47
60	06:47	07:25	08:27	02:18	03:24	04:08
58	07:13	07:54	08:54	01:52	02:55	03:41
56	07:34	08:17	09:15	01:31	02:32	03:19
54	07:51	08:35	09:33	01:14	02:14	03:01
52	08:06	08:51	09:48	00:59	01:58	02:46
50	08:18	09:04	10:01	00:47	01:45	02:33
45	08:45	09:32	10:27	00:21	01:17	02:06
40	09:06	09:54	10:48	00:00	00:56	01:45
35	09:23	10:12	11:06	–:–	00:37	01:27
30	09:39	10:28	11:21	–:–	00:22	01:12
20	10:04	10:54	11:46	23:56	–:–	00:46
10	10:27	11:17	12:08	23:33	–:–	00:24
0	10:47	11:38	12:29	23:12	–:–	00:03
S 10	11:08	11:59	12:49	22:51	23:42	–:–
20	11:30	12:22	13:11	22:28	23:19	–:–
30	11:56	12:48	13:36	22:02	22:53	23:48
35	12:12	13:04	13:51	21:46	22:37	23:33
40	12:30	13:22	14:09	21:28	22:19	23:16
45	12:51	13:44	14:29	21:06	21:57	22:56
50	13:19	14:12	14:55	20:39	21:30	22:31
52	13:32	14:26	15:08	20:25	21:16	22:18
54	13:47	14:41	15:22	20:10	21:01	22:04
56	14:06	15:00	15:39	19:51	20:42	21:48
58	14:28	15:23	15:59	19:29	20:19	21:28
60	14:57	15:52	16:25	19:00	19:50	21:02

Día	Sol			Luna		
	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
7	02:17	02:08	12:02	16:59	04:34	6(34%)
8	02:00	01:52	12:01	17:50	05:24	7(43%)
9	01:44	01:35	12:01	18:40	06:15	8(52%)

Abril 10, 11, 12 (Dom, Lun, Mar)

	Aries	Venus		Martes		Júpiter		Saturno	
Dom	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	198°12.3	221°40.4	-9°43.0	229°22.7	-14°02.8	203°52.4	-3°34.0	232°42.7	-14°49.2
1	213°14.8	236°40.3	-9°42.2	244°23.4	-14°02.2	218°54.4	-3°33.8	247°45.0	-14°49.2
2	228°17.3	251°40.1	-9°41.4	259°24.0	-14°01.6	233°56.3	-3°33.5	262°47.2	-14°49.1
3	243°19.7	266°39.9	-9°40.6	274°24.6	-14°01.0	248°58.2	-3°33.3	277°49.5	-14°49.0
4	258°22.2	281°39.7	-9°39.8	289°25.2	-14°00.3	264°00.2	-3°33.1	292°51.8	-14°49.0
5	273°24.6	296°39.5	-9°39.0	304°25.9	-13°59.7	279°02.1	-3°32.9	307°54.0	-14°48.9
6	288°27.1	311°39.4	-9°38.2	319°26.5	-13°59.1	294°04.0	-3°32.7	322°56.3	-14°48.9
7	303°29.6	326°39.2	-9°37.4	334°27.1	-13°58.5	309°06.0	-3°32.4	337°58.5	-14°48.8
8	318°32.0	341°39.0	-9°36.6	349°27.7	-13°57.9	324°07.9	-3°32.2	353°00.8	-14°48.7
9	333°34.5	356°38.8	-9°35.8	4°28.3	-13°57.3	339°09.9	-3°32.0	8°03.1	-14°48.7
10	348°37.0	11°38.7	-9°35.0	19°29.0	-13°56.6	354°11.8	-3°31.8	23°05.3	-14°48.6
11	3°39.4	26°38.5	-9°34.2	34°29.6	-13°56.0	9°13.7	-3°31.5	38°07.6	-14°48.5
12	18°41.9	41°38.3	-9°33.4	49°30.2	-13°55.4	24°15.7	-3°31.3	53°09.9	-14°48.5
13	33°44.4	56°38.1	-9°32.6	64°30.9	-13°54.8	39°17.6	-3°31.1	68°12.1	-14°48.4
14	48°46.8	71°38.0	-9°31.8	79°31.5	-13°54.2	54°19.5	-3°30.9	83°14.4	-14°48.4
15	63°49.3	86°37.8	-9°31.0	94°32.1	-13°53.5	69°21.5	-3°30.7	98°16.6	-14°48.3
16	78°51.8	101°37.6	-9°30.2	109°32.7	-13°52.9	84°23.4	-3°30.4	113°18.9	-14°48.2
17	93°54.2	116°37.4	-9°29.4	124°33.4	-13°52.3	99°25.4	-3°30.2	128°21.2	-14°48.2
18	108°56.7	131°37.3	-9°28.5	139°34.0	-13°51.7	114°27.3	-3°30.0	143°23.4	-14°48.1
19	123°59.1	146°37.1	-9°27.7	154°34.6	-13°51.1	129°29.2	-3°29.8	158°25.7	-14°48.1
20	139°01.6	161°36.9	-9°26.9	169°35.2	-13°50.4	144°31.2	-3°29.6	173°28.0	-14°48.0
21	154°04.1	176°36.7	-9°26.1	184°35.9	-13°49.8	159°33.1	-3°29.3	188°30.2	-14°47.9
22	169°06.5	191°36.5	-9°25.3	199°36.5	-13°49.2	174°35.0	-3°29.1	203°32.5	-14°47.9
23	184°09.0	206°36.4	-9°24.5	214°37.1	-13°48.6	189°37.0	-3°28.9	218°34.8	-14°47.8
Mer.pass.:10:45		v-0.2 d0.8 m-4.1		v0.6 d0.6 m1.0		v1.9 d0.2 m-1.9		v2.3 d0.1 m0.9	

Lun	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	199°11.5	221°36.2	-9°23.7	229°37.7	-13°47.9	204°38.9	-3°28.7	233°37.0	-14°47.8
1	214°13.9	236°36.0	-9°22.9	244°38.4	-13°47.3	219°40.9	-3°28.4	248°39.3	-14°47.7
2	229°16.4	251°35.8	-9°22.0	259°39.0	-13°46.7	234°42.8	-3°28.2	263°41.5	-14°47.6
3	244°18.9	266°35.7	-9°21.2	274°39.6	-13°46.1	249°44.7	-3°28.0	278°43.8	-14°47.6
4	259°21.3	281°35.5	-9°20.4	289°40.3	-13°45.5	264°46.7	-3°27.8	293°46.1	-14°47.5
5	274°23.8	296°35.3	-9°19.6	304°40.9	-13°44.8	279°48.6	-3°27.6	308°48.3	-14°47.5
6	289°26.3	311°35.1	-9°18.8	319°41.5	-13°44.2	294°50.5	-3°27.3	323°50.6	-14°47.4
7	304°28.7	326°35.0	-9°18.0	334°42.1	-13°43.6	309°52.5	-3°27.1	338°52.9	-14°47.3
8	319°31.2	341°34.8	-9°17.1	349°42.8	-13°43.0	324°54.4	-3°26.9	353°55.1	-14°47.3
9	334°33.6	356°34.6	-9°16.3	4°43.4	-13°42.3	339°56.4	-3°26.7	8°57.4	-14°47.2
10	349°36.1	11°34.4	-9°15.5	19°44.0	-13°41.7	354°58.3	-3°26.5	23°59.7	-14°47.2
11	4°38.6	26°34.2	-9°14.7	34°44.7	-13°41.1	10°00.2	-3°26.2	39°01.9	-14°47.1
12	19°41.0	41°34.1	-9°13.9	49°45.3	-13°40.5	25°02.2	-3°26.0	54°04.2	-14°47.0
13	34°43.5	56°33.9	-9°13.0	64°45.9	-13°39.8	40°04.1	-3°25.8	69°06.5	-14°47.0
14	49°46.0	71°33.7	-9°12.2	79°46.5	-13°39.2	55°06.1	-3°25.6	84°08.7	-14°46.9
15	64°48.4	86°33.5	-9°11.4	94°47.2	-13°38.6	70°08.0	-3°25.4	99°11.0	-14°46.9
16	79°50.9	101°33.4	-9°10.6	109°47.8	-13°38.0	85°09.9	-3°25.1	114°13.3	-14°46.8
17	94°53.4	116°33.2	-9°09.8	124°48.4	-13°37.3	100°11.9	-3°24.9	129°15.5	-14°46.7
18	109°55.8	131°33.0	-9°08.9	139°49.1	-13°36.7	115°13.8	-3°24.7	144°17.8	-14°46.7
19	124°58.3	146°32.8	-9°08.1	154°49.7	-13°36.1	130°15.8	-3°24.5	159°20.1	-14°46.6
20	140°00.8	161°32.6	-9°07.3	169°50.3	-13°35.5	145°17.7	-3°24.2	174°22.3	-14°46.6
21	155°03.2	176°32.5	-9°06.5	184°51.0	-13°34.8	160°19.6	-3°24.0	189°24.6	-14°46.5
22	170°05.7	191°32.3	-9°05.6	199°51.6	-13°34.2	175°21.6	-3°23.8	204°26.9	-14°46.4
23	185°08.1	206°32.1	-9°04.8	214°52.2	-13°33.6	190°23.5	-3°23.6	219°29.1	-14°46.4
Mer.pass.:10:41		v-0.2 d0.8 m-4.1		v0.6 d0.6 m1.0		v1.9 d0.2 m-1.9		v2.3 d0.1 m0.9	

Mar	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	200°10.6	221°31.9	-9°04.0	229°52.8	-13°33.0	205°25.5	-3°23.4	234°31.4	-14°46.3
1	215°13.1	236°31.8	-9°03.2	244°53.5	-13°32.3	220°27.4	-3°23.1	249°33.7	-14°46.3
2	230°15.5	251°31.6	-9°02.3	259°54.1	-13°31.7	235°29.3	-3°22.9	264°35.9	-14°46.2
3	245°18.0	266°31.4	-9°01.5	274°54.7	-13°31.1	250°31.3	-3°22.7	279°38.2	-14°46.1
4	260°20.5	281°31.2	-9°00.7	289°55.4	-13°30.4	265°33.2	-3°22.5	294°40.5	-14°46.1
5	275°22.9	296°31.0	-8°59.8	304°56.0	-13°29.8	280°35.2	-3°22.3	309°42.7	-14°46.0
6	290°25.4	311°30.9	-8°59.0	319°56.6	-13°29.2	295°37.1	-3°22.0	324°45.0	-14°46.0
7	305°27.9	326°30.7	-8°58.2	334°57.3	-13°28.6	310°39.0	-3°21.8	339°47.3	-14°45.9
8	320°30.3	341°30.5	-8°57.3	349°57.9	-13°27.9	325°41.0	-3°21.6	354°49.5	-14°45.8
9	335°32.8	356°30.3	-8°56.5	4°58.5	-13°27.3	340°42.9	-3°21.4	9°51.8	-14°45.8
10	350°35.2	11°30.2	-8°55.7	19°59.2	-13°26.7	355°44.9	-3°21.2	24°54.1	-14°45.7
11	5°37.7	26°30.0	-8°54.8	34°59.8	-13°26.0	10°46.8	-3°20.9	39°56.3	-14°45.7
12	20°40.2	41°29.8	-8°54.0	50°00.4	-13°25.4	25°48.7	-3°20.7	54°58.6	-14°45.6
13	35°42.6	56°29.6	-8°53.2	65°01.1	-13°24.8	40°50.7	-3°20.5	70°00.9	-14°45.5
14	50°45.1	71°29.4	-8°52.3	80°01.7	-13°24.2	55°52.6	-3°20.3	85°03.1	-14°45.5
15	65°47.6	86°29.3	-8°51.5	95°02.3	-13°23.5	70°54.6	-3°20.1	100°05.4	-14°45.4
16	80°50.0	101°29.1	-8°50.7	110°03.0	-13°22.9	85°56.5	-3°19.8	115°07.7	-14°45.4
17	95°52.5	116°28.9	-8°49.8	125°03.6	-13°22.3	100°58.5	-3°19.6	130°10.0	-14°45.3
18	110°55.0	131°28.7	-8°49.0	140°04.2	-13°21.6	116°00.4	-3°19.4	145°12.2	-14°45.3
19	125°57.4	146°28.5	-8°48.2	155°04.9	-13°21.0	131°02.3	-3°19.2	160°14.5	-14°45.2
20	140°59.9	161°28.4	-8°47.3	170°05.5	-13°20.4	146°04.3	-3°19.0	175°16.8	-14°45.1
21	156°02.4	176°28.2	-8°46.5	185°06.1	-13°19.7	161°06.2	-3°18.7	190°19.0	-14°45.1
22	171°04.8	191°28.0	-8°45.6	200°06.8	-13°19.1	176°08.2	-3°18.5	205°21.3	-14°45.0
23	186°07.3	206°27.8	-8°44.8	215°07.4	-13°18.5	191°10.1	-3°18.3	220°23.6	-14°45.0
Mer.pass.:10:37		v-0.2 d0.8 m-4.1		v0.6 d0.6 m1.0		v1.9 d0.2 m-1.9		v2.3 d0.1 m0.9	

Estrellas

	AHS	Dec
Alpheratz	357°37.5	29°12.6
Ankaa	353°09.8	-42°11.2
Schedar	349°34.2	56°39.4
Diphda	348°49.8	-17°52.1
Achernar	335°22.5	-57°07.6
Hamal	327°54.1	23°33.9
Polaris	315°32.8	89°21.6
Akamar	315°13.9	-40°13.2
Menkar	314°08.8	4°10.5
Mirfak	308°31.9	49°56.4
Aldebaran	290°42.5	16°33.2
Rigel	281°06.2	-8°10.7
Capella	280°25.5	46°01.3
Bellatrix	278°25.5	6°22.1
Elnath	278°04.9	28°37.6
Alnilam	275°40.2	-1°11.4
Betelgeuse	270°54.7	7°24.6
Canopus	263°53.5	-52°42.7
Sirius	258°28.2	-16°44.8
Adara	255°07.7	-29°00.4
Procyon	244°53.1	5°10.2
Pollux	243°20.0	27°58.4
Avior	234°15.5	-59°35.1
Suhail	222°47.8	-43°31.6
Miaplacidus	221°38.3	-69°48.7
Alphard	217°49.8	-8°45.4
Regulus	207°36.6	11°51.5
Dubhe	193°43.3	61°38.0
Denebola	182°26.9	14°26.9
Gienah	175°45.6	-17°40.0
Acrux	173°01.9	-63°13.4
Gacrux	171°53.6	-57°14.3
Alioth	166°14.5	55°50.4
Spica	158°24.4	-11°16.7
Alcaid	152°53.3	49°12.1
Hadar	148°38.6	-60°28.7
Menkent	147°59.9	-36°28.7
Arcturus	145°49.5	19°04.2
Rigil Kent.	139°42.8	-60°55.5
Zubenelg.	136°58.2	-16°08.1
Kochab	137°18.7	74°03.7
Alphecca	126°05.4	26°38.3
Antares	112°18.4	-26°28.8
Atria	107°14.3	-69°03.8
Sabik	102°05.2	-15°45.2
Shaula	96°13.3	-37°07.1
Rasalhague	96°00.5	12°32.5
Etamin	90°43.0	51°28.8
Kaus Aust.	83°35.4	-34°22.3
Vega	80°34.7	38°47.9
Nunki	75°50.5	-26°16.1
Altair	62°02.3	8°55.4
Peacock	53°09.5	-56°39.6
Deneb	49°27.5	45°21.2
Enif	33°41.2	9°58.4
Alnair	27°36.1	-46°51.1
Fomalhaut	15°17.4	-29°30.3
Scheat	13°47.7	28°11.9
Markab	13°32.4	15°19.2

Abr 10 Dom	AHS	Paso Merid
Venus	23°28.1	09:13
Mars	31°10.4	08:42
Jupiter	5°40.1	10:23
Saturn	34°30.4	08:28

Abr 11 Lun	AHS	Paso Merid
Venus	22°24.7	09:14
Mars	30°26.3	08:41
Jupiter	5°27.4	10:20
Saturn	34°25.5	08:24

Abr 12 Mar	AHS	Paso Merid
Venus	21°21.3	09:14
Mars	29°42.2	08:40
Jupiter	5°14.9	10:17
Saturn	34°20.8	08:21

Paralelaje Horizontal	
Venus:	0.2
Mars:	0.1

h	Sol		Luna				
Dom	AHG	Dec	AHG	v	Dec	d	HP
0	179°38.2	7°51.6	77°04.7	10.8	25°11.4	-5.1	54.6
1	194°38.3	7°52.6	91°34.5	10.8	25°06.3	-5.2	54.6
2	209°38.5	7°53.5	106°04.3	10.8	25°01.0	-5.3	54.7
3	224°38.7	7°54.4	120°34.1	10.8	24°55.7	-5.4	54.7
4	239°38.8	7°55.3	135°04.0	10.9	24°50.2	-5.5	54.7
5	254°39.0	7°56.3	149°33.8	10.9	24°44.6	-5.7	54.7
6	269°39.2	7°57.2	164°03.8	10.9	24°38.8	-5.8	54.7
7	284°39.3	7°58.1	178°33.7	11.0	24°33.0	-5.9	54.7
8	299°39.5	7°59.0	193°03.7	11.0	24°27.0	-6.0	54.8
9	314°39.7	8°00.0	207°33.7	11.0	24°20.9	-6.2	54.8
10	329°39.8	8°00.9	222°03.7	11.0	24°14.7	-6.3	54.8
11	344°40.0	8°01.8	236°33.8	11.1	24°08.4	-6.4	54.8
12	359°40.2	8°02.7	251°03.9	11.1	24°01.9	-6.5	54.8
13	14°40.3	8°03.7	265°34.0	11.1	23°55.4	-6.6	54.9
14	29°40.5	8°04.6	280°04.1	11.2	23°48.7	-6.7	54.9
15	44°40.7	8°05.5	294°34.3	11.2	23°41.9	-6.9	54.9
16	59°40.8	8°06.4	309°04.5	11.2	23°35.0	-7.0	54.9
17	74°41.0	8°07.3	323°34.8	11.3	23°27.9	-7.1	54.9
18	89°41.2	8°08.3	338°05.1	11.3	23°20.8	-7.2	55.0
19	104°41.3	8°09.2	352°35.4	11.3	23°13.5	-7.3	55.0
20	119°41.5	8°10.1	7°05.7	11.4	23°06.1	-7.4	55.0
21	134°41.7	8°11.0	21°36.1	11.4	22°58.7	-7.6	55.0
22	149°41.8	8°11.9	36°06.5	11.4	22°51.0	-7.7	55.0
23	164°42.0	8°12.9	50°37.0	11.5	22°43.3	-7.8	55.1
	SD.=16.0	d=0.9	S.D.=14.9				

Lun	AHG	Dec	AHG	v	Dec	d	HP
0	179°42.2	8°13.8	65°07.4	11.5	22°35.5	-7.9	55.1
1	194°42.3	8°14.7	79°38.0	11.5	22°27.5	-8.0	55.1
2	209°42.5	8°15.6	94°08.5	11.6	22°19.5	-8.1	55.1
3	224°42.7	8°16.5	108°39.1	11.6	22°11.3	-8.2	55.2
4	239°42.8	8°17.5	123°09.7	11.6	22°03.0	-8.3	55.2
5	254°43.0	8°18.4	137°40.3	11.7	21°54.6	-8.4	55.2
6	269°43.2	8°19.3	152°11.0	11.7	21°46.1	-8.6	55.2
7	284°43.3	8°20.2	166°41.7	11.7	21°37.5	-8.7	55.3
8	299°43.5	8°21.1	181°12.5	11.8	21°28.8	-8.8	55.3
9	314°43.7	8°22.1	195°43.3	11.8	21°20.0	-8.9	55.3
10	329°43.8	8°23.0	210°14.1	11.8	21°11.0	-9.0	55.3
11	344°44.0	8°23.9	224°44.9	11.9	21°02.0	-9.1	55.4
12	359°44.2	8°24.8	239°15.8	11.9	20°52.9	-9.2	55.4
13	14°44.3	8°25.7	253°46.7	11.9	20°43.6	-9.3	55.4
14	29°44.5	8°26.6	268°17.7	12.0	20°34.2	-9.4	55.4
15	44°44.6	8°27.6	282°48.7	12.0	20°24.8	-9.5	55.5
16	59°44.8	8°28.5	297°19.7	12.0	20°15.2	-9.6	55.5
17	74°45.0	8°29.4	311°50.7	12.1	20°05.6	-9.7	55.5
18	89°45.1	8°30.3	326°21.8	12.1	19°55.8	-9.8	55.5
19	104°45.3	8°31.2	340°52.9	12.1	19°45.9	-9.9	55.6
20	119°45.5	8°32.1	355°24.1	12.2	19°35.9	-10.0	55.6
21	134°45.6	8°33.1	9°55.3	12.2	19°25.9	-10.1	55.6
22	149°45.8	8°34.0	24°26.5	12.2	19°15.7	-10.2	55.6
23	164°45.9	8°34.9	38°57.7	12.3	19°05.4	-10.3	55.7
	SD.=16.0	d=0.9	S.D.=15.0				

Mar	AHG	Dec	AHG	v	Dec	d	HP
0	179°46.1	8°35.8	53°29.0	12.3	18°55.0	-10.4	55.7
1	194°46.3	8°36.7	68°00.3	12.3	18°44.6	-10.5	55.7
2	209°46.4	8°37.6	82°31.6	12.4	18°34.0	-10.6	55.8
3	224°46.6	8°38.5	97°03.0	12.4	18°23.3	-10.7	55.8
4	239°46.8	8°39.5	111°34.4	12.4	18°12.6	-10.8	55.8
5	254°46.9	8°40.4	126°05.8	12.4	18°01.7	-10.9	55.8
6	269°47.1	8°41.3	140°37.3	12.5	17°50.8	-11.0	55.9
7	284°47.2	8°42.2	155°08.8	12.5	17°39.7	-11.1	55.9
8	299°47.4	8°43.1	169°40.3	12.5	17°28.6	-11.2	55.9
9	314°47.6	8°44.0	184°11.9	12.6	17°17.4	-11.3	56.0
10	329°47.7	8°44.9	198°43.4	12.6	17°06.0	-11.4	56.0
11	344°47.9	8°45.8	213°15.0	12.6	16°54.6	-11.5	56.0
12	359°48.1	8°46.8	227°46.7	12.6	16°43.1	-11.5	56.0
13	14°48.2	8°47.7	242°18.3	12.7	16°31.5	-11.6	56.1
14	29°48.4	8°48.6	256°50.0	12.7	16°19.8	-11.7	56.1
15	44°48.5	8°49.5	271°21.7	12.7	16°08.1	-11.8	56.1
16	59°48.7	8°50.4	285°53.5	12.7	15°56.2	-11.9	56.2
17	74°48.9	8°51.3	300°25.2	12.8	15°44.3	-12.0	56.2
18	89°49.0	8°52.2	314°57.0	12.8	15°32.2	-12.1	56.2
19	104°49.2	8°53.1	329°28.8	12.8	15°20.1	-12.2	56.3
20	119°49.3	8°54.0	344°00.6	12.8	15°07.9	-12.2	56.3
21	134°49.5	8°54.9	358°32.5	12.9	14°55.6	-12.3	56.3
22	149°49.7	8°55.9	13°04.4	12.9	14°43.3	-12.4	56.4
23	164°49.8	8°56.8	27°36.3	12.9	14°30.8	-12.5	56.4
	SD.=16.0	d=0.9	S.D.=15.2				

Lat.	Crepúsculo Naut.	Crepúsculo Civil	Orto Sol	Crepúsculo Civil	Crepúsculo Naut.	Ocaso Sol
N 72	–:–	02:33	04:02	20:03	21:35	–:–
70	–:–	03:01	04:16	19:49	21:06	–:–
68	01:34	03:21	04:27	19:38	20:44	22:37
66	02:11	03:37	04:36	19:29	20:28	21:56
64	02:37	03:51	04:43	19:21	20:14	21:29
62	02:57	04:01	04:50	19:14	20:03	21:09
60	03:12	04:11	04:56	19:08	19:53	20:53
58	03:25	04:19	05:01	19:03	19:45	20:39
56	03:36	04:26	05:05	18:58	19:38	20:28
54	03:46	04:32	05:09	18:54	19:32	20:18
52	03:54	04:37	05:12	18:51	19:26	20:10
50	04:01	04:42	05:16	18:47	19:21	20:03
45	04:16	04:52	05:23	18:40	19:11	19:47
40	04:28	05:01	05:29	18:34	19:02	19:35
35	04:37	05:08	05:34	18:29	18:55	19:26
30	04:45	05:14	05:38	18:25	18:49	19:18
20	04:57	05:23	05:45	18:17	18:39	19:06
10	05:06	05:31	05:52	18:10	18:32	18:56
0	05:13	05:37	05:58	18:04	18:25	18:50
S 10	05:18	05:42	06:04	17:58	18:20	18:44
20	05:22	05:48	06:10	17:52	18:14	18:40
30	05:25	05:53	06:17	17:45	18:09	18:37
35	05:26	05:55	06:21	17:41	18:07	18:36
40	05:26	05:58	06:25	17:37	18:04	18:35
45	05:26	06:00	06:30	17:31	18:01	18:35
50	05:26	06:03	06:36	17:25	17:58	18:35
52	05:26	06:05	06:39	17:22	17:56	18:35
54	05:25	06:06	06:42	17:19	17:55	18:36
56	05:25	06:08	06:45	17:16	17:53	18:36
58	05:24	06:09	06:49	17:12	17:52	18:37
60	05:23	06:11	06:53	17:08	17:50	18:38

Lat.	Orto luna Dom	Orto luna Lun	Orto luna Mar	Ocaso luna Dom	Ocaso luna Lun	Ocaso luna Mar
N 72	–:–	–:–	10:05	–:–	–:–	07:41
70	–:–	–:–	11:03	–:–	–:–	06:42
68	–:–	09:01	11:37	–:–	07:03	06:07
66	–:–	09:59	12:01	–:–	06:04	05:41
64	08:38	10:33	12:19	05:42	05:30	05:22
62	09:19	10:57	12:35	05:00	05:05	05:05
60	09:47	11:16	12:47	04:32	04:45	04:52
58	10:09	11:32	12:58	04:10	04:28	04:40
56	10:27	11:45	13:08	03:52	04:14	04:30
54	10:41	11:57	13:16	03:37	04:02	04:21
52	10:54	12:07	13:24	03:23	03:51	04:13
50	11:06	12:16	13:30	03:12	03:42	04:05
45	11:29	12:36	13:44	02:48	03:21	03:50
40	11:48	12:51	13:56	02:28	03:05	03:37
35	12:04	13:04	14:06	02:12	02:51	03:26
30	12:17	13:16	14:15	01:58	02:39	03:16
20	12:40	13:35	14:30	01:34	02:18	02:59
10	13:00	13:52	14:43	01:13	02:00	02:44
0	13:19	14:08	14:55	00:53	01:42	02:30
S 10	13:37	14:23	15:07	00:33	01:25	02:16
20	13:57	14:40	15:20	00:12	01:07	02:01
30	14:20	14:59	15:34	–:–	00:45	01:44
35	14:33	15:10	15:43	–:–	00:33	01:34
40	14:48	15:23	15:52	–:–	00:18	01:22
45	15:07	15:38	16:04	–:–	00:01	01:08
50	15:29	15:56	16:17	23:39	–:–	00:51
52	15:40	16:04	16:23	23:28	–:–	00:43
54	15:52	16:14	16:30	23:17	–:–	00:34
56	16:06	16:25	16:38	23:03	–:–	00:24
58	16:22	16:37	16:46	22:47	–:–	00:13
60	16:42	16:51	16:56	22:28	23:59	–:–

Día	Sol Ec. tiempo 00:00 h	Sol Ec. tiempo 12:00 h	Sol Paso Merid	Luna Paso Meridiano Superior	Luna Paso Meridiano Inferior	Luna Edad
10	01:27	01:19	12:01	19:30	07:05	9(62%)
11	01:11	01:03	12:01	20:19	07:55	10(71%)
12	00:56	00:48	12:00	21:06	08:42	11(80%)

Abril 13, 14, 15 (Mie, Jue, Vie)

	Aries	Venus		Martes		Júpiter		Saturno	
Mie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	201°09.7	221°27.7	-8°44.0	230°08.0	-13°17.8	206°12.0	-3°18.1	235°25.8	-14°44.9
1	216°12.2	236°27.5	-8°43.1	245°08.7	-13°17.2	221°14.0	-3°17.9	250°28.1	-14°44.8
2	231°14.7	251°27.3	-8°42.3	260°09.3	-13°16.6	236°15.9	-3°17.6	265°30.4	-14°44.8
3	246°17.1	266°27.1	-8°41.4	275°09.9	-13°16.0	251°17.9	-3°17.4	280°32.7	-14°44.7
4	261°19.6	281°26.9	-8°40.6	290°10.6	-13°15.3	266°19.8	-3°17.2	295°34.9	-14°44.7
5	276°22.1	296°26.8	-8°39.8	305°11.2	-13°14.7	281°21.8	-3°17.0	310°37.2	-14°44.6
6	291°24.5	311°26.6	-8°38.9	320°11.8	-13°14.1	296°23.7	-3°16.8	325°39.5	-14°44.5
7	306°27.0	326°26.4	-8°38.1	335°12.5	-13°13.4	311°25.6	-3°16.6	340°41.7	-14°44.5
8	321°29.5	341°26.2	-8°37.2	350°13.1	-13°12.8	326°27.6	-3°16.3	355°44.0	-14°44.4
9	336°31.9	356°26.0	-8°36.4	5°13.7	-13°12.2	341°29.5	-3°16.1	10°46.3	-14°44.4
10	351°34.4	11°25.9	-8°35.5	20°14.4	-13°11.5	356°31.5	-3°15.9	25°48.6	-14°44.3
11	6°36.8	26°25.7	-8°34.7	35°15.0	-13°10.9	11°33.4	-3°15.7	40°50.8	-14°44.3
12	21°39.3	41°25.5	-8°33.8	50°15.7	-13°10.2	26°35.4	-3°15.5	55°53.1	-14°44.2
13	36°41.8	56°25.3	-8°33.0	65°16.3	-13°09.6	41°37.3	-3°15.2	70°55.4	-14°44.1
14	51°44.2	71°25.2	-8°32.1	80°16.9	-13°09.0	56°39.2	-3°15.0	85°57.6	-14°44.1
15	66°46.7	86°25.0	-8°31.3	95°17.6	-13°08.3	71°41.2	-3°14.8	100°59.9	-14°44.0
16	81°49.2	101°24.8	-8°30.4	110°18.2	-13°07.7	86°43.1	-3°14.6	116°02.2	-14°44.0
17	96°51.6	116°24.6	-8°29.6	125°18.8	-13°07.1	101°45.1	-3°14.4	131°04.5	-14°43.9
18	111°54.1	131°24.4	-8°28.7	140°19.5	-13°06.4	116°47.0	-3°14.1	146°06.7	-14°43.9
19	126°56.6	146°24.3	-8°27.9	155°20.1	-13°05.8	131°49.0	-3°13.9	161°09.0	-14°43.8
20	141°59.0	161°24.1	-8°27.0	170°20.8	-13°05.2	146°50.9	-3°13.7	176°11.3	-14°43.7
21	157°01.5	176°23.9	-8°26.2	185°21.4	-13°04.5	161°52.8	-3°13.5	191°13.5	-14°43.7
22	172°04.0	191°23.7	-8°25.3	200°22.0	-13°03.9	176°54.8	-3°13.3	206°15.8	-14°43.6
23	187°06.4	206°23.5	-8°24.5	215°22.7	-13°03.3	191°56.7	-3°13.0	221°18.1	-14°43.6
Mer.pass.:10:33		v-0.2 d0.8 m-4.1		v0.6 d0.6 m1.0		v1.9 d0.2 m-1.9		v2.3 d0.1 m0.9	

Jue	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	202°08.9	221°23.4	-8°23.6	230°23.3	-13°02.6	206°58.7	-3°12.8	236°20.4	-14°43.5
1	217°11.3	236°23.2	-8°22.8	245°23.9	-13°02.0	222°00.6	-3°12.6	251°22.6	-14°43.4
2	232°13.8	251°23.0	-8°21.9	260°24.6	-13°01.3	237°02.6	-3°12.4	266°24.9	-14°43.4
3	247°16.3	266°22.8	-8°21.1	275°25.2	-13°00.7	252°04.5	-3°12.2	281°27.2	-14°43.3
4	262°18.7	281°22.6	-8°20.2	290°25.9	-13°00.1	267°06.5	-3°12.0	296°29.5	-14°43.3
5	277°21.2	296°22.5	-8°19.3	305°26.5	-12°59.4	282°08.4	-3°11.7	311°31.7	-14°43.2
6	292°23.7	311°22.3	-8°18.5	320°27.1	-12°58.8	297°10.3	-3°11.5	326°34.0	-14°43.2
7	307°26.1	326°22.1	-8°17.6	335°27.8	-12°58.2	312°12.3	-3°11.3	341°36.3	-14°43.1
8	322°28.6	341°21.9	-8°16.8	350°28.4	-12°57.5	327°14.2	-3°11.1	356°38.6	-14°43.0
9	337°31.1	356°21.7	-8°15.9	5°29.1	-12°56.9	342°16.2	-3°10.9	11°40.8	-14°43.0
10	352°33.5	11°21.6	-8°15.1	20°29.7	-12°56.2	357°18.1	-3°10.6	26°43.1	-14°42.9
11	7°36.0	26°21.4	-8°14.2	35°30.3	-12°55.6	12°20.1	-3°10.4	41°45.4	-14°42.9
12	22°38.5	41°21.2	-8°13.3	50°31.0	-12°55.0	27°22.0	-3°10.2	56°47.6	-14°42.8
13	37°40.9	56°21.0	-8°12.5	65°31.6	-12°54.3	42°24.0	-3°10.0	71°49.9	-14°42.8
14	52°43.4	71°20.8	-8°11.6	80°32.2	-12°53.7	57°25.9	-3°09.8	86°52.2	-14°42.7
15	67°45.8	86°20.7	-8°10.7	95°32.9	-12°53.0	72°27.8	-3°09.5	101°54.5	-14°42.6
16	82°48.3	101°20.5	-8°09.9	110°33.5	-12°52.4	87°29.8	-3°09.3	116°56.7	-14°42.6
17	97°50.8	116°20.3	-8°09.0	125°34.2	-12°51.8	102°31.7	-3°09.1	131°59.0	-14°42.5
18	112°53.2	131°20.1	-8°08.2	140°34.8	-12°51.1	117°33.7	-3°08.9	147°01.3	-14°42.5
19	127°55.7	146°19.9	-8°07.3	155°35.5	-12°50.5	132°35.6	-3°08.7	162°03.6	-14°42.4
20	142°58.2	161°19.8	-8°06.4	170°36.1	-12°49.8	147°37.6	-3°08.5	177°05.9	-14°42.4
21	158°00.6	176°19.6	-8°05.6	185°36.7	-12°49.2	162°39.5	-3°08.2	192°08.1	-14°42.3
22	173°03.1	191°19.4	-8°04.7	200°37.4	-12°48.6	177°41.5	-3°08.0	207°10.4	-14°42.2
23	188°05.6	206°19.2	-8°03.8	215°38.0	-12°47.9	192°43.4	-3°07.8	222°12.7	-14°42.2
Mer.pass.:10:29		v-0.2 d0.9 m-4.1		v0.6 d0.6 m1.0		v1.9 d0.2 m-1.9		v2.3 d0.1 m0.9	

Vie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	203°08.0	221°19.0	-8°03.0	230°38.7	-12°47.3	207°45.4	-3°07.6	237°15.0	-14°42.1
1	218°10.5	236°18.9	-8°02.1	245°39.3	-12°46.6	222°47.3	-3°07.4	252°17.2	-14°42.1
2	233°12.9	251°18.7	-8°01.2	260°39.9	-12°46.0	237°49.2	-3°07.1	267°19.5	-14°42.0
3	248°15.4	266°18.5	-8°00.4	275°40.6	-12°45.4	252°51.2	-3°06.9	282°21.8	-14°42.0
4	263°17.9	281°18.3	-7°59.5	290°41.2	-12°44.7	267°53.1	-3°06.7	297°24.1	-14°41.9
5	278°20.3	296°18.1	-7°58.6	305°41.9	-12°44.1	282°55.1	-3°06.5	312°26.3	-14°41.8
6	293°22.8	311°18.0	-7°57.8	320°42.5	-12°43.4	297°57.0	-3°06.3	327°28.6	-14°41.8
7	308°25.3	326°17.8	-7°56.9	335°43.2	-12°42.8	312°59.0	-3°06.1	342°30.9	-14°41.7
8	323°27.7	341°17.6	-7°56.0	350°43.8	-12°42.1	328°00.9	-3°05.8	357°33.2	-14°41.7
9	338°30.2	356°17.4	-7°55.1	5°44.4	-12°41.5	343°02.9	-3°05.6	12°35.4	-14°41.6
10	353°32.7	11°17.2	-7°54.3	20°45.1	-12°40.9	358°04.8	-3°05.4	27°37.7	-14°41.6
11	8°35.1	26°17.1	-7°53.4	35°45.7	-12°40.2	13°06.8	-3°05.2	42°40.0	-14°41.5
12	23°37.6	41°16.9	-7°52.5	50°46.4	-12°39.6	28°08.7	-3°05.0	57°42.3	-14°41.5
13	38°40.1	56°16.7	-7°51.6	65°47.0	-12°38.9	43°10.7	-3°04.8	72°44.6	-14°41.4
14	53°42.5	71°16.5	-7°50.8	80°47.7	-12°38.3	58°12.6	-3°04.5	87°46.8	-14°41.3
15	68°45.0	86°16.3	-7°49.9	95°48.3	-12°37.6	73°14.6	-3°04.3	102°49.1	-14°41.3
16	83°47.4	101°16.2	-7°49.0	110°48.9	-12°37.0	88°16.5	-3°04.1	117°51.4	-14°41.2
17	98°49.9	116°16.0	-7°48.1	125°49.6	-12°36.3	103°18.5	-3°03.9	132°53.7	-14°41.2
18	113°52.4	131°15.8	-7°47.3	140°50.2	-12°35.7	118°20.4	-3°03.7	147°55.9	-14°41.1
19	128°54.8	146°15.6	-7°46.4	155°50.9	-12°35.1	133°22.3	-3°03.5	162°58.2	-14°41.1
20	143°57.3	161°15.4	-7°45.5	170°51.5	-12°34.4	148°24.3	-3°03.2	178°00.5	-14°41.0
21	158°59.8	176°15.3	-7°44.6	185°52.2	-12°33.8	163°26.2	-3°03.0	193°02.8	-14°41.0
22	174°02.2	191°15.1	-7°43.8	200°52.8	-12°33.1	178°28.2	-3°02.8	208°05.1	-14°40.9
23	189°04.7	206°14.9	-7°42.9	215°53.5	-12°32.5	193°30.1	-3°02.6	223°07.3	-14°40.8
Mer.pass.:10:25		v-0.2 d0.9 m-4.1		v0.6 d0.6 m1.0		v1.9 d0.2 m-1.9		v2.3 d0.1 m0.9	

Estrellas

	AHS	Dec
Alpheratz	357°37.5	29°12.6
Ankaa	353°09.8	-42°11.2
Schedar	349°34.2	56°39.4
Diphda	348°49.8	-17°52.1
Achernar	335°22.5	-57°07.6
Hamal	327°54.1	23°33.9
Polaris	315°33.5	89°21.5
Akamar	315°13.9	-40°13.2
Menkar	314°08.8	4°10.5
Mirfak	308°31.9	49°56.4
Aldebaran	290°42.5	16°33.2
Rigel	281°06.2	-8°10.7
Capella	280°25.5	46°01.3
Bellatrix	278°25.5	6°22.1
Elnath	278°04.9	28°37.6
Alnilam	275°40.2	-1°11.4
Betelgeuse	270°54.7	7°24.6
Canopus	263°53.6	-52°42.7
Sirius	258°28.2	-16°44.8
Adara	255°07.7	-29°00.4
Procyon	244°53.1	5°10.2
Pollux	243°20.0	27°58.4
Avior	234°15.5	-59°35.1
Suhail	222°47.8	-43°31.6
Miaplacidus	221°38.4	-69°48.7
Alphard	217°49.8	-8°45.4
Regulus	207°36.6	11°51.5
Dubhe	193°43.3	61°38.1
Denebola	182°26.9	14°26.9
Gienah	175°45.6	-17°40.0
Acrux	173°01.9	-63°13.4
Gacrux	171°53.6	-57°14.3
Alioth	166°14.5	55°50.4
Spica	158°24.4	-11°16.7
Alcaid	152°53.3	49°12.1
Hadar	148°38.6	-60°28.8
Menkent	147°59.9	-36°28.8
Arcturus	145°49.5	19°04.2
Rigil Kent.	139°42.8	-60°55.5
Zubenelg.	136°58.2	-16°08.1
Kochab	137°18.7	74°03.7
Alphecca	126°05.4	26°38.3
Antares	112°18.4	-26°28.8
Atria	107°14.3	-69°03.8
Sabik	102°05.2	-15°45.2
Shaula	96°13.3	-37°07.1
Rasalhague	96°00.5	12°32.5
Etamin	90°43.0	51°28.8
Kaus Aust.	83°35.4	-34°22.3
Vega	80°34.7	38°47.9
Nunki	75°50.5	-26°16.1
Altair	62°02.3	8°55.4
Peacock	53°09.4	-56°39.6
Deneb	49°27.5	45°21.2
Enif	33°41.2	9°58.4
Alnair	27°36.1	-46°51.1
Fomalhaut	15°17.4	-29°30.3
Scheat	13°47.7	28°11.9
Markab	13°32.4	15°19.2

Abr 13 Mie	AHS	Paso Merid
Venus	20°17.9	09:14
Mars	28°58.3	08:39
Jupiter	5°02.3	10:14
Saturn	34°16.1	08:17

Abr 14 Jue	AHS	Paso Merid
Venus	19°14.5	09:15
Mars	28°14.4	08:38
Jupiter	4°49.8	10:11
Saturn	34°11.5	08:13

Abr 15 Vie	AHS	Paso Merid
Venus	18°11.0	09:15
Mars	27°30.6	08:37
Jupiter	4°37.3	10:08
Saturn	34°06.9	08:10

Paralelaje Horizontal	
Venus:	0.2
Mars:	0.1

h	Sol		Luna				
Mie	AHG	Dec	AHG	v	Dec	d	HP
0	179°50.0	8°57.7	42°08.2	12.9	14°18.3	-12.6	56.4
1	194°50.1	8°58.6	56°40.1	12.9	14°05.7	-12.6	56.4
2	209°50.3	8°59.5	71°12.1	13.0	13°53.0	-12.7	56.5
3	224°50.5	9°00.4	85°44.1	13.0	13°40.3	-12.8	56.5
4	239°50.6	9°01.3	100°16.1	13.0	13°27.4	-12.9	56.5
5	254°50.8	9°02.2	114°48.1	13.0	13°14.5	-13.0	56.6
6	269°50.9	9°03.1	129°20.1	13.0	13°01.5	-13.0	56.6
7	284°51.1	9°04.0	143°52.1	13.1	12°48.4	-13.1	56.6
8	299°51.3	9°04.9	158°24.2	13.1	12°35.3	-13.2	56.7
9	314°51.4	9°05.8	172°56.3	13.1	12°22.1	-13.3	56.7
10	329°51.6	9°06.7	187°28.4	13.1	12°08.8	-13.3	56.7
11	344°51.7	9°07.6	202°00.5	13.1	11°55.4	-13.4	56.8
12	359°51.9	9°08.5	216°32.6	13.1	11°42.0	-13.5	56.8
13	14°52.0	9°09.4	231°04.7	13.1	11°28.5	-13.5	56.8
14	29°52.2	9°10.4	245°36.9	13.1	11°14.9	-13.6	56.9
15	44°52.4	9°11.3	260°09.0	13.2	11°01.3	-13.7	56.9
16	59°52.5	9°12.2	274°41.2	13.2	10°47.5	-13.7	56.9
17	74°52.7	9°13.1	289°13.3	13.2	10°33.8	-13.8	57.0
18	89°52.8	9°14.0	303°45.5	13.2	10°19.9	-13.9	57.0
19	104°53.0	9°14.9	318°17.7	13.2	10°06.0	-13.9	57.0
20	119°53.1	9°15.8	332°49.9	13.2	9°52.1	-14.0	57.1
21	134°53.3	9°16.7	347°22.1	13.2	9°38.0	-14.1	57.1
22	149°53.5	9°17.6	1°54.3	13.2	9°23.9	-14.1	57.1
23	164°53.6	9°18.5	16°26.5	13.2	9°09.8	-14.2	57.2
	SD.=16.0	d=0.9			S.D.=15.4		

Jue	AHG	Dec	AHG	v	Dec	d	HP
0	179°53.8	9°19.4	30°58.7	13.2	8°55.6	-14.2	57.2
1	194°53.9	9°20.3	45°30.9	13.2	8°41.3	-14.3	57.2
2	209°54.1	9°21.2	60°03.1	13.2	8°27.0	-14.4	57.3
3	224°54.2	9°22.1	74°35.3	13.2	8°12.6	-14.4	57.3
4	239°54.4	9°23.0	89°07.5	13.2	7°58.1	-14.5	57.3
5	254°54.6	9°23.9	103°39.7	13.2	7°43.6	-14.5	57.4
6	269°54.7	9°24.8	118°11.9	13.2	7°29.1	-14.6	57.4
7	284°54.9	9°25.7	132°44.1	13.2	7°14.5	-14.6	57.4
8	299°55.0	9°26.6	147°16.3	13.2	6°59.8	-14.7	57.5
9	314°55.2	9°27.5	161°48.5	13.2	6°45.1	-14.7	57.5
10	329°55.3	9°28.4	176°20.7	13.2	6°30.4	-14.8	57.5
11	344°55.5	9°29.3	190°52.9	13.2	6°15.6	-14.8	57.6
12	359°55.6	9°30.2	205°25.1	13.2	6°00.7	-14.9	57.6
13	14°55.8	9°31.1	219°57.2	13.2	5°45.8	-14.9	57.6
14	29°55.9	9°32.0	234°29.4	13.1	5°30.9	-15.0	57.7
15	44°56.1	9°32.9	249°01.5	13.1	5°15.9	-15.0	57.7
16	59°56.3	9°33.8	263°33.6	13.1	5°00.9	-15.0	57.7
17	74°56.4	9°34.7	278°05.8	13.1	4°45.8	-15.1	57.8
18	89°56.6	9°35.6	292°37.9	13.1	4°30.7	-15.1	57.8
19	104°56.7	9°36.5	307°09.9	13.1	4°15.6	-15.2	57.8
20	119°56.9	9°37.4	321°42.0	13.1	4°00.4	-15.2	57.9
21	134°57.0	9°38.3	336°14.1	13.0	3°45.2	-15.2	57.9
22	149°57.2	9°39.2	350°46.1	13.0	3°29.9	-15.3	57.9
23	164°57.3	9°40.0	5°18.1	13.0	3°14.6	-15.3	58.0
	SD.=15.9	d=0.9			S.D.=15.6		

Vie	AHG	Dec	AHG	v	Dec	d	HP
0	179°57.5	9°40.9	19°50.1	13.0	2°59.3	-15.3	58.0
1	194°57.6	9°41.8	34°22.1	13.0	2°43.9	-15.4	58.0
2	209°57.8	9°42.7	48°54.0	12.9	2°28.5	-15.4	58.1
3	224°57.9	9°43.6	63°26.0	12.9	2°13.1	-15.4	58.1
4	239°58.1	9°44.5	77°57.9	12.9	1°57.7	-15.5	58.1
5	254°58.2	9°45.4	92°29.7	12.9	1°42.2	-15.5	58.1
6	269°58.4	9°46.3	107°01.6	12.8	1°26.7	-15.5	58.2
7	284°58.6	9°47.2	121°33.4	12.8	1°11.2	-15.5	58.2
8	299°58.7	9°48.1	136°05.2	12.8	0°55.6	-15.6	58.2
9	314°58.9	9°49.0	150°37.0	12.7	0°40.1	-15.6	58.3
10	329°59.0	9°49.9	165°08.7	12.7	0°24.5	-15.6	58.3
11	344°59.2	9°50.8	179°40.4	12.7	0°08.9	-15.6	58.3
12	359°59.3	9°51.7	194°12.1	12.7	-0°06.8	-15.6	58.4
13	14°59.5	9°52.6	208°43.7	12.6	-0°22.4	-15.7	58.4
14	29°59.6	9°53.4	223°15.3	12.6	-0°38.1	-15.7	58.4
15	44°59.8	9°54.3	237°46.9	12.5	-0°53.7	-15.7	58.5
16	59°59.9	9°55.2	252°18.4	12.5	-1°09.4	-15.7	58.5
17	75°00.1	9°56.1	266°49.9	12.5	-1°25.1	-15.7	58.5
18	90°00.2	9°57.0	281°21.3	12.4	-1°40.8	-15.7	58.5
19	105°00.4	9°57.9	295°52.7	12.4	-1°56.6	-15.7	58.6
20	120°00.5	9°58.8	310°24.1	12.3	-2°12.3	-15.7	58.6
21	135°00.7	9°59.7	324°55.4	12.3	-2°28.0	-15.7	58.6
22	150°00.8	10°00.6	339°26.7	12.3	-2°43.7	-15.7	58.7
23	165°01.0	10°01.5	353°57.9	12.2	-2°59.5	-15.7	58.7
	SD.=15.9	d=0.9			S.D.=15.8		

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	–:–	02:08	03:45	20:19	22:00	–:–
70	–:–	02:42	04:01	20:03	21:24	–:–
68	00:57	03:06	04:14	19:49	20:59	23:20
66	01:50	03:24	04:24	19:39	20:40	22:17
64	02:21	03:39	04:33	19:30	20:25	21:44
62	02:43	03:51	04:40	19:22	20:12	21:21
60	03:00	04:01	04:47	19:16	20:02	21:03
58	03:15	04:10	04:52	19:10	19:53	20:48
56	03:27	04:17	04:57	19:05	19:45	20:36
54	03:37	04:24	05:02	19:00	19:38	20:25
52	03:46	04:30	05:06	18:56	19:32	20:16
50	03:54	04:36	05:09	18:52	19:26	20:08
45	04:10	04:47	05:17	18:44	19:15	19:52
40	04:23	04:56	05:24	18:37	19:05	19:39
35	04:33	05:04	05:30	18:32	18:58	19:29
30	04:41	05:10	05:34	18:27	18:51	19:20
20	04:54	05:21	05:43	18:18	18:40	19:07
10	05:04	05:29	05:50	18:10	18:32	18:57
0	05:12	05:36	05:57	18:04	18:25	18:49
S 10	05:18	05:42	06:04	17:57	18:18	18:43
20	05:23	05:48	06:11	17:50	18:12	18:38
30	05:26	05:54	06:18	17:42	18:06	18:34
35	05:28	05:57	06:23	17:37	18:03	18:32
40	05:29	06:01	06:28	17:32	17:59	18:31
45	05:30	06:04	06:34	17:26	17:56	18:30
50	05:30	06:08	06:41	17:19	17:52	18:29
52	05:30	06:10	06:44	17:16	17:50	18:29
54	05:30	06:11	06:47	17:12	17:48	18:29
56	05:30	06:13	06:51	17:08	17:46	18:29
58	05:30	06:15	06:55	17:04	17:44	18:29
60	05:29	06:18	07:00	16:59	17:42	18:30

	Orto luna			Ocaso luna		
Lat.	Mie	Jue	Vie	Mie	Jue	Vie
N 72	13:03	15:22	17:35	06:21	05:41	05:09
70	13:24	15:29	17:33	05:59	05:31	05:07
68	13:40	15:35	17:31	05:41	05:22	05:05
66	13:52	15:40	17:29	05:27	05:15	05:04
64	14:03	15:44	17:27	05:15	05:09	05:03
62	14:12	15:48	17:26	05:05	05:03	05:02
60	14:19	15:51	17:25	04:56	04:59	05:01
58	14:26	15:54	17:24	04:48	04:55	05:00
56	14:32	15:57	17:23	04:41	04:51	04:59
54	14:37	15:59	17:23	04:35	04:47	04:58
52	14:42	16:01	17:22	04:30	04:44	04:58
50	14:46	16:03	17:21	04:25	04:42	04:57
45	14:55	16:07	17:20	04:14	04:35	04:56
40	15:03	16:10	17:19	04:05	04:30	04:55
35	15:09	16:13	17:18	03:57	04:26	04:54
30	15:15	16:15	17:17	03:50	04:22	04:53
20	15:25	16:20	17:16	03:38	04:15	04:52
10	15:33	16:24	17:15	03:27	04:09	04:50
0	15:41	16:27	17:14	03:17	04:03	04:49
S 10	15:49	16:31	17:13	03:07	03:57	04:48
20	15:58	16:35	17:12	02:56	03:51	04:46
30	16:07	16:39	17:10	02:44	03:44	04:45
35	16:13	16:41	17:10	02:36	03:39	04:44
40	16:19	16:44	17:09	02:28	03:35	04:43
45	16:26	16:47	17:08	02:18	03:29	04:42
50	16:35	16:51	17:07	02:06	03:22	04:40
52	16:39	16:53	17:06	02:01	03:19	04:39
54	16:43	16:55	17:06	01:54	03:16	04:39
56	16:48	16:57	17:05	01:48	03:12	04:38
58	16:54	16:59	17:05	01:40	03:08	04:37
60	17:00	17:02	17:04	01:31	03:03	04:36

Día	Sol			Luna		
	Ec. tiempo		Paso	Paso	Meridiano	Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
13	00:40	00:32	12:00	21:52	09:29	12(87%)
14	00:25	00:17	12:00	22:38	10:15	13(93%)
15	00:10	00:03	12:00	23:24	11:01	14(98%)

Abril 16, 17, 18 (Sa, Dom, Lun)

	Aries	Venus		Martes		Júpiter		Saturno	
Sa	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	204°07.2	221°14.7	-7°42.0	230°54.1	-12°31.8	208°32.1	-3°02.4	238°09.6	-14°40.8
1	219°09.6	236°14.5	-7°41.1	245°54.7	-12°31.2	223°34.0	-3°02.1	253°11.9	-14°40.7
2	234°12.1	251°14.4	-7°40.2	260°55.4	-12°30.5	238°36.0	-3°01.9	268°14.2	-14°40.7
3	249°14.5	266°14.2	-7°39.4	275°56.0	-12°29.9	253°37.9	-3°01.7	283°16.5	-14°40.6
4	264°17.0	281°14.0	-7°38.5	290°56.7	-12°29.2	268°39.9	-3°01.5	298°18.7	-14°40.6
5	279°19.5	296°13.8	-7°37.6	305°57.3	-12°28.6	283°41.8	-3°01.3	313°21.0	-14°40.5
6	294°21.9	311°13.6	-7°36.7	320°58.0	-12°27.9	298°43.8	-3°01.1	328°23.3	-14°40.5
7	309°24.4	326°13.4	-7°35.8	335°58.6	-12°27.3	313°45.7	-3°00.8	343°25.6	-14°40.4
8	324°26.9	341°13.3	-7°34.9	350°59.3	-12°26.7	328°47.7	-3°00.6	358°27.9	-14°40.3
9	339°29.3	356°13.1	-7°34.1	5°59.9	-12°26.0	343°49.6	-3°00.4	13°30.1	-14°40.3
10	354°31.8	11°12.9	-7°33.2	21°00.6	-12°25.4	358°51.6	-3°00.2	28°32.4	-14°40.2
11	9°34.3	26°12.7	-7°32.3	36°01.2	-12°24.7	13°53.5	-3°00.0	43°34.7	-14°40.2
12	24°36.7	41°12.5	-7°31.4	51°01.8	-12°24.1	28°55.5	-2°59.8	58°37.0	-14°40.1
13	39°39.2	56°12.4	-7°30.5	66°02.5	-12°23.4	43°57.4	-2°59.5	73°39.3	-14°40.1
14	54°41.7	71°12.2	-7°29.6	81°03.1	-12°22.8	58°59.4	-2°59.3	88°41.5	-14°40.0
15	69°44.1	86°12.0	-7°28.7	96°03.8	-12°22.1	74°01.3	-2°59.1	103°43.8	-14°40.0
16	84°46.6	101°11.8	-7°27.9	111°04.4	-12°21.5	89°03.3	-2°58.9	118°46.1	-14°39.9
17	99°49.0	116°11.6	-7°27.0	126°05.1	-12°20.8	104°05.2	-2°58.7	133°48.4	-14°39.8
18	114°51.5	131°11.5	-7°26.1	141°05.7	-12°20.2	119°07.2	-2°58.5	148°50.7	-14°39.8
19	129°54.0	146°11.3	-7°25.2	156°06.4	-12°19.5	134°09.1	-2°58.2	163°52.9	-14°39.7
20	144°56.4	161°11.1	-7°24.3	171°07.0	-12°18.9	149°11.1	-2°58.0	178°55.2	-14°39.7
21	159°58.9	176°10.9	-7°23.4	186°07.7	-12°18.2	164°13.0	-2°57.8	193°57.5	-14°39.6
22	175°01.4	191°10.7	-7°22.5	201°08.3	-12°17.6	179°15.0	-2°57.6	208°59.8	-14°39.6
23	190°03.8	206°10.5	-7°21.6	216°09.0	-12°16.9	194°16.9	-2°57.4	224°02.1	-14°39.5
Mer.pass.:10:21		v-0.2 d0.9 m-4.1		v0.6 d0.6 m1.0		v1.9 d0.2 m-1.9		v2.3 d0.1 m0.9	

Dom	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	205°06.3	221°10.4	-7°20.7	231°09.6	-12°16.3	209°18.9	-2°57.2	239°04.3	-14°39.5
1	220°08.8	236°10.2	-7°19.9	246°10.3	-12°15.6	224°20.8	-2°57.0	254°06.6	-14°39.4
2	235°11.2	251°10.0	-7°19.0	261°10.9	-12°15.0	239°22.8	-2°56.7	269°08.9	-14°39.3
3	250°13.7	266°09.8	-7°18.1	276°11.6	-12°14.3	254°24.7	-2°56.5	284°11.2	-14°39.3
4	265°16.1	281°09.6	-7°17.2	291°12.2	-12°13.7	269°26.7	-2°56.3	299°13.5	-14°39.2
5	280°18.6	296°09.5	-7°16.3	306°12.9	-12°13.0	284°28.6	-2°56.1	314°15.8	-14°39.2
6	295°21.1	311°09.3	-7°15.4	321°13.5	-12°12.4	299°30.6	-2°55.9	329°18.0	-14°39.1
7	310°23.5	326°09.1	-7°14.5	336°14.2	-12°11.7	314°32.5	-2°55.7	344°20.3	-14°39.1
8	325°26.0	341°08.9	-7°13.6	351°14.8	-12°11.1	329°34.5	-2°55.4	359°22.6	-14°39.0
9	340°28.5	356°08.7	-7°12.7	6°15.5	-12°10.4	344°36.4	-2°55.2	14°24.9	-14°39.0
10	355°30.9	11°08.6	-7°11.8	21°16.1	-12°09.8	359°38.4	-2°55.0	29°27.2	-14°38.9
11	10°33.4	26°08.4	-7°10.9	36°16.8	-12°09.1	14°40.3	-2°54.8	44°29.5	-14°38.9
12	25°35.9	41°08.2	-7°10.0	51°17.4	-12°08.4	29°42.3	-2°54.6	59°31.7	-14°38.8
13	40°38.3	56°08.0	-7°09.1	66°18.1	-12°07.8	44°44.2	-2°54.4	74°34.0	-14°38.8
14	55°40.8	71°07.8	-7°08.2	81°18.7	-12°07.1	59°46.2	-2°54.1	89°36.3	-14°38.7
15	70°43.3	86°07.6	-7°07.3	96°19.4	-12°06.5	74°48.1	-2°53.9	104°38.6	-14°38.6
16	85°45.7	101°07.5	-7°06.4	111°20.0	-12°05.8	89°50.1	-2°53.7	119°40.9	-14°38.6
17	100°48.2	116°07.3	-7°05.5	126°20.7	-12°05.2	104°52.0	-2°53.5	134°43.2	-14°38.5
18	115°50.6	131°07.1	-7°04.6	141°21.3	-12°04.5	119°54.0	-2°53.3	149°45.4	-14°38.5
19	130°53.1	146°06.9	-7°03.7	156°22.0	-12°03.9	134°55.9	-2°53.1	164°47.7	-14°38.4
20	145°55.6	161°06.7	-7°02.8	171°22.6	-12°03.2	149°57.9	-2°52.9	179°50.0	-14°38.4
21	160°58.0	176°06.6	-7°01.9	186°23.3	-12°02.6	164°59.8	-2°52.6	194°52.3	-14°38.3
22	176°00.5	191°06.4	-7°01.0	201°23.9	-12°01.9	180°01.8	-2°52.4	209°54.6	-14°38.3
23	191°03.0	206°06.2	-7°00.1	216°24.6	-12°01.3	195°03.7	-2°52.2	224°56.9	-14°38.2
Mer.pass.:10:17		v-0.2 d0.9 m-4.1		v0.6 d0.7 m1.0		v2.0 d0.2 m-1.9		v2.3 d0.1 m0.9	

Lun	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	206°05.4	221°06.0	-6°59.2	231°25.2	-12°00.6	210°05.7	-2°52.0	239°59.2	-14°38.2
1	221°07.9	236°05.8	-6°58.3	246°25.9	-11°59.9	225°07.6	-2°51.8	255°01.4	-14°38.1
2	236°10.4	251°05.6	-6°57.4	261°26.5	-11°59.3	240°09.6	-2°51.6	270°03.7	-14°38.1
3	251°12.8	266°05.5	-6°56.5	276°27.2	-11°58.6	255°11.5	-2°51.3	285°06.0	-14°38.0
4	266°15.3	281°05.3	-6°55.6	291°27.8	-11°58.0	270°13.5	-2°51.1	300°08.3	-14°37.9
5	281°17.8	296°05.1	-6°54.7	306°28.5	-11°57.3	285°15.4	-2°50.9	315°10.6	-14°37.9
6	296°20.2	311°04.9	-6°53.8	321°29.1	-11°56.7	300°17.4	-2°50.7	330°12.9	-14°37.8
7	311°22.7	326°04.7	-6°52.9	336°29.8	-11°56.0	315°19.4	-2°50.5	345°15.2	-14°37.8
8	326°25.1	341°04.6	-6°52.0	351°30.4	-11°55.4	330°21.3	-2°50.3	0°17.4	-14°37.7
9	341°27.6	356°04.4	-6°51.0	6°31.1	-11°54.7	345°23.3	-2°50.1	15°19.7	-14°37.7
10	356°30.1	11°04.2	-6°50.1	21°31.7	-11°54.0	0°25.2	-2°49.8	30°22.0	-14°37.6
11	11°32.5	26°04.0	-6°49.2	36°32.4	-11°53.4	15°27.2	-2°49.6	45°24.3	-14°37.6
12	26°35.0	41°03.8	-6°48.3	51°33.0	-11°52.7	30°29.1	-2°49.4	60°26.6	-14°37.5
13	41°37.5	56°03.6	-6°47.4	66°33.7	-11°52.1	45°31.1	-2°49.2	75°28.9	-14°37.5
14	56°39.9	71°03.5	-6°46.5	81°34.4	-11°51.4	60°33.0	-2°49.0	90°31.2	-14°37.4
15	71°42.4	86°03.3	-6°45.6	96°35.0	-11°50.8	75°35.0	-2°48.8	105°33.4	-14°37.4
16	86°44.9	101°03.1	-6°44.7	111°35.7	-11°50.1	90°36.9	-2°48.5	120°35.7	-14°37.3
17	101°47.3	116°02.9	-6°43.8	126°36.3	-11°49.4	105°38.9	-2°48.3	135°38.0	-14°37.3
18	116°49.8	131°02.7	-6°42.9	141°37.0	-11°48.8	120°40.8	-2°48.1	150°40.3	-14°37.2
19	131°52.2	146°02.5	-6°41.9	156°37.6	-11°48.1	135°42.8	-2°47.9	165°42.6	-14°37.1
20	146°54.7	161°02.4	-6°41.0	171°38.3	-11°47.5	150°44.7	-2°47.7	180°44.9	-14°37.1
21	161°57.2	176°02.2	-6°40.1	186°38.9	-11°46.8	165°46.7	-2°47.5	195°47.2	-14°37.0
22	176°59.6	191°02.0	-6°39.2	201°39.6	-11°46.1	180°48.7	-2°47.3	210°49.5	-14°37.0
23	192°02.1	206°01.8	-6°38.3	216°40.2	-11°45.5	195°50.6	-2°47.0	225°51.7	-14°36.9
Mer.pass.:10:13		v-0.2 d0.9 m-4.1		v0.7 d0.7 m1.0		v2.0 d0.2 m-1.9		v2.3 d0.1 m0.9	

Estrellas	AHS	Dec
Alpheratz	357°37.5	29°12.6
Ankaa	353°09.8	-42°11.2
Schedar	349°34.2	56°39.3
Diphda	348°49.8	-17°52.0
Achernar	335°22.5	-57°07.5
Hamal	327°54.1	23°33.9
Polaris	315°34.0	89°21.5
Akamar	315°13.9	-40°13.1
Menkar	314°08.8	4°10.5
Mirfak	308°32.0	49°56.4
Aldebaran	290°42.5	16°33.2
Rigel	281°06.2	-8°10.7
Capella	280°25.5	46°01.3
Bellatrix	278°25.5	6°22.1
Elnath	278°05.0	28°37.6
Alnilam	275°40.2	-1°11.4
Betelgeuse	270°54.7	7°24.6
Canopus	263°53.6	-52°42.7
Sirius	258°28.2	-16°44.8
Adara	255°07.7	-29°00.4
Procyon	244°53.1	5°10.2
Pollux	243°20.0	27°58.4
Avior	234°15.6	-59°35.1
Suhail	222°47.8	-43°31.6
Miaplacidus	221°38.4	-69°48.7
Alphard	217°49.8	-8°45.4
Regulus	207°36.6	11°51.5
Dubhe	193°43.3	61°38.1
Denebola	182°26.9	14°26.9
Gienah	175°45.6	-17°40.0
Acrux	173°02.0	-63°13.4
Gacrux	171°53.6	-57°14.3
Alioth	166°14.5	55°50.4
Spica	158°24.4	-11°16.7
Alcaid	152°53.3	49°12.1
Hadar	148°38.6	-60°28.8
Menkent	147°59.9	-36°28.8
Arcturus	145°49.5	19°04.2
Rigil Kent.	139°42.8	-60°55.5
Zubenelg.	136°58.2	-16°08.1
Kochab	137°18.7	74°03.8
Alphecca	126°05.4	26°38.3
Antares	112°18.3	-26°28.8
Atria	107°14.3	-69°03.8
Sabik	102°05.2	-15°45.2
Shaula	96°13.2	-37°07.1
Rasalhague	96°00.5	12°32.5
Etamin	90°43.0	51°28.8
Kaus Aust.	83°35.4	-34°22.3
Vega	80°34.7	38°47.9
Nunki	75°50.5	-26°16.1
Altair	62°02.2	8°55.4
Peacock	53°09.4	-56°39.6
Deneb	49°27.4	45°21.2
Enif	33°41.2	9°58.4
Alnair	27°36.1	-46°51.1
Fomalhaut	15°17.4	-29°30.3
Scheat	13°47.7	28°11.9
Markab	13°32.4	15°19.2

Abr 16 Sa	AHS	Paso Merid
Venus	17°07.6	09:15
Mars	26°46.9	08:36
Jupiter	4°24.9	10:05
Saturn	34°02.5	08:06

Abr 17 Dom	AHS	Paso Merid
Venus	16°04.1	09:15
Mars	26°03.3	08:35
Jupiter	4°12.6	10:01
Saturn	33°58.1	08:02

Abr 18 Lun	AHS	Paso Merid
Venus	15°00.6	09:16
Mars	25°19.8	08:34
Jupiter	4°00.3	09:58
Saturn	33°53.7	07:59

Paralelaje Horizontal	
Venus:	0.2
Mars:	0.1

h	Sol		Luna				
Sa	AHG	Dec	AHG	v	Dec	d	HP
0	180°01.1	10°02.3	8°29.1	12.2	-3°15.2	-15.7	58.7
1	195°01.3	10°03.2	23°00.3	12.1	-3°31.0	-15.7	58.8
2	210°01.4	10°04.1	37°31.3	12.1	-3°46.7	-15.7	58.8
3	225°01.6	10°05.0	52°02.4	12.0	-4°02.4	-15.7	58.8
4	240°01.7	10°05.9	66°33.4	12.0	-4°18.2	-15.7	58.8
5	255°01.9	10°06.8	81°04.3	11.9	-4°33.9	-15.7	58.9
6	270°02.0	10°07.7	95°35.2	11.9	-4°49.6	-15.7	58.9
7	285°02.2	10°08.5	110°06.0	11.8	-5°05.3	-15.7	58.9
8	300°02.3	10°09.4	124°36.8	11.7	-5°21.0	-15.7	58.9
9	315°02.4	10°10.3	139°07.5	11.7	-5°36.7	-15.7	59.0
10	330°02.6	10°11.2	153°38.2	11.6	-5°52.3	-15.7	59.0
11	345°02.7	10°12.1	168°08.8	11.6	-6°08.0	-15.6	59.0
12	0°02.9	10°13.0	182°39.3	11.5	-6°23.6	-15.6	59.0
13	15°03.0	10°13.9	197°09.8	11.5	-6°39.2	-15.6	59.1
14	30°03.2	10°14.7	211°40.2	11.4	-6°54.8	-15.6	59.1
15	45°03.3	10°15.6	226°10.6	11.3	-7°10.4	-15.6	59.1
16	60°03.5	10°16.5	240°40.9	11.3	-7°25.9	-15.5	59.1
17	75°03.6	10°17.4	255°11.1	11.2	-7°41.5	-15.5	59.2
18	90°03.8	10°18.3	269°41.3	11.1	-7°57.0	-15.5	59.2
19	105°03.9	10°19.2	284°11.4	11.1	-8°12.4	-15.5	59.2
20	120°04.1	10°20.0	298°41.4	11.0	-8°27.9	-15.4	59.2
21	135°04.2	10°20.9	313°11.4	10.9	-8°43.3	-15.4	59.3
22	150°04.4	10°21.8	327°41.3	10.9	-8°58.6	-15.4	59.3
23	165°04.5	10°22.7	342°11.1	10.8	-9°14.0	-15.3	59.3
	SD.=15.9	d=0.9	S.D.=16.0				

Dom	AHG	Dec	AHG	v	Dec	d	HP
0	180°04.6	10°23.6	356°40.9	10.7	-9°29.3	-15.3	59.3
1	195°04.8	10°24.5	11°10.5	10.6	-9°44.5	-15.2	59.4
2	210°04.9	10°25.3	25°40.1	10.6	-9°59.7	-15.2	59.4
3	225°05.1	10°26.2	40°09.7	10.5	-10°14.9	-15.2	59.4
4	240°05.2	10°27.1	54°39.1	10.4	-10°30.0	-15.1	59.4
5	255°05.4	10°28.0	69°08.5	10.3	-10°45.1	-15.1	59.4
6	270°05.5	10°28.9	83°37.8	10.3	-11°00.1	-15.0	59.5
7	285°05.7	10°29.7	98°07.0	10.2	-11°15.1	-15.0	59.5
8	300°05.8	10°30.6	112°36.2	10.1	-11°30.1	-14.9	59.5
9	315°05.9	10°31.5	127°05.2	10.0	-11°44.9	-14.9	59.5
10	330°06.1	10°32.4	141°34.2	9.9	-11°59.8	-14.8	59.5
11	345°06.2	10°33.2	156°03.1	9.9	-12°14.5	-14.7	59.6
12	0°06.4	10°34.1	170°31.9	9.8	-12°29.2	-14.7	59.6
13	15°06.5	10°35.0	185°00.6	9.7	-12°43.9	-14.6	59.6
14	30°06.7	10°35.9	199°29.3	9.6	-12°58.5	-14.6	59.6
15	45°06.8	10°36.8	213°57.9	9.5	-13°13.0	-14.5	59.6
16	60°07.0	10°37.6	228°26.3	9.4	-13°27.4	-14.4	59.6
17	75°07.1	10°38.5	242°54.7	9.3	-13°41.8	-14.3	59.7
18	90°07.2	10°39.4	257°23.0	9.3	-13°56.1	-14.3	59.7
19	105°07.4	10°40.3	271°51.2	9.2	-14°10.4	-14.2	59.7
20	120°07.5	10°41.1	286°19.4	9.1	-14°24.5	-14.1	59.7
21	135°07.7	10°42.0	300°47.4	9.0	-14°38.6	-14.1	59.7
22	150°07.8	10°42.9	315°15.4	8.9	-14°52.6	-14.0	59.7
23	165°07.9	10°43.8	329°43.2	8.8	-15°06.6	-13.9	59.8
	SD.=15.9	d=0.9	S.D.=16.2				

Lun	AHG	Dec	AHG	v	Dec	d	HP
0	180°08.1	10°44.6	344°11.0	8.7	-15°20.4	-13.8	59.8
1	195°08.2	10°45.5	358°38.6	8.6	-15°34.2	-13.7	59.8
2	210°08.4	10°46.4	13°06.2	8.5	-15°47.9	-13.6	59.8
3	225°08.5	10°47.2	27°33.7	8.4	-16°01.5	-13.6	59.8
4	240°08.7	10°48.1	42°01.1	8.3	-16°15.0	-13.5	59.8
5	255°08.8	10°49.0	56°28.4	8.3	-16°28.4	-13.4	59.8
6	270°08.9	10°49.9	70°55.6	8.2	-16°41.7	-13.3	59.9
7	285°09.1	10°50.7	85°22.7	8.1	-16°55.0	-13.2	59.9
8	300°09.2	10°51.6	99°49.8	8.0	-17°08.1	-13.1	59.9
9	315°09.4	10°52.5	114°16.7	7.9	-17°21.1	-13.0	59.9
10	330°09.5	10°53.4	128°43.5	7.8	-17°34.1	-12.9	59.9
11	345°09.6	10°54.2	143°10.2	7.7	-17°46.9	-12.8	59.9
12	0°09.8	10°55.1	157°36.9	7.6	-17°59.6	-12.7	59.9
13	15°09.9	10°56.0	172°03.4	7.5	-18°12.2	-12.6	59.9
14	30°10.0	10°56.8	186°29.9	7.4	-18°24.8	-12.5	59.9
15	45°10.2	10°57.7	200°56.2	7.3	-18°37.2	-12.3	59.9
16	60°10.3	10°58.6	215°22.5	7.2	-18°49.5	-12.2	60.0
17	75°10.5	10°59.4	229°48.6	7.1	-19°01.6	-12.1	60.0
18	90°10.6	11°00.3	244°14.7	7.0	-19°13.7	-12.0	60.0
19	105°10.7	11°01.2	258°40.7	6.9	-19°25.6	-11.9	60.0
20	120°10.9	11°02.0	273°06.5	6.8	-19°37.5	-11.8	60.0
21	135°11.0	11°02.9	287°32.3	6.7	-19°49.2	-11.6	60.0
22	150°11.2	11°03.8	301°58.0	6.6	-20°00.7	-11.5	60.0
23	165°11.3	11°04.6	316°23.6	6.5	-20°12.2	-11.4	60.0
	SD.=15.9	d=0.9	S.D.=16.3				

Lat.	Crepúsculo Naut.	Crepúsculo Civil	Orto Sol	Crepúsculo Civil	Crepúsculo Naut.	Ocaso Sol
N 72	–:–	01:38	03:28	20:35	22:31	–:–
70	–:–	02:21	03:46	20:16	21:44	–:–
68	–:–	02:49	04:01	20:01	21:14	–:–
66	01:24	03:10	04:13	19:49	20:53	22:44
64	02:03	03:26	04:22	19:39	20:36	22:02
62	02:29	03:40	04:31	19:30	20:22	21:34
60	02:48	03:51	04:38	19:23	20:10	21:14
58	03:04	04:01	04:44	19:16	20:00	20:58
56	03:17	04:09	04:50	19:11	19:52	20:44
54	03:28	04:17	04:55	19:06	19:44	20:33
52	03:38	04:23	04:59	19:01	19:37	20:23
50	03:47	04:29	05:03	18:57	19:31	20:14
45	04:04	04:41	05:12	18:48	19:19	19:56
40	04:18	04:51	05:19	18:40	19:09	19:42
35	04:29	05:00	05:26	18:34	19:00	19:31
30	04:38	05:07	05:31	18:28	18:53	19:22
20	04:52	05:18	05:41	18:19	18:41	19:08
10	05:02	05:27	05:49	18:11	18:32	18:57
0	05:11	05:35	05:56	18:03	18:24	18:48
S 10	05:18	05:42	06:04	17:55	18:17	18:41
20	05:23	05:49	06:11	17:47	18:10	18:36
30	05:28	05:56	06:20	17:39	18:03	18:31
35	05:30	06:00	06:25	17:33	17:59	18:29
40	05:32	06:03	06:31	17:28	17:55	18:27
45	05:33	06:08	06:37	17:21	17:51	18:25
50	05:35	06:12	06:45	17:13	17:46	18:24
52	05:35	06:14	06:49	17:09	17:44	18:23
54	05:35	06:17	06:53	17:05	17:42	18:23
56	05:36	06:19	06:57	17:01	17:39	18:22
58	05:36	06:22	07:02	16:56	17:36	18:22
60	05:36	06:24	07:07	16:51	17:34	18:22

Lat.	Orto luna Sa	Orto luna Dom	Orto luna Lun	Ocaso luna Sa	Ocaso luna Dom	Ocaso luna Lun
N 72	19:56	22:48	–:–	04:37	04:00	02:57
70	19:42	22:10	–:–	04:44	04:16	03:37
68	19:31	21:44	–:–	04:49	04:30	04:05
66	19:22	21:25	23:45	04:53	04:41	04:26
64	19:15	21:09	23:14	04:57	04:50	04:43
62	19:08	20:56	22:51	05:00	04:58	04:57
60	19:03	20:45	22:33	05:03	05:05	05:09
58	18:58	20:35	22:17	05:05	05:12	05:20
56	18:53	20:27	22:05	05:08	05:17	05:29
54	18:49	20:20	21:53	05:10	05:22	05:37
52	18:46	20:13	21:44	05:11	05:26	05:45
50	18:43	20:07	21:35	05:13	05:31	05:51
45	18:36	19:55	21:16	05:17	05:39	06:06
40	18:30	19:45	21:01	05:20	05:47	06:17
35	18:26	19:36	20:49	05:23	05:53	06:28
30	18:21	19:28	20:38	05:25	05:59	06:37
20	18:14	19:15	20:19	05:29	06:09	06:52
10	18:08	19:04	20:03	05:33	06:18	07:06
0	18:02	18:53	19:48	05:36	06:26	07:18
S 10	17:56	18:42	19:33	05:40	06:34	07:31
20	17:50	18:31	19:17	05:43	06:43	07:45
30	17:43	18:19	18:59	05:48	06:53	08:01
35	17:39	18:12	18:49	05:50	06:59	08:10
40	17:35	18:03	18:37	05:53	07:05	08:21
45	17:30	17:54	18:23	05:56	07:13	08:33
50	17:23	17:42	18:06	06:00	07:23	08:49
52	17:21	17:37	17:58	06:02	07:27	08:56
54	17:18	17:31	17:49	06:04	07:32	09:04
56	17:14	17:25	17:40	06:06	07:37	09:13
58	17:11	17:18	17:29	06:08	07:43	09:23
60	17:06	17:10	17:16	06:11	07:50	09:35

Día	Sol Ec. tiempo 00:00 h	Sol Ec. tiempo 12:00 h	Sol Paso Merid	Luna Paso Meridiano Superior	Luna Paso Meridiano Inferior	Luna Edad
16	00:04	00:12	11:59	00:13	11:49	15(100%)
17	00:19	00:26	11:59	00:13	12:39	16(99%)
18	00:32	00:39	11:59	01:05	13:33	17(96%)

Abril 19, 20, 21 (Mar, Mie, Jue)

	Aries	Venus		Martes		Júpiter		Saturno	
Mar	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	207°04.6	221°01.6	-6°37.4	231°40.9	-11°44.8	210°52.6	-2°46.8	240°54.0	-14°36.9
1	222°07.0	236°01.5	-6°36.5	246°41.5	-11°44.2	225°54.5	-2°46.6	255°56.3	-14°36.8
2	237°09.5	251°01.3	-6°35.5	261°42.2	-11°43.5	240°56.5	-2°46.4	270°58.6	-14°36.8
3	252°12.0	266°01.1	-6°34.6	276°42.9	-11°42.8	255°58.4	-2°46.2	286°00.9	-14°36.7
4	267°14.4	281°00.9	-6°33.7	291°43.5	-11°42.2	271°00.4	-2°46.0	301°03.2	-14°36.7
5	282°16.9	296°00.7	-6°32.8	306°44.2	-11°41.5	286°02.3	-2°45.8	316°05.5	-14°36.6
6	297°19.4	311°00.5	-6°31.9	321°44.8	-11°40.9	301°04.3	-2°45.5	331°07.8	-14°36.6
7	312°21.8	326°00.4	-6°31.0	336°45.5	-11°40.2	316°06.2	-2°45.3	346°10.1	-14°36.5
8	327°24.3	341°00.2	-6°30.0	351°46.1	-11°39.5	331°08.2	-2°45.1	1°12.3	-14°36.5
9	342°26.7	356°00.0	-6°29.1	6°46.8	-11°38.9	346°10.2	-2°44.9	16°14.6	-14°36.4
10	357°29.2	10°59.8	-6°28.2	21°47.4	-11°38.2	1°12.1	-2°44.7	31°16.9	-14°36.4
11	12°31.7	25°59.6	-6°27.3	36°48.1	-11°37.6	16°14.1	-2°44.5	46°19.2	-14°36.3
12	27°34.1	40°59.4	-6°26.4	51°48.8	-11°36.9	31°16.0	-2°44.3	61°21.5	-14°36.3
13	42°36.6	55°59.3	-6°25.4	66°49.4	-11°36.2	46°18.0	-2°44.0	76°23.8	-14°36.2
14	57°39.1	70°59.1	-6°24.5	81°50.1	-11°35.6	61°19.9	-2°43.8	91°26.1	-14°36.1
15	72°41.5	85°58.9	-6°23.6	96°50.7	-11°34.9	76°21.9	-2°43.6	106°28.4	-14°36.1
16	87°44.0	100°58.7	-6°22.7	111°51.4	-11°34.3	91°23.8	-2°43.4	121°30.7	-14°36.0
17	102°46.5	115°58.5	-6°21.7	126°52.0	-11°33.6	106°25.8	-2°43.2	136°33.0	-14°36.0
18	117°48.9	130°58.3	-6°20.8	141°52.7	-11°32.9	121°27.8	-2°43.0	151°35.2	-14°35.9
19	132°51.4	145°58.2	-6°19.9	156°53.4	-11°32.3	136°29.7	-2°42.8	166°37.5	-14°35.9
20	147°53.9	160°58.0	-6°19.0	171°54.0	-11°31.6	151°31.7	-2°42.6	181°39.8	-14°35.8
21	162°56.3	175°57.8	-6°18.1	186°54.7	-11°30.9	166°33.6	-2°42.3	196°42.1	-14°35.8
22	177°58.8	190°57.6	-6°17.1	201°55.3	-11°30.3	181°35.6	-2°42.1	211°44.4	-14°35.7
23	193°01.2	205°57.4	-6°16.2	216°56.0	-11°29.6	196°37.5	-2°41.9	226°46.7	-14°35.7
Mer.pass.:10:10		v-0.2 d0.9 m-4.1		v0.7 d0.7 m0.9		v2.0 d0.2 m-1.9		v2.3 d0.1 m0.9	

Mie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	208°03.7	220°57.2	-6°15.3	231°56.6	-11°28.9	211°39.5	-2°41.7	241°49.0	-14°35.6
1	223°06.2	235°57.1	-6°14.4	246°57.3	-11°28.3	226°41.4	-2°41.5	256°51.3	-14°35.6
2	238°08.6	250°56.9	-6°13.4	261°58.0	-11°27.6	241°43.4	-2°41.3	271°53.6	-14°35.5
3	253°11.1	265°56.7	-6°12.5	276°58.6	-11°27.0	256°45.4	-2°41.1	286°55.9	-14°35.5
4	268°13.6	280°56.5	-6°11.6	291°59.3	-11°26.3	271°47.3	-2°40.8	301°58.2	-14°35.4
5	283°16.0	295°56.3	-6°10.6	306°59.9	-11°25.6	286°49.3	-2°40.6	317°00.5	-14°35.4
6	298°18.5	310°56.1	-6°09.7	322°00.6	-11°25.0	301°51.2	-2°40.4	332°02.7	-14°35.3
7	313°21.0	325°56.0	-6°08.8	337°01.3	-11°24.3	316°53.2	-2°40.2	347°05.0	-14°35.3
8	328°23.4	340°55.8	-6°07.9	352°01.9	-11°23.6	331°55.1	-2°40.0	2°07.3	-14°35.2
9	343°25.9	355°55.6	-6°06.9	7°02.6	-11°23.0	346°57.1	-2°39.8	17°09.6	-14°35.2
10	358°28.4	10°55.4	-6°06.0	22°03.2	-11°22.3	1°59.1	-2°39.6	32°11.9	-14°35.1
11	13°30.8	25°55.2	-6°05.1	37°03.9	-11°21.6	17°01.0	-2°39.4	47°14.2	-14°35.1
12	28°33.3	40°55.0	-6°04.1	52°04.6	-11°21.0	32°03.0	-2°39.1	62°16.5	-14°35.0
13	43°35.7	55°54.9	-6°03.2	67°05.2	-11°20.3	47°04.9	-2°38.9	77°18.8	-14°35.0
14	58°38.2	70°54.7	-6°02.3	82°05.9	-11°19.6	62°06.9	-2°38.7	92°21.1	-14°34.9
15	73°40.7	85°54.5	-6°01.3	97°06.5	-11°19.0	77°08.8	-2°38.5	107°23.4	-14°34.9
16	88°43.1	100°54.3	-6°00.4	112°07.2	-11°18.3	92°10.8	-2°38.3	122°25.7	-14°34.8
17	103°45.6	115°54.1	-5°59.5	127°07.9	-11°17.6	107°12.8	-2°38.1	137°28.0	-14°34.8
18	118°48.1	130°53.9	-5°58.5	142°08.5	-11°17.0	122°14.7	-2°37.9	152°30.3	-14°34.7
19	133°50.5	145°53.8	-5°57.6	157°09.2	-11°16.3	137°16.7	-2°37.7	167°32.6	-14°34.7
20	148°53.0	160°53.6	-5°56.7	172°09.8	-11°15.6	152°18.6	-2°37.4	182°34.8	-14°34.6
21	163°55.5	175°53.4	-5°55.7	187°10.5	-11°15.0	167°20.6	-2°37.2	197°37.1	-14°34.6
22	178°57.9	190°53.2	-5°54.8	202°11.2	-11°14.3	182°22.6	-2°37.0	212°39.4	-14°34.5
23	194°00.4	205°53.0	-5°53.9	217°11.8	-11°13.6	197°24.5	-2°36.8	227°41.7	-14°34.5
Mer.pass.:10:06		v-0.2 d0.9 m-4.1		v0.7 d0.7 m0.9		v2.0 d0.2 m-1.9		v2.3 d0.1 m0.9	

Jue	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	209°02.9	220°52.8	-5°52.9	232°12.5	-11°13.0	212°26.5	-2°36.6	242°44.0	-14°34.4
1	224°05.3	235°52.7	-5°52.0	247°13.1	-11°12.3	227°28.4	-2°36.4	257°46.3	-14°34.4
2	239°07.8	250°52.5	-5°51.0	262°13.8	-11°11.6	242°30.4	-2°36.2	272°48.6	-14°34.3
3	254°10.2	265°52.3	-5°50.1	277°14.5	-11°11.0	257°32.3	-2°36.0	287°50.9	-14°34.3
4	269°12.7	280°52.1	-5°49.2	292°15.1	-11°10.3	272°34.3	-2°35.7	302°53.2	-14°34.2
5	284°15.2	295°51.9	-5°48.2	307°15.8	-11°09.6	287°36.3	-2°35.5	317°55.5	-14°34.2
6	299°17.6	310°51.7	-5°47.3	322°16.5	-11°09.0	302°38.2	-2°35.3	332°57.8	-14°34.1
7	314°20.1	325°51.6	-5°46.4	337°17.1	-11°08.3	317°40.2	-2°35.1	348°00.1	-14°34.1
8	329°22.6	340°51.4	-5°45.4	352°17.8	-11°07.6	332°42.1	-2°34.9	3°02.4	-14°34.0
9	344°25.0	355°51.2	-5°44.5	7°18.4	-11°07.0	347°44.1	-2°34.7	18°04.7	-14°33.9
10	359°27.5	10°51.0	-5°43.5	22°19.1	-11°06.3	2°46.1	-2°34.5	33°07.0	-14°33.9
11	14°30.0	25°50.8	-5°42.6	37°19.8	-11°05.6	17°48.0	-2°34.3	48°09.3	-14°33.8
12	29°32.4	40°50.6	-5°41.7	52°20.4	-11°05.0	32°50.0	-2°34.0	63°11.6	-14°33.8
13	44°34.9	55°50.5	-5°40.7	67°21.1	-11°04.3	47°51.9	-2°33.8	78°13.9	-14°33.7
14	59°37.3	70°50.3	-5°39.8	82°21.8	-11°03.6	62°53.9	-2°33.6	93°16.2	-14°33.7
15	74°39.8	85°50.1	-5°38.8	97°22.4	-11°02.9	77°55.9	-2°33.4	108°18.5	-14°33.6
16	89°42.3	100°49.9	-5°37.9	112°23.1	-11°02.3	92°57.8	-2°33.2	123°20.8	-14°33.6
17	104°44.7	115°49.7	-5°36.9	127°23.7	-11°01.6	107°59.8	-2°33.0	138°23.0	-14°33.5
18	119°47.2	130°49.5	-5°36.0	142°24.4	-11°00.9	123°01.7	-2°32.8	153°25.3	-14°33.5
19	134°49.7	145°49.4	-5°35.0	157°25.1	-11°00.3	138°03.7	-2°32.6	168°27.6	-14°33.5
20	149°52.1	160°49.2	-5°34.1	172°25.7	-10°59.6	153°05.7	-2°32.3	183°29.9	-14°33.4
21	164°54.6	175°49.0	-5°33.2	187°26.4	-10°58.9	168°07.6	-2°32.1	198°32.2	-14°33.4
22	179°57.1	190°48.8	-5°32.2	202°27.1	-10°58.2	183°09.6	-2°31.9	213°34.5	-14°33.3
23	194°59.5	205°48.6	-5°31.3	217°27.7	-10°57.6	198°11.5	-2°31.7	228°36.8	-14°33.3
Mer.pass.:10:02		v-0.2 d0.9 m-4.1		v0.7 d0.7 m0.9		v2.0 d0.2 m-1.9		v2.3 d0.1 m0.9	

Estrellas

	AHS	Dec
Alpheratz	357°37.4	29°12.6
Ankaa	353°09.8	-42°11.2
Schedar	349°34.1	56°39.3
Diphda	348°49.8	-17°52.0
Achernar	335°22.5	-57°07.5
Hamal	327°54.1	23°33.9
Polaris	315°34.1	89°21.5
Akamar	315°13.9	-40°13.1
Menkar	314°08.8	4°10.5
Mirfak	308°32.0	49°56.3
Aldebaran	290°42.5	16°33.2
Rigel	281°06.3	-8°10.7
Capella	280°25.6	46°01.3
Bellatrix	278°25.5	6°22.1
Elnath	278°05.0	28°37.6
Alnilam	275°40.2	-1°11.4
Betelgeuse	270°54.7	7°24.6
Canopus	263°53.6	-52°42.7
Sirius	258°28.2	-16°44.8
Adara	255°07.7	-29°00.4
Procyon	244°53.1	5°10.2
Pollux	243°20.0	27°58.4
Avior	234°15.6	-59°35.1
Suhail	222°47.8	-43°31.6
Miaplacidus	221°38.4	-69°48.7
Alphard	217°49.8	-8°45.4
Regulus	207°36.6	11°51.5
Dubhe	193°43.3	61°38.1
Denebola	182°26.9	14°26.9
Gienah	175°45.6	-17°40.0
Acrux	173°01.9	-63°13.4
Gacrux	171°53.6	-57°14.3
Alioth	166°14.5	55°50.4
Spica	158°24.4	-11°16.7
Alcaid	152°53.3	49°12.1
Hadar	148°38.6	-60°28.8
Menkent	147°59.9	-36°28.8
Arcturus	145°49.5	19°04.2
Rigil Kent.	139°42.8	-60°55.6
Zubenelg.	136°58.2	-16°08.1
Kochab	137°18.6	74°03.8
Alphecca	126°05.4	26°38.3
Antares	112°18.3	-26°28.8
Atria	107°14.2	-69°03.8
Sabik	102°05.2	-15°45.2
Shaula	96°13.2	-37°07.1
Rasalhague	96°00.5	12°32.5
Etamin	90°43.0	51°28.8
Kaus Aust.	83°35.3	-34°22.3
Vega	80°34.6	38°47.9
Nunki	75°50.5	-26°16.1
Altair	62°02.2	8°55.4
Peacock	53°09.4	-56°39.6
Deneb	49°27.4	45°21.2
Enif	33°41.2	9°58.4
Alnair	27°36.0	-46°51.1
Fomalhaut	15°17.3	-29°30.3
Scheat	13°47.7	28°11.9
Markab	13°32.4	15°19.2

Abr 19 Mar	AHS	Paso Merid
Venus	13°57.1	09:16
Mars	24°36.3	08:33
Jupiter	3°48.0	09:55
Saturn	33°49.5	07:55

Abr 20 Mie	AHS	Paso Merid
Venus	12°53.5	09:16
Mars	23°52.9	08:32
Jupiter	3°35.8	09:52
Saturn	33°45.3	07:52

Abr 21 Jue	AHS	Paso Merid
Venus	11°50.0	09:17
Mars	23°09.6	08:31
Jupiter	3°23.6	09:49
Saturn	33°41.2	07:48

Paralelaje Horizontal	
Venus:	0.2
Mars:	0.1

h Sol Luna

Mar	AHG	Dec	AHG	v	Dec	d	HP
0	180°11.4	11°05.5	330°49.1	6.4	-20°23.5	-11.3	60.0
1	195°11.6	11°06.4	345°14.5	6.3	-20°34.7	-11.1	60.0
2	210°11.7	11°07.2	359°39.8	6.3	-20°45.8	-11.0	60.0
3	225°11.8	11°08.1	14°05.0	6.2	-20°56.7	-10.9	60.0
4	240°12.0	11°09.0	28°30.1	6.1	-21°07.5	-10.7	60.0
5	255°12.1	11°09.8	42°55.1	6.0	-21°18.2	-10.6	60.0
6	270°12.2	11°10.7	57°20.0	5.9	-21°28.7	-10.5	60.0
7	285°12.4	11°11.6	71°44.9	5.8	-21°39.1	-10.3	60.0
8	300°12.5	11°12.4	86°09.6	5.7	-21°49.3	-10.2	60.0
9	315°12.7	11°13.3	100°34.3	5.6	-21°59.4	-10.0	60.0
10	330°12.8	11°14.2	114°58.8	5.5	-22°09.4	-9.9	60.0
11	345°12.9	11°15.0	129°23.3	5.4	-22°19.2	-9.7	60.0
12	0°13.1	11°15.9	143°47.7	5.3	-22°28.9	-9.6	60.0
13	15°13.2	11°16.7	158°12.0	5.3	-22°38.4	-9.4	60.0
14	30°13.3	11°17.6	172°36.2	5.2	-22°47.8	-9.3	60.0
15	45°13.5	11°18.5	187°00.4	5.1	-22°57.0	-9.1	60.0
16	60°13.6	11°19.3	201°24.4	5.0	-23°06.0	-9.0	60.0
17	75°13.7	11°20.2	215°48.4	4.9	-23°14.9	-8.8	60.0
18	90°13.9	11°21.1	230°12.3	4.8	-23°23.7	-8.7	60.0
19	105°14.0	11°21.9	244°36.1	4.8	-23°32.3	-8.5	60.0
20	120°14.1	11°22.8	258°59.8	4.7	-23°40.7	-8.3	60.0
21	135°14.3	11°23.6	273°23.5	4.6	-23°49.0	-8.2	60.0
22	150°14.4	11°24.5	287°47.0	4.5	-23°57.1	-8.0	60.0
23	165°14.5	11°25.4	302°10.5	4.5	-24°05.0	-7.9	60.0
	SD.=15.9	d=0.9			S.D.=16.4		

Mie	AHG	Dec	AHG	v	Dec	d	HP
0	180°14.7	11°26.2	316°34.0	4.4	-24°12.8	-7.7	60.0
1	195°14.8	11°27.1	330°57.3	4.3	-24°20.4	-7.5	60.0
2	210°14.9	11°27.9	345°20.6	4.2	-24°27.8	-7.3	60.0
3	225°15.1	11°28.8	359°43.8	4.2	-24°35.1	-7.2	60.0
4	240°15.2	11°29.6	14°07.0	4.1	-24°42.2	-7.0	60.0
5	255°15.3	11°30.5	28°30.0	4.0	-24°49.1	-6.8	60.0
6	270°15.5	11°31.4	42°53.1	4.0	-24°55.8	-6.7	60.0
7	285°15.6	11°32.2	57°16.0	3.9	-25°02.4	-6.5	60.0
8	300°15.7	11°33.1	71°38.9	3.9	-25°08.8	-6.3	60.0
9	315°15.9	11°33.9	86°01.7	3.8	-25°15.0	-6.1	60.0
10	330°16.0	11°34.8	100°24.5	3.8	-25°21.1	-6.0	60.0
11	345°16.1	11°35.6	114°47.2	3.7	-25°26.9	-5.8	60.0
12	0°16.2	11°36.5	129°09.9	3.6	-25°32.6	-5.6	60.0
13	15°16.4	11°37.3	143°32.5	3.6	-25°38.1	-5.4	60.0
14	30°16.5	11°38.2	157°55.1	3.6	-25°43.4	-5.2	60.0
15	45°16.6	11°39.1	172°17.7	3.5	-25°48.6	-5.0	60.0
16	60°16.8	11°39.9	186°40.1	3.5	-25°53.5	-4.9	59.9
17	75°16.9	11°40.8	201°02.6	3.4	-25°58.3	-4.7	59.9
18	90°17.0	11°41.6	215°25.0	3.4	-26°02.9	-4.5	59.9
19	105°17.2	11°42.5	229°47.4	3.4	-26°07.3	-4.3	59.9
20	120°17.3	11°43.3	244°09.7	3.3	-26°11.5	-4.1	59.9
21	135°17.4	11°44.2	258°32.0	3.3	-26°15.5	-3.9	59.9
22	150°17.5	11°45.0	272°54.3	3.3	-26°19.3	-3.7	59.9
23	165°17.7	11°45.9	287°16.5	3.2	-26°23.0	-3.6	59.9
	SD.=15.9	d=0.9			S.D.=16.4		

Jue	AHG	Dec	AHG	v	Dec	d	HP
0	180°17.8	11°46.7	301°38.7	3.2	-26°26.5	-3.4	59.9
1	195°17.9	11°47.6	316°00.9	3.2	-26°29.7	-3.2	59.9
2	210°18.1	11°48.4	330°23.1	3.2	-26°32.8	-3.0	59.9
3	225°18.2	11°49.3	344°45.2	3.1	-26°35.7	-2.8	59.8
4	240°18.3	11°50.1	359°07.4	3.1	-26°38.4	-2.6	59.8
5	255°18.4	11°51.0	13°29.5	3.1	-26°40.9	-2.4	59.8
6	270°18.6	11°51.8	27°51.6	3.1	-26°43.2	-2.2	59.8
7	285°18.7	11°52.7	42°13.7	3.1	-26°45.4	-2.0	59.8
8	300°18.8	11°53.5	56°35.8	3.1	-26°47.3	-1.8	59.8
9	315°18.9	11°54.4	70°57.9	3.1	-26°49.0	-1.6	59.8
10	330°19.1	11°55.2	85°20.0	3.1	-26°50.6	-1.5	59.8
11	345°19.2	11°56.1	99°42.1	3.1	-26°52.0	-1.3	59.8
12	0°19.3	11°56.9	114°04.2	3.1	-26°53.1	-1.1	59.7
13	15°19.4	11°57.8	128°26.3	3.1	-26°54.1	-0.9	59.7
14	30°19.6	11°58.6	142°48.4	3.1	-26°54.9	-0.7	59.7
15	45°19.7	11°59.5	157°10.6	3.1	-26°55.5	-0.5	59.7
16	60°19.8	12°00.3	171°32.7	3.2	-26°55.9	-0.3	59.7
17	75°19.9	12°01.1	185°54.9	3.2	-26°56.1	-0.1	59.7
18	90°20.1	12°02.0	200°17.1	3.2	-26°56.1	0.1	59.7
19	105°20.2	12°02.8	214°39.3	3.2	-26°56.0	0.3	59.6
20	120°20.3	12°03.7	229°01.5	3.2	-26°55.6	0.5	59.6
21	135°20.4	12°04.5	243°23.8	3.3	-26°55.1	0.6	59.6
22	150°20.6	12°05.4	257°46.0	3.3	-26°54.3	0.8	59.6
23	165°20.7	12°06.2	272°08.4	3.3	-26°53.4	1.0	59.6
	SD.=15.9	d=0.9			S.D.=16.3		

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	–:–	00:57	03:10	20:52	23:21	–:–
70	–:–	01:58	03:31	20:30	22:07	–:–
68	–:–	02:31	03:48	20:13	21:31	–:–
66	00:49	02:55	04:01	19:59	21:06	23:27
64	01:43	03:14	04:12	19:48	20:47	22:21
62	02:13	03:29	04:21	19:39	20:31	21:49
60	02:35	03:41	04:29	19:30	20:19	21:26
58	02:53	03:52	04:36	19:23	20:08	21:07
56	03:07	04:01	04:42	19:17	19:58	20:53
54	03:20	04:09	04:48	19:11	19:50	20:40
52	03:30	04:16	04:53	19:06	19:43	20:29
50	03:39	04:23	04:57	19:02	19:36	20:20
45	03:58	04:36	05:07	18:52	19:23	20:01
40	04:13	04:47	05:15	18:43	19:12	19:46
35	04:24	04:56	05:22	18:36	19:03	19:34
30	04:34	05:03	05:28	18:30	18:55	19:24
20	04:49	05:16	05:38	18:20	18:42	19:09
10	05:01	05:26	05:47	18:11	18:32	18:57
0	05:10	05:34	05:56	18:02	18:23	18:48
S 10	05:18	05:42	06:04	17:54	18:15	18:40
20	05:24	05:50	06:12	17:45	18:08	18:33
30	05:30	05:58	06:22	17:35	18:00	18:28
35	05:32	06:02	06:28	17:30	17:56	18:25
40	05:35	06:06	06:34	17:23	17:51	18:23
45	05:37	06:11	06:41	17:16	17:46	18:20
50	05:39	06:17	06:50	17:07	17:40	18:18
52	05:40	06:19	06:54	17:03	17:38	18:17
54	05:41	06:22	06:58	16:59	17:35	18:16
56	05:41	06:25	07:03	16:54	17:32	18:16
58	05:42	06:28	07:09	16:48	17:29	18:15
60	05:43	06:31	07:15	16:42	17:26	18:14

	Orto luna			Ocaso luna		
Lat.	Mar	Mie	Jue	Mar	Mie	Jue
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	–:–	–:–	–:–
68	00:34	–:–	–:–	03:12	–:–	–:–
66	–:–	–:–	–:–	04:02	–:–	–:–
64	–:–	01:36	–:–	04:34	04:16	–:–
62	–:–	00:52	02:46	04:58	05:01	05:18
60	–:–	00:22	02:01	05:17	05:31	06:03
58	00:00	–:–	01:31	05:33	05:54	06:33
56	23:42	–:–	01:09	05:46	06:13	06:56
54	23:26	–:–	00:50	05:58	06:29	07:14
52	23:13	–:–	00:35	06:09	06:42	07:30
50	23:01	–:–	00:21	06:18	06:54	07:44
45	22:37	23:54	–:–	06:38	07:19	08:12
40	22:18	23:32	–:–	06:54	07:39	08:34
35	22:02	23:14	–:–	07:08	07:56	08:52
30	21:49	22:58	–:–	07:20	08:10	09:08
20	21:25	22:32	23:36	07:40	08:35	09:34
10	21:05	22:10	23:13	07:58	08:56	09:57
0	20:47	21:49	22:52	08:15	09:16	10:19
S 10	20:28	21:28	22:30	08:32	09:36	10:40
20	20:08	21:05	22:07	08:50	09:57	11:03
30	19:46	20:40	21:41	09:11	10:22	11:30
35	19:32	20:25	21:25	09:24	10:37	11:45
40	19:17	20:07	21:07	09:38	10:54	12:04
45	18:59	19:46	20:45	09:55	11:14	12:26
50	18:37	19:20	20:17	10:16	11:40	12:53
52	18:27	19:07	20:03	10:26	11:52	13:07
54	18:15	18:52	19:48	10:37	12:07	13:23
56	18:01	18:35	19:29	10:50	12:23	13:41
58	17:45	18:15	19:06	11:05	12:43	14:04
60	17:27	17:49	18:37	11:23	13:09	14:34

Día	Sol			Luna		
	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
19	00:46	00:52	11:59	02:01	14:30	18(90%)
20	00:59	01:05	11:58	03:01	15:32	19(82%)
21	01:11	01:17	11:58	04:03	16:35	20(72%)

Abril 22, 23, 24 (Vie, Sa, Dom)

	Aries	Venus		Martes		Júpiter		Saturno	
Vie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	210°02.0	220°48.4	-5°30.3	232°28.4	-10°56.9	213°13.5	-2°31.5	243°39.1	-14°33.2
1	225°04.5	235°48.2	-5°29.4	247°29.1	-10°56.2	228°15.5	-2°31.3	258°41.4	-14°33.2
2	240°06.9	250°48.1	-5°28.4	262°29.7	-10°55.6	243°17.4	-2°31.1	273°43.7	-14°33.1
3	255°09.4	265°47.9	-5°27.5	277°30.4	-10°54.9	258°19.4	-2°30.9	288°46.0	-14°33.1
4	270°11.8	280°47.7	-5°26.5	292°31.1	-10°54.2	273°21.4	-2°30.7	303°48.3	-14°33.0
5	285°14.3	295°47.5	-5°25.6	307°31.7	-10°53.5	288°23.3	-2°30.4	318°50.6	-14°33.0
6	300°16.8	310°47.3	-5°24.6	322°32.4	-10°52.9	303°25.3	-2°30.2	333°52.9	-14°32.9
7	315°19.2	325°47.1	-5°23.7	337°33.0	-10°52.2	318°27.2	-2°30.0	348°55.2	-14°32.9
8	330°21.7	340°47.0	-5°22.7	352°33.7	-10°51.5	333°29.2	-2°29.8	3°57.5	-14°32.8
9	345°24.2	355°46.8	-5°21.8	7°34.4	-10°50.9	348°31.2	-2°29.6	18°59.8	-14°32.8
10	0°26.6	10°46.6	-5°20.8	22°35.0	-10°50.2	3°33.1	-2°29.4	34°02.1	-14°32.7
11	15°29.1	25°46.4	-5°19.9	37°35.7	-10°49.5	18°35.1	-2°29.2	49°04.4	-14°32.7
12	30°31.6	40°46.2	-5°18.9	52°36.4	-10°48.8	33°37.0	-2°29.0	64°06.7	-14°32.6
13	45°34.0	55°46.0	-5°18.0	67°37.0	-10°48.2	48°39.0	-2°28.8	79°09.0	-14°32.6
14	60°36.5	70°45.9	-5°17.0	82°37.7	-10°47.5	63°41.0	-2°28.5	94°11.3	-14°32.5
15	75°39.0	85°45.7	-5°16.1	97°38.4	-10°46.8	78°42.9	-2°28.3	109°13.6	-14°32.5
16	90°41.4	100°45.5	-5°15.1	112°39.0	-10°46.1	93°44.9	-2°28.1	124°15.9	-14°32.4
17	105°43.9	115°45.3	-5°14.2	127°39.7	-10°45.5	108°46.9	-2°27.9	139°18.2	-14°32.4
18	120°46.3	130°45.1	-5°13.2	142°40.4	-10°44.8	123°48.8	-2°27.7	154°20.5	-14°32.3
19	135°48.8	145°44.9	-5°12.3	157°41.0	-10°44.1	138°50.8	-2°27.5	169°22.8	-14°32.3
20	150°51.3	160°44.7	-5°11.3	172°41.7	-10°43.4	153°52.7	-2°27.3	184°25.1	-14°32.2
21	165°53.7	175°44.6	-5°10.3	187°42.4	-10°42.8	168°54.7	-2°27.1	199°27.4	-14°32.2
22	180°56.2	190°44.4	-5°09.4	202°43.0	-10°42.1	183°56.7	-2°26.9	214°29.7	-14°32.1
23	195°58.7	205°44.2	-5°08.4	217°43.7	-10°41.4	198°58.6	-2°26.6	229°32.0	-14°32.1
Mer.pass.:9:58:		v-0.2 d0.9 m-4.0		v0.7 d0.7 m0.9		v2.0 d0.2 m-1.9		v2.3 d0.0 m0.9	

Sa	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	211°01.1	220°44.0	-5°07.5	232°44.4	-10°40.7	214°00.6	-2°26.4	244°34.3	-14°32.0
1	226°03.6	235°43.8	-5°06.5	247°45.0	-10°40.1	229°02.6	-2°26.2	259°36.6	-14°32.0
2	241°06.1	250°43.6	-5°05.6	262°45.7	-10°39.4	244°04.5	-2°26.0	274°38.9	-14°31.9
3	256°08.5	265°43.4	-5°04.6	277°46.4	-10°38.7	259°06.5	-2°25.8	289°41.2	-14°31.9
4	271°11.0	280°43.3	-5°03.6	292°47.1	-10°38.0	274°08.5	-2°25.6	304°43.5	-14°31.8
5	286°13.5	295°43.1	-5°02.7	307°47.7	-10°37.4	289°10.4	-2°25.4	319°45.8	-14°31.8
6	301°15.9	310°42.9	-5°01.7	322°48.4	-10°36.7	304°12.4	-2°25.2	334°48.1	-14°31.7
7	316°18.4	325°42.7	-5°00.8	337°49.1	-10°36.0	319°14.3	-2°25.0	349°50.4	-14°31.7
8	331°20.8	340°42.5	-4°59.8	352°49.7	-10°35.3	334°16.3	-2°24.8	4°52.7	-14°31.6
9	346°23.3	355°42.3	-4°58.8	7°50.4	-10°34.7	349°18.3	-2°24.5	19°55.0	-14°31.6
10	1°25.8	10°42.2	-4°57.9	22°51.1	-10°34.0	4°20.2	-2°24.3	34°57.3	-14°31.5
11	16°28.2	25°42.0	-4°56.9	37°51.7	-10°33.3	19°22.2	-2°24.1	49°59.6	-14°31.5
12	31°30.7	40°41.8	-4°56.0	52°52.4	-10°32.6	34°24.2	-2°23.9	65°01.9	-14°31.5
13	46°33.2	55°41.6	-4°55.0	67°53.1	-10°32.0	49°26.1	-2°23.7	80°04.2	-14°31.4
14	61°35.6	70°41.4	-4°54.0	82°53.7	-10°31.3	64°28.1	-2°23.5	95°06.5	-14°31.4
15	76°38.1	85°41.2	-4°53.1	97°54.4	-10°30.6	79°30.1	-2°23.3	110°08.8	-14°31.3
16	91°40.6	100°41.0	-4°52.1	112°55.1	-10°29.9	94°32.0	-2°23.1	125°11.1	-14°31.3
17	106°43.0	115°40.9	-4°51.2	127°55.7	-10°29.2	109°34.0	-2°22.9	140°13.4	-14°31.2
18	121°45.5	130°40.7	-4°50.2	142°56.4	-10°28.6	124°36.0	-2°22.7	155°15.7	-14°31.2
19	136°48.0	145°40.5	-4°49.2	157°57.1	-10°27.9	139°37.9	-2°22.4	170°18.1	-14°31.1
20	151°50.4	160°40.3	-4°48.3	172°57.8	-10°27.2	154°39.9	-2°22.2	185°20.4	-14°31.1
21	166°52.9	175°40.1	-4°47.3	187°58.4	-10°26.5	169°41.8	-2°22.0	200°22.7	-14°31.0
22	181°55.3	190°39.9	-4°46.3	202°59.1	-10°25.9	184°43.8	-2°21.8	215°25.0	-14°31.0
23	196°57.8	205°39.7	-4°45.4	217°59.8	-10°25.2	199°45.8	-2°21.6	230°27.3	-14°30.9
Mer.pass.:9:54:		v-0.2 d1.0 m-4.0		v0.7 d0.7 m0.9		v2.0 d0.2 m-1.9		v2.3 d0.0 m0.9	

Dom	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	212°00.3	220°39.6	-4°44.4	233°00.4	-10°24.5	214°47.7	-2°21.4	245°29.6	-14°30.9
1	227°02.7	235°39.4	-4°43.4	248°01.1	-10°23.8	229°49.7	-2°21.2	260°31.9	-14°30.8
2	242°05.2	250°39.2	-4°42.5	263°01.8	-10°23.1	244°51.7	-2°21.0	275°34.2	-14°30.8
3	257°07.7	265°39.0	-4°41.5	278°02.5	-10°22.5	259°53.6	-2°20.8	290°36.5	-14°30.7
4	272°10.1	280°38.8	-4°40.5	293°03.1	-10°21.8	274°55.6	-2°20.6	305°38.8	-14°30.7
5	287°12.6	295°38.6	-4°39.6	308°03.8	-10°21.1	289°57.6	-2°20.4	320°41.1	-14°30.6
6	302°15.1	310°38.4	-4°38.6	323°04.5	-10°20.4	304°59.5	-2°20.1	335°43.4	-14°30.6
7	317°17.5	325°38.3	-4°37.6	338°05.1	-10°19.7	320°01.5	-2°19.9	350°45.7	-14°30.6
8	332°20.0	340°38.1	-4°36.7	353°05.8	-10°19.1	335°03.5	-2°19.7	5°48.0	-14°30.5
9	347°22.4	355°37.9	-4°35.7	8°06.5	-10°18.4	350°05.4	-2°19.5	20°50.3	-14°30.5
10	2°24.9	10°37.7	-4°34.7	23°07.2	-10°17.7	5°07.4	-2°19.3	35°52.6	-14°30.4
11	17°27.4	25°37.5	-4°33.7	38°07.8	-10°17.0	20°09.4	-2°19.1	50°54.9	-14°30.4
12	32°29.8	40°37.3	-4°32.8	53°08.5	-10°16.3	35°11.3	-2°18.9	65°57.2	-14°30.3
13	47°32.3	55°37.1	-4°31.8	68°09.2	-10°15.7	50°13.3	-2°18.7	80°59.5	-14°30.3
14	62°34.8	70°37.0	-4°30.8	83°09.8	-10°15.0	65°15.3	-2°18.5	96°01.8	-14°30.2
15	77°37.2	85°36.8	-4°29.9	98°10.5	-10°14.3	80°17.2	-2°18.3	111°04.2	-14°30.2
16	92°39.7	100°36.6	-4°28.9	113°11.2	-10°13.6	95°19.2	-2°18.1	126°06.5	-14°30.1
17	107°42.2	115°36.4	-4°27.9	128°11.9	-10°12.9	110°21.2	-2°17.9	141°08.8	-14°30.1
18	122°44.6	130°36.2	-4°26.9	143°12.5	-10°12.3	125°23.1	-2°17.6	156°11.1	-14°30.0
19	137°47.1	145°36.0	-4°26.0	158°13.2	-10°11.6	140°25.1	-2°17.4	171°13.4	-14°30.0
20	152°49.6	160°35.8	-4°25.0	173°13.9	-10°10.9	155°27.1	-2°17.2	186°15.7	-14°29.9
21	167°52.0	175°35.7	-4°24.0	188°14.6	-10°10.2	170°29.0	-2°17.0	201°18.0	-14°29.9
22	182°54.5	190°35.5	-4°23.1	203°15.2	-10°09.5	185°31.0	-2°16.8	216°20.3	-14°29.9
23	197°56.9	205°35.3	-4°22.1	218°15.9	-10°08.8	200°33.0	-2°16.6	231°22.6	-14°29.8
Mer.pass.:9:50:		v-0.2 d1.0 m-4.0		v0.7 d0.7 m0.9		v2.0 d0.2 m-1.9		v2.3 d0.0 m0.9	

Estrellas

	AHS	Dec
Alpheratz	357°37.4	29°12.6
Ankaa	353°09.8	-42°11.2
Schedar	349°34.1	56°39.3
Diphda	348°49.8	-17°52.0
Achernar	335°22.5	-57°07.5
Hamal	327°54.1	23°33.9
Polaris	315°34.2	89°21.5
Akamar	315°13.9	-40°13.1
Menkar	314°08.8	4°10.5
Mirfak	308°31.9	49°56.3
Aldebaran	290°42.5	16°33.2
Rigel	281°06.3	-8°10.7
Capella	280°25.6	46°01.3
Bellatrix	278°25.5	6°22.1
Elnath	278°05.0	28°37.6
Alnilam	275°40.2	-1°11.4
Betelgeuse	270°54.7	7°24.6
Canopus	263°53.6	-52°42.7
Sirius	258°28.3	-16°44.8
Adara	255°07.7	-29°00.4
Procyon	244°53.2	5°10.2
Pollux	243°20.0	27°58.4
Avior	234°15.6	-59°35.1
Suhail	222°47.8	-43°31.6
Miaplacidus	221°38.5	-69°48.8
Alphard	217°49.9	-8°45.4
Regulus	207°36.6	11°51.5
Dubhe	193°43.3	61°38.1
Denebola	182°26.9	14°26.9
Gienah	175°45.6	-17°40.0
Acrux	173°01.9	-63°13.4
Gacrux	171°53.6	-57°14.4
Alioth	166°14.5	55°50.4
Spica	158°24.4	-11°16.7
Alcaid	152°53.3	49°12.1
Hadar	148°38.5	-60°28.8
Menkent	147°59.9	-36°28.8
Arcturus	145°49.5	19°04.2
Rigil Kent.	139°42.7	-60°55.6
Zubenelg.	136°58.2	-16°08.1
Kochab	137°18.6	74°03.8
Alphecca	126°05.3	26°38.3
Antares	112°18.3	-26°28.8
Atria	107°14.1	-69°03.8
Sabik	102°05.1	-15°45.2
Shaula	96°13.2	-37°07.1
Rasalhague	96°00.4	12°32.5
Etamin	90°42.9	51°28.8
Kaus Aust.	83°35.3	-34°22.3
Vega	80°34.6	38°47.9
Nunki	75°50.4	-26°16.1
Altair	62°02.2	8°55.4
Peacock	53°09.3	-56°39.6
Deneb	49°27.4	45°21.2
Enif	33°41.1	9°58.4
Alnair	27°36.0	-46°51.1
Fomalhaut	15°17.3	-29°30.3
Scheat	13°47.7	28°11.9
Markab	13°32.4	15°19.3

Abr 22 Vie	AHS	Paso Merid
Venus	10°46.4	09:17
Mars	22°26.4	08:30
Jupiter	3°11.5	09:46
Saturn	33°37.1	07:44

Abr 23 Sa	AHS	Paso Merid
Venus	9°42.9	09:17
Mars	21°43.2	08:29
Jupiter	2°59.5	09:43
Saturn	33°33.2	07:41

Abr 24 Dom	AHS	Paso Merid
Venus	8°39.3	09:17
Mars	21°00.2	08:28
Jupiter	2°47.5	09:40
Saturn	33°29.3	07:37

Paralelaje Horizontal	
Venus:	0.2
Mars:	0.1

h Sol Luna

Vie	AHG	Dec	AHG	v	Dec	d	HP
0	180°20.8	12°07.1	286°30.7	3.4	-26°52.3	1.2	59.6
1	195°20.9	12°07.9	300°53.1	3.4	-26°51.0	1.4	59.6
2	210°21.1	12°08.7	315°15.5	3.4	-26°49.5	1.6	59.5
3	225°21.2	12°09.6	329°38.0	3.5	-26°47.8	1.8	59.5
4	240°21.3	12°10.4	344°00.5	3.5	-26°46.0	2.0	59.5
5	255°21.4	12°11.3	358°23.1	3.6	-26°43.9	2.1	59.5
6	270°21.5	12°12.1	12°45.7	3.6	-26°41.7	2.3	59.5
7	285°21.7	12°12.9	27°08.3	3.7	-26°39.3	2.5	59.5
8	300°21.8	12°13.8	41°31.0	3.7	-26°36.7	2.7	59.4
9	315°21.9	12°14.6	55°53.8	3.8	-26°33.9	2.9	59.4
10	330°22.0	12°15.5	70°16.6	3.8	-26°30.9	3.1	59.4
11	345°22.2	12°16.3	84°39.5	3.9	-26°27.8	3.2	59.4
12	0°22.3	12°17.1	99°02.4	4.0	-26°24.5	3.4	59.4
13	15°22.4	12°18.0	113°25.4	4.0	-26°21.0	3.6	59.4
14	30°22.5	12°18.8	127°48.5	4.1	-26°17.3	3.8	59.3
15	45°22.6	12°19.7	142°11.6	4.2	-26°13.5	3.9	59.3
16	60°22.8	12°20.5	156°34.8	4.2	-26°09.4	4.1	59.3
17	75°22.9	12°21.3	170°58.1	4.3	-26°05.2	4.3	59.3
18	90°23.0	12°22.2	185°21.5	4.4	-26°00.8	4.5	59.3
19	105°23.1	12°23.0	199°44.9	4.5	-25°56.3	4.6	59.3
20	120°23.2	12°23.8	214°08.4	4.5	-25°51.6	4.8	59.2
21	135°23.4	12°24.7	228°32.0	4.6	-25°46.7	5.0	59.2
22	150°23.5	12°25.5	242°55.6	4.7	-25°41.6	5.1	59.2
23	165°23.6	12°26.3	257°19.4	4.8	-25°36.4	5.3	59.2
	SD.=15.9	d=0.8			S.D.=16.3		

Sa	AHG	Dec	AHG	v	Dec	d	HP
0	180°23.7	12°27.2	271°43.2	4.9	-25°31.0	5.5	59.2
1	195°23.8	12°28.0	286°07.1	4.9	-25°25.4	5.6	59.1
2	210°23.9	12°28.8	300°31.1	5.0	-25°19.7	5.8	59.1
3	225°24.1	12°29.7	314°55.1	5.1	-25°13.8	6.0	59.1
4	240°24.2	12°30.5	329°19.3	5.2	-25°07.8	6.1	59.1
5	255°24.3	12°31.3	343°43.5	5.3	-25°01.6	6.3	59.1
6	270°24.4	12°32.2	358°07.9	5.4	-24°55.2	6.4	59.0
7	285°24.5	12°33.0	12°32.3	5.5	-24°48.7	6.6	59.0
8	300°24.7	12°33.8	26°56.8	5.6	-24°42.0	6.8	59.0
9	315°24.8	12°34.7	41°21.5	5.7	-24°35.2	6.9	59.0
10	330°24.9	12°35.5	55°46.2	5.8	-24°28.2	7.1	59.0
11	345°25.0	12°36.3	70°11.0	5.9	-24°21.1	7.2	58.9
12	0°25.1	12°37.2	84°35.9	6.0	-24°13.8	7.4	58.9
13	15°25.2	12°38.0	99°00.9	6.1	-24°06.4	7.5	58.9
14	30°25.3	12°38.8	113°26.0	6.1	-23°58.8	7.7	58.9
15	45°25.5	12°39.7	127°51.2	6.2	-23°51.1	7.8	58.9
16	60°25.6	12°40.5	142°16.5	6.3	-23°43.2	7.9	58.8
17	75°25.7	12°41.3	156°41.9	6.5	-23°35.2	8.1	58.8
18	90°25.8	12°42.1	171°07.4	6.6	-23°27.1	8.2	58.8
19	105°25.9	12°43.0	185°33.0	6.7	-23°18.8	8.4	58.8
20	120°26.0	12°43.8	199°58.7	6.8	-23°10.3	8.5	58.8
21	135°26.2	12°44.6	214°24.5	6.9	-23°01.8	8.6	58.7
22	150°26.3	12°45.4	228°50.4	7.0	-22°53.1	8.8	58.7
23	165°26.4	12°46.3	243°16.4	7.1	-22°44.2	8.9	58.7
	SD.=15.9	d=0.8			S.D.=16.1		

Dom	AHG	Dec	AHG	v	Dec	d	HP
0	180°26.5	12°47.1	257°42.5	7.2	-22°35.3	9.0	58.7
1	195°26.6	12°47.9	272°08.8	7.3	-22°26.2	9.2	58.7
2	210°26.7	12°48.8	286°35.1	7.4	-22°17.0	9.3	58.6
3	225°26.8	12°49.6	301°01.5	7.5	-22°07.6	9.4	58.6
4	240°26.9	12°50.4	315°28.1	7.6	-21°58.2	9.5	58.6
5	255°27.1	12°51.2	329°54.7	7.7	-21°48.6	9.7	58.6
6	270°27.2	12°52.0	344°21.4	7.8	-21°38.9	9.8	58.6
7	285°27.3	12°52.9	358°48.3	7.9	-21°29.0	9.9	58.5
8	300°27.4	12°53.7	13°15.2	8.0	-21°19.1	10.0	58.5
9	315°27.5	12°54.5	27°42.3	8.1	-21°09.0	10.1	58.5
10	330°27.6	12°55.3	42°09.5	8.2	-20°58.8	10.2	58.5
11	345°27.7	12°56.2	56°36.7	8.3	-20°48.5	10.4	58.5
12	0°27.8	12°57.0	71°04.1	8.4	-20°38.1	10.5	58.4
13	15°27.9	12°57.8	85°31.6	8.5	-20°27.6	10.6	58.4
14	30°28.1	12°58.6	99°59.2	8.6	-20°16.9	10.7	58.4
15	45°28.2	12°59.4	114°26.9	8.7	-20°06.2	10.8	58.4
16	60°28.3	13°00.3	128°54.7	8.8	-19°55.4	10.9	58.4
17	75°28.4	13°01.1	143°22.6	8.9	-19°44.4	11.0	58.3
18	90°28.5	13°01.9	157°50.6	9.1	-19°33.4	11.1	58.3
19	105°28.6	13°02.7	172°18.7	9.2	-19°22.2	11.2	58.3
20	120°28.7	13°03.5	186°46.9	9.3	-19°10.9	11.3	58.3
21	135°28.8	13°04.4	201°15.2	9.4	-18°59.6	11.4	58.2
22	150°28.9	13°05.2	215°43.6	9.5	-18°48.1	11.5	58.2
23	165°29.0	13°06.0	230°12.1	9.6	-18°36.6	11.6	58.2
	SD.=15.9	d=0.8			S.D.=16.0		

Lat.	Crepúsculo Naut.	Crepúsculo Civil	Orto Sol	Crepúsculo Civil	Crepúsculo Naut.	Ocaso Sol
N 72	–:–	–:–	02:51	21:11	–:–	–:–
70	–:–	01:30	03:16	20:45	22:36	–:–
68	–:–	02:12	03:34	20:25	21:49	–:–
66	–:–	02:40	03:49	20:10	21:20	–:–
64	01:19	03:01	04:01	19:57	20:59	22:46
62	01:57	03:18	04:12	19:47	20:41	22:05
60	02:22	03:31	04:21	19:38	20:27	21:38
58	02:42	03:43	04:28	19:30	20:16	21:18
56	02:58	03:53	04:35	19:23	20:05	21:01
54	03:11	04:02	04:41	19:17	19:56	20:48
52	03:22	04:09	04:47	19:11	19:49	20:36
50	03:32	04:16	04:51	19:06	19:42	20:26
45	03:52	04:31	05:02	18:55	19:27	20:06
40	04:08	04:42	05:11	18:46	19:15	19:50
35	04:20	04:52	05:18	18:39	19:05	19:37
30	04:31	05:00	05:25	18:32	18:57	19:27
20	04:47	05:13	05:36	18:21	18:44	19:10
10	04:59	05:24	05:46	18:11	18:32	18:58
0	05:09	05:34	05:55	18:02	18:23	18:47
S 10	05:18	05:42	06:04	17:53	18:14	18:39
20	05:25	05:51	06:13	17:43	18:06	18:32
30	05:31	05:59	06:24	17:32	17:57	18:25
35	05:34	06:04	06:30	17:26	17:52	18:22
40	05:37	06:09	06:37	17:19	17:47	18:19
45	05:40	06:15	06:45	17:11	17:41	18:16
50	05:43	06:21	06:54	17:02	17:35	18:13
52	05:44	06:24	06:59	16:57	17:32	18:11
54	05:45	06:27	07:04	16:52	17:29	18:10
56	05:47	06:30	07:09	16:47	17:26	18:09
58	05:48	06:34	07:15	16:41	17:22	18:08
60	05:49	06:38	07:22	16:34	17:18	18:06

Lat.	Orto luna Vie	Orto luna Sa	Orto luna Dom	Ocaso luna Vie	Ocaso luna Sa	Ocaso luna Dom
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	–:–	–:–	–:–
68	–:–	–:–	06:25	–:–	–:–	08:01
66	–:–	–:–	05:19	–:–	–:–	09:05
64	–:–	05:03	04:43	–:–	07:22	09:40
62	03:55	04:13	04:18	06:22	08:11	10:05
60	03:09	03:42	03:57	07:08	08:42	10:25
58	02:39	03:18	03:40	07:37	09:05	10:41
56	02:16	02:59	03:26	08:00	09:24	10:55
54	01:57	02:43	03:14	08:19	09:39	11:07
52	01:41	02:29	03:03	08:35	09:53	11:17
50	01:27	02:17	02:53	08:48	10:05	11:26
45	00:59	01:52	02:32	09:16	10:29	11:46
40	00:37	01:32	02:15	09:38	10:49	12:01
35	00:19	01:15	02:01	09:56	11:05	12:14
30	00:03	01:00	01:49	10:12	11:19	12:26
20	–:–	00:35	01:28	10:38	11:42	12:45
10	–:–	00:14	01:09	11:01	12:03	13:02
0	23:54	–:–	00:52	11:22	12:22	13:18
S 10	23:33	–:–	00:34	11:43	12:41	13:33
20	23:12	–:–	00:16	12:05	13:01	13:50
30	22:47	23:54	–:–	12:31	13:24	14:09
35	22:32	23:41	–:–	12:46	13:37	14:20
40	22:15	23:27	–:–	13:04	13:53	14:32
45	21:54	23:09	–:–	13:25	14:11	14:47
50	21:28	22:47	–:–	13:51	14:34	15:05
52	21:15	22:37	–:–	14:04	14:45	15:13
54	21:01	22:25	23:53	14:19	14:57	15:22
56	20:44	22:12	23:43	14:36	15:11	15:33
58	20:23	21:56	23:32	14:57	15:27	15:45
60	19:57	21:37	23:19	15:23	15:47	15:58

Día	Sol Ec. tiempo 00:00 h	Sol Ec. tiempo 12:00 h	Sol Paso Merid	Luna Paso Meridiano Superior	Luna Paso Meridiano Inferior	Luna Edad
22	01:23	01:29	11:58	05:06	17:37	21(61%)
23	01:35	01:40	11:58	06:07	18:36	22(50%)
24	01:46	01:51	11:58	07:04	19:31	23(39%)

Abril 25, 26, 27 (Lun, Mar, Mie)

	Aries	Venus		Martes		Júpiter		Saturno	
Lun	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	212°59.4	220°35.1	-4°21.1	233°16.6	-10°08.2	215°34.9	-2°16.4	246°24.9	-14°29.8
1	228°01.9	235°34.9	-4°20.1	248°17.3	-10°07.5	230°36.9	-2°16.2	261°27.2	-14°29.7
2	243°04.3	250°34.7	-4°19.2	263°17.9	-10°06.8	245°38.9	-2°16.0	276°29.5	-14°29.7
3	258°06.8	265°34.5	-4°18.2	278°18.6	-10°06.1	260°40.9	-2°15.8	291°31.8	-14°29.6
4	273°09.3	280°34.4	-4°17.2	293°19.3	-10°05.4	275°42.8	-2°15.6	306°34.1	-14°29.6
5	288°11.7	295°34.2	-4°16.2	308°20.0	-10°04.7	290°44.8	-2°15.4	321°36.5	-14°29.5
6	303°14.2	310°34.0	-4°15.2	323°20.6	-10°04.1	305°46.8	-2°15.1	336°38.8	-14°29.5
7	318°16.7	325°33.8	-4°14.3	338°21.3	-10°03.4	320°48.7	-2°14.9	351°41.1	-14°29.4
8	333°19.1	340°33.6	-4°13.3	353°22.0	-10°02.7	335°50.7	-2°14.7	6°43.4	-14°29.4
9	348°21.6	355°33.4	-4°12.3	8°22.7	-10°02.0	350°52.7	-2°14.5	21°45.7	-14°29.3
10	3°24.1	10°33.2	-4°11.3	23°23.3	-10°01.3	5°54.6	-2°14.3	36°48.0	-14°29.3
11	18°26.5	25°33.1	-4°10.4	38°24.0	-10°00.6	20°56.6	-2°14.1	51°50.3	-14°29.3
12	33°29.0	40°32.9	-4°09.4	53°24.7	-10°00.0	35°58.6	-2°13.9	66°52.6	-14°29.2
13	48°31.4	55°32.7	-4°08.4	68°25.4	-9°59.3	51°00.5	-2°13.7	81°54.9	-14°29.2
14	63°33.9	70°32.5	-4°07.4	83°26.0	-9°58.6	66°02.5	-2°13.5	96°57.2	-14°29.1
15	78°36.4	85°32.3	-4°06.4	98°26.7	-9°57.9	81°04.5	-2°13.3	111°59.5	-14°29.1
16	93°38.8	100°32.1	-4°05.5	113°27.4	-9°57.2	96°06.5	-2°13.1	127°01.8	-14°29.0
17	108°41.3	115°31.9	-4°04.5	128°28.1	-9°56.5	111°08.4	-2°12.9	142°04.2	-14°29.0
18	123°43.8	130°31.7	-4°03.5	143°28.7	-9°55.9	126°10.4	-2°12.7	157°06.5	-14°28.9
19	138°46.2	145°31.6	-4°02.5	158°29.4	-9°55.2	141°12.4	-2°12.4	172°08.8	-14°28.9
20	153°48.7	160°31.4	-4°01.5	173°30.1	-9°54.5	156°14.3	-2°12.2	187°11.1	-14°28.8
21	168°51.2	175°31.2	-4°00.6	188°30.8	-9°53.8	171°16.3	-2°12.0	202°13.4	-14°28.8
22	183°53.6	190°31.0	-3°59.6	203°31.4	-9°53.1	186°18.3	-2°11.8	217°15.7	-14°28.8
23	198°56.1	205°30.8	-3°58.6	218°32.1	-9°52.4	201°20.2	-2°11.6	232°18.0	-14°28.7
Mer.pass.:9:46:		v-0.2 d1.0 m-4.0		v0.7 d0.7 m0.9		v2.0 d0.2 m-1.9		v2.3 d0.0 m0.9	

Mar	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	213°58.5	220°30.6	-3°57.6	233°32.8	-9°51.7	216°22.2	-2°11.4	247°20.3	-14°28.7
1	229°01.0	235°30.4	-3°56.6	248°33.5	-9°51.1	231°24.2	-2°11.2	262°22.6	-14°28.6
2	244°03.5	250°30.3	-3°55.6	263°34.1	-9°50.4	246°26.2	-2°11.0	277°25.0	-14°28.6
3	259°05.9	265°30.1	-3°54.7	278°34.8	-9°49.7	261°28.1	-2°10.8	292°27.3	-14°28.5
4	274°08.4	280°29.9	-3°53.7	293°35.5	-9°49.0	276°30.1	-2°10.6	307°29.6	-14°28.5
5	289°10.9	295°29.7	-3°52.7	308°36.2	-9°48.3	291°32.1	-2°10.4	322°31.9	-14°28.4
6	304°13.3	310°29.5	-3°51.7	323°36.9	-9°47.6	306°34.0	-2°10.2	337°34.2	-14°28.4
7	319°15.8	325°29.3	-3°50.7	338°37.5	-9°46.9	321°36.0	-2°10.0	352°36.5	-14°28.4
8	334°18.3	340°29.1	-3°49.7	353°38.2	-9°46.3	336°38.0	-2°09.8	7°38.8	-14°28.3
9	349°20.7	355°28.9	-3°48.7	8°38.9	-9°45.6	351°40.0	-2°09.5	22°41.1	-14°28.3
10	4°23.2	10°28.8	-3°47.8	23°39.6	-9°44.9	6°41.9	-2°09.3	37°43.4	-14°28.2
11	19°25.7	25°28.6	-3°46.8	38°40.2	-9°44.2	21°43.9	-2°09.1	52°45.8	-14°28.2
12	34°28.1	40°28.4	-3°45.8	53°40.9	-9°43.5	36°45.9	-2°08.9	67°48.1	-14°28.1
13	49°30.6	55°28.2	-3°44.8	68°41.6	-9°42.8	51°47.8	-2°08.7	82°50.4	-14°28.1
14	64°33.0	70°28.0	-3°43.8	83°42.3	-9°42.1	66°49.8	-2°08.5	97°52.7	-14°28.0
15	79°35.5	85°27.8	-3°42.8	98°43.0	-9°41.4	81°51.8	-2°08.3	112°55.0	-14°28.0
16	94°38.0	100°27.6	-3°41.8	113°43.6	-9°40.8	96°53.8	-2°08.1	127°57.3	-14°28.0
17	109°40.4	115°27.4	-3°40.8	128°44.3	-9°40.1	111°55.7	-2°07.9	142°59.6	-14°27.9
18	124°42.9	130°27.3	-3°39.8	143°45.0	-9°39.4	126°57.7	-2°07.7	158°01.9	-14°27.9
19	139°45.4	145°27.1	-3°38.9	158°45.7	-9°38.7	141°59.7	-2°07.5	173°04.3	-14°27.8
20	154°47.8	160°26.9	-3°37.9	173°46.4	-9°38.0	157°01.6	-2°07.3	188°06.6	-14°27.8
21	169°50.3	175°26.7	-3°36.9	188°47.0	-9°37.3	172°03.6	-2°07.1	203°08.9	-14°27.7
22	184°52.8	190°26.5	-3°35.9	203°47.7	-9°36.6	187°05.6	-2°06.9	218°11.2	-14°27.7
23	199°55.2	205°26.3	-3°34.9	218°48.4	-9°35.9	202°07.6	-2°06.7	233°13.5	-14°27.6
Mer.pass.:9:42:		v-0.2 d1.0 m-4.0		v0.7 d0.7 m0.9		v2.0 d0.2 m-1.9		v2.3 d0.0 m0.9	

Mie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	214°57.7	220°26.1	-3°33.9	233°49.1	-9°35.3	217°09.5	-2°06.5	248°15.8	-14°27.6
1	230°00.2	235°25.9	-3°32.9	248°49.8	-9°34.6	232°11.5	-2°06.2	263°18.1	-14°27.6
2	245°02.6	250°25.8	-3°31.9	263°50.4	-9°33.9	247°13.5	-2°06.0	278°20.5	-14°27.5
3	260°05.1	265°25.6	-3°30.9	278°51.1	-9°33.2	262°15.5	-2°05.8	293°22.8	-14°27.5
4	275°07.5	280°25.4	-3°29.9	293°51.8	-9°32.5	277°17.4	-2°05.6	308°25.1	-14°27.4
5	290°10.0	295°25.2	-3°28.9	308°52.5	-9°31.8	292°19.4	-2°05.4	323°27.4	-14°27.4
6	305°12.5	310°25.0	-3°27.9	323°53.2	-9°31.1	307°21.4	-2°05.2	338°29.7	-14°27.3
7	320°14.9	325°24.8	-3°27.0	338°53.8	-9°30.4	322°23.3	-2°05.0	353°32.0	-14°27.3
8	335°17.4	340°24.6	-3°26.0	353°54.5	-9°29.7	337°25.3	-2°04.8	8°34.3	-14°27.3
9	350°19.9	355°24.4	-3°25.0	8°55.2	-9°29.0	352°27.3	-2°04.6	23°36.7	-14°27.2
10	5°22.3	10°24.3	-3°24.0	23°55.9	-9°28.4	7°29.3	-2°04.4	38°39.0	-14°27.2
11	20°24.8	25°24.1	-3°23.0	38°56.6	-9°27.7	22°31.2	-2°04.2	53°41.3	-14°27.1
12	35°27.3	40°23.9	-3°22.0	53°57.3	-9°27.0	37°33.2	-2°04.0	68°43.6	-14°27.1
13	50°29.7	55°23.7	-3°21.0	68°57.9	-9°26.3	52°35.2	-2°03.8	83°45.9	-14°27.0
14	65°32.2	70°23.5	-3°20.0	83°58.6	-9°25.6	67°37.2	-2°03.6	98°48.2	-14°27.0
15	80°34.6	85°23.3	-3°19.0	98°59.3	-9°24.9	82°39.1	-2°03.4	113°50.6	-14°26.9
16	95°37.1	100°23.1	-3°18.0	114°00.0	-9°24.2	97°41.1	-2°03.2	128°52.9	-14°26.9
17	110°39.6	115°22.9	-3°17.0	129°00.7	-9°23.5	112°43.1	-2°03.0	143°55.2	-14°26.9
18	125°42.0	130°22.7	-3°16.0	144°01.3	-9°22.8	127°45.1	-2°02.8	158°57.5	-14°26.8
19	140°44.5	145°22.6	-3°15.0	159°02.0	-9°22.1	142°47.0	-2°02.5	173°59.8	-14°26.8
20	155°47.0	160°22.4	-3°14.0	174°02.7	-9°21.4	157°49.0	-2°02.3	189°02.1	-14°26.7
21	170°49.4	175°22.2	-3°13.0	189°03.4	-9°20.8	172°51.0	-2°02.1	204°04.5	-14°26.7
22	185°51.9	190°22.0	-3°12.0	204°04.1	-9°20.1	187°53.0	-2°01.9	219°06.8	-14°26.6
23	200°54.4	205°21.8	-3°11.0	219°04.8	-9°19.4	202°54.9	-2°01.7	234°09.1	-14°26.6
Mer.pass.:9:38:		v-0.2 d1.0 m-4.0		v0.7 d0.7 m0.9		v2.0 d0.2 m-1.9		v2.3 d0.0 m0.9	

Estrellas

	AHS	Dec
Alpheratz	357°37.4	29°12.6
Ankaa	353°09.7	-42°11.1
Schedar	349°34.1	56°39.3
Diphda	348°49.8	-17°52.0
Achernar	335°22.5	-57°07.5
Hamal	327°54.1	23°33.9
Polaris	315°34.5	89°21.5
Akamar	315°13.9	-40°13.1
Menkar	314°08.8	4°10.5
Mirfak	308°31.9	49°56.3
Aldebaran	290°42.5	16°33.2
Rigel	281°06.3	-8°10.7
Capella	280°25.6	46°01.3
Bellatrix	278°25.5	6°22.1
Elnath	278°05.0	28°37.6
Alnilam	275°40.2	-1°11.4
Betelgeuse	270°54.7	7°24.6
Canopus	263°53.7	-52°42.7
Sirius	258°28.3	-16°44.8
Adara	255°07.8	-29°00.4
Procyon	244°53.2	5°10.2
Pollux	243°20.0	27°58.4
Avior	234°15.7	-59°35.1
Suhail	222°47.9	-43°31.6
Miaplacidus	221°38.5	-69°48.8
Alphard	217°49.9	-8°45.4
Regulus	207°36.6	11°51.5
Dubhe	193°43.3	61°38.1
Denebola	182°26.9	14°26.9
Gienah	175°45.6	-17°40.0
Acrux	173°02.0	-63°13.5
Gacrux	171°53.6	-57°14.4
Alioth	166°14.5	55°50.4
Spica	158°24.3	-11°16.7
Alcaid	152°53.3	49°12.2
Hadar	148°38.5	-60°28.8
Menkent	147°59.9	-36°28.8
Arcturus	145°49.5	19°04.2
Rigil Kent.	139°42.7	-60°55.6
Zubenelg.	136°58.2	-16°08.1
Kochab	137°18.6	74°03.8
Alphecca	126°05.3	26°38.3
Antares	112°18.3	-26°28.9
Atria	107°14.1	-69°03.8
Sabik	102°05.1	-15°45.2
Shaula	96°13.1	-37°07.1
Rasalhague	96°00.4	12°32.5
Etamin	90°42.9	51°28.9
Kaus Aust.	83°35.3	-34°22.3
Vega	80°34.6	38°47.9
Nunki	75°50.4	-26°16.1
Altair	62°02.2	8°55.4
Peacock	53°09.3	-56°39.6
Deneb	49°27.3	45°21.2
Enif	33°41.1	9°58.4
Alnair	27°36.0	-46°51.1
Fomalhaut	15°17.3	-29°30.3
Scheat	13°47.6	28°11.9
Markab	13°32.4	15°19.3

Abr 25 Lun	AHS	Paso Merid
Venus	7°35.7	09:18
Mars	20°17.2	08:27
Jupiter	2°35.5	09:36
Saturn	33°25.5	07:33

Abr 26 Mar	AHS	Paso Merid
Venus	6°32.1	09:18
Mars	19°34.2	08:25
Jupiter	2°23.7	09:33
Saturn	33°21.8	07:29

Abr 27 Mie	AHS	Paso Merid
Venus	5°28.4	09:18
Mars	18°51.4	08:24
Jupiter	2°11.8	09:30
Saturn	33°18.1	07:26

Paralelaje Horizontal	
Venus:	0.2
Mars:	0.1

h Sol Luna

Lun	AHG	Dec	AHG	v	Dec	d	HP
0	180°29.2	13°06.8	244°40.7	9.7	-18°25.0	11.7	58.2
1	195°29.3	13°07.6	259°09.4	9.8	-18°13.2	11.8	58.2
2	210°29.4	13°08.4	273°38.2	9.9	-18°01.4	11.9	58.1
3	225°29.5	13°09.3	288°07.1	10.0	-17°49.5	11.9	58.1
4	240°29.6	13°10.1	302°36.1	10.1	-17°37.5	12.0	58.1
5	255°29.7	13°10.9	317°05.2	10.1	-17°25.5	12.1	58.1
6	270°29.8	13°11.7	331°34.4	10.2	-17°13.3	12.2	58.1
7	285°29.9	13°12.5	346°03.7	10.3	-17°01.1	12.3	58.0
8	300°30.0	13°13.3	0°33.1	10.4	-16°48.7	12.4	58.0
9	315°30.1	13°14.2	15°02.6	10.5	-16°36.3	12.4	58.0
10	330°30.2	13°15.0	29°32.2	10.6	-16°23.8	12.5	58.0
11	345°30.3	13°15.8	44°01.8	10.7	-16°11.3	12.6	57.9
12	0°30.4	13°16.6	58°31.6	10.8	-15°58.6	12.7	57.9
13	15°30.5	13°17.4	73°01.4	10.9	-15°45.9	12.7	57.9
14	30°30.6	13°18.2	87°31.4	11.0	-15°33.2	12.8	57.9
15	45°30.8	13°19.0	102°01.4	11.1	-15°20.3	12.9	57.9
16	60°30.9	13°19.8	116°31.5	11.2	-15°07.4	13.0	57.8
17	75°31.0	13°20.7	131°01.8	11.3	-14°54.4	13.0	57.8
18	90°31.1	13°21.5	145°32.0	11.3	-14°41.4	13.1	57.8
19	105°31.2	13°22.3	160°02.4	11.4	-14°28.2	13.1	57.8
20	120°31.3	13°23.1	174°32.9	11.5	-14°15.1	13.2	57.8
21	135°31.4	13°23.9	189°03.4	11.6	-14°01.8	13.3	57.7
22	150°31.5	13°24.7	203°34.1	11.7	-13°48.5	13.3	57.7
23	165°31.6	13°25.5	218°04.8	11.8	-13°35.1	13.4	57.7
	SD.=15.9	d=0.8			S.D.=15.9		

Mar	AHG	Dec	AHG	v	Dec	d	HP
0	180°31.7	13°26.3	232°35.6	11.8	-13°21.7	13.4	57.7
1	195°31.8	13°27.1	247°06.5	11.9	-13°08.2	13.5	57.6
2	210°31.9	13°27.9	261°37.4	12.0	-12°54.7	13.6	57.6
3	225°32.0	13°28.7	276°08.5	12.1	-12°41.1	13.6	57.6
4	240°32.1	13°29.5	290°39.6	12.2	-12°27.5	13.7	57.6
5	255°32.2	13°30.4	305°10.8	12.2	-12°13.8	13.7	57.6
6	270°32.3	13°31.2	319°42.0	12.3	-12°00.1	13.8	57.5
7	285°32.4	13°32.0	334°13.4	12.4	-11°46.3	13.8	57.5
8	300°32.5	13°32.8	348°44.8	12.4	-11°32.4	13.9	57.5
9	315°32.6	13°33.6	3°16.3	12.5	-11°18.6	13.9	57.5
10	330°32.7	13°34.4	17°47.8	12.6	-11°04.6	13.9	57.5
11	345°32.8	13°35.2	32°19.4	12.7	-10°50.7	14.0	57.4
12	0°32.9	13°36.0	46°51.1	12.7	-10°36.7	14.0	57.4
13	15°33.0	13°36.8	61°22.9	12.8	-10°22.6	14.1	57.4
14	30°33.1	13°37.6	75°54.7	12.9	-10°08.5	14.1	57.4
15	45°33.2	13°38.4	90°26.6	12.9	-9°54.4	14.1	57.3
16	60°33.3	13°39.2	104°58.6	13.0	-9°40.2	14.2	57.3
17	75°33.4	13°40.0	119°30.6	13.1	-9°26.0	14.2	57.3
18	90°33.5	13°40.8	134°02.7	13.1	-9°11.8	14.2	57.3
19	105°33.6	13°41.6	148°34.8	13.2	-8°57.6	14.3	57.3
20	120°33.7	13°42.4	163°07.0	13.2	-8°43.3	14.3	57.2
21	135°33.8	13°43.2	177°39.3	13.3	-8°28.9	14.3	57.2
22	150°33.9	13°44.0	192°11.6	13.3	-8°14.6	14.4	57.2
23	165°34.0	13°44.8	206°44.0	13.4	-8°00.2	14.4	57.2
	SD.=15.9	d=0.8			S.D.=15.7		

Mie	AHG	Dec	AHG	v	Dec	d	HP
0	180°34.1	13°45.6	221°16.4	13.5	-7°45.8	14.4	57.2
1	195°34.2	13°46.4	235°48.9	13.5	-7°31.3	14.4	57.1
2	210°34.3	13°47.2	250°21.4	13.6	-7°16.9	14.5	57.1
3	225°34.4	13°48.0	264°54.0	13.6	-7°02.4	14.5	57.1
4	240°34.5	13°48.8	279°26.7	13.7	-6°47.9	14.5	57.1
5	255°34.6	13°49.6	293°59.4	13.7	-6°33.4	14.5	57.0
6	270°34.7	13°50.4	308°32.1	13.8	-6°18.8	14.6	57.0
7	285°34.8	13°51.2	323°04.9	13.8	-6°04.3	14.6	57.0
8	300°34.9	13°52.0	337°37.7	13.9	-5°49.7	14.6	57.0
9	315°35.0	13°52.8	352°10.6	13.9	-5°35.1	14.6	57.0
10	330°35.1	13°53.6	6°43.5	13.9	-5°20.5	14.6	56.9
11	345°35.2	13°54.4	21°16.5	14.0	-5°05.9	14.6	56.9
12	0°35.2	13°55.2	35°49.5	14.0	-4°51.2	14.6	56.9
13	15°35.3	13°55.9	50°22.6	14.1	-4°36.6	14.7	56.9
14	30°35.4	13°56.7	64°55.7	14.1	-4°21.9	14.7	56.9
15	45°35.5	13°57.5	79°28.8	14.1	-4°07.2	14.7	56.8
16	60°35.6	13°58.3	94°02.0	14.2	-3°52.6	14.7	56.8
17	75°35.7	13°59.1	108°35.2	14.2	-3°37.9	14.7	56.8
18	90°35.8	13°59.9	123°08.4	14.3	-3°23.2	14.7	56.8
19	105°35.9	14°00.7	137°41.7	14.3	-3°08.5	14.7	56.7
20	120°36.0	14°01.5	152°15.0	14.3	-2°53.8	14.7	56.7
21	135°36.1	14°02.3	166°48.3	14.4	-2°39.1	14.7	56.7
22	150°36.2	14°03.1	181°21.7	14.4	-2°24.4	14.7	56.7
23	165°36.3	14°03.9	195°55.1	14.4	-2°09.7	14.7	56.7
	SD.=15.9	d=0.8			S.D.=15.6		

Lat.	Crepúsculo Naut.	Crepúsculo Civil	Orto Sol	Crepúsculo Civil	Crepúsculo Naut.	Ocaso Sol
N 72	–:–	–:–	02:31	21:30	–:–	–:–
70	–:–	00:53	03:00	21:00	23:21	–:–
68	–:–	01:52	03:21	20:38	22:10	–:–
66	–:–	02:25	03:37	20:21	21:35	–:–
64	00:46	02:48	03:51	20:07	21:11	23:25
62	01:38	03:07	04:02	19:55	20:52	22:23
60	02:08	03:22	04:12	19:45	20:36	21:51
58	02:30	03:34	04:20	19:37	20:23	21:28
56	02:48	03:45	04:28	19:29	20:12	21:10
54	03:02	03:54	04:34	19:22	20:03	20:55
52	03:14	04:03	04:40	19:16	19:54	20:43
50	03:25	04:10	04:46	19:11	19:47	20:32
45	03:47	04:26	04:57	18:59	19:31	20:10
40	04:03	04:38	05:07	18:50	19:18	19:54
35	04:16	04:48	05:15	18:41	19:08	19:40
30	04:27	04:57	05:22	18:34	18:59	19:29
20	04:44	05:11	05:34	18:22	18:45	19:12
10	04:58	05:23	05:45	18:11	18:33	18:58
0	05:08	05:33	05:54	18:01	18:22	18:47
S 10	05:18	05:43	06:04	17:51	18:13	18:38
20	05:26	05:52	06:14	17:41	18:04	18:30
30	05:33	06:01	06:26	17:29	17:54	18:22
35	05:37	06:06	06:32	17:23	17:49	18:19
40	05:40	06:12	06:40	17:15	17:43	18:15
45	05:44	06:18	06:49	17:06	17:37	18:11
50	05:47	06:25	06:59	16:56	17:30	18:08
52	05:49	06:28	07:04	16:51	17:26	18:06
54	05:50	06:32	07:09	16:46	17:23	18:04
56	05:52	06:36	07:15	16:40	17:19	18:03
58	05:54	06:40	07:22	16:33	17:15	18:01
60	05:55	06:44	07:29	16:26	17:10	17:59

Lat.	Orto luna Lun	Orto luna Mar	Orto luna Mie	Ocaso luna Lun	Ocaso luna Mar	Ocaso luna Mie
N 72	06:45	05:28	04:49	09:34	12:33	14:48
70	05:51	05:07	04:40	10:26	12:51	14:55
68	05:17	04:51	04:32	10:58	13:06	15:00
66	04:53	04:38	04:25	11:21	13:17	15:04
64	04:34	04:26	04:20	11:39	13:27	15:07
62	04:18	04:17	04:15	11:54	13:35	15:11
60	04:05	04:09	04:11	12:06	13:42	15:13
58	03:53	04:01	04:07	12:17	13:48	15:16
56	03:43	03:55	04:04	12:26	13:54	15:18
54	03:34	03:49	04:01	12:34	13:58	15:20
52	03:26	03:44	03:58	12:41	14:03	15:21
50	03:19	03:39	03:56	12:48	14:07	15:23
45	03:03	03:29	03:50	13:02	14:15	15:26
40	02:51	03:20	03:46	13:13	14:22	15:29
35	02:40	03:13	03:42	13:23	14:28	15:31
30	02:30	03:06	03:38	13:31	14:33	15:33
20	02:14	02:55	03:32	13:45	14:42	15:37
10	01:59	02:45	03:27	13:58	14:50	15:40
0	01:46	02:35	03:22	14:10	14:58	15:43
S 10	01:32	02:26	03:16	14:21	15:05	15:46
20	01:17	02:16	03:11	14:33	15:13	15:49
30	01:00	02:04	03:05	14:47	15:21	15:52
35	00:50	01:57	03:01	14:55	15:26	15:54
40	00:39	01:49	02:57	15:04	15:32	15:56
45	00:26	01:40	02:52	15:15	15:38	15:59
50	00:09	01:29	02:47	15:28	15:46	16:02
52	00:01	01:24	02:44	15:34	15:50	16:03
54	–:–	01:19	02:41	15:40	15:53	16:04
56	–:–	01:12	02:38	15:47	15:58	16:06
58	–:–	01:05	02:34	15:55	16:02	16:08
60	–:–	00:57	02:30	16:04	16:08	16:10

Día	Sol Ec. tiempo 00:00 h	Sol Ec. tiempo 12:00 h	Sol Paso Merid	Luna Paso Meridiano Superior	Luna Paso Meridiano Inferior	Luna Edad
25	01:57	02:02	11:57	07:57	20:22	24(28%)
26	02:07	02:12	11:57	08:46	21:09	25(19%)
27	02:16	02:21	11:57	09:32	21:54	26(12%)

Abril 28, 29, 30 (Jue, Vie, Sa)

	Aries	Venus		Martes		Júpiter		Saturno	
Jue	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	215°56.8	220°21.6	-3°10.0	234°05.4	-9°18.7	217°56.9	-2°01.5	249°11.4	-14°26.6
1	230°59.3	235°21.4	-3°09.0	249°06.1	-9°18.0	232°58.9	-2°01.3	264°13.7	-14°26.5
2	246°01.8	250°21.2	-3°08.0	264°06.8	-9°17.3	248°00.9	-2°01.1	279°16.0	-14°26.5
3	261°04.2	265°21.1	-3°07.0	279°07.5	-9°16.6	263°02.8	-2°00.9	294°18.4	-14°26.4
4	276°06.7	280°20.9	-3°06.0	294°08.2	-9°15.9	278°04.8	-2°00.7	309°20.7	-14°26.4
5	291°09.1	295°20.7	-3°05.0	309°08.9	-9°15.2	293°06.8	-2°00.5	324°23.0	-14°26.3
6	306°11.6	310°20.5	-3°04.0	324°09.5	-9°14.5	308°08.8	-2°00.3	339°25.3	-14°26.3
7	321°14.1	325°20.3	-3°03.0	339°10.2	-9°13.8	323°10.8	-2°00.1	354°27.6	-14°26.3
8	336°16.5	340°20.1	-3°02.0	354°10.9	-9°13.1	338°12.7	-1°59.9	9°30.0	-14°26.2
9	351°19.0	355°19.9	-3°01.0	9°11.6	-9°12.4	353°14.7	-1°59.7	24°32.3	-14°26.2
10	6°21.5	10°19.7	-3°00.0	24°12.3	-9°11.8	8°16.7	-1°59.5	39°34.6	-14°26.1
11	21°23.9	25°19.5	-2°59.0	39°13.0	-9°11.1	23°18.7	-1°59.3	54°36.9	-14°26.1
12	36°26.4	40°19.4	-2°58.0	54°13.7	-9°10.4	38°20.6	-1°59.1	69°39.2	-14°26.1
13	51°28.9	55°19.2	-2°57.0	69°14.3	-9°09.7	53°22.6	-1°58.9	84°41.6	-14°26.0
14	66°31.3	70°19.0	-2°56.0	84°15.0	-9°09.0	68°24.6	-1°58.7	99°43.9	-14°26.0
15	81°33.8	85°18.8	-2°55.0	99°15.7	-9°08.3	83°26.6	-1°58.5	114°46.2	-14°25.9
16	96°36.2	100°18.6	-2°54.0	114°16.4	-9°07.6	98°28.5	-1°58.3	129°48.5	-14°25.9
17	111°38.7	115°18.4	-2°53.0	129°17.1	-9°06.9	113°30.5	-1°58.1	144°50.8	-14°25.8
18	126°41.2	130°18.2	-2°52.0	144°17.8	-9°06.2	128°32.5	-1°57.8	159°53.2	-14°25.8
19	141°43.6	145°18.0	-2°51.0	159°18.4	-9°05.5	143°34.5	-1°57.6	174°55.5	-14°25.8
20	156°46.1	160°17.8	-2°50.0	174°19.1	-9°04.8	158°36.5	-1°57.4	189°57.8	-14°25.7
21	171°48.6	175°17.7	-2°49.0	189°19.8	-9°04.1	173°38.4	-1°57.2	205°00.1	-14°25.7
22	186°51.0	190°17.5	-2°48.0	204°20.5	-9°03.4	188°40.4	-1°57.0	220°02.4	-14°25.6
23	201°53.5	205°17.3	-2°47.0	219°21.2	-9°02.7	203°42.4	-1°56.8	235°04.8	-14°25.6
Mer.pass.:9:34:		v-0.2 d1.0 m-4.0		v0.7 d0.7 m0.9		v2.0 d0.2 m-1.9		v2.3 d0.0 m0.9	

Vie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	216°56.0	220°17.1	-2°46.0	234°21.9	-9°02.0	218°44.4	-1°56.6	250°07.1	-14°25.6
1	231°58.4	235°16.9	-2°44.9	249°22.6	-9°01.3	233°46.3	-1°56.4	265°09.4	-14°25.5
2	247°00.9	250°16.7	-2°43.9	264°23.3	-9°00.6	248°48.3	-1°56.2	280°11.7	-14°25.5
3	262°03.4	265°16.5	-2°42.9	279°23.9	-9°00.0	263°50.3	-1°56.0	295°14.0	-14°25.4
4	277°05.8	280°16.3	-2°41.9	294°24.6	-8°59.3	278°52.3	-1°55.8	310°16.4	-14°25.4
5	292°08.3	295°16.1	-2°40.9	309°25.3	-8°58.6	293°54.3	-1°55.6	325°18.7	-14°25.3
6	307°10.7	310°15.9	-2°39.9	324°26.0	-8°57.9	308°56.2	-1°55.4	340°21.0	-14°25.3
7	322°13.2	325°15.8	-2°38.9	339°26.7	-8°57.2	323°58.2	-1°55.2	355°23.3	-14°25.3
8	337°15.7	340°15.6	-2°37.9	354°27.4	-8°56.5	339°00.2	-1°55.0	10°25.6	-14°25.2
9	352°18.1	355°15.4	-2°36.9	9°28.1	-8°55.8	354°02.2	-1°54.8	25°28.0	-14°25.2
10	7°20.6	10°15.2	-2°35.9	24°28.7	-8°55.1	9°04.2	-1°54.6	40°30.3	-14°25.1
11	22°23.1	25°15.0	-2°34.9	39°29.4	-8°54.4	24°06.1	-1°54.4	55°32.6	-14°25.1
12	37°25.5	40°14.8	-2°33.9	54°30.1	-8°53.7	39°08.1	-1°54.2	70°34.9	-14°25.1
13	52°28.0	55°14.6	-2°32.8	69°30.8	-8°53.0	54°10.1	-1°54.0	85°37.3	-14°25.0
14	67°30.5	70°14.4	-2°31.8	84°31.5	-8°52.3	69°12.1	-1°53.8	100°39.6	-14°25.0
15	82°32.9	85°14.2	-2°30.8	99°32.2	-8°51.6	84°14.1	-1°53.6	115°41.9	-14°24.9
16	97°35.4	100°14.0	-2°29.8	114°32.9	-8°50.9	99°16.0	-1°53.4	130°44.2	-14°24.9
17	112°37.8	115°13.9	-2°28.8	129°33.6	-8°50.2	114°18.0	-1°53.2	145°46.6	-14°24.9
18	127°40.3	130°13.7	-2°27.8	144°34.3	-8°49.5	129°20.0	-1°53.0	160°48.9	-14°24.8
19	142°42.8	145°13.5	-2°26.8	159°34.9	-8°48.8	144°22.0	-1°52.8	175°51.2	-14°24.8
20	157°45.2	160°13.3	-2°25.8	174°35.6	-8°48.1	159°24.0	-1°52.6	190°53.5	-14°24.7
21	172°47.7	175°13.1	-2°24.8	189°36.3	-8°47.4	174°25.9	-1°52.4	205°55.8	-14°24.7
22	187°50.2	190°12.9	-2°23.7	204°37.0	-8°46.7	189°27.9	-1°52.2	220°58.2	-14°24.6
23	202°52.6	205°12.7	-2°22.7	219°37.7	-8°46.0	204°29.9	-1°52.0	236°00.5	-14°24.6
Mer.pass.:9:30:		v-0.2 d1.0 m-4.0		v0.7 d0.7 m0.9		v2.0 d0.2 m-2.0		v2.3 d0.0 m0.9	

Sa	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	217°55.1	220°12.5	-2°21.7	234°38.4	-8°45.3	219°31.9	-1°51.8	251°02.8	-14°24.6
1	232°57.6	235°12.3	-2°20.7	249°39.1	-8°44.6	234°33.9	-1°51.6	266°05.1	-14°24.5
2	248°00.0	250°12.1	-2°19.7	264°39.8	-8°43.9	249°35.8	-1°51.3	281°07.5	-14°24.5
3	263°02.5	265°12.0	-2°18.7	279°40.5	-8°43.2	264°37.8	-1°51.1	296°09.8	-14°24.4
4	278°05.0	280°11.8	-2°17.7	294°41.1	-8°42.5	279°39.8	-1°50.9	311°12.1	-14°24.4
5	293°07.4	295°11.6	-2°16.7	309°41.8	-8°41.8	294°41.8	-1°50.7	326°14.4	-14°24.4
6	308°09.9	310°11.4	-2°15.6	324°42.5	-8°41.1	309°43.8	-1°50.5	341°16.8	-14°24.3
7	323°12.3	325°11.2	-2°14.6	339°43.2	-8°40.4	324°45.8	-1°50.3	356°19.1	-14°24.3
8	338°14.8	340°11.0	-2°13.6	354°43.9	-8°39.7	339°47.7	-1°50.1	11°21.4	-14°24.2
9	353°17.3	355°10.8	-2°12.6	9°44.6	-8°39.0	354°49.7	-1°49.9	26°23.7	-14°24.2
10	8°19.7	10°10.6	-2°11.6	24°45.3	-8°38.3	9°51.7	-1°49.7	41°26.1	-14°24.2
11	23°22.2	25°10.4	-2°10.6	39°46.0	-8°37.6	24°53.7	-1°49.5	56°28.4	-14°24.1
12	38°24.7	40°10.2	-2°09.5	54°46.7	-8°36.9	39°55.7	-1°49.3	71°30.7	-14°24.1
13	53°27.1	55°10.0	-2°08.5	69°47.4	-8°36.2	54°57.6	-1°49.1	86°33.1	-14°24.0
14	68°29.6	70°09.9	-2°07.5	84°48.1	-8°35.5	69°59.6	-1°48.9	101°35.4	-14°24.0
15	83°32.1	85°09.7	-2°06.5	99°48.7	-8°34.8	85°01.6	-1°48.7	116°37.7	-14°24.0
16	98°34.5	100°09.5	-2°05.5	114°49.4	-8°34.1	100°03.6	-1°48.5	131°40.0	-14°23.9
17	113°37.0	115°09.3	-2°04.5	129°50.1	-8°33.4	115°05.6	-1°48.3	146°42.4	-14°23.9
18	128°39.5	130°09.1	-2°03.4	144°50.8	-8°32.7	130°07.6	-1°48.1	161°44.7	-14°23.8
19	143°41.9	145°08.9	-2°02.4	159°51.5	-8°32.0	145°09.5	-1°47.9	176°47.0	-14°23.8
20	158°44.4	160°08.7	-2°01.4	174°52.2	-8°31.3	160°11.5	-1°47.7	191°49.3	-14°23.8
21	173°46.8	175°08.5	-2°00.4	189°52.9	-8°30.6	175°13.5	-1°47.5	206°51.7	-14°23.7
22	188°49.3	190°08.3	-1°59.4	204°53.6	-8°29.9	190°15.5	-1°47.3	221°54.0	-14°23.7
23	203°51.8	205°08.1	-1°58.4	219°54.3	-8°29.2	205°17.5	-1°47.1	236°56.3	-14°23.7
Mer.pass.:9:26:		v-0.2 d1.0 m-4.0		v0.7 d0.7 m0.9		v2.0 d0.2 m-2.0		v2.3 d0.0 m0.9	

Estrellas

	AHS	Dec
Alpheratz	357°37.4	29°12.6
Ankaa	353°09.7	-42°11.1
Schedar	349°34.1	56°39.3
Diphda	348°49.7	-17°52.0
Achernar	335°22.5	-57°07.5
Hamal	327°54.1	23°33.9
Polaris	315°34.8	89°21.5
Akamar	315°13.9	-40°13.1
Menkar	314°08.8	4°10.5
Mirfak	308°32.0	49°56.3
Aldebaran	290°42.5	16°33.2
Rigel	281°06.3	-8°10.7
Capella	280°25.6	46°01.3
Bellatrix	278°25.5	6°22.1
Elnath	278°05.0	28°37.6
Alnilam	275°40.2	-1°11.4
Betelgeuse	270°54.7	7°24.6
Canopus	263°53.7	-52°42.7
Sirius	258°28.3	-16°44.8
Adara	255°07.8	-29°00.4
Procyon	244°53.2	5°10.2
Pollux	243°20.0	27°58.4
Avior	234°15.7	-59°35.1
Suhail	222°47.9	-43°31.6
Miaplacidus	221°38.6	-69°48.8
Alphard	217°49.9	-8°45.4
Regulus	207°36.7	11°51.5
Dubhe	193°43.4	61°38.1
Denebola	182°26.9	14°26.9
Gienah	175°45.6	-17°40.0
Acrux	173°02.0	-63°13.5
Gacrux	171°53.6	-57°14.4
Alioth	166°14.5	55°50.5
Spica	158°24.3	-11°16.7
Alcaid	152°53.3	49°12.2
Hadar	148°38.5	-60°28.8
Menkent	147°59.9	-36°28.8
Arcturus	145°49.5	19°04.2
Rigil Kent.	139°42.7	-60°55.6
Zubenelg.	136°58.2	-16°08.1
Kochab	137°18.6	74°03.8
Alphecca	126°05.3	26°38.3
Antares	112°18.3	-26°28.9
Atria	107°14.1	-69°03.9
Sabik	102°05.1	-15°45.2
Shaula	96°13.1	-37°07.1
Rasalhague	96°00.4	12°32.5
Etamin	90°42.9	51°28.9
Kaus Aust.	83°35.3	-34°22.3
Vega	80°34.6	38°47.9
Nunki	75°50.4	-26°16.1
Altair	62°02.1	8°55.4
Peacock	53°09.2	-56°39.6
Deneb	49°27.3	45°21.2
Enif	33°41.1	9°58.4
Alnair	27°35.9	-46°51.1
Fomalhaut	15°17.3	-29°30.3
Scheat	13°47.6	28°11.9
Markab	13°32.3	15°19.3

Abr 28 Jue	AHS	Paso Merid
Venus	4°24.8	09:19
Mars	18°08.6	08:23
Jupiter	2°00.1	09:27
Saturn	33°14.6	07:22

Abr 29 Vie	AHS	Paso Merid
Venus	3°21.1	09:19
Mars	17°25.9	08:22
Jupiter	1°48.4	09:24
Saturn	33°11.1	07:18

Abr 30 Sa	AHS	Paso Merid
Venus	2°17.4	09:19
Mars	16°43.3	08:21
Jupiter	1°36.8	09:21
Saturn	33°07.7	07:15

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.1

h Sol Luna

Jue	AHG	Dec	AHG	v	Dec	d	HP
0	180°36.4	14°04.7	210°28.5	14.4	-1°55.0	14.7	56.6
1	195°36.5	14°05.4	225°02.0	14.5	-1°40.3	14.7	56.6
2	210°36.6	14°06.2	239°35.4	14.5	-1°25.6	14.7	56.6
3	225°36.6	14°07.0	254°08.9	14.5	-1°10.9	14.7	56.6
4	240°36.7	14°07.8	268°42.5	14.5	-0°56.2	14.7	56.6
5	255°36.8	14°08.6	283°16.0	14.6	-0°41.5	14.7	56.5
6	270°36.9	14°09.4	297°49.6	14.6	-0°26.8	14.7	56.5
7	285°37.0	14°10.2	312°23.2	14.6	-0°12.1	14.7	56.5
8	300°37.1	14°11.0	326°56.8	14.6	0°02.5	14.7	56.5
9	315°37.2	14°11.7	341°30.5	14.6	0°17.2	14.6	56.5
10	330°37.3	14°12.5	356°04.1	14.7	0°31.8	14.6	56.4
11	345°37.4	14°13.3	10°37.8	14.7	0°46.5	14.6	56.4
12	0°37.5	14°14.1	25°11.5	14.7	1°01.1	14.6	56.4
13	15°37.6	14°14.9	39°45.2	14.7	1°15.7	14.6	56.4
14	30°37.6	14°15.7	54°18.9	14.7	1°30.3	14.6	56.4
15	45°37.7	14°16.4	68°52.6	14.7	1°44.9	14.6	56.3
16	60°37.8	14°17.2	83°26.4	14.7	1°59.4	14.5	56.3
17	75°37.9	14°18.0	98°00.1	14.8	2°14.0	14.5	56.3
18	90°38.0	14°18.8	112°33.9	14.8	2°28.5	14.5	56.3
19	105°38.1	14°19.6	127°07.6	14.8	2°43.0	14.5	56.3
20	120°38.2	14°20.4	141°41.4	14.8	2°57.5	14.5	56.2
21	135°38.3	14°21.1	156°15.2	14.8	3°11.9	14.4	56.2
22	150°38.3	14°21.9	170°49.0	14.8	3°26.4	14.4	56.2
23	165°38.4	14°22.7	185°22.8	14.8	3°40.8	14.4	56.2
	SD.=15.9	d=0.8			S.D.=15.5		

Vie	AHG	Dec	AHG	v	Dec	d	HP
0	180°38.5	14°23.5	199°56.6	14.8	3°55.2	14.4	56.2
1	195°38.6	14°24.3	214°30.4	14.8	4°09.5	14.3	56.1
2	210°38.7	14°25.0	229°04.2	14.8	4°23.9	14.3	56.1
3	225°38.8	14°25.8	243°38.0	14.8	4°38.2	14.3	56.1
4	240°38.9	14°26.6	258°11.8	14.8	4°52.4	14.3	56.1
5	255°39.0	14°27.4	272°45.6	14.8	5°06.7	14.2	56.1
6	270°39.0	14°28.1	287°19.4	14.8	5°20.9	14.2	56.0
7	285°39.1	14°28.9	301°53.2	14.8	5°35.1	14.2	56.0
8	300°39.2	14°29.7	316°27.0	14.8	5°49.2	14.1	56.0
9	315°39.3	14°30.5	331°00.7	14.8	6°03.4	14.1	56.0
10	330°39.4	14°31.2	345°34.5	14.8	6°17.5	14.1	56.0
11	345°39.5	14°32.0	0°08.3	14.8	6°31.5	14.0	55.9
12	0°39.5	14°32.8	14°42.1	14.8	6°45.5	14.0	55.9
13	15°39.6	14°33.6	29°15.8	14.8	6°59.5	14.0	55.9
14	30°39.7	14°34.3	43°49.6	14.7	7°13.4	13.9	55.9
15	45°39.8	14°35.1	58°23.3	14.7	7°27.3	13.9	55.9
16	60°39.9	14°35.9	72°57.0	14.7	7°41.2	13.8	55.8
17	75°40.0	14°36.7	87°30.7	14.7	7°55.0	13.8	55.8
18	90°40.0	14°37.4	102°04.4	14.7	8°08.8	13.8	55.8
19	105°40.1	14°38.2	116°38.1	14.7	8°22.5	13.7	55.8
20	120°40.2	14°39.0	131°11.8	14.7	8°36.2	13.7	55.8
21	135°40.3	14°39.8	145°45.4	14.6	8°49.9	13.6	55.7
22	150°40.4	14°40.5	160°19.1	14.6	9°03.5	13.6	55.7
23	165°40.5	14°41.3	174°52.7	14.6	9°17.0	13.5	55.7
	SD.=15.9	d=0.8			S.D.=15.3		

Sa	AHG	Dec	AHG	v	Dec	d	HP
0	180°40.5	14°42.1	189°26.3	14.6	9°30.5	13.5	55.7
1	195°40.6	14°42.8	203°59.9	14.6	9°44.0	13.4	55.7
2	210°40.7	14°43.6	218°33.5	14.6	9°57.4	13.4	55.6
3	225°40.8	14°44.4	233°07.0	14.5	10°10.8	13.3	55.6
4	240°40.9	14°45.1	247°40.5	14.5	10°24.1	13.3	55.6
5	255°40.9	14°45.9	262°14.0	14.5	10°37.3	13.2	55.6
6	270°41.0	14°46.7	276°47.5	14.5	10°50.5	13.2	55.6
7	285°41.1	14°47.4	291°21.0	14.4	11°03.7	13.1	55.5
8	300°41.2	14°48.2	305°54.4	14.4	11°16.8	13.1	55.5
9	315°41.3	14°49.0	320°27.8	14.4	11°29.8	13.0	55.5
10	330°41.3	14°49.7	335°01.2	14.4	11°42.8	13.0	55.5
11	345°41.4	14°50.5	349°34.6	14.3	11°55.7	12.9	55.5
12	0°41.5	14°51.3	4°07.9	14.3	12°08.6	12.8	55.5
13	15°41.6	14°52.0	18°41.2	14.3	12°21.4	12.8	55.4
14	30°41.7	14°52.8	33°14.5	14.3	12°34.1	12.7	55.4
15	45°41.7	14°53.6	47°47.7	14.2	12°46.8	12.7	55.4
16	60°41.8	14°54.3	62°20.9	14.2	12°59.5	12.6	55.4
17	75°41.9	14°55.1	76°54.1	14.2	13°12.0	12.5	55.4
18	90°42.0	14°55.8	91°27.3	14.1	13°24.5	12.5	55.3
19	105°42.0	14°56.6	106°00.4	14.1	13°36.9	12.4	55.3
20	120°42.1	14°57.4	120°33.5	14.1	13°49.3	12.3	55.3
21	135°42.2	14°58.1	135°06.5	14.0	14°01.6	12.3	55.3
22	150°42.3	14°58.9	149°39.5	14.0	14°13.9	12.2	55.3
23	165°42.3	14°59.6	164°12.5	14.0	14°26.0	12.1	55.3
	SD.=15.9	d=0.8			S.D.=15.2		

Lat.	Crepúsculo Naut.	Crepúsculo Civil	Orto Sol	Crepúsculo Civil	Crepúsculo Naut.	Ocaso Sol
N 72	–:–	–:–	02:09	21:52	–:–	–:–
70	–:–	–:–	02:43	21:16	–:–	–:–
68	–:–	01:27	03:07	20:51	22:35	–:–
66	–:–	02:08	03:26	20:32	21:52	–:–
64	–:–	02:35	03:41	20:16	21:23	–:–
62	01:17	02:55	03:53	20:04	21:02	22:45
60	01:53	03:12	04:04	19:53	20:45	22:06
58	02:18	03:25	04:13	19:43	20:31	21:39
56	02:38	03:37	04:21	19:35	20:19	21:20
54	02:53	03:47	04:28	19:28	20:09	21:03
52	03:07	03:56	04:34	19:21	20:00	20:50
50	03:18	04:04	04:40	19:16	19:52	20:38
45	03:41	04:21	04:53	19:03	19:35	20:15
40	03:58	04:34	05:03	18:53	19:22	19:57
35	04:12	04:45	05:12	18:44	19:11	19:43
30	04:24	04:54	05:19	18:36	19:01	19:31
20	04:42	05:09	05:32	18:23	18:46	19:13
10	04:56	05:22	05:43	18:11	18:33	18:59
0	05:08	05:33	05:54	18:01	18:22	18:47
S 10	05:18	05:43	06:04	17:50	18:12	18:37
20	05:26	05:53	06:15	17:39	18:02	18:28
30	05:35	06:03	06:28	17:27	17:51	18:20
35	05:39	06:09	06:35	17:19	17:46	18:16
40	05:43	06:15	06:43	17:11	17:39	18:11
45	05:47	06:22	06:52	17:02	17:33	18:07
50	05:51	06:30	07:04	16:51	17:24	18:03
52	05:53	06:33	07:09	16:45	17:21	18:01
54	05:55	06:37	07:15	16:39	17:17	17:59
56	05:57	06:41	07:21	16:33	17:13	17:57
58	05:59	06:46	07:28	16:26	17:08	17:55
60	06:01	06:51	07:36	16:18	17:03	17:52

Lat.	Orto luna Jue	Orto luna Vie	Orto luna Sa	Ocaso luna Jue	Ocaso luna Vie	Ocaso luna Sa
N 72	04:18	03:48	03:15	16:54	19:00	21:21
70	04:17	03:54	03:30	16:51	18:47	20:50
68	04:16	04:00	03:43	16:48	18:36	20:29
66	04:15	04:04	03:53	16:46	18:27	20:12
64	04:14	04:08	04:02	16:44	18:20	19:58
62	04:13	04:11	04:09	16:43	18:14	19:46
60	04:13	04:14	04:16	16:42	18:09	19:36
58	04:12	04:17	04:22	16:40	18:04	19:28
56	04:12	04:19	04:27	16:39	18:00	19:20
54	04:11	04:21	04:32	16:38	17:56	19:14
52	04:11	04:23	04:36	16:38	17:53	19:08
50	04:10	04:25	04:40	16:37	17:50	19:03
45	04:10	04:29	04:48	16:35	17:43	18:51
40	04:09	04:32	04:55	16:34	17:38	18:42
35	04:09	04:35	05:01	16:33	17:33	18:33
30	04:08	04:37	05:07	16:32	17:29	18:26
20	04:07	04:42	05:16	16:30	17:22	18:14
10	04:06	04:45	05:25	16:28	17:16	18:03
0	04:06	04:49	05:32	16:27	17:10	17:54
S 10	04:05	04:53	05:40	16:25	17:04	17:44
20	04:04	04:57	05:49	16:23	16:58	17:33
30	04:04	05:01	05:59	16:22	16:51	17:21
35	04:03	05:04	06:04	16:20	16:47	17:14
40	04:03	05:07	06:11	16:19	16:42	17:07
45	04:02	05:11	06:18	16:18	16:37	16:57
50	04:02	05:15	06:28	16:16	16:31	16:47
52	04:01	05:17	06:32	16:15	16:28	16:42
54	04:01	05:19	06:37	16:15	16:25	16:36
56	04:00	05:21	06:42	16:14	16:21	16:30
58	04:00	05:24	06:48	16:13	16:18	16:23
60	04:00	05:27	06:54	16:12	16:13	16:16

Día	Sol Ec. tiempo 00:00 h	Sol Ec. tiempo 12:00 h	Sol Paso Merid	Luna Paso Meridiano Superior	Luna Paso Meridiano Inferior	Luna Edad
28	02:25	02:30	11:57	10:16	22:37	27(6%)
29	02:34	02:38	11:57	10:59	23:21	28(2%)
30	02:42	02:46	11:57	11:42	00:05	29(0%)

Mayo 01, 02, 03 (Dom, Lun, Mar)

	Aries	Venus		Martes		Júpiter		Saturno	
Dom	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	218°54.2	220°07.9	-1°57.3	234°55.0	-8°28.5	220°19.5	-1°46.9	251°58.7	-14°23.6
1	233°56.7	235°07.7	-1°56.3	249°55.7	-8°27.8	235°21.4	-1°46.7	267°01.0	-14°23.6
2	248°59.2	250°07.6	-1°55.3	264°56.4	-8°27.1	250°23.4	-1°46.5	282°03.3	-14°23.5
3	264°01.6	265°07.4	-1°54.3	279°57.0	-8°26.4	265°25.4	-1°46.3	297°05.6	-14°23.5
4	279°04.1	280°07.2	-1°53.3	294°57.7	-8°25.7	280°27.4	-1°46.1	312°08.0	-14°23.5
5	294°06.6	295°07.0	-1°52.2	309°58.4	-8°25.0	295°29.4	-1°45.9	327°10.3	-14°23.4
6	309°09.0	310°06.8	-1°51.2	324°59.1	-8°24.3	310°31.4	-1°45.7	342°12.6	-14°23.4
7	324°11.5	325°06.6	-1°50.2	339°59.8	-8°23.6	325°33.3	-1°45.5	357°15.0	-14°23.3
8	339°13.9	340°06.4	-1°49.2	355°00.5	-8°22.9	340°35.3	-1°45.3	12°17.3	-14°23.3
9	354°16.4	355°06.2	-1°48.2	10°01.2	-8°22.2	355°37.3	-1°45.1	27°19.6	-14°23.3
10	9°18.9	10°06.0	-1°47.1	25°01.9	-8°21.5	10°39.3	-1°44.9	42°21.9	-14°23.2
11	24°21.3	25°05.8	-1°46.1	40°02.6	-8°20.8	25°41.3	-1°44.7	57°24.3	-14°23.2
12	39°23.8	40°05.6	-1°45.1	55°03.3	-8°20.1	40°43.3	-1°44.5	72°26.6	-14°23.1
13	54°26.3	55°05.4	-1°44.1	70°04.0	-8°19.4	55°45.3	-1°44.3	87°28.9	-14°23.1
14	69°28.7	70°05.2	-1°43.0	85°04.7	-8°18.7	70°47.2	-1°44.1	102°31.3	-14°23.1
15	84°31.2	85°05.1	-1°42.0	100°05.4	-8°18.0	85°49.2	-1°43.9	117°33.6	-14°23.0
16	99°33.7	100°04.9	-1°41.0	115°06.1	-8°17.3	100°51.2	-1°43.7	132°35.9	-14°23.0
17	114°36.1	115°04.7	-1°40.0	130°06.8	-8°16.6	115°53.2	-1°43.5	147°38.2	-14°23.0
18	129°38.6	130°04.5	-1°39.0	145°07.5	-8°15.9	130°55.2	-1°43.3	162°40.6	-14°22.9
19	144°41.1	145°04.3	-1°37.9	160°08.1	-8°15.2	145°57.2	-1°43.1	177°42.9	-14°22.9
20	159°43.5	160°04.1	-1°36.9	175°08.8	-8°14.5	160°59.2	-1°42.9	192°45.2	-14°22.8
21	174°46.0	175°03.9	-1°35.9	190°09.5	-8°13.8	176°01.1	-1°42.7	207°47.6	-14°22.8
22	189°48.4	190°03.7	-1°34.9	205°10.2	-8°13.1	191°03.1	-1°42.5	222°49.9	-14°22.8
23	204°50.9	205°03.5	-1°33.8	220°10.9	-8°12.4	206°05.1	-1°42.3	237°52.2	-14°22.7
Mer.pass.:9:22:		v-0.2 d1.0 m-4.0		v0.7 d0.7 m0.9		v2.0 d0.2 m-2.0		v2.3 d0.0 m0.8	

Lun	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	219°53.4	220°03.3	-1°32.8	235°11.6	-8°11.7	221°07.1	-1°42.1	252°54.6	-14°22.7
1	234°55.8	235°03.1	-1°31.8	250°12.3	-8°11.0	236°09.1	-1°41.9	267°56.9	-14°22.7
2	249°58.3	250°02.9	-1°30.8	265°13.0	-8°10.3	251°11.1	-1°41.7	282°59.2	-14°22.6
3	265°00.8	265°02.7	-1°29.7	280°13.7	-8°09.6	266°13.1	-1°41.5	298°01.6	-14°22.6
4	280°03.2	280°02.5	-1°28.7	295°14.4	-8°08.9	281°15.1	-1°41.3	313°03.9	-14°22.5
5	295°05.7	295°02.4	-1°27.7	310°15.1	-8°08.2	296°17.0	-1°41.1	328°06.2	-14°22.5
6	310°08.2	310°02.2	-1°26.7	325°15.8	-8°07.5	311°19.0	-1°40.9	343°08.6	-14°22.5
7	325°10.6	325°02.0	-1°25.6	340°16.5	-8°06.8	326°21.0	-1°40.7	358°10.9	-14°22.4
8	340°13.1	340°01.8	-1°24.6	355°17.2	-8°06.1	341°23.0	-1°40.5	13°13.2	-14°22.4
9	355°15.6	355°01.6	-1°23.6	10°17.9	-8°05.4	356°25.0	-1°40.3	28°15.6	-14°22.3
10	10°18.0	10°01.4	-1°22.5	25°18.6	-8°04.7	11°27.0	-1°40.1	43°17.9	-14°22.3
11	25°20.5	25°01.2	-1°21.5	40°19.3	-8°04.0	26°29.0	-1°39.9	58°20.2	-14°22.3
12	40°22.9	40°01.0	-1°20.5	55°20.0	-8°03.3	41°31.0	-1°39.7	73°22.6	-14°22.2
13	55°25.4	55°00.8	-1°19.5	70°20.7	-8°02.6	56°32.9	-1°39.5	88°24.9	-14°22.2
14	70°27.9	70°00.6	-1°18.4	85°21.4	-8°01.9	71°34.9	-1°39.3	103°27.2	-14°22.2
15	85°30.3	85°00.4	-1°17.4	100°22.1	-8°01.1	86°36.9	-1°39.1	118°29.6	-14°22.1
16	100°32.8	100°00.2	-1°16.4	115°22.8	-8°00.4	101°38.9	-1°38.9	133°31.9	-14°22.1
17	115°35.3	115°00.0	-1°15.3	130°23.5	-7°59.7	116°40.9	-1°38.7	148°34.2	-14°22.1
18	130°37.7	129°59.8	-1°14.3	145°24.2	-7°59.0	131°42.9	-1°38.5	163°36.6	-14°22.0
19	145°40.2	144°59.6	-1°13.3	160°24.9	-7°58.3	146°44.9	-1°38.3	178°38.9	-14°22.0
20	160°42.7	159°59.4	-1°12.3	175°25.6	-7°57.6	161°46.9	-1°38.1	193°41.2	-14°21.9
21	175°45.1	174°59.3	-1°11.2	190°26.3	-7°56.9	176°48.9	-1°37.9	208°43.6	-14°21.9
22	190°47.6	189°59.1	-1°10.2	205°27.0	-7°56.2	191°50.8	-1°37.7	223°45.9	-14°21.9
23	205°50.0	204°58.9	-1°09.2	220°27.7	-7°55.5	206°52.8	-1°37.5	238°48.2	-14°21.8
Mer.pass.:9:18:		v-0.2 d1.0 m-4.0		v0.7 d0.7 m0.9		v2.0 d0.2 m-2.0		v2.3 d0.0 m0.8	

Mar	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	220°52.5	219°58.7	-1°08.1	235°28.4	-7°54.8	221°54.8	-1°37.3	253°50.6	-14°21.8
1	235°55.0	234°58.5	-1°07.1	250°29.0	-7°54.1	236°56.8	-1°37.1	268°52.9	-14°21.8
2	250°57.4	249°58.3	-1°06.1	265°29.7	-7°53.4	251°58.8	-1°36.9	283°55.2	-14°21.7
3	265°59.9	264°58.1	-1°05.0	280°30.4	-7°52.7	267°00.8	-1°36.7	298°57.6	-14°21.7
4	281°02.4	279°57.9	-1°04.0	295°31.1	-7°52.0	282°02.8	-1°36.5	313°59.9	-14°21.6
5	296°04.8	294°57.7	-1°03.0	310°31.8	-7°51.3	297°04.8	-1°36.3	329°02.2	-14°21.6
6	311°07.3	309°57.5	-1°02.0	325°32.5	-7°50.6	312°06.8	-1°36.1	344°04.6	-14°21.6
7	326°09.8	324°57.3	-1°00.9	340°33.2	-7°49.9	327°08.7	-1°35.9	359°06.9	-14°21.5
8	341°12.2	339°57.1	-0°59.9	355°33.9	-7°49.2	342°10.7	-1°35.7	14°09.3	-14°21.5
9	356°14.7	354°56.9	-0°58.9	10°34.6	-7°48.5	357°12.7	-1°35.5	29°11.6	-14°21.5
10	11°17.2	9°56.7	-0°57.8	25°35.3	-7°47.7	12°14.7	-1°35.3	44°13.9	-14°21.4
11	26°19.6	24°56.5	-0°56.8	40°36.0	-7°47.0	27°16.7	-1°35.1	59°16.3	-14°21.4
12	41°22.1	39°56.3	-0°55.8	55°36.7	-7°46.3	42°18.7	-1°34.9	74°18.6	-14°21.4
13	56°24.5	54°56.1	-0°54.7	70°37.4	-7°45.6	57°20.7	-1°34.7	89°20.9	-14°21.3
14	71°27.0	69°55.9	-0°53.7	85°38.1	-7°44.9	72°22.7	-1°34.5	104°23.3	-14°21.3
15	86°29.5	84°55.7	-0°52.7	100°38.8	-7°44.2	87°24.7	-1°34.4	119°25.6	-14°21.2
16	101°31.9	99°55.5	-0°51.6	115°39.5	-7°43.5	102°26.7	-1°34.2	134°27.9	-14°21.2
17	116°34.4	114°55.4	-0°50.6	130°40.2	-7°42.8	117°28.7	-1°34.0	149°30.3	-14°21.2
18	131°36.9	129°55.2	-0°49.6	145°40.9	-7°42.1	132°30.7	-1°33.8	164°32.6	-14°21.1
19	146°39.3	144°55.0	-0°48.5	160°41.6	-7°41.4	147°32.6	-1°33.6	179°35.0	-14°21.1
20	161°41.8	159°54.8	-0°47.5	175°42.3	-7°40.7	162°34.6	-1°33.4	194°37.3	-14°21.1
21	176°44.3	174°54.6	-0°46.5	190°43.0	-7°40.0	177°36.6	-1°33.2	209°39.6	-14°21.0
22	191°46.7	189°54.4	-0°45.4	205°43.7	-7°39.3	192°38.6	-1°33.0	224°42.0	-14°21.0
23	206°49.2	204°54.2	-0°44.4	220°44.4	-7°38.6	207°40.6	-1°32.8	239°44.3	-14°21.0
Mer.pass.:9:14:		v-0.2 d1.0 m-4.0		v0.7 d0.7 m0.9		v2.0 d0.2 m-2.0		v2.3 d0.0 m0.8	

Estrellas

	AHS	Dec
Alpheratz	357°37.4	29°12.6
Ankaa	353°09.7	-42°11.1
Schedar	349°34.1	56°39.3
Diphda	348°49.7	-17°52.0
Achernar	335°22.5	-57°07.5
Hamal	327°54.1	23°33.9
Polaris	315°34.7	89°21.4
Akamar	315°13.9	-40°13.1
Menkar	314°08.8	4°10.5
Mirfak	308°32.0	49°56.3
Aldebaran	290°42.5	16°33.2
Rigel	281°06.3	-8°10.7
Capella	280°25.6	46°01.3
Bellatrix	278°25.5	6°22.1
Elnath	278°05.0	28°37.6
Alnilam	275°40.3	-1°11.4
Betelgeuse	270°54.7	7°24.6
Canopus	263°53.7	-52°42.7
Sirius	258°28.3	-16°44.8
Adara	255°07.8	-29°00.3
Procyon	244°53.2	5°10.2
Pollux	243°20.0	27°58.4
Avior	234°15.7	-59°35.1
Suhail	222°47.9	-43°31.6
Miaplacidus	221°38.6	-69°48.8
Alphard	217°49.9	-8°45.4
Regulus	207°36.7	11°51.5
Dubhe	193°43.4	61°38.1
Denebola	182°26.9	14°26.9
Gienah	175°45.6	-17°40.0
Acrux	173°02.0	-63°13.5
Gacrux	171°53.6	-57°14.4
Alioth	166°14.5	55°50.5
Spica	158°24.3	-11°16.7
Alcaid	152°53.3	49°12.2
Hadar	148°38.5	-60°28.8
Menkent	147°59.9	-36°28.8
Arcturus	145°49.5	19°04.3
Rigil Kent.	139°42.7	-60°55.6
Zubenelg.	136°58.2	-16°08.1
Kochab	137°18.6	74°03.8
Alphecca	126°05.3	26°38.3
Antares	112°18.2	-26°28.9
Atria	107°14.0	-69°03.9
Sabik	102°05.1	-15°45.2
Shaula	96°13.1	-37°07.1
Rasalhague	96°00.4	12°32.5
Etamin	90°42.9	51°28.9
Kaus Aust.	83°35.2	-34°22.3
Vega	80°34.5	38°47.9
Nunki	75°50.4	-26°16.1
Altair	62°02.1	8°55.4
Peacock	53°09.2	-56°39.6
Deneb	49°27.3	45°21.2
Enif	33°41.1	9°58.4
Alnair	27°35.9	-46°51.1
Fomalhaut	15°17.3	-29°30.3
Scheat	13°47.6	28°11.9
Markab	13°32.3	15°19.3

May 01 Dom	AHS	Paso Merid
Venus	1°13.7	09:20
Mars	16°00.7	08:20
Jupiter	1°25.2	09:17
Saturn	33°04.4	07:11

May 02 Lun	AHS	Paso Merid
Venus	0°09.9	09:20
Mars	15°18.3	08:19
Jupiter	1°13.7	09:14
Saturn	33°01.2	07:07

May 03 Mar	AHS	Paso Merid
Venus	359°06.2	09:20
Mars	14°35.8	08:18
Jupiter	1°02.3	09:11
Saturn	32°58.1	07:04

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.1

h Sol Luna

Dom	AHG	Dec	AHG	v	Dec	d	HP
0	180°42.4	15°00.4	178°45.5	13.9	14°38.1	12.1	55.2
1	195°42.5	15°01.2	193°18.4	13.9	14°50.2	12.0	55.2
2	210°42.6	15°01.9	207°51.3	13.9	15°02.1	11.9	55.2
3	225°42.7	15°02.7	222°24.1	13.8	15°14.0	11.9	55.2
4	240°42.7	15°03.4	236°56.9	13.8	15°25.8	11.8	55.2
5	255°42.8	15°04.2	251°29.7	13.8	15°37.6	11.7	55.1
6	270°42.9	15°05.0	266°02.5	13.7	15°49.2	11.6	55.1
7	285°42.9	15°05.7	280°35.2	13.7	16°00.8	11.6	55.1
8	300°43.0	15°06.5	295°07.8	13.6	16°12.3	11.5	55.1
9	315°43.1	15°07.2	309°40.4	13.6	16°23.8	11.4	55.1
10	330°43.2	15°08.0	324°13.0	13.6	16°35.1	11.3	55.1
11	345°43.2	15°08.7	338°45.6	13.5	16°46.4	11.2	55.0
12	0°43.3	15°09.5	353°18.1	13.5	16°57.6	11.2	55.0
13	15°43.4	15°10.2	7°50.5	13.4	17°08.8	11.1	55.0
14	30°43.5	15°11.0	22°22.9	13.4	17°19.8	11.0	55.0
15	45°43.5	15°11.7	36°55.3	13.4	17°30.8	10.9	55.0
16	60°43.6	15°12.5	51°27.7	13.3	17°41.7	10.8	55.0
17	75°43.7	15°13.3	65°59.9	13.3	17°52.5	10.8	54.9
18	90°43.8	15°14.0	80°32.2	13.2	18°03.2	10.7	54.9
19	105°43.8	15°14.8	95°04.4	13.2	18°13.8	10.6	54.9
20	120°43.9	15°15.5	109°36.6	13.1	18°24.3	10.5	54.9
21	135°44.0	15°16.3	124°08.7	13.1	18°34.8	10.4	54.9
22	150°44.0	15°17.0	138°40.8	13.1	18°45.2	10.3	54.9
23	165°44.1	15°17.8	153°12.8	13.0	18°55.5	10.2	54.9
	SD.=15.9	d=0.8			S.D.=15.1		

Lun	AHG	Dec	AHG	v	Dec	d	HP
0	180°44.2	15°18.5	167°44.8	13.0	19°05.6	10.1	54.8
1	195°44.2	15°19.3	182°16.8	12.9	19°15.8	10.1	54.8
2	210°44.3	15°20.0	196°48.7	12.9	19°25.8	10.0	54.8
3	225°44.4	15°20.7	211°20.5	12.8	19°35.7	9.9	54.8
4	240°44.5	15°21.5	225°52.3	12.8	19°45.5	9.8	54.8
5	255°44.5	15°22.2	240°24.1	12.7	19°55.3	9.7	54.8
6	270°44.6	15°23.0	254°55.8	12.7	20°04.9	9.6	54.7
7	285°44.7	15°23.7	269°27.5	12.7	20°14.5	9.5	54.7
8	300°44.7	15°24.5	283°59.2	12.6	20°23.9	9.4	54.7
9	315°44.8	15°25.2	298°30.7	12.6	20°33.3	9.3	54.7
10	330°44.9	15°26.0	313°02.3	12.5	20°42.5	9.2	54.7
11	345°44.9	15°26.7	327°33.8	12.5	20°51.7	9.1	54.7
12	0°45.0	15°27.5	342°05.2	12.4	21°00.8	9.0	54.7
13	15°45.1	15°28.2	356°36.7	12.4	21°09.7	8.9	54.6
14	30°45.1	15°28.9	11°08.0	12.3	21°18.6	8.8	54.6
15	45°45.2	15°29.7	25°39.3	12.3	21°27.4	8.7	54.6
16	60°45.3	15°30.4	40°10.6	12.3	21°36.0	8.6	54.6
17	75°45.3	15°31.2	54°41.8	12.2	21°44.6	8.5	54.6
18	90°45.4	15°31.9	69°13.0	12.2	21°53.1	8.4	54.6
19	105°45.5	15°32.7	83°44.2	12.1	22°01.4	8.3	54.6
20	120°45.5	15°33.4	98°15.3	12.1	22°09.7	8.2	54.6
21	135°45.6	15°34.1	112°46.3	12.0	22°17.9	8.1	54.5
22	150°45.7	15°34.9	127°17.3	12.0	22°25.9	8.0	54.5
23	165°45.7	15°35.6	141°48.3	11.9	22°33.8	7.9	54.5
	SD.=15.9	d=0.7			S.D.=15.0		

Mar	AHG	Dec	AHG	v	Dec	d	HP
0	180°45.8	15°36.3	156°19.2	11.9	22°41.7	7.8	54.5
1	195°45.9	15°37.1	170°50.1	11.9	22°49.4	7.7	54.5
2	210°45.9	15°37.8	185°20.9	11.8	22°57.0	7.6	54.5
3	225°46.0	15°38.6	199°51.7	11.8	23°04.5	7.5	54.5
4	240°46.1	15°39.3	214°22.5	11.7	23°11.9	7.3	54.5
5	255°46.1	15°40.0	228°53.2	11.7	23°19.2	7.2	54.4
6	270°46.2	15°40.8	243°23.8	11.6	23°26.4	7.1	54.4
7	285°46.2	15°41.5	257°54.5	11.6	23°33.5	7.0	54.4
8	300°46.3	15°42.2	272°25.0	11.6	23°40.5	6.9	54.4
9	315°46.4	15°43.0	286°55.6	11.5	23°47.3	6.8	54.4
10	330°46.4	15°43.7	301°26.1	11.5	23°54.0	6.7	54.4
11	345°46.5	15°44.4	315°56.5	11.4	24°00.7	6.6	54.4
12	0°46.6	15°45.2	330°26.9	11.4	24°07.2	6.5	54.4
13	15°46.6	15°45.9	344°57.3	11.4	24°13.6	6.3	54.4
14	30°46.7	15°46.6	359°27.7	11.3	24°19.9	6.2	54.3
15	45°46.7	15°47.4	13°58.0	11.3	24°26.0	6.1	54.3
16	60°46.8	15°48.1	28°28.2	11.2	24°32.1	6.0	54.3
17	75°46.9	15°48.8	42°58.5	11.2	24°38.0	5.9	54.3
18	90°46.9	15°49.6	57°28.6	11.2	24°43.8	5.8	54.3
19	105°47.0	15°50.3	71°58.8	11.1	24°49.5	5.6	54.3
20	120°47.0	15°51.0	86°28.9	11.1	24°55.1	5.5	54.3
21	135°47.1	15°51.7	100°59.0	11.1	25°00.6	5.4	54.3
22	150°47.2	15°52.5	115°29.1	11.0	25°05.9	5.3	54.3
23	165°47.2	15°53.2	129°59.1	11.0	25°11.1	5.2	54.3
	SD.=15.9	d=0.7			S.D.=14.9		

Lat.	Crepúsculo Naut.	Crepúsculo Civil	Orto Sol	Crepúsculo Civil	Crepúsculo Naut.	Ocaso Sol
N 72	–:–	–:–	01:44	22:17	–:–	–:–
70	–:–	–:–	02:25	21:33	–:–	–:–
68	–:–	00:56	02:53	21:04	23:12	–:–
66	–:–	01:49	03:14	20:43	22:10	–:–
64	–:–	02:21	03:30	20:26	21:37	–:–
62	00:49	02:44	03:44	20:12	21:13	23:17
60	01:37	03:02	03:56	20:00	20:55	22:22
58	02:06	03:17	04:05	19:50	20:39	21:51
56	02:28	03:29	04:14	19:41	20:26	21:29
54	02:45	03:40	04:22	19:33	20:15	21:12
52	02:59	03:50	04:29	19:26	20:06	20:57
50	03:11	03:58	04:35	19:20	19:57	20:45
45	03:35	04:16	04:48	19:07	19:39	20:20
40	03:54	04:30	04:59	18:56	19:25	20:01
35	04:09	04:41	05:08	18:46	19:13	19:46
30	04:21	04:51	05:16	18:38	19:03	19:34
20	04:40	05:07	05:30	18:24	18:47	19:14
10	04:55	05:21	05:42	18:12	18:34	18:59
0	05:07	05:32	05:54	18:00	18:22	18:47
S 10	05:18	05:43	06:05	17:49	18:11	18:36
20	05:27	05:54	06:16	17:37	18:00	18:26
30	05:36	06:05	06:30	17:24	17:49	18:17
35	05:41	06:11	06:37	17:16	17:43	18:13
40	05:45	06:18	06:46	17:08	17:36	18:08
45	05:50	06:25	06:56	16:58	17:28	18:03
50	05:55	06:34	07:08	16:45	17:20	17:58
52	05:57	06:38	07:14	16:40	17:16	17:56
54	06:00	06:42	07:20	16:33	17:11	17:53
56	06:02	06:47	07:27	16:26	17:07	17:51
58	06:05	06:52	07:34	16:19	17:01	17:48
60	06:07	06:57	07:43	16:10	16:56	17:46

Lat.	Orto luna Dom	Orto luna Lun	Orto luna Mar	Ocaso luna Dom	Ocaso luna Lun	Ocaso luna Mar
N 72	02:27	–:–	–:–	–:–	–:–	–:–
70	02:59	01:55	–:–	23:29	–:–	–:–
68	03:22	02:50	–:–	22:35	–:–	–:–
66	03:40	03:24	02:52	22:03	–:–	00:13
64	03:56	03:48	03:39	21:39	23:27	–:–
62	04:08	04:08	04:09	21:20	22:57	–:–
60	04:19	04:24	04:32	21:05	22:34	–:–
58	04:28	04:37	04:51	20:52	22:16	23:36
56	04:37	04:49	05:07	20:41	22:01	23:17
54	04:44	04:59	05:20	20:31	21:48	23:01
52	04:51	05:09	05:32	20:23	21:37	22:47
50	04:57	05:17	05:42	20:15	21:26	22:35
45	05:10	05:35	06:04	19:59	21:05	22:10
40	05:21	05:49	06:22	19:45	20:48	21:50
35	05:30	06:01	06:37	19:34	20:34	21:33
30	05:38	06:12	06:50	19:24	20:22	21:19
20	05:52	06:31	07:13	19:07	20:01	20:55
10	06:05	06:47	07:32	18:52	19:42	20:34
0	06:17	07:03	07:50	18:39	19:25	20:14
S 10	06:29	07:18	08:09	18:25	19:09	19:55
20	06:41	07:35	08:29	18:10	18:50	19:34
30	06:56	07:54	08:51	17:54	18:30	19:10
35	07:05	08:05	09:05	17:44	18:18	18:56
40	07:15	08:18	09:21	17:33	18:04	18:40
45	07:26	08:33	09:39	17:20	17:48	18:20
50	07:40	08:52	10:03	17:05	17:27	17:56
52	07:47	09:01	10:14	16:58	17:18	17:44
54	07:54	09:12	10:27	16:50	17:07	17:31
56	08:03	09:23	10:42	16:41	16:55	17:16
58	08:12	09:36	10:59	16:31	16:41	16:58
60	08:23	09:52	11:21	16:19	16:25	16:36

Día	Sol Ec. tiempo 00:00 h	Sol Ec. tiempo 12:00 h	Sol Paso Merid	Luna Paso Meridiano Superior	Luna Paso Meridiano Inferior	Luna Edad
1	02:50	02:53	11:57	12:27	00:05	1(0%)
2	02:57	03:00	11:57	13:14	00:50	2(3%)
3	03:03	03:06	11:56	14:02	01:37	3(7%)

Mayo 04, 05, 06 (Mie, Jue, Vie)

	Aries	Venus		Martes		Júpiter		Saturno	
Mie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	221°51.7	219°54.0	-0°43.4	235°45.1	-7°37.8	222°42.6	-1°32.6	254°46.6	-14°20.9
1	236°54.1	234°53.8	-0°42.3	250°45.8	-7°37.1	237°44.6	-1°32.4	269°49.0	-14°20.9
2	251°56.6	249°53.6	-0°41.3	265°46.5	-7°36.4	252°46.6	-1°32.2	284°51.3	-14°20.9
3	266°59.0	264°53.4	-0°40.2	280°47.2	-7°35.7	267°48.6	-1°32.0	299°53.7	-14°20.8
4	282°01.5	279°53.2	-0°39.2	295°48.0	-7°35.0	282°50.6	-1°31.8	314°56.0	-14°20.8
5	297°04.0	294°53.0	-0°38.2	310°48.7	-7°34.3	297°52.6	-1°31.6	329°58.3	-14°20.7
6	312°06.4	309°52.8	-0°37.1	325°49.4	-7°33.6	312°54.6	-1°31.4	345°00.7	-14°20.7
7	327°08.9	324°52.6	-0°36.1	340°50.1	-7°32.9	327°56.6	-1°31.2	0°03.0	-14°20.7
8	342°11.4	339°52.4	-0°35.1	355°50.8	-7°32.2	342°58.5	-1°31.0	15°05.4	-14°20.6
9	357°13.8	354°52.2	-0°34.0	10°51.5	-7°31.5	358°00.5	-1°30.8	30°07.7	-14°20.6
10	12°16.3	9°52.0	-0°33.0	25°52.2	-7°30.8	13°02.5	-1°30.6	45°10.0	-14°20.6
11	27°18.8	24°51.8	-0°32.0	40°52.9	-7°30.1	28°04.5	-1°30.4	60°12.4	-14°20.5
12	42°21.2	39°51.6	-0°30.9	55°53.6	-7°29.3	43°06.5	-1°30.2	75°14.7	-14°20.5
13	57°23.7	54°51.4	-0°29.9	70°54.3	-7°28.6	58°08.5	-1°30.0	90°17.1	-14°20.5
14	72°26.2	69°51.2	-0°28.8	85°55.0	-7°27.9	73°10.5	-1°29.8	105°19.4	-14°20.4
15	87°28.6	84°51.0	-0°27.8	100°55.7	-7°27.2	88°12.5	-1°29.6	120°21.7	-14°20.4
16	102°31.1	99°50.8	-0°26.8	115°56.4	-7°26.5	103°14.5	-1°29.4	135°24.1	-14°20.4
17	117°33.5	114°50.6	-0°25.7	130°57.1	-7°25.8	118°16.5	-1°29.2	150°26.4	-14°20.3
18	132°36.0	129°50.4	-0°24.7	145°57.8	-7°25.1	133°18.5	-1°29.0	165°28.8	-14°20.3
19	147°38.5	144°50.2	-0°23.6	160°58.5	-7°24.4	148°20.5	-1°28.8	180°31.1	-14°20.3
20	162°40.9	159°50.0	-0°22.6	175°59.2	-7°23.7	163°22.5	-1°28.6	195°33.5	-14°20.2
21	177°43.4	174°49.8	-0°21.6	190°59.9	-7°23.0	178°24.5	-1°28.4	210°35.8	-14°20.2
22	192°45.9	189°49.6	-0°20.5	206°00.6	-7°22.3	193°26.5	-1°28.3	225°38.1	-14°20.2
23	207°48.3	204°49.4	-0°19.5	221°01.3	-7°21.5	208°28.5	-1°28.1	240°40.5	-14°20.1
Mer.pass.:9:11:		v-0.2 d1.0 m-4.0		v0.7 d0.7 m0.8		v2.0 d0.2 m-2.0		v2.3 d0.0 m0.8	

Jue	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	222°50.8	219°49.2	-0°18.5	236°02.0	-7°20.8	223°30.5	-1°27.9	255°42.8	-14°20.1
1	237°53.3	234°49.0	-0°17.4	251°02.7	-7°20.1	238°32.5	-1°27.7	270°45.2	-14°20.1
2	252°55.7	249°48.8	-0°16.4	266°03.4	-7°19.4	253°34.5	-1°27.5	285°47.5	-14°20.0
3	267°58.2	264°48.7	-0°15.3	281°04.1	-7°18.7	268°36.4	-1°27.3	300°49.8	-14°20.0
4	283°00.7	279°48.5	-0°14.3	296°04.8	-7°18.0	283°38.4	-1°27.1	315°52.2	-14°20.0
5	298°03.1	294°48.3	-0°13.3	311°05.5	-7°17.3	298°40.4	-1°26.9	330°54.5	-14°19.9
6	313°05.6	309°48.1	-0°12.2	326°06.2	-7°16.6	313°42.4	-1°26.7	345°56.9	-14°19.9
7	328°08.0	324°47.9	-0°11.2	341°06.9	-7°15.9	328°44.4	-1°26.5	0°59.2	-14°19.8
8	343°10.5	339°47.7	-0°10.1	356°07.6	-7°15.2	343°46.4	-1°26.3	16°01.6	-14°19.8
9	358°13.0	354°47.5	-0°09.1	11°08.3	-7°14.4	358°48.4	-1°26.1	31°03.9	-14°19.8
10	13°15.4	9°47.3	-0°08.0	26°09.1	-7°13.7	13°50.4	-1°25.9	46°06.2	-14°19.7
11	28°17.9	24°47.1	-0°07.0	41°09.8	-7°13.0	28°52.4	-1°25.7	61°08.6	-14°19.7
12	43°20.4	39°46.9	-0°06.0	56°10.5	-7°12.3	43°54.4	-1°25.5	76°10.9	-14°19.7
13	58°22.8	54°46.7	-0°04.9	71°11.2	-7°11.6	58°56.4	-1°25.3	91°13.3	-14°19.6
14	73°25.3	69°46.5	-0°03.9	86°11.9	-7°10.9	73°58.4	-1°25.1	106°15.6	-14°19.6
15	88°27.8	84°46.3	-0°02.8	101°12.6	-7°10.2	89°00.4	-1°24.9	121°18.0	-14°19.6
16	103°30.2	99°46.1	-0°01.8	116°13.3	-7°09.5	104°02.4	-1°24.7	136°20.3	-14°19.5
17	118°32.7	114°45.9	-0°00.8	131°14.0	-7°08.8	119°04.4	-1°24.5	151°22.7	-14°19.5
18	133°35.1	129°45.7	0°00.3	146°14.7	-7°08.0	134°06.4	-1°24.3	166°25.0	-14°19.5
19	148°37.6	144°45.5	0°01.3	161°15.4	-7°07.3	149°08.4	-1°24.2	181°27.3	-14°19.4
20	163°40.1	159°45.3	0°02.4	176°16.1	-7°06.6	164°10.4	-1°24.0	196°29.7	-14°19.4
21	178°42.5	174°45.1	0°03.4	191°16.8	-7°05.9	179°12.4	-1°23.8	211°32.0	-14°19.4
22	193°45.0	189°44.9	0°04.5	206°17.5	-7°05.2	194°14.4	-1°23.6	226°34.4	-14°19.3
23	208°47.5	204°44.7	0°05.5	221°18.2	-7°04.5	209°16.4	-1°23.4	241°36.7	-14°19.3
Mer.pass.:9:07:		v-0.2 d1.0 m-4.0		v0.7 d0.7 m0.8		v2.0 d0.2 m-2.0		v2.3 d0.0 m0.8	

Vie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	223°49.9	219°44.5	0°06.5	236°18.9	-7°03.8	224°18.4	-1°23.2	256°39.1	-14°19.3
1	238°52.4	234°44.3	0°07.6	251°19.6	-7°03.1	239°20.4	-1°23.0	271°41.4	-14°19.2
2	253°54.9	249°44.1	0°08.6	266°20.4	-7°02.4	254°22.4	-1°22.8	286°43.8	-14°19.2
3	268°57.3	264°43.9	0°09.7	281°21.1	-7°01.6	269°24.4	-1°22.6	301°46.1	-14°19.2
4	283°59.8	279°43.7	0°10.7	296°21.8	-7°00.9	284°26.4	-1°22.4	316°48.5	-14°19.1
5	299°02.3	294°43.5	0°11.8	311°22.5	-7°00.2	299°28.4	-1°22.2	331°50.8	-14°19.1
6	314°04.7	309°43.3	0°12.8	326°23.2	-6°59.5	314°30.4	-1°22.0	346°53.2	-14°19.1
7	329°07.2	324°43.1	0°13.9	341°23.9	-6°58.8	329°32.4	-1°21.8	1°55.5	-14°19.1
8	344°09.6	339°42.9	0°14.9	356°24.6	-6°58.1	344°34.4	-1°21.6	16°57.8	-14°19.0
9	359°12.1	354°42.7	0°15.9	11°25.3	-6°57.4	359°36.4	-1°21.4	32°00.2	-14°19.0
10	14°14.6	9°42.5	0°17.0	26°26.0	-6°56.7	14°38.4	-1°21.2	47°02.5	-14°19.0
11	29°17.0	24°42.3	0°18.0	41°26.7	-6°55.9	29°40.4	-1°21.0	62°04.9	-14°18.9
12	44°19.5	39°42.1	0°19.1	56°27.4	-6°55.2	44°42.4	-1°20.9	77°07.2	-14°18.9
13	59°22.0	54°41.9	0°20.1	71°28.1	-6°54.5	59°44.4	-1°20.7	92°09.6	-14°18.9
14	74°24.4	69°41.7	0°21.2	86°28.8	-6°53.8	74°46.4	-1°20.5	107°11.9	-14°18.8
15	89°26.9	84°41.4	0°22.2	101°29.6	-6°53.1	89°48.4	-1°20.3	122°14.3	-14°18.8
16	104°29.4	99°41.2	0°23.3	116°30.3	-6°52.4	104°50.4	-1°20.1	137°16.6	-14°18.8
17	119°31.8	114°41.0	0°24.3	131°31.0	-6°51.7	119°52.4	-1°19.9	152°19.0	-14°18.7
18	134°34.3	129°40.8	0°25.4	146°31.7	-6°50.9	134°54.4	-1°19.7	167°21.3	-14°18.7
19	149°36.8	144°40.6	0°26.4	161°32.4	-6°50.2	149°56.4	-1°19.5	182°23.7	-14°18.7
20	164°39.2	159°40.4	0°27.5	176°33.1	-6°49.5	164°58.4	-1°19.3	197°26.0	-14°18.6
21	179°41.7	174°40.2	0°28.5	191°33.8	-6°48.8	180°00.4	-1°19.1	212°28.4	-14°18.6
22	194°44.1	189°40.0	0°29.5	206°34.5	-6°48.1	195°02.4	-1°18.9	227°30.7	-14°18.6
23	209°46.6	204°39.8	0°30.6	221°35.2	-6°47.4	210°04.4	-1°18.7	242°33.1	-14°18.5
Mer.pass.:9:03:		v-0.2 d1.0 m-4.0		v0.7 d0.7 m0.8		v2.0 d0.2 m-2.0		v2.3 d0.0 m0.8	

Estrellas

	AHS	Dec
Alpheratz	357°37.4	29°12.6
Ankaa	353°09.7	-42°11.1
Schedar	349°34.0	56°39.3
Diphda	348°49.7	-17°52.0
Achernar	335°22.5	-57°07.4
Hamal	327°54.1	23°33.9
Polaris	315°34.5	89°21.4
Akamar	315°13.9	-40°13.0
Menkar	314°08.8	4°10.5
Mirfak	308°31.9	49°56.3
Aldebaran	290°42.5	16°33.2
Rigel	281°06.3	-8°10.7
Capella	280°25.6	46°01.3
Bellatrix	278°25.5	6°22.1
Elnath	278°05.0	28°37.6
Alnilam	275°40.3	-1°11.4
Betelgeuse	270°54.7	7°24.6
Canopus	263°53.7	-52°42.7
Sirius	258°28.3	-16°44.8
Adara	255°07.8	-29°00.3
Procyon	244°53.2	5°10.2
Pollux	243°20.1	27°58.4
Avior	234°15.7	-59°35.1
Suhail	222°47.9	-43°31.6
Miaplacidus	221°38.7	-69°48.8
Alphard	217°49.9	-8°45.4
Regulus	207°36.7	11°51.5
Dubhe	193°43.4	61°38.1
Denebola	182°26.9	14°26.9
Gienah	175°45.6	-17°40.0
Acrux	173°02.0	-63°13.5
Gacrux	171°53.6	-57°14.4
Alioth	166°14.5	55°50.5
Spica	158°24.3	-11°16.7
Alcaid	152°53.3	49°12.2
Hadar	148°38.5	-60°28.9
Menkent	147°59.9	-36°28.8
Arcturus	145°49.5	19°04.3
Rigil Kent.	139°42.7	-60°55.6
Zubenelg.	136°58.2	-16°08.1
Kochab	137°18.6	74°03.8
Alphecca	126°05.3	26°38.3
Antares	112°18.2	-26°28.9
Atria	107°14.0	-69°03.9
Sabik	102°05.1	-15°45.2
Shaula	96°13.1	-37°07.1
Rasalhague	96°00.4	12°32.5
Etamin	90°42.8	51°28.9
Kaus Aust.	83°35.2	-34°22.3
Vega	80°34.5	38°48.0
Nunki	75°50.3	-26°16.1
Altair	62°02.1	8°55.4
Peacock	53°09.2	-56°39.6
Deneb	49°27.3	45°21.2
Enif	33°41.1	9°58.4
Alnair	27°35.9	-46°51.1
Fomalhaut	15°17.2	-29°30.2
Scheat	13°47.6	28°11.9
Markab	13°32.3	15°19.3

May 04 Mie	AHS	Paso Merid
Venus	358°02.3	09:21
Mars	13°53.5	08:17
Jupiter	0°51.0	09:08
Saturn	32°55.0	07:00

May 05 Jue	AHS	Paso Merid
Venus	356°58.5	09:21
Mars	13°11.2	08:15
Jupiter	0°39.7	09:05
Saturn	32°52.0	06:56

May 06 Vie	AHS	Paso Merid
Venus	355°54.5	09:21
Mars	12°29.0	08:14
Jupiter	0°28.5	09:02
Saturn	32°49.1	06:52

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.1

h	Sol		Luna				
Mie	AHG	Dec	AHG	v	Dec	d	HP
0	180°47.3	15°53.9	144°29.0	11.0	25°16.2	5.0	54.3
1	195°47.3	15°54.7	158°59.0	10.9	25°21.2	4.9	54.2
2	210°47.4	15°55.4	173°28.9	10.9	25°26.1	4.8	54.2
3	225°47.5	15°56.1	187°58.8	10.9	25°30.8	4.7	54.2
4	240°47.5	15°56.8	202°28.6	10.8	25°35.4	4.6	54.2
5	255°47.6	15°57.6	216°58.5	10.8	25°39.9	4.4	54.2
6	270°47.6	15°58.3	231°28.3	10.8	25°44.3	4.3	54.2
7	285°47.7	15°59.0	245°58.0	10.8	25°48.5	4.2	54.2
8	300°47.7	15°59.7	260°27.8	10.7	25°52.7	4.1	54.2
9	315°47.8	16°00.5	274°57.5	10.7	25°56.7	3.9	54.2
10	330°47.9	16°01.2	289°27.2	10.7	26°00.5	3.8	54.2
11	345°47.9	16°01.9	303°56.8	10.6	26°04.3	3.7	54.2
12	0°48.0	16°02.6	318°26.5	10.6	26°07.9	3.6	54.2
13	15°48.0	16°03.3	332°56.1	10.6	26°11.4	3.4	54.2
14	30°48.1	16°04.1	347°25.7	10.6	26°14.8	3.3	54.2
15	45°48.1	16°04.8	1°55.2	10.6	26°18.1	3.2	54.2
16	60°48.2	16°05.5	16°24.8	10.5	26°21.2	3.1	54.2
17	75°48.2	16°06.2	30°54.3	10.5	26°24.2	2.9	54.1
18	90°48.3	16°06.9	45°23.8	10.5	26°27.1	2.8	54.1
19	105°48.4	16°07.7	59°53.3	10.5	26°29.8	2.7	54.1
20	120°48.4	16°08.4	74°22.8	10.5	26°32.4	2.6	54.1
21	135°48.5	16°09.1	88°52.2	10.4	26°34.9	2.4	54.1
22	150°48.5	16°09.8	103°21.7	10.4	26°37.3	2.3	54.1
23	165°48.6	16°10.5	117°51.1	10.4	26°39.5	2.2	54.1
	SD.=15.9	d=0.7			S.D.=14.8		

Jue	AHG	Dec	AHG	v	Dec	d	HP
0	180°48.6	16°11.2	132°20.5	10.4	26°41.7	2.0	54.1
1	195°48.7	16°12.0	146°49.9	10.4	26°43.6	1.9	54.1
2	210°48.7	16°12.7	161°19.3	10.4	26°45.5	1.8	54.1
3	225°48.8	16°13.4	175°48.7	10.4	26°47.2	1.7	54.1
4	240°48.8	16°14.1	190°18.0	10.4	26°48.8	1.5	54.1
5	255°48.9	16°14.8	204°47.4	10.3	26°50.3	1.4	54.1
6	270°48.9	16°15.5	219°16.7	10.3	26°51.6	1.3	54.1
7	285°49.0	16°16.3	233°46.1	10.3	26°52.8	1.1	54.1
8	300°49.0	16°17.0	248°15.4	10.3	26°53.9	1.0	54.1
9	315°49.1	16°17.7	262°44.7	10.3	26°54.9	0.9	54.1
10	330°49.1	16°18.4	277°14.0	10.3	26°55.7	0.8	54.1
11	345°49.2	16°19.1	291°43.3	10.3	26°56.4	0.6	54.1
12	0°49.2	16°19.8	306°12.7	10.3	26°57.0	0.5	54.1
13	15°49.3	16°20.5	320°42.0	10.3	26°57.4	0.4	54.1
14	30°49.3	16°21.2	335°11.3	10.3	26°57.7	0.2	54.1
15	45°49.4	16°21.9	349°40.6	10.3	26°57.9	0.1	54.1
16	60°49.4	16°22.6	4°09.9	10.3	26°58.0	-0.0	54.1
17	75°49.5	16°23.4	18°39.2	10.3	26°57.9	-0.1	54.1
18	90°49.5	16°24.1	33°08.5	10.3	26°57.7	-0.3	54.1
19	105°49.6	16°24.8	47°37.8	10.3	26°57.3	-0.4	54.1
20	120°49.6	16°25.5	62°07.2	10.3	26°56.9	-0.5	54.1
21	135°49.7	16°26.2	76°36.5	10.3	26°56.3	-0.7	54.1
22	150°49.7	16°26.9	91°05.8	10.3	26°55.5	-0.8	54.1
23	165°49.8	16°27.6	105°35.2	10.3	26°54.7	-0.9	54.1
	SD.=15.9	d=0.7			S.D.=14.8		

Vie	AHG	Dec	AHG	v	Dec	d	HP
0	180°49.8	16°28.3	120°04.5	10.4	26°53.7	-1.0	54.1
1	195°49.9	16°29.0	134°33.9	10.4	26°52.6	-1.2	54.1
2	210°49.9	16°29.7	149°03.3	10.4	26°51.4	-1.3	54.1
3	225°50.0	16°30.4	163°32.6	10.4	26°50.0	-1.4	54.1
4	240°50.0	16°31.1	178°02.0	10.4	26°48.5	-1.6	54.1
5	255°50.1	16°31.8	192°31.4	10.4	26°46.9	-1.7	54.1
6	270°50.1	16°32.5	207°00.9	10.4	26°45.1	-1.8	54.1
7	285°50.2	16°33.2	221°30.3	10.4	26°43.2	-1.9	54.1
8	300°50.2	16°33.9	235°59.8	10.5	26°41.2	-2.1	54.1
9	315°50.2	16°34.6	250°29.2	10.5	26°39.1	-2.2	54.2
10	330°50.3	16°35.3	264°58.7	10.5	26°36.8	-2.3	54.2
11	345°50.3	16°36.0	279°28.2	10.5	26°34.5	-2.5	54.2
12	0°50.4	16°36.7	293°57.7	10.5	26°31.9	-2.6	54.2
13	15°50.4	16°37.4	308°27.3	10.6	26°29.3	-2.7	54.2
14	30°50.5	16°38.1	322°56.8	10.6	26°26.5	-2.8	54.2
15	45°50.5	16°38.8	337°26.4	10.6	26°23.6	-3.0	54.2
16	60°50.6	16°39.5	351°56.0	10.6	26°20.6	-3.1	54.2
17	75°50.6	16°40.2	6°25.7	10.6	26°17.5	-3.2	54.2
18	90°50.6	16°40.9	20°55.3	10.7	26°14.2	-3.3	54.2
19	105°50.7	16°41.6	35°25.0	10.7	26°10.8	-3.5	54.2
20	120°50.7	16°42.3	49°54.7	10.7	26°07.3	-3.6	54.2
21	135°50.8	16°43.0	64°24.4	10.7	26°03.7	-3.7	54.2
22	150°50.8	16°43.7	78°54.2	10.8	25°59.9	-3.8	54.2
23	165°50.9	16°44.4	93°23.9	10.8	25°56.0	-4.0	54.3
	SD.=15.9	d=0.7			S.D.=14.8		

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	–:–	–:–	01:14	22:50	–:–	–:–
70	–:–	–:–	02:07	21:52	–:–	–:–
68	–:–	–:–	02:39	21:18	–:–	–:–
66	–:–	01:29	03:02	20:54	22:31	–:–
64	–:–	02:06	03:20	20:36	21:51	–:–
62	–:–	02:32	03:35	20:20	21:24	–:–
60	01:19	02:52	03:48	20:08	21:04	22:40
58	01:53	03:08	03:58	19:57	20:47	22:04
56	02:17	03:22	04:08	19:47	20:33	21:39
54	02:36	03:33	04:16	19:39	20:22	21:20
52	02:51	03:43	04:23	19:31	20:11	21:04
50	03:04	03:52	04:30	19:25	20:02	20:51
45	03:30	04:11	04:44	19:10	19:43	20:25
40	03:50	04:26	04:55	18:59	19:28	20:05
35	04:05	04:38	05:05	18:49	19:16	19:49
30	04:18	04:48	05:14	18:40	19:06	19:36
20	04:38	05:05	05:29	18:25	18:48	19:16
10	04:54	05:19	05:41	18:12	18:34	19:00
0	05:07	05:32	05:53	18:00	18:22	18:47
S 10	05:18	05:43	06:05	17:48	18:10	18:35
20	05:28	05:55	06:17	17:36	17:59	18:25
30	05:38	06:07	06:31	17:22	17:47	18:15
35	05:43	06:13	06:40	17:13	17:40	18:10
40	05:48	06:20	06:49	17:04	17:33	18:05
45	05:53	06:28	07:00	16:53	17:24	17:59
50	05:59	06:38	07:12	16:40	17:15	17:54
52	06:02	06:42	07:18	16:34	17:11	17:51
54	06:04	06:47	07:25	16:28	17:06	17:48
56	06:07	06:52	07:33	16:20	17:01	17:46
58	06:10	06:57	07:41	16:12	16:55	17:42
60	06:13	07:04	07:50	16:02	16:49	17:39

	Orto luna			Ocaso luna		
Lat.	Mie	Jue	Vie	Mie	Jue	Vie
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	–:–	–:–	–:–
68	–:–	–:–	–:–	–:–	–:–	–:–
66	–:–	–:–	–:–	–:–	–:–	–:–
64	03:19	–:–	–:–	01:28	–:–	–:–
62	04:15	04:35	05:27	00:33	01:58	02:51
60	04:48	05:18	06:11	00:00	01:15	02:08
58	05:12	05:47	06:40	–:–	00:46	01:38
56	05:32	06:10	07:02	–:–	00:23	01:16
54	05:48	06:28	07:20	–:–	00:05	00:58
52	06:03	06:43	07:36	23:50	–:–	00:42
50	06:15	06:57	07:49	23:36	–:–	00:29
45	06:41	07:25	08:17	23:09	–:–	00:01
40	07:01	07:46	08:38	22:47	23:39	–:–
35	07:18	08:04	08:56	22:29	23:21	–:–
30	07:33	08:20	09:12	22:14	23:06	23:53
20	07:58	08:46	09:38	21:48	22:39	23:28
10	08:20	09:09	10:00	21:25	22:16	23:06
0	08:40	09:30	10:21	21:04	21:55	22:46
S 10	09:00	09:52	10:42	20:43	21:34	22:25
20	09:22	10:15	11:05	20:21	21:11	22:03
30	09:48	10:41	11:31	19:55	20:44	21:38
35	10:03	10:57	11:46	19:39	20:29	21:23
40	10:20	11:15	12:04	19:22	20:10	21:05
45	10:41	11:37	12:25	19:00	19:48	20:44
50	11:08	12:05	12:52	18:33	19:20	20:17
52	11:21	12:19	13:06	18:20	19:06	20:04
54	11:36	12:35	13:21	18:05	18:51	19:49
56	11:54	12:54	13:39	17:47	18:32	19:32
58	12:15	13:17	14:00	17:25	18:08	19:10
60	12:43	13:48	14:28	16:58	17:38	18:42

Día	Sol			Luna		
	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
4	03:09	03:12	11:56	14:52	02:26	4(12%)
5	03:14	03:17	11:56	15:42	03:17	5(19%)
6	03:19	03:22	11:56	16:33	04:08	6(27%)

Mayo 07, 08, 09 (Sa, Dom, Lun)

	Aries	Venus		Martes		Júpiter		Saturno	
Sa	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	224°49.1	219°39.6	0°31.6	236°35.9	-6°46.7	225°06.4	-1°18.5	257°35.4	-14°18.5
1	239°51.5	234°39.4	0°32.7	251°36.6	-6°46.0	240°08.4	-1°18.3	272°37.8	-14°18.5
2	254°54.0	249°39.2	0°33.7	266°37.4	-6°45.2	255°10.4	-1°18.1	287°40.1	-14°18.4
3	269°56.5	264°39.0	0°34.8	281°38.1	-6°44.5	270°12.4	-1°18.0	302°42.5	-14°18.4
4	284°58.9	279°38.8	0°35.8	296°38.8	-6°43.8	285°14.4	-1°17.8	317°44.8	-14°18.4
5	300°01.4	294°38.6	0°36.9	311°39.5	-6°43.1	300°16.4	-1°17.6	332°47.2	-14°18.3
6	315°03.9	309°38.4	0°37.9	326°40.2	-6°42.4	315°18.4	-1°17.4	347°49.5	-14°18.3
7	330°06.3	324°38.2	0°39.0	341°40.9	-6°41.7	330°20.4	-1°17.2	2°51.9	-14°18.3
8	345°08.8	339°38.0	0°40.0	356°41.6	-6°41.0	345°22.4	-1°17.0	17°54.2	-14°18.3
9	0°11.3	354°37.8	0°41.1	11°42.3	-6°40.2	0°24.4	-1°16.8	32°56.6	-14°18.2
10	15°13.7	9°37.6	0°42.1	26°43.0	-6°39.5	15°26.4	-1°16.6	47°58.9	-14°18.2
11	30°16.2	24°37.4	0°43.2	41°43.7	-6°38.8	30°28.4	-1°16.4	63°01.3	-14°18.2
12	45°18.6	39°37.2	0°44.2	56°44.5	-6°38.1	45°30.4	-1°16.2	78°03.6	-14°18.1
13	60°21.1	54°37.0	0°45.3	71°45.2	-6°37.4	60°32.4	-1°16.0	93°06.0	-14°18.1
14	75°23.6	69°36.8	0°46.3	86°45.9	-6°36.7	75°34.4	-1°15.8	108°08.3	-14°18.1
15	90°26.0	84°36.6	0°47.4	101°46.6	-6°36.0	90°36.4	-1°15.6	123°10.7	-14°18.0
16	105°28.5	99°36.4	0°48.4	116°47.3	-6°35.2	105°38.4	-1°15.5	138°13.0	-14°18.0
17	120°31.0	114°36.2	0°49.5	131°48.0	-6°34.5	120°40.4	-1°15.3	153°15.4	-14°18.0
18	135°33.4	129°36.0	0°50.5	146°48.7	-6°33.8	135°42.4	-1°15.1	168°17.7	-14°17.9
19	150°35.9	144°35.8	0°51.6	161°49.4	-6°33.1	150°44.4	-1°14.9	183°20.1	-14°17.9
20	165°38.4	159°35.6	0°52.6	176°50.2	-6°32.4	165°46.4	-1°14.7	198°22.4	-14°17.9
21	180°40.8	174°35.4	0°53.7	191°50.9	-6°31.7	180°48.5	-1°14.5	213°24.8	-14°17.8
22	195°43.3	189°35.1	0°54.7	206°51.6	-6°30.9	195°50.5	-1°14.3	228°27.1	-14°17.8
23	210°45.7	204°34.9	0°55.8	221°52.3	-6°30.2	210°52.5	-1°14.1	243°29.5	-14°17.8
Mer.pass.:8:59:		v-0.2 d1.0 m-4.0		v0.7 d0.7 m0.8		v2.0 d0.2 m-2.0		v2.3 d0.0 m0.8	

Dom	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	225°48.2	219°34.7	0°56.8	236°53.0	-6°29.5	225°54.5	-1°13.9	258°31.9	-14°17.8
1	240°50.7	234°34.5	0°57.9	251°53.7	-6°28.8	240°56.5	-1°13.7	273°34.2	-14°17.7
2	255°53.1	249°34.3	0°58.9	266°54.4	-6°28.1	255°58.5	-1°13.5	288°36.6	-14°17.7
3	270°55.6	264°34.1	1°00.0	281°55.1	-6°27.4	271°00.5	-1°13.3	303°38.9	-14°17.7
4	285°58.1	279°33.9	1°01.0	296°55.8	-6°26.7	286°02.5	-1°13.2	318°41.3	-14°17.6
5	301°00.5	294°33.7	1°02.1	311°56.6	-6°25.9	301°04.5	-1°13.0	333°43.6	-14°17.6
6	316°03.0	309°33.5	1°03.1	326°57.3	-6°25.2	316°06.5	-1°12.8	348°46.0	-14°17.6
7	331°05.5	324°33.3	1°04.2	341°58.0	-6°24.5	331°08.5	-1°12.6	3°48.3	-14°17.5
8	346°07.9	339°33.1	1°05.2	356°58.7	-6°23.8	346°10.5	-1°12.4	18°50.7	-14°17.5
9	1°10.4	354°32.9	1°06.3	11°59.4	-6°23.1	1°12.5	-1°12.2	33°53.0	-14°17.5
10	16°12.9	9°32.7	1°07.3	27°00.1	-6°22.4	16°14.5	-1°12.0	48°55.4	-14°17.5
11	31°15.3	24°32.5	1°08.4	42°00.8	-6°21.6	31°16.5	-1°11.8	63°57.7	-14°17.4
12	46°17.8	39°32.3	1°09.4	57°01.6	-6°20.9	46°18.5	-1°11.6	79°00.1	-14°17.4
13	61°20.2	54°32.1	1°10.5	72°02.3	-6°20.2	61°20.5	-1°11.4	94°02.5	-14°17.4
14	76°22.7	69°31.9	1°11.5	87°03.0	-6°19.5	76°22.5	-1°11.2	109°04.8	-14°17.3
15	91°25.2	84°31.6	1°12.6	102°03.7	-6°18.8	91°24.6	-1°11.1	124°07.2	-14°17.3
16	106°27.6	99°31.4	1°13.6	117°04.4	-6°18.1	106°26.6	-1°10.9	139°09.5	-14°17.3
17	121°30.1	114°31.2	1°14.7	132°05.1	-6°17.3	121°28.6	-1°10.7	154°11.9	-14°17.2
18	136°32.6	129°31.0	1°15.7	147°05.8	-6°16.6	136°30.6	-1°10.5	169°14.2	-14°17.2
19	151°35.0	144°30.8	1°16.8	162°06.6	-6°15.9	151°32.6	-1°10.3	184°16.6	-14°17.2
20	166°37.5	159°30.6	1°17.8	177°07.3	-6°15.2	166°34.6	-1°10.1	199°18.9	-14°17.2
21	181°40.0	174°30.4	1°18.9	192°08.0	-6°14.5	181°36.6	-1°09.9	214°21.3	-14°17.1
22	196°42.4	189°30.2	1°20.0	207°08.7	-6°13.8	196°38.6	-1°09.7	229°23.7	-14°17.1
23	211°44.9	204°30.0	1°21.0	222°09.4	-6°13.0	211°40.6	-1°09.5	244°26.0	-14°17.1
Mer.pass.:8:55:		v-0.2 d1.1 m-4.0		v0.7 d0.7 m0.8		v2.0 d0.2 m-2.0		v2.4 d0.0 m0.8	

Lun	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	226°47.4	219°29.8	1°22.1	237°10.1	-6°12.3	226°42.6	-1°09.3	259°28.4	-14°17.0
1	241°49.8	234°29.6	1°23.1	252°10.8	-6°11.6	241°44.6	-1°09.2	274°30.7	-14°17.0
2	256°52.3	249°29.4	1°24.2	267°11.6	-6°10.9	256°46.6	-1°09.0	289°33.1	-14°17.0
3	271°54.7	264°29.2	1°25.2	282°12.3	-6°10.2	271°48.6	-1°08.8	304°35.4	-14°17.0
4	286°57.2	279°28.9	1°26.3	297°13.0	-6°09.5	286°50.6	-1°08.6	319°37.8	-14°16.9
5	301°59.7	294°28.7	1°27.3	312°13.7	-6°08.7	301°52.7	-1°08.4	334°40.2	-14°16.9
6	317°02.1	309°28.5	1°28.4	327°14.4	-6°08.0	316°54.7	-1°08.2	349°42.5	-14°16.9
7	332°04.6	324°28.3	1°29.4	342°15.1	-6°07.3	331°56.7	-1°08.0	4°44.9	-14°16.8
8	347°07.1	339°28.1	1°30.5	357°15.8	-6°06.6	346°58.7	-1°07.8	19°47.2	-14°16.8
9	2°09.5	354°27.9	1°31.5	12°16.6	-6°05.9	2°00.7	-1°07.6	34°49.6	-14°16.8
10	17°12.0	9°27.7	1°32.6	27°17.3	-6°05.1	17°02.7	-1°07.4	49°51.9	-14°16.8
11	32°14.5	24°27.5	1°33.6	42°18.0	-6°04.4	32°04.7	-1°07.3	64°54.3	-14°16.7
12	47°16.9	39°27.3	1°34.7	57°18.7	-6°03.7	47°06.7	-1°07.1	79°56.7	-14°16.7
13	62°19.4	54°27.1	1°35.8	72°19.4	-6°03.0	62°08.7	-1°06.9	94°59.0	-14°16.7
14	77°21.9	69°26.9	1°36.8	87°20.1	-6°02.3	77°10.7	-1°06.7	110°01.4	-14°16.6
15	92°24.3	84°26.6	1°37.9	102°20.9	-6°01.6	92°12.8	-1°06.5	125°03.7	-14°16.6
16	107°26.8	99°26.4	1°38.9	117°21.6	-6°00.8	107°14.8	-1°06.3	140°06.1	-14°16.6
17	122°29.2	114°26.2	1°40.0	132°22.3	-6°00.1	122°16.8	-1°06.1	155°08.5	-14°16.6
18	137°31.7	129°26.0	1°41.0	147°23.0	-5°59.4	137°18.8	-1°05.9	170°10.8	-14°16.5
19	152°34.2	144°25.8	1°42.1	162°23.7	-5°58.7	152°20.8	-1°05.7	185°13.2	-14°16.5
20	167°36.6	159°25.6	1°43.1	177°24.4	-5°58.0	167°22.8	-1°05.6	200°15.5	-14°16.5
21	182°39.1	174°25.4	1°44.2	192°25.2	-5°57.2	182°24.8	-1°05.4	215°17.9	-14°16.4
22	197°41.6	189°25.2	1°45.3	207°25.9	-5°56.5	197°26.8	-1°05.2	230°20.3	-14°16.4
23	212°44.0	204°25.0	1°46.3	222°26.6	-5°55.8	212°28.8	-1°05.0	245°22.6	-14°16.4
Mer.pass.:8:51:		v-0.2 d1.1 m-4.0		v0.7 d0.7 m0.8		v2.0 d0.2 m-2.0		v2.4 d0.0 m0.8	

Estrellas

	AHS	Dec
Alpheratz	357°37.3	29°12.6
Ankaa	353°09.7	-42°11.1
Schedar	349°34.0	56°39.3
Diphda	348°49.7	-17°52.0
Achernar	335°22.4	-57°07.4
Hamal	327°54.1	23°33.9
Polaris	315°34.3	89°21.4
Akamar	315°13.9	-40°13.0
Menkar	314°08.8	4°10.5
Mirfak	308°31.9	49°56.3
Aldebaran	290°42.5	16°33.2
Rigel	281°06.3	-8°10.7
Capella	280°25.6	46°01.3
Bellatrix	278°25.5	6°22.1
Elnath	278°05.0	28°37.6
Alnilam	275°40.3	-1°11.4
Betelgeuse	270°54.7	7°24.6
Canopus	263°53.8	-52°42.7
Sirius	258°28.3	-16°44.8
Adara	255°07.8	-29°00.3
Procyon	244°53.2	5°10.2
Pollux	243°20.1	27°58.4
Avior	234°15.8	-59°35.1
Suhail	222°47.9	-43°31.6
Miaplacidus	221°38.7	-69°48.8
Alphard	217°49.9	-8°45.4
Regulus	207°36.7	11°51.5
Dubhe	193°43.4	61°38.1
Denebola	182°26.9	14°26.9
Gienah	175°45.6	-17°40.0
Acrux	173°02.0	-63°13.5
Gacrux	171°53.6	-57°14.4
Alioth	166°14.5	55°50.5
Spica	158°24.3	-11°16.7
Alcaid	152°53.3	49°12.2
Hadar	148°38.5	-60°28.9
Menkent	147°59.9	-36°28.8
Arcturus	145°49.5	19°04.3
Rigil Kent.	139°42.7	-60°55.6
Zubenelg.	136°58.1	-16°08.1
Kochab	137°18.6	74°03.9
Alphecca	126°05.3	26°38.3
Antares	112°18.2	-26°28.9
Atria	107°13.9	-69°03.9
Sabik	102°05.0	-15°45.2
Shaula	96°13.1	-37°07.1
Rasalhague	96°00.4	12°32.5
Etamin	90°42.8	51°28.9
Kaus Aust.	83°35.2	-34°22.3
Vega	80°34.5	38°48.0
Nunki	75°50.3	-26°16.1
Altair	62°02.1	8°55.4
Peacock	53°09.1	-56°39.6
Deneb	49°27.2	45°21.2
Enif	33°41.0	9°58.4
Alnair	27°35.9	-46°51.0
Fomalhaut	15°17.2	-29°30.2
Scheat	13°47.6	28°11.9
Markab	13°32.3	15°19.3

May 07 Sa	AHS	Paso Merid
Venus	354°50.6	09:21
Mars	11°46.9	08:13
Jupiter	0°17.3	08:58
Saturn	32°46.3	06:49

May 08 Dom	AHS	Paso Merid
Venus	353°46.5	09:22
Mars	11°04.8	08:12
Jupiter	0°06.3	08:55
Saturn	32°43.6	06:45

May 09 Lun	AHS	Paso Merid
Venus	352°42.4	09:22
Mars	10°22.8	08:11
Jupiter	359°55.3	08:52
Saturn	32°41.0	06:41

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.1

h	Sol		Luna				
Sa	AHG	Dec	AHG	v	Dec	d	HP
0	180°50.9	16°45.1	107°53.8	10.8	25°52.0	-4.1	54.3
1	195°50.9	16°45.8	122°23.6	10.8	25°47.9	-4.2	54.3
2	210°51.0	16°46.5	136°53.5	10.9	25°43.6	-4.3	54.3
3	225°51.0	16°47.1	151°23.3	10.9	25°39.2	-4.4	54.3
4	240°51.1	16°47.8	165°53.3	10.9	25°34.7	-4.6	54.3
5	255°51.1	16°48.5	180°23.2	11.0	25°30.1	-4.7	54.3
6	270°51.1	16°49.2	194°53.2	11.0	25°25.3	-4.8	54.3
7	285°51.2	16°49.9	209°23.2	11.0	25°20.5	-4.9	54.3
8	300°51.2	16°50.6	223°53.3	11.1	25°15.5	-5.0	54.3
9	315°51.3	16°51.3	238°23.4	11.1	25°10.4	-5.2	54.4
10	330°51.3	16°52.0	252°53.5	11.1	25°05.2	-5.3	54.4
11	345°51.3	16°52.7	267°23.6	11.2	24°59.8	-5.4	54.4
12	0°51.4	16°53.4	281°53.8	11.2	24°54.4	-5.5	54.4
13	15°51.4	16°54.0	296°24.0	11.2	24°48.8	-5.6	54.4
14	30°51.5	16°54.7	310°54.3	11.3	24°43.1	-5.8	54.4
15	45°51.5	16°55.4	325°24.6	11.3	24°37.3	-5.9	54.4
16	60°51.5	16°56.1	339°54.9	11.3	24°31.3	-6.0	54.5
17	75°51.6	16°56.8	354°25.2	11.4	24°25.3	-6.1	54.5
18	90°51.6	16°57.5	8°55.6	11.4	24°19.1	-6.2	54.5
19	105°51.7	16°58.2	23°26.1	11.4	24°12.9	-6.3	54.5
20	120°51.7	16°58.8	37°56.5	11.5	24°06.5	-6.4	54.5
21	135°51.7	16°59.5	52°27.0	11.5	24°00.0	-6.6	54.5
22	150°51.8	17°00.2	66°57.6	11.6	23°53.3	-6.7	54.5
23	165°51.8	17°00.9	81°28.2	11.6	23°46.6	-6.8	54.6
	SD.=15.9	d=0.7	S.D.=14.8				

Dom	AHG	Dec	AHG	v	Dec	d	HP
0	180°51.8	17°01.6	95°58.8	11.6	23°39.8	-6.9	54.6
1	195°51.9	17°02.2	110°29.4	11.7	23°32.8	-7.0	54.6
2	210°51.9	17°02.9	125°00.1	11.7	23°25.7	-7.1	54.6
3	225°51.9	17°03.6	139°30.9	11.8	23°18.5	-7.2	54.6
4	240°52.0	17°04.3	154°01.6	11.8	23°11.3	-7.3	54.6
5	255°52.0	17°05.0	168°32.5	11.8	23°03.8	-7.5	54.7
6	270°52.0	17°05.6	183°03.3	11.9	22°56.3	-7.6	54.7
7	285°52.1	17°06.3	197°34.2	11.9	22°48.7	-7.7	54.7
8	300°52.1	17°07.0	212°05.1	11.9	22°41.0	-7.8	54.7
9	315°52.2	17°07.7	226°36.1	12.0	22°33.1	-7.9	54.7
10	330°52.2	17°08.4	241°07.1	12.0	22°25.2	-8.0	54.7
11	345°52.2	17°09.0	255°38.1	12.1	22°17.2	-8.1	54.8
12	0°52.3	17°09.7	270°09.2	12.1	22°09.0	-8.2	54.8
13	15°52.3	17°10.4	284°40.3	12.1	22°00.7	-8.3	54.8
14	30°52.3	17°11.1	299°11.5	12.2	21°52.4	-8.4	54.8
15	45°52.3	17°11.7	313°42.7	12.2	21°43.9	-8.5	54.8
16	60°52.4	17°12.4	328°13.9	12.3	21°35.3	-8.6	54.9
17	75°52.4	17°13.1	342°45.2	12.3	21°26.6	-8.7	54.9
18	90°52.4	17°13.7	357°16.5	12.3	21°17.9	-8.8	54.9
19	105°52.5	17°14.4	11°47.9	12.4	21°09.0	-8.9	54.9
20	120°52.5	17°15.1	26°19.3	12.4	21°00.0	-9.0	55.0
21	135°52.5	17°15.8	40°50.7	12.4	20°50.9	-9.1	55.0
22	150°52.6	17°16.4	55°22.2	12.5	20°41.7	-9.2	55.0
23	165°52.6	17°17.1	69°53.7	12.5	20°32.4	-9.3	55.0
	SD.=15.8	d=0.7	S.D.=14.9				

Lun	AHG	Dec	AHG	v	Dec	d	HP
0	180°52.6	17°17.8	84°25.2	12.6	20°23.0	-9.4	55.0
1	195°52.7	17°18.4	98°56.8	12.6	20°13.5	-9.5	55.1
2	210°52.7	17°19.1	113°28.4	12.6	20°04.0	-9.6	55.1
3	225°52.7	17°19.8	128°00.0	12.7	19°54.3	-9.7	55.1
4	240°52.8	17°20.4	142°31.7	12.7	19°44.5	-9.8	55.1
5	255°52.8	17°21.1	157°03.5	12.7	19°34.6	-9.9	55.2
6	270°52.8	17°21.8	171°35.2	12.8	19°24.7	-10.0	55.2
7	285°52.8	17°22.4	186°07.0	12.8	19°14.6	-10.1	55.2
8	300°52.9	17°23.1	200°38.8	12.8	19°04.4	-10.2	55.2
9	315°52.9	17°23.8	215°10.7	12.9	18°54.2	-10.3	55.3
10	330°52.9	17°24.4	229°42.6	12.9	18°43.8	-10.4	55.3
11	345°53.0	17°25.1	244°14.5	12.9	18°33.4	-10.5	55.3
12	0°53.0	17°25.8	258°46.5	13.0	18°22.9	-10.6	55.3
13	15°53.0	17°26.4	273°18.5	13.0	18°12.2	-10.7	55.4
14	30°53.0	17°27.1	287°50.5	13.0	18°01.5	-10.8	55.4
15	45°53.1	17°27.8	302°22.6	13.1	17°50.7	-10.8	55.4
16	60°53.1	17°28.4	316°54.7	13.1	17°39.8	-10.9	55.5
17	75°53.1	17°29.1	331°26.8	13.1	17°28.9	-11.0	55.5
18	90°53.1	17°29.7	345°59.0	13.2	17°17.8	-11.1	55.5
19	105°53.2	17°30.4	0°31.1	13.2	17°06.6	-11.2	55.5
20	120°53.2	17°31.1	15°03.4	13.2	16°55.4	-11.3	55.6
21	135°53.2	17°31.7	29°35.6	13.3	16°44.1	-11.4	55.6
22	150°53.2	17°32.4	44°07.9	13.3	16°32.6	-11.5	55.6
23	165°53.3	17°33.0	58°40.2	13.3	16°21.1	-11.5	55.6
	SD.=15.8	d=0.7	S.D.=15.0				

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	–:–	–:–	00:26	–:–	–:–	–:–
70	–:–	–:–	01:47	22:12	–:–	–:–
68	–:–	–:–	02:24	21:33	–:–	–:–
66	–:–	01:04	02:50	21:06	22:58	–:–
64	–:–	01:51	03:10	20:45	22:07	–:–
62	–:–	02:20	03:26	20:29	21:36	–:–
60	00:57	02:42	03:40	20:15	21:13	23:05
58	01:39	03:00	03:51	20:03	20:55	22:18
56	02:06	03:14	04:01	19:53	20:41	21:49
54	02:27	03:27	04:10	19:44	20:28	21:28
52	02:44	03:37	04:18	19:36	20:17	21:11
50	02:58	03:47	04:25	19:29	20:07	20:57
45	03:25	04:07	04:40	19:14	19:47	20:29
40	03:45	04:22	04:52	19:02	19:32	20:09
35	04:02	04:35	05:02	18:51	19:19	19:52
30	04:15	04:46	05:12	18:42	19:08	19:39
20	04:36	05:04	05:27	18:26	18:50	19:17
10	04:53	05:18	05:41	18:13	18:35	19:01
0	05:06	05:31	05:53	18:00	18:22	18:47
S 10	05:18	05:44	06:05	17:47	18:09	18:35
20	05:29	05:56	06:19	17:34	17:57	18:24
30	05:40	06:08	06:33	17:19	17:44	18:13
35	05:45	06:15	06:42	17:11	17:37	18:08
40	05:51	06:23	06:52	17:01	17:30	18:02
45	05:57	06:32	07:03	16:49	17:21	17:56
50	06:03	06:42	07:17	16:36	17:11	17:49
52	06:06	06:46	07:23	16:29	17:06	17:47
54	06:09	06:51	07:30	16:22	17:01	17:44
56	06:12	06:57	07:38	16:14	16:55	17:40
58	06:15	07:03	07:47	16:05	16:49	17:37
60	06:19	07:10	07:57	15:55	16:42	17:33

	Orto luna			Ocaso luna		
Lat.	Sa	Dom	Lun	Sa	Dom	Lun
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	07:53	–:–	–:–	05:34
68	–:–	–:–	08:49	–:–	–:–	04:37
66	–:–	07:10	09:21	–:–	04:36	04:03
64	05:56	07:57	09:45	04:08	03:48	03:38
62	06:52	08:28	10:04	03:11	03:17	03:18
60	07:25	08:50	10:19	02:38	02:54	03:02
58	07:49	09:08	10:32	02:13	02:35	02:49
56	08:08	09:24	10:44	01:54	02:19	02:37
54	08:24	09:37	10:53	01:37	02:06	02:26
52	08:38	09:48	11:02	01:23	01:54	02:17
50	08:51	09:58	11:10	01:11	01:43	02:09
45	09:16	10:20	11:26	00:45	01:21	01:51
40	09:36	10:37	11:40	00:25	01:03	01:36
35	09:52	10:51	11:51	00:08	00:48	01:24
30	10:06	11:03	12:01	–:–	00:35	01:13
20	10:31	11:24	12:18	–:–	00:13	00:54
10	10:52	11:43	12:33	23:53	–:–	00:38
0	11:11	12:00	12:47	23:35	–:–	00:23
S 10	11:31	12:17	13:01	23:16	–:–	00:07
20	11:52	12:35	13:15	22:57	23:50	–:–
30	12:16	12:56	13:32	22:34	23:31	–:–
35	12:30	13:08	13:41	22:20	23:20	–:–
40	12:46	13:22	13:52	22:05	23:07	–:–
45	13:05	13:38	14:05	21:46	22:51	23:59
50	13:30	13:58	14:21	21:22	22:32	23:45
52	13:41	14:08	14:28	21:11	22:23	23:38
54	13:54	14:19	14:36	20:58	22:13	23:31
56	14:10	14:31	14:45	20:43	22:01	23:23
58	14:28	14:45	14:55	20:26	21:48	23:13
60	14:50	15:01	15:07	20:04	21:32	23:02

Día	Sol			Luna		
	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
7	03:24	03:26	11:56	17:23	04:58	7(36%)
8	03:27	03:29	11:56	18:11	05:47	8(45%)
9	03:31	03:32	11:56	18:57	06:34	9(55%)

Mayo 10, 11, 12 (Mar, Mie, Jue)

	Aries	Venus		Martes		Júpiter		Saturno	
Mar	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	227°46.5	219°24.8	1°47.4	237°27.3	-5°55.1	227°30.8	-1°04.8	260°25.0	-14°16.4
1	242°49.0	234°24.5	1°48.4	252°28.0	-5°54.4	242°32.9	-1°04.6	275°27.3	-14°16.3
2	257°51.4	249°24.3	1°49.5	267°28.7	-5°53.7	257°34.9	-1°04.4	290°29.7	-14°16.3
3	272°53.9	264°24.1	1°50.5	282°29.5	-5°52.9	272°36.9	-1°04.2	305°32.1	-14°16.3
4	287°56.3	279°23.9	1°51.6	297°30.2	-5°52.2	287°38.9	-1°04.0	320°34.4	-14°16.2
5	302°58.8	294°23.7	1°52.6	312°30.9	-5°51.5	302°40.9	-1°03.9	335°36.8	-14°16.2
6	318°01.3	309°23.5	1°53.7	327°31.6	-5°50.8	317°42.9	-1°03.7	350°39.1	-14°16.2
7	333°03.7	324°23.3	1°54.8	342°32.3	-5°50.1	332°44.9	-1°03.5	5°41.5	-14°16.2
8	348°06.2	339°23.1	1°55.8	357°33.1	-5°49.3	347°46.9	-1°03.3	20°43.9	-14°16.1
9	3°08.7	354°22.9	1°56.9	12°33.8	-5°48.6	2°49.0	-1°03.1	35°46.2	-14°16.1
10	18°11.1	9°22.6	1°57.9	27°34.5	-5°47.9	17°51.0	-1°02.9	50°48.6	-14°16.1
11	33°13.6	24°22.4	1°59.0	42°35.2	-5°47.2	32°53.0	-1°02.7	65°51.0	-14°16.1
12	48°16.1	39°22.2	2°00.0	57°35.9	-5°46.5	47°55.0	-1°02.5	80°53.3	-14°16.0
13	63°18.5	54°22.0	2°01.1	72°36.6	-5°45.7	62°57.0	-1°02.4	95°55.7	-14°16.0
14	78°21.0	69°21.8	2°02.1	87°37.4	-5°45.0	77°59.0	-1°02.2	110°58.0	-14°16.0
15	93°23.5	84°21.6	2°03.2	102°38.1	-5°44.3	93°01.0	-1°02.0	126°00.4	-14°15.9
16	108°25.9	99°21.4	2°04.3	117°38.8	-5°43.6	108°03.0	-1°01.8	141°02.8	-14°15.9
17	123°28.4	114°21.1	2°05.3	132°39.5	-5°42.9	123°05.1	-1°01.6	156°05.1	-14°15.9
18	138°30.8	129°20.9	2°06.4	147°40.2	-5°42.1	138°07.1	-1°01.4	171°07.5	-14°15.9
19	153°33.3	144°20.7	2°07.4	162°41.0	-5°41.4	153°09.1	-1°01.2	186°09.9	-14°15.8
20	168°35.8	159°20.5	2°08.5	177°41.7	-5°40.7	168°11.1	-1°01.0	201°12.2	-14°15.8
21	183°38.2	174°20.3	2°09.5	192°42.4	-5°40.0	183°13.1	-1°00.9	216°14.6	-14°15.8
22	198°40.7	189°20.1	2°10.6	207°43.1	-5°39.3	198°15.1	-1°00.7	231°16.9	-14°15.8
23	213°43.2	204°19.9	2°11.7	222°43.8	-5°38.5	213°17.1	-1°00.5	246°19.3	-14°15.7
Mer.pass.:8:47:		v-0.2 d1.1 m-4.0		v0.7 d0.7 m0.8		v2.0 d0.2 m-2.0		v2.4 d0.0 m0.8	

Mie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	228°45.6	219°19.7	2°12.7	237°44.6	-5°37.8	228°19.2	-1°00.3	261°21.7	-14°15.7
1	243°48.1	234°19.4	2°13.8	252°45.3	-5°37.1	243°21.2	-1°00.1	276°24.0	-14°15.7
2	258°50.6	249°19.2	2°14.8	267°46.0	-5°36.4	258°23.2	-0°59.9	291°26.4	-14°15.7
3	273°53.0	264°19.0	2°15.9	282°46.7	-5°35.7	273°25.2	-0°59.7	306°28.8	-14°15.6
4	288°55.5	279°18.8	2°16.9	297°47.4	-5°34.9	288°27.2	-0°59.5	321°31.1	-14°15.6
5	303°57.9	294°18.6	2°18.0	312°48.2	-5°34.2	303°29.2	-0°59.4	336°33.5	-14°15.6
6	319°00.4	309°18.4	2°19.1	327°48.9	-5°33.5	318°31.2	-0°59.2	351°35.9	-14°15.5
7	334°02.9	324°18.1	2°20.1	342°49.6	-5°32.8	333°33.3	-0°59.0	6°38.2	-14°15.5
8	349°05.3	339°17.9	2°21.2	357°50.3	-5°32.1	348°35.3	-0°58.8	21°40.6	-14°15.5
9	4°07.8	354°17.7	2°22.2	12°51.0	-5°31.3	3°37.3	-0°58.6	36°43.0	-14°15.5
10	19°10.3	9°17.5	2°23.3	27°51.8	-5°30.6	18°39.3	-0°58.4	51°45.3	-14°15.4
11	34°12.7	24°17.3	2°24.3	42°52.5	-5°29.9	33°41.3	-0°58.2	66°47.7	-14°15.4
12	49°15.2	39°17.1	2°25.4	57°53.2	-5°29.2	48°43.3	-0°58.1	81°50.1	-14°15.4
13	64°17.7	54°16.9	2°26.5	72°53.9	-5°28.5	63°45.4	-0°57.9	96°52.4	-14°15.4
14	79°20.1	69°16.6	2°27.5	87°54.6	-5°27.7	78°47.4	-0°57.7	111°54.8	-14°15.3
15	94°22.6	84°16.4	2°28.6	102°55.4	-5°27.0	93°49.4	-0°57.5	126°57.2	-14°15.3
16	109°25.1	99°16.2	2°29.6	117°56.1	-5°26.3	108°51.4	-0°57.3	141°59.5	-14°15.3
17	124°27.5	114°16.0	2°30.7	132°56.8	-5°25.6	123°53.4	-0°57.1	157°01.9	-14°15.3
18	139°30.0	129°15.8	2°31.8	147°57.5	-5°24.9	138°55.4	-0°56.9	172°04.3	-14°15.2
19	154°32.4	144°15.6	2°32.8	162°58.3	-5°24.1	153°57.5	-0°56.8	187°06.6	-14°15.2
20	169°34.9	159°15.3	2°33.9	177°59.0	-5°23.4	168°59.5	-0°56.6	202°09.0	-14°15.2
21	184°37.4	174°15.1	2°34.9	192°59.7	-5°22.7	184°01.5	-0°56.4	217°11.4	-14°15.2
22	199°39.8	189°14.9	2°36.0	208°00.4	-5°22.0	199°03.5	-0°56.2	232°13.7	-14°15.1
23	214°42.3	204°14.7	2°37.0	223°01.1	-5°21.2	214°05.5	-0°56.0	247°16.1	-14°15.1
Mer.pass.:8:43:		v-0.2 d1.1 m-4.0		v0.7 d0.7 m0.8		v2.0 d0.2 m-2.0		v2.4 d0.0 m0.8	

Jue	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	229°44.8	219°14.5	2°38.1	238°01.9	-5°20.5	229°07.5	-0°55.8	262°18.5	-14°15.1
1	244°47.2	234°14.2	2°39.2	253°02.6	-5°19.8	244°09.6	-0°55.6	277°20.8	-14°15.1
2	259°49.7	249°14.0	2°40.2	268°03.3	-5°19.1	259°11.6	-0°55.5	292°23.2	-14°15.0
3	274°52.2	264°13.8	2°41.3	283°04.0	-5°18.4	274°13.6	-0°55.3	307°25.6	-14°15.0
4	289°54.6	279°13.6	2°42.3	298°04.8	-5°17.6	289°15.6	-0°55.1	322°27.9	-14°15.0
5	304°57.1	294°13.4	2°43.4	313°05.5	-5°16.9	304°17.6	-0°54.9	337°30.3	-14°15.0
6	319°59.6	309°13.2	2°44.5	328°06.2	-5°16.2	319°19.6	-0°54.7	352°32.7	-14°14.9
7	335°02.0	324°12.9	2°45.5	343°06.9	-5°15.5	334°21.7	-0°54.5	7°35.0	-14°14.9
8	350°04.5	339°12.7	2°46.6	358°07.6	-5°14.8	349°23.7	-0°54.3	22°37.4	-14°14.9
9	5°06.9	354°12.5	2°47.6	13°08.4	-5°14.0	4°25.7	-0°54.2	37°39.8	-14°14.9
10	20°09.4	9°12.3	2°48.7	28°09.1	-5°13.3	19°27.7	-0°54.0	52°42.2	-14°14.8
11	35°11.9	24°12.1	2°49.7	43°09.8	-5°12.6	34°29.7	-0°53.8	67°44.5	-14°14.8
12	50°14.3	39°11.8	2°50.8	58°10.5	-5°11.9	49°31.8	-0°53.6	82°46.9	-14°14.8
13	65°16.8	54°11.6	2°51.9	73°11.3	-5°11.1	64°33.8	-0°53.4	97°49.3	-14°14.8
14	80°19.3	69°11.4	2°52.9	88°12.0	-5°10.4	79°35.8	-0°53.2	112°51.6	-14°14.7
15	95°21.7	84°11.2	2°54.0	103°12.7	-5°09.7	94°37.8	-0°53.1	127°54.0	-14°14.7
16	110°24.2	99°11.0	2°55.0	118°13.4	-5°09.0	109°39.8	-0°52.9	142°56.4	-14°14.7
17	125°26.7	114°10.7	2°56.1	133°14.2	-5°08.3	124°41.9	-0°52.7	157°58.7	-14°14.7
18	140°29.1	129°10.5	2°57.2	148°14.9	-5°07.5	139°43.9	-0°52.5	173°01.1	-14°14.6
19	155°31.6	144°10.3	2°58.2	163°15.6	-5°06.8	154°45.9	-0°52.3	188°03.5	-14°14.6
20	170°34.0	159°10.1	2°59.3	178°16.3	-5°06.1	169°47.9	-0°52.1	203°05.9	-14°14.6
21	185°36.5	174°09.9	3°00.3	193°17.1	-5°05.4	184°49.9	-0°52.0	218°08.2	-14°14.6
22	200°39.0	189°09.6	3°01.4	208°17.8	-5°04.6	199°52.0	-0°51.8	233°10.6	-14°14.5
23	215°41.4	204°09.4	3°02.5	223°18.5	-5°03.9	214°54.0	-0°51.6	248°13.0	-14°14.5
Mer.pass.:8:39:		v-0.2 d1.1 m-4.0		v0.7 d0.7 m0.8		v2.0 d0.2 m-2.0		v2.4 d0.0 m0.8	

Estrellas

	AHS	Dec
Alpheratz	357°37.3	29°12.6
Ankaa	353°09.7	-42°11.1
Schedar	349°34.0	56°39.3
Diphda	348°49.7	-17°52.0
Achernar	335°22.4	-57°07.4
Hamal	327°54.1	23°33.9
Polaris	315°34.2	89°21.4
Akamar	315°13.9	-40°13.0
Menkar	314°08.8	4°10.5
Mirfak	308°31.9	49°56.3
Aldebaran	290°42.5	16°33.2
Rigel	281°06.3	-8°10.7
Capella	280°25.6	46°01.3
Bellatrix	278°25.5	6°22.1
Elnath	278°05.0	28°37.6
Alnilam	275°40.3	-1°11.4
Betelgeuse	270°54.8	7°24.6
Canopus	263°53.8	-52°42.7
Sirius	258°28.3	-16°44.8
Adara	255°07.8	-29°00.3
Procyon	244°53.2	5°10.2
Pollux	243°20.1	27°58.4
Avior	234°15.8	-59°35.1
Suhail	222°48.0	-43°31.6
Miaplacidus	221°38.8	-69°48.8
Alphard	217°49.9	-8°45.4
Regulus	207°36.7	11°51.5
Dubhe	193°43.4	61°38.1
Denebola	182°26.9	14°26.9
Gienah	175°45.6	-17°40.0
Acrux	173°02.0	-63°13.5
Gacrux	171°53.6	-57°14.4
Alioth	166°14.5	55°50.5
Spica	158°24.3	-11°16.7
Alcaid	152°53.3	49°12.2
Hadar	148°38.5	-60°28.9
Menkent	147°59.9	-36°28.8
Arcturus	145°49.5	19°04.3
Rigil Kent.	139°42.7	-60°55.7
Zubenelg.	136°58.1	-16°08.1
Kochab	137°18.6	74°03.9
Alphecca	126°05.3	26°38.3
Antares	112°18.2	-26°28.9
Atria	107°13.9	-69°03.9
Sabik	102°05.0	-15°45.2
Shaula	96°13.0	-37°07.1
Rasalhague	96°00.3	12°32.5
Etamin	90°42.8	51°28.9
Kaus Aust.	83°35.2	-34°22.3
Vega	80°34.5	38°48.0
Nunki	75°50.3	-26°16.1
Altair	62°02.1	8°55.4
Peacock	53°09.1	-56°39.6
Deneb	49°27.2	45°21.2
Enif	33°41.0	9°58.4
Alnair	27°35.8	-46°51.0
Fomalhaut	15°17.2	-29°30.2
Scheat	13°47.5	28°11.9
Markab	13°32.3	15°19.3

May 10 Mar	AHS	Paso Merid
Venus	351°38.3	09:22
Mars	9°40.8	08:10
Jupiter	359°44.4	08:49
Saturn	32°38.5	06:37

May 11 Mie	AHS	Paso Merid
Venus	350°34.0	09:23
Mars	8°58.9	08:09
Jupiter	359°33.5	08:46
Saturn	32°36.0	06:34

May 12 Jue	AHS	Paso Merid
Venus	349°29.7	09:23
Mars	8°17.1	08:07
Jupiter	359°22.8	08:42
Saturn	32°33.7	06:30

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.1

h Sol Luna

Mar	AHG	Dec	AHG	v	Dec	d	HP
0	180°53.3	17°33.7	73°12.5	13.3	16°09.6	-11.6	55.7
1	195°53.3	17°34.3	87°44.8	13.4	15°57.9	-11.7	55.7
2	210°53.3	17°35.0	102°17.2	13.4	15°46.2	-11.8	55.7
3	225°53.4	17°35.7	116°49.6	13.4	15°34.3	-11.9	55.8
4	240°53.4	17°36.3	131°22.0	13.4	15°22.4	-12.0	55.8
5	255°53.4	17°37.0	145°54.5	13.5	15°10.4	-12.0	55.8
6	270°53.4	17°37.6	160°27.0	13.5	14°58.4	-12.1	55.9
7	285°53.5	17°38.3	174°59.4	13.5	14°46.2	-12.2	55.9
8	300°53.5	17°38.9	189°32.0	13.5	14°34.0	-12.3	55.9
9	315°53.5	17°39.6	204°04.5	13.5	14°21.7	-12.3	56.0
10	330°53.5	17°40.2	218°37.1	13.6	14°09.3	-12.4	56.0
11	345°53.5	17°40.9	233°09.6	13.6	13°56.8	-12.5	56.0
12	0°53.6	17°41.5	247°42.2	13.6	13°44.3	-12.6	56.0
13	15°53.6	17°42.2	262°14.8	13.6	13°31.7	-12.6	56.1
14	30°53.6	17°42.8	276°47.5	13.6	13°19.0	-12.7	56.1
15	45°53.6	17°43.5	291°20.1	13.7	13°06.2	-12.8	56.1
16	60°53.7	17°44.1	305°52.8	13.7	12°53.4	-12.9	56.2
17	75°53.7	17°44.8	320°25.4	13.7	12°40.5	-12.9	56.2
18	90°53.7	17°45.4	334°58.1	13.7	12°27.5	-13.0	56.2
19	105°53.7	17°46.1	349°30.8	13.7	12°14.5	-13.1	56.3
20	120°53.7	17°46.7	4°03.5	13.7	12°01.4	-13.1	56.3
21	135°53.8	17°47.4	18°36.3	13.7	11°48.2	-13.2	56.3
22	150°53.8	17°48.0	33°09.0	13.7	11°35.0	-13.3	56.4
23	165°53.8	17°48.7	47°41.7	13.7	11°21.6	-13.4	56.4
	SD.=15.8	d=0.7			S.D.=15.2		

Mie	AHG	Dec	AHG	v	Dec	d	HP
0	180°53.8	17°49.3	62°14.5	13.8	11°08.3	-13.4	56.4
1	195°53.8	17°49.9	76°47.3	13.8	10°54.8	-13.5	56.5
2	210°53.8	17°50.6	91°20.0	13.8	10°41.3	-13.5	56.5
3	225°53.9	17°51.2	105°52.8	13.8	10°27.7	-13.6	56.6
4	240°53.9	17°51.9	120°25.6	13.8	10°14.1	-13.7	56.6
5	255°53.9	17°52.5	134°58.4	13.8	10°00.4	-13.7	56.6
6	270°53.9	17°53.2	149°31.1	13.8	9°46.6	-13.8	56.7
7	285°53.9	17°53.8	164°03.9	13.8	9°32.8	-13.9	56.7
8	300°54.0	17°54.4	178°36.7	13.8	9°18.9	-13.9	56.7
9	315°54.0	17°55.1	193°09.5	13.8	9°04.9	-14.0	56.8
10	330°54.0	17°55.7	207°42.3	13.8	8°50.9	-14.0	56.8
11	345°54.0	17°56.4	222°15.1	13.8	8°36.9	-14.1	56.8
12	0°54.0	17°57.0	236°47.9	13.8	8°22.7	-14.1	56.9
13	15°54.0	17°57.6	251°20.6	13.8	8°08.6	-14.2	56.9
14	30°54.0	17°58.3	265°53.4	13.8	7°54.3	-14.3	56.9
15	45°54.1	17°58.9	280°26.2	13.8	7°40.0	-14.3	57.0
16	60°54.1	17°59.6	294°58.9	13.8	7°25.7	-14.4	57.0
17	75°54.1	18°00.2	309°31.7	13.7	7°11.3	-14.4	57.1
18	90°54.1	18°00.8	324°04.4	13.7	6°56.9	-14.5	57.1
19	105°54.1	18°01.5	338°37.2	13.7	6°42.4	-14.5	57.1
20	120°54.1	18°02.1	353°09.9	13.7	6°27.8	-14.6	57.2
21	135°54.2	18°02.7	7°42.6	13.7	6°13.2	-14.6	57.2
22	150°54.2	18°03.4	22°15.3	13.7	5°58.6	-14.7	57.2
23	165°54.2	18°04.0	36°48.0	13.7	5°43.9	-14.7	57.3
	SD.=15.8	d=0.6			S.D.=15.4		

Jue	AHG	Dec	AHG	v	Dec	d	HP
0	180°54.2	18°04.6	51°20.6	13.7	5°29.2	-14.8	57.3
1	195°54.2	18°05.3	65°53.3	13.6	5°14.4	-14.8	57.4
2	210°54.2	18°05.9	80°25.9	13.6	4°59.6	-14.8	57.4
3	225°54.2	18°06.5	94°58.5	13.6	4°44.7	-14.9	57.4
4	240°54.2	18°07.1	109°31.1	13.6	4°29.8	-14.9	57.5
5	255°54.3	18°07.8	124°03.7	13.6	4°14.9	-15.0	57.5
6	270°54.3	18°08.4	138°36.2	13.5	3°59.9	-15.0	57.5
7	285°54.3	18°09.0	153°08.8	13.5	3°44.8	-15.0	57.6
8	300°54.3	18°09.7	167°41.3	13.5	3°29.8	-15.1	57.6
9	315°54.3	18°10.3	182°13.7	13.5	3°14.7	-15.1	57.7
10	330°54.3	18°10.9	196°46.2	13.4	2°59.5	-15.2	57.7
11	345°54.3	18°11.5	211°18.6	13.4	2°44.4	-15.2	57.7
12	0°54.3	18°12.2	225°51.0	13.4	2°29.1	-15.2	57.8
13	15°54.3	18°12.8	240°23.3	13.3	2°13.9	-15.3	57.8
14	30°54.4	18°13.4	254°55.7	13.3	1°58.6	-15.3	57.9
15	45°54.4	18°14.0	269°28.0	13.3	1°43.3	-15.3	57.9
16	60°54.4	18°14.7	284°00.2	13.2	1°28.0	-15.3	57.9
17	75°54.4	18°15.3	298°32.4	13.2	1°12.6	-15.4	58.0
18	90°54.4	18°15.9	313°04.6	13.2	0°57.2	-15.4	58.0
19	105°54.4	18°16.5	327°36.8	13.1	0°41.8	-15.4	58.0
20	120°54.4	18°17.2	342°08.9	13.1	0°26.4	-15.5	58.1
21	135°54.4	18°17.8	356°41.0	13.1	0°10.9	-15.5	58.1
22	150°54.4	18°18.4	11°13.0	13.0	-0°04.5	-15.5	58.2
23	165°54.4	18°19.0	25°45.0	13.0	-0°20.1	-15.5	58.2
	SD.=15.8	d=0.6			S.D.=15.6		

Lat.	Crepúsculo Naut.	Crepúsculo Civil	Orto Sol	Crepúsculo Civil	Crepúsculo Naut.	Ocaso Sol
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	01:24	22:37	–:–	–:–
68	–:–	–:–	02:09	21:48	–:–	–:–
66	–:–	00:25	02:38	21:18	–:–	–:–
64	–:–	01:34	03:00	20:55	22:24	–:–
62	–:–	02:08	03:18	20:37	21:48	–:–
60	00:22	02:32	03:32	20:22	21:23	–:–
58	01:25	02:51	03:44	20:10	21:04	22:33
56	01:56	03:07	03:55	19:59	20:48	22:00
54	02:18	03:20	04:04	19:50	20:34	21:37
52	02:36	03:32	04:13	19:41	20:23	21:19
50	02:51	03:42	04:20	19:34	20:12	21:03
45	03:20	04:02	04:36	19:18	19:51	20:34
40	03:41	04:19	04:49	19:05	19:35	20:12
35	03:58	04:32	05:00	18:53	19:21	19:55
30	04:12	04:43	05:09	18:44	19:10	19:41
20	04:35	05:02	05:26	18:27	18:51	19:19
10	04:52	05:18	05:40	18:13	18:35	19:01
0	05:06	05:31	05:53	18:00	18:22	18:47
S 10	05:18	05:44	06:06	17:47	18:09	18:34
20	05:30	05:57	06:20	17:33	17:56	18:23
30	05:41	06:10	06:35	17:17	17:42	18:11
35	05:47	06:18	06:44	17:08	17:35	18:05
40	05:53	06:26	06:55	16:58	17:27	17:59
45	06:00	06:35	07:07	16:46	17:17	17:53
50	06:07	06:46	07:21	16:31	17:06	17:46
52	06:10	06:51	07:28	16:24	17:01	17:42
54	06:13	06:56	07:35	16:17	16:56	17:39
56	06:17	07:02	07:44	16:08	16:50	17:35
58	06:20	07:09	07:53	15:59	16:44	17:32
60	06:24	07:16	08:04	15:48	16:36	17:27

Lat.	Orto luna Mar	Orto luna Mie	Orto luna Jue	Ocaso luna Mar	Ocaso luna Mie	Ocaso luna Jue
N 72	10:05	12:29	14:41	05:00	04:11	03:37
70	10:35	12:42	14:43	04:28	03:56	03:31
68	10:57	12:53	14:45	04:04	03:43	03:26
66	11:14	13:01	14:47	03:46	03:33	03:22
64	11:28	13:08	14:48	03:31	03:24	03:18
62	11:40	13:14	14:50	03:18	03:17	03:15
60	11:49	13:19	14:51	03:07	03:10	03:12
58	11:58	13:24	14:52	02:58	03:04	03:10
56	12:05	13:28	14:52	02:49	02:59	03:07
54	12:12	13:32	14:53	02:42	02:54	03:06
52	12:18	13:35	14:54	02:35	02:50	03:04
50	12:23	13:38	14:54	02:29	02:46	03:02
45	12:35	13:44	14:56	02:16	02:38	02:58
40	12:44	13:50	14:57	02:05	02:31	02:55
35	12:52	13:54	14:58	01:56	02:25	02:53
30	13:00	13:59	14:59	01:48	02:20	02:50
20	13:12	14:06	15:00	01:33	02:10	02:46
10	13:23	14:12	15:02	01:21	02:02	02:42
0	13:32	14:17	15:03	01:09	01:54	02:39
S 10	13:42	14:23	15:04	00:57	01:46	02:35
20	13:53	14:29	15:05	00:44	01:38	02:32
30	14:05	14:36	15:07	00:29	01:28	02:27
35	14:12	14:40	15:08	00:21	01:22	02:25
40	14:20	14:45	15:09	00:11	01:16	02:22
45	14:29	14:50	15:10	–:–	01:08	02:18
50	14:40	14:56	15:11	–:–	00:59	02:14
52	14:45	14:59	15:12	–:–	00:55	02:12
54	14:50	15:02	15:13	–:–	00:50	02:10
56	14:56	15:05	15:13	–:–	00:45	02:08
58	15:03	15:09	15:14	–:–	00:39	02:05
60	15:11	15:13	15:15	–:–	00:32	02:03

Día	Sol Ec. tiempo 00:00 h	Sol Ec. tiempo 12:00 h	Sol Paso Merid	Luna Paso Meridiano Superior	Luna Paso Meridiano Inferior	Luna Edad
10	03:33	03:34	11:56	19:43	07:20	10(65%)
11	03:35	03:36	11:56	20:28	08:05	11(74%)
12	03:37	03:37	11:56	21:13	08:50	12(83%)

Mayo 13, 14, 15 (Vie, Sa, Dom)

	Aries	Venus		Martes		Júpiter		Saturno	
Vie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	230°43.9	219°09.2	3°03.5	238°19.2	-5°03.2	229°56.0	-0°51.4	263°15.3	-14°14.5
1	245°46.4	234°09.0	3°04.6	253°20.0	-5°02.5	244°58.0	-0°51.2	278°17.7	-14°14.5
2	260°48.8	249°08.7	3°05.6	268°20.7	-5°01.8	260°00.1	-0°51.0	293°20.1	-14°14.4
3	275°51.3	264°08.5	3°06.7	283°21.4	-5°01.0	275°02.1	-0°50.8	308°22.5	-14°14.4
4	290°53.8	279°08.3	3°07.8	298°22.1	-5°00.3	290°04.1	-0°50.7	323°24.8	-14°14.4
5	305°56.2	294°08.1	3°08.8	313°22.9	-4°59.6	305°06.1	-0°50.5	338°27.2	-14°14.4
6	320°58.7	309°07.9	3°09.9	328°23.6	-4°58.9	320°08.1	-0°50.3	353°29.6	-14°14.4
7	336°01.2	324°07.6	3°10.9	343°24.3	-4°58.1	335°10.2	-0°50.1	8°31.9	-14°14.3
8	351°03.6	339°07.4	3°12.0	358°25.0	-4°57.4	350°12.2	-0°49.9	23°34.3	-14°14.3
9	6°06.1	354°07.2	3°13.1	13°25.8	-4°56.7	5°14.2	-0°49.7	38°36.7	-14°14.3
10	21°08.5	9°07.0	3°14.1	28°26.5	-4°56.0	20°16.2	-0°49.6	53°39.1	-14°14.3
11	36°11.0	24°06.7	3°15.2	43°27.2	-4°55.2	35°18.2	-0°49.4	68°41.4	-14°14.2
12	51°13.5	39°06.5	3°16.2	58°27.9	-4°54.5	50°20.3	-0°49.2	83°43.8	-14°14.2
13	66°15.9	54°06.3	3°17.3	73°28.7	-4°53.8	65°22.3	-0°49.0	98°46.2	-14°14.2
14	81°18.4	69°06.1	3°18.4	88°29.4	-4°53.1	80°24.3	-0°48.8	113°48.6	-14°14.2
15	96°20.9	84°05.8	3°19.4	103°30.1	-4°52.4	95°26.3	-0°48.7	128°50.9	-14°14.1
16	111°23.3	99°05.6	3°20.5	118°30.8	-4°51.6	110°28.4	-0°48.5	143°53.3	-14°14.1
17	126°25.8	114°05.4	3°21.5	133°31.6	-4°50.9	125°30.4	-0°48.3	158°55.7	-14°14.1
18	141°28.3	129°05.2	3°22.6	148°32.3	-4°50.2	140°32.4	-0°48.1	173°58.1	-14°14.1
19	156°30.7	144°04.9	3°23.7	163°33.0	-4°49.5	155°34.4	-0°47.9	189°00.4	-14°14.0
20	171°33.2	159°04.7	3°24.7	178°33.7	-4°48.7	170°36.5	-0°47.7	204°02.8	-14°14.0
21	186°35.6	174°04.5	3°25.8	193°34.5	-4°48.0	185°38.5	-0°47.6	219°05.2	-14°14.0
22	201°38.1	189°04.3	3°26.8	208°35.2	-4°47.3	200°40.5	-0°47.4	234°07.6	-14°14.0
23	216°40.6	204°04.0	3°27.9	223°35.9	-4°46.6	215°42.5	-0°47.2	249°09.9	-14°14.0
Mer.pass.:8:35:		v-0.2 d1.1 m-4.0		v0.7 d0.7 m0.8		v2.0 d0.2 m-2.0		v2.4 d0.0 m0.8	

Sa	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	231°43.0	219°03.8	3°29.0	238°36.6	-4°45.8	230°44.6	-0°47.0	264°12.3	-14°13.9
1	246°45.5	234°03.6	3°30.0	253°37.4	-4°45.1	245°46.6	-0°46.8	279°14.7	-14°13.9
2	261°48.0	249°03.4	3°31.1	268°38.1	-4°44.4	260°48.6	-0°46.6	294°17.1	-14°13.9
3	276°50.4	264°03.1	3°32.1	283°38.8	-4°43.7	275°50.6	-0°46.5	309°19.4	-14°13.9
4	291°52.9	279°02.9	3°33.2	298°39.6	-4°42.9	290°52.7	-0°46.3	324°21.8	-14°13.8
5	306°55.4	294°02.7	3°34.3	313°40.3	-4°42.2	305°54.7	-0°46.1	339°24.2	-14°13.8
6	321°57.8	309°02.5	3°35.3	328°41.0	-4°41.5	320°56.7	-0°45.9	354°26.6	-14°13.8
7	337°00.3	324°02.2	3°36.4	343°41.7	-4°40.8	335°58.7	-0°45.7	9°28.9	-14°13.8
8	352°02.8	339°02.0	3°37.4	358°42.5	-4°40.1	351°00.8	-0°45.6	24°31.3	-14°13.8
9	7°05.2	354°01.8	3°38.5	13°43.2	-4°39.3	6°02.8	-0°45.4	39°33.7	-14°13.7
10	22°07.7	9°01.6	3°39.6	28°43.9	-4°38.6	21°04.8	-0°45.2	54°36.1	-14°13.7
11	37°10.1	24°01.3	3°40.6	43°44.6	-4°37.9	36°06.8	-0°45.0	69°38.4	-14°13.7
12	52°12.6	39°01.1	3°41.7	58°45.4	-4°37.2	51°08.9	-0°44.8	84°40.8	-14°13.7
13	67°15.1	54°00.9	3°42.7	73°46.1	-4°36.4	66°10.9	-0°44.6	99°43.2	-14°13.6
14	82°17.5	69°00.6	3°43.8	88°46.8	-4°35.7	81°12.9	-0°44.5	114°45.6	-14°13.6
15	97°20.0	84°00.4	3°44.9	103°47.6	-4°35.0	96°14.9	-0°44.3	129°48.0	-14°13.6
16	112°22.5	99°00.2	3°45.9	118°48.3	-4°34.3	111°17.0	-0°44.1	144°50.3	-14°13.6
17	127°24.9	114°00.0	3°47.0	133°49.0	-4°33.5	126°19.0	-0°43.9	159°52.7	-14°13.6
18	142°27.4	128°59.7	3°48.0	148°49.7	-4°32.8	141°21.0	-0°43.7	174°55.1	-14°13.5
19	157°29.9	143°59.5	3°49.1	163°50.5	-4°32.1	156°23.1	-0°43.6	189°57.5	-14°13.5
20	172°32.3	158°59.3	3°50.2	178°51.2	-4°31.4	171°25.1	-0°43.4	204°59.8	-14°13.5
21	187°34.8	173°59.0	3°51.2	193°51.9	-4°30.6	186°27.1	-0°43.2	220°02.2	-14°13.5
22	202°37.3	188°58.8	3°52.3	208°52.7	-4°29.9	201°29.1	-0°43.0	235°04.6	-14°13.4
23	217°39.7	203°58.6	3°53.3	223°53.4	-4°29.2	216°31.2	-0°42.8	250°07.0	-14°13.4
Mer.pass.:8:31:		v-0.2 d1.1 m-3.9		v0.7 d0.7 m0.8		v2.0 d0.2 m-2.0		v2.4 d0.0 m0.8	

Dom	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	232°42.2	218°58.3	3°54.4	238°54.1	-4°28.5	231°33.2	-0°42.7	265°09.4	-14°13.4
1	247°44.6	233°58.1	3°55.5	253°54.8	-4°27.7	246°35.2	-0°42.5	280°11.7	-14°13.4
2	262°47.1	248°57.9	3°56.5	268°55.6	-4°27.0	261°37.2	-0°42.3	295°14.1	-14°13.4
3	277°49.6	263°57.7	3°57.6	283°56.3	-4°26.3	276°39.3	-0°42.1	310°16.5	-14°13.3
4	292°52.0	278°57.4	3°58.6	298°57.0	-4°25.6	291°41.3	-0°41.9	325°18.9	-14°13.3
5	307°54.5	293°57.2	3°59.7	313°57.8	-4°24.8	306°43.3	-0°41.8	340°21.3	-14°13.3
6	322°57.0	308°57.0	4°00.8	328°58.5	-4°24.1	321°45.4	-0°41.6	355°23.6	-14°13.3
7	337°59.4	323°56.7	4°01.8	343°59.2	-4°23.4	336°47.4	-0°41.4	10°26.0	-14°13.3
8	353°01.9	338°56.5	4°02.9	359°00.0	-4°22.7	351°49.4	-0°41.2	25°28.4	-14°13.2
9	8°04.4	353°56.3	4°03.9	14°00.7	-4°21.9	6°51.4	-0°41.0	40°30.8	-14°13.2
10	23°06.8	8°56.0	4°05.0	29°01.4	-4°21.2	21°53.5	-0°40.9	55°33.2	-14°13.2
11	38°09.3	23°55.8	4°06.1	44°02.1	-4°20.5	36°55.5	-0°40.7	70°35.5	-14°13.2
12	53°11.7	38°55.6	4°07.1	59°02.9	-4°19.8	51°57.5	-0°40.5	85°37.9	-14°13.2
13	68°14.2	53°55.3	4°08.2	74°03.6	-4°19.0	66°59.6	-0°40.3	100°40.3	-14°13.1
14	83°16.7	68°55.1	4°09.2	89°04.3	-4°18.3	82°01.6	-0°40.1	115°42.7	-14°13.1
15	98°19.1	83°54.9	4°10.3	104°05.1	-4°17.6	97°03.6	-0°40.0	130°45.1	-14°13.1
16	113°21.6	98°54.6	4°11.4	119°05.8	-4°16.9	112°05.7	-0°39.8	145°47.5	-14°13.1
17	128°24.1	113°54.4	4°12.4	134°06.5	-4°16.1	127°07.7	-0°39.6	160°49.8	-14°13.0
18	143°26.5	128°54.2	4°13.5	149°07.3	-4°15.4	142°09.7	-0°39.4	175°52.2	-14°13.0
19	158°29.0	143°53.9	4°14.5	164°08.0	-4°14.7	157°11.7	-0°39.2	190°54.6	-14°13.0
20	173°31.5	158°53.7	4°15.6	179°08.7	-4°14.0	172°13.8	-0°39.1	205°57.0	-14°13.0
21	188°33.9	173°53.5	4°16.7	194°09.4	-4°13.2	187°15.8	-0°38.9	220°59.4	-14°13.0
22	203°36.4	188°53.2	4°17.7	209°10.2	-4°12.5	202°17.8	-0°38.7	236°01.7	-14°12.9
23	218°38.9	203°53.0	4°18.8	224°10.9	-4°11.8	217°19.9	-0°38.5	251°04.1	-14°12.9
Mer.pass.:8:27:		v-0.2 d1.1 m-3.9		v0.7 d0.7 m0.8		v2.0 d0.2 m-2.0		v2.4 d0.0 m0.8	

Estrellas

	AHS	Dec
Alpheratz	357°37.3	29°12.6
Ankaa	353°09.6	-42°11.1
Schedar	349°34.0	56°39.3
Diphda	348°49.7	-17°51.9
Achernar	335°22.4	-57°07.4
Hamal	327°54.1	23°33.9
Polaris	315°34.0	89°21.4
Akamar	315°13.9	-40°13.0
Menkar	314°08.8	4°10.5
Mirfak	308°31.9	49°56.3
Aldebaran	290°42.5	16°33.2
Rigel	281°06.3	-8°10.7
Capella	280°25.6	46°01.3
Bellatrix	278°25.5	6°22.1
Elnath	278°05.0	28°37.6
Alnilam	275°40.3	-1°11.4
Betelgeuse	270°54.8	7°24.6
Canopus	263°53.8	-52°42.7
Sirius	258°28.3	-16°44.8
Adara	255°07.8	-29°00.3
Procyon	244°53.2	5°10.2
Pollux	243°20.1	27°58.4
Avior	234°15.8	-59°35.1
Suhail	222°48.0	-43°31.6
Miaplacidus	221°38.8	-69°48.8
Alphard	217°49.9	-8°45.4
Regulus	207°36.7	11°51.5
Dubhe	193°43.5	61°38.1
Denebola	182°27.0	14°26.9
Gienah	175°45.6	-17°40.0
Acrux	173°02.0	-63°13.5
Gacrux	171°53.7	-57°14.5
Alioth	166°14.5	55°50.5
Spica	158°24.3	-11°16.7
Alcaid	152°53.3	49°12.2
Hadar	148°38.5	-60°28.9
Menkent	147°59.9	-36°28.8
Arcturus	145°49.5	19°04.3
Rigil Kent.	139°42.7	-60°55.7
Zubenelg.	136°58.1	-16°08.1
Kochab	137°18.6	74°03.9
Alphecca	126°05.3	26°38.4
Antares	112°18.2	-26°28.9
Atria	107°13.9	-69°03.9
Sabik	102°05.0	-15°45.2
Shaula	96°13.0	-37°07.1
Rasalhague	96°00.3	12°32.6
Etamin	90°42.8	51°28.9
Kaus Aust.	83°35.1	-34°22.3
Vega	80°34.4	38°48.0
Nunki	75°50.3	-26°16.1
Altair	62°02.0	8°55.4
Peacock	53°09.0	-56°39.6
Deneb	49°27.2	45°21.2
Enif	33°41.0	9°58.4
Alnair	27°35.8	-46°51.0
Fomalhaut	15°17.2	-29°30.2
Scheat	13°47.5	28°11.9
Markab	13°32.2	15°19.3

May 13 Vie	AHS	Paso Merid
Venus	348°25.3	09:24
Mars	7°35.3	08:06
Jupiter	359°12.1	08:39
Saturn	32°31.4	06:26

May 14 Sa	AHS	Paso Merid
Venus	347°20.8	09:24
Mars	6°53.6	08:05
Jupiter	359°01.5	08:36
Saturn	32°29.3	06:22

May 15 Dom	AHS	Paso Merid
Venus	346°16.2	09:24
Mars	6°11.9	08:04
Jupiter	358°51.0	08:33
Saturn	32°27.2	06:18

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.1

h Sol Luna

Vie	AHG	Dec	AHG	v	Dec	d	HP
0	180°54.4	18°19.6	40°16.9	12.9	-0°35.6	-15.5	58.2
1	195°54.4	18°20.3	54°48.8	12.9	-0°51.1	-15.6	58.3
2	210°54.4	18°20.9	69°20.7	12.8	-1°06.7	-15.6	58.3
3	225°54.5	18°21.5	83°52.5	12.8	-1°22.3	-15.6	58.3
4	240°54.5	18°22.1	98°24.2	12.7	-1°37.9	-15.6	58.4
5	255°54.5	18°22.7	112°55.9	12.7	-1°53.5	-15.6	58.4
6	270°54.5	18°23.3	127°27.6	12.6	-2°09.1	-15.6	58.5
7	285°54.5	18°24.0	141°59.2	12.6	-2°24.7	-15.6	58.5
8	300°54.5	18°24.6	156°30.8	12.5	-2°40.3	-15.6	58.5
9	315°54.5	18°25.2	171°02.2	12.5	-2°56.0	-15.7	58.6
10	330°54.5	18°25.8	185°33.7	12.4	-3°11.6	-15.7	58.6
11	345°54.5	18°26.4	200°05.1	12.4	-3°27.3	-15.7	58.6
12	0°54.5	18°27.0	214°36.4	12.3	-3°43.0	-15.7	58.7
13	15°54.5	18°27.6	229°07.6	12.2	-3°58.6	-15.7	58.7
14	30°54.5	18°28.3	243°38.8	12.2	-4°14.3	-15.7	58.8
15	45°54.5	18°28.9	258°10.0	12.1	-4°30.0	-15.7	58.8
16	60°54.5	18°29.5	272°41.1	12.0	-4°45.6	-15.7	58.8
17	75°54.5	18°30.1	287°12.1	12.0	-5°01.3	-15.7	58.9
18	90°54.5	18°30.7	301°43.0	11.9	-5°16.9	-15.7	58.9
19	105°54.5	18°31.3	316°13.9	11.8	-5°32.6	-15.6	58.9
20	120°54.5	18°31.9	330°44.7	11.8	-5°48.2	-15.6	59.0
21	135°54.5	18°32.5	345°15.4	11.7	-6°03.9	-15.6	59.0
22	150°54.5	18°33.1	359°46.1	11.6	-6°19.5	-15.6	59.0
23	165°54.5	18°33.7	14°16.7	11.6	-6°35.1	-15.6	59.1
	SD.=15.8	d=0.6			S.D.=15.9		

Sa	AHG	Dec	AHG	v	Dec	d	HP
0	180°54.5	18°34.3	28°47.2	11.5	-6°50.7	-15.6	59.1
1	195°54.5	18°34.9	43°17.6	11.4	-7°06.3	-15.6	59.2
2	210°54.5	18°35.6	57°48.0	11.3	-7°21.8	-15.6	59.2
3	225°54.5	18°36.2	72°18.3	11.3	-7°37.4	-15.5	59.2
4	240°54.5	18°36.8	86°48.5	11.2	-7°52.9	-15.5	59.3
5	255°54.5	18°37.4	101°18.7	11.1	-8°08.4	-15.5	59.3
6	270°54.5	18°38.0	115°48.7	11.0	-8°23.9	-15.5	59.3
7	285°54.5	18°38.6	130°18.7	10.9	-8°39.3	-15.4	59.4
8	300°54.5	18°39.2	144°48.6	10.8	-8°54.8	-15.4	59.4
9	315°54.5	18°39.8	159°18.4	10.8	-9°10.2	-15.4	59.4
10	330°54.5	18°40.4	173°48.1	10.7	-9°25.5	-15.3	59.5
11	345°54.5	18°41.0	188°17.7	10.6	-9°40.8	-15.3	59.5
12	0°54.5	18°41.6	202°47.3	10.5	-9°56.1	-15.3	59.5
13	15°54.5	18°42.2	217°16.7	10.4	-10°11.4	-15.2	59.6
14	30°54.5	18°42.8	231°46.1	10.3	-10°26.6	-15.2	59.6
15	45°54.5	18°43.4	246°15.3	10.2	-10°41.8	-15.2	59.6
16	60°54.5	18°44.0	260°44.5	10.1	-10°56.9	-15.1	59.7
17	75°54.5	18°44.6	275°13.6	10.0	-11°12.0	-15.1	59.7
18	90°54.5	18°45.2	289°42.6	9.9	-11°27.1	-15.0	59.7
19	105°54.5	18°45.8	304°11.5	9.9	-11°42.1	-15.0	59.7
20	120°54.5	18°46.4	318°40.3	9.8	-11°57.0	-14.9	59.8
21	135°54.5	18°46.9	333°09.0	9.7	-12°11.9	-14.9	59.8
22	150°54.5	18°47.5	347°37.6	9.6	-12°26.8	-14.8	59.8
23	165°54.5	18°48.1	2°06.1	9.5	-12°41.6	-14.8	59.9
	SD.=15.8	d=0.6			S.D.=16.1		

Dom	AHG	Dec	AHG	v	Dec	d	HP
0	180°54.5	18°48.7	16°34.5	9.4	-12°56.3	-14.7	59.9
1	195°54.5	18°49.3	31°02.8	9.3	-13°11.0	-14.6	59.9
2	210°54.5	18°49.9	45°31.1	9.2	-13°25.6	-14.6	59.9
3	225°54.5	18°50.5	59°59.2	9.1	-13°40.2	-14.5	60.0
4	240°54.5	18°51.1	74°27.2	8.9	-13°54.6	-14.5	60.0
5	255°54.5	18°51.7	88°55.0	8.8	-14°09.1	-14.4	60.0
6	270°54.5	18°52.3	103°22.8	8.7	-14°23.4	-14.3	60.1
7	285°54.5	18°52.9	117°50.5	8.6	-14°37.7	-14.2	60.1
8	300°54.5	18°53.5	132°18.1	8.5	-14°51.9	-14.2	60.1
9	315°54.5	18°54.0	146°45.6	8.4	-15°06.0	-14.1	60.1
10	330°54.4	18°54.6	161°12.9	8.3	-15°20.1	-14.0	60.2
11	345°54.4	18°55.2	175°40.2	8.2	-15°34.1	-13.9	60.2
12	0°54.4	18°55.8	190°07.3	8.1	-15°48.0	-13.8	60.2
13	15°54.4	18°56.4	204°34.3	8.0	-16°01.8	-13.8	60.2
14	30°54.4	18°57.0	219°01.3	7.9	-16°15.5	-13.7	60.3
15	45°54.4	18°57.6	233°28.1	7.8	-16°29.1	-13.6	60.3
16	60°54.4	18°58.1	247°54.8	7.6	-16°42.7	-13.5	60.3
17	75°54.4	18°58.7	262°21.4	7.5	-16°56.1	-13.4	60.3
18	90°54.4	18°59.3	276°47.8	7.4	-17°09.5	-13.3	60.3
19	105°54.4	18°59.9	291°14.2	7.3	-17°22.7	-13.2	60.4
20	120°54.4	19°00.5	305°40.4	7.2	-17°35.9	-13.1	60.4
21	135°54.4	19°01.1	320°06.6	7.1	-17°48.9	-13.0	60.4
22	150°54.3	19°01.6	334°32.6	7.0	-18°01.9	-12.9	60.4
23	165°54.3	19°02.2	348°58.5	6.9	-18°14.7	-12.8	60.5
	SD.=15.8	d=0.6			S.D.=16.3		

Lat.	Crepúsculo Naut.	Crepúsculo Civil	Orto Sol	Crepúsculo Civil	Crepúsculo Naut.	Ocaso Sol
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	00:54	23:11	–:–	–:–
68	–:–	–:–	01:53	22:04	–:–	–:–
66	–:–	–:–	02:26	21:29	–:–	–:–
64	–:–	01:16	02:51	21:05	22:43	–:–
62	–:–	01:56	03:09	20:45	22:01	–:–
60	–:–	02:23	03:25	20:29	21:33	–:–
58	01:08	02:43	03:38	20:16	21:12	22:51
56	01:44	03:00	03:49	20:05	20:55	22:12
54	02:09	03:14	03:59	19:55	20:40	21:46
52	02:29	03:26	04:08	19:46	20:28	21:26
50	02:45	03:37	04:16	19:38	20:17	21:10
45	03:15	03:58	04:32	19:21	19:55	20:39
40	03:38	04:15	04:46	19:07	19:38	20:16
35	03:55	04:29	04:57	18:56	19:24	19:58
30	04:10	04:41	05:07	18:46	19:12	19:43
20	04:33	05:01	05:24	18:29	18:52	19:20
10	04:51	05:17	05:39	18:14	18:36	19:02
0	05:06	05:31	05:53	18:00	18:22	18:47
S 10	05:19	05:44	06:06	17:46	18:08	18:34
20	05:31	05:58	06:21	17:32	17:55	18:22
30	05:43	06:12	06:37	17:15	17:41	18:10
35	05:49	06:20	06:47	17:06	17:33	18:03
40	05:56	06:28	06:57	16:55	17:24	17:57
45	06:03	06:38	07:10	16:42	17:14	17:50
50	06:10	06:50	07:25	16:27	17:03	17:42
52	06:14	06:55	07:32	16:20	16:57	17:38
54	06:17	07:01	07:40	16:12	16:51	17:35
56	06:21	07:07	07:49	16:03	16:45	17:31
58	06:25	07:14	07:59	15:53	16:38	17:27
60	06:30	07:22	08:11	15:41	16:30	17:22

Lat.	Orto luna Vie	Orto luna Sa	Orto luna Dom	Ocaso luna Vie	Ocaso luna Sa	Ocaso luna Dom
N 72	16:55	19:27	–:–	03:06	02:32	01:46
70	16:48	19:05	22:00	03:08	02:43	02:11
68	16:42	18:47	21:15	03:09	02:52	02:30
66	16:36	18:34	20:46	03:11	02:59	02:46
64	16:32	18:23	20:24	03:12	03:06	02:59
62	16:28	18:13	20:06	03:13	03:11	03:10
60	16:25	18:05	19:52	03:14	03:16	03:19
58	16:22	17:58	19:39	03:15	03:20	03:27
56	16:20	17:52	19:29	03:15	03:24	03:35
54	16:18	17:46	19:20	03:16	03:28	03:41
52	16:16	17:41	19:11	03:17	03:31	03:47
50	16:14	17:37	19:04	03:17	03:34	03:52
45	16:10	17:27	18:48	03:18	03:40	04:04
40	16:06	17:19	18:36	03:19	03:45	04:14
35	16:04	17:12	18:25	03:20	03:50	04:22
30	16:01	17:06	18:15	03:21	03:54	04:29
20	15:57	16:56	17:59	03:22	04:01	04:42
10	15:53	16:47	17:45	03:24	04:07	04:53
0	15:50	16:39	17:32	03:25	04:13	05:04
S 10	15:46	16:31	17:20	03:26	04:18	05:14
20	15:42	16:22	17:06	03:27	04:25	05:26
30	15:38	16:12	16:51	03:28	04:32	05:39
35	15:36	16:07	16:42	03:29	04:36	05:46
40	15:34	16:01	16:32	03:30	04:41	05:55
45	15:31	15:53	16:20	03:31	04:46	06:05
50	15:27	15:45	16:06	03:32	04:53	06:18
52	15:25	15:41	15:59	03:32	04:56	06:23
54	15:24	15:36	15:52	03:33	04:59	06:30
56	15:22	15:31	15:44	03:34	05:03	06:37
58	15:20	15:26	15:35	03:34	05:07	06:45
60	15:17	15:20	15:24	03:35	05:12	06:54

Día	Sol Ec. tiempo 00:00 h	Sol Ec. tiempo 12:00 h	Sol Paso Merid	Luna Paso Meridiano Superior	Luna Paso Meridiano Inferior	Luna Edad
13	03:38	03:38	11:56	22:00	09:37	13(90%)
14	03:38	03:38	11:56	22:51	10:25	14(96%)
15	03:38	03:38	11:56	23:45	11:17	15(99%)

Mayo 16, 17, 18 (Lun, Mar, Mie)

	Aries	Venus		Martes		Júpiter		Saturno	
Lun	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	233°41.3	218°52.8	4°19.8	239°11.6	-4°11.1	232°21.9	-0°38.3	266°06.5	-14°12.9
1	248°43.8	233°52.5	4°20.9	254°12.4	-4°10.3	247°23.9	-0°38.2	281°08.9	-14°12.9
2	263°46.2	248°52.3	4°22.0	269°13.1	-4°09.6	262°26.0	-0°38.0	296°11.3	-14°12.9
3	278°48.7	263°52.1	4°23.0	284°13.8	-4°08.9	277°28.0	-0°37.8	311°13.7	-14°12.8
4	293°51.2	278°51.8	4°24.1	299°14.6	-4°08.2	292°30.0	-0°37.6	326°16.0	-14°12.8
5	308°53.6	293°51.6	4°25.1	314°15.3	-4°07.4	307°32.1	-0°37.4	341°18.4	-14°12.8
6	323°56.1	308°51.3	4°26.2	329°16.0	-4°06.7	322°34.1	-0°37.3	356°20.8	-14°12.8
7	338°58.6	323°51.1	4°27.3	344°16.8	-4°06.0	337°36.1	-0°37.1	11°23.2	-14°12.8
8	354°01.0	338°50.9	4°28.3	359°17.5	-4°05.3	352°38.2	-0°36.9	26°25.6	-14°12.7
9	9°03.5	353°50.6	4°29.4	14°18.2	-4°04.5	7°40.2	-0°36.7	41°28.0	-14°12.7
10	24°06.0	8°50.4	4°30.4	29°19.0	-4°03.8	22°42.2	-0°36.6	56°30.3	-14°12.7
11	39°08.4	23°50.2	4°31.5	44°19.7	-4°03.1	37°44.3	-0°36.4	71°32.7	-14°12.7
12	54°10.9	38°49.9	4°32.6	59°20.4	-4°02.3	52°46.3	-0°36.2	86°35.1	-14°12.7
13	69°13.4	53°49.7	4°33.6	74°21.1	-4°01.6	67°48.3	-0°36.0	101°37.5	-14°12.7
14	84°15.8	68°49.5	4°34.7	89°21.9	-4°00.9	82°50.4	-0°35.8	116°39.9	-14°12.6
15	99°18.3	83°49.2	4°35.7	104°22.6	-4°00.2	97°52.4	-0°35.7	131°42.3	-14°12.6
16	114°20.7	98°49.0	4°36.8	119°23.3	-3°59.4	112°54.4	-0°35.5	146°44.7	-14°12.6
17	129°23.2	113°48.7	4°37.9	134°24.1	-3°58.7	127°56.5	-0°35.3	161°47.0	-14°12.6
18	144°25.7	128°48.5	4°38.9	149°24.8	-3°58.0	142°58.5	-0°35.1	176°49.4	-14°12.6
19	159°28.1	143°48.3	4°40.0	164°25.5	-3°57.3	158°00.5	-0°35.0	191°51.8	-14°12.5
20	174°30.6	158°48.0	4°41.0	179°26.3	-3°56.5	173°02.6	-0°34.8	206°54.2	-14°12.5
21	189°33.1	173°47.8	4°42.1	194°27.0	-3°55.8	188°04.6	-0°34.6	221°56.6	-14°12.5
22	204°35.5	188°47.5	4°43.1	209°27.7	-3°55.1	203°06.6	-0°34.4	236°59.0	-14°12.5
23	219°38.0	203°47.3	4°44.2	224°28.5	-3°54.4	218°08.7	-0°34.2	252°01.4	-14°12.5
Mer.pass.:8:23:		v-0.2 d1.1 m-3.9		v0.7 d0.7 m0.8		v2.0 d0.2 m-2.0		v2.4 d0.0 m0.8	

Mar	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	234°40.5	218°47.1	4°45.3	239°29.2	-3°53.6	233°10.7	-0°34.1	267°03.8	-14°12.4
1	249°42.9	233°46.8	4°46.3	254°29.9	-3°52.9	248°12.7	-0°33.9	282°06.1	-14°12.4
2	264°45.4	248°46.6	4°47.4	269°30.7	-3°52.2	263°14.8	-0°33.7	297°08.5	-14°12.4
3	279°47.9	263°46.3	4°48.4	284°31.4	-3°51.5	278°16.8	-0°33.5	312°10.9	-14°12.4
4	294°50.3	278°46.1	4°49.5	299°32.1	-3°50.7	293°18.8	-0°33.4	327°13.3	-14°12.4
5	309°52.8	293°45.9	4°50.6	314°32.9	-3°50.0	308°20.9	-0°33.2	342°15.7	-14°12.3
6	324°55.2	308°45.6	4°51.6	329°33.6	-3°49.3	323°22.9	-0°33.0	357°18.1	-14°12.3
7	339°57.7	323°45.4	4°52.7	344°34.3	-3°48.5	338°25.0	-0°32.8	12°20.5	-14°12.3
8	355°00.2	338°45.1	4°53.7	359°35.1	-3°47.8	353°27.0	-0°32.6	27°22.9	-14°12.3
9	10°02.6	353°44.9	4°54.8	14°35.8	-3°47.1	8°29.0	-0°32.5	42°25.2	-14°12.3
10	25°05.1	8°44.6	4°55.9	29°36.5	-3°46.4	23°31.1	-0°32.3	57°27.6	-14°12.3
11	40°07.6	23°44.4	4°56.9	44°37.3	-3°45.6	38°33.1	-0°32.1	72°30.0	-14°12.2
12	55°10.0	38°44.2	4°58.0	59°38.0	-3°44.9	53°35.1	-0°31.9	87°32.4	-14°12.2
13	70°12.5	53°43.9	4°59.0	74°38.7	-3°44.2	68°37.2	-0°31.8	102°34.8	-14°12.2
14	85°15.0	68°43.7	5°00.1	89°39.5	-3°43.5	83°39.2	-0°31.6	117°37.2	-14°12.2
15	100°17.4	83°43.4	5°01.1	104°40.2	-3°42.7	98°41.3	-0°31.4	132°39.6	-14°12.2
16	115°19.9	98°43.2	5°02.2	119°40.9	-3°42.0	113°43.3	-0°31.2	147°42.0	-14°12.1
17	130°22.4	113°42.9	5°03.3	134°41.7	-3°41.3	128°45.3	-0°31.1	162°44.3	-14°12.1
18	145°24.8	128°42.7	5°04.3	149°42.4	-3°40.6	143°47.4	-0°30.9	177°46.7	-14°12.1
19	160°27.3	143°42.5	5°05.4	164°43.2	-3°39.8	158°49.4	-0°30.7	192°49.1	-14°12.1
20	175°29.7	158°42.2	5°06.4	179°43.9	-3°39.1	173°51.4	-0°30.5	207°51.5	-14°12.1
21	190°32.2	173°42.0	5°07.5	194°44.6	-3°38.4	188°53.5	-0°30.4	222°53.9	-14°12.1
22	205°34.7	188°41.7	5°08.6	209°45.4	-3°37.6	203°55.5	-0°30.2	237°56.3	-14°12.0
23	220°37.1	203°41.5	5°09.6	224°46.1	-3°36.9	218°57.6	-0°30.0	252°58.7	-14°12.0
Mer.pass.:8:19:		v-0.2 d1.1 m-3.9		v0.7 d0.7 m0.8		v2.0 d0.2 m-2.0		v2.4 d0.0 m0.8	

Mie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	235°39.6	218°41.2	5°10.7	239°46.8	-3°36.2	233°59.6	-0°29.8	268°01.1	-14°12.0
1	250°42.1	233°41.0	5°11.7	254°47.6	-3°35.5	249°01.6	-0°29.7	283°03.5	-14°12.0
2	265°44.5	248°40.7	5°12.8	269°48.3	-3°34.7	264°03.7	-0°29.5	298°05.9	-14°12.0
3	280°47.0	263°40.5	5°13.8	284°49.0	-3°34.0	279°05.7	-0°29.3	313°08.3	-14°12.0
4	295°49.5	278°40.2	5°14.9	299°49.8	-3°33.3	294°07.7	-0°29.1	328°10.6	-14°11.9
5	310°51.9	293°40.0	5°16.0	314°50.5	-3°32.6	309°09.8	-0°28.9	343°13.0	-14°11.9
6	325°54.4	308°39.8	5°17.0	329°51.2	-3°31.8	324°11.8	-0°28.8	358°15.4	-14°11.9
7	340°56.9	323°39.5	5°18.1	344°52.0	-3°31.1	339°13.9	-0°28.6	13°17.8	-14°11.9
8	355°59.3	338°39.3	5°19.1	359°52.7	-3°30.4	354°15.9	-0°28.4	28°20.2	-14°11.9
9	11°01.8	353°39.0	5°20.2	14°53.4	-3°29.7	9°17.9	-0°28.2	43°22.6	-14°11.9
10	26°04.2	8°38.8	5°21.2	29°54.2	-3°28.9	24°20.0	-0°28.1	58°25.0	-14°11.8
11	41°06.7	23°38.5	5°22.3	44°54.9	-3°28.2	39°22.0	-0°27.9	73°27.4	-14°11.8
12	56°09.2	38°38.3	5°23.4	59°55.7	-3°27.5	54°24.1	-0°27.7	88°29.8	-14°11.8
13	71°11.6	53°38.0	5°24.4	74°56.4	-3°26.7	69°26.1	-0°27.5	103°32.2	-14°11.8
14	86°14.1	68°37.8	5°25.5	89°57.1	-3°26.0	84°28.2	-0°27.4	118°34.6	-14°11.8
15	101°16.6	83°37.5	5°26.5	104°57.9	-3°25.3	99°30.2	-0°27.2	133°37.0	-14°11.8
16	116°19.0	98°37.3	5°27.6	119°58.6	-3°24.6	114°32.2	-0°27.0	148°39.4	-14°11.7
17	131°21.5	113°37.0	5°28.6	134°59.3	-3°23.8	129°34.3	-0°26.9	163°41.7	-14°11.7
18	146°24.0	128°36.8	5°29.7	150°00.1	-3°23.1	144°36.3	-0°26.7	178°44.1	-14°11.7
19	161°26.4	143°36.5	5°30.8	165°00.8	-3°22.4	159°38.4	-0°26.5	193°46.5	-14°11.7
20	176°28.9	158°36.3	5°31.8	180°01.5	-3°21.7	174°40.4	-0°26.3	208°48.9	-14°11.7
21	191°31.4	173°36.0	5°32.9	195°02.3	-3°20.9	189°42.4	-0°26.2	223°51.3	-14°11.7
22	206°33.8	188°35.8	5°33.9	210°03.0	-3°20.2	204°44.5	-0°26.0	238°53.7	-14°11.6
23	221°36.3	203°35.5	5°35.0	225°03.8	-3°19.5	219°46.5	-0°25.8	253°56.1	-14°11.6
Mer.pass.:8:16:		v-0.2 d1.1 m-3.9		v0.7 d0.7 m0.8		v2.0 d0.2 m-2.0		v2.4 d0.0 m0.8	

Estrellas

	AHS	Dec
Alpheratz	357°37.3	29°12.6
Ankaa	353°09.6	-42°11.0
Schedar	349°33.9	56°39.3
Diphda	348°49.7	-17°51.9
Achernar	335°22.4	-57°07.4
Hamal	327°54.0	23°33.9
Polaris	315°33.4	89°21.4
Akamar	315°13.9	-40°13.0
Menkar	314°08.8	4°10.5
Mirfak	308°31.9	49°56.3
Aldebaran	290°42.5	16°33.2
Rigel	281°06.3	-8°10.7
Capella	280°25.6	46°01.3
Bellatrix	278°25.5	6°22.1
Elnath	278°05.0	28°37.5
Alnilam	275°40.3	-1°11.4
Betelgeuse	270°54.8	7°24.6
Canopus	263°53.8	-52°42.6
Sirius	258°28.3	-16°44.8
Adara	255°07.8	-29°00.3
Procyon	244°53.2	5°10.2
Pollux	243°20.1	27°58.4
Avior	234°15.9	-59°35.1
Suhail	222°48.0	-43°31.6
Miaplacidus	221°38.8	-69°48.8
Alphard	217°49.9	-8°45.4
Regulus	207°36.7	11°51.5
Dubhe	193°43.5	61°38.2
Denebola	182°27.0	14°26.9
Gienah	175°45.6	-17°40.0
Acrux	173°02.1	-63°13.5
Gacrux	171°53.7	-57°14.5
Alioth	166°14.6	55°50.5
Spica	158°24.3	-11°16.7
Alcaid	152°53.3	49°12.3
Hadar	148°38.5	-60°28.9
Menkent	147°59.9	-36°28.8
Arcturus	145°49.5	19°04.3
Rigil Kent.	139°42.7	-60°55.7
Zubenelg.	136°58.1	-16°08.1
Kochab	137°18.6	74°03.9
Alphecca	126°05.3	26°38.4
Antares	112°18.2	-26°28.9
Atria	107°13.8	-69°03.9
Sabik	102°05.0	-15°45.2
Shaula	96°13.0	-37°07.1
Rasalhague	96°00.3	12°32.6
Etamin	90°42.7	51°28.9
Kaus Aust.	83°35.1	-34°22.3
Vega	80°34.4	38°48.0
Nunki	75°50.2	-26°16.1
Altair	62°02.0	8°55.4
Peacock	53°09.0	-56°39.6
Deneb	49°27.2	45°21.3
Enif	33°41.0	9°58.4
Alnair	27°35.8	-46°51.0
Fomalhaut	15°17.1	-29°30.2
Scheat	13°47.5	28°11.9
Markab	13°32.2	15°19.3

May 16 Lun	AHS	Paso Merid
Venus	345°11.4	09:25
Mars	5°30.3	08:03
Jupiter	358°40.6	08:29
Saturn	32°25.2	06:15

May 17 Mar	AHS	Paso Merid
Venus	344°06.6	09:25
Mars	4°48.7	08:02
Jupiter	358°30.2	08:26
Saturn	32°23.3	06:11

May 18 Mie	AHS	Paso Merid
Venus	343°01.6	09:25
Mars	4°07.2	08:00
Jupiter	358°20.0	08:23
Saturn	32°21.5	06:07

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.1

h Sol Luna

Lun	AHG	Dec	AHG	v	Dec	d	HP
0	180°54.3	19°02.8	3°24.3	6.7	-18°27.5	-12.7	60.5
1	195°54.3	19°03.4	17°50.0	6.6	-18°40.1	-12.6	60.5
2	210°54.3	19°04.0	32°15.6	6.5	-18°52.6	-12.5	60.5
3	225°54.3	19°04.5	46°41.0	6.4	-19°05.0	-12.3	60.5
4	240°54.3	19°05.1	61°06.3	6.3	-19°17.3	-12.2	60.5
5	255°54.3	19°05.7	75°31.6	6.2	-19°29.5	-12.1	60.6
6	270°54.3	19°06.3	89°56.7	6.1	-19°41.6	-12.0	60.6
7	285°54.2	19°06.8	104°21.7	5.9	-19°53.5	-11.9	60.6
8	300°54.2	19°07.4	118°46.6	5.8	-20°05.3	-11.7	60.6
9	315°54.2	19°08.0	133°11.3	5.7	-20°17.0	-11.6	60.6
10	330°54.2	19°08.6	147°36.0	5.6	-20°28.5	-11.5	60.6
11	345°54.2	19°09.1	162°00.5	5.5	-20°39.9	-11.4	60.7
12	0°54.2	19°09.7	176°25.0	5.4	-20°51.2	-11.2	60.7
13	15°54.2	19°10.3	190°49.3	5.3	-21°02.4	-11.1	60.7
14	30°54.2	19°10.9	205°13.5	5.2	-21°13.4	-10.9	60.7
15	45°54.1	19°11.4	219°37.6	5.0	-21°24.2	-10.8	60.7
16	60°54.1	19°12.0	234°01.6	4.9	-21°35.0	-10.7	60.7
17	75°54.1	19°12.6	248°25.5	4.8	-21°45.6	-10.5	60.7
18	90°54.1	19°13.1	262°49.3	4.7	-21°56.0	-10.4	60.7
19	105°54.1	19°13.7	277°12.9	4.6	-22°06.3	-10.2	60.8
20	120°54.1	19°14.3	291°36.5	4.5	-22°16.4	-10.1	60.8
21	135°54.1	19°14.8	305°59.9	4.4	-22°26.4	-9.9	60.8
22	150°54.0	19°15.4	320°23.3	4.3	-22°36.3	-9.8	60.8
23	165°54.0	19°16.0	334°46.5	4.2	-22°45.9	-9.6	60.8
	SD.=15.8	d=0.6			S.D.=16.5		

Mar	AHG	Dec	AHG	v	Dec	d	HP
0	180°54.0	19°16.5	349°09.7	4.1	-22°55.5	-9.4	60.8
1	195°54.0	19°17.1	3°32.7	4.0	-23°04.8	-9.3	60.8
2	210°54.0	19°17.7	17°55.7	3.9	-23°14.0	-9.1	60.8
3	225°54.0	19°18.2	32°18.5	3.8	-23°23.1	-9.0	60.8
4	240°53.9	19°18.8	46°41.3	3.7	-23°31.9	-8.8	60.8
5	255°53.9	19°19.4	61°04.0	3.6	-23°40.6	-8.6	60.8
6	270°53.9	19°19.9	75°26.5	3.5	-23°49.2	-8.5	60.8
7	285°53.9	19°20.5	89°49.0	3.4	-23°57.5	-8.3	60.8
8	300°53.9	19°21.1	104°11.4	3.3	-24°05.7	-8.1	60.8
9	315°53.8	19°21.6	118°33.7	3.3	-24°13.8	-7.9	60.8
10	330°53.8	19°22.2	132°55.9	3.2	-24°21.6	-7.8	60.8
11	345°53.8	19°22.7	147°18.0	3.1	-24°29.3	-7.6	60.9
12	0°53.8	19°23.3	161°40.1	3.0	-24°36.8	-7.4	60.9
13	15°53.8	19°23.9	176°02.0	2.9	-24°44.1	-7.2	60.9
14	30°53.8	19°24.4	190°23.9	2.8	-24°51.2	-7.0	60.9
15	45°53.7	19°25.0	204°45.7	2.8	-24°58.1	-6.9	60.9
16	60°53.7	19°25.5	219°07.5	2.7	-25°04.9	-6.7	60.9
17	75°53.7	19°26.1	233°29.1	2.6	-25°11.5	-6.5	60.9
18	90°53.7	19°26.6	247°50.7	2.6	-25°17.9	-6.3	60.9
19	105°53.7	19°27.2	262°12.3	2.5	-25°24.1	-6.1	60.9
20	120°53.6	19°27.8	276°33.7	2.4	-25°30.1	-5.9	60.9
21	135°53.6	19°28.3	290°55.1	2.4	-25°35.9	-5.7	60.8
22	150°53.6	19°28.9	305°16.5	2.3	-25°41.5	-5.5	60.8
23	165°53.6	19°29.4	319°37.7	2.3	-25°46.9	-5.3	60.8
	SD.=15.8	d=0.6			S.D.=16.6		

Mie	AHG	Dec	AHG	v	Dec	d	HP
0	180°53.5	19°30.0	333°59.0	2.2	-25°52.2	-5.1	60.8
1	195°53.5	19°30.5	348°20.1	2.2	-25°57.2	-4.9	60.8
2	210°53.5	19°31.1	2°41.3	2.1	-26°02.1	-4.7	60.8
3	225°53.5	19°31.6	17°02.4	2.1	-26°06.7	-4.5	60.8
4	240°53.5	19°32.2	31°23.4	2.0	-26°11.2	-4.3	60.8
5	255°53.4	19°32.7	45°44.4	2.0	-26°15.4	-4.2	60.8
6	270°53.4	19°33.3	60°05.3	1.9	-26°19.5	-4.0	60.8
7	285°53.4	19°33.8	74°26.3	1.9	-26°23.3	-3.7	60.8
8	300°53.4	19°34.4	88°47.2	1.9	-26°27.0	-3.5	60.8
9	315°53.3	19°34.9	103°08.0	1.8	-26°30.4	-3.3	60.8
10	330°53.3	19°35.5	117°28.9	1.8	-26°33.7	-3.1	60.8
11	345°53.3	19°36.0	131°49.7	1.8	-26°36.7	-2.9	60.8
12	0°53.3	19°36.6	146°10.5	1.8	-26°39.5	-2.7	60.8
13	15°53.2	19°37.1	160°31.2	1.8	-26°42.2	-2.5	60.7
14	30°53.2	19°37.6	174°52.0	1.8	-26°44.6	-2.3	60.7
15	45°53.2	19°38.2	189°12.7	1.7	-26°46.8	-2.1	60.7
16	60°53.2	19°38.7	203°33.5	1.7	-26°48.8	-1.9	60.7
17	75°53.1	19°39.3	217°54.2	1.7	-26°50.7	-1.7	60.7
18	90°53.1	19°39.8	232°14.9	1.7	-26°52.3	-1.5	60.7
19	105°53.1	19°40.4	246°35.7	1.7	-26°53.7	-1.3	60.7
20	120°53.1	19°40.9	260°56.4	1.7	-26°54.9	-1.1	60.7
21	135°53.0	19°41.4	275°17.2	1.7	-26°55.9	-0.9	60.7
22	150°53.0	19°42.0	289°37.9	1.8	-26°56.7	-0.7	60.6
23	165°53.0	19°42.5	303°58.7	1.8	-26°57.3	-0.5	60.6
	SD.=15.8	d=0.6			S.D.=16.6		

Lat.	Crepúsculo Naut.	Crepúsculo Civil	Orto Sol	Crepúsculo Civil	Crepúsculo Naut.	Ocaso Sol
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	–:–	–:–	–:–
68	–:–	–:–	01:36	22:22	–:–	–:–
66	–:–	–:–	02:14	21:42	–:–	–:–
64	–:–	00:53	02:41	21:14	23:09	–:–
62	–:–	01:43	03:01	20:53	22:14	–:–
60	–:–	02:13	03:18	20:36	21:43	–:–
58	00:47	02:35	03:32	20:22	21:20	23:14
56	01:33	02:53	03:44	20:10	21:01	22:23
54	02:01	03:08	03:54	20:00	20:46	21:55
52	02:22	03:21	04:03	19:50	20:33	21:33
50	02:39	03:32	04:12	19:42	20:22	21:16
45	03:11	03:55	04:29	19:25	19:59	20:43
40	03:34	04:12	04:43	19:10	19:41	20:19
35	03:53	04:27	04:55	18:58	19:26	20:01
30	04:08	04:39	05:06	18:48	19:14	19:46
20	04:32	05:00	05:23	18:30	18:53	19:22
10	04:50	05:16	05:39	18:14	18:37	19:03
0	05:06	05:31	05:53	18:00	18:22	18:47
S 10	05:19	05:45	06:07	17:46	18:08	18:34
20	05:32	05:59	06:22	17:31	17:54	18:21
30	05:45	06:14	06:39	17:14	17:39	18:08
35	05:51	06:22	06:49	17:04	17:31	18:01
40	05:58	06:31	07:00	16:52	17:22	17:54
45	06:05	06:41	07:13	16:39	17:11	17:47
50	06:14	06:53	07:29	16:23	16:59	17:39
52	06:17	06:59	07:37	16:15	16:53	17:35
54	06:21	07:05	07:45	16:07	16:47	17:31
56	06:25	07:12	07:55	15:58	16:41	17:27
58	06:30	07:19	08:05	15:47	16:33	17:22
60	06:35	07:27	08:18	15:35	16:25	17:17

Lat.	Orto luna Lun	Orto luna Mar	Orto luna Mie	Ocaso luna Lun	Ocaso luna Mar	Ocaso luna Mie
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	01:10	–:–	–:–
68	–:–	–:–	–:–	01:56	–:–	–:–
66	23:33	–:–	–:–	02:27	01:44	–:–
64	22:40	–:–	–:–	02:50	02:38	–:–
62	22:08	–:–	00:12	03:09	03:10	03:19
60	21:44	23:34	–:–	03:24	03:35	03:58
58	21:25	23:07	–:–	03:38	03:55	04:25
56	21:09	22:46	–:–	03:49	04:11	04:47
54	20:56	22:28	23:46	03:59	04:25	05:04
52	20:44	22:13	23:29	04:08	04:37	05:20
50	20:34	22:00	23:15	04:16	04:48	05:33
45	20:12	21:34	22:47	04:33	05:11	06:00
40	19:55	21:13	22:25	04:48	05:29	06:21
35	19:40	20:55	22:06	05:00	05:45	06:39
30	19:28	20:41	21:50	05:10	05:58	06:55
20	19:06	20:15	21:23	05:28	06:21	07:21
10	18:48	19:54	21:00	05:44	06:41	07:43
0	18:31	19:33	20:39	05:59	07:00	08:04
S 10	18:14	19:13	20:17	06:15	07:19	08:25
20	17:56	18:52	19:54	06:31	07:39	08:48
30	17:35	18:27	19:28	06:49	08:02	09:14
35	17:23	18:13	19:12	07:00	08:16	09:30
40	17:09	17:56	18:54	07:13	08:32	09:48
45	16:53	17:36	18:32	07:28	08:51	10:09
50	16:33	17:11	18:04	07:46	09:15	10:37
52	16:24	16:59	17:50	07:55	09:27	10:50
54	16:14	16:46	17:35	08:05	09:40	11:06
56	16:02	16:30	17:17	08:16	09:55	11:24
58	15:48	16:12	16:54	08:28	10:13	11:46
60	15:33	15:49	16:25	08:43	10:35	12:15

Día	Sol Ec. tiempo 00:00 h	Sol Ec. tiempo 12:00 h	Sol Paso Merid	Luna Paso Meridiano Superior	Luna Paso Meridiano Inferior	Luna Edad
16	03:37	03:37	11:56	00:45	12:14	16(100%)
17	03:36	03:35	11:56	00:45	13:16	17(97%)
18	03:34	03:33	11:56	01:48	14:21	18(92%)

Mayo 19, 20, 21 (Jue, Vie, Sa)

	Aries	Venus		Martes		Júpiter		Saturno	
Jue	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	236°38.7	218°35.3	5°36.0	240°04.5	-3°18.7	234°48.6	-0°25.6	268°58.5	-14°11.6
1	251°41.2	233°35.0	5°37.1	255°05.2	-3°18.0	249°50.6	-0°25.5	284°00.9	-14°11.6
2	266°43.7	248°34.8	5°38.2	270°06.0	-3°17.3	264°52.7	-0°25.3	299°03.3	-14°11.6
3	281°46.1	263°34.5	5°39.2	285°06.7	-3°16.6	279°54.7	-0°25.1	314°05.7	-14°11.6
4	296°48.6	278°34.3	5°40.3	300°07.4	-3°15.8	294°56.7	-0°24.9	329°08.1	-14°11.5
5	311°51.1	293°34.0	5°41.3	315°08.2	-3°15.1	309°58.8	-0°24.8	344°10.5	-14°11.5
6	326°53.5	308°33.8	5°42.4	330°08.9	-3°14.4	325°00.8	-0°24.6	359°12.9	-14°11.5
7	341°56.0	323°33.5	5°43.4	345°09.7	-3°13.6	340°02.9	-0°24.4	14°15.3	-14°11.5
8	356°58.5	338°33.3	5°44.5	0°10.4	-3°12.9	355°04.9	-0°24.2	29°17.7	-14°11.5
9	12°00.9	353°33.0	5°45.5	15°11.1	-3°12.2	10°07.0	-0°24.1	44°20.1	-14°11.5
10	27°03.4	8°32.7	5°46.6	30°11.9	-3°11.5	25°09.0	-0°23.9	59°22.5	-14°11.4
11	42°05.8	23°32.5	5°47.7	45°12.6	-3°10.7	40°11.0	-0°23.7	74°24.9	-14°11.4
12	57°08.3	38°32.2	5°48.7	60°13.3	-3°10.0	55°13.1	-0°23.5	89°27.2	-14°11.4
13	72°10.8	53°32.0	5°49.8	75°14.1	-3°09.3	70°15.1	-0°23.4	104°29.6	-14°11.4
14	87°13.2	68°31.7	5°50.8	90°14.8	-3°08.6	85°17.2	-0°23.2	119°32.0	-14°11.4
15	102°15.7	83°31.5	5°51.9	105°15.6	-3°07.8	100°19.2	-0°23.0	134°34.4	-14°11.4
16	117°18.2	98°31.2	5°52.9	120°16.3	-3°07.1	115°21.3	-0°22.9	149°36.8	-14°11.4
17	132°20.6	113°31.0	5°54.0	135°17.0	-3°06.4	130°23.3	-0°22.7	164°39.2	-14°11.3
18	147°23.1	128°30.7	5°55.0	150°17.8	-3°05.6	145°25.4	-0°22.5	179°41.6	-14°11.3
19	162°25.6	143°30.5	5°56.1	165°18.5	-3°04.9	160°27.4	-0°22.3	194°44.0	-14°11.3
20	177°28.0	158°30.2	5°57.1	180°19.2	-3°04.2	175°29.4	-0°22.2	209°46.4	-14°11.3
21	192°30.5	173°29.9	5°58.2	195°20.0	-3°03.5	190°31.5	-0°22.0	224°48.8	-14°11.3
22	207°33.0	188°29.7	5°59.3	210°20.7	-3°02.7	205°33.5	-0°21.8	239°51.2	-14°11.3
23	222°35.4	203°29.4	6°00.3	225°21.5	-3°02.0	220°35.6	-0°21.6	254°53.6	-14°11.3
Mer.pass.:8:12:		v-0.3 d1.1 m-3.9		v0.7 d0.7 m0.8		v2.0 d0.2 m-2.0		v2.4 d0.0 m0.8	

Vie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	237°37.9	218°29.2	6°01.4	240°22.2	-3°01.3	235°37.6	-0°21.5	269°56.0	-14°11.2
1	252°40.3	233°28.9	6°02.4	255°22.9	-3°00.5	250°39.7	-0°21.3	284°58.4	-14°11.2
2	267°42.8	248°28.7	6°03.5	270°23.7	-2°59.8	265°41.7	-0°21.1	300°00.8	-14°11.2
3	282°45.3	263°28.4	6°04.5	285°24.4	-2°59.1	280°43.8	-0°21.0	315°03.2	-14°11.2
4	297°47.7	278°28.1	6°05.6	300°25.2	-2°58.4	295°45.8	-0°20.8	330°05.6	-14°11.2
5	312°50.2	293°27.9	6°06.6	315°25.9	-2°57.6	310°47.9	-0°20.6	345°08.0	-14°11.2
6	327°52.7	308°27.6	6°07.7	330°26.6	-2°56.9	325°49.9	-0°20.4	0°10.4	-14°11.2
7	342°55.1	323°27.4	6°08.7	345°27.4	-2°56.2	340°52.0	-0°20.3	15°12.8	-14°11.1
8	357°57.6	338°27.1	6°09.8	0°28.1	-2°55.5	355°54.0	-0°20.1	30°15.2	-14°11.1
9	13°00.1	353°26.9	6°10.8	15°28.9	-2°54.7	10°56.1	-0°19.9	45°17.6	-14°11.1
10	28°02.5	8°26.6	6°11.9	30°29.6	-2°54.0	25°58.1	-0°19.8	60°20.0	-14°11.1
11	43°05.0	23°26.3	6°12.9	45°30.3	-2°53.3	41°00.2	-0°19.6	75°22.4	-14°11.1
12	58°07.5	38°26.1	6°14.0	60°31.1	-2°52.5	56°02.2	-0°19.4	90°24.8	-14°11.1
13	73°09.9	53°25.8	6°15.1	75°31.8	-2°51.8	71°04.2	-0°19.2	105°27.2	-14°11.1
14	88°12.4	68°25.6	6°16.1	90°32.6	-2°51.1	86°06.3	-0°19.1	120°29.6	-14°11.0
15	103°14.8	83°25.3	6°17.2	105°33.3	-2°50.4	101°08.3	-0°18.9	135°32.0	-14°11.0
16	118°17.3	98°25.0	6°18.2	120°34.0	-2°49.6	116°10.4	-0°18.7	150°34.4	-14°11.0
17	133°19.8	113°24.8	6°19.3	135°34.8	-2°48.9	131°12.4	-0°18.6	165°36.8	-14°11.0
18	148°22.2	128°24.5	6°20.3	150°35.5	-2°48.2	146°14.5	-0°18.4	180°39.2	-14°11.0
19	163°24.7	143°24.2	6°21.4	165°36.3	-2°47.4	161°16.5	-0°18.2	195°41.6	-14°11.0
20	178°27.2	158°24.0	6°22.4	180°37.0	-2°46.7	176°18.6	-0°18.0	210°44.0	-14°11.0
21	193°29.6	173°23.7	6°23.5	195°37.7	-2°46.0	191°20.6	-0°17.9	225°46.4	-14°10.9
22	208°32.1	188°23.5	6°24.5	210°38.5	-2°45.3	206°22.7	-0°17.7	240°48.8	-14°10.9
23	223°34.6	203°23.2	6°25.6	225°39.2	-2°44.5	221°24.7	-0°17.5	255°51.2	-14°10.9
Mer.pass.:8:08:		v-0.3 d1.1 m-3.9		v0.7 d0.7 m0.7		v2.0 d0.2 m-2.0		v2.4 d0.0 m0.8	

Sa	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	238°37.0	218°22.9	6°26.6	240°40.0	-2°43.8	236°26.8	-0°17.4	270°53.6	-14°10.9
1	253°39.5	233°22.7	6°27.7	255°40.7	-2°43.1	251°28.8	-0°17.2	285°56.0	-14°10.9
2	268°42.0	248°22.4	6°28.7	270°41.4	-2°42.3	266°30.9	-0°17.0	300°58.4	-14°10.9
3	283°44.4	263°22.1	6°29.8	285°42.2	-2°41.6	281°32.9	-0°16.9	316°00.8	-14°10.9
4	298°46.9	278°21.9	6°30.8	300°42.9	-2°40.9	296°35.0	-0°16.7	331°03.2	-14°10.8
5	313°49.3	293°21.6	6°31.9	315°43.7	-2°40.2	311°37.0	-0°16.5	346°05.6	-14°10.8
6	328°51.8	308°21.3	6°32.9	330°44.4	-2°39.4	326°39.1	-0°16.3	1°08.0	-14°10.8
7	343°54.3	323°21.1	6°34.0	345°45.1	-2°38.7	341°41.1	-0°16.2	16°10.4	-14°10.8
8	358°56.7	338°20.8	6°35.0	0°45.9	-2°38.0	356°43.2	-0°16.0	31°12.8	-14°10.8
9	13°59.2	353°20.6	6°36.1	15°46.6	-2°37.3	11°45.2	-0°15.8	46°15.3	-14°10.8
10	29°01.7	8°20.3	6°37.1	30°47.4	-2°36.5	26°47.3	-0°15.7	61°17.7	-14°10.8
11	44°04.1	23°20.0	6°38.2	45°48.1	-2°35.8	41°49.3	-0°15.5	76°20.1	-14°10.8
12	59°06.6	38°19.8	6°39.2	60°48.9	-2°35.1	56°51.4	-0°15.3	91°22.5	-14°10.7
13	74°09.1	53°19.5	6°40.3	75°49.6	-2°34.3	71°53.5	-0°15.2	106°24.9	-14°10.7
14	89°11.5	68°19.2	6°41.3	90°50.3	-2°33.6	86°55.5	-0°15.0	121°27.3	-14°10.7
15	104°14.0	83°19.0	6°42.4	105°51.1	-2°32.9	101°57.6	-0°14.8	136°29.7	-14°10.7
16	119°16.5	98°18.7	6°43.4	120°51.8	-2°32.2	116°59.6	-0°14.6	151°32.1	-14°10.7
17	134°18.9	113°18.4	6°44.5	135°52.6	-2°31.4	132°01.7	-0°14.5	166°34.5	-14°10.7
18	149°21.4	128°18.1	6°45.5	150°53.3	-2°30.7	147°03.7	-0°14.3	181°36.9	-14°10.7
19	164°23.8	143°17.9	6°46.6	165°54.0	-2°30.0	162°05.8	-0°14.1	196°39.3	-14°10.7
20	179°26.3	158°17.6	6°47.6	180°54.8	-2°29.2	177°07.8	-0°14.0	211°41.7	-14°10.6
21	194°28.8	173°17.3	6°48.7	195°55.5	-2°28.5	192°09.9	-0°13.8	226°44.1	-14°10.6
22	209°31.2	188°17.1	6°49.7	210°56.3	-2°27.8	207°11.9	-0°13.6	241°46.5	-14°10.6
23	224°33.7	203°16.8	6°50.8	225°57.0	-2°27.1	222°14.0	-0°13.5	256°48.9	-14°10.6
Mer.pass.:8:04:		v-0.3 d1.1 m-3.9		v0.7 d0.7 m0.7		v2.1 d0.2 m-2.0		v2.4 d0.0 m0.8	

Estrellas

	AHS	Dec
Alpheratz	357°37.2	29°12.6
Ankaa	353°09.6	-42°11.0
Schedar	349°33.9	56°39.3
Diphda	348°49.6	-17°51.9
Achernar	335°22.4	-57°07.3
Hamal	327°54.0	23°33.9
Polaris	315°32.7	89°21.4
Akamar	315°13.9	-40°13.0
Menkar	314°08.8	4°10.5
Mirfak	308°31.9	49°56.3
Aldebaran	290°42.5	16°33.2
Rigel	281°06.3	-8°10.7
Capella	280°25.6	46°01.3
Bellatrix	278°25.5	6°22.1
Elnath	278°05.0	28°37.5
Alnilam	275°40.3	-1°11.4
Betelgeuse	270°54.8	7°24.6
Canopus	263°53.8	-52°42.6
Sirius	258°28.3	-16°44.7
Adara	255°07.8	-29°00.3
Procyon	244°53.2	5°10.2
Pollux	243°20.1	27°58.4
Avior	234°15.9	-59°35.1
Suhail	222°48.0	-43°31.6
Miaplacidus	221°38.9	-69°48.8
Alphard	217°49.9	-8°45.4
Regulus	207°36.7	11°51.5
Dubhe	193°43.5	61°38.2
Denebola	182°27.0	14°26.9
Gienah	175°45.6	-17°40.0
Acrux	173°02.1	-63°13.6
Gacrux	171°53.7	-57°14.5
Alioth	166°14.6	55°50.5
Spica	158°24.3	-11°16.7
Alcaid	152°53.3	49°12.3
Hadar	148°38.5	-60°28.9
Menkent	147°59.8	-36°28.9
Arcturus	145°49.5	19°04.3
Rigil Kent.	139°42.6	-60°55.7
Zubenelg.	136°58.1	-16°08.1
Kochab	137°18.6	74°03.9
Alphecca	126°05.3	26°38.4
Antares	112°18.1	-26°28.9
Atria	107°13.8	-69°03.9
Sabik	102°05.0	-15°45.2
Shaula	96°13.0	-37°07.1
Rasalhague	96°00.3	12°32.6
Etamin	90°42.7	51°29.0
Kaus Aust.	83°35.1	-34°22.3
Vega	80°34.4	38°48.0
Nunki	75°50.2	-26°16.1
Altair	62°02.0	8°55.4
Peacock	53°08.9	-56°39.6
Deneb	49°27.1	45°21.3
Enif	33°40.9	9°58.5
Alnair	27°35.7	-46°51.0
Fomalhaut	15°17.1	-29°30.2
Scheat	13°47.5	28°11.9
Markab	13°32.2	15°19.3

May 19 Jue	AHS	Paso Merid
Venus	341°56.5	09:26
Mars	3°25.7	07:59
Jupiter	358°09.8	08:20
Saturn	32°19.8	06:03

May 20 Vie	AHS	Paso Merid
Venus	340°51.3	09:26
Mars	2°44.3	07:58
Jupiter	357°59.7	08:16
Saturn	32°18.1	05:59

May 21 Sa	AHS	Paso Merid
Venus	339°45.9	09:27
Mars	2°02.9	07:57
Jupiter	357°49.8	08:13
Saturn	32°16.6	05:55

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.1

h Sol Luna

Jue	AHG	Dec	AHG	v	Dec	d	HP
0	180°52.9	19°43.1	318°19.5	1.8	-26°57.6	-0.3	60.6
1	195°52.9	19°43.6	332°40.3	1.8	-26°57.8	-0.1	60.6
2	210°52.9	19°44.1	347°01.1	1.8	-26°57.8	0.1	60.6
3	225°52.9	19°44.7	1°22.0	1.9	-26°57.6	0.3	60.6
4	240°52.8	19°45.2	15°42.8	1.9	-26°57.1	0.5	60.5
5	255°52.8	19°45.7	30°03.8	1.9	-26°56.5	0.7	60.5
6	270°52.8	19°46.3	44°24.7	2.0	-26°55.7	0.9	60.5
7	285°52.7	19°46.8	58°45.7	2.0	-26°54.6	1.1	60.5
8	300°52.7	19°47.4	73°06.7	2.0	-26°53.4	1.3	60.5
9	315°52.7	19°47.9	87°27.8	2.1	-26°51.9	1.5	60.5
10	330°52.7	19°48.4	101°48.9	2.1	-26°50.3	1.7	60.4
11	345°52.6	19°49.0	116°10.1	2.2	-26°48.5	1.9	60.4
12	0°52.6	19°49.5	130°31.3	2.2	-26°46.4	2.1	60.4
13	15°52.6	19°50.0	144°52.6	2.3	-26°44.2	2.3	60.4
14	30°52.5	19°50.5	159°13.9	2.4	-26°41.8	2.5	60.4
15	45°52.5	19°51.1	173°35.3	2.4	-26°39.1	2.7	60.3
16	60°52.5	19°51.6	187°56.7	2.5	-26°36.3	2.9	60.3
17	75°52.4	19°52.1	202°18.3	2.6	-26°33.3	3.1	60.3
18	90°52.4	19°52.7	216°39.9	2.6	-26°30.1	3.3	60.3
19	105°52.4	19°53.2	231°01.5	2.7	-26°26.7	3.5	60.3
20	120°52.3	19°53.7	245°23.2	2.8	-26°23.1	3.7	60.2
21	135°52.3	19°54.2	259°45.1	2.8	-26°19.3	3.9	60.2
22	150°52.3	19°54.8	274°06.9	2.9	-26°15.4	4.1	60.2
23	165°52.2	19°55.3	288°28.9	3.0	-26°11.2	4.2	60.2
	SD.=15.8	d=0.5			S.D.=16.5		

Vie	AHG	Dec	AHG	v	Dec	d	HP
0	180°52.2	19°55.8	302°51.0	3.1	-26°06.9	4.4	60.1
1	195°52.2	19°56.3	317°13.1	3.2	-26°02.4	4.6	60.1
2	210°52.1	19°56.9	331°35.3	3.3	-25°57.7	4.8	60.1
3	225°52.1	19°57.4	345°57.6	3.4	-25°52.8	5.0	60.1
4	240°52.1	19°57.9	0°20.0	3.4	-25°47.7	5.2	60.1
5	255°52.0	19°58.4	14°42.5	3.5	-25°42.5	5.3	60.0
6	270°52.0	19°59.0	29°05.1	3.6	-25°37.1	5.5	60.0
7	285°52.0	19°59.5	43°27.8	3.7	-25°31.5	5.7	60.0
8	300°51.9	20°00.0	57°50.6	3.8	-25°25.7	5.9	60.0
9	315°51.9	20°00.5	72°13.4	3.9	-25°19.8	6.0	59.9
10	330°51.9	20°01.0	86°36.4	4.0	-25°13.7	6.2	59.9
11	345°51.8	20°01.6	100°59.5	4.1	-25°07.4	6.4	59.9
12	0°51.8	20°02.1	115°22.7	4.2	-25°00.9	6.5	59.9
13	15°51.7	20°02.6	129°46.0	4.3	-24°54.3	6.7	59.8
14	30°51.7	20°03.1	144°09.4	4.5	-24°47.5	6.9	59.8
15	45°51.7	20°03.6	158°32.9	4.6	-24°40.6	7.0	59.8
16	60°51.6	20°04.1	172°56.5	4.7	-24°33.5	7.2	59.7
17	75°51.6	20°04.7	187°20.2	4.8	-24°26.3	7.3	59.7
18	90°51.6	20°05.2	201°44.1	4.9	-24°18.9	7.5	59.7
19	105°51.5	20°05.7	216°08.0	5.0	-24°11.3	7.6	59.7
20	120°51.5	20°06.2	230°32.1	5.1	-24°03.6	7.8	59.6
21	135°51.4	20°06.7	244°56.3	5.2	-23°55.7	7.9	59.6
22	150°51.4	20°07.2	259°20.6	5.4	-23°47.7	8.1	59.6
23	165°51.4	20°07.7	273°45.0	5.5	-23°39.5	8.2	59.6
	SD.=15.8	d=0.5			S.D.=16.4		

Sa	AHG	Dec	AHG	v	Dec	d	HP
0	180°51.3	20°08.2	288°09.6	5.6	-23°31.2	8.4	59.5
1	195°51.3	20°08.7	302°34.2	5.7	-23°22.7	8.5	59.5
2	210°51.2	20°09.3	316°59.0	5.8	-23°14.1	8.7	59.5
3	225°51.2	20°09.8	331°23.9	6.0	-23°05.4	8.8	59.4
4	240°51.2	20°10.3	345°48.9	6.1	-22°56.5	9.0	59.4
5	255°51.1	20°10.8	0°14.0	6.2	-22°47.5	9.1	59.4
6	270°51.1	20°11.3	14°39.3	6.3	-22°38.3	9.2	59.4
7	285°51.0	20°11.8	29°04.6	6.4	-22°29.0	9.4	59.3
8	300°51.0	20°12.3	43°30.1	6.6	-22°19.6	9.5	59.3
9	315°51.0	20°12.8	57°55.8	6.7	-22°10.1	9.6	59.3
10	330°50.9	20°13.3	72°21.5	6.8	-22°00.4	9.7	59.2
11	345°50.9	20°13.8	86°47.4	6.9	-21°50.6	9.9	59.2
12	0°50.8	20°14.3	101°13.3	7.0	-21°40.7	10.0	59.2
13	15°50.8	20°14.8	115°39.4	7.2	-21°30.6	10.1	59.2
14	30°50.8	20°15.3	130°05.7	7.3	-21°20.5	10.2	59.1
15	45°50.7	20°15.8	144°32.0	7.4	-21°10.2	10.3	59.1
16	60°50.7	20°16.3	158°58.5	7.5	-20°59.8	10.5	59.1
17	75°50.6	20°16.8	173°25.1	7.7	-20°49.3	10.6	59.0
18	90°50.6	20°17.3	187°51.8	7.8	-20°38.6	10.7	59.0
19	105°50.5	20°17.8	202°18.6	7.9	-20°27.9	10.8	59.0
20	120°50.5	20°18.3	216°45.6	8.0	-20°17.0	10.9	58.9
21	135°50.4	20°18.8	231°12.7	8.1	-20°06.1	11.0	58.9
22	150°50.4	20°19.3	245°39.9	8.3	-19°55.0	11.1	58.9
23	165°50.4	20°19.8	260°07.2	8.4	-19°43.9	11.2	58.9
	SD.=15.8	d=0.5			S.D.=16.2		

Lat.	Crepúsculo Naut.	Crepúsculo Civil	Orto Sol	Crepúsculo Civil	Crepúsculo Naut.	Ocaso Sol
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	–:–	–:–	–:–
68	–:–	–:–	01:17	22:42	–:–	–:–
66	–:–	–:–	02:02	21:54	–:–	–:–
64	–:–	00:14	02:32	21:24	–:–	–:–
62	–:–	01:29	02:54	21:01	22:28	–:–
60	–:–	02:03	03:11	20:43	21:53	–:–
58	00:12	02:28	03:26	20:28	21:28	–:–
56	01:21	02:47	03:39	20:16	21:08	22:36
54	01:52	03:02	03:50	20:05	20:52	22:04
52	02:15	03:16	03:59	19:55	20:39	21:40
50	02:33	03:27	04:08	19:46	20:27	21:22
45	03:06	03:51	04:26	19:28	20:03	20:48
40	03:31	04:10	04:41	19:13	19:44	20:23
35	03:50	04:25	04:53	19:00	19:29	20:04
30	04:06	04:37	05:04	18:50	19:16	19:48
20	04:30	04:58	05:22	18:31	18:55	19:23
10	04:49	05:16	05:38	18:15	18:37	19:04
0	05:05	05:31	05:53	18:00	18:22	18:48
S 10	05:20	05:45	06:08	17:45	18:08	18:33
20	05:33	06:00	06:23	17:30	17:53	18:20
30	05:46	06:15	06:41	17:12	17:38	18:07
35	05:53	06:24	06:51	17:02	17:29	18:00
40	06:00	06:33	07:03	16:50	17:19	17:52
45	06:08	06:44	07:17	16:36	17:08	17:44
50	06:17	06:57	07:33	16:19	16:56	17:36
52	06:21	07:03	07:41	16:11	16:50	17:32
54	06:25	07:09	07:50	16:03	16:43	17:27
56	06:30	07:16	08:00	15:53	16:36	17:23
58	06:34	07:24	08:11	15:42	16:28	17:18
60	06:40	07:33	08:24	15:29	16:20	17:13

Lat.	Orto luna Jue	Orto luna Vie	Orto luna Sa	Ocaso luna Jue	Ocaso luna Vie	Ocaso luna Sa
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	–:–	–:–	–:–
68	–:–	–:–	–:–	–:–	–:–	–:–
66	–:–	–:–	03:50	–:–	–:–	06:21
64	–:–	03:47	03:01	–:–	04:18	07:09
62	01:49	02:23	02:30	04:00	05:41	07:40
60	01:00	01:46	02:06	04:49	06:18	08:03
58	00:28	01:20	01:47	05:21	06:44	08:21
56	00:05	00:59	01:31	05:44	07:04	08:37
54	–:–	00:41	01:18	06:03	07:21	08:50
52	–:–	00:26	01:06	06:19	07:36	09:01
50	–:–	00:13	00:55	06:33	07:49	09:12
45	23:47	–:–	00:32	07:02	08:15	09:33
40	23:26	–:–	00:14	07:24	08:35	09:50
35	23:08	23:59	–:–	07:43	08:52	10:04
30	22:53	23:46	–:–	07:58	09:07	10:17
20	22:27	23:23	–:–	08:25	09:32	10:38
10	22:04	23:04	23:57	08:48	09:54	10:56
0	21:44	22:45	23:42	09:10	10:13	11:13
S 10	21:23	22:27	23:27	09:31	10:33	11:29
20	21:00	22:07	23:11	09:54	10:54	11:47
30	20:34	21:44	22:52	10:21	11:19	12:08
35	20:19	21:30	22:41	10:36	11:33	12:19
40	20:01	21:14	22:29	10:54	11:49	12:33
45	19:40	20:56	22:14	11:16	12:09	12:49
50	19:12	20:32	21:56	11:44	12:33	13:08
52	18:59	20:21	21:47	11:57	12:45	13:18
54	18:44	20:08	21:38	12:13	12:58	13:28
56	18:26	19:53	21:27	12:31	13:14	13:40
58	18:04	19:36	21:14	12:53	13:32	13:53
60	17:36	19:14	20:59	13:21	13:54	14:08

Día	Sol Ec. tiempo 00:00 h	Sol Ec. tiempo 12:00 h	Sol Paso Merid	Luna Paso Meridiano Superior	Luna Paso Meridiano Inferior	Luna Edad
19	03:32	03:30	11:56	02:54	15:26	19(85%)
20	03:29	03:27	11:56	03:58	16:29	20(75%)
21	03:25	03:23	11:56	04:59	17:27	21(64%)

Mayo 22, 23, 24 (Dom, Lun, Mar)

	Aries	Venus		Martes		Júpiter		Saturno	
Dom	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	239°36.2	218°16.5	6°51.8	240°57.8	-2°26.3	237°16.0	-0°13.3	271°51.3	-14°10.6
1	254°38.6	233°16.3	6°52.9	255°58.5	-2°25.6	252°18.1	-0°13.1	286°53.7	-14°10.6
2	269°41.1	248°16.0	6°53.9	270°59.2	-2°24.9	267°20.1	-0°13.0	301°56.1	-14°10.6
3	284°43.6	263°15.7	6°55.0	286°00.0	-2°24.1	282°22.2	-0°12.8	316°58.5	-14°10.6
4	299°46.0	278°15.5	6°56.0	301°00.7	-2°23.4	297°24.2	-0°12.6	332°01.0	-14°10.6
5	314°48.5	293°15.2	6°57.1	316°01.5	-2°22.7	312°26.3	-0°12.5	347°03.4	-14°10.5
6	329°50.9	308°14.9	6°58.1	331°02.2	-2°22.0	327°28.4	-0°12.3	2°05.8	-14°10.5
7	344°53.4	323°14.6	6°59.2	346°03.0	-2°21.2	342°30.4	-0°12.1	17°08.2	-14°10.5
8	359°55.9	338°14.4	7°00.2	1°03.7	-2°20.5	357°32.5	-0°11.9	32°10.6	-14°10.5
9	14°58.3	353°14.1	7°01.3	16°04.4	-2°19.8	12°34.5	-0°11.8	47°13.0	-14°10.5
10	30°00.8	8°13.8	7°02.3	31°05.2	-2°19.0	27°36.6	-0°11.6	62°15.4	-14°10.5
11	45°03.3	23°13.6	7°03.3	46°05.9	-2°18.3	42°38.6	-0°11.4	77°17.8	-14°10.5
12	60°05.7	38°13.3	7°04.4	61°06.7	-2°17.6	57°40.7	-0°11.3	92°20.2	-14°10.5
13	75°08.2	53°13.0	7°05.4	76°07.4	-2°16.9	72°42.7	-0°11.1	107°22.6	-14°10.4
14	90°10.7	68°12.7	7°06.5	91°08.2	-2°16.1	87°44.8	-0°10.9	122°25.0	-14°10.4
15	105°13.1	83°12.5	7°07.5	106°08.9	-2°15.4	102°46.9	-0°10.8	137°27.4	-14°10.4
16	120°15.6	98°12.2	7°08.6	121°09.6	-2°14.7	117°48.9	-0°10.6	152°29.8	-14°10.4
17	135°18.1	113°11.9	7°09.6	136°10.4	-2°13.9	132°51.0	-0°10.4	167°32.3	-14°10.4
18	150°20.5	128°11.6	7°10.7	151°11.1	-2°13.2	147°53.0	-0°10.3	182°34.7	-14°10.4
19	165°23.0	143°11.4	7°11.7	166°11.9	-2°12.5	162°55.1	-0°10.1	197°37.1	-14°10.4
20	180°25.4	158°11.1	7°12.8	181°12.6	-2°11.8	177°57.1	-0°09.9	212°39.5	-14°10.4
21	195°27.9	173°10.8	7°13.8	196°13.4	-2°11.0	192°59.2	-0°09.8	227°41.9	-14°10.4
22	210°30.4	188°10.5	7°14.9	211°14.1	-2°10.3	208°01.3	-0°09.6	242°44.3	-14°10.4
23	225°32.8	203°10.3	7°15.9	226°14.9	-2°09.6	223°03.3	-0°09.4	257°46.7	-14°10.3
Mer.pass.:8:00:		v-0.3 d1.0 m-3.9		v0.7 d0.7 m0.7		v2.1 d0.2 m-2.0		v2.4 d0.0 m0.8	

Lun	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	240°35.3	218°10.0	7°16.9	241°15.6	-2°08.9	238°05.4	-0°09.3	272°49.1	-14°10.3
1	255°37.8	233°09.7	7°18.0	256°16.3	-2°08.1	253°07.4	-0°09.1	287°51.5	-14°10.3
2	270°40.2	248°09.4	7°19.0	271°17.1	-2°07.4	268°09.5	-0°08.9	302°53.9	-14°10.3
3	285°42.7	263°09.2	7°20.1	286°17.8	-2°06.7	283°11.5	-0°08.8	317°56.4	-14°10.3
4	300°45.2	278°08.9	7°21.1	301°18.6	-2°05.9	298°13.6	-0°08.6	332°58.8	-14°10.3
5	315°47.6	293°08.6	7°22.2	316°19.3	-2°05.2	313°15.7	-0°08.4	348°01.2	-14°10.3
6	330°50.1	308°08.3	7°23.2	331°20.1	-2°04.5	328°17.7	-0°08.3	3°03.6	-14°10.3
7	345°52.6	323°08.0	7°24.2	346°20.8	-2°03.8	343°19.8	-0°08.1	18°06.0	-14°10.3
8	0°55.0	338°07.8	7°25.3	1°21.6	-2°03.0	358°21.8	-0°07.9	33°08.4	-14°10.2
9	15°57.5	353°07.5	7°26.3	16°22.3	-2°02.3	13°23.9	-0°07.8	48°10.8	-14°10.2
10	30°59.9	8°07.2	7°27.4	31°23.0	-2°01.6	28°26.0	-0°07.6	63°13.2	-14°10.2
11	46°02.4	23°06.9	7°28.4	46°23.8	-2°00.8	43°28.0	-0°07.4	78°15.6	-14°10.2
12	61°04.9	38°06.6	7°29.5	61°24.5	-2°00.1	58°30.1	-0°07.3	93°18.1	-14°10.2
13	76°07.3	53°06.4	7°30.5	76°25.3	-1°59.4	73°32.1	-0°07.1	108°20.5	-14°10.2
14	91°09.8	68°06.1	7°31.5	91°26.0	-1°58.7	88°34.2	-0°06.9	123°22.9	-14°10.2
15	106°12.3	83°05.8	7°32.6	106°26.8	-1°57.9	103°36.3	-0°06.8	138°25.3	-14°10.2
16	121°14.7	98°05.5	7°33.6	121°27.5	-1°57.2	118°38.3	-0°06.6	153°27.7	-14°10.2
17	136°17.2	113°05.2	7°34.7	136°28.3	-1°56.5	133°40.4	-0°06.4	168°30.1	-14°10.2
18	151°19.7	128°05.0	7°35.7	151°29.0	-1°55.7	148°42.4	-0°06.3	183°32.5	-14°10.1
19	166°22.1	143°04.7	7°36.8	166°29.8	-1°55.0	163°44.5	-0°06.1	198°34.9	-14°10.1
20	181°24.6	158°04.4	7°37.8	181°30.5	-1°54.3	178°46.6	-0°05.9	213°37.4	-14°10.1
21	196°27.0	173°04.1	7°38.8	196°31.3	-1°53.6	193°48.6	-0°05.8	228°39.8	-14°10.1
22	211°29.5	188°03.8	7°39.9	211°32.0	-1°52.8	208°50.7	-0°05.6	243°42.2	-14°10.1
23	226°32.0	203°03.6	7°40.9	226°32.7	-1°52.1	223°52.7	-0°05.5	258°44.6	-14°10.1
Mer.pass.:7:56:		v-0.3 d1.0 m-3.9		v0.7 d0.7 m0.7		v2.1 d0.2 m-2.1		v2.4 d0.0 m0.8	

Mar	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	241°34.4	218°03.3	7°42.0	241°33.5	-1°51.4	238°54.8	-0°05.3	273°47.0	-14°10.1
1	256°36.9	233°03.0	7°43.0	256°34.2	-1°50.6	253°56.9	-0°05.1	288°49.4	-14°10.1
2	271°39.4	248°02.7	7°44.0	271°35.0	-1°49.9	268°58.9	-0°05.0	303°51.8	-14°10.1
3	286°41.8	263°02.4	7°45.1	286°35.7	-1°49.2	284°01.0	-0°04.8	318°54.3	-14°10.1
4	301°44.3	278°02.1	7°46.1	301°36.5	-1°48.5	299°03.1	-0°04.6	333°56.7	-14°10.1
5	316°46.8	293°01.8	7°47.2	316°37.2	-1°47.7	314°05.1	-0°04.5	348°59.1	-14°10.0
6	331°49.2	308°01.6	7°48.2	331°38.0	-1°47.0	329°07.2	-0°04.3	4°01.5	-14°10.0
7	346°51.7	323°01.3	7°49.2	346°38.7	-1°46.3	344°09.2	-0°04.1	19°03.9	-14°10.0
8	1°54.2	338°01.0	7°50.3	1°39.5	-1°45.6	359°11.3	-0°04.0	34°06.3	-14°10.0
9	16°56.6	353°00.7	7°51.3	16°40.2	-1°44.8	14°13.4	-0°03.8	49°08.7	-14°10.0
10	31°59.1	8°00.4	7°52.4	31°41.0	-1°44.1	29°15.4	-0°03.6	64°11.2	-14°10.0
11	47°01.5	23°00.1	7°53.4	46°41.7	-1°43.4	44°17.5	-0°03.5	79°13.6	-14°10.0
12	62°04.0	37°59.8	7°54.4	61°42.4	-1°42.6	59°19.6	-0°03.3	94°16.0	-14°10.0
13	77°06.5	52°59.6	7°55.5	76°43.2	-1°41.9	74°21.6	-0°03.2	109°18.4	-14°10.0
14	92°08.9	67°59.3	7°56.5	91°43.9	-1°41.2	89°23.7	-0°03.0	124°20.8	-14°10.0
15	107°11.4	82°59.0	7°57.6	106°44.7	-1°40.5	104°25.8	-0°02.8	139°23.2	-14°10.0
16	122°13.9	97°58.7	7°58.6	121°45.4	-1°39.7	119°27.8	-0°02.7	154°25.7	-14°10.0
17	137°16.3	112°58.4	7°59.6	136°46.2	-1°39.0	134°29.9	-0°02.5	169°28.1	-14°09.9
18	152°18.8	127°58.1	8°00.7	151°46.9	-1°38.3	149°31.9	-0°02.3	184°30.5	-14°09.9
19	167°21.3	142°57.8	8°01.7	166°47.7	-1°37.5	164°34.0	-0°02.2	199°32.9	-14°09.9
20	182°23.7	157°57.5	8°02.7	181°48.4	-1°36.8	179°36.1	-0°02.0	214°35.3	-14°09.9
21	197°26.2	172°57.3	8°03.8	196°49.2	-1°36.1	194°38.1	-0°01.8	229°37.7	-14°09.9
22	212°28.7	187°57.0	8°04.8	211°49.9	-1°35.4	209°40.2	-0°01.7	244°40.2	-14°09.9
23	227°31.1	202°56.7	8°05.9	226°50.7	-1°34.6	224°42.3	-0°01.5	259°42.6	-14°09.9
Mer.pass.:7:52:		v-0.3 d1.0 m-3.9		v0.7 d0.7 m0.7		v2.1 d0.2 m-2.1		v2.4 d0.0 m0.8	

Estrellas

	AHS	Dec
Alpheratz	357°37.2	29°12.6
Ankaa	353°09.6	-42°11.0
Schedar	349°33.9	56°39.3
Diphda	348°49.6	-17°51.9
Achernar	335°22.4	-57°07.3
Hamal	327°54.0	23°33.9
Polaris	315°32.3	89°21.3
Akamar	315°13.9	-40°12.9
Menkar	314°08.8	4°10.5
Mirfak	308°31.9	49°56.3
Aldebaran	290°42.5	16°33.2
Rigel	281°06.3	-8°10.7
Capella	280°25.6	46°01.3
Bellatrix	278°25.5	6°22.1
Elnath	278°05.0	28°37.5
Alnilam	275°40.3	-1°11.3
Betelgeuse	270°54.8	7°24.6
Canopus	263°53.8	-52°42.6
Sirius	258°28.3	-16°44.7
Adara	255°07.9	-29°00.3
Procyon	244°53.2	5°10.2
Pollux	243°20.1	27°58.4
Avior	234°15.9	-59°35.1
Suhail	222°48.0	-43°31.6
Miaplacidus	221°38.9	-69°48.8
Alphard	217°50.0	-8°45.4
Regulus	207°36.7	11°51.5
Dubhe	193°43.5	61°38.2
Denebola	182°27.0	14°26.9
Gienah	175°45.6	-17°40.0
Acrux	173°02.1	-63°13.6
Gacrux	171°53.7	-57°14.5
Alioth	166°14.6	55°50.6
Spica	158°24.3	-11°16.7
Alcaid	152°53.3	49°12.3
Hadar	148°38.5	-60°28.9
Menkent	147°59.8	-36°28.9
Arcturus	145°49.5	19°04.3
Rigil Kent.	139°42.6	-60°55.7
Zubenelg.	136°58.1	-16°08.1
Kochab	137°18.7	74°03.9
Alphecca	126°05.2	26°38.4
Antares	112°18.1	-26°28.9
Atria	107°13.8	-69°04.0
Sabik	102°04.9	-15°45.2
Shaula	96°12.9	-37°07.1
Rasalhague	96°00.3	12°32.6
Etamin	90°42.7	51°29.0
Kaus Aust.	83°35.1	-34°22.4
Vega	80°34.4	38°48.0
Nunki	75°50.2	-26°16.1
Altair	62°02.0	8°55.5
Peacock	53°08.9	-56°39.6
Deneb	49°27.1	45°21.3
Enif	33°40.9	9°58.5
Alnair	27°35.7	-46°51.0
Fomalhaut	15°17.1	-29°30.2
Scheat	13°47.4	28°11.9
Markab	13°32.2	15°19.3

May 22 Dom	AHS	Paso Merid
Venus	338°40.4	09:27
Mars	1°21.6	07:56
Jupiter	357°39.9	08:10
Saturn	32°15.2	05:52

May 23 Lun	AHS	Paso Merid
Venus	337°34.7	09:28
Mars	0°40.3	07:55
Jupiter	357°30.1	08:07
Saturn	32°13.8	05:48

May 24 Mar	AHS	Paso Merid
Venus	336°28.8	09:28
Mars	359°59.0	07:53
Jupiter	357°20.4	08:03
Saturn	32°12.6	05:44

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.1

h Sol Luna

Dom	AHG	Dec	AHG	v	Dec	d	HP
0	180°50.3	20°20.3	274°34.6	8.5	-19°32.6	11.3	58.8
1	195°50.3	20°20.8	289°02.2	8.6	-19°21.2	11.4	58.8
2	210°50.2	20°21.3	303°29.9	8.7	-19°09.8	11.5	58.8
3	225°50.2	20°21.8	317°57.7	8.9	-18°58.2	11.6	58.7
4	240°50.1	20°22.3	332°25.6	9.0	-18°46.5	11.7	58.7
5	255°50.1	20°22.8	346°53.6	9.1	-18°34.8	11.8	58.7
6	270°50.0	20°23.3	1°21.7	9.2	-18°22.9	11.9	58.6
7	285°50.0	20°23.8	15°50.0	9.3	-18°11.0	12.0	58.6
8	300°49.9	20°24.3	30°18.4	9.4	-17°59.0	12.1	58.6
9	315°49.9	20°24.8	44°46.8	9.5	-17°46.9	12.1	58.5
10	330°49.8	20°25.2	59°15.4	9.7	-17°34.7	12.2	58.5
11	345°49.8	20°25.7	73°44.2	9.8	-17°22.4	12.3	58.5
12	0°49.8	20°26.2	88°13.0	9.9	-17°10.1	12.4	58.5
13	15°49.7	20°26.7	102°41.9	10.0	-16°57.6	12.5	58.4
14	30°49.7	20°27.2	117°11.0	10.1	-16°45.1	12.5	58.4
15	45°49.6	20°27.7	131°40.1	10.2	-16°32.5	12.6	58.4
16	60°49.6	20°28.2	146°09.4	10.3	-16°19.9	12.7	58.3
17	75°49.5	20°28.7	160°38.7	10.4	-16°07.2	12.8	58.3
18	90°49.5	20°29.1	175°08.2	10.5	-15°54.3	12.8	58.3
19	105°49.4	20°29.6	189°37.8	10.6	-15°41.5	12.9	58.2
20	120°49.4	20°30.1	204°07.5	10.7	-15°28.5	13.0	58.2
21	135°49.3	20°30.6	218°37.2	10.8	-15°15.5	13.0	58.2
22	150°49.3	20°31.1	233°07.1	10.9	-15°02.4	13.1	58.1
23	165°49.2	20°31.6	247°37.1	11.0	-14°49.3	13.2	58.1
	SD.=15.8	d=0.5			S.D.=16.0		

Lun	AHG	Dec	AHG	v	Dec	d	HP
0	180°49.2	20°32.0	262°07.2	11.1	-14°36.1	13.2	58.1
1	195°49.1	20°32.5	276°37.4	11.2	-14°22.8	13.3	58.1
2	210°49.1	20°33.0	291°07.7	11.3	-14°09.5	13.3	58.0
3	225°49.0	20°33.5	305°38.0	11.4	-13°56.2	13.4	58.0
4	240°49.0	20°34.0	320°08.5	11.5	-13°42.7	13.5	58.0
5	255°48.9	20°34.4	334°39.1	11.6	-13°29.2	13.5	57.9
6	270°48.8	20°34.9	349°09.7	11.7	-13°15.7	13.6	57.9
7	285°48.8	20°35.4	3°40.5	11.8	-13°02.1	13.6	57.9
8	300°48.7	20°35.9	18°11.3	11.9	-12°48.5	13.7	57.8
9	315°48.7	20°36.4	32°42.3	12.0	-12°34.8	13.7	57.8
10	330°48.6	20°36.8	47°13.3	12.1	-12°21.0	13.8	57.8
11	345°48.6	20°37.3	61°44.4	12.2	-12°07.3	13.8	57.7
12	0°48.5	20°37.8	76°15.6	12.2	-11°53.4	13.8	57.7
13	15°48.5	20°38.3	90°46.9	12.3	-11°39.6	13.9	57.7
14	30°48.4	20°38.7	105°18.2	12.4	-11°25.7	13.9	57.7
15	45°48.4	20°39.2	119°49.7	12.5	-11°11.7	14.0	57.6
16	60°48.3	20°39.7	134°21.2	12.6	-10°57.7	14.0	57.6
17	75°48.3	20°40.1	148°52.8	12.6	-10°43.7	14.0	57.6
18	90°48.2	20°40.6	163°24.5	12.7	-10°29.6	14.1	57.5
19	105°48.1	20°41.1	177°56.3	12.8	-10°15.5	14.1	57.5
20	120°48.1	20°41.6	192°28.1	12.9	-10°01.4	14.2	57.5
21	135°48.0	20°42.0	207°00.0	12.9	-9°47.2	14.2	57.5
22	150°48.0	20°42.5	221°32.0	13.0	-9°33.0	14.2	57.4
23	165°47.9	20°43.0	236°04.1	13.1	-9°18.8	14.2	57.4
	SD.=15.8	d=0.5			S.D.=15.8		

Mar	AHG	Dec	AHG	v	Dec	d	HP
0	180°47.9	20°43.4	250°36.2	13.2	-9°04.5	14.3	57.4
1	195°47.8	20°43.9	265°08.4	13.2	-8°50.2	14.3	57.3
2	210°47.8	20°44.4	279°40.6	13.3	-8°35.9	14.3	57.3
3	225°47.7	20°44.8	294°13.0	13.4	-8°21.6	14.3	57.3
4	240°47.6	20°45.3	308°45.4	13.4	-8°07.2	14.4	57.2
5	255°47.6	20°45.8	323°17.8	13.5	-7°52.8	14.4	57.2
6	270°47.5	20°46.2	337°50.4	13.6	-7°38.4	14.4	57.2
7	285°47.5	20°46.7	352°23.0	13.6	-7°24.0	14.4	57.2
8	300°47.4	20°47.1	6°55.6	13.7	-7°09.6	14.5	57.1
9	315°47.4	20°47.6	21°28.3	13.7	-6°55.1	14.5	57.1
10	330°47.3	20°48.1	36°01.1	13.8	-6°40.6	14.5	57.1
11	345°47.2	20°48.5	50°33.9	13.9	-6°26.1	14.5	57.1
12	0°47.2	20°49.0	65°06.8	13.9	-6°11.6	14.5	57.0
13	15°47.1	20°49.4	79°39.7	14.0	-5°57.1	14.5	57.0
14	30°47.1	20°49.9	94°12.7	14.0	-5°42.5	14.5	57.0
15	45°47.0	20°50.4	108°45.7	14.1	-5°28.0	14.6	56.9
16	60°46.9	20°50.8	123°18.8	14.1	-5°13.4	14.6	56.9
17	75°46.9	20°51.3	137°52.0	14.2	-4°58.9	14.6	56.9
18	90°46.8	20°51.7	152°25.2	14.2	-4°44.3	14.6	56.9
19	105°46.8	20°52.2	166°58.4	14.3	-4°29.7	14.6	56.8
20	120°46.7	20°52.6	181°31.7	14.3	-4°15.1	14.6	56.8
21	135°46.6	20°53.1	196°05.0	14.3	-4°00.5	14.6	56.8
22	150°46.6	20°53.5	210°38.4	14.4	-3°45.9	14.6	56.8
23	165°46.5	20°54.0	225°11.8	14.4	-3°31.3	14.6	56.7
	SD.=15.8	d=0.5			S.D.=15.6		

Lat.	Crepúsculo Naut.	Crepúsculo Civil	Orto Sol	Crepúsculo Civil	Crepúsculo Naut.	Ocaso Sol
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	–:–	–:–	–:–
68	–:–	–:–	00:54	23:08	–:–	–:–
66	–:–	–:–	01:50	22:07	–:–	–:–
64	–:–	–:–	02:23	21:33	–:–	–:–
62	–:–	01:15	02:46	21:09	22:43	–:–
60	–:–	01:54	03:05	20:50	22:02	–:–
58	–:–	02:20	03:21	20:34	21:35	–:–
56	01:08	02:40	03:34	20:21	21:15	22:50
54	01:43	02:57	03:45	20:09	20:58	22:13
52	02:08	03:11	03:55	19:59	20:44	21:47
50	02:27	03:23	04:04	19:50	20:31	21:28
45	03:03	03:48	04:23	19:31	20:06	20:52
40	03:28	04:07	04:38	19:16	19:47	20:26
35	03:48	04:23	04:51	19:03	19:31	20:06
30	04:04	04:36	05:02	18:51	19:18	19:50
20	04:29	04:58	05:22	18:32	18:56	19:25
10	04:49	05:15	05:38	18:16	18:38	19:05
0	05:05	05:31	05:53	18:00	18:22	18:48
S 10	05:20	05:46	06:08	17:45	18:08	18:33
20	05:34	06:01	06:24	17:29	17:53	18:20
30	05:48	06:17	06:43	17:11	17:36	18:06
35	05:55	06:26	06:53	17:00	17:27	17:58
40	06:03	06:36	07:05	16:48	17:17	17:51
45	06:11	06:47	07:20	16:34	17:06	17:42
50	06:20	07:00	07:37	16:16	16:53	17:33
52	06:24	07:06	07:45	16:08	16:47	17:29
54	06:29	07:13	07:54	15:59	16:40	17:24
56	06:34	07:21	08:05	15:48	16:33	17:19
58	06:39	07:29	08:16	15:37	16:24	17:14
60	06:44	07:38	08:30	15:23	16:15	17:09

Lat.	Orto luna Dom	Orto luna Lun	Orto luna Mar	Ocaso luna Dom	Ocaso luna Lun	Ocaso luna Mar
N 72	–:–	03:57	03:12	–:–	09:59	12:22
70	04:29	03:31	03:00	07:40	10:23	12:31
68	03:43	03:11	02:50	08:25	10:41	12:39
66	03:12	02:55	02:42	08:54	10:56	12:45
64	02:49	02:41	02:35	09:16	11:08	12:50
62	02:31	02:30	02:28	09:33	11:18	12:55
60	02:16	02:20	02:23	09:48	11:26	12:59
58	02:03	02:12	02:18	10:00	11:34	13:02
56	01:51	02:04	02:14	10:10	11:40	13:05
54	01:41	01:58	02:10	10:20	11:46	13:08
52	01:32	01:52	02:07	10:28	11:51	13:10
50	01:24	01:46	02:04	10:35	11:56	13:13
45	01:07	01:34	01:57	10:51	12:06	13:18
40	00:53	01:24	01:51	11:04	12:14	13:22
35	00:41	01:16	01:46	11:14	12:21	13:25
30	00:31	01:08	01:42	11:24	12:28	13:28
20	00:12	00:55	01:34	11:40	12:38	13:33
10	–:–	00:44	01:27	11:54	12:48	13:38
0	–:–	00:33	01:21	12:07	12:56	13:42
S 10	–:–	00:22	01:14	12:20	13:05	13:46
20	–:–	00:11	01:07	12:33	13:14	13:51
30	23:57	–:–	00:59	12:49	13:24	13:56
35	23:50	–:–	00:55	12:58	13:30	13:59
40	23:41	–:–	00:50	13:08	13:37	14:02
45	23:30	–:–	00:44	13:20	13:44	14:05
50	23:18	–:–	00:36	13:34	13:54	14:10
52	23:12	–:–	00:33	13:41	13:58	14:12
54	23:05	–:–	00:29	13:48	14:02	14:14
56	22:58	–:–	00:25	13:56	14:08	14:16
58	22:50	–:–	00:21	14:05	14:13	14:19
60	22:40	–:–	00:15	14:16	14:20	14:22

Día	Sol Ec. tiempo 00:00 h	Sol Ec. tiempo 12:00 h	Sol Paso Merid	Luna Paso Meridiano Superior	Luna Paso Meridiano Inferior	Luna Edad
22	03:21	03:19	11:56	05:54	18:20	22(53%)
23	03:17	03:14	11:56	06:44	19:08	23(42%)
24	03:11	03:09	11:56	07:31	19:53	24(32%)

Mayo 25, 26, 27 (Mie, Jue, Vie)

	Aries	Venus		Martes		Júpiter		Saturno	
Mie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	242°33.6	217°56.4	8°06.9	241°51.4	-1°33.9	239°44.3	-0°01.4	274°45.0	-14°09.9
1	257°36.0	232°56.1	8°07.9	256°52.2	-1°33.2	254°46.4	-0°01.2	289°47.4	-14°09.9
2	272°38.5	247°55.8	8°09.0	271°52.9	-1°32.4	269°48.5	-0°01.0	304°49.8	-14°09.9
3	287°41.0	262°55.5	8°10.0	286°53.7	-1°31.7	284°50.5	-0°00.9	319°52.2	-14°09.9
4	302°43.4	277°55.2	8°11.0	301°54.4	-1°31.0	299°52.6	-0°00.7	334°54.7	-14°09.9
5	317°45.9	292°54.9	8°12.1	316°55.2	-1°30.3	314°54.7	-0°00.5	349°57.1	-14°09.8
6	332°48.4	307°54.6	8°13.1	331°55.9	-1°29.5	329°56.7	-0°00.4	4°59.5	-14°09.8
7	347°50.8	322°54.3	8°14.1	346°56.7	-1°28.8	344°58.8	-0°00.2	20°01.9	-14°09.8
8	2°53.3	337°54.1	8°15.2	1°57.4	-1°28.1	0°00.9	-0°00.1	35°04.3	-14°09.8
9	17°55.8	352°53.8	8°16.2	16°58.2	-1°27.4	15°02.9	0°00.1	50°06.8	-14°09.8
10	32°58.2	7°53.5	8°17.2	31°58.9	-1°26.6	30°05.0	0°00.3	65°09.2	-14°09.8
11	48°00.7	22°53.2	8°18.3	46°59.6	-1°25.9	45°07.1	0°00.4	80°11.6	-14°09.8
12	63°03.1	37°52.9	8°19.3	62°00.4	-1°25.2	60°09.1	0°00.6	95°14.0	-14°09.8
13	78°05.6	52°52.6	8°20.3	77°01.1	-1°24.4	75°11.2	0°00.8	110°16.4	-14°09.8
14	93°08.1	67°52.3	8°21.4	92°01.9	-1°23.7	90°13.3	0°00.9	125°18.9	-14°09.8
15	108°10.5	82°52.0	8°22.4	107°02.6	-1°23.0	105°15.3	0°01.1	140°21.3	-14°09.8
16	123°13.0	97°51.7	8°23.4	122°03.4	-1°22.3	120°17.4	0°01.2	155°23.7	-14°09.8
17	138°15.5	112°51.4	8°24.5	137°04.1	-1°21.5	135°19.5	0°01.4	170°26.1	-14°09.8
18	153°17.9	127°51.1	8°25.5	152°04.9	-1°20.8	150°21.6	0°01.6	185°28.5	-14°09.8
19	168°20.4	142°50.8	8°26.5	167°05.6	-1°20.1	165°23.6	0°01.7	200°31.0	-14°09.8
20	183°22.9	157°50.5	8°27.6	182°06.4	-1°19.4	180°25.7	0°01.9	215°33.4	-14°09.7
21	198°25.3	172°50.2	8°28.6	197°07.1	-1°18.6	195°27.8	0°02.1	230°35.8	-14°09.7
22	213°27.8	187°49.9	8°29.6	212°07.9	-1°17.9	210°29.8	0°02.2	245°38.2	-14°09.7
23	228°30.3	202°49.6	8°30.7	227°08.6	-1°17.2	225°31.9	0°02.4	260°40.6	-14°09.7
Mer.pass.:7:48:		v-0.3 d1.0 m-3.9		v0.7 d0.7 m0.7		v2.1 d0.2 m-2.1		v2.4 d0.0 m0.8	

Jue	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	243°32.7	217°49.3	8°31.7	242°09.4	-1°16.4	240°34.0	0°02.5	275°43.1	-14°09.7
1	258°35.2	232°49.0	8°32.7	257°10.1	-1°15.7	255°36.0	0°02.7	290°45.5	-14°09.7
2	273°37.6	247°48.7	8°33.8	272°10.9	-1°15.0	270°38.1	0°02.9	305°47.9	-14°09.7
3	288°40.1	262°48.4	8°34.8	287°11.6	-1°14.3	285°40.2	0°03.0	320°50.3	-14°09.7
4	303°42.6	277°48.1	8°35.8	302°12.4	-1°13.5	300°42.3	0°03.2	335°52.8	-14°09.7
5	318°45.0	292°47.8	8°36.8	317°13.1	-1°12.8	315°44.3	0°03.3	350°55.2	-14°09.7
6	333°47.5	307°47.5	8°37.9	332°13.9	-1°12.1	330°46.4	0°03.5	5°57.6	-14°09.7
7	348°50.0	322°47.2	8°38.9	347°14.6	-1°11.4	345°48.5	0°03.7	21°00.0	-14°09.7
8	3°52.4	337°46.9	8°39.9	2°15.4	-1°10.6	0°50.5	0°03.8	36°02.5	-14°09.7
9	18°54.9	352°46.6	8°41.0	17°16.1	-1°09.9	15°52.6	0°04.0	51°04.9	-14°09.7
10	33°57.4	7°46.3	8°42.0	32°16.9	-1°09.2	30°54.7	0°04.1	66°07.3	-14°09.7
11	48°59.8	22°46.0	8°43.0	47°17.6	-1°08.4	45°56.7	0°04.3	81°09.7	-14°09.7
12	64°02.3	37°45.7	8°44.1	62°18.4	-1°07.7	60°58.8	0°04.5	96°12.1	-14°09.6
13	79°04.8	52°45.4	8°45.1	77°19.1	-1°07.0	76°00.9	0°04.6	111°14.6	-14°09.6
14	94°07.2	67°45.1	8°46.1	92°19.9	-1°06.3	91°03.0	0°04.8	126°17.0	-14°09.6
15	109°09.7	82°44.8	8°47.1	107°20.6	-1°05.5	106°05.0	0°04.9	141°19.4	-14°09.6
16	124°12.1	97°44.5	8°48.2	122°21.4	-1°04.8	121°07.1	0°05.1	156°21.8	-14°09.6
17	139°14.6	112°44.2	8°49.2	137°22.1	-1°04.1	136°09.2	0°05.3	171°24.3	-14°09.6
18	154°17.1	127°43.9	8°50.2	152°22.9	-1°03.4	151°11.3	0°05.4	186°26.7	-14°09.6
19	169°19.5	142°43.6	8°51.2	167°23.6	-1°02.6	166°13.3	0°05.6	201°29.1	-14°09.6
20	184°22.0	157°43.3	8°52.3	182°24.4	-1°01.9	181°15.4	0°05.7	216°31.5	-14°09.6
21	199°24.5	172°43.0	8°53.3	197°25.1	-1°01.2	196°17.5	0°05.9	231°34.0	-14°09.6
22	214°26.9	187°42.7	8°54.3	212°25.9	-1°00.4	211°19.6	0°06.1	246°36.4	-14°09.6
23	229°29.4	202°42.4	8°55.4	227°26.7	-0°59.7	226°21.6	0°06.2	261°38.8	-14°09.6
Mer.pass.:7:44:		v-0.3 d1.0 m-3.9		v0.7 d0.7 m0.7		v2.1 d0.2 m-2.1		v2.4 d0.0 m0.8	

Vie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	244°31.9	217°42.1	8°56.4	242°27.4	-0°59.0	241°23.7	0°06.4	276°41.2	-14°09.6
1	259°34.3	232°41.8	8°57.4	257°28.2	-0°58.3	256°25.8	0°06.5	291°43.7	-14°09.6
2	274°36.8	247°41.5	8°58.4	272°28.9	-0°57.5	271°27.8	0°06.7	306°46.1	-14°09.6
3	289°39.2	262°41.2	8°59.5	287°29.7	-0°56.8	286°29.9	0°06.9	321°48.5	-14°09.6
4	304°41.7	277°40.9	9°00.5	302°30.4	-0°56.1	301°32.0	0°07.0	336°51.0	-14°09.6
5	319°44.2	292°40.6	9°01.5	317°31.2	-0°55.4	316°34.1	0°07.2	351°53.4	-14°09.6
6	334°46.6	307°40.2	9°02.5	332°31.9	-0°54.6	331°36.1	0°07.3	6°55.8	-14°09.6
7	349°49.1	322°39.9	9°03.5	347°32.7	-0°53.9	346°38.2	0°07.5	21°58.2	-14°09.5
8	4°51.6	337°39.6	9°04.6	2°33.4	-0°53.2	1°40.3	0°07.7	37°00.7	-14°09.5
9	19°54.0	352°39.3	9°05.6	17°34.2	-0°52.5	16°42.4	0°07.8	52°03.1	-14°09.5
10	34°56.5	7°39.0	9°06.6	32°34.9	-0°51.7	31°44.4	0°08.0	67°05.5	-14°09.5
11	49°59.0	22°38.7	9°07.6	47°35.7	-0°51.0	46°46.5	0°08.1	82°07.9	-14°09.5
12	65°01.4	37°38.4	9°08.7	62°36.4	-0°50.3	61°48.6	0°08.3	97°10.4	-14°09.5
13	80°03.9	52°38.1	9°09.7	77°37.2	-0°49.5	76°50.7	0°08.4	112°12.8	-14°09.5
14	95°06.4	67°37.8	9°10.7	92°37.9	-0°48.8	91°52.8	0°08.6	127°15.2	-14°09.5
15	110°08.8	82°37.5	9°11.7	107°38.7	-0°48.1	106°54.8	0°08.8	142°17.7	-14°09.5
16	125°11.3	97°37.2	9°12.8	122°39.4	-0°47.4	121°56.9	0°08.9	157°20.1	-14°09.5
17	140°13.7	112°36.8	9°13.8	137°40.2	-0°46.6	136°59.0	0°09.1	172°22.5	-14°09.5
18	155°16.2	127°36.5	9°14.8	152°40.9	-0°45.9	152°01.1	0°09.2	187°24.9	-14°09.5
19	170°18.7	142°36.2	9°15.8	167°41.7	-0°45.2	167°03.1	0°09.4	202°27.4	-14°09.5
20	185°21.1	157°35.9	9°16.8	182°42.4	-0°44.5	182°05.2	0°09.5	217°29.8	-14°09.5
21	200°23.6	172°35.6	9°17.9	197°43.2	-0°43.7	197°07.3	0°09.7	232°32.2	-14°09.5
22	215°26.1	187°35.3	9°18.9	212°44.0	-0°43.0	212°09.4	0°09.9	247°34.7	-14°09.5
23	230°28.5	202°35.0	9°19.9	227°44.7	-0°42.3	227°11.5	0°10.0	262°37.1	-14°09.5
Mer.pass.:7:40:		v-0.3 d1.0 m-3.9		v0.8 d0.7 m0.7		v2.1 d0.2 m-2.1		v2.4 d0.0 m0.8	

Estrellas

	AHS	Dec
Alpheratz	357°37.2	29°12.6
Ankaa	353°09.5	-42°11.0
Schedar	349°33.9	56°39.3
Diphda	348°49.6	-17°51.9
Achernar	335°22.3	-57°07.3
Hamal	327°54.0	23°33.9
Polaris	315°31.8	89°21.3
Akamar	315°13.9	-40°12.9
Menkar	314°08.7	4°10.5
Mirfak	308°31.9	49°56.3
Aldebaran	290°42.5	16°33.2
Rigel	281°06.3	-8°10.6
Capella	280°25.6	46°01.3
Bellatrix	278°25.5	6°22.1
Elnath	278°05.0	28°37.5
Alnilam	275°40.3	-1°11.3
Betelgeuse	270°54.8	7°24.6
Canopus	263°53.8	-52°42.6
Sirius	258°28.4	-16°44.7
Adara	255°07.9	-29°00.3
Procyon	244°53.2	5°10.2
Pollux	243°20.1	27°58.4
Avior	234°15.9	-59°35.1
Suhail	222°48.0	-43°31.6
Miaplacidus	221°39.0	-69°48.8
Alphard	217°50.0	-8°45.4
Regulus	207°36.7	11°51.6
Dubhe	193°43.6	61°38.2
Denebola	182°27.0	14°26.9
Gienah	175°45.6	-17°40.0
Acrux	173°02.1	-63°13.6
Gacrux	171°53.7	-57°14.5
Alioth	166°14.6	55°50.6
Spica	158°24.3	-11°16.7
Alcaid	152°53.3	49°12.3
Hadar	148°38.5	-60°29.0
Menkent	147°59.8	-36°28.9
Arcturus	145°49.5	19°04.3
Rigil Kent.	139°42.7	-60°55.7
Zubenelg.	136°58.1	-16°08.1
Kochab	137°18.7	74°04.0
Alphecca	126°05.2	26°38.4
Antares	112°18.1	-26°28.9
Atria	107°13.7	-69°04.0
Sabik	102°04.9	-15°45.2
Shaula	96°12.9	-37°07.1
Rasalhague	96°00.3	12°32.6
Etamin	90°42.7	51°29.0
Kaus Aust.	83°35.0	-34°22.4
Vega	80°34.4	38°48.0
Nunki	75°50.2	-26°16.1
Altair	62°01.9	8°55.5
Peacock	53°08.9	-56°39.6
Deneb	49°27.1	45°21.3
Enif	33°40.9	9°58.5
Alnair	27°35.7	-46°51.0
Fomalhaut	15°17.1	-29°30.2
Scheat	13°47.4	28°11.9
Markab	13°32.1	15°19.3

May 25 Mie	AHS	Paso Merid
Venus	335°22.8	09:28
Mars	359°17.8	07:52
Jupiter	357°10.8	08:00
Saturn	32°11.4	05:40

May 26 Jue	AHS	Paso Merid
Venus	334°16.6	09:29
Mars	358°36.7	07:51
Jupiter	357°01.3	07:57
Saturn	32°10.4	05:36

May 27 Vie	AHS	Paso Merid
Venus	333°10.2	09:29
Mars	357°55.5	07:50
Jupiter	356°51.8	07:53
Saturn	32°09.4	05:32

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.1

h	Sol		Luna				
Mie	AHG	Dec	AHG	v	Dec	d	HP
0	180°46.5	20°54.4	239°45.2	14.5	-3°16.7	14.6	56.7
1	195°46.4	20°54.9	254°18.7	14.5	-3°02.1	14.6	56.7
2	210°46.3	20°55.4	268°52.2	14.5	-2°47.5	14.6	56.6
3	225°46.3	20°55.8	283°25.8	14.6	-2°32.9	14.6	56.6
4	240°46.2	20°56.3	297°59.4	14.6	-2°18.3	14.6	56.6
5	255°46.1	20°56.7	312°33.0	14.7	-2°03.7	14.6	56.6
6	270°46.1	20°57.1	327°06.7	14.7	-1°49.1	14.6	56.5
7	285°46.0	20°57.6	341°40.4	14.7	-1°34.5	14.6	56.5
8	300°45.9	20°58.0	356°14.1	14.7	-1°19.9	14.6	56.5
9	315°45.9	20°58.5	10°47.9	14.8	-1°05.3	14.6	56.5
10	330°45.8	20°58.9	25°21.7	14.8	-0°50.7	14.6	56.4
11	345°45.8	20°59.4	39°55.5	14.8	-0°36.1	14.6	56.4
12	0°45.7	20°59.8	54°29.3	14.9	-0°21.6	14.6	56.4
13	15°45.6	21°00.3	69°03.2	14.9	-0°07.0	14.5	56.4
14	30°45.6	21°00.7	83°37.1	14.9	0°07.5	14.5	56.3
15	45°45.5	21°01.2	98°11.0	14.9	0°22.0	14.5	56.3
16	60°45.4	21°01.6	112°44.9	14.9	0°36.5	14.5	56.3
17	75°45.4	21°02.0	127°18.9	15.0	0°51.0	14.5	56.3
18	90°45.3	21°02.5	141°52.9	15.0	1°05.5	14.5	56.2
19	105°45.2	21°02.9	156°26.9	15.0	1°20.0	14.5	56.2
20	120°45.2	21°03.4	171°00.9	15.0	1°34.4	14.4	56.2
21	135°45.1	21°03.8	185°34.9	15.0	1°48.8	14.4	56.2
22	150°45.0	21°04.2	200°08.9	15.0	2°03.3	14.4	56.1
23	165°45.0	21°04.7	214°43.0	15.1	2°17.7	14.4	56.1
	SD.=15.8	d=0.5			S.D.=15.5		

Jue	AHG	Dec	AHG	v	Dec	d	HP
0	180°44.9	21°05.1	229°17.0	15.1	2°32.0	14.4	56.1
1	195°44.8	21°05.5	243°51.1	15.1	2°46.4	14.3	56.1
2	210°44.8	21°06.0	258°25.2	15.1	3°00.7	14.3	56.1
3	225°44.7	21°06.4	272°59.3	15.1	3°15.0	14.3	56.0
4	240°44.6	21°06.9	287°33.4	15.1	3°29.3	14.3	56.0
5	255°44.6	21°07.3	302°07.5	15.1	3°43.5	14.2	56.0
6	270°44.5	21°07.7	316°41.6	15.1	3°57.8	14.2	56.0
7	285°44.4	21°08.2	331°15.7	15.1	4°12.0	14.2	55.9
8	300°44.4	21°08.6	345°49.8	15.1	4°26.2	14.2	55.9
9	315°44.3	21°09.0	0°24.0	15.1	4°40.3	14.1	55.9
10	330°44.2	21°09.4	14°58.1	15.1	4°54.4	14.1	55.9
11	345°44.2	21°09.9	29°32.2	15.1	5°08.5	14.1	55.8
12	0°44.1	21°10.3	44°06.3	15.1	5°22.6	14.0	55.8
13	15°44.0	21°10.7	58°40.4	15.1	5°36.6	14.0	55.8
14	30°43.9	21°11.2	73°14.6	15.1	5°50.6	14.0	55.8
15	45°43.9	21°11.6	87°48.7	15.1	6°04.6	13.9	55.8
16	60°43.8	21°12.0	102°22.8	15.1	6°18.5	13.9	55.7
17	75°43.7	21°12.4	116°56.9	15.1	6°32.4	13.9	55.7
18	90°43.7	21°12.9	131°31.0	15.1	6°46.2	13.8	55.7
19	105°43.6	21°13.3	146°05.1	15.1	7°00.0	13.8	55.7
20	120°43.5	21°13.7	160°39.2	15.1	7°13.8	13.8	55.7
21	135°43.4	21°14.1	175°13.2	15.1	7°27.6	13.7	55.6
22	150°43.4	21°14.6	189°47.3	15.1	7°41.3	13.7	55.6
23	165°43.3	21°15.0	204°21.3	15.0	7°54.9	13.6	55.6
	SD.=15.8	d=0.4			S.D.=15.3		

Vie	AHG	Dec	AHG	v	Dec	d	HP
0	180°43.2	21°15.4	218°55.4	15.0	8°08.5	13.6	55.6
1	195°43.2	21°15.8	233°29.4	15.0	8°22.1	13.6	55.5
2	210°43.1	21°16.3	248°03.4	15.0	8°35.7	13.5	55.5
3	225°43.0	21°16.7	262°37.4	15.0	8°49.2	13.5	55.5
4	240°42.9	21°17.1	277°11.4	15.0	9°02.6	13.4	55.5
5	255°42.9	21°17.5	291°45.3	14.9	9°16.0	13.4	55.5
6	270°42.8	21°17.9	306°19.3	14.9	9°29.4	13.3	55.4
7	285°42.7	21°18.3	320°53.2	14.9	9°42.7	13.3	55.4
8	300°42.6	21°18.8	335°27.1	14.9	9°55.9	13.2	55.4
9	315°42.6	21°19.2	350°01.0	14.9	10°09.1	13.2	55.4
10	330°42.5	21°19.6	4°34.8	14.8	10°22.3	13.1	55.4
11	345°42.4	21°20.0	19°08.7	14.8	10°35.4	13.1	55.4
12	0°42.3	21°20.4	33°42.5	14.8	10°48.5	13.0	55.3
13	15°42.3	21°20.8	48°16.3	14.8	11°01.5	13.0	55.3
14	30°42.2	21°21.3	62°50.0	14.8	11°14.4	12.9	55.3
15	45°42.1	21°21.7	77°23.8	14.7	11°27.3	12.9	55.3
16	60°42.0	21°22.1	91°57.5	14.7	11°40.2	12.8	55.3
17	75°42.0	21°22.5	106°31.2	14.7	11°53.0	12.8	55.2
18	90°41.9	21°22.9	121°04.8	14.6	12°05.7	12.7	55.2
19	105°41.8	21°23.3	135°38.5	14.6	12°18.4	12.7	55.2
20	120°41.7	21°23.7	150°12.1	14.6	12°31.0	12.6	55.2
21	135°41.7	21°24.1	164°45.6	14.6	12°43.6	12.5	55.2
22	150°41.6	21°24.5	179°19.2	14.5	12°56.1	12.5	55.2
23	165°41.5	21°24.9	193°52.7	14.5	13°08.5	12.4	55.1
	SD.=15.8	d=0.4			S.D.=15.2		

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	–:–	–:–	–:–
68	–:–	–:–	00:18	–:–	–:–	–:–
66	–:–	–:–	01:38	22:20	–:–	–:–
64	–:–	–:–	02:14	21:42	–:–	–:–
62	–:–	00:59	02:40	21:16	23:01	–:–
60	–:–	01:44	02:59	20:56	22:12	–:–
58	–:–	02:13	03:16	20:40	21:43	–:–
56	00:53	02:35	03:30	20:26	21:21	23:06
54	01:35	02:52	03:41	20:14	21:03	22:22
52	02:02	03:07	03:52	20:03	20:48	21:54
50	02:22	03:20	04:01	19:54	20:36	21:34
45	02:59	03:45	04:21	19:34	20:10	20:56
40	03:25	04:05	04:36	19:18	19:50	20:30
35	03:46	04:21	04:50	19:05	19:34	20:09
30	04:02	04:35	05:01	18:53	19:20	19:52
20	04:28	04:57	05:21	18:33	18:58	19:26
10	04:49	05:15	05:38	18:16	18:39	19:06
0	05:06	05:31	05:53	18:01	18:23	18:49
S 10	05:21	05:47	06:09	17:45	18:07	18:33
20	05:35	06:02	06:26	17:28	17:52	18:19
30	05:49	06:19	06:44	17:09	17:35	18:05
35	05:57	06:28	06:55	16:59	17:26	17:57
40	06:05	06:38	07:08	16:46	17:16	17:49
45	06:13	06:50	07:23	16:31	17:04	17:40
50	06:23	07:04	07:41	16:13	16:50	17:31
52	06:28	07:10	07:49	16:05	16:44	17:26
54	06:32	07:17	07:59	15:55	16:37	17:21
56	06:37	07:25	08:09	15:44	16:29	17:16
58	06:43	07:33	08:22	15:32	16:20	17:11
60	06:49	07:43	08:36	15:18	16:11	17:05

	Orto luna			Ocaso luna		
Lat.	Mie	Jue	Vie	Mie	Jue	Vie
N 72	02:40	02:10	01:39	14:28	16:31	18:43
70	02:36	02:14	01:51	14:28	16:21	18:20
68	02:33	02:17	02:01	14:27	16:14	18:03
66	02:31	02:20	02:09	14:27	16:07	17:49
64	02:28	02:22	02:17	14:27	16:02	17:37
62	02:27	02:25	02:23	14:27	15:57	17:28
60	02:25	02:26	02:28	14:27	15:53	17:20
58	02:23	02:28	02:33	14:27	15:50	17:12
56	02:22	02:29	02:37	14:27	15:47	17:06
54	02:21	02:31	02:41	14:27	15:44	17:01
52	02:20	02:32	02:44	14:27	15:41	16:56
50	02:19	02:33	02:47	14:27	15:39	16:51
45	02:17	02:35	02:54	14:27	15:34	16:41
40	02:15	02:37	03:00	14:26	15:30	16:33
35	02:13	02:39	03:05	14:26	15:26	16:26
30	02:12	02:41	03:10	14:26	15:23	16:20
20	02:09	02:43	03:17	14:26	15:18	16:09
10	02:07	02:46	03:24	14:26	15:13	16:00
0	02:05	02:48	03:31	14:26	15:09	15:51
S 10	02:03	02:50	03:37	14:26	15:04	15:43
20	02:01	02:53	03:44	14:25	14:59	15:34
30	01:59	02:56	03:53	14:25	14:54	15:24
35	01:57	02:58	03:57	14:25	14:51	15:18
40	01:56	03:00	04:03	14:25	14:47	15:11
45	01:54	03:02	04:09	14:25	14:43	15:03
50	01:52	03:04	04:16	14:24	14:39	14:54
52	01:50	03:06	04:20	14:24	14:37	14:49
54	01:49	03:07	04:24	14:24	14:34	14:45
56	01:48	03:09	04:28	14:24	14:32	14:40
58	01:47	03:10	04:33	14:24	14:29	14:34
60	01:45	03:12	04:38	14:24	14:25	14:27

Día	Sol			Luna		
	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
25	03:06	03:03	11:56	08:15	20:37	25(23%)
26	03:00	02:56	11:57	08:58	21:19	26(15%)
27	02:53	02:49	11:57	09:41	22:02	27(8%)

Mayo 28, 29, 30 (Sa, Dom, Lun)

	Aries	Venus		Martes		Júpiter		Saturno	
Sa	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	245°31.0	217°34.7	9°20.9	242°45.5	-0°41.6	242°13.5	0°10.2	277°39.5	-14°09.5
1	260°33.5	232°34.3	9°21.9	257°46.2	-0°40.8	257°15.6	0°10.3	292°41.9	-14°09.5
2	275°35.9	247°34.0	9°23.0	272°47.0	-0°40.1	272°17.7	0°10.5	307°44.4	-14°09.5
3	290°38.4	262°33.7	9°24.0	287°47.7	-0°39.4	287°19.8	0°10.7	322°46.8	-14°09.5
4	305°40.9	277°33.4	9°25.0	302°48.5	-0°38.7	302°21.8	0°10.8	337°49.2	-14°09.5
5	320°43.3	292°33.1	9°26.0	317°49.2	-0°37.9	317°23.9	0°11.0	352°51.7	-14°09.5
6	335°45.8	307°32.8	9°27.0	332°50.0	-0°37.2	332°26.0	0°11.1	7°54.1	-14°09.5
7	350°48.2	322°32.5	9°28.1	347°50.7	-0°36.5	347°28.1	0°11.3	22°56.5	-14°09.5
8	5°50.7	337°32.1	9°29.1	2°51.5	-0°35.8	2°30.2	0°11.4	37°59.0	-14°09.4
9	20°53.2	352°31.8	9°30.1	17°52.2	-0°35.0	17°32.2	0°11.6	53°01.4	-14°09.4
10	35°55.6	7°31.5	9°31.1	32°53.0	-0°34.3	32°34.3	0°11.7	68°03.8	-14°09.4
11	50°58.1	22°31.2	9°32.1	47°53.7	-0°33.6	47°36.4	0°11.9	83°06.3	-14°09.4
12	66°00.6	37°30.9	9°33.1	62°54.5	-0°32.8	62°38.5	0°12.1	98°08.7	-14°09.4
13	81°03.0	52°30.6	9°34.2	77°55.3	-0°32.1	77°40.6	0°12.2	113°11.1	-14°09.4
14	96°05.5	67°30.2	9°35.2	92°56.0	-0°31.4	92°42.6	0°12.4	128°13.6	-14°09.4
15	111°08.0	82°29.9	9°36.2	107°56.8	-0°30.7	107°44.7	0°12.5	143°16.0	-14°09.4
16	126°10.4	97°29.6	9°37.2	122°57.5	-0°29.9	122°46.8	0°12.7	158°18.4	-14°09.4
17	141°12.9	112°29.3	9°38.2	137°58.3	-0°29.2	137°48.9	0°12.8	173°20.8	-14°09.4
18	156°15.3	127°29.0	9°39.2	152°59.0	-0°28.5	152°51.0	0°13.0	188°23.3	-14°09.4
19	171°17.8	142°28.6	9°40.2	167°59.8	-0°27.8	167°53.1	0°13.2	203°25.7	-14°09.4
20	186°20.3	157°28.3	9°41.3	183°00.5	-0°27.0	182°55.1	0°13.3	218°28.1	-14°09.4
21	201°22.7	172°28.0	9°42.3	198°01.3	-0°26.3	197°57.2	0°13.5	233°30.6	-14°09.4
22	216°25.2	187°27.7	9°43.3	213°02.0	-0°25.6	212°59.3	0°13.6	248°33.0	-14°09.4
23	231°27.7	202°27.4	9°44.3	228°02.8	-0°24.9	228°01.4	0°13.8	263°35.4	-14°09.4
Mer.pass.:7:36:		v-0.3 d1.0 m-3.9		v0.8 d0.7 m0.7		v2.1 d0.2 m-2.1		v2.4 d0.0 m0.8	

Dom	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	246°30.1	217°27.0	9°45.3	243°03.6	-0°24.1	243°03.5	0°13.9	278°37.9	-14°09.4
1	261°32.6	232°26.7	9°46.3	258°04.3	-0°23.4	258°05.5	0°14.1	293°40.3	-14°09.4
2	276°35.1	247°26.4	9°47.3	273°05.1	-0°22.7	273°07.6	0°14.2	308°42.7	-14°09.4
3	291°37.5	262°26.1	9°48.4	288°05.8	-0°22.0	288°09.7	0°14.4	323°45.2	-14°09.4
4	306°40.0	277°25.7	9°49.4	303°06.6	-0°21.2	303°11.8	0°14.5	338°47.6	-14°09.4
5	321°42.5	292°25.4	9°50.4	318°07.3	-0°20.5	318°13.9	0°14.7	353°50.1	-14°09.4
6	336°44.9	307°25.1	9°51.4	333°08.1	-0°19.8	333°16.0	0°14.9	8°52.5	-14°09.4
7	351°47.4	322°24.8	9°52.4	348°08.8	-0°19.1	348°18.0	0°15.0	23°54.9	-14°09.4
8	6°49.8	337°24.5	9°53.4	3°09.6	-0°18.3	3°20.1	0°15.2	38°57.4	-14°09.4
9	21°52.3	352°24.1	9°54.4	18°10.4	-0°17.6	18°22.2	0°15.3	53°59.8	-14°09.4
10	36°54.8	7°23.8	9°55.4	33°11.1	-0°16.9	33°24.3	0°15.5	69°02.2	-14°09.4
11	51°57.2	22°23.5	9°56.4	48°11.9	-0°16.2	48°26.4	0°15.6	84°04.7	-14°09.4
12	66°59.7	37°23.2	9°57.5	63°12.6	-0°15.4	63°28.5	0°15.8	99°07.1	-14°09.4
13	82°02.2	52°22.8	9°58.5	78°13.4	-0°14.7	78°30.6	0°15.9	114°09.5	-14°09.4
14	97°04.6	67°22.5	9°59.5	93°14.1	-0°14.0	93°32.6	0°16.1	129°12.0	-14°09.4
15	112°07.1	82°22.2	10°00.5	108°14.9	-0°13.3	108°34.7	0°16.2	144°14.4	-14°09.4
16	127°09.6	97°21.8	10°01.5	123°15.6	-0°12.5	123°36.8	0°16.4	159°16.8	-14°09.4
17	142°12.0	112°21.5	10°02.5	138°16.4	-0°11.8	138°38.9	0°16.6	174°19.3	-14°09.4
18	157°14.5	127°21.2	10°03.5	153°17.2	-0°11.1	153°41.0	0°16.7	189°21.7	-14°09.4
19	172°17.0	142°20.9	10°04.5	168°17.9	-0°10.4	168°43.1	0°16.9	204°24.2	-14°09.4
20	187°19.4	157°20.5	10°05.5	183°18.7	-0°09.6	183°45.2	0°17.0	219°26.6	-14°09.4
21	202°21.9	172°20.2	10°06.5	198°19.4	-0°08.9	198°47.2	0°17.2	234°29.0	-14°09.4
22	217°24.3	187°19.9	10°07.5	213°20.2	-0°08.2	213°49.3	0°17.3	249°31.5	-14°09.4
23	232°26.8	202°19.5	10°08.5	228°20.9	-0°07.5	228°51.4	0°17.5	264°33.9	-14°09.4
Mer.pass.:7:32:		v-0.3 d1.0 m-3.9		v0.8 d0.7 m0.7		v2.1 d0.2 m-2.1		v2.4 d0.0 m0.8	

Lun	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	247°29.3	217°19.2	10°09.5	243°21.7	-0°06.7	243°53.5	0°17.6	279°36.3	-14°09.4
1	262°31.7	232°18.9	10°10.6	258°22.4	-0°06.0	258°55.6	0°17.8	294°38.8	-14°09.4
2	277°34.2	247°18.6	10°11.6	273°23.2	-0°05.3	273°57.7	0°17.9	309°41.2	-14°09.4
3	292°36.7	262°18.2	10°12.6	288°24.0	-0°04.6	288°59.8	0°18.1	324°43.7	-14°09.4
4	307°39.1	277°17.9	10°13.6	303°24.7	-0°03.8	304°01.9	0°18.2	339°46.1	-14°09.4
5	322°41.6	292°17.6	10°14.6	318°25.5	-0°03.1	319°03.9	0°18.4	354°48.5	-14°09.4
6	337°44.1	307°17.2	10°15.6	333°26.2	-0°02.4	334°06.0	0°18.5	9°51.0	-14°09.4
7	352°46.5	322°16.9	10°16.6	348°27.0	-0°01.7	349°08.1	0°18.7	24°53.4	-14°09.4
8	7°49.0	337°16.6	10°17.6	3°27.7	-0°01.0	4°10.2	0°18.9	39°55.8	-14°09.4
9	22°51.4	352°16.2	10°18.6	18°28.5	-0°00.2	19°12.3	0°19.0	54°58.3	-14°09.4
10	37°53.9	7°15.9	10°19.6	33°29.3	0°00.5	34°14.4	0°19.2	70°00.7	-14°09.4
11	52°56.4	22°15.6	10°20.6	48°30.0	0°01.2	49°16.5	0°19.3	85°03.2	-14°09.4
12	67°58.8	37°15.2	10°21.6	63°30.8	0°01.9	64°18.6	0°19.5	100°05.6	-14°09.4
13	83°01.3	52°14.9	10°22.6	78°31.5	0°02.7	79°20.7	0°19.6	115°08.0	-14°09.4
14	98°03.8	67°14.6	10°23.6	93°32.3	0°03.4	94°22.7	0°19.8	130°10.5	-14°09.4
15	113°06.2	82°14.2	10°24.6	108°33.0	0°04.1	109°24.8	0°19.9	145°12.9	-14°09.4
16	128°08.7	97°13.9	10°25.6	123°33.8	0°04.8	124°26.9	0°20.1	160°15.4	-14°09.4
17	143°11.2	112°13.6	10°26.6	138°34.6	0°05.6	139°29.0	0°20.2	175°17.8	-14°09.4
18	158°13.6	127°13.2	10°27.6	153°35.3	0°06.3	154°31.1	0°20.4	190°20.2	-14°09.4
19	173°16.1	142°12.9	10°28.6	168°36.1	0°07.0	169°33.2	0°20.5	205°22.7	-14°09.4
20	188°18.6	157°12.5	10°29.6	183°36.8	0°07.7	184°35.3	0°20.7	220°25.1	-14°09.4
21	203°21.0	172°12.2	10°30.6	198°37.6	0°08.5	199°37.4	0°20.8	235°27.6	-14°09.4
22	218°23.5	187°11.9	10°31.6	213°38.3	0°09.2	214°39.5	0°21.0	250°30.0	-14°09.4
23	233°25.9	202°11.5	10°32.6	228°39.1	0°09.9	229°41.6	0°21.1	265°32.5	-14°09.4
Mer.pass.:7:28:		v-0.3 d1.0 m-3.9		v0.8 d0.7 m0.7		v2.1 d0.2 m-2.1		v2.4 d0.0 m0.8	

Estrellas

	AHS	Dec
Alpheratz	357°37.2	29°12.6
Ankaa	353°09.5	-42°11.0
Schedar	349°33.8	56°39.3
Diphda	348°49.6	-17°51.9
Achernar	335°22.3	-57°07.3
Hamal	327°54.0	23°33.9
Polaris	315°31.1	89°21.3
Akamar	315°13.8	-40°12.9
Menkar	314°08.7	4°10.5
Mirfak	308°31.9	49°56.2
Aldebaran	290°42.5	16°33.2
Rigel	281°06.3	-8°10.6
Capella	280°25.6	46°01.2
Bellatrix	278°25.5	6°22.1
Elnath	278°05.0	28°37.5
Alnilam	275°40.3	-1°11.3
Betelgeuse	270°54.8	7°24.6
Canopus	263°53.9	-52°42.6
Sirius	258°28.4	-16°44.7
Adara	255°07.9	-29°00.3
Procyon	244°53.3	5°10.2
Pollux	243°20.1	27°58.4
Avior	234°16.0	-59°35.1
Suhail	222°48.1	-43°31.6
Miaplacidus	221°39.0	-69°48.8
Alphard	217°50.0	-8°45.4
Regulus	207°36.8	11°51.6
Dubhe	193°43.6	61°38.2
Denebola	182°27.0	14°26.9
Gienah	175°45.6	-17°40.0
Acrux	173°02.1	-63°13.6
Gacrux	171°53.7	-57°14.5
Alioth	166°14.6	55°50.6
Spica	158°24.4	-11°16.7
Alcaid	152°53.4	49°12.3
Hadar	148°38.5	-60°29.0
Menkent	147°59.9	-36°28.9
Arcturus	145°49.5	19°04.3
Rigil Kent.	139°42.7	-60°55.7
Zubenelg.	136°58.1	-16°08.1
Kochab	137°18.7	74°04.0
Alphecca	126°05.2	26°38.4
Antares	112°18.1	-26°28.9
Atria	107°13.7	-69°04.0
Sabik	102°04.9	-15°45.1
Shaula	96°12.9	-37°07.1
Rasalhague	96°00.3	12°32.6
Etamin	90°42.7	51°29.0
Kaus Aust.	83°35.0	-34°22.4
Vega	80°34.4	38°48.0
Nunki	75°50.2	-26°16.1
Altair	62°01.9	8°55.5
Peacock	53°08.8	-56°39.6
Deneb	49°27.0	45°21.3
Enif	33°40.9	9°58.5
Alnair	27°35.6	-46°51.0
Fomalhaut	15°17.0	-29°30.2
Scheat	13°47.4	28°11.9
Markab	13°32.1	15°19.3

May 28 Sa	AHS	Paso Merid
Venus	332°03.7	09:30
Mars	357°14.5	07:49
Jupiter	356°42.5	07:50
Saturn	32°08.5	05:28

May 29 Dom	AHS	Paso Merid
Venus	330°56.9	09:30
Mars	356°33.4	07:47
Jupiter	356°33.3	07:47
Saturn	32°07.7	05:25

May 30 Lun	AHS	Paso Merid
Venus	329°49.9	09:31
Mars	355°52.4	07:46
Jupiter	356°24.2	07:43
Saturn	32°07.1	05:21

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.1

h Sol Luna

Sa	AHG	Dec	AHG	v	Dec	d	HP
0	180°41.4	21°25.3	208°26.1	14.5	13°20.9	12.4	55.1
1	195°41.4	21°25.8	222°59.6	14.4	13°33.2	12.3	55.1
2	210°41.3	21°26.2	237°33.0	14.4	13°45.5	12.2	55.1
3	225°41.2	21°26.6	252°06.4	14.4	13°57.7	12.2	55.1
4	240°41.1	21°27.0	266°39.7	14.3	14°09.8	12.1	55.0
5	255°41.0	21°27.4	281°13.0	14.3	14°21.9	12.0	55.0
6	270°41.0	21°27.8	295°46.3	14.2	14°33.9	12.0	55.0
7	285°40.9	21°28.2	310°19.5	14.2	14°45.8	11.9	55.0
8	300°40.8	21°28.6	324°52.7	14.2	14°57.7	11.8	55.0
9	315°40.7	21°29.0	339°25.8	14.1	15°09.5	11.8	55.0
10	330°40.7	21°29.4	353°58.9	14.1	15°21.2	11.7	54.9
11	345°40.6	21°29.8	8°32.0	14.1	15°32.8	11.6	54.9
12	0°40.5	21°30.2	23°05.0	14.0	15°44.4	11.5	54.9
13	15°40.4	21°30.6	37°38.0	14.0	15°55.9	11.5	54.9
14	30°40.3	21°31.0	52°11.0	13.9	16°07.4	11.4	54.9
15	45°40.3	21°31.4	66°43.9	13.9	16°18.7	11.3	54.9
16	60°40.2	21°31.8	81°16.8	13.8	16°30.0	11.3	54.9
17	75°40.1	21°32.2	95°49.6	13.8	16°41.2	11.2	54.8
18	90°40.0	21°32.6	110°22.4	13.8	16°52.4	11.1	54.8
19	105°39.9	21°32.9	124°55.1	13.7	17°03.4	11.0	54.8
20	120°39.8	21°33.3	139°27.8	13.7	17°14.4	10.9	54.8
21	135°39.8	21°33.7	154°00.5	13.6	17°25.3	10.9	54.8
22	150°39.7	21°34.1	168°33.1	13.6	17°36.2	10.8	54.8
23	165°39.6	21°34.5	183°05.6	13.5	17°46.9	10.7	54.7
	SD.=15.8	d=0.4			S.D.=15.0		

Dom	AHG	Dec	AHG	v	Dec	d	HP
0	180°39.5	21°34.9	197°38.1	13.5	17°57.6	10.6	54.7
1	195°39.4	21°35.3	212°10.6	13.4	18°08.1	10.5	54.7
2	210°39.4	21°35.7	226°43.0	13.4	18°18.6	10.5	54.7
3	225°39.3	21°36.1	241°15.4	13.4	18°29.1	10.4	54.7
4	240°39.2	21°36.5	255°47.8	13.3	18°39.4	10.3	54.7
5	255°39.1	21°36.9	270°20.0	13.3	18°49.6	10.2	54.7
6	270°39.0	21°37.2	284°52.3	13.2	18°59.8	10.1	54.6
7	285°38.9	21°37.6	299°24.5	13.2	19°09.9	10.0	54.6
8	300°38.9	21°38.0	313°56.6	13.1	19°19.9	9.9	54.6
9	315°38.8	21°38.4	328°28.7	13.1	19°29.8	9.9	54.6
10	330°38.7	21°38.8	343°00.8	13.0	19°39.6	9.8	54.6
11	345°38.6	21°39.2	357°32.8	13.0	19°49.3	9.7	54.6
12	0°38.5	21°39.5	12°04.7	12.9	19°58.9	9.6	54.6
13	15°38.4	21°39.9	26°36.6	12.9	20°08.5	9.5	54.6
14	30°38.4	21°40.3	41°08.5	12.8	20°17.9	9.4	54.5
15	45°38.3	21°40.7	55°40.3	12.8	20°27.3	9.3	54.5
16	60°38.2	21°41.1	70°12.0	12.7	20°36.5	9.2	54.5
17	75°38.1	21°41.5	84°43.7	12.7	20°45.7	9.1	54.5
18	90°38.0	21°41.8	99°15.4	12.6	20°54.7	9.0	54.5
19	105°37.9	21°42.2	113°47.0	12.6	21°03.7	8.9	54.5
20	120°37.8	21°42.6	128°18.6	12.5	21°12.6	8.8	54.5
21	135°37.8	21°43.0	142°50.1	12.5	21°21.4	8.7	54.5
22	150°37.7	21°43.3	157°21.5	12.4	21°30.0	8.6	54.4
23	165°37.6	21°43.7	171°53.0	12.4	21°38.6	8.5	54.4
	SD.=15.8	d=0.4			S.D.=14.9		

Lun	AHG	Dec	AHG	v	Dec	d	HP
0	180°37.5	21°44.1	186°24.3	12.3	21°47.1	8.4	54.4
1	195°37.4	21°44.5	200°55.6	12.3	21°55.5	8.3	54.4
2	210°37.3	21°44.8	215°26.9	12.2	22°03.8	8.2	54.4
3	225°37.2	21°45.2	229°58.1	12.2	22°11.9	8.1	54.4
4	240°37.1	21°45.6	244°29.3	12.1	22°20.0	8.0	54.4
5	255°37.1	21°46.0	259°00.4	12.1	22°28.0	7.9	54.4
6	270°37.0	21°46.3	273°31.5	12.1	22°35.8	7.8	54.4
7	285°36.9	21°46.7	288°02.5	12.0	22°43.6	7.7	54.3
8	300°36.8	21°47.1	302°33.5	12.0	22°51.3	7.6	54.3
9	315°36.7	21°47.4	317°04.5	11.9	22°58.8	7.5	54.3
10	330°36.6	21°47.8	331°35.3	11.9	23°06.3	7.4	54.3
11	345°36.5	21°48.2	346°06.2	11.8	23°13.6	7.3	54.3
12	0°36.4	21°48.5	0°37.0	11.8	23°20.8	7.2	54.3
13	15°36.4	21°48.9	15°07.7	11.7	23°27.9	7.1	54.3
14	30°36.3	21°49.3	29°38.4	11.7	23°34.9	7.0	54.3
15	45°36.2	21°49.6	44°09.1	11.6	23°41.8	6.8	54.3
16	60°36.1	21°50.0	58°39.7	11.6	23°48.6	6.7	54.3
17	75°36.0	21°50.4	73°10.3	11.6	23°55.3	6.6	54.2
18	90°35.9	21°50.7	87°40.8	11.5	24°01.9	6.5	54.2
19	105°35.8	21°51.1	102°11.3	11.5	24°08.3	6.4	54.2
20	120°35.7	21°51.5	116°41.8	11.4	24°14.6	6.3	54.2
21	135°35.6	21°51.8	131°12.2	11.4	24°20.9	6.2	54.2
22	150°35.5	21°52.2	145°42.5	11.3	24°27.0	6.0	54.2
23	165°35.5	21°52.5	160°12.8	11.3	24°33.0	5.9	54.2
	SD.=15.8	d=0.4			S.D.=14.8		

Lat.	Crepúsculo Naut.	Crepúsculo Civil	Orto Sol	Ocaso Sol Civil	Ocaso Sol Naut.	Ocaso Sol
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	–:–	–:–	–:–
68	–:–	–:–	–:–	–:–	–:–	–:–
66	–:–	–:–	01:25	22:33	–:–	–:–
64	–:–	–:–	02:06	21:51	–:–	–:–
62	–:–	00:39	02:33	21:23	23:24	–:–
60	–:–	01:35	02:54	21:02	22:22	–:–
58	–:–	02:06	03:11	20:45	21:50	–:–
56	00:35	02:29	03:26	20:30	21:27	23:27
54	01:27	02:48	03:38	20:18	21:08	22:31
52	01:56	03:03	03:49	20:07	20:53	22:01
50	02:17	03:16	03:58	19:57	20:40	21:39
45	02:56	03:43	04:19	19:37	20:13	21:00
40	03:23	04:03	04:35	19:20	19:52	20:33
35	03:44	04:19	04:48	19:07	19:36	20:11
30	04:01	04:33	05:00	18:55	19:22	19:54
20	04:28	04:56	05:20	18:35	18:59	19:28
10	04:48	05:15	05:38	18:17	18:40	19:07
0	05:06	05:32	05:54	18:01	18:23	18:49
S 10	05:21	05:47	06:10	17:45	18:08	18:34
20	05:36	06:03	06:27	17:28	17:52	18:19
30	05:51	06:20	06:46	17:09	17:35	18:04
35	05:58	06:30	06:57	16:57	17:25	17:56
40	06:07	06:40	07:10	16:44	17:14	17:48
45	06:16	06:52	07:25	16:29	17:02	17:39
50	06:26	07:07	07:44	16:11	16:48	17:28
52	06:31	07:13	07:53	16:02	16:41	17:24
54	06:35	07:20	08:03	15:52	16:34	17:19
56	06:41	07:28	08:14	15:41	16:26	17:14
58	06:46	07:37	08:26	15:28	16:17	17:08
60	06:53	07:47	08:41	15:13	16:07	17:02

Lat.	Orto luna Sa	Orto luna Dom	Orto luna Lun	Ocaso luna Sa	Ocaso luna Dom	Ocaso luna Lun
N 72	00:58	–:–	–:–	21:48	–:–	–:–
70	01:23	00:38	–:–	20:38	–:–	–:–
68	01:42	01:16	00:13	20:01	22:41	–:–
66	01:58	01:43	01:19	19:36	21:35	–:–
64	02:10	02:03	01:55	19:16	21:00	22:54
62	02:21	02:20	02:21	19:00	20:35	22:11
60	02:30	02:34	02:41	18:47	20:16	21:43
58	02:39	02:46	02:58	18:36	19:59	21:21
56	02:46	02:57	03:12	18:26	19:46	21:03
54	02:52	03:06	03:25	18:17	19:34	20:48
52	02:58	03:15	03:35	18:10	19:23	20:35
50	03:03	03:22	03:45	18:03	19:14	20:23
45	03:15	03:38	04:06	17:48	18:55	20:00
40	03:24	03:51	04:22	17:36	18:39	19:41
35	03:33	04:03	04:37	17:26	18:26	19:25
30	03:40	04:13	04:49	17:17	18:14	19:11
20	03:53	04:30	05:10	17:01	17:54	18:48
10	04:04	04:45	05:29	16:48	17:37	18:28
0	04:14	04:59	05:46	16:36	17:21	18:09
S 10	04:25	05:13	06:03	16:23	17:06	17:51
20	04:36	05:29	06:22	16:10	16:49	17:31
30	04:49	05:46	06:44	15:55	16:29	17:08
35	04:57	05:57	06:56	15:46	16:18	16:54
40	05:06	06:09	07:11	15:36	16:05	16:39
45	05:16	06:23	07:29	15:25	15:50	16:20
50	05:28	06:40	07:51	15:11	15:32	15:58
52	05:34	06:48	08:01	15:04	15:23	15:47
54	05:40	06:57	08:13	14:57	15:13	15:34
56	05:48	07:08	08:27	14:49	15:02	15:20
58	05:56	07:20	08:43	14:40	14:50	15:04
60	06:05	07:33	09:02	14:30	14:35	14:44

Día	Sol Ec. tiempo 00:00 h	Sol Ec. tiempo 12:00 h	Sol Paso Merid	Luna Paso Meridiano Superior	Luna Paso Meridiano Inferior	Luna Edad
28	02:46	02:42	11:57	10:24	22:47	28(4%)
29	02:38	02:34	11:57	11:10	23:33	29(1%)
30	02:30	02:26	11:57	11:57	00:21	0(0%)

Mayo 31, 01, 02 (Mar, Mie, Jue)

	Aries	Venus		Martes		Júpiter		Saturno	
Mar	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	248°28.4	217°11.2	10°33.6	243°39.9	0°10.6	244°43.7	0°21.3	280°34.9	-14°09.4
1	263°30.9	232°10.9	10°34.6	258°40.6	0°11.4	259°45.7	0°21.4	295°37.3	-14°09.4
2	278°33.3	247°10.5	10°35.6	273°41.4	0°12.1	274°47.8	0°21.6	310°39.8	-14°09.4
3	293°35.8	262°10.2	10°36.6	288°42.1	0°12.8	289°49.9	0°21.7	325°42.2	-14°09.4
4	308°38.3	277°09.8	10°37.6	303°42.9	0°13.5	304°52.0	0°21.9	340°44.7	-14°09.4
5	323°40.7	292°09.5	10°38.6	318°43.7	0°14.2	319°54.1	0°22.0	355°47.1	-14°09.4
6	338°43.2	307°09.2	10°39.6	333°44.4	0°15.0	334°56.2	0°22.2	10°49.6	-14°09.4
7	353°45.7	322°08.8	10°40.6	348°45.2	0°15.7	349°58.3	0°22.3	25°52.0	-14°09.4
8	8°48.1	337°08.5	10°41.6	3°45.9	0°16.4	5°00.4	0°22.5	40°54.4	-14°09.4
9	23°50.6	352°08.1	10°42.6	18°46.7	0°17.1	20°02.5	0°22.6	55°56.9	-14°09.4
10	38°53.1	7°07.8	10°43.6	33°47.5	0°17.9	35°04.6	0°22.8	70°59.3	-14°09.4
11	53°55.5	22°07.5	10°44.6	48°48.2	0°18.6	50°06.7	0°22.9	86°01.8	-14°09.4
12	68°58.0	37°07.1	10°45.6	63°49.0	0°19.3	65°08.8	0°23.1	101°04.2	-14°09.4
13	84°00.4	52°06.8	10°46.6	78°49.7	0°20.0	80°10.9	0°23.2	116°06.7	-14°09.4
14	99°02.9	67°06.4	10°47.6	93°50.5	0°20.7	95°13.0	0°23.4	131°09.1	-14°09.4
15	114°05.4	82°06.1	10°48.6	108°51.2	0°21.5	110°15.0	0°23.5	146°11.5	-14°09.4
16	129°07.8	97°05.7	10°49.5	123°52.0	0°22.2	125°17.1	0°23.7	161°14.0	-14°09.4
17	144°10.3	112°05.4	10°50.5	138°52.8	0°22.9	140°19.2	0°23.8	176°16.4	-14°09.4
18	159°12.8	127°05.0	10°51.5	153°53.5	0°23.6	155°21.3	0°24.0	191°18.9	-14°09.4
19	174°15.2	142°04.7	10°52.5	168°54.3	0°24.4	170°23.4	0°24.1	206°21.3	-14°09.4
20	189°17.7	157°04.4	10°53.5	183°55.0	0°25.1	185°25.5	0°24.3	221°23.8	-14°09.4
21	204°20.2	172°04.0	10°54.5	198°55.8	0°25.8	200°27.6	0°24.4	236°26.2	-14°09.4
22	219°22.6	187°03.7	10°55.5	213°56.6	0°26.5	215°29.7	0°24.6	251°28.7	-14°09.4
23	234°25.1	202°03.3	10°56.5	228°57.3	0°27.3	230°31.8	0°24.7	266°31.1	-14°09.4
Mer.pass.:7:24:		v-0.3 d1.0 m-3.9		v0.8 d0.7 m0.7		v2.1 d0.2 m-2.1		v2.4 d-0.0 m0.8	

Mie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	249°27.6	217°03.0	10°57.5	243°58.1	0°28.0	245°33.9	0°24.9	281°33.6	-14°09.4
1	264°30.0	232°02.6	10°58.5	258°58.8	0°28.7	260°36.0	0°25.0	296°36.0	-14°09.4
2	279°32.5	247°02.3	10°59.5	273°59.6	0°29.4	275°38.1	0°25.2	311°38.4	-14°09.4
3	294°34.9	262°01.9	11°00.5	289°00.4	0°30.1	290°40.2	0°25.3	326°40.9	-14°09.4
4	309°37.4	277°01.6	11°01.4	304°01.1	0°30.9	305°42.3	0°25.5	341°43.3	-14°09.4
5	324°39.9	292°01.2	11°02.4	319°01.9	0°31.6	320°44.4	0°25.6	356°45.8	-14°09.4
6	339°42.3	307°00.9	11°03.4	334°02.6	0°32.3	335°46.5	0°25.8	11°48.2	-14°09.4
7	354°44.8	322°00.5	11°04.4	349°03.4	0°33.0	350°48.6	0°25.9	26°50.7	-14°09.4
8	9°47.3	337°00.2	11°05.4	4°04.2	0°33.7	5°50.7	0°26.1	41°53.1	-14°09.4
9	24°49.7	351°59.8	11°06.4	19°04.9	0°34.5	20°52.8	0°26.2	56°55.6	-14°09.4
10	39°52.2	6°59.5	11°07.4	34°05.7	0°35.2	35°54.9	0°26.4	71°58.0	-14°09.4
11	54°54.7	21°59.1	11°08.4	49°06.4	0°35.9	50°57.0	0°26.5	87°00.5	-14°09.4
12	69°57.1	36°58.8	11°09.3	64°07.2	0°36.6	65°59.1	0°26.7	102°02.9	-14°09.4
13	84°59.6	51°58.4	11°10.3	79°08.0	0°37.4	81°01.2	0°26.8	117°05.4	-14°09.4
14	100°02.1	66°58.1	11°11.3	94°08.7	0°38.1	96°03.3	0°27.0	132°07.8	-14°09.4
15	115°04.5	81°57.7	11°12.3	109°09.5	0°38.8	111°05.4	0°27.1	147°10.3	-14°09.4
16	130°07.0	96°57.4	11°13.3	124°10.2	0°39.5	126°07.5	0°27.3	162°12.7	-14°09.4
17	145°09.4	111°57.0	11°14.3	139°11.0	0°40.2	141°09.6	0°27.4	177°15.2	-14°09.4
18	160°11.9	126°56.7	11°15.3	154°11.8	0°41.0	156°11.7	0°27.6	192°17.6	-14°09.4
19	175°14.4	141°56.3	11°16.2	169°12.5	0°41.7	171°13.8	0°27.7	207°20.1	-14°09.4
20	190°16.8	156°55.9	11°17.2	184°13.3	0°42.4	186°15.9	0°27.9	222°22.5	-14°09.4
21	205°19.3	171°55.6	11°18.2	199°14.0	0°43.1	201°18.0	0°28.0	237°25.0	-14°09.4
22	220°21.8	186°55.2	11°19.2	214°14.8	0°43.8	216°20.1	0°28.1	252°27.4	-14°09.4
23	235°24.2	201°54.9	11°20.2	229°15.6	0°44.6	231°22.2	0°28.3	267°29.8	-14°09.4
Mer.pass.:7:20:		v-0.3 d1.0 m-3.9		v0.8 d0.7 m0.7		v2.1 d0.1 m-2.1		v2.4 d-0.0 m0.8	

Jue	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	250°26.7	216°54.5	11°21.2	244°16.3	0°45.3	246°24.3	0°28.4	282°32.3	-14°09.4
1	265°29.2	231°54.2	11°22.1	259°17.1	0°46.0	261°26.4	0°28.6	297°34.7	-14°09.5
2	280°31.6	246°53.8	11°23.1	274°17.9	0°46.7	276°28.5	0°28.7	312°37.2	-14°09.5
3	295°34.1	261°53.5	11°24.1	289°18.6	0°47.5	291°30.6	0°28.9	327°39.6	-14°09.5
4	310°36.6	276°53.1	11°25.1	304°19.4	0°48.2	306°32.7	0°29.0	342°42.1	-14°09.5
5	325°39.0	291°52.7	11°26.1	319°20.1	0°48.9	321°34.8	0°29.2	357°44.6	-14°09.5
6	340°41.5	306°52.4	11°27.1	334°20.9	0°49.6	336°36.9	0°29.3	12°47.0	-14°09.5
7	355°43.9	321°52.0	11°28.0	349°21.7	0°50.3	351°39.0	0°29.5	27°49.5	-14°09.5
8	10°46.4	336°51.7	11°29.0	4°22.4	0°51.1	6°41.1	0°29.6	42°51.9	-14°09.5
9	25°48.9	351°51.3	11°30.0	19°23.2	0°51.8	21°43.2	0°29.8	57°54.4	-14°09.5
10	40°51.3	6°50.9	11°31.0	34°23.9	0°52.5	36°45.3	0°29.9	72°56.8	-14°09.5
11	55°53.8	21°50.6	11°31.9	49°24.7	0°53.2	51°47.4	0°30.1	87°59.3	-14°09.5
12	70°56.3	36°50.2	11°32.9	64°25.5	0°53.9	66°49.5	0°30.2	103°01.7	-14°09.5
13	85°58.7	51°49.9	11°33.9	79°26.2	0°54.7	81°51.6	0°30.3	118°04.2	-14°09.5
14	101°01.2	66°49.5	11°34.9	94°27.0	0°55.4	96°53.7	0°30.5	133°06.6	-14°09.5
15	116°03.7	81°49.1	11°35.9	109°27.8	0°56.1	111°55.8	0°30.6	148°09.1	-14°09.5
16	131°06.1	96°48.8	11°36.8	124°28.5	0°56.8	126°57.9	0°30.8	163°11.5	-14°09.5
17	146°08.6	111°48.4	11°37.8	139°29.3	0°57.5	142°00.0	0°30.9	178°14.0	-14°09.5
18	161°11.0	126°48.0	11°38.8	154°30.0	0°58.3	157°02.1	0°31.1	193°16.4	-14°09.5
19	176°13.5	141°47.7	11°39.8	169°30.8	0°59.0	172°04.2	0°31.2	208°18.9	-14°09.5
20	191°16.0	156°47.3	11°40.7	184°31.6	0°59.7	187°06.3	0°31.4	223°21.3	-14°09.5
21	206°18.4	171°47.0	11°41.7	199°32.3	1°00.4	202°08.4	0°31.5	238°23.8	-14°09.5
22	221°20.9	186°46.6	11°42.7	214°33.1	1°01.1	217°10.5	0°31.7	253°26.2	-14°09.5
23	236°23.4	201°46.2	11°43.7	229°33.9	1°01.9	232°12.6	0°31.8	268°28.7	-14°09.5
Mer.pass.:7:17:		v-0.4 d1.0 m-3.9		v0.8 d0.7 m0.7		v2.1 d0.1 m-2.1		v2.4 d-0.0 m0.7	

Estrellas

	AHS	Dec
Alpheratz	357°37.2	29°12.6
Ankaa	353°09.5	-42°11.0
Schedar	349°33.8	56°39.3
Diphda	348°49.6	-17°51.9
Achernar	335°22.3	-57°07.3
Hamal	327°53.9	23°33.9
Polaris	315°30.1	89°21.3
Akamar	315°13.8	-40°12.9
Menkar	314°08.7	4°10.5
Mirfak	308°31.8	49°56.2
Aldebaran	290°42.5	16°33.2
Rigel	281°06.3	-8°10.6
Capella	280°25.6	46°01.2
Bellatrix	278°25.5	6°22.1
Elnath	278°05.0	28°37.5
Alnilam	275°40.3	-1°11.3
Betelgeuse	270°54.8	7°24.6
Canopus	263°53.9	-52°42.6
Sirius	258°28.4	-16°44.7
Adara	255°07.9	-29°00.3
Procyon	244°53.3	5°10.2
Pollux	243°20.1	27°58.4
Avior	234°16.0	-59°35.1
Suhail	222°48.1	-43°31.6
Miaplacidus	221°39.1	-69°48.8
Alphard	217°50.0	-8°45.4
Regulus	207°36.8	11°51.6
Dubhe	193°43.6	61°38.2
Denebola	182°27.0	14°26.9
Gienah	175°45.6	-17°40.0
Acrux	173°02.1	-63°13.6
Gacrux	171°53.7	-57°14.5
Alioth	166°14.6	55°50.6
Spica	158°24.4	-11°16.7
Alcaid	152°53.4	49°12.3
Hadar	148°38.5	-60°29.0
Menkent	147°59.8	-36°28.9
Arcturus	145°49.5	19°04.3
Rigil Kent.	139°42.7	-60°55.7
Zubenelg.	136°58.1	-16°08.1
Kochab	137°18.7	74°04.0
Alphecca	126°05.2	26°38.4
Antares	112°18.1	-26°28.9
Atria	107°13.7	-69°04.0
Sabik	102°04.9	-15°45.1
Shaula	96°12.9	-37°07.1
Rasalhague	96°00.2	12°32.6
Etamin	90°42.7	51°29.0
Kaus Aust.	83°35.0	-34°22.4
Vega	80°34.3	38°48.1
Nunki	75°50.1	-26°16.1
Altair	62°01.9	8°55.5
Peacock	53°08.8	-56°39.6
Deneb	49°27.0	45°21.3
Enif	33°40.8	9°58.5
Alnair	27°35.6	-46°51.0
Fomalhaut	15°17.0	-29°30.1
Scheat	13°47.4	28°12.0
Markab	13°32.1	15°19.3

May 31 Mar	AHS	Paso Merid
Venus	328°42.8	09:31
Mars	355°11.5	07:45
Jupiter	356°15.2	07:40
Saturn	32°06.5	05:17

Jun 01 Mie	AHS	Paso Merid
Venus	327°35.4	09:32
Mars	354°30.5	07:44
Jupiter	356°06.4	07:37
Saturn	32°06.0	05:13

Jun 02 Jue	AHS	Paso Merid
Venus	326°27.8	09:33
Mars	353°49.6	07:43
Jupiter	355°57.6	07:33
Saturn	32°05.6	05:09

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.1

h Sol Luna

Mar	AHG	Dec	AHG	v	Dec	d	HP
0	180°35.4	21°52.9	174°43.1	11.3	24°38.8	5.8	54.2
1	195°35.3	21°53.3	189°13.3	11.2	24°44.6	5.7	54.2
2	210°35.2	21°53.6	203°43.5	11.2	24°50.2	5.6	54.2
3	225°35.1	21°54.0	218°13.7	11.1	24°55.8	5.5	54.2
4	240°35.0	21°54.3	232°43.8	11.1	25°01.2	5.3	54.2
5	255°34.9	21°54.7	247°13.9	11.1	25°06.5	5.2	54.2
6	270°34.8	21°55.0	261°44.0	11.0	25°11.6	5.1	54.1
7	285°34.7	21°55.4	276°14.0	11.0	25°16.7	5.0	54.1
8	300°34.6	21°55.8	290°44.0	11.0	25°21.6	4.9	54.1
9	315°34.5	21°56.1	305°13.9	10.9	25°26.4	4.7	54.1
10	330°34.4	21°56.5	319°43.8	10.9	25°31.1	4.6	54.1
11	345°34.4	21°56.8	334°13.7	10.9	25°35.7	4.5	54.1
12	0°34.3	21°57.2	348°43.5	10.8	25°40.1	4.4	54.1
13	15°34.2	21°57.5	3°13.3	10.8	25°44.5	4.3	54.1
14	30°34.1	21°57.9	17°43.1	10.8	25°48.7	4.1	54.1
15	45°34.0	21°58.2	32°12.9	10.7	25°52.7	4.0	54.1
16	60°33.9	21°58.6	46°42.6	10.7	25°56.7	3.9	54.1
17	75°33.8	21°58.9	61°12.3	10.7	26°00.5	3.8	54.1
18	90°33.7	21°59.3	75°42.0	10.7	26°04.2	3.6	54.1
19	105°33.6	21°59.6	90°11.6	10.6	26°07.8	3.5	54.1
20	120°33.5	22°00.0	104°41.2	10.6	26°11.3	3.4	54.1
21	135°33.4	22°00.3	119°10.8	10.6	26°14.6	3.3	54.1
22	150°33.3	22°00.6	133°40.4	10.6	26°17.8	3.1	54.0
23	165°33.2	22°01.0	148°09.9	10.5	26°20.9	3.0	54.0
	SD.=15.8	d=0.4			S.D.=14.8		

Mie	AHG	Dec	AHG	v	Dec	d	HP
0	180°33.1	22°01.3	162°39.5	10.5	26°23.8	2.9	54.0
1	195°33.0	22°01.7	177°09.0	10.5	26°26.7	2.8	54.0
2	210°32.9	22°02.0	191°38.5	10.5	26°29.4	2.6	54.0
3	225°32.8	22°02.4	206°07.9	10.5	26°31.9	2.5	54.0
4	240°32.7	22°02.7	220°37.4	10.4	26°34.4	2.4	54.0
5	255°32.6	22°03.0	235°06.8	10.4	26°36.7	2.3	54.0
6	270°32.6	22°03.4	249°36.2	10.4	26°38.9	2.1	54.0
7	285°32.5	22°03.7	264°05.6	10.4	26°40.9	2.0	54.0
8	300°32.4	22°04.1	278°35.0	10.4	26°42.9	1.9	54.0
9	315°32.3	22°04.4	293°04.4	10.4	26°44.7	1.7	54.0
10	330°32.2	22°04.7	307°33.8	10.4	26°46.4	1.6	54.0
11	345°32.1	22°05.1	322°03.1	10.4	26°47.9	1.5	54.0
12	0°32.0	22°05.4	336°32.5	10.3	26°49.3	1.4	54.0
13	15°31.9	22°05.7	351°01.8	10.3	26°50.6	1.2	54.0
14	30°31.8	22°06.1	5°31.1	10.3	26°51.8	1.1	54.0
15	45°31.7	22°06.4	20°00.5	10.3	26°52.8	1.0	54.0
16	60°31.6	22°06.7	34°29.8	10.3	26°53.7	0.8	54.0
17	75°31.5	22°07.1	48°59.1	10.3	26°54.5	0.7	54.0
18	90°31.4	22°07.4	63°28.4	10.3	26°55.2	0.6	54.0
19	105°31.3	22°07.7	77°57.7	10.3	26°55.7	0.5	54.0
20	120°31.2	22°08.1	92°27.0	10.3	26°56.1	0.3	54.0
21	135°31.1	22°08.4	106°56.3	10.3	26°56.3	0.2	54.0
22	150°31.0	22°08.7	121°25.6	10.3	26°56.4	0.1	54.0
23	165°30.9	22°09.1	135°55.0	10.3	26°56.4	-0.1	54.0
	SD.=15.8	d=0.3			S.D.=14.7		

Jue	AHG	Dec	AHG	v	Dec	d	HP
0	180°30.8	22°09.4	150°24.3	10.3	26°56.3	-0.2	54.0
1	195°30.7	22°09.7	164°53.6	10.3	26°56.1	-0.3	54.0
2	210°30.6	22°10.0	179°22.9	10.3	26°55.7	-0.5	54.0
3	225°30.5	22°10.4	193°52.3	10.3	26°55.2	-0.6	54.0
4	240°30.4	22°10.7	208°21.6	10.3	26°54.5	-0.7	54.0
5	255°30.3	22°11.0	222°50.9	10.4	26°53.7	-0.8	54.0
6	270°30.2	22°11.3	237°20.3	10.4	26°52.8	-1.0	54.0
7	285°30.1	22°11.7	251°49.7	10.4	26°51.8	-1.1	54.0
8	300°30.0	22°12.0	266°19.1	10.4	26°50.6	-1.2	54.0
9	315°29.9	22°12.3	280°48.5	10.4	26°49.4	-1.4	54.0
10	330°29.8	22°12.6	295°17.9	10.4	26°47.9	-1.5	54.0
11	345°29.7	22°12.9	309°47.3	10.4	26°46.4	-1.6	54.0
12	0°29.6	22°13.3	324°16.7	10.4	26°44.7	-1.7	54.0
13	15°29.5	22°13.6	338°46.2	10.5	26°42.9	-1.9	54.0
14	30°29.4	22°13.9	353°15.7	10.5	26°41.0	-2.0	54.0
15	45°29.3	22°14.2	7°45.2	10.5	26°38.9	-2.1	54.0
16	60°29.2	22°14.5	22°14.7	10.5	26°36.8	-2.2	54.0
17	75°29.1	22°14.8	36°44.2	10.5	26°34.4	-2.4	54.0
18	90°29.0	22°15.2	51°13.8	10.6	26°32.0	-2.5	54.0
19	105°28.9	22°15.5	65°43.3	10.6	26°29.5	-2.6	54.0
20	120°28.8	22°15.8	80°12.9	10.6	26°26.8	-2.7	54.0
21	135°28.7	22°16.1	94°42.6	10.6	26°24.0	-2.9	54.0
22	150°28.6	22°16.4	109°12.2	10.7	26°21.0	-3.0	54.0
23	165°28.5	22°16.7	123°41.9	10.7	26°18.0	-3.1	54.0
	SD.=15.8	d=0.3			S.D.=14.7		

Lat.	Crepúsculo Naut.	Crepúsculo Civil	Orto Sol	Crepúsculo Civil	Crepúsculo Naut.	Ocaso Sol
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	–:–	–:–	–:–
68	–:–	–:–	–:–	–:–	–:–	–:–
66	–:–	–:–	01:13	22:47	–:–	–:–
64	–:–	–:–	01:58	22:00	–:–	–:–
62	–:–	–:–	02:27	21:30	–:–	–:–
60	–:–	01:26	02:49	21:07	22:32	–:–
58	–:–	02:00	03:07	20:49	21:57	–:–
56	–:–	02:25	03:22	20:34	21:32	–:–
54	01:19	02:44	03:35	20:22	21:13	22:40
52	01:50	03:00	03:46	20:10	20:57	22:07
50	02:13	03:13	03:56	20:00	20:43	21:44
45	02:53	03:40	04:17	19:39	20:16	21:04
40	03:21	04:01	04:33	19:23	19:55	20:35
35	03:42	04:18	04:47	19:09	19:38	20:14
30	04:00	04:32	04:59	18:56	19:24	19:56
20	04:27	04:56	05:20	18:36	19:00	19:29
10	04:48	05:15	05:38	18:18	18:41	19:08
0	05:06	05:32	05:54	18:01	18:24	18:50
S 10	05:22	05:48	06:11	17:45	18:08	18:34
20	05:37	06:04	06:28	17:28	17:52	18:19
30	05:52	06:22	06:48	17:08	17:34	18:03
35	06:00	06:31	06:59	16:56	17:24	17:55
40	06:09	06:42	07:12	16:43	17:13	17:47
45	06:18	06:55	07:28	16:27	17:01	17:37
50	06:29	07:10	07:47	16:08	16:46	17:27
52	06:33	07:16	07:56	15:59	16:39	17:22
54	06:38	07:24	08:06	15:49	16:32	17:17
56	06:44	07:32	08:18	15:38	16:23	17:11
58	06:50	07:41	08:31	15:24	16:14	17:05
60	06:57	07:52	08:46	15:09	16:04	16:59

Lat.	Orto luna Mar	Orto luna Mie	Orto luna Jue	Ocaso luna Mar	Ocaso luna Mie	Ocaso luna Jue
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	–:–	–:–	–:–
68	–:–	–:–	–:–	–:–	–:–	–:–
66	–:–	–:–	–:–	–:–	–:–	–:–
64	01:42	–:–	–:–	–:–	–:–	–:–
62	02:25	02:38	03:17	23:42	–:–	00:49
60	02:54	03:18	04:02	23:02	–:–	00:04
58	03:16	03:46	04:32	22:35	23:34	–:–
56	03:34	04:07	04:54	22:13	23:11	23:54
54	03:50	04:25	05:13	21:56	22:53	23:37
52	04:03	04:40	05:29	21:41	22:37	23:22
50	04:15	04:53	05:42	21:28	22:23	23:09
45	04:39	05:21	06:10	21:01	21:56	22:43
40	04:59	05:42	06:32	20:40	21:34	22:22
35	05:15	06:00	06:50	20:22	21:16	22:04
30	05:30	06:15	07:05	20:07	21:00	21:49
20	05:54	06:41	07:32	19:41	20:34	21:23
10	06:15	07:04	07:54	19:19	20:11	21:01
0	06:35	07:25	08:16	18:59	19:49	20:40
S 10	06:54	07:46	08:37	18:38	19:28	20:19
20	07:16	08:09	09:00	18:16	19:05	19:57
30	07:40	08:35	09:26	17:51	18:39	19:31
35	07:55	08:51	09:42	17:36	18:23	19:15
40	08:12	09:09	10:00	17:18	18:05	18:58
45	08:32	09:31	10:21	16:58	17:43	18:36
50	08:58	09:58	10:49	16:31	17:15	18:09
52	09:10	10:12	11:03	16:19	17:01	17:55
54	09:25	10:28	11:18	16:04	16:45	17:40
56	09:41	10:46	11:37	15:47	16:27	17:21
58	10:02	11:09	11:59	15:27	16:04	16:59
60	10:27	11:39	12:28	15:01	15:34	16:30

Día	Sol Ec. tiempo 00:00 h	Sol Ec. tiempo 12:00 h	Sol Paso Merid	Luna Paso Meridiano Superior	Luna Paso Meridiano Inferior	Luna Edad
31	02:21	02:17	11:57	12:46	00:21	1(1%)
1	02:13	02:08	11:57	13:37	01:11	2(4%)
2	02:03	01:58	11:58	14:27	02:02	3(8%)

Junio 03, 04, 05 (Vie, Sa, Dom)

	Aries	Venus		Martes		Júpiter		Saturno	
Vie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	251°25.8	216°45.9	11°44.6	244°34.6	1°02.6	247°14.7	0°31.9	283°31.1	-14°09.5
1	266°28.3	231°45.5	11°45.6	259°35.4	1°03.3	262°16.8	0°32.1	298°33.6	-14°09.5
2	281°30.8	246°45.1	11°46.6	274°36.1	1°04.0	277°19.0	0°32.2	313°36.1	-14°09.6
3	296°33.2	261°44.8	11°47.6	289°36.9	1°04.7	292°21.1	0°32.4	328°38.5	-14°09.6
4	311°35.7	276°44.4	11°48.5	304°37.7	1°05.4	307°23.2	0°32.5	343°41.0	-14°09.6
5	326°38.2	291°44.0	11°49.5	319°38.4	1°06.2	322°25.3	0°32.7	358°43.4	-14°09.6
6	341°40.6	306°43.7	11°50.5	334°39.2	1°06.9	337°27.4	0°32.8	13°45.9	-14°09.6
7	356°43.1	321°43.3	11°51.4	349°40.0	1°07.6	352°29.5	0°33.0	28°48.3	-14°09.6
8	11°45.5	336°42.9	11°52.4	4°40.7	1°08.3	7°31.6	0°33.1	43°50.8	-14°09.6
9	26°48.0	351°42.6	11°53.4	19°41.5	1°09.0	22°33.7	0°33.2	58°53.2	-14°09.6
10	41°50.5	6°42.2	11°54.4	34°42.3	1°09.8	37°35.8	0°33.4	73°55.7	-14°09.6
11	56°52.9	21°41.8	11°55.3	49°43.0	1°10.5	52°37.9	0°33.5	88°58.1	-14°09.6
12	71°55.4	36°41.4	11°56.3	64°43.8	1°11.2	67°40.0	0°33.7	104°00.6	-14°09.6
13	86°57.9	51°41.1	11°57.3	79°44.5	1°11.9	82°42.1	0°33.8	119°03.1	-14°09.6
14	102°00.3	66°40.7	11°58.2	94°45.3	1°12.6	97°44.2	0°34.0	134°05.5	-14°09.6
15	117°02.8	81°40.3	11°59.2	109°46.1	1°13.4	112°46.3	0°34.1	149°08.0	-14°09.6
16	132°05.3	96°40.0	12°00.2	124°46.8	1°14.1	127°48.5	0°34.2	164°10.4	-14°09.6
17	147°07.7	111°39.6	12°01.1	139°47.6	1°14.8	142°50.6	0°34.4	179°12.9	-14°09.6
18	162°10.2	126°39.2	12°02.1	154°48.4	1°15.5	157°52.7	0°34.5	194°15.3	-14°09.6
19	177°12.7	141°38.8	12°03.1	169°49.1	1°16.2	172°54.8	0°34.7	209°17.8	-14°09.6
20	192°15.1	156°38.5	12°04.0	184°49.9	1°16.9	187°56.9	0°34.8	224°20.3	-14°09.6
21	207°17.6	171°38.1	12°05.0	199°50.7	1°17.7	202°59.0	0°35.0	239°22.7	-14°09.7
22	222°20.0	186°37.7	12°06.0	214°51.4	1°18.4	218°01.1	0°35.1	254°25.2	-14°09.7
23	237°22.5	201°37.3	12°06.9	229°52.2	1°19.1	233°03.2	0°35.2	269°27.6	-14°09.7
Mer.pass.:7:13:		v-0.4 d1.0 m-3.9		v0.8 d0.7 m0.7		v2.1 d0.1 m-2.1		v2.5 d-0.0 m0.7	

Sa	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	252°25.0	216°37.0	12°07.9	244°52.9	1°19.8	248°05.3	0°35.4	284°30.1	-14°09.7
1	267°27.4	231°36.6	12°08.9	259°53.7	1°20.5	263°07.4	0°35.5	299°32.5	-14°09.7
2	282°29.9	246°36.2	12°09.8	274°54.5	1°21.3	278°09.6	0°35.7	314°35.0	-14°09.7
3	297°32.4	261°35.8	12°10.8	289°55.2	1°22.0	293°11.7	0°35.8	329°37.5	-14°09.7
4	312°34.8	276°35.5	12°11.7	304°56.0	1°22.7	308°13.8	0°36.0	344°39.9	-14°09.7
5	327°37.3	291°35.1	12°12.7	319°56.8	1°23.4	323°15.9	0°36.1	359°42.4	-14°09.7
6	342°39.8	306°34.7	12°13.7	334°57.5	1°24.1	338°18.0	0°36.2	14°44.8	-14°09.7
7	357°42.2	321°34.3	12°14.6	349°58.3	1°24.8	353°20.1	0°36.4	29°47.3	-14°09.7
8	12°44.7	336°34.0	12°15.6	4°59.1	1°25.6	8°22.2	0°36.5	44°49.8	-14°09.7
9	27°47.2	351°33.6	12°16.5	19°59.8	1°26.3	23°24.3	0°36.7	59°52.2	-14°09.7
10	42°49.6	6°33.2	12°17.5	35°00.6	1°27.0	38°26.4	0°36.8	74°54.7	-14°09.7
11	57°52.1	21°32.8	12°18.5	50°01.4	1°27.7	53°28.6	0°37.0	89°57.1	-14°09.7
12	72°54.5	36°32.4	12°19.4	65°02.1	1°28.4	68°30.7	0°37.1	104°59.6	-14°09.7
13	87°57.0	51°32.1	12°20.4	80°02.9	1°29.1	83°32.8	0°37.2	120°02.0	-14°09.8
14	102°59.5	66°31.7	12°21.3	95°03.7	1°29.9	98°34.9	0°37.4	135°04.5	-14°09.8
15	118°01.9	81°31.3	12°22.3	110°04.4	1°30.6	113°37.0	0°37.5	150°07.0	-14°09.8
16	133°04.4	96°30.9	12°23.3	125°05.2	1°31.3	128°39.1	0°37.7	165°09.4	-14°09.8
17	148°06.9	111°30.5	12°24.2	140°06.0	1°32.0	143°41.2	0°37.8	180°11.9	-14°09.8
18	163°09.3	126°30.2	12°25.2	155°06.7	1°32.7	158°43.3	0°37.9	195°14.4	-14°09.8
19	178°11.8	141°29.8	12°26.1	170°07.5	1°33.4	173°45.5	0°38.1	210°16.8	-14°09.8
20	193°14.3	156°29.4	12°27.1	185°08.2	1°34.2	188°47.6	0°38.2	225°19.3	-14°09.8
21	208°16.7	171°29.0	12°28.0	200°09.0	1°34.9	203°49.7	0°38.4	240°21.7	-14°09.8
22	223°19.2	186°28.6	12°29.0	215°09.8	1°35.6	218°51.8	0°38.5	255°24.2	-14°09.8
23	238°21.7	201°28.2	12°30.0	230°10.5	1°36.3	233°53.9	0°38.6	270°26.7	-14°09.8
Mer.pass.:7:09:		v-0.4 d1.0 m-3.9		v0.8 d0.7 m0.6		v2.1 d0.1 m-2.1		v2.5 d-0.0 m0.7	

Dom	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	253°24.1	216°27.9	12°30.9	245°11.3	1°37.0	248°56.0	0°38.8	285°29.1	-14°09.8
1	268°26.6	231°27.5	12°31.9	260°12.1	1°37.7	263°58.1	0°38.9	300°31.6	-14°09.8
2	283°29.0	246°27.1	12°32.8	275°12.8	1°38.5	279°00.3	0°39.1	315°34.0	-14°09.8
3	298°31.5	261°26.7	12°33.8	290°13.6	1°39.2	294°02.4	0°39.2	330°36.5	-14°09.9
4	313°34.0	276°26.3	12°34.7	305°14.4	1°39.9	309°04.5	0°39.3	345°39.0	-14°09.9
5	328°36.4	291°25.9	12°35.7	320°15.1	1°40.6	324°06.6	0°39.5	0°41.4	-14°09.9
6	343°38.9	306°25.5	12°36.6	335°15.9	1°41.3	339°08.7	0°39.6	15°43.9	-14°09.9
7	358°41.4	321°25.1	12°37.6	350°16.7	1°42.0	354°10.8	0°39.8	30°46.4	-14°09.9
8	13°43.8	336°24.8	12°38.5	5°17.4	1°42.8	9°13.0	0°39.9	45°48.8	-14°09.9
9	28°46.3	351°24.4	12°39.5	20°18.2	1°43.5	24°15.1	0°40.0	60°51.3	-14°09.9
10	43°48.8	6°24.0	12°40.4	35°19.0	1°44.2	39°17.2	0°40.2	75°53.7	-14°09.9
11	58°51.2	21°23.6	12°41.4	50°19.7	1°44.9	54°19.3	0°40.3	90°56.2	-14°09.9
12	73°53.7	36°23.2	12°42.3	65°20.5	1°45.6	69°21.4	0°40.5	105°58.7	-14°09.9
13	88°56.1	51°22.8	12°43.3	80°21.3	1°46.3	84°23.5	0°40.6	121°01.1	-14°09.9
14	103°58.6	66°22.4	12°44.2	95°22.0	1°47.0	99°25.7	0°40.7	136°03.6	-14°09.9
15	119°01.1	81°22.0	12°45.2	110°22.8	1°47.8	114°27.8	0°40.9	151°06.1	-14°10.0
16	134°03.5	96°21.6	12°46.1	125°23.6	1°48.5	129°29.9	0°41.0	166°08.5	-14°10.0
17	149°06.0	111°21.3	12°47.1	140°24.3	1°49.2	144°32.0	0°41.2	181°11.0	-14°10.0
18	164°08.5	126°20.9	12°48.0	155°25.1	1°49.9	159°34.1	0°41.3	196°13.5	-14°10.0
19	179°10.9	141°20.5	12°49.0	170°25.9	1°50.6	174°36.2	0°41.4	211°15.9	-14°10.0
20	194°13.4	156°20.1	12°49.9	185°26.6	1°51.3	189°38.4	0°41.6	226°18.4	-14°10.0
21	209°15.9	171°19.7	12°50.9	200°27.4	1°52.0	204°40.5	0°41.7	241°20.9	-14°10.0
22	224°18.3	186°19.3	12°51.8	215°28.2	1°52.8	219°42.6	0°41.9	256°23.3	-14°10.0
23	239°20.8	201°18.9	12°52.7	230°28.9	1°53.5	234°44.7	0°42.0	271°25.8	-14°10.0
Mer.pass.:7:05:		v-0.4 d1.0 m-3.9		v0.8 d0.7 m0.6		v2.1 d0.1 m-2.1		v2.5 d-0.0 m0.7	

Estrellas

	AHS	Dec
Alpheratz	357°37.1	29°12.6
Ankaa	353°09.5	-42°11.0
Schedar	349°33.7	56°39.3
Diphda	348°49.5	-17°51.9
Achernar	335°22.3	-57°07.3
Hamal	327°53.9	23°33.9
Polaris	315°29.2	89°21.3
Akamar	315°13.8	-40°12.9
Menkar	314°08.7	4°10.5
Mirfak	308°31.8	49°56.2
Aldebaran	290°42.5	16°33.2
Rigel	281°06.3	-8°10.6
Capella	280°25.6	46°01.2
Bellatrix	278°25.5	6°22.1
Elnath	278°05.0	28°37.5
Alnilam	275°40.3	-1°11.3
Betelgeuse	270°54.8	7°24.6
Canopus	263°53.9	-52°42.6
Sirius	258°28.4	-16°44.7
Adara	255°07.9	-29°00.3
Procyon	244°53.3	5°10.2
Pollux	243°20.1	27°58.4
Avior	234°16.0	-59°35.1
Suhail	222°48.1	-43°31.5
Miaplacidus	221°39.1	-69°48.8
Alphard	217°50.0	-8°45.4
Regulus	207°36.8	11°51.6
Dubhe	193°43.6	61°38.2
Denebola	182°27.0	14°26.9
Gienah	175°45.6	-17°40.0
Acrux	173°02.2	-63°13.6
Gacrux	171°53.8	-57°14.5
Alioth	166°14.6	55°50.6
Spica	158°24.4	-11°16.7
Alcaid	152°53.4	49°12.3
Hadar	148°38.5	-60°29.0
Menkent	147°59.8	-36°28.9
Arcturus	145°49.5	19°04.3
Rigil Kent.	139°42.7	-60°55.8
Zubenelg.	136°58.1	-16°08.1
Kochab	137°18.8	74°04.0
Alphecca	126°05.2	26°38.4
Antares	112°18.1	-26°28.9
Atria	107°13.7	-69°04.0
Sabik	102°04.9	-15°45.1
Shaula	96°12.9	-37°07.1
Rasalhague	96°00.2	12°32.6
Etamin	90°42.6	51°29.0
Kaus Aust.	83°35.0	-34°22.4
Vega	80°34.3	38°48.1
Nunki	75°50.1	-26°16.1
Altair	62°01.9	8°55.5
Peacock	53°08.8	-56°39.6
Deneb	49°27.0	45°21.3
Enif	33°40.8	9°58.5
Alnair	27°35.6	-46°51.0
Fomalhaut	15°17.0	-29°30.1
Scheat	13°47.3	28°12.0
Markab	13°32.1	15°19.3

Jun 03 Vie	AHS	Paso Merid
Venus	325°20.0	09:33
Mars	353°08.8	07:41
Jupiter	355°48.9	07:30
Saturn	32°05.3	05:05

Jun 04 Sa	AHS	Paso Merid
Venus	324°12.0	09:34
Mars	352°28.0	07:40
Jupiter	355°40.4	07:27
Saturn	32°05.1	05:01

Jun 05 Dom	AHS	Paso Merid
Venus	323°03.7	09:34
Mars	351°47.2	07:39
Jupiter	355°31.9	07:23
Saturn	32°05.0	04:57

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.1

h	Sol		Luna				
Vie	AHG	Dec	AHG	v	Dec	d	HP
0	180°28.4	22°17.0	138°11.6	10.7	26°14.8	-3.2	54.0
1	195°28.3	22°17.3	152°41.3	10.7	26°11.5	-3.4	54.0
2	210°28.2	22°17.7	167°11.1	10.8	26°08.0	-3.5	54.0
3	225°28.1	22°18.0	181°40.9	10.8	26°04.5	-3.6	54.0
4	240°27.9	22°18.3	196°10.7	10.8	26°00.8	-3.7	54.1
5	255°27.8	22°18.6	210°40.6	10.9	25°57.0	-3.9	54.1
6	270°27.7	22°18.9	225°10.4	10.9	25°53.1	-4.0	54.1
7	285°27.6	22°19.2	239°40.3	10.9	25°49.0	-4.1	54.1
8	300°27.5	22°19.5	254°10.3	11.0	25°44.8	-4.2	54.1
9	315°27.4	22°19.8	268°40.3	11.0	25°40.6	-4.3	54.1
10	330°27.3	22°20.1	283°10.3	11.0	25°36.1	-4.5	54.1
11	345°27.2	22°20.4	297°40.3	11.1	25°31.6	-4.6	54.1
12	0°27.1	22°20.7	312°10.4	11.1	25°27.0	-4.7	54.1
13	15°27.0	22°21.0	326°40.6	11.1	25°22.2	-4.8	54.1
14	30°26.9	22°21.3	341°10.7	11.2	25°17.3	-4.9	54.1
15	45°26.8	22°21.6	355°40.9	11.2	25°12.3	-5.1	54.1
16	60°26.7	22°21.9	10°11.1	11.3	25°07.2	-5.2	54.1
17	75°26.6	22°22.2	24°41.4	11.3	25°01.9	-5.3	54.1
18	90°26.5	22°22.5	39°11.7	11.3	24°56.6	-5.4	54.2
19	105°26.4	22°22.8	53°42.1	11.4	24°51.1	-5.5	54.2
20	120°26.3	22°23.1	68°12.5	11.4	24°45.5	-5.6	54.2
21	135°26.2	22°23.4	82°42.9	11.5	24°39.8	-5.8	54.2
22	150°26.1	22°23.7	97°13.4	11.5	24°34.0	-5.9	54.2
23	165°26.0	22°24.0	111°43.9	11.5	24°28.1	-6.0	54.2
	SD.=15.8	d=0.3		S.D.=14.7			

Sa	AHG	Dec	AHG	v	Dec	d	HP
0	180°25.8	22°24.3	126°14.5	11.6	24°22.0	-6.1	54.2
1	195°25.7	22°24.6	140°45.1	11.6	24°15.9	-6.2	54.2
2	210°25.6	22°24.9	155°15.7	11.7	24°09.6	-6.3	54.2
3	225°25.5	22°25.2	169°46.4	11.7	24°03.2	-6.4	54.2
4	240°25.4	22°25.5	184°17.1	11.7	23°56.7	-6.6	54.2
5	255°25.3	22°25.8	198°47.9	11.8	23°50.1	-6.7	54.3
6	270°25.2	22°26.1	213°18.7	11.8	23°43.4	-6.8	54.3
7	285°25.1	22°26.4	227°49.6	11.9	23°36.6	-6.9	54.3
8	300°25.0	22°26.6	242°20.5	11.9	23°29.6	-7.0	54.3
9	315°24.9	22°26.9	256°51.4	12.0	23°22.6	-7.1	54.3
10	330°24.8	22°27.2	271°22.4	12.0	23°15.4	-7.2	54.3
11	345°24.7	22°27.5	285°53.4	12.1	23°08.2	-7.3	54.3
12	0°24.6	22°27.8	300°24.5	12.1	23°00.8	-7.4	54.3
13	15°24.4	22°28.1	314°55.6	12.1	22°53.3	-7.5	54.4
14	30°24.3	22°28.4	329°26.8	12.2	22°45.8	-7.6	54.4
15	45°24.2	22°28.6	343°58.0	12.2	22°38.1	-7.7	54.4
16	60°24.1	22°28.9	358°29.3	12.3	22°30.3	-7.8	54.4
17	75°24.0	22°29.2	13°00.6	12.3	22°22.4	-7.9	54.4
18	90°23.9	22°29.5	27°32.0	12.4	22°14.4	-8.0	54.4
19	105°23.8	22°29.8	42°03.4	12.4	22°06.3	-8.1	54.4
20	120°23.7	22°30.1	56°34.8	12.5	21°58.1	-8.2	54.5
21	135°23.6	22°30.3	71°06.3	12.5	21°49.8	-8.3	54.5
22	150°23.5	22°30.6	85°37.8	12.6	21°41.4	-8.4	54.5
23	165°23.4	22°30.9	100°09.4	12.6	21°32.9	-8.5	54.5
	SD.=15.8	d=0.3		S.D.=14.8			

Dom	AHG	Dec	AHG	v	Dec	d	HP
0	180°23.2	22°31.2	114°41.0	12.6	21°24.3	-8.6	54.5
1	195°23.1	22°31.5	129°12.7	12.7	21°15.7	-8.7	54.5
2	210°23.0	22°31.7	143°44.4	12.7	21°06.9	-8.8	54.6
3	225°22.9	22°32.0	158°16.2	12.8	20°58.0	-8.9	54.6
4	240°22.8	22°32.3	172°48.0	12.8	20°49.0	-9.0	54.6
5	255°22.7	22°32.6	187°19.8	12.9	20°39.9	-9.1	54.6
6	270°22.6	22°32.8	201°51.7	12.9	20°30.7	-9.2	54.6
7	285°22.5	22°33.1	216°23.6	13.0	20°21.5	-9.3	54.6
8	300°22.4	22°33.4	230°55.6	13.0	20°12.1	-9.4	54.7
9	315°22.2	22°33.7	245°27.6	13.0	20°02.6	-9.5	54.7
10	330°22.1	22°33.9	259°59.7	13.1	19°53.1	-9.6	54.7
11	345°22.0	22°34.2	274°31.8	13.1	19°43.4	-9.7	54.7
12	0°21.9	22°34.5	289°04.0	13.2	19°33.7	-9.8	54.7
13	15°21.8	22°34.7	303°36.2	13.2	19°23.9	-9.9	54.7
14	30°21.7	22°35.0	318°08.4	13.3	19°14.0	-10.0	54.8
15	45°21.6	22°35.3	332°40.7	13.3	19°04.0	-10.0	54.8
16	60°21.5	22°35.5	347°13.0	13.3	18°53.9	-10.1	54.8
17	75°21.4	22°35.8	1°45.3	13.4	18°43.7	-10.2	54.8
18	90°21.2	22°36.1	16°17.7	13.4	18°33.4	-10.3	54.8
19	105°21.1	22°36.3	30°50.2	13.5	18°23.1	-10.4	54.9
20	120°21.0	22°36.6	45°22.6	13.5	18°12.6	-10.5	54.9
21	135°20.9	22°36.9	59°55.2	13.5	18°02.1	-10.6	54.9
22	150°20.8	22°37.1	74°27.7	13.6	17°51.5	-10.7	54.9
23	165°20.7	22°37.4	89°00.3	13.6	17°40.8	-10.7	55.0
	SD.=15.8	d=0.3		S.D.=14.9			

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	–:–	–:–	–:–
68	–:–	–:–	–:–	–:–	–:–	–:–
66	–:–	–:–	00:59	23:02	–:–	–:–
64	–:–	–:–	01:51	22:08	–:–	–:–
62	–:–	–:–	02:22	21:36	–:–	–:–
60	–:–	01:18	02:45	21:12	22:41	–:–
58	–:–	01:55	03:04	20:54	22:03	–:–
56	–:–	02:20	03:19	20:38	21:37	–:–
54	01:11	02:40	03:32	20:25	21:17	22:48
52	01:45	02:57	03:44	20:13	21:01	22:13
50	02:09	03:11	03:54	20:03	20:47	21:49
45	02:51	03:39	04:15	19:42	20:19	21:07
40	03:19	04:00	04:32	19:25	19:57	20:38
35	03:41	04:17	04:47	19:10	19:40	20:16
30	03:59	04:32	04:59	18:58	19:25	19:58
20	04:27	04:56	05:20	18:37	19:01	19:30
10	04:48	05:15	05:38	18:19	18:42	19:09
0	05:06	05:32	05:55	18:02	18:24	18:50
S 10	05:23	05:49	06:11	17:45	18:08	18:34
20	05:38	06:05	06:29	17:28	17:51	18:19
30	05:53	06:23	06:49	17:07	17:34	18:03
35	06:02	06:33	07:01	16:56	17:23	17:55
40	06:10	06:44	07:14	16:42	17:12	17:46
45	06:20	06:57	07:30	16:26	17:00	17:36
50	06:31	07:12	07:50	16:07	16:44	17:25
52	06:36	07:19	07:59	15:57	16:37	17:21
54	06:41	07:27	08:10	15:47	16:30	17:15
56	06:47	07:35	08:21	15:35	16:21	17:10
58	06:53	07:45	08:35	15:21	16:12	17:03
60	07:00	07:56	08:51	15:05	16:01	16:56

	Orto luna			Ocaso luna		
Lat.	Vie	Sa	Dom	Vie	Sa	Dom
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	–:–	–:–	–:–
68	–:–	–:–	06:05	–:–	–:–	03:09
66	–:–	04:12	06:50	–:–	03:22	02:23
64	03:01	05:29	07:19	02:50	02:04	01:53
62	04:33	06:06	07:41	01:18	01:27	01:30
60	05:09	06:31	07:59	00:41	01:01	01:12
58	05:36	06:52	08:14	00:15	00:40	00:56
56	05:56	07:08	08:26	–:–	00:23	00:43
54	06:13	07:23	08:37	–:–	00:09	00:32
52	06:28	07:35	08:47	23:56	–:–	00:21
50	06:40	07:46	08:56	23:45	–:–	00:12
45	07:06	08:09	09:14	23:21	23:53	–:–
40	07:27	08:27	09:29	23:02	23:37	–:–
35	07:44	08:42	09:41	22:47	23:24	23:56
30	07:59	08:55	09:52	22:33	23:12	23:47
20	08:24	09:17	10:11	22:09	22:52	23:31
10	08:46	09:37	10:27	21:49	22:34	23:17
0	09:06	09:55	10:42	21:30	22:18	23:04
S 10	09:26	10:13	10:57	21:11	22:01	22:50
20	09:48	10:32	11:13	20:50	21:43	22:36
30	10:12	10:54	11:31	20:26	21:22	22:20
35	10:27	11:07	11:41	20:12	21:10	22:10
40	10:44	11:22	11:54	19:55	20:56	21:59
45	11:04	11:39	12:08	19:36	20:40	21:46
50	11:30	12:01	12:25	19:11	20:19	21:30
52	11:42	12:11	12:33	18:59	20:09	21:22
54	11:56	12:23	12:42	18:45	19:58	21:14
56	12:12	12:36	12:52	18:29	19:45	21:04
58	12:31	12:51	13:04	18:10	19:30	20:53
60	12:55	13:09	13:17	17:47	19:13	20:41

Día	Sol			Luna		
	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
3	01:53	01:48	11:58	15:17	02:53	4(14%)
4	01:43	01:38	11:58	16:06	03:42	5(21%)
5	01:33	01:28	11:58	16:52	04:29	6(30%)

Junio 06, 07, 08 (Lun, Mar, Mie)

	Aries	Venus		Martes		Júpiter		Saturno	
Lun	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	254°23.3	216°18.5	12°53.7	245°29.7	1°54.2	249°46.8	0°42.1	286°28.2	-14°10.0
1	269°25.7	231°18.1	12°54.6	260°30.5	1°54.9	264°49.0	0°42.3	301°30.7	-14°10.0
2	284°28.2	246°17.7	12°55.6	275°31.2	1°55.6	279°51.1	0°42.4	316°33.2	-14°10.0
3	299°30.6	261°17.3	12°56.5	290°32.0	1°56.3	294°53.2	0°42.5	331°35.6	-14°10.1
4	314°33.1	276°16.9	12°57.5	305°32.8	1°57.0	309°55.3	0°42.7	346°38.1	-14°10.1
5	329°35.6	291°16.5	12°58.4	320°33.5	1°57.8	324°57.4	0°42.8	1°40.6	-14°10.1
6	344°38.0	306°16.1	12°59.3	335°34.3	1°58.5	339°59.6	0°43.0	16°43.0	-14°10.1
7	359°40.5	321°15.7	13°00.3	350°35.1	1°59.2	355°01.7	0°43.1	31°45.5	-14°10.1
8	14°43.0	336°15.3	13°01.2	5°35.8	1°59.9	10°03.8	0°43.2	46°48.0	-14°10.1
9	29°45.4	351°14.9	13°02.2	20°36.6	2°00.6	25°05.9	0°43.4	61°50.4	-14°10.1
10	44°47.9	6°14.5	13°03.1	35°37.4	2°01.3	40°08.1	0°43.5	76°52.9	-14°10.1
11	59°50.4	21°14.1	13°04.0	50°38.2	2°02.0	55°10.2	0°43.6	91°55.4	-14°10.1
12	74°52.8	36°13.7	13°05.0	65°38.9	2°02.8	70°12.3	0°43.8	106°57.9	-14°10.1
13	89°55.3	51°13.3	13°05.9	80°39.7	2°03.5	85°14.4	0°43.9	122°00.3	-14°10.1
14	104°57.8	66°12.9	13°06.9	95°40.5	2°04.2	100°16.5	0°44.1	137°02.8	-14°10.2
15	120°00.2	81°12.5	13°07.8	110°41.2	2°04.9	115°18.7	0°44.2	152°05.3	-14°10.2
16	135°02.7	96°12.1	13°08.7	125°42.0	2°05.6	130°20.8	0°44.3	167°07.7	-14°10.2
17	150°05.1	111°11.7	13°09.7	140°42.8	2°06.3	145°22.9	0°44.5	182°10.2	-14°10.2
18	165°07.6	126°11.3	13°10.6	155°43.5	2°07.0	160°25.0	0°44.6	197°12.7	-14°10.2
19	180°10.1	141°10.9	13°11.5	170°44.3	2°07.7	175°27.2	0°44.7	212°15.1	-14°10.2
20	195°12.5	156°10.5	13°12.5	185°45.1	2°08.5	190°29.3	0°44.9	227°17.6	-14°10.2
21	210°15.0	171°10.1	13°13.4	200°45.8	2°09.2	205°31.4	0°45.0	242°20.1	-14°10.2
22	225°17.5	186°09.7	13°14.3	215°46.6	2°09.9	220°33.5	0°45.1	257°22.5	-14°10.2
23	240°19.9	201°09.3	13°15.3	230°47.4	2°10.6	235°35.7	0°45.3	272°25.0	-14°10.2
Mer.pass.:7:01:		v-0.4 d0.9 m-3.9		v0.8 d0.7 m0.6		v2.1 d0.1 m-2.1		v2.5 d-0.0 m0.7	

Mar	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	255°22.4	216°08.9	13°16.2	245°48.1	2°11.3	250°37.8	0°45.4	287°27.5	-14°10.3
1	270°24.9	231°08.5	13°17.1	260°48.9	2°12.0	265°39.9	0°45.6	302°29.9	-14°10.3
2	285°27.3	246°08.1	13°18.1	275°49.7	2°12.7	280°42.0	0°45.7	317°32.4	-14°10.3
3	300°29.8	261°07.7	13°19.0	290°50.4	2°13.4	295°44.2	0°45.8	332°34.9	-14°10.3
4	315°32.2	276°07.3	13°19.9	305°51.2	2°14.2	310°46.3	0°46.0	347°37.4	-14°10.3
5	330°34.7	291°06.9	13°20.9	320°52.0	2°14.9	325°48.4	0°46.1	2°39.8	-14°10.3
6	345°37.2	306°06.5	13°21.8	335°52.8	2°15.6	340°50.5	0°46.2	17°42.3	-14°10.3
7	0°39.6	321°06.1	13°22.7	350°53.5	2°16.3	355°52.7	0°46.4	32°44.8	-14°10.3
8	15°42.1	336°05.7	13°23.7	5°54.3	2°17.0	10°54.8	0°46.5	47°47.2	-14°10.3
9	30°44.6	351°05.2	13°24.6	20°55.1	2°17.7	25°56.9	0°46.6	62°49.7	-14°10.4
10	45°47.0	6°04.8	13°25.5	35°55.8	2°18.4	40°59.0	0°46.8	77°52.2	-14°10.4
11	60°49.5	21°04.4	13°26.5	50°56.6	2°19.1	56°01.2	0°46.9	92°54.7	-14°10.4
12	75°52.0	36°04.0	13°27.4	65°57.4	2°19.9	71°03.3	0°47.0	107°57.1	-14°10.4
13	90°54.4	51°03.6	13°28.3	80°58.1	2°20.6	86°05.4	0°47.2	122°59.6	-14°10.4
14	105°56.9	66°03.2	13°29.2	95°58.9	2°21.3	101°07.5	0°47.3	138°02.1	-14°10.4
15	120°59.4	81°02.8	13°30.2	110°59.7	2°22.0	116°09.7	0°47.4	153°04.5	-14°10.4
16	136°01.8	96°02.4	13°31.1	126°00.4	2°22.7	131°11.8	0°47.6	168°07.0	-14°10.4
17	151°04.3	111°02.0	13°32.0	141°01.2	2°23.4	146°13.9	0°47.7	183°09.5	-14°10.4
18	166°06.7	126°01.5	13°32.9	156°02.0	2°24.1	161°16.1	0°47.9	198°12.0	-14°10.5
19	181°09.2	141°01.1	13°33.9	171°02.8	2°24.8	176°18.2	0°48.0	213°14.4	-14°10.5
20	196°11.7	156°00.7	13°34.8	186°03.5	2°25.5	191°20.3	0°48.1	228°16.9	-14°10.5
21	211°14.1	171°00.3	13°35.7	201°04.3	2°26.3	206°22.4	0°48.3	243°19.4	-14°10.5
22	226°16.6	185°59.9	13°36.6	216°05.1	2°27.0	221°24.6	0°48.4	258°21.8	-14°10.5
23	241°19.1	200°59.5	13°37.6	231°05.8	2°27.7	236°26.7	0°48.5	273°24.3	-14°10.5
Mer.pass.:6:57:		v-0.4 d0.9 m-3.9		v0.8 d0.7 m0.6		v2.1 d0.1 m-2.1		v2.5 d-0.0 m0.7	

Mie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	256°21.5	215°59.1	13°38.5	246°06.6	2°28.4	251°28.8	0°48.7	288°26.8	-14°10.5
1	271°24.0	230°58.6	13°39.4	261°07.4	2°29.1	266°31.0	0°48.8	303°29.3	-14°10.5
2	286°26.5	245°58.2	13°40.3	276°08.1	2°29.8	281°33.1	0°48.9	318°31.7	-14°10.5
3	301°28.9	260°57.8	13°41.2	291°08.9	2°30.5	296°35.2	0°49.1	333°34.2	-14°10.6
4	316°31.4	275°57.4	13°42.2	306°09.7	2°31.2	311°37.3	0°49.2	348°36.7	-14°10.6
5	331°33.9	290°57.0	13°43.1	321°10.5	2°31.9	326°39.5	0°49.3	3°39.2	-14°10.6
6	346°36.3	305°56.6	13°44.0	336°11.2	2°32.6	341°41.6	0°49.5	18°41.6	-14°10.6
7	1°38.8	320°56.1	13°44.9	351°12.0	2°33.4	356°43.7	0°49.6	33°44.1	-14°10.6
8	16°41.2	335°55.7	13°45.8	6°12.8	2°34.1	11°45.9	0°49.7	48°46.6	-14°10.6
9	31°43.7	350°55.3	13°46.8	21°13.5	2°34.8	26°48.0	0°49.9	63°49.1	-14°10.6
10	46°46.2	5°54.9	13°47.7	36°14.3	2°35.5	41°50.1	0°50.0	78°51.5	-14°10.6
11	61°48.6	20°54.5	13°48.6	51°15.1	2°36.2	56°52.3	0°50.1	93°54.0	-14°10.7
12	76°51.1	35°54.1	13°49.5	66°15.8	2°36.9	71°54.4	0°50.3	108°56.5	-14°10.7
13	91°53.6	50°53.6	13°50.4	81°16.6	2°37.6	86°56.5	0°50.4	123°59.0	-14°10.7
14	106°56.0	65°53.2	13°51.3	96°17.4	2°38.3	101°58.7	0°50.5	139°01.4	-14°10.7
15	121°58.5	80°52.8	13°52.2	111°18.2	2°39.0	117°00.8	0°50.6	154°03.9	-14°10.7
16	137°01.0	95°52.4	13°53.2	126°18.9	2°39.7	132°02.9	0°50.8	169°06.4	-14°10.7
17	152°03.4	110°51.9	13°54.1	141°19.7	2°40.5	147°05.1	0°50.9	184°08.9	-14°10.7
18	167°05.9	125°51.5	13°55.0	156°20.5	2°41.2	162°07.2	0°51.0	199°11.4	-14°10.7
19	182°08.3	140°51.1	13°55.9	171°21.2	2°41.9	177°09.3	0°51.2	214°13.8	-14°10.8
20	197°10.8	155°50.7	13°56.8	186°22.0	2°42.6	192°11.5	0°51.3	229°16.3	-14°10.8
21	212°13.3	170°50.2	13°57.7	201°22.8	2°43.3	207°13.6	0°51.4	244°18.8	-14°10.8
22	227°15.7	185°49.8	13°58.6	216°23.6	2°44.0	222°15.7	0°51.6	259°21.3	-14°10.8
23	242°18.2	200°49.4	13°59.5	231°24.3	2°44.7	237°17.9	0°51.7	274°23.7	-14°10.8
Mer.pass.:6:53:		v-0.4 d0.9 m-3.9		v0.8 d0.7 m0.6		v2.1 d0.1 m-2.1		v2.5 d-0.0 m0.7	

Estrellas

	AHS	Dec
Alpheratz	357°37.1	29°12.6
Ankaa	353°09.4	-42°10.9
Schedar	349°33.7	56°39.3
Diphda	348°49.5	-17°51.8
Achernar	335°22.2	-57°07.2
Hamal	327°53.9	23°33.9
Polaris	315°28.5	89°21.3
Akamar	315°13.8	-40°12.9
Menkar	314°08.7	4°10.6
Mirfak	308°31.8	49°56.2
Aldebaran	290°42.4	16°33.2
Rigel	281°06.3	-8°10.6
Capella	280°25.6	46°01.2
Bellatrix	278°25.5	6°22.1
Elnath	278°05.0	28°37.5
Alnilam	275°40.3	-1°11.3
Betelgeuse	270°54.8	7°24.6
Canopus	263°53.9	-52°42.5
Sirius	258°28.4	-16°44.7
Adara	255°07.9	-29°00.2
Procyon	244°53.3	5°10.2
Pollux	243°20.1	27°58.4
Avior	234°16.0	-59°35.0
Suhail	222°48.1	-43°31.5
Miaplacidus	221°39.2	-69°48.8
Alphard	217°50.0	-8°45.4
Regulus	207°36.8	11°51.6
Dubhe	193°43.7	61°38.2
Denebola	182°27.0	14°27.0
Gienah	175°45.7	-17°40.0
Acrux	173°02.2	-63°13.6
Gacrux	171°53.8	-57°14.5
Alioth	166°14.7	55°50.6
Spica	158°24.4	-11°16.7
Alcaid	152°53.4	49°12.3
Hadar	148°38.5	-60°29.0
Menkent	147°59.9	-36°28.9
Arcturus	145°49.5	19°04.3
Rigil Kent.	139°42.7	-60°55.8
Zubenelg.	136°58.1	-16°08.1
Kochab	137°18.8	74°04.0
Alphecca	126°05.2	26°38.4
Antares	112°18.1	-26°28.9
Atria	107°13.7	-69°04.0
Sabik	102°04.9	-15°45.1
Shaula	96°12.9	-37°07.1
Rasalhague	96°00.2	12°32.6
Etamin	90°42.6	51°29.1
Kaus Aust.	83°35.0	-34°22.4
Vega	80°34.3	38°48.1
Nunki	75°50.1	-26°16.1
Altair	62°01.9	8°55.5
Peacock	53°08.7	-56°39.6
Deneb	49°27.0	45°21.3
Enif	33°40.8	9°58.5
Alnair	27°35.5	-46°51.0
Fomalhaut	15°16.9	-29°30.1
Scheat	13°47.3	28°12.0
Markab	13°32.0	15°19.3

Jun 06 Lun	AHS	Paso Merid
Venus	321°55.2	09:35
Mars	351°06.5	07:38
Jupiter	355°23.6	07:20
Saturn	32°05.0	04:53

Jun 07 Mar	AHS	Paso Merid
Venus	320°46.5	09:36
Mars	350°25.7	07:36
Jupiter	355°15.4	07:16
Saturn	32°05.1	04:49

Jun 08 Mie	AHS	Paso Merid
Venus	319°37.5	09:36
Mars	349°45.1	07:35
Jupiter	355°07.3	07:13
Saturn	32°05.3	04:45

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.1

h	Sol		Luna				
Lun	AHG	Dec	AHG	v	Dec	d	HP
0	180°20.6	22°37.7	103°32.9	13.6	17°30.0	-10.8	55.0
1	195°20.4	22°37.9	118°05.6	13.7	17°19.2	-10.9	55.0
2	210°20.3	22°38.2	132°38.3	13.7	17°08.2	-11.0	55.0
3	225°20.2	22°38.4	147°11.0	13.8	16°57.2	-11.1	55.0
4	240°20.1	22°38.7	161°43.8	13.8	16°46.1	-11.1	55.1
5	255°20.0	22°39.0	176°16.6	13.8	16°34.9	-11.2	55.1
6	270°19.9	22°39.2	190°49.4	13.9	16°23.7	-11.3	55.1
7	285°19.8	22°39.5	205°22.3	13.9	16°12.3	-11.4	55.1
8	300°19.7	22°39.7	219°55.2	13.9	16°00.9	-11.5	55.2
9	315°19.5	22°40.0	234°28.1	13.9	15°49.4	-11.5	55.2
10	330°19.4	22°40.2	249°01.1	14.0	15°37.9	-11.6	55.2
11	345°19.3	22°40.5	263°34.1	14.0	15°26.2	-11.7	55.2
12	0°19.2	22°40.8	278°07.1	14.0	15°14.5	-11.8	55.3
13	15°19.1	22°41.0	292°40.2	14.1	15°02.7	-11.8	55.3
14	30°19.0	22°41.3	307°13.2	14.1	14°50.8	-11.9	55.3
15	45°18.8	22°41.5	321°46.3	14.1	14°38.9	-12.0	55.3
16	60°18.7	22°41.8	336°19.5	14.1	14°26.9	-12.0	55.4
17	75°18.6	22°42.0	350°52.6	14.2	14°14.8	-12.1	55.4
18	90°18.5	22°42.3	5°25.8	14.2	14°02.6	-12.2	55.4
19	105°18.4	22°42.5	19°59.0	14.2	13°50.4	-12.3	55.4
20	120°18.3	22°42.8	34°32.3	14.2	13°38.1	-12.3	55.5
21	135°18.2	22°43.0	49°05.5	14.3	13°25.8	-12.4	55.5
22	150°18.0	22°43.3	63°38.8	14.3	13°13.3	-12.5	55.5
23	165°17.9	22°43.5	78°12.1	14.3	13°00.8	-12.5	55.6
	SD.=15.8	d=0.3			S.D.=15.0		

Mar	AHG	Dec	AHG	v	Dec	d	HP
0	180°17.8	22°43.7	92°45.4	14.3	12°48.3	-12.6	55.6
1	195°17.7	22°44.0	107°18.7	14.3	12°35.6	-12.7	55.6
2	210°17.6	22°44.2	121°52.1	14.4	12°22.9	-12.7	55.6
3	225°17.5	22°44.5	136°25.5	14.4	12°10.2	-12.8	55.7
4	240°17.3	22°44.7	150°58.9	14.4	11°57.3	-12.9	55.7
5	255°17.2	22°45.0	165°32.3	14.4	11°44.5	-12.9	55.7
6	270°17.1	22°45.2	180°05.7	14.4	11°31.5	-13.0	55.8
7	285°17.0	22°45.4	194°39.1	14.4	11°18.5	-13.0	55.8
8	300°16.9	22°45.7	209°12.6	14.5	11°05.4	-13.1	55.8
9	315°16.8	22°45.9	223°46.0	14.5	10°52.3	-13.2	55.9
10	330°16.6	22°46.2	238°19.5	14.5	10°39.1	-13.2	55.9
11	345°16.5	22°46.4	252°53.0	14.5	10°25.8	-13.3	55.9
12	0°16.4	22°46.6	267°26.5	14.5	10°12.5	-13.3	55.9
13	15°16.3	22°46.9	282°00.0	14.5	9°59.1	-13.4	56.0
14	30°16.2	22°47.1	296°33.5	14.5	9°45.7	-13.5	56.0
15	45°16.1	22°47.3	311°07.0	14.5	9°32.2	-13.5	56.0
16	60°15.9	22°47.6	325°40.5	14.5	9°18.7	-13.6	56.1
17	75°15.8	22°47.8	340°14.0	14.5	9°05.1	-13.6	56.1
18	90°15.7	22°48.0	354°47.6	14.5	8°51.5	-13.7	56.1
19	105°15.6	22°48.3	9°21.1	14.5	8°37.8	-13.7	56.2
20	120°15.5	22°48.5	23°54.6	14.5	8°24.0	-13.8	56.2
21	135°15.3	22°48.7	38°28.1	14.5	8°10.2	-13.8	56.2
22	150°15.2	22°49.0	53°01.7	14.5	7°56.3	-13.9	56.3
23	165°15.1	22°49.2	67°35.2	14.5	7°42.4	-13.9	56.3
	SD.=15.8	d=0.2			S.D.=15.2		

Mie	AHG	Dec	AHG	v	Dec	d	HP
0	180°15.0	22°49.4	82°08.7	14.5	7°28.5	-14.0	56.3
1	195°14.9	22°49.7	96°42.2	14.5	7°14.5	-14.0	56.4
2	210°14.7	22°49.9	111°15.7	14.5	7°00.4	-14.1	56.4
3	225°14.6	22°50.1	125°49.2	14.5	6°46.3	-14.1	56.4
4	240°14.5	22°50.3	140°22.7	14.5	6°32.2	-14.2	56.5
5	255°14.4	22°50.6	154°56.2	14.5	6°18.0	-14.2	56.5
6	270°14.3	22°50.8	169°29.7	14.5	6°03.8	-14.3	56.5
7	285°14.2	22°51.0	184°03.1	14.5	5°49.5	-14.3	56.6
8	300°14.0	22°51.2	198°36.6	14.4	5°35.2	-14.3	56.6
9	315°13.9	22°51.5	213°10.0	14.4	5°20.8	-14.4	56.7
10	330°13.8	22°51.7	227°43.5	14.4	5°06.4	-14.4	56.7
11	345°13.7	22°51.9	242°16.9	14.4	4°52.0	-14.5	56.7
12	0°13.6	22°52.1	256°50.3	14.4	4°37.5	-14.5	56.8
13	15°13.4	22°52.3	271°23.6	14.4	4°23.0	-14.5	56.8
14	30°13.3	22°52.6	285°57.0	14.3	4°08.4	-14.6	56.8
15	45°13.2	22°52.8	300°30.3	14.3	3°53.8	-14.6	56.9
16	60°13.1	22°53.0	315°03.6	14.3	3°39.2	-14.6	56.9
17	75°13.0	22°53.2	329°36.9	14.3	3°24.5	-14.7	56.9
18	90°12.8	22°53.4	344°10.2	14.3	3°09.8	-14.7	57.0
19	105°12.7	22°53.6	358°43.4	14.2	2°55.1	-14.8	57.0
20	120°12.6	22°53.9	13°16.6	14.2	2°40.3	-14.8	57.1
21	135°12.5	22°54.1	27°49.8	14.2	2°25.5	-14.8	57.1
22	150°12.3	22°54.3	42°23.0	14.1	2°10.7	-14.8	57.1
23	165°12.2	22°54.5	56°56.1	14.1	1°55.8	-14.9	57.2
	SD.=15.8	d=0.2			S.D.=15.4		

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	–:–	–:–	–:–
68	–:–	–:–	–:–	–:–	–:–	–:–
66	–:–	–:–	00:45	23:17	–:–	–:–
64	–:–	–:–	01:45	22:15	–:–	–:–
62	–:–	–:–	02:18	21:41	–:–	–:–
60	–:–	01:10	02:42	21:17	22:50	–:–
58	–:–	01:50	03:01	20:58	22:09	–:–
56	–:–	02:17	03:17	20:42	21:42	–:–
54	01:04	02:38	03:30	20:28	21:21	22:56
52	01:41	02:54	03:42	20:16	21:04	22:18
50	02:06	03:09	03:52	20:06	20:50	21:53
45	02:49	03:37	04:14	19:44	20:21	21:10
40	03:18	03:59	04:31	19:27	19:59	20:40
35	03:40	04:16	04:46	19:12	19:42	20:18
30	03:58	04:31	04:59	18:59	19:27	20:00
20	04:26	04:55	05:20	18:38	19:02	19:32
10	04:48	05:15	05:38	18:20	18:43	19:10
0	05:07	05:33	05:55	18:03	18:25	18:51
S 10	05:23	05:49	06:12	17:46	18:08	18:35
20	05:39	06:06	06:30	17:28	17:52	18:19
30	05:55	06:24	06:51	17:07	17:33	18:03
35	06:03	06:35	07:03	16:55	17:23	17:55
40	06:12	06:46	07:16	16:41	17:12	17:46
45	06:22	06:59	07:33	16:25	16:59	17:36
50	06:33	07:14	07:52	16:05	16:43	17:24
52	06:38	07:22	08:02	15:56	16:36	17:19
54	06:44	07:29	08:13	15:45	16:28	17:14
56	06:49	07:38	08:25	15:33	16:20	17:08
58	06:56	07:48	08:39	15:19	16:10	17:02
60	07:03	07:59	08:55	15:02	15:59	16:55

	Orto luna			Ocaso luna		
Lat.	Lun	Mar	Mie	Lun	Mar	Mie
N 72	07:09	09:46	11:56	03:43	02:39	02:02
70	07:53	10:04	12:03	02:57	02:19	01:53
68	08:23	10:18	12:08	02:26	02:03	01:45
66	08:44	10:30	12:13	02:03	01:50	01:38
64	09:01	10:40	12:17	01:45	01:39	01:32
62	09:15	10:48	12:20	01:30	01:29	01:27
60	09:27	10:55	12:23	01:17	01:21	01:23
58	09:37	11:01	12:25	01:07	01:14	01:19
56	09:46	11:06	12:27	00:57	01:07	01:16
54	09:54	11:11	12:29	00:48	01:02	01:13
52	10:01	11:15	12:31	00:41	00:56	01:10
50	10:07	11:19	12:33	00:34	00:52	01:07
45	10:20	11:28	12:36	00:19	00:41	01:02
40	10:32	11:35	12:39	00:07	00:33	00:57
35	10:41	11:41	12:42	–:–	00:26	00:53
30	10:49	11:46	12:44	–:–	00:19	00:49
20	11:03	11:56	12:48	–:–	00:08	00:43
10	11:16	12:04	12:52	23:58	–:–	00:37
0	11:27	12:11	12:55	23:48	–:–	00:32
S 10	11:38	12:18	12:58	23:39	–:–	00:26
20	11:51	12:26	13:01	23:28	–:–	00:21
30	12:04	12:35	13:05	23:17	–:–	00:14
35	12:12	12:41	13:07	23:10	–:–	00:10
40	12:21	12:46	13:10	23:02	–:–	00:06
45	12:32	12:53	13:13	22:53	–:–	00:01
50	12:45	13:01	13:16	22:42	23:54	–:–
52	12:50	13:05	13:18	22:36	23:52	–:–
54	12:57	13:09	13:20	22:31	23:48	–:–
56	13:04	13:13	13:22	22:24	23:45	–:–
58	13:12	13:18	13:24	22:17	23:41	–:–
60	13:21	13:24	13:26	22:09	23:37	–:–

	Sol			Luna		
Día	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
6	01:22	01:17	11:58	17:37	05:15	7(39%)
7	01:11	01:06	11:58	18:21	05:59	8(49%)
8	01:00	00:54	11:59	19:05	06:43	9(59%)

Junio 09, 10, 11 (Jue, Vie, Sa)

	Aries	Venus		Martes		Júpiter		Saturno	
Jue	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	257°20.7	215°49.0	14°00.5	246°25.1	2°45.4	252°20.0	0°51.8	289°26.2	-14°10.8
1	272°23.1	230°48.5	14°01.4	261°25.9	2°46.1	267°22.1	0°52.0	304°28.7	-14°10.8
2	287°25.6	245°48.1	14°02.3	276°26.6	2°46.8	282°24.3	0°52.1	319°31.2	-14°10.8
3	302°28.1	260°47.7	14°03.2	291°27.4	2°47.5	297°26.4	0°52.2	334°33.6	-14°10.9
4	317°30.5	275°47.3	14°04.1	306°28.2	2°48.2	312°28.5	0°52.4	349°36.1	-14°10.9
5	332°33.0	290°46.8	14°05.0	321°29.0	2°49.0	327°30.7	0°52.5	4°38.6	-14°10.9
6	347°35.5	305°46.4	14°05.9	336°29.7	2°49.7	342°32.8	0°52.6	19°41.1	-14°10.9
7	2°37.9	320°46.0	14°06.8	351°30.5	2°50.4	357°34.9	0°52.8	34°43.6	-14°10.9
8	17°40.4	335°45.6	14°07.7	6°31.3	2°51.1	12°37.1	0°52.9	49°46.0	-14°10.9
9	32°42.8	350°45.1	14°08.6	21°32.0	2°51.8	27°39.2	0°53.0	64°48.5	-14°10.9
10	47°45.3	5°44.7	14°09.5	36°32.8	2°52.5	42°41.4	0°53.1	79°51.0	-14°10.9
11	62°47.8	20°44.3	14°10.4	51°33.6	2°53.2	57°43.5	0°53.3	94°53.5	-14°11.0
12	77°50.2	35°43.8	14°11.3	66°34.4	2°53.9	72°45.6	0°53.4	109°56.0	-14°11.0
13	92°52.7	50°43.4	14°12.2	81°35.1	2°54.6	87°47.8	0°53.5	124°58.4	-14°11.0
14	107°55.2	65°43.0	14°13.2	96°35.9	2°55.3	102°49.9	0°53.7	140°00.9	-14°11.0
15	122°57.6	80°42.5	14°14.1	111°36.7	2°56.0	117°52.0	0°53.8	155°03.4	-14°11.0
16	138°00.1	95°42.1	14°15.0	126°37.4	2°56.7	132°54.2	0°53.9	170°05.9	-14°11.0
17	153°02.6	110°41.7	14°15.9	141°38.2	2°57.4	147°56.3	0°54.1	185°08.4	-14°11.0
18	168°05.0	125°41.2	14°16.8	156°39.0	2°58.1	162°58.5	0°54.2	200°10.8	-14°11.1
19	183°07.5	140°40.8	14°17.7	171°39.8	2°58.9	178°00.6	0°54.3	215°13.3	-14°11.1
20	198°09.9	155°40.4	14°18.6	186°40.5	2°59.6	193°02.7	0°54.4	230°15.8	-14°11.1
21	213°12.4	170°39.9	14°19.5	201°41.3	3°00.3	208°04.9	0°54.6	245°18.3	-14°11.1
22	228°14.9	185°39.5	14°20.4	216°42.1	3°01.0	223°07.0	0°54.7	260°20.8	-14°11.1
23	243°17.3	200°39.1	14°21.3	231°42.8	3°01.7	238°09.2	0°54.8	275°23.2	-14°11.1
Mer.pass.:6:49:		v-0.4 d0.9 m-3.9		v0.8 d0.7 m0.6		v2.1 d0.1 m-2.1		v2.5 d-0.0 m0.7	

Vie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	258°19.8	215°38.6	14°22.2	246°43.6	3°02.4	253°11.3	0°55.0	290°25.7	-14°11.1
1	273°22.3	230°38.2	14°23.1	261°44.4	3°03.1	268°13.4	0°55.1	305°28.2	-14°11.2
2	288°24.7	245°37.8	14°23.9	276°45.2	3°03.8	283°15.6	0°55.2	320°30.7	-14°11.2
3	303°27.2	260°37.3	14°24.8	291°45.9	3°04.5	298°17.7	0°55.3	335°33.2	-14°11.2
4	318°29.7	275°36.9	14°25.7	306°46.7	3°05.2	313°19.9	0°55.5	350°35.7	-14°11.2
5	333°32.1	290°36.4	14°26.6	321°47.5	3°05.9	328°22.0	0°55.6	5°38.1	-14°11.2
6	348°34.6	305°36.0	14°27.5	336°48.3	3°06.6	343°24.1	0°55.7	20°40.6	-14°11.2
7	3°37.1	320°35.6	14°28.4	351°49.0	3°07.3	358°26.3	0°55.9	35°43.1	-14°11.2
8	18°39.5	335°35.1	14°29.3	6°49.8	3°08.0	13°28.4	0°56.0	50°45.6	-14°11.3
9	33°42.0	350°34.7	14°30.2	21°50.6	3°08.7	28°30.6	0°56.1	65°48.1	-14°11.3
10	48°44.4	5°34.2	14°31.1	36°51.3	3°09.4	43°32.7	0°56.2	80°50.5	-14°11.3
11	63°46.9	20°33.8	14°32.0	51°52.1	3°10.1	58°34.8	0°56.4	95°53.0	-14°11.3
12	78°49.4	35°33.4	14°32.9	66°52.9	3°10.9	73°37.0	0°56.5	110°55.5	-14°11.3
13	93°51.8	50°32.9	14°33.8	81°53.7	3°11.6	88°39.1	0°56.6	125°58.0	-14°11.3
14	108°54.3	65°32.5	14°34.7	96°54.4	3°12.3	103°41.3	0°56.8	141°00.5	-14°11.3
15	123°56.8	80°32.0	14°35.6	111°55.2	3°13.0	118°43.4	0°56.9	156°03.0	-14°11.4
16	138°59.2	95°31.6	14°36.5	126°56.0	3°13.7	133°45.6	0°57.0	171°05.4	-14°11.4
17	154°01.7	110°31.1	14°37.3	141°56.8	3°14.4	148°47.7	0°57.1	186°07.9	-14°11.4
18	169°04.2	125°30.7	14°38.2	156°57.5	3°15.1	163°49.8	0°57.3	201°10.4	-14°11.4
19	184°06.6	140°30.3	14°39.1	171°58.3	3°15.8	178°52.0	0°57.4	216°12.9	-14°11.4
20	199°09.1	155°29.8	14°40.0	186°59.1	3°16.5	193°54.1	0°57.5	231°15.4	-14°11.4
21	214°11.6	170°29.4	14°40.9	201°59.9	3°17.2	208°56.3	0°57.6	246°17.9	-14°11.5
22	229°14.0	185°28.9	14°41.8	217°00.6	3°17.9	223°58.4	0°57.8	261°20.4	-14°11.5
23	244°16.5	200°28.5	14°42.7	232°01.4	3°18.6	239°00.6	0°57.9	276°22.8	-14°11.5
Mer.pass.:6:45:		v-0.4 d0.9 m-3.9		v0.8 d0.7 m0.6		v2.1 d0.1 m-2.2		v2.5 d-0.0 m0.7	

Sa	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	259°18.9	215°28.0	14°43.6	247°02.2	3°19.3	254°02.7	0°58.0	291°25.3	-14°11.5
1	274°21.4	230°27.6	14°44.4	262°02.9	3°20.0	269°04.8	0°58.2	306°27.8	-14°11.5
2	289°23.9	245°27.1	14°45.3	277°03.7	3°20.7	284°07.0	0°58.3	321°30.3	-14°11.5
3	304°26.3	260°26.7	14°46.2	292°04.5	3°21.4	299°09.1	0°58.4	336°32.8	-14°11.5
4	319°28.8	275°26.2	14°47.1	307°05.3	3°22.1	314°11.3	0°58.5	351°35.3	-14°11.6
5	334°31.3	290°25.8	14°48.0	322°06.0	3°22.8	329°13.4	0°58.7	6°37.8	-14°11.6
6	349°33.7	305°25.3	14°48.9	337°06.8	3°23.5	344°15.6	0°58.8	21°40.2	-14°11.6
7	4°36.2	320°24.9	14°49.7	352°07.6	3°24.2	359°17.7	0°58.9	36°42.7	-14°11.6
8	19°38.7	335°24.4	14°50.6	7°08.4	3°24.9	14°19.9	0°59.0	51°45.2	-14°11.6
9	34°41.1	350°24.0	14°51.5	22°09.1	3°25.6	29°22.0	0°59.2	66°47.7	-14°11.6
10	49°43.6	5°23.5	14°52.4	37°09.9	3°26.3	44°24.2	0°59.3	81°50.2	-14°11.7
11	64°46.0	20°23.1	14°53.3	52°10.7	3°27.0	59°26.3	0°59.4	96°52.7	-14°11.7
12	79°48.5	35°22.6	14°54.1	67°11.5	3°27.7	74°28.5	0°59.5	111°55.2	-14°11.7
13	94°51.0	50°22.2	14°55.0	82°12.2	3°28.4	89°30.6	0°59.7	126°57.7	-14°11.7
14	109°53.4	65°21.7	14°55.9	97°13.0	3°29.1	104°32.8	0°59.8	142°00.1	-14°11.7
15	124°55.9	80°21.3	14°56.8	112°13.8	3°29.9	119°34.9	0°59.9	157°02.6	-14°11.7
16	139°58.4	95°20.8	14°57.6	127°14.6	3°30.6	134°37.0	1°00.0	172°05.1	-14°11.8
17	155°00.8	110°20.4	14°58.5	142°15.3	3°31.3	149°39.2	1°00.2	187°07.6	-14°11.8
18	170°03.3	125°19.9	14°59.4	157°16.1	3°32.0	164°41.3	1°00.3	202°10.1	-14°11.8
19	185°05.8	140°19.4	15°00.3	172°16.9	3°32.7	179°43.5	1°00.4	217°12.6	-14°11.8
20	200°08.2	155°19.0	15°01.1	187°17.7	3°33.4	194°45.6	1°00.5	232°15.1	-14°11.8
21	215°10.7	170°18.5	15°02.0	202°18.4	3°34.1	209°47.8	1°00.7	247°17.6	-14°11.8
22	230°13.2	185°18.1	15°02.9	217°19.2	3°34.8	224°49.9	1°00.8	262°20.0	-14°11.9
23	245°15.6	200°17.6	15°03.8	232°20.0	3°35.5	239°52.1	1°00.9	277°22.5	-14°11.9
Mer.pass.:6:41:		v-0.4 d0.9 m-3.9		v0.8 d0.7 m0.6		v2.1 d0.1 m-2.2		v2.5 d-0.0 m0.7	

Estrellas

	AHS	Dec
Alpheratz	357°37.1	29°12.6
Ankaa	353°09.4	-42°10.9
Schedar	349°33.7	56°39.3
Diphda	348°49.5	-17°51.8
Achernar	335°22.2	-57°07.2
Hamal	327°53.9	23°33.9
Polaris	315°27.6	89°21.3
Akamar	315°13.8	-40°12.8
Menkar	314°08.7	4°10.6
Mirfak	308°31.8	49°56.2
Aldebaran	290°42.4	16°33.2
Rigel	281°06.3	-8°10.6
Capella	280°25.6	46°01.2
Bellatrix	278°25.5	6°22.1
Elnath	278°05.0	28°37.5
Alnilam	275°40.3	-1°11.3
Betelgeuse	270°54.8	7°24.6
Canopus	263°53.9	-52°42.5
Sirius	258°28.4	-16°44.7
Adara	255°07.9	-29°00.2
Procyon	244°53.3	5°10.2
Pollux	243°20.1	27°58.4
Avior	234°16.1	-59°35.0
Suhail	222°48.1	-43°31.5
Miaplacidus	221°39.2	-69°48.7
Alphard	217°50.0	-8°45.4
Regulus	207°36.8	11°51.6
Dubhe	193°43.7	61°38.2
Denebola	182°27.0	14°27.0
Gienah	175°45.7	-17°40.0
Acrux	173°02.2	-63°13.6
Gacrux	171°53.8	-57°14.5
Alioth	166°14.7	55°50.6
Spica	158°24.4	-11°16.7
Alcaid	152°53.4	49°12.3
Hadar	148°38.6	-60°29.0
Menkent	147°59.9	-36°28.9
Arcturus	145°49.5	19°04.4
Rigil Kent.	139°42.7	-60°55.8
Zubenelg.	136°58.1	-16°08.1
Kochab	137°18.8	74°04.0
Alphecca	126°05.2	26°38.5
Antares	112°18.1	-26°28.9
Atria	107°13.7	-69°04.0
Sabik	102°04.9	-15°45.1
Shaula	96°12.9	-37°07.1
Rasalhague	96°00.2	12°32.6
Etamin	90°42.6	51°29.1
Kaus Aust.	83°34.9	-34°22.4
Vega	80°34.3	38°48.1
Nunki	75°50.1	-26°16.1
Altair	62°01.8	8°55.5
Peacock	53°08.7	-56°39.6
Deneb	49°26.9	45°21.3
Enif	33°40.8	9°58.5
Alnair	27°35.5	-46°51.0
Fomalhaut	15°16.9	-29°30.1
Scheat	13°47.3	28°12.0
Markab	13°32.0	15°19.4

Jun 09 Jue	AHS	Paso Merid
Venus	318°28.3	09:37
Mars	349°04.4	07:34
Jupiter	354°59.3	07:10
Saturn	32°05.5	04:41

Jun 10 Vie	AHS	Paso Merid
Venus	317°18.8	09:38
Mars	348°23.8	07:33
Jupiter	354°51.5	07:06
Saturn	32°05.9	04:38

Jun 11 Sa	AHS	Paso Merid
Venus	316°09.1	09:38
Mars	347°43.2	07:31
Jupiter	354°43.8	07:03
Saturn	32°06.4	04:34

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.1

h	Sol		Luna				
Jue	AHG	Dec	AHG	v	Dec	d	HP
0	180°12.1	22°54.7	71°29.2	14.1	1°40.9	-14.9	57.2
1	195°12.0	22°54.9	86°02.3	14.0	1°26.0	-14.9	57.2
2	210°11.9	22°55.1	100°35.3	14.0	1°11.1	-15.0	57.3
3	225°11.7	22°55.3	115°08.3	14.0	0°56.1	-15.0	57.3
4	240°11.6	22°55.5	129°41.2	13.9	0°41.1	-15.0	57.4
5	255°11.5	22°55.8	144°14.1	13.9	0°26.1	-15.0	57.4
6	270°11.4	22°56.0	158°47.0	13.9	0°11.1	-15.1	57.4
7	285°11.3	22°56.2	173°19.8	13.8	-0°04.0	-15.1	57.5
8	300°11.1	22°56.4	187°52.6	13.8	-0°19.1	-15.1	57.5
9	315°11.0	22°56.6	202°25.4	13.7	-0°34.2	-15.1	57.6
10	330°10.9	22°56.8	216°58.1	13.7	-0°49.3	-15.1	57.6
11	345°10.8	22°57.0	231°30.8	13.6	-1°04.5	-15.1	57.6
12	0°10.6	22°57.2	246°03.4	13.6	-1°19.6	-15.2	57.7
13	15°10.5	22°57.4	260°35.9	13.5	-1°34.8	-15.2	57.7
14	30°10.4	22°57.6	275°08.4	13.5	-1°50.0	-15.2	57.8
15	45°10.3	22°57.8	289°40.9	13.4	-2°05.2	-15.2	57.8
16	60°10.1	22°58.0	304°13.3	13.4	-2°20.4	-15.2	57.8
17	75°10.0	22°58.2	318°45.7	13.3	-2°35.6	-15.2	57.9
18	90°09.9	22°58.4	333°18.0	13.3	-2°50.8	-15.2	57.9
19	105°09.8	22°58.6	347°50.2	13.2	-3°06.1	-15.2	58.0
20	120°09.7	22°58.8	2°22.4	13.2	-3°21.3	-15.3	58.0
21	135°09.5	22°59.0	16°54.5	13.1	-3°36.6	-15.3	58.0
22	150°09.4	22°59.2	31°26.6	13.0	-3°51.8	-15.3	58.1
23	165°09.3	22°59.4	45°58.6	13.0	-4°07.1	-15.3	58.1
	SD.=15.8	d=0.2	S.D.=15.6				

Vie	AHG	Dec	AHG	v	Dec	d	HP
0	180°09.2	22°59.6	60°30.5	12.9	-4°22.4	-15.3	58.2
1	195°09.0	22°59.8	75°02.4	12.8	-4°37.6	-15.3	58.2
2	210°08.9	23°00.0	89°34.2	12.8	-4°52.9	-15.3	58.2
3	225°08.8	23°00.2	104°05.9	12.7	-5°08.2	-15.3	58.3
4	240°08.7	23°00.3	118°37.6	12.6	-5°23.4	-15.3	58.3
5	255°08.5	23°00.5	133°09.2	12.6	-5°38.7	-15.3	58.4
6	270°08.4	23°00.7	147°40.7	12.5	-5°53.9	-15.3	58.4
7	285°08.3	23°00.9	162°12.2	12.4	-6°09.2	-15.2	58.4
8	300°08.2	23°01.1	176°43.6	12.3	-6°24.4	-15.2	58.5
9	315°08.0	23°01.3	191°14.9	12.3	-6°39.7	-15.2	58.5
10	330°07.9	23°01.5	205°46.1	12.2	-6°54.9	-15.2	58.6
11	345°07.8	23°01.7	220°17.2	12.1	-7°10.1	-15.2	58.6
12	0°07.7	23°01.9	234°48.3	12.0	-7°25.3	-15.2	58.6
13	15°07.5	23°02.0	249°19.3	11.9	-7°40.5	-15.2	58.7
14	30°07.4	23°02.2	263°50.2	11.9	-7°55.6	-15.2	58.7
15	45°07.3	23°02.4	278°21.0	11.8	-8°10.8	-15.1	58.8
16	60°07.2	23°02.6	292°51.8	11.7	-8°25.9	-15.1	58.8
17	75°07.0	23°02.8	307°22.4	11.6	-8°41.0	-15.1	58.8
18	90°06.9	23°03.0	321°53.0	11.5	-8°56.1	-15.1	58.9
19	105°06.8	23°03.1	336°23.4	11.4	-9°11.1	-15.0	58.9
20	120°06.7	23°03.3	350°53.8	11.3	-9°26.2	-15.0	59.0
21	135°06.5	23°03.5	5°24.1	11.2	-9°41.2	-15.0	59.0
22	150°06.4	23°03.7	19°54.3	11.1	-9°56.1	-15.0	59.0
23	165°06.3	23°03.9	34°24.4	11.1	-10°11.1	-14.9	59.1
	SD.=15.8	d=0.2	S.D.=15.9				

Sa	AHG	Dec	AHG	v	Dec	d	HP
0	180°06.2	23°04.0	48°54.4	11.0	-10°26.0	-14.9	59.1
1	195°06.0	23°04.2	63°24.3	10.9	-10°40.9	-14.9	59.2
2	210°05.9	23°04.4	77°54.1	10.8	-10°55.7	-14.8	59.2
3	225°05.8	23°04.6	92°23.8	10.7	-11°10.5	-14.8	59.2
4	240°05.7	23°04.8	106°53.5	10.6	-11°25.3	-14.7	59.3
5	255°05.5	23°04.9	121°23.0	10.5	-11°40.0	-14.7	59.3
6	270°05.4	23°05.1	135°52.4	10.4	-11°54.7	-14.7	59.3
7	285°05.3	23°05.3	150°21.7	10.2	-12°09.3	-14.6	59.4
8	300°05.2	23°05.4	164°50.9	10.1	-12°23.9	-14.6	59.4
9	315°05.0	23°05.6	179°19.9	10.0	-12°38.4	-14.5	59.5
10	330°04.9	23°05.8	193°48.9	9.9	-12°52.9	-14.5	59.5
11	345°04.8	23°06.0	208°17.8	9.8	-13°07.4	-14.4	59.5
12	0°04.7	23°06.1	222°46.5	9.7	-13°21.7	-14.4	59.6
13	15°04.5	23°06.3	237°15.2	9.6	-13°36.1	-14.3	59.6
14	30°04.4	23°06.5	251°43.7	9.5	-13°50.3	-14.2	59.6
15	45°04.3	23°06.6	266°12.2	9.4	-14°04.6	-14.2	59.7
16	60°04.1	23°06.8	280°40.5	9.2	-14°18.7	-14.1	59.7
17	75°04.0	23°07.0	295°08.7	9.1	-14°32.8	-14.1	59.8
18	90°03.9	23°07.1	309°36.7	9.0	-14°46.8	-14.0	59.8
19	105°03.8	23°07.3	324°04.7	8.9	-15°00.8	-13.9	59.8
20	120°03.6	23°07.5	338°32.5	8.8	-15°14.6	-13.8	59.9
21	135°03.5	23°07.6	353°00.2	8.7	-15°28.4	-13.8	59.9
22	150°03.4	23°07.8	7°27.8	8.5	-15°42.2	-13.7	59.9
23	165°03.3	23°07.9	21°55.3	8.4	-15°55.8	-13.6	60.0
	SD.=15.8	d=0.2	S.D.=16.1				

Lat.	Crepúsculo Naut.	Crepúsculo Civil	Orto Sol	Crepúsculo Civil	Crepúsculo Naut.	Ocaso Sol
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	–:–	–:–	–:–
68	–:–	–:–	–:–	–:–	–:–	–:–
66	–:–	–:–	00:29	23:37	–:–	–:–
64	–:–	–:–	01:40	22:21	–:–	–:–
62	–:–	–:–	02:14	21:46	–:–	–:–
60	–:–	01:03	02:39	21:21	22:58	–:–
58	–:–	01:46	02:59	21:01	22:14	–:–
56	–:–	02:14	03:15	20:44	21:46	–:–
54	00:57	02:35	03:29	20:31	21:24	23:04
52	01:37	02:53	03:41	20:19	21:07	22:23
50	02:03	03:07	03:51	20:08	20:52	21:56
45	02:47	03:36	04:13	19:46	20:23	21:12
40	03:17	03:58	04:31	19:28	20:01	20:42
35	03:40	04:16	04:46	19:14	19:43	20:20
30	03:58	04:31	04:58	19:01	19:28	20:01
20	04:26	04:55	05:20	18:39	19:04	19:33
10	04:49	05:16	05:39	18:20	18:43	19:10
0	05:07	05:33	05:56	18:03	18:26	18:52
S 10	05:24	05:50	06:13	17:46	18:09	18:35
20	05:40	06:07	06:31	17:28	17:52	18:19
30	05:56	06:26	06:52	17:07	17:33	18:03
35	06:04	06:36	07:04	16:55	17:23	17:54
40	06:14	06:48	07:18	16:41	17:11	17:45
45	06:24	07:01	07:34	16:24	16:58	17:35
50	06:35	07:16	07:55	16:04	16:42	17:24
52	06:40	07:24	08:04	15:54	16:35	17:19
54	06:46	07:32	08:15	15:44	16:27	17:13
56	06:52	07:41	08:27	15:31	16:18	17:07
58	06:58	07:50	08:42	15:17	16:08	17:01
60	07:05	08:02	08:59	15:00	15:57	16:53

Lat.	Orto luna Jue	Orto luna Vie	Orto luna Sa	Ocaso luna Jue	Ocaso luna Vie	Ocaso luna Sa
N 72	14:04	16:21	19:11	01:31	01:00	00:23
70	14:01	16:07	18:34	01:30	01:07	00:40
68	13:59	15:56	18:08	01:28	01:12	00:53
66	13:57	15:47	17:48	01:27	01:16	01:04
64	13:55	15:39	17:32	01:26	01:20	01:14
62	13:54	15:33	17:19	01:26	01:24	01:22
60	13:53	15:27	17:08	01:25	01:27	01:29
58	13:52	15:22	16:59	01:24	01:29	01:35
56	13:51	15:18	16:51	01:24	01:31	01:41
54	13:50	15:14	16:43	01:23	01:34	01:46
52	13:49	15:11	16:37	01:23	01:35	01:50
50	13:48	15:07	16:31	01:22	01:37	01:54
45	13:47	15:01	16:18	01:21	01:41	02:03
40	13:46	14:55	16:08	01:20	01:44	02:10
35	13:45	14:50	15:59	01:20	01:47	02:17
30	13:44	14:46	15:52	01:19	01:50	02:23
20	13:42	14:38	15:38	01:18	01:54	02:33
10	13:41	14:32	15:27	01:17	01:58	02:41
0	13:39	14:26	15:16	01:16	02:01	02:49
S 10	13:38	14:20	15:06	01:15	02:05	02:58
20	13:37	14:14	14:55	01:14	02:09	03:07
30	13:35	14:07	14:42	01:12	02:13	03:17
35	13:34	14:03	14:35	01:12	02:15	03:22
40	13:34	13:59	14:27	01:11	02:18	03:29
45	13:32	13:53	14:17	01:10	02:22	03:37
50	13:31	13:47	14:06	01:09	02:26	03:46
52	13:31	13:44	14:01	01:08	02:27	03:51
54	13:30	13:41	13:55	01:07	02:29	03:56
56	13:29	13:38	13:49	01:07	02:32	04:01
58	13:29	13:34	13:41	01:06	02:34	04:07
60	13:28	13:30	13:33	01:05	02:37	04:14

Día	Sol Ec. tiempo 00:00 h	Sol Ec. tiempo 12:00 h	Sol Paso Merid	Luna Paso Meridiano Superior	Luna Paso Meridiano Inferior	Luna Edad
9	00:48	00:43	11:59	19:50	07:27	10(69%)
10	00:37	00:31	11:59	20:37	08:13	11(79%)
11	00:25	00:19	11:59	21:29	09:02	12(87%)

Junio 12, 13, 14 (Dom, Lun, Mar)

	Aries	Venus		Martes		Júpiter		Saturno	
Dom	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	260°18.1	215°17.2	15°04.6	247°20.8	3°36.2	254°54.2	1°01.0	292°25.0	-14°11.9
1	275°20.5	230°16.7	15°05.5	262°21.5	3°36.9	269°56.4	1°01.2	307°27.5	-14°11.9
2	290°23.0	245°16.2	15°06.4	277°22.3	3°37.6	284°58.5	1°01.3	322°30.0	-14°11.9
3	305°25.5	260°15.8	15°07.2	292°23.1	3°38.3	300°00.7	1°01.4	337°32.5	-14°11.9
4	320°27.9	275°15.3	15°08.1	307°23.9	3°39.0	315°02.8	1°01.5	352°35.0	-14°12.0
5	335°30.4	290°14.9	15°09.0	322°24.6	3°39.7	330°05.0	1°01.7	7°37.5	-14°12.0
6	350°32.9	305°14.4	15°09.9	337°25.4	3°40.4	345°07.1	1°01.8	22°40.0	-14°12.0
7	5°35.3	320°13.9	15°10.7	352°26.2	3°41.1	0°09.3	1°01.9	37°42.5	-14°12.0
8	20°37.8	335°13.5	15°11.6	7°27.0	3°41.8	15°11.4	1°02.0	52°44.9	-14°12.0
9	35°40.3	350°13.0	15°12.5	22°27.7	3°42.5	30°13.6	1°02.2	67°47.4	-14°12.0
10	50°42.7	5°12.6	15°13.3	37°28.5	3°43.2	45°15.8	1°02.3	82°49.9	-14°12.1
11	65°45.2	20°12.1	15°14.2	52°29.3	3°43.9	60°17.9	1°02.4	97°52.4	-14°12.1
12	80°47.7	35°11.6	15°15.1	67°30.1	3°44.6	75°20.1	1°02.5	112°54.9	-14°12.1
13	95°50.1	50°11.2	15°15.9	82°30.8	3°45.3	90°22.2	1°02.7	127°57.4	-14°12.1
14	110°52.6	65°10.7	15°16.8	97°31.6	3°46.0	105°24.4	1°02.8	142°59.9	-14°12.1
15	125°55.0	80°10.2	15°17.7	112°32.4	3°46.7	120°26.5	1°02.9	158°02.4	-14°12.2
16	140°57.5	95°09.8	15°18.5	127°33.2	3°47.4	135°28.7	1°03.0	173°04.9	-14°12.2
17	156°00.0	110°09.3	15°19.4	142°33.9	3°48.1	150°30.8	1°03.1	188°07.4	-14°12.2
18	171°02.4	125°08.8	15°20.2	157°34.7	3°48.8	165°33.0	1°03.3	203°09.9	-14°12.2
19	186°04.9	140°08.4	15°21.1	172°35.5	3°49.5	180°35.1	1°03.4	218°12.4	-14°12.2
20	201°07.4	155°07.9	15°22.0	187°36.3	3°50.2	195°37.3	1°03.5	233°14.8	-14°12.2
21	216°09.8	170°07.4	15°22.8	202°37.0	3°50.9	210°39.4	1°03.6	248°17.3	-14°12.3
22	231°12.3	185°07.0	15°23.7	217°37.8	3°51.6	225°41.6	1°03.8	263°19.8	-14°12.3
23	246°14.8	200°06.5	15°24.5	232°38.6	3°52.3	240°43.7	1°03.9	278°22.3	-14°12.3
Mer.pass.:6:37:		v-0.5 d0.9 m-3.9		v0.8 d0.7 m0.6		v2.2 d0.1 m-2.2		v2.5 d-0.0 m0.7	

Lun	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	261°17.2	215°06.0	15°25.4	247°39.4	3°53.0	255°45.9	1°04.0	293°24.8	-14°12.3
1	276°19.7	230°05.6	15°26.3	262°40.1	3°53.7	270°48.1	1°04.1	308°27.3	-14°12.3
2	291°22.2	245°05.1	15°27.1	277°40.9	3°54.4	285°50.2	1°04.2	323°29.8	-14°12.4
3	306°24.6	260°04.6	15°28.0	292°41.7	3°55.1	300°52.4	1°04.4	338°32.3	-14°12.4
4	321°27.1	275°04.1	15°28.8	307°42.5	3°55.8	315°54.5	1°04.5	353°34.8	-14°12.4
5	336°29.5	290°03.7	15°29.7	322°43.2	3°56.5	330°56.7	1°04.6	8°37.3	-14°12.4
6	351°32.0	305°03.2	15°30.5	337°44.0	3°57.2	345°58.8	1°04.7	23°39.8	-14°12.4
7	6°34.5	320°02.7	15°31.4	352°44.8	3°57.9	1°01.0	1°04.9	38°42.3	-14°12.4
8	21°36.9	335°02.3	15°32.2	7°45.6	3°58.6	16°03.1	1°05.0	53°44.8	-14°12.5
9	36°39.4	350°01.8	15°33.1	22°46.3	3°59.3	31°05.3	1°05.1	68°47.3	-14°12.5
10	51°41.9	5°01.3	15°34.0	37°47.1	4°00.0	46°07.5	1°05.2	83°49.8	-14°12.5
11	66°44.3	20°00.8	15°34.8	52°47.9	4°00.7	61°09.6	1°05.3	98°52.3	-14°12.5
12	81°46.8	35°00.4	15°35.7	67°48.7	4°01.4	76°11.8	1°05.5	113°54.7	-14°12.5
13	96°49.3	49°59.9	15°36.5	82°49.4	4°02.1	91°13.9	1°05.6	128°57.2	-14°12.6
14	111°51.7	64°59.4	15°37.4	97°50.2	4°02.8	106°16.1	1°05.7	143°59.7	-14°12.6
15	126°54.2	79°58.9	15°38.2	112°51.0	4°03.5	121°18.3	1°05.8	159°02.2	-14°12.6
16	141°56.7	94°58.5	15°39.1	127°51.8	4°04.1	136°20.4	1°05.9	174°04.7	-14°12.6
17	156°59.1	109°58.0	15°39.9	142°52.6	4°04.8	151°22.6	1°06.1	189°07.2	-14°12.6
18	172°01.6	124°57.5	15°40.8	157°53.3	4°05.5	166°24.7	1°06.2	204°09.7	-14°12.7
19	187°04.0	139°57.0	15°41.6	172°54.1	4°06.2	181°26.9	1°06.3	219°12.2	-14°12.7
20	202°06.5	154°56.5	15°42.5	187°54.9	4°06.9	196°29.0	1°06.4	234°14.7	-14°12.7
21	217°09.0	169°56.1	15°43.3	202°55.7	4°07.6	211°31.2	1°06.5	249°17.2	-14°12.7
22	232°11.4	184°55.6	15°44.1	217°56.4	4°08.3	226°33.4	1°06.7	264°19.7	-14°12.7
23	247°13.9	199°55.1	15°45.0	232°57.2	4°09.0	241°35.5	1°06.8	279°22.2	-14°12.7
Mer.pass.:6:33:		v-0.5 d0.9 m-3.9		v0.8 d0.7 m0.6		v2.2 d0.1 m-2.2		v2.5 d-0.0 m0.7	

Mar	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	262°16.4	214°54.6	15°45.8	247°58.0	4°09.7	256°37.7	1°06.9	294°24.7	-14°12.8
1	277°18.8	229°54.1	15°46.7	262°58.8	4°10.4	271°39.8	1°07.0	309°27.2	-14°12.8
2	292°21.3	244°53.7	15°47.5	277°59.5	4°11.1	286°42.0	1°07.1	324°29.7	-14°12.8
3	307°23.8	259°53.2	15°48.4	293°00.3	4°11.8	301°44.2	1°07.3	339°32.2	-14°12.8
4	322°26.2	274°52.7	15°49.2	308°01.1	4°12.5	316°46.3	1°07.4	354°34.7	-14°12.8
5	337°28.7	289°52.2	15°50.0	323°01.9	4°13.2	331°48.5	1°07.5	9°37.2	-14°12.9
6	352°31.2	304°51.7	15°50.9	338°02.7	4°13.9	346°50.7	1°07.6	24°39.7	-14°12.9
7	7°33.6	319°51.2	15°51.7	353°03.4	4°14.6	1°52.8	1°07.7	39°42.2	-14°12.9
8	22°36.1	334°50.8	15°52.6	8°04.2	4°15.3	16°55.0	1°07.9	54°44.7	-14°12.9
9	37°38.5	349°50.3	15°53.4	23°05.0	4°16.0	31°57.1	1°08.0	69°47.2	-14°12.9
10	52°41.0	4°49.8	15°54.2	38°05.8	4°16.7	46°59.3	1°08.1	84°49.7	-14°13.0
11	67°43.5	19°49.3	15°55.1	53°06.5	4°17.4	62°01.5	1°08.2	99°52.2	-14°13.0
12	82°45.9	34°48.8	15°55.9	68°07.3	4°18.1	77°03.6	1°08.3	114°54.7	-14°13.0
13	97°48.4	49°48.3	15°56.8	83°08.1	4°18.8	92°05.8	1°08.4	129°57.2	-14°13.0
14	112°50.9	64°47.8	15°57.6	98°08.9	4°19.5	107°08.0	1°08.6	144°59.7	-14°13.0
15	127°53.3	79°47.4	15°58.4	113°09.6	4°20.2	122°10.1	1°08.7	160°02.2	-14°13.1
16	142°55.8	94°46.9	15°59.3	128°10.4	4°20.9	137°12.3	1°08.8	175°04.7	-14°13.1
17	157°58.3	109°46.4	16°00.1	143°11.2	4°21.5	152°14.4	1°08.9	190°07.2	-14°13.1
18	173°00.7	124°45.9	16°00.9	158°12.0	4°22.2	167°16.6	1°09.0	205°09.7	-14°13.1
19	188°03.2	139°45.4	16°01.8	173°12.8	4°22.9	182°18.8	1°09.2	220°12.2	-14°13.1
20	203°05.7	154°44.9	16°02.6	188°13.5	4°23.6	197°20.9	1°09.3	235°14.7	-14°13.2
21	218°08.1	169°44.4	16°03.4	203°14.3	4°24.3	212°23.1	1°09.4	250°17.2	-14°13.2
22	233°10.6	184°43.9	16°04.3	218°15.1	4°25.0	227°25.3	1°09.5	265°19.7	-14°13.2
23	248°13.0	199°43.4	16°05.1	233°15.9	4°25.7	242°27.4	1°09.6	280°22.2	-14°13.2
Mer.pass.:6:29:		v-0.5 d0.8 m-3.9		v0.8 d0.7 m0.6		v2.2 d0.1 m-2.2		v2.5 d-0.0 m0.7	

Estrellas

	AHS	Dec
Alpheratz	357°37.1	29°12.6
Ankaa	353°09.4	-42°10.9
Schedar	349°33.6	56°39.3
Diphda	348°49.5	-17°51.8
Achernar	335°22.2	-57°07.2
Hamal	327°53.9	23°33.9
Polaris	315°26.5	89°21.3
Akamar	315°13.8	-40°12.8
Menkar	314°08.7	4°10.6
Mirfak	308°31.8	49°56.2
Aldebaran	290°42.4	16°33.2
Rigel	281°06.3	-8°10.6
Capella	280°25.6	46°01.2
Bellatrix	278°25.5	6°22.1
Elnath	278°05.0	28°37.5
Alnilam	275°40.2	-1°11.3
Betelgeuse	270°54.7	7°24.6
Canopus	263°53.9	-52°42.5
Sirius	258°28.4	-16°44.7
Adara	255°07.9	-29°00.2
Procyon	244°53.3	5°10.2
Pollux	243°20.1	27°58.4
Avior	234°16.1	-59°35.0
Suhail	222°48.1	-43°31.5
Miaplacidus	221°39.2	-69°48.7
Alphard	217°50.0	-8°45.4
Regulus	207°36.8	11°51.6
Dubhe	193°43.7	61°38.2
Denebola	182°27.0	14°27.0
Gienah	175°45.7	-17°40.0
Acrux	173°02.2	-63°13.6
Gacrux	171°53.8	-57°14.5
Alioth	166°14.7	55°50.6
Spica	158°24.4	-11°16.7
Alcaid	152°53.4	49°12.4
Hadar	148°38.6	-60°29.0
Menkent	147°59.9	-36°28.9
Arcturus	145°49.5	19°04.4
Rigil Kent.	139°42.7	-60°55.8
Zubenelg.	136°58.1	-16°08.1
Kochab	137°18.8	74°04.0
Alphecca	126°05.2	26°38.5
Antares	112°18.1	-26°28.9
Atria	107°13.6	-69°04.0
Sabik	102°04.9	-15°45.1
Shaula	96°12.8	-37°07.2
Rasalhague	96°00.2	12°32.6
Etamin	90°42.6	51°29.1
Kaus Aust.	83°34.9	-34°22.4
Vega	80°34.3	38°48.1
Nunki	75°50.1	-26°16.1
Altair	62°01.8	8°55.5
Peacock	53°08.7	-56°39.6
Deneb	49°26.9	45°21.4
Enif	33°40.8	9°58.5
Alnair	27°35.5	-46°51.0
Fomalhaut	15°16.9	-29°30.1
Scheat	13°47.3	28°12.0
Markab	13°32.0	15°19.4

Jun 12 Dom	AHS	Paso Merid
Venus	314°59.1	09:39
Mars	347°02.7	07:30
Jupiter	354°36.2	06:59
Saturn	32°06.9	04:30

Jun 13 Lun	AHS	Paso Merid
Venus	313°48.8	09:40
Mars	346°22.1	07:29
Jupiter	354°28.7	06:56
Saturn	32°07.6	04:26

Jun 14 Mar	AHS	Paso Merid
Venus	312°38.3	09:41
Mars	345°41.6	07:28
Jupiter	354°21.3	06:52
Saturn	32°08.3	04:22

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.1

h	Sol		Luna				
Dom	AHG	Dec	AHG	v	Dec	d	HP
0	180°03.1	23°08.1	36°22.7	8.3	-16°09.4	-13.5	60.0
1	195°03.0	23°08.3	50°49.9	8.2	-16°22.9	-13.5	60.0
2	210°02.9	23°08.4	65°17.0	8.0	-16°36.4	-13.4	60.1
3	225°02.7	23°08.6	79°44.0	7.9	-16°49.7	-13.3	60.1
4	240°02.6	23°08.7	94°10.9	7.8	-17°02.9	-13.2	60.1
5	255°02.5	23°08.9	108°37.6	7.7	-17°16.1	-13.1	60.2
6	270°02.4	23°09.1	123°04.2	7.5	-17°29.2	-13.0	60.2
7	285°02.2	23°09.2	137°30.7	7.4	-17°42.1	-12.9	60.2
8	300°02.1	23°09.4	151°57.1	7.3	-17°55.0	-12.8	60.3
9	315°02.0	23°09.5	166°23.3	7.2	-18°07.8	-12.7	60.3
10	330°01.8	23°09.7	180°49.4	7.0	-18°20.5	-12.6	60.3
11	345°01.7	23°09.8	195°15.4	6.9	-18°33.1	-12.5	60.4
12	0°01.6	23°10.0	209°41.2	6.8	-18°45.6	-12.4	60.4
13	15°01.5	23°10.1	224°06.9	6.7	-18°57.9	-12.3	60.4
14	30°01.3	23°10.3	238°32.5	6.5	-19°10.2	-12.2	60.4
15	45°01.2	23°10.4	252°58.0	6.4	-19°22.3	-12.1	60.5
16	60°01.1	23°10.6	267°23.3	6.3	-19°34.4	-12.0	60.5
17	75°00.9	23°10.7	281°48.5	6.1	-19°46.3	-11.9	60.5
18	90°00.8	23°10.9	296°13.6	6.0	-19°58.1	-11.7	60.6
19	105°00.7	23°11.0	310°38.5	5.9	-20°09.8	-11.6	60.6
20	120°00.6	23°11.2	325°03.3	5.7	-20°21.4	-11.5	60.6
21	135°00.4	23°11.3	339°28.0	5.6	-20°32.8	-11.4	60.6
22	150°00.3	23°11.5	353°52.5	5.5	-20°44.1	-11.3	60.7
23	165°00.2	23°11.6	8°17.0	5.4	-20°55.3	-11.1	60.7
	SD.=15.8	d=0.2		S.D.=16.4			

Lun	AHG	Dec	AHG	v	Dec	d	HP
0	180°00.0	23°11.8	22°41.3	5.2	-21°06.4	-11.0	60.7
1	194°59.9	23°11.9	37°05.4	5.1	-21°17.3	-10.9	60.7
2	209°59.8	23°12.0	51°29.5	5.0	-21°28.1	-10.7	60.8
3	224°59.7	23°12.2	65°53.4	4.8	-21°38.7	-10.6	60.8
4	239°59.5	23°12.3	80°17.2	4.7	-21°49.2	-10.4	60.8
5	254°59.4	23°12.5	94°40.8	4.6	-21°59.6	-10.3	60.8
6	269°59.3	23°12.6	109°04.4	4.5	-22°09.8	-10.1	60.9
7	284°59.1	23°12.8	123°27.8	4.3	-22°19.9	-10.0	60.9
8	299°59.0	23°12.9	137°51.1	4.2	-22°29.8	-9.8	60.9
9	314°58.9	23°13.0	152°14.2	4.1	-22°39.6	-9.7	60.9
10	329°58.7	23°13.2	166°37.3	4.0	-22°49.2	-9.5	60.9
11	344°58.6	23°13.3	181°00.2	3.9	-22°58.7	-9.4	61.0
12	359°58.5	23°13.4	195°23.0	3.7	-23°08.0	-9.2	61.0
13	14°58.4	23°13.6	209°45.7	3.6	-23°17.1	-9.1	61.0
14	29°58.2	23°13.7	224°08.3	3.5	-23°26.1	-8.9	61.0
15	44°58.1	23°13.8	238°30.7	3.4	-23°34.9	-8.7	61.0
16	59°58.0	23°14.0	252°53.0	3.3	-23°43.6	-8.6	61.1
17	74°57.8	23°14.1	267°15.3	3.2	-23°52.1	-8.4	61.1
18	89°57.7	23°14.2	281°37.4	3.1	-24°00.4	-8.2	61.1
19	104°57.6	23°14.4	295°59.4	3.0	-24°08.6	-8.1	61.1
20	119°57.4	23°14.5	310°21.3	2.8	-24°16.5	-7.9	61.1
21	134°57.3	23°14.6	324°43.1	2.7	-24°24.3	-7.7	61.1
22	149°57.2	23°14.8	339°04.8	2.6	-24°31.9	-7.5	61.2
23	164°57.1	23°14.9	353°26.4	2.5	-24°39.4	-7.3	61.2
	SD.=15.7	d=0.1		S.D.=16.6			

Mar	AHG	Dec	AHG	v	Dec	d	HP
0	179°56.9	23°15.0	7°47.9	2.4	-24°46.6	-7.2	61.2
1	194°56.8	23°15.1	22°09.3	2.3	-24°53.7	-7.0	61.2
2	209°56.7	23°15.3	36°30.6	2.3	-25°00.6	-6.8	61.2
3	224°56.5	23°15.4	50°51.8	2.2	-25°07.3	-6.6	61.2
4	239°56.4	23°15.5	65°12.9	2.1	-25°13.8	-6.4	61.2
5	254°56.3	23°15.6	79°33.9	2.0	-25°20.1	-6.2	61.2
6	269°56.1	23°15.8	93°54.8	1.9	-25°26.3	-6.0	61.3
7	284°56.0	23°15.9	108°15.7	1.8	-25°32.2	-5.8	61.3
8	299°55.9	23°16.0	122°36.5	1.7	-25°37.9	-5.6	61.3
9	314°55.7	23°16.1	136°57.2	1.7	-25°43.5	-5.4	61.3
10	329°55.6	23°16.2	151°17.8	1.6	-25°48.8	-5.3	61.3
11	344°55.5	23°16.4	165°38.3	1.5	-25°54.0	-5.1	61.3
12	359°55.3	23°16.5	179°58.8	1.4	-25°58.9	-4.9	61.3
13	14°55.2	23°16.6	194°19.2	1.4	-26°03.7	-4.6	61.3
14	29°55.1	23°16.7	208°39.6	1.3	-26°08.2	-4.4	61.3
15	44°55.0	23°16.8	222°59.9	1.3	-26°12.6	-4.2	61.3
16	59°54.8	23°16.9	237°20.1	1.2	-26°16.7	-4.0	61.3
17	74°54.7	23°17.1	251°40.3	1.2	-26°20.7	-3.8	61.3
18	89°54.6	23°17.2	266°00.4	1.1	-26°24.4	-3.6	61.3
19	104°54.4	23°17.3	280°20.5	1.1	-26°27.9	-3.4	61.3
20	119°54.3	23°17.4	294°40.5	1.0	-26°31.2	-3.2	61.3
21	134°54.2	23°17.5	309°00.5	1.0	-26°34.3	-3.0	61.3
22	149°54.0	23°17.6	323°20.5	0.9	-26°37.2	-2.8	61.3
23	164°53.9	23°17.7	337°40.4	0.9	-26°39.9	-2.6	61.3
	SD.=15.7	d=0.1		S.D.=16.7			

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	–:–	–:–	–:–
68	–:–	–:–	–:–	–:–	–:–	–:–
66	–:–	–:–	–:–	–:–	–:–	–:–
64	–:–	–:–	01:35	22:26	–:–	–:–
62	–:–	–:–	02:12	21:49	–:–	–:–
60	–:–	00:57	02:37	21:24	23:05	–:–
58	–:–	01:43	02:57	21:03	22:18	–:–
56	–:–	02:12	03:14	20:47	21:49	–:–
54	00:52	02:34	03:28	20:33	21:27	23:10
52	01:35	02:51	03:40	20:21	21:09	22:26
50	02:02	03:06	03:51	20:10	20:54	21:59
45	02:46	03:36	04:13	19:48	20:25	21:14
40	03:16	03:58	04:31	19:30	20:03	20:44
35	03:39	04:16	04:46	19:15	19:44	20:21
30	03:58	04:31	04:58	19:02	19:29	20:03
20	04:27	04:56	05:20	18:40	19:05	19:34
10	04:49	05:16	05:39	18:21	18:44	19:11
0	05:08	05:34	05:56	18:04	18:26	18:52
S 10	05:25	05:51	06:14	17:46	18:09	18:36
20	05:41	06:08	06:32	17:28	17:52	18:20
30	05:57	06:27	06:53	17:07	17:33	18:03
35	06:06	06:37	07:05	16:55	17:23	17:55
40	06:15	06:49	07:19	16:41	17:11	17:45
45	06:25	07:02	07:36	16:24	16:58	17:35
50	06:37	07:18	07:57	16:04	16:42	17:23
52	06:42	07:26	08:06	15:54	16:35	17:18
54	06:47	07:34	08:17	15:43	16:26	17:13
56	06:54	07:43	08:30	15:30	16:17	17:06
58	07:00	07:53	08:44	15:16	16:07	17:00
60	07:08	08:04	09:02	14:59	15:56	16:52

	Orto luna			Ocaso luna		
Lat.	Dom	Lun	Mar	Dom	Lun	Mar
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	00:00	–:–	–:–
68	21:00	–:–	–:–	00:28	–:–	–:–
66	20:10	–:–	–:–	00:49	00:25	–:–
64	19:39	22:07	–:–	01:06	00:57	00:38
62	19:15	21:20	23:19	01:21	01:21	01:25
60	18:57	20:50	22:33	01:33	01:40	01:56
58	18:42	20:27	22:03	01:43	01:56	02:19
56	18:29	20:09	21:40	01:53	02:10	02:38
54	18:18	19:53	21:21	02:01	02:22	02:54
52	18:08	19:40	21:05	02:08	02:32	03:08
50	17:59	19:28	20:51	02:15	02:42	03:20
45	17:40	19:04	20:23	02:29	03:02	03:45
40	17:25	18:45	20:02	02:41	03:18	04:05
35	17:13	18:29	19:43	02:51	03:32	04:22
30	17:02	18:15	19:28	03:00	03:44	04:36
20	16:43	17:51	19:01	03:16	04:05	05:01
10	16:27	17:31	18:39	03:29	04:23	05:23
0	16:12	17:12	18:18	03:42	04:40	05:43
S 10	15:57	16:54	17:57	03:55	04:57	06:03
20	15:41	16:34	17:34	04:09	05:15	06:25
30	15:23	16:11	17:08	04:24	05:36	06:50
35	15:12	15:58	16:53	04:34	05:48	07:04
40	15:00	15:42	16:35	04:44	06:03	07:21
45	14:47	15:24	16:14	04:57	06:20	07:42
50	14:30	15:02	15:48	05:12	06:41	08:08
52	14:22	14:51	15:35	05:19	06:51	08:21
54	14:13	14:39	15:20	05:27	07:03	08:35
56	14:03	14:26	15:03	05:36	07:16	08:52
58	13:52	14:10	14:42	05:46	07:31	09:12
60	13:39	13:51	14:16	05:58	07:49	09:38

	Sol			Luna		
Día	Ec. tiempo 00:00 h	Ec. tiempo 12:00 h	Paso Merid	Paso Superior	Meridiano Inferior	Edad
12	00:13	00:06	11:59	22:25	09:56	13(94%)
13	00:00	00:06	12:00	23:27	10:55	14(98%)
14	00:12	00:19	12:00	00:33	12:00	15(100%)

Junio 15, 16, 17 (Mie, Jue, Vie)

	Aries	Venus		Martes		Júpiter		Saturno	
Mie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	263°15.5	214°42.9	16°05.9	248°16.6	4°26.4	257°29.6	1°09.7	295°24.7	-14°13.3
1	278°18.0	229°42.4	16°06.7	263°17.4	4°27.1	272°31.8	1°09.9	310°27.2	-14°13.3
2	293°20.4	244°42.0	16°07.6	278°18.2	4°27.8	287°33.9	1°10.0	325°29.7	-14°13.3
3	308°22.9	259°41.5	16°08.4	293°19.0	4°28.5	302°36.1	1°10.1	340°32.2	-14°13.3
4	323°25.4	274°41.0	16°09.2	308°19.8	4°29.2	317°38.3	1°10.2	355°34.7	-14°13.3
5	338°27.8	289°40.5	16°10.1	323°20.5	4°29.9	332°40.4	1°10.3	10°37.2	-14°13.4
6	353°30.3	304°40.0	16°10.9	338°21.3	4°30.6	347°42.6	1°10.4	25°39.7	-14°13.4
7	8°32.8	319°39.5	16°11.7	353°22.1	4°31.3	2°44.8	1°10.6	40°42.2	-14°13.4
8	23°35.2	334°39.0	16°12.5	8°22.9	4°32.0	17°46.9	1°10.7	55°44.7	-14°13.4
9	38°37.7	349°38.5	16°13.4	23°23.6	4°32.6	32°49.1	1°10.8	70°47.2	-14°13.4
10	53°40.2	4°38.0	16°14.2	38°24.4	4°33.3	47°51.3	1°10.9	85°49.7	-14°13.5
11	68°42.6	19°37.5	16°15.0	53°25.2	4°34.0	62°53.4	1°11.0	100°52.2	-14°13.5
12	83°45.1	34°37.0	16°15.8	68°26.0	4°34.7	77°55.6	1°11.1	115°54.7	-14°13.5
13	98°47.5	49°36.5	16°16.7	83°26.8	4°35.4	92°57.8	1°11.3	130°57.2	-14°13.5
14	113°50.0	64°36.0	16°17.5	98°27.5	4°36.1	107°59.9	1°11.4	145°59.7	-14°13.6
15	128°52.5	79°35.5	16°18.3	113°28.3	4°36.8	123°02.1	1°11.5	161°02.2	-14°13.6
16	143°54.9	94°35.0	16°19.1	128°29.1	4°37.5	138°04.3	1°11.6	176°04.7	-14°13.6
17	158°57.4	109°34.5	16°19.9	143°29.9	4°38.2	153°06.5	1°11.7	191°07.2	-14°13.6
18	173°59.9	124°34.0	16°20.8	158°30.7	4°38.9	168°08.6	1°11.8	206°09.7	-14°13.6
19	189°02.3	139°33.5	16°21.6	173°31.4	4°39.6	183°10.8	1°12.0	221°12.2	-14°13.7
20	204°04.8	154°33.0	16°22.4	188°32.2	4°40.3	198°13.0	1°12.1	236°14.7	-14°13.7
21	219°07.3	169°32.5	16°23.2	203°33.0	4°41.0	213°15.1	1°12.2	251°17.2	-14°13.7
22	234°09.7	184°32.0	16°24.0	218°33.8	4°41.6	228°17.3	1°12.3	266°19.7	-14°13.7
23	249°12.2	199°31.5	16°24.8	233°34.5	4°42.3	243°19.5	1°12.4	281°22.2	-14°13.7
Mer.pass.:6:25:		v-0.5 d0.8 m-3.9		v0.8 d0.7 m0.6		v2.2 d0.1 m-2.2		v2.5 d-0.0 m0.7	

Jue	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	264°14.6	214°31.0	16°25.7	248°35.3	4°43.0	258°21.6	1°12.5	296°24.7	-14°13.8
1	279°17.1	229°30.5	16°26.5	263°36.1	4°43.7	273°23.8	1°12.6	311°27.3	-14°13.8
2	294°19.6	244°30.0	16°27.3	278°36.9	4°44.4	288°26.0	1°12.8	326°29.8	-14°13.8
3	309°22.0	259°29.5	16°28.1	293°37.7	4°45.1	303°28.2	1°12.9	341°32.3	-14°13.8
4	324°24.5	274°29.0	16°28.9	308°38.4	4°45.8	318°30.3	1°13.0	356°34.8	-14°13.9
5	339°27.0	289°28.5	16°29.7	323°39.2	4°46.5	333°32.5	1°13.1	11°37.3	-14°13.9
6	354°29.4	304°28.0	16°30.5	338°40.0	4°47.2	348°34.7	1°13.2	26°39.8	-14°13.9
7	9°31.9	319°27.4	16°31.3	353°40.8	4°47.9	3°36.9	1°13.3	41°42.3	-14°13.9
8	24°34.4	334°26.9	16°32.1	8°41.6	4°48.6	18°39.0	1°13.4	56°44.8	-14°13.9
9	39°36.8	349°26.4	16°33.0	23°42.3	4°49.2	33°41.2	1°13.6	71°47.3	-14°14.0
10	54°39.3	4°25.9	16°33.8	38°43.1	4°49.9	48°43.4	1°13.7	86°49.8	-14°14.0
11	69°41.8	19°25.4	16°34.6	53°43.9	4°50.6	63°45.5	1°13.8	101°52.3	-14°14.0
12	84°44.2	34°24.9	16°35.4	68°44.7	4°51.3	78°47.7	1°13.9	116°54.8	-14°14.0
13	99°46.7	49°24.4	16°36.2	83°45.4	4°52.0	93°49.9	1°14.0	131°57.3	-14°14.1
14	114°49.1	64°23.9	16°37.0	98°46.2	4°52.7	108°52.1	1°14.1	146°59.8	-14°14.1
15	129°51.6	79°23.4	16°37.8	113°47.0	4°53.4	123°54.2	1°14.2	162°02.3	-14°14.1
16	144°54.1	94°22.9	16°38.6	128°47.8	4°54.1	138°56.4	1°14.3	177°04.8	-14°14.1
17	159°56.5	109°22.3	16°39.4	143°48.6	4°54.8	153°58.6	1°14.5	192°07.4	-14°14.2
18	174°59.0	124°21.8	16°40.2	158°49.3	4°55.4	169°00.8	1°14.6	207°09.9	-14°14.2
19	190°01.5	139°21.3	16°41.0	173°50.1	4°56.1	184°02.9	1°14.7	222°12.4	-14°14.2
20	205°03.9	154°20.8	16°41.8	188°50.9	4°56.8	199°05.1	1°14.8	237°14.9	-14°14.2
21	220°06.4	169°20.3	16°42.6	203°51.7	4°57.5	214°07.3	1°14.9	252°17.4	-14°14.2
22	235°08.9	184°19.8	16°43.4	218°52.5	4°58.2	229°09.5	1°15.0	267°19.9	-14°14.3
23	250°11.3	199°19.3	16°44.2	233°53.2	4°58.9	244°11.6	1°15.1	282°22.4	-14°14.3
Mer.pass.:6:21:		v-0.5 d0.8 m-3.9		v0.8 d0.7 m0.6		v2.2 d0.1 m-2.2		v2.5 d-0.0 m0.7	

Vie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	265°13.8	214°18.7	16°45.0	248°54.0	4°59.6	259°13.8	1°15.3	297°24.9	-14°14.3
1	280°16.3	229°18.2	16°45.8	263°54.8	5°00.3	274°16.0	1°15.4	312°27.4	-14°14.3
2	295°18.7	244°17.7	16°46.6	278°55.6	5°01.0	289°18.2	1°15.5	327°29.9	-14°14.4
3	310°21.2	259°17.2	16°47.4	293°56.4	5°01.6	304°20.4	1°15.6	342°32.4	-14°14.4
4	325°23.6	274°16.7	16°48.2	308°57.1	5°02.3	319°22.5	1°15.7	357°34.9	-14°14.4
5	340°26.1	289°16.2	16°49.0	323°57.9	5°03.0	334°24.7	1°15.8	12°37.5	-14°14.4
6	355°28.6	304°15.6	16°49.8	338°58.7	5°03.7	349°26.9	1°15.9	27°40.0	-14°14.5
7	10°31.0	319°15.1	16°50.6	353°59.5	5°04.4	4°29.1	1°16.0	42°42.5	-14°14.5
8	25°33.5	334°14.6	16°51.4	9°00.3	5°05.1	19°31.2	1°16.1	57°45.0	-14°14.5
9	40°36.0	349°14.1	16°52.2	24°01.0	5°05.8	34°33.4	1°16.3	72°47.5	-14°14.5
10	55°38.4	4°13.6	16°53.0	39°01.8	5°06.5	49°35.6	1°16.4	87°50.0	-14°14.6
11	70°40.9	19°13.0	16°53.8	54°02.6	5°07.1	64°37.8	1°16.5	102°52.5	-14°14.6
12	85°43.4	34°12.5	16°54.6	69°03.4	5°07.8	79°40.0	1°16.6	117°55.0	-14°14.6
13	100°45.8	49°12.0	16°55.4	84°04.2	5°08.5	94°42.1	1°16.7	132°57.5	-14°14.6
14	115°48.3	64°11.5	16°56.1	99°04.9	5°09.2	109°44.3	1°16.8	148°00.0	-14°14.7
15	130°50.8	79°11.0	16°56.9	114°05.7	5°09.9	124°46.5	1°16.9	163°02.6	-14°14.7
16	145°53.2	94°10.4	16°57.7	129°06.5	5°10.6	139°48.7	1°17.0	178°05.1	-14°14.7
17	160°55.7	109°09.9	16°58.5	144°07.3	5°11.3	154°50.9	1°17.1	193°07.6	-14°14.7
18	175°58.1	124°09.4	16°59.3	159°08.1	5°11.9	169°53.0	1°17.3	208°10.1	-14°14.8
19	191°00.6	139°08.9	17°00.1	174°08.8	5°12.6	184°55.2	1°17.4	223°12.6	-14°14.8
20	206°03.1	154°08.3	17°00.9	189°09.6	5°13.3	199°57.4	1°17.5	238°15.1	-14°14.8
21	221°05.5	169°07.8	17°01.7	204°10.4	5°14.0	214°59.6	1°17.6	253°17.6	-14°14.8
22	236°08.0	184°07.3	17°02.4	219°11.2	5°14.7	230°01.8	1°17.7	268°20.1	-14°14.8
23	251°10.5	199°06.8	17°03.2	234°12.0	5°15.4	245°03.9	1°17.8	283°22.7	-14°14.9
Mer.pass.:6:18:		v-0.5 d0.8 m-3.9		v0.8 d0.7 m0.6		v2.2 d0.1 m-2.2		v2.5 d-0.0 m0.7	

Estrellas

	AHS	Dec
Alpheratz	357°37.0	29°12.6
Ankaa	353°09.4	-42°10.9
Schedar	349°33.6	56°39.3
Diphda	348°49.4	-17°51.8
Achernar	335°22.1	-57°07.2
Hamal	327°53.8	23°33.9
Polaris	315°25.1	89°21.2
Akamar	315°13.7	-40°12.8
Menkar	314°08.6	4°10.6
Mirfak	308°31.7	49°56.2
Aldebaran	290°42.4	16°33.2
Rigel	281°06.2	-8°10.6
Capella	280°25.5	46°01.2
Bellatrix	278°25.5	6°22.2
Elnath	278°04.9	28°37.5
Alnilam	275°40.2	-1°11.3
Betelgeuse	270°54.7	7°24.6
Canopus	263°53.9	-52°42.5
Sirius	258°28.4	-16°44.7
Adara	255°07.9	-29°00.2
Procyon	244°53.3	5°10.2
Pollux	243°20.1	27°58.4
Avior	234°16.1	-59°35.0
Suhail	222°48.1	-43°31.5
Miaplacidus	221°39.3	-69°48.7
Alphard	217°50.0	-8°45.4
Regulus	207°36.8	11°51.6
Dubhe	193°43.7	61°38.2
Denebola	182°27.0	14°27.0
Gienah	175°45.7	-17°40.0
Acrux	173°02.3	-63°13.6
Gacrux	171°53.8	-57°14.5
Alioth	166°14.7	55°50.6
Spica	158°24.4	-11°16.7
Alcaid	152°53.4	49°12.4
Hadar	148°38.6	-60°29.0
Menkent	147°59.9	-36°28.9
Arcturus	145°49.5	19°04.4
Rigil Kent.	139°42.7	-60°55.8
Zubenelg.	136°58.1	-16°08.1
Kochab	137°18.9	74°04.0
Alphecca	126°05.2	26°38.5
Antares	112°18.1	-26°28.9
Atria	107°13.6	-69°04.1
Sabik	102°04.9	-15°45.1
Shaula	96°12.8	-37°07.2
Rasalhague	96°00.2	12°32.7
Etamin	90°42.6	51°29.1
Kaus Aust.	83°34.9	-34°22.4
Vega	80°34.3	38°48.1
Nunki	75°50.0	-26°16.1
Altair	62°01.8	8°55.5
Peacock	53°08.6	-56°39.6
Deneb	49°26.9	45°21.4
Enif	33°40.7	9°58.5
Alnair	27°35.4	-46°50.9
Fomalhaut	15°16.9	-29°30.1
Scheat	13°47.2	28°12.0
Markab	13°32.0	15°19.4

Jun 15 Mie	AHS	Paso Merid
Venus	311°27.4	09:41
Mars	345°01.1	07:27
Jupiter	354°14.1	06:49
Saturn	32°09.2	04:18

Jun 16 Jue	AHS	Paso Merid
Venus	310°16.3	09:42
Mars	344°20.7	07:25
Jupiter	354°07.0	06:46
Saturn	32°10.1	04:14

Jun 17 Vie	AHS	Paso Merid
Venus	309°05.0	09:43
Mars	343°40.2	07:24
Jupiter	354°00.0	06:42
Saturn	32°11.1	04:10

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.1

h	Sol		Luna				
Mie	AHG	Dec	AHG	v	Dec	d	HP
0	179°53.8	23°17.8	352°00.3	0.9	-26°42.3	-2.4	61.3
1	194°53.6	23°18.0	6°20.1	0.8	-26°44.6	-2.1	61.3
2	209°53.5	23°18.1	20°39.9	0.8	-26°46.6	-1.9	61.3
3	224°53.4	23°18.2	34°59.8	0.8	-26°48.5	-1.7	61.3
4	239°53.2	23°18.3	49°19.6	0.8	-26°50.1	-1.5	61.3
5	254°53.1	23°18.4	63°39.3	0.8	-26°51.5	-1.3	61.3
6	269°53.0	23°18.5	77°59.1	0.8	-26°52.7	-1.1	61.3
7	284°52.8	23°18.6	92°18.9	0.8	-26°53.6	-0.9	61.3
8	299°52.7	23°18.7	106°38.6	0.8	-26°54.4	-0.7	61.3
9	314°52.6	23°18.8	120°58.4	0.8	-26°54.9	-0.4	61.3
10	329°52.4	23°18.9	135°18.1	0.8	-26°55.3	-0.2	61.3
11	344°52.3	23°19.0	149°37.9	0.8	-26°55.4	-0.0	61.3
12	359°52.2	23°19.1	163°57.7	0.8	-26°55.3	0.2	61.3
13	14°52.0	23°19.2	178°17.5	0.8	-26°55.0	0.4	61.3
14	29°51.9	23°19.3	192°37.3	0.8	-26°54.5	0.6	61.3
15	44°51.8	23°19.4	206°57.1	0.8	-26°53.7	0.8	61.3
16	59°51.6	23°19.5	221°17.0	0.9	-26°52.8	1.1	61.3
17	74°51.5	23°19.6	235°36.8	0.9	-26°51.6	1.3	61.3
18	89°51.4	23°19.7	249°56.8	0.9	-26°50.2	1.5	61.2
19	104°51.2	23°19.8	264°16.7	1.0	-26°48.6	1.7	61.2
20	119°51.1	23°19.9	278°36.7	1.0	-26°46.8	1.9	61.2
21	134°51.0	23°20.0	292°56.7	1.1	-26°44.8	2.1	61.2
22	149°50.8	23°20.1	307°16.8	1.1	-26°42.6	2.3	61.2
23	164°50.7	23°20.2	321°36.9	1.1	-26°40.2	2.5	61.2
	SD.=15.7	d=0.1			S.D.=16.7		

Jue	AHG	Dec	AHG	v	Dec	d	HP
0	179°50.6	23°20.3	335°57.1	1.2	-26°37.5	2.7	61.2
1	194°50.4	23°20.4	350°17.3	1.3	-26°34.7	2.9	61.2
2	209°50.3	23°20.5	4°37.6	1.3	-26°31.6	3.2	61.1
3	224°50.2	23°20.5	18°57.9	1.4	-26°28.4	3.4	61.1
4	239°50.0	23°20.6	33°18.4	1.4	-26°24.9	3.6	61.1
5	254°49.9	23°20.7	47°38.8	1.5	-26°21.2	3.8	61.1
6	269°49.8	23°20.8	61°59.4	1.6	-26°17.4	4.0	61.1
7	284°49.6	23°20.9	76°20.0	1.7	-26°13.3	4.2	61.1
8	299°49.5	23°21.0	90°40.7	1.7	-26°09.1	4.4	61.0
9	314°49.4	23°21.1	105°01.5	1.8	-26°04.6	4.6	61.0
10	329°49.2	23°21.2	119°22.3	1.9	-25°59.9	4.8	61.0
11	344°49.1	23°21.2	133°43.3	2.0	-25°55.1	5.0	61.0
12	359°49.0	23°21.3	148°04.3	2.1	-25°50.0	5.1	61.0
13	14°48.8	23°21.4	162°25.4	2.2	-25°44.8	5.3	61.0
14	29°48.7	23°21.5	176°46.6	2.3	-25°39.4	5.5	60.9
15	44°48.6	23°21.6	191°07.9	2.3	-25°33.7	5.7	60.9
16	59°48.4	23°21.7	205°29.3	2.4	-25°27.9	5.9	60.9
17	74°48.3	23°21.7	219°50.8	2.5	-25°21.9	6.1	60.9
18	89°48.2	23°21.8	234°12.4	2.6	-25°15.8	6.3	60.8
19	104°48.0	23°21.9	248°34.1	2.8	-25°09.4	6.4	60.8
20	119°47.9	23°22.0	262°55.9	2.9	-25°02.9	6.6	60.8
21	134°47.8	23°22.1	277°17.8	3.0	-24°56.2	6.8	60.8
22	149°47.6	23°22.1	291°39.8	3.1	-24°49.3	7.0	60.8
23	164°47.5	23°22.2	306°02.0	3.2	-24°42.2	7.2	60.7
	SD.=15.7	d=0.1			S.D.=16.7		

Vie	AHG	Dec	AHG	v	Dec	d	HP
0	179°47.4	23°22.3	320°24.2	3.3	-24°34.9	7.3	60.7
1	194°47.2	23°22.4	334°46.6	3.4	-24°27.5	7.5	60.7
2	209°47.1	23°22.4	349°09.0	3.5	-24°20.0	7.7	60.7
3	224°47.0	23°22.5	3°31.6	3.6	-24°12.2	7.8	60.6
4	239°46.8	23°22.6	17°54.3	3.8	-24°04.3	8.0	60.6
5	254°46.7	23°22.7	32°17.2	3.9	-23°56.2	8.2	60.6
6	269°46.6	23°22.7	46°40.1	4.0	-23°48.0	8.3	60.5
7	284°46.4	23°22.8	61°03.2	4.1	-23°39.6	8.5	60.5
8	299°46.3	23°22.9	75°26.4	4.3	-23°31.0	8.6	60.5
9	314°46.2	23°22.9	89°49.7	4.4	-23°22.3	8.8	60.5
10	329°46.0	23°23.0	104°13.1	4.5	-23°13.4	8.9	60.4
11	344°45.9	23°23.1	118°36.7	4.6	-23°04.4	9.1	60.4
12	359°45.7	23°23.1	133°00.4	4.8	-22°55.2	9.2	60.4
13	14°45.6	23°23.2	147°24.2	4.9	-22°45.9	9.4	60.3
14	29°45.5	23°23.3	161°48.2	5.0	-22°36.5	9.5	60.3
15	44°45.3	23°23.3	176°12.3	5.1	-22°26.9	9.7	60.3
16	59°45.2	23°23.4	190°36.5	5.3	-22°17.1	9.8	60.3
17	74°45.1	23°23.5	205°00.8	5.4	-22°07.3	9.9	60.2
18	89°44.9	23°23.5	219°25.3	5.5	-21°57.2	10.1	60.2
19	104°44.8	23°23.6	233°49.9	5.7	-21°47.1	10.2	60.2
20	119°44.7	23°23.7	248°14.6	5.8	-21°36.8	10.3	60.1
21	134°44.5	23°23.7	262°39.5	5.9	-21°26.4	10.5	60.1
22	149°44.4	23°23.8	277°04.5	6.1	-21°15.9	10.6	60.1
23	164°44.3	23°23.8	291°29.6	6.2	-21°05.2	10.7	60.0
	SD.=15.7	d=0.1			S.D.=16.6		

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	–:–	–:–	–:–
68	–:–	–:–	–:–	–:–	–:–	–:–
66	–:–	–:–	–:–	–:–	–:–	–:–
64	–:–	–:–	01:33	22:30	–:–	–:–
62	–:–	–:–	02:10	21:52	–:–	–:–
60	–:–	00:52	02:36	21:26	23:11	–:–
58	–:–	01:41	02:56	21:05	22:21	–:–
56	–:–	02:11	03:13	20:49	21:51	–:–
54	00:48	02:33	03:27	20:34	21:29	23:15
52	01:33	02:51	03:39	20:22	21:11	22:29
50	02:00	03:06	03:50	20:11	20:56	22:01
45	02:46	03:35	04:13	19:49	20:26	21:16
40	03:16	03:58	04:31	19:31	20:04	20:45
35	03:39	04:16	04:46	19:16	19:46	20:22
30	03:58	04:31	04:59	19:03	19:30	20:04
20	04:27	04:56	05:21	18:41	19:05	19:35
10	04:49	05:16	05:40	18:22	18:45	19:12
0	05:08	05:35	05:57	18:04	18:27	18:53
S 10	05:25	05:52	06:14	17:47	18:10	18:36
20	05:41	06:09	06:33	17:28	17:53	18:20
30	05:58	06:28	06:54	17:07	17:34	18:04
35	06:07	06:38	07:06	16:55	17:23	17:55
40	06:16	06:50	07:21	16:41	17:11	17:45
45	06:26	07:04	07:37	16:24	16:58	17:35
50	06:38	07:20	07:58	16:03	16:42	17:23
52	06:43	07:27	08:08	15:53	16:34	17:18
54	06:49	07:35	08:19	15:42	16:26	17:12
56	06:55	07:44	08:32	15:30	16:17	17:06
58	07:02	07:54	08:46	15:15	16:07	17:00
60	07:09	08:06	09:04	14:58	15:55	16:52

	Orto luna			Ocaso luna		
Lat.	Mie	Jue	Vie	Mie	Jue	Vie
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	–:–	–:–	–:–
68	–:–	–:–	–:–	–:–	–:–	–:–
66	–:–	–:–	–:–	–:–	–:–	–:–
64	–:–	–:–	01:21	–:–	–:–	04:21
62	–:–	00:24	00:39	01:45	03:02	05:02
60	23:40	–:–	00:11	02:31	03:45	05:30
58	23:10	23:48	–:–	03:02	04:15	05:51
56	22:48	23:30	23:56	03:25	04:37	06:09
54	22:29	23:15	23:44	03:44	04:55	06:24
52	22:13	23:02	23:34	04:00	05:11	06:37
50	22:00	22:50	23:25	04:13	05:24	06:48
45	21:32	22:26	23:06	04:42	05:52	07:11
40	21:10	22:06	22:50	05:04	06:14	07:30
35	20:52	21:50	22:37	05:22	06:32	07:46
30	20:36	21:35	22:25	05:38	06:47	07:59
20	20:09	21:11	22:05	06:05	07:13	08:22
10	19:46	20:50	21:48	06:28	07:36	08:42
0	19:25	20:30	21:31	06:49	07:56	09:00
S 10	19:03	20:11	21:15	07:11	08:17	09:18
20	18:40	19:49	20:57	07:34	08:39	09:37
30	18:14	19:25	20:37	08:01	09:05	10:00
35	17:58	19:10	20:25	08:16	09:20	10:13
40	17:40	18:54	20:11	08:35	09:37	10:27
45	17:18	18:33	19:54	08:57	09:58	10:45
50	16:50	18:08	19:34	09:25	10:24	11:06
52	16:36	17:56	19:24	09:38	10:37	11:17
54	16:21	17:42	19:13	09:54	10:51	11:28
56	16:02	17:25	19:01	10:13	11:08	11:41
58	15:40	17:06	18:46	10:35	11:28	11:56
60	15:10	16:41	18:29	11:05	11:53	12:14

Día	Sol			Luna		
	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
15	00:25	00:31	12:00	00:33	13:07	16(98%)
16	00:38	00:44	12:00	01:40	14:13	17(94%)
17	00:51	00:57	12:00	02:45	15:15	18(87%)

Junio 18, 19, 20 (Sa, Dom, Lun)

	Aries	Venus		Martes		Júpiter		Saturno	
Sa	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	266°12.9	214°06.2	17°04.0	249°12.7	5°16.1	260°06.1	1°17.9	298°25.2	-14°14.9
1	281°15.4	229°05.7	17°04.8	264°13.5	5°16.7	275°08.3	1°18.0	313°27.7	-14°14.9
2	296°17.9	244°05.2	17°05.6	279°14.3	5°17.4	290°10.5	1°18.1	328°30.2	-14°14.9
3	311°20.3	259°04.6	17°06.4	294°15.1	5°18.1	305°12.7	1°18.2	343°32.7	-14°15.0
4	326°22.8	274°04.1	17°07.1	309°15.9	5°18.8	320°14.9	1°18.4	358°35.2	-14°15.0
5	341°25.3	289°03.6	17°07.9	324°16.6	5°19.5	335°17.0	1°18.5	13°37.7	-14°15.0
6	356°27.7	304°03.1	17°08.7	339°17.4	5°20.2	350°19.2	1°18.6	28°40.2	-14°15.0
7	11°30.2	319°02.5	17°09.5	354°18.2	5°20.9	5°21.4	1°18.7	43°42.8	-14°15.1
8	26°32.6	334°02.0	17°10.3	9°19.0	5°21.5	20°23.6	1°18.8	58°45.3	-14°15.1
9	41°35.1	349°01.5	17°11.0	24°19.8	5°22.2	35°25.8	1°18.9	73°47.8	-14°15.1
10	56°37.6	4°00.9	17°11.8	39°20.6	5°22.9	50°28.0	1°19.0	88°50.3	-14°15.1
11	71°40.0	19°00.4	17°12.6	54°21.3	5°23.6	65°30.1	1°19.1	103°52.8	-14°15.2
12	86°42.5	33°59.9	17°13.4	69°22.1	5°24.3	80°32.3	1°19.2	118°55.3	-14°15.2
13	101°45.0	48°59.3	17°14.1	84°22.9	5°25.0	95°34.5	1°19.3	133°57.8	-14°15.2
14	116°47.4	63°58.8	17°14.9	99°23.7	5°25.6	110°36.7	1°19.4	149°00.4	-14°15.3
15	131°49.9	78°58.3	17°15.7	114°24.5	5°26.3	125°38.9	1°19.5	164°02.9	-14°15.3
16	146°52.4	93°57.7	17°16.5	129°25.2	5°27.0	140°41.1	1°19.7	179°05.4	-14°15.3
17	161°54.8	108°57.2	17°17.2	144°26.0	5°27.7	155°43.3	1°19.8	194°07.9	-14°15.3
18	176°57.3	123°56.6	17°18.0	159°26.8	5°28.4	170°45.4	1°19.9	209°10.4	-14°15.4
19	191°59.8	138°56.1	17°18.8	174°27.6	5°29.1	185°47.6	1°20.0	224°12.9	-14°15.4
20	207°02.2	153°55.6	17°19.5	189°28.4	5°29.7	200°49.8	1°20.1	239°15.4	-14°15.4
21	222°04.7	168°55.0	17°20.3	204°29.1	5°30.4	215°52.0	1°20.2	254°18.0	-14°15.4
22	237°07.1	183°54.5	17°21.1	219°29.9	5°31.1	230°54.2	1°20.3	269°20.5	-14°15.5
23	252°09.6	198°54.0	17°21.8	234°30.7	5°31.8	245°56.4	1°20.4	284°23.0	-14°15.5
Mer.pass.:6:14:		v-0.5 d0.8 m-3.9		v0.8 d0.7 m0.5		v2.2 d0.1 m-2.2		v2.5 d-0.0 m0.7	

Dom	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	267°12.1	213°53.4	17°22.6	249°31.5	5°32.5	260°58.6	1°20.5	299°25.5	-14°15.5
1	282°14.5	228°52.9	17°23.4	264°32.3	5°33.1	276°00.8	1°20.6	314°28.0	-14°15.5
2	297°17.0	243°52.3	17°24.1	279°33.1	5°33.8	291°02.9	1°20.7	329°30.5	-14°15.6
3	312°19.5	258°51.8	17°24.9	294°33.8	5°34.5	306°05.1	1°20.8	344°33.1	-14°15.6
4	327°21.9	273°51.3	17°25.7	309°34.6	5°35.2	321°07.3	1°20.9	359°35.6	-14°15.6
5	342°24.4	288°50.7	17°26.4	324°35.4	5°35.9	336°09.5	1°21.1	14°38.1	-14°15.6
6	357°26.9	303°50.2	17°27.2	339°36.2	5°36.6	351°11.7	1°21.2	29°40.6	-14°15.7
7	12°29.3	318°49.6	17°28.0	354°37.0	5°37.2	6°13.9	1°21.3	44°43.1	-14°15.7
8	27°31.8	333°49.1	17°28.7	9°37.7	5°37.9	21°16.1	1°21.4	59°45.6	-14°15.7
9	42°34.2	348°48.5	17°29.5	24°38.5	5°38.6	36°18.3	1°21.5	74°48.2	-14°15.7
10	57°36.7	3°48.0	17°30.2	39°39.3	5°39.3	51°20.5	1°21.6	89°50.7	-14°15.8
11	72°39.2	18°47.5	17°31.0	54°40.1	5°40.0	66°22.6	1°21.7	104°53.2	-14°15.8
12	87°41.6	33°46.9	17°31.8	69°40.9	5°40.6	81°24.8	1°21.8	119°55.7	-14°15.8
13	102°44.1	48°46.4	17°32.5	84°41.7	5°41.3	96°27.0	1°21.9	134°58.2	-14°15.9
14	117°46.6	63°45.8	17°33.3	99°42.4	5°42.0	111°29.2	1°22.0	150°00.8	-14°15.9
15	132°49.0	78°45.3	17°34.0	114°43.2	5°42.7	126°31.4	1°22.1	165°03.3	-14°15.9
16	147°51.5	93°44.7	17°34.8	129°44.0	5°43.4	141°33.6	1°22.2	180°05.8	-14°15.9
17	162°54.0	108°44.2	17°35.5	144°44.8	5°44.0	156°35.8	1°22.3	195°08.3	-14°16.0
18	177°56.4	123°43.6	17°36.3	159°45.6	5°44.7	171°38.0	1°22.4	210°10.8	-14°16.0
19	192°58.9	138°43.1	17°37.0	174°46.3	5°45.4	186°40.2	1°22.5	225°13.3	-14°16.0
20	208°01.4	153°42.5	17°37.8	189°47.1	5°46.1	201°42.4	1°22.6	240°15.9	-14°16.0
21	223°03.8	168°42.0	17°38.6	204°47.9	5°46.8	216°44.6	1°22.7	255°18.4	-14°16.1
22	238°06.3	183°41.4	17°39.3	219°48.7	5°47.4	231°46.8	1°22.9	270°20.9	-14°16.1
23	253°08.7	198°40.9	17°40.1	234°49.5	5°48.1	246°49.0	1°23.0	285°23.4	-14°16.1
Mer.pass.:6:10:		v-0.5 d0.8 m-3.9		v0.8 d0.7 m0.5		v2.2 d0.1 m-2.2		v2.5 d-0.0 m0.7	

Lun	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	268°11.2	213°40.3	17°40.8	249°50.3	5°48.8	261°51.1	1°23.1	300°25.9	-14°16.2
1	283°13.7	228°39.8	17°41.6	264°51.0	5°49.5	276°53.3	1°23.2	315°28.5	-14°16.2
2	298°16.1	243°39.2	17°42.3	279°51.8	5°50.2	291°55.5	1°23.3	330°31.0	-14°16.2
3	313°18.6	258°38.7	17°43.1	294°52.6	5°50.8	306°57.7	1°23.4	345°33.5	-14°16.2
4	328°21.1	273°38.1	17°43.8	309°53.4	5°51.5	321°59.9	1°23.5	0°36.0	-14°16.3
5	343°23.5	288°37.6	17°44.5	324°54.2	5°52.2	337°02.1	1°23.6	15°38.5	-14°16.3
6	358°26.0	303°37.0	17°45.3	339°55.0	5°52.9	352°04.3	1°23.7	30°41.1	-14°16.3
7	13°28.5	318°36.5	17°46.0	354°55.7	5°53.5	7°06.5	1°23.8	45°43.6	-14°16.3
8	28°30.9	333°35.9	17°46.8	9°56.5	5°54.2	22°08.7	1°23.9	60°46.1	-14°16.4
9	43°33.4	348°35.4	17°47.5	24°57.3	5°54.9	37°10.9	1°24.0	75°48.6	-14°16.4
10	58°35.9	3°34.8	17°48.3	39°58.1	5°55.6	52°13.1	1°24.1	90°51.2	-14°16.4
11	73°38.3	18°34.2	17°49.0	54°58.9	5°56.3	67°15.3	1°24.2	105°53.7	-14°16.5
12	88°40.8	33°33.7	17°49.8	69°59.7	5°56.9	82°17.5	1°24.3	120°56.2	-14°16.5
13	103°43.2	48°33.1	17°50.5	85°00.4	5°57.6	97°19.7	1°24.4	135°58.7	-14°16.5
14	118°45.7	63°32.6	17°51.2	100°01.2	5°58.3	112°21.9	1°24.5	151°01.2	-14°16.5
15	133°48.2	78°32.0	17°52.0	115°02.0	5°59.0	127°24.1	1°24.6	166°03.8	-14°16.6
16	148°50.6	93°31.4	17°52.7	130°02.8	5°59.6	142°26.3	1°24.7	181°06.3	-14°16.6
17	163°53.1	108°30.9	17°53.4	145°03.6	6°00.3	157°28.5	1°24.8	196°08.8	-14°16.6
18	178°55.6	123°30.3	17°54.2	160°04.4	6°01.0	172°30.7	1°24.9	211°11.3	-14°16.7
19	193°58.0	138°29.8	17°54.9	175°05.1	6°01.7	187°32.9	1°25.0	226°13.9	-14°16.7
20	209°00.5	153°29.2	17°55.7	190°05.9	6°02.3	202°35.1	1°25.1	241°16.4	-14°16.7
21	224°03.0	168°28.6	17°56.4	205°06.7	6°03.0	217°37.3	1°25.2	256°18.9	-14°16.7
22	239°05.4	183°28.1	17°57.1	220°07.5	6°03.7	232°39.5	1°25.3	271°21.4	-14°16.8
23	254°07.9	198°27.5	17°57.9	235°08.3	6°04.4	247°41.7	1°25.4	286°23.9	-14°16.8
Mer.pass.:6:06:		v-0.6 d0.7 m-3.8		v0.8 d0.7 m0.5		v2.2 d0.1 m-2.2		v2.5 d-0.0 m0.6	

Estrellas

	AHS	Dec
Alpheratz	357°37.0	29°12.6
Ankaa	353°09.3	-42°10.9
Schedar	349°33.6	56°39.3
Diphda	348°49.4	-17°51.8
Achernar	335°22.1	-57°07.2
Hamal	327°53.8	23°33.9
Polaris	315°24.0	89°21.2
Akamar	315°13.7	-40°12.8
Menkar	314°08.6	4°10.6
Mirfak	308°31.7	49°56.2
Aldebaran	290°42.4	16°33.2
Rigel	281°06.2	-8°10.6
Capella	280°25.5	46°01.2
Bellatrix	278°25.5	6°22.2
Elnath	278°04.9	28°37.5
Alnilam	275°40.2	-1°11.3
Betelgeuse	270°54.7	7°24.6
Canopus	263°53.9	-52°42.5
Sirius	258°28.4	-16°44.7
Adara	255°07.9	-29°00.2
Procyon	244°53.3	5°10.2
Pollux	243°20.1	27°58.4
Avior	234°16.1	-59°35.0
Suhail	222°48.1	-43°31.5
Miaplacidus	221°39.3	-69°48.7
Alphard	217°50.0	-8°45.3
Regulus	207°36.8	11°51.6
Dubhe	193°43.8	61°38.2
Denebola	182°27.0	14°27.0
Gienah	175°45.7	-17°40.0
Acrux	173°02.3	-63°13.6
Gacrux	171°53.9	-57°14.5
Alioth	166°14.7	55°50.6
Spica	158°24.4	-11°16.7
Alcaid	152°53.4	49°12.4
Hadar	148°38.6	-60°29.0
Menkent	147°59.9	-36°28.9
Arcturus	145°49.5	19°04.4
Rigil Kent.	139°42.7	-60°55.8
Zubenelg.	136°58.1	-16°08.1
Kochab	137°18.9	74°04.1
Alphecca	126°05.2	26°38.5
Antares	112°18.1	-26°28.9
Atria	107°13.6	-69°04.1
Sabik	102°04.8	-15°45.1
Shaula	96°12.8	-37°07.2
Rasalhague	96°00.2	12°32.7
Etamin	90°42.6	51°29.1
Kaus Aust.	83°34.9	-34°22.4
Vega	80°34.2	38°48.2
Nunki	75°50.0	-26°16.1
Altair	62°01.8	8°55.5
Peacock	53°08.6	-56°39.6
Deneb	49°26.9	45°21.4
Enif	33°40.7	9°58.6
Alnair	27°35.4	-46°50.9
Fomalhaut	15°16.8	-29°30.1
Scheat	13°47.2	28°12.0
Markab	13°31.9	15°19.4

Jun 18 Sa	AHS	Paso Merid
Venus	307°53.3	09:44
Mars	342°59.8	07:23
Jupiter	353°53.2	06:39
Saturn	32°12.2	04:06

Jun 19 Dom	AHS	Paso Merid
Venus	306°41.3	09:45
Mars	342°19.4	07:22
Jupiter	353°46.5	06:35
Saturn	32°13.4	04:02

Jun 20 Lun	AHS	Paso Merid
Venus	305°29.1	09:46
Mars	341°39.1	07:20
Jupiter	353°39.9	06:32
Saturn	32°14.7	03:58

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.1

h	Sol		Luna				
Sa	AHG	Dec	AHG	v	Dec	d	HP
0	179°44.1	23°23.9	305°54.9	6.3	-20°54.4	10.8	60.0
1	194°44.0	23°24.0	320°20.3	6.5	-20°43.5	11.0	60.0
2	209°43.9	23°24.0	334°45.8	6.6	-20°32.5	11.1	59.9
3	224°43.7	23°24.1	349°11.5	6.7	-20°21.3	11.2	59.9
4	239°43.6	23°24.1	3°37.3	6.9	-20°10.1	11.3	59.9
5	254°43.5	23°24.2	18°03.2	7.0	-19°58.7	11.4	59.8
6	269°43.3	23°24.2	32°29.3	7.1	-19°47.2	11.5	59.8
7	284°43.2	23°24.3	46°55.5	7.3	-19°35.6	11.6	59.8
8	299°43.0	23°24.3	61°21.8	7.4	-19°23.9	11.8	59.7
9	314°42.9	23°24.4	75°48.3	7.5	-19°12.1	11.9	59.7
10	329°42.8	23°24.4	90°14.9	7.7	-19°00.2	12.0	59.7
11	344°42.6	23°24.5	104°41.6	7.8	-18°48.2	12.1	59.6
12	359°42.5	23°24.5	119°08.4	7.9	-18°36.1	12.2	59.6
13	14°42.4	23°24.6	133°35.4	8.0	-18°23.9	12.2	59.6
14	29°42.2	23°24.6	148°02.5	8.2	-18°11.6	12.3	59.5
15	44°42.1	23°24.7	162°29.7	8.3	-17°59.2	12.4	59.5
16	59°42.0	23°24.7	176°57.1	8.4	-17°46.7	12.5	59.5
17	74°41.8	23°24.8	191°24.6	8.5	-17°34.2	12.6	59.4
18	89°41.7	23°24.8	205°52.2	8.7	-17°21.5	12.7	59.4
19	104°41.6	23°24.9	220°19.9	8.8	-17°08.8	12.8	59.3
20	119°41.4	23°24.9	234°47.8	8.9	-16°56.0	12.9	59.3
21	134°41.3	23°25.0	249°15.8	9.0	-16°43.1	12.9	59.3
22	149°41.2	23°25.0	263°43.9	9.2	-16°30.1	13.0	59.2
23	164°41.0	23°25.0	278°12.1	9.3	-16°17.0	13.1	59.2
	SD.=15.7	d=0.1	S.D.=16.4				

Dom	AHG	Dec	AHG	v	Dec	d	HP
0	179°40.9	23°25.1	292°40.4	9.4	-16°03.9	13.2	59.2
1	194°40.7	23°25.1	307°08.9	9.5	-15°50.7	13.2	59.1
2	209°40.6	23°25.2	321°37.5	9.6	-15°37.5	13.3	59.1
3	224°40.5	23°25.2	336°06.2	9.8	-15°24.1	13.4	59.1
4	239°40.3	23°25.2	350°35.0	9.9	-15°10.7	13.4	59.0
5	254°40.2	23°25.3	5°03.9	10.0	-14°57.2	13.5	59.0
6	269°40.1	23°25.3	19°33.0	10.1	-14°43.7	13.6	58.9
7	284°39.9	23°25.4	34°02.1	10.2	-14°30.1	13.6	58.9
8	299°39.8	23°25.4	48°31.4	10.3	-14°16.4	13.7	58.9
9	314°39.7	23°25.4	63°00.8	10.4	-14°02.7	13.7	58.8
10	329°39.5	23°25.5	77°30.3	10.5	-13°49.0	13.8	58.8
11	344°39.4	23°25.5	91°59.9	10.7	-13°35.1	13.9	58.8
12	359°39.2	23°25.5	106°29.6	10.8	-13°21.2	13.9	58.7
13	14°39.1	23°25.6	120°59.4	10.9	-13°07.3	14.0	58.7
14	29°39.0	23°25.6	135°29.3	11.0	-12°53.3	14.0	58.6
15	44°38.8	23°25.6	149°59.4	11.1	-12°39.3	14.1	58.6
16	59°38.7	23°25.7	164°29.5	11.2	-12°25.2	14.1	58.6
17	74°38.6	23°25.7	178°59.7	11.3	-12°11.1	14.1	58.5
18	89°38.4	23°25.7	193°30.0	11.4	-11°56.9	14.2	58.5
19	104°38.3	23°25.7	208°00.5	11.5	-11°42.7	14.2	58.5
20	119°38.2	23°25.8	222°31.0	11.6	-11°28.5	14.3	58.4
21	134°38.0	23°25.8	237°01.6	11.7	-11°14.2	14.3	58.4
22	149°37.9	23°25.8	251°32.3	11.8	-10°59.9	14.3	58.3
23	164°37.8	23°25.8	266°03.1	11.9	-10°45.5	14.4	58.3
	SD.=15.7	d=0.0	S.D.=16.1				

Lun	AHG	Dec	AHG	v	Dec	d	HP
0	179°37.6	23°25.9	280°34.0	11.9	-10°31.1	14.4	58.3
1	194°37.5	23°25.9	295°05.0	12.0	-10°16.7	14.4	58.2
2	209°37.3	23°25.9	309°36.1	12.1	-10°02.2	14.5	58.2
3	224°37.2	23°25.9	324°07.3	12.2	-9°47.7	14.5	58.2
4	239°37.1	23°26.0	338°38.5	12.3	-9°33.2	14.5	58.1
5	254°36.9	23°26.0	353°09.9	12.4	-9°18.7	14.6	58.1
6	269°36.8	23°26.0	7°41.3	12.5	-9°04.1	14.6	58.0
7	284°36.7	23°26.0	22°12.8	12.5	-8°49.5	14.6	58.0
8	299°36.5	23°26.0	36°44.4	12.6	-8°34.9	14.6	58.0
9	314°36.4	23°26.1	51°16.0	12.7	-8°20.2	14.7	57.9
10	329°36.3	23°26.1	65°47.8	12.8	-8°05.6	14.7	57.9
11	344°36.1	23°26.1	80°19.6	12.9	-7°50.9	14.7	57.9
12	359°36.0	23°26.1	94°51.5	12.9	-7°36.2	14.7	57.8
13	14°35.8	23°26.1	109°23.5	13.0	-7°21.5	14.7	57.8
14	29°35.7	23°26.1	123°55.5	13.1	-7°06.8	14.7	57.7
15	44°35.6	23°26.1	138°27.6	13.2	-6°52.0	14.8	57.7
16	59°35.4	23°26.2	152°59.8	13.2	-6°37.3	14.8	57.7
17	74°35.3	23°26.2	167°32.1	13.3	-6°22.5	14.8	57.6
18	89°35.2	23°26.2	182°04.4	13.4	-6°07.7	14.8	57.6
19	104°35.0	23°26.2	196°36.8	13.4	-5°52.9	14.8	57.6
20	119°34.9	23°26.2	211°09.3	13.5	-5°38.1	14.8	57.5
21	134°34.8	23°26.2	225°41.8	13.5	-5°23.3	14.8	57.5
22	149°34.6	23°26.2	240°14.4	13.6	-5°08.5	14.8	57.5
23	164°34.5	23°26.2	254°47.0	13.7	-4°53.7	14.8	57.4
	SD.=15.7	d=0.0	S.D.=15.9				

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	–:–	–:–	–:–
68	–:–	–:–	–:–	–:–	–:–	–:–
66	–:–	–:–	–:–	–:–	–:–	–:–
64	–:–	–:–	01:31	22:32	–:–	–:–
62	–:–	–:–	02:09	21:54	–:–	–:–
60	–:–	00:50	02:36	21:27	23:14	–:–
58	–:–	01:40	02:56	21:07	22:23	–:–
56	–:–	02:10	03:13	20:50	21:53	–:–
54	00:45	02:33	03:27	20:36	21:30	23:18
52	01:32	02:51	03:40	20:23	21:12	22:31
50	02:00	03:06	03:50	20:12	20:57	22:03
45	02:46	03:35	04:13	19:50	20:27	21:17
40	03:16	03:58	04:31	19:32	20:05	20:46
35	03:40	04:16	04:46	19:17	19:46	20:23
30	03:58	04:32	04:59	19:04	19:31	20:05
20	04:27	04:57	05:21	18:42	19:06	19:35
10	04:50	05:17	05:40	18:23	18:46	19:13
0	05:09	05:35	05:58	18:05	18:28	18:54
S 10	05:26	05:52	06:15	17:48	18:10	18:37
20	05:42	06:10	06:34	17:29	17:53	18:21
30	05:59	06:29	06:55	17:08	17:34	18:04
35	06:07	06:39	07:07	16:55	17:24	17:55
40	06:17	06:51	07:22	16:41	17:12	17:46
45	06:27	07:05	07:38	16:24	16:58	17:35
50	06:39	07:21	07:59	16:04	16:42	17:24
52	06:44	07:28	08:09	15:54	16:35	17:18
54	06:50	07:36	08:20	15:43	16:26	17:13
56	06:56	07:45	08:33	15:30	16:17	17:07
58	07:03	07:56	08:48	15:15	16:07	17:00
60	07:11	08:07	09:05	14:58	15:55	16:52

	Orto luna			Ocaso luna		
Lat.	Sa	Dom	Lun	Sa	Dom	Lun
N 72	–:–	02:33	01:36	–:–	07:11	09:50
70	–:–	01:57	01:21	–:–	07:45	10:03
68	02:17	01:32	01:08	05:31	08:08	10:14
66	01:34	01:12	00:57	06:13	08:27	10:23
64	01:05	00:55	00:48	06:41	08:42	10:30
62	00:42	00:42	00:41	07:02	08:54	10:36
60	00:24	00:31	00:34	07:20	09:04	10:41
58	00:09	00:21	00:28	07:34	09:13	10:46
56	–:–	00:12	00:23	07:46	09:21	10:50
54	–:–	00:04	00:18	07:57	09:28	10:54
52	23:57	–:–	00:14	08:07	09:34	10:57
50	23:50	–:–	00:10	08:15	09:40	11:00
45	23:37	–:–	00:01	08:33	09:52	11:07
40	23:25	23:54	–:–	08:47	10:02	11:12
35	23:16	23:48	–:–	08:59	10:10	11:17
30	23:07	23:43	–:–	09:10	10:17	11:21
20	22:52	23:33	–:–	09:28	10:30	11:28
10	22:39	23:25	–:–	09:44	10:41	11:34
0	22:27	23:17	–:–	09:58	10:51	11:39
S 10	22:14	23:09	00:00	10:13	11:01	11:45
20	22:01	23:01	23:56	10:28	11:12	11:51
30	21:46	22:51	23:52	10:45	11:24	11:58
35	21:37	22:45	23:50	10:55	11:31	12:01
40	21:27	22:39	23:47	11:07	11:39	12:06
45	21:15	22:31	23:44	11:20	11:48	12:11
50	21:00	22:22	23:40	11:37	11:59	12:17
52	20:53	22:18	23:39	11:44	12:04	12:19
54	20:46	22:14	23:37	11:52	12:09	12:22
56	20:37	22:08	23:35	12:02	12:15	12:25
58	20:27	22:03	23:32	12:12	12:22	12:29
60	20:16	21:56	23:30	12:25	12:30	12:33

	Sol			Luna		
Día	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
18	01:03	01:10	12:01	03:44	16:12	19(78%)
19	01:16	01:23	12:01	04:39	17:04	20(68%)
20	01:30	01:36	12:01	05:28	17:51	21(57%)

Junio 21, 22, 23 (Mar, Mie, Jue)

	Aries	Venus		Martes		Júpiter		Saturno	
Mar	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	269°10.3	213°27.0	17°58.6	250°09.1	6°05.0	262°43.9	1°25.5	301°26.5	-14°16.8
1	284°12.8	228°26.4	17°59.3	265°09.8	6°05.7	277°46.1	1°25.6	316°29.0	-14°16.9
2	299°15.3	243°25.8	18°00.1	280°10.6	6°06.4	292°48.3	1°25.7	331°31.5	-14°16.9
3	314°17.7	258°25.3	18°00.8	295°11.4	6°07.1	307°50.5	1°25.8	346°34.0	-14°16.9
4	329°20.2	273°24.7	18°01.5	310°12.2	6°07.7	322°52.7	1°25.9	1°36.6	-14°16.9
5	344°22.7	288°24.1	18°02.2	325°13.0	6°08.4	337°54.9	1°26.1	16°39.1	-14°17.0
6	359°25.1	303°23.6	18°03.0	340°13.8	6°09.1	352°57.1	1°26.2	31°41.6	-14°17.0
7	14°27.6	318°23.0	18°03.7	355°14.5	6°09.8	7°59.3	1°26.3	46°44.1	-14°17.0
8	29°30.1	333°22.4	18°04.4	10°15.3	6°10.4	23°01.5	1°26.4	61°46.7	-14°17.1
9	44°32.5	348°21.9	18°05.2	25°16.1	6°11.1	38°03.7	1°26.5	76°49.2	-14°17.1
10	59°35.0	3°21.3	18°05.9	40°16.9	6°11.8	53°05.9	1°26.6	91°51.7	-14°17.1
11	74°37.5	18°20.7	18°06.6	55°17.7	6°12.5	68°08.1	1°26.7	106°54.2	-14°17.1
12	89°39.9	33°20.2	18°07.3	70°18.5	6°13.1	83°10.3	1°26.8	121°56.8	-14°17.2
13	104°42.4	48°19.6	18°08.0	85°19.2	6°13.8	98°12.5	1°26.9	136°59.3	-14°17.2
14	119°44.8	63°19.0	18°08.8	100°20.0	6°14.5	113°14.7	1°27.0	152°01.8	-14°17.2
15	134°47.3	78°18.5	18°09.5	115°20.8	6°15.2	128°16.9	1°27.1	167°04.3	-14°17.3
16	149°49.8	93°17.9	18°10.2	130°21.6	6°15.8	143°19.1	1°27.2	182°06.9	-14°17.3
17	164°52.2	108°17.3	18°10.9	145°22.4	6°16.5	158°21.3	1°27.3	197°09.4	-14°17.3
18	179°54.7	123°16.7	18°11.7	160°23.2	6°17.2	173°23.5	1°27.4	212°11.9	-14°17.4
19	194°57.2	138°16.2	18°12.4	175°23.9	6°17.9	188°25.7	1°27.5	227°14.5	-14°17.4
20	209°59.6	153°15.6	18°13.1	190°24.7	6°18.5	203°27.9	1°27.6	242°17.0	-14°17.4
21	225°02.1	168°15.0	18°13.8	205°25.5	6°19.2	218°30.1	1°27.7	257°19.5	-14°17.4
22	240°04.6	183°14.5	18°14.5	220°26.3	6°19.9	233°32.3	1°27.8	272°22.0	-14°17.5
23	255°07.0	198°13.9	18°15.2	235°27.1	6°20.5	248°34.5	1°27.9	287°24.6	-14°17.5
Mer.pass.:6:02:		v-0.6 d0.7 m-3.8		v0.8 d0.7 m0.5		v2.2 d0.1 m-2.2		v2.5 d-0.0 m0.6	

Mie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	270°09.5	213°13.3	18°16.0	250°27.9	6°21.2	263°36.7	1°28.0	302°27.1	-14°17.5
1	285°11.9	228°12.7	18°16.7	265°28.7	6°21.9	278°38.9	1°28.1	317°29.6	-14°17.6
2	300°14.4	243°12.2	18°17.4	280°29.4	6°22.6	293°41.1	1°28.2	332°32.1	-14°17.6
3	315°16.9	258°11.6	18°18.1	295°30.2	6°23.2	308°43.3	1°28.3	347°34.7	-14°17.6
4	330°19.3	273°11.0	18°18.8	310°31.0	6°23.9	323°45.5	1°28.4	2°37.2	-14°17.6
5	345°21.8	288°10.4	18°19.5	325°31.8	6°24.6	338°47.7	1°28.5	17°39.7	-14°17.7
6	0°24.3	303°09.8	18°20.2	340°32.6	6°25.2	353°49.9	1°28.6	32°42.3	-14°17.7
7	15°26.7	318°09.3	18°20.9	355°33.4	6°25.9	8°52.2	1°28.7	47°44.8	-14°17.7
8	30°29.2	333°08.7	18°21.6	10°34.1	6°26.6	23°54.4	1°28.8	62°47.3	-14°17.8
9	45°31.7	348°08.1	18°22.4	25°34.9	6°27.3	38°56.6	1°28.8	77°49.8	-14°17.8
10	60°34.1	3°07.5	18°23.1	40°35.7	6°27.9	53°58.8	1°28.9	92°52.4	-14°17.8
11	75°36.6	18°07.0	18°23.8	55°36.5	6°28.6	69°01.0	1°29.0	107°54.9	-14°17.9
12	90°39.1	33°06.4	18°24.5	70°37.3	6°29.3	84°03.2	1°29.1	122°57.4	-14°17.9
13	105°41.5	48°05.8	18°25.2	85°38.1	6°29.9	99°05.4	1°29.2	138°00.0	-14°17.9
14	120°44.0	63°05.2	18°25.9	100°38.9	6°30.6	114°07.6	1°29.3	153°02.5	-14°18.0
15	135°46.4	78°04.6	18°26.6	115°39.6	6°31.3	129°09.8	1°29.4	168°05.0	-14°18.0
16	150°48.9	93°04.0	18°27.3	130°40.4	6°32.0	144°12.0	1°29.5	183°07.5	-14°18.0
17	165°51.4	108°03.5	18°28.0	145°41.2	6°32.6	159°14.2	1°29.6	198°10.1	-14°18.0
18	180°53.8	123°02.9	18°28.7	160°42.0	6°33.3	174°16.4	1°29.7	213°12.6	-14°18.1
19	195°56.3	138°02.3	18°29.4	175°42.8	6°34.0	189°18.7	1°29.8	228°15.1	-14°18.1
20	210°58.8	153°01.7	18°30.1	190°43.6	6°34.6	204°20.9	1°29.9	243°17.7	-14°18.1
21	226°01.2	168°01.1	18°30.8	205°44.4	6°35.3	219°23.1	1°30.0	258°20.2	-14°18.2
22	241°03.7	183°00.5	18°31.5	220°45.1	6°36.0	234°25.3	1°30.1	273°22.7	-14°18.2
23	256°06.2	198°00.0	18°32.2	235°45.9	6°36.6	249°27.5	1°30.2	288°25.3	-14°18.2
Mer.pass.:5:58:		v-0.6 d0.7 m-3.8		v0.8 d0.7 m0.5		v2.2 d0.1 m-2.2		v2.5 d-0.0 m0.6	

Jue	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	271°08.6	212°59.4	18°32.9	250°46.7	6°37.3	264°29.7	1°30.3	303°27.8	-14°18.3
1	286°11.1	227°58.8	18°33.6	265°47.5	6°38.0	279°31.9	1°30.4	318°30.3	-14°18.3
2	301°13.6	242°58.2	18°34.3	280°48.3	6°38.6	294°34.1	1°30.5	333°32.9	-14°18.3
3	316°16.0	257°57.6	18°35.0	295°49.1	6°39.3	309°36.3	1°30.6	348°35.4	-14°18.4
4	331°18.5	272°57.0	18°35.7	310°49.9	6°40.0	324°38.6	1°30.7	3°37.9	-14°18.4
5	346°20.9	287°56.4	18°36.3	325°50.6	6°40.6	339°40.8	1°30.8	18°40.5	-14°18.4
6	1°23.4	302°55.8	18°37.0	340°51.4	6°41.3	354°43.0	1°30.9	33°43.0	-14°18.5
7	16°25.9	317°55.2	18°37.7	355°52.2	6°42.0	9°45.2	1°31.0	48°45.5	-14°18.5
8	31°28.3	332°54.7	18°38.4	10°53.0	6°42.6	24°47.4	1°31.1	63°48.1	-14°18.5
9	46°30.8	347°54.1	18°39.1	25°53.8	6°43.3	39°49.6	1°31.2	78°50.6	-14°18.5
10	61°33.3	2°53.5	18°39.8	40°54.6	6°44.0	54°51.8	1°31.3	93°53.1	-14°18.6
11	76°35.7	17°52.9	18°40.5	55°55.4	6°44.6	69°54.0	1°31.4	108°55.6	-14°18.6
12	91°38.2	32°52.3	18°41.2	70°56.1	6°45.3	84°56.3	1°31.5	123°58.2	-14°18.6
13	106°40.7	47°51.7	18°41.9	85°56.9	6°46.0	99°58.5	1°31.6	139°00.7	-14°18.7
14	121°43.1	62°51.1	18°42.5	100°57.7	6°46.6	115°00.7	1°31.7	154°03.2	-14°18.7
15	136°45.6	77°50.5	18°43.2	115°58.5	6°47.3	130°02.9	1°31.8	169°05.8	-14°18.7
16	151°48.0	92°49.9	18°43.9	130°59.3	6°48.0	145°05.1	1°31.8	184°08.3	-14°18.8
17	166°50.5	107°49.3	18°44.6	146°00.1	6°48.6	160°07.3	1°31.9	199°10.8	-14°18.8
18	181°53.0	122°48.7	18°45.3	161°00.9	6°49.3	175°09.5	1°32.0	214°13.4	-14°18.8
19	196°55.4	137°48.1	18°46.0	176°01.6	6°50.0	190°11.8	1°32.1	229°15.9	-14°18.9
20	211°57.9	152°47.5	18°46.6	191°02.4	6°50.6	205°14.0	1°32.2	244°18.5	-14°18.9
21	227°00.4	167°46.9	18°47.3	206°03.2	6°51.3	220°16.2	1°32.3	259°21.0	-14°18.9
22	242°02.8	182°46.3	18°48.0	221°04.0	6°52.0	235°18.4	1°32.4	274°23.5	-14°19.0
23	257°05.3	197°45.7	18°48.7	236°04.8	6°52.6	250°20.6	1°32.5	289°26.1	-14°19.0
Mer.pass.:5:54:		v-0.6 d0.7 m-3.8		v0.8 d0.7 m0.5		v2.2 d0.1 m-2.2		v2.5 d-0.0 m0.6	

Estrellas

	AHS	Dec
Alpheratz	357°37.0	29°12.6
Ankaa	353°09.3	-42°10.9
Schedar	349°33.5	56°39.3
Diphda	348°49.4	-17°51.8
Achernar	335°22.1	-57°07.2
Hamal	327°53.8	23°33.9
Polaris	315°23.0	89°21.2
Akamar	315°13.7	-40°12.8
Menkar	314°08.6	4°10.6
Mirfak	308°31.7	49°56.2
Aldebaran	290°42.4	16°33.2
Rigel	281°06.2	-8°10.6
Capella	280°25.5	46°01.2
Bellatrix	278°25.5	6°22.2
Elnath	278°04.9	28°37.5
Alnilam	275°40.2	-1°11.3
Betelgeuse	270°54.7	7°24.6
Canopus	263°53.9	-52°42.5
Sirius	258°28.4	-16°44.6
Adara	255°07.9	-29°00.2
Procyon	244°53.3	5°10.2
Pollux	243°20.1	27°58.4
Avior	234°16.1	-59°35.0
Suhail	222°48.2	-43°31.5
Miaplacidus	221°39.3	-69°48.7
Alphard	217°50.0	-8°45.3
Regulus	207°36.8	11°51.6
Dubhe	193°43.8	61°38.2
Denebola	182°27.0	14°27.0
Gienah	175°45.7	-17°40.0
Acrux	173°02.3	-63°13.6
Gacrux	171°53.9	-57°14.5
Alioth	166°14.8	55°50.6
Spica	158°24.4	-11°16.7
Alcaid	152°53.4	49°12.4
Hadar	148°38.6	-60°29.0
Menkent	147°59.9	-36°28.9
Arcturus	145°49.5	19°04.4
Rigil Kent.	139°42.7	-60°55.8
Zubenelg.	136°58.1	-16°08.1
Kochab	137°19.0	74°04.1
Alphecca	126°05.2	26°38.5
Antares	112°18.1	-26°28.9
Atria	107°13.6	-69°04.1
Sabik	102°04.8	-15°45.1
Shaula	96°12.8	-37°07.2
Rasalhague	96°00.2	12°32.7
Etamin	90°42.6	51°29.1
Kaus Aust.	83°34.9	-34°22.4
Vega	80°34.2	38°48.2
Nunki	75°50.0	-26°16.1
Altair	62°01.8	8°55.6
Peacock	53°08.5	-56°39.6
Deneb	49°26.8	45°21.4
Enif	33°40.7	9°58.6
Alnair	27°35.4	-46°50.9
Fomalhaut	15°16.8	-29°30.1
Scheat	13°47.2	28°12.0
Markab	13°31.9	15°19.4

Jun 21 Mar	AHS	Paso Merid
Venus	304°16.6	09:47
Mars	340°58.7	07:19
Jupiter	353°33.5	06:28
Saturn	32°16.1	03:54

Jun 22 Mie	AHS	Paso Merid
Venus	303°03.8	09:47
Mars	340°18.4	07:18
Jupiter	353°27.2	06:25
Saturn	32°17.6	03:50

Jun 23 Jue	AHS	Paso Merid
Venus	301°50.7	09:48
Mars	339°38.1	07:17
Jupiter	353°21.1	06:21
Saturn	32°19.2	03:46

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.1

h	Sol		Luna				
Mar	AHG	Dec	AHG	v	Dec	d	HP
0	179°34.4	23°26.2	269°19.7	13.7	-4°38.9	14.8	57.4
1	194°34.2	23°26.2	283°52.5	13.8	-4°24.1	14.8	57.4
2	209°34.1	23°26.2	298°25.3	13.8	-4°09.3	14.8	57.3
3	224°33.9	23°26.3	312°58.1	13.9	-3°54.4	14.8	57.3
4	239°33.8	23°26.3	327°31.1	13.9	-3°39.6	14.8	57.2
5	254°33.7	23°26.3	342°04.0	14.0	-3°24.8	14.8	57.2
6	269°33.5	23°26.3	356°37.1	14.1	-3°10.0	14.8	57.2
7	284°33.4	23°26.3	11°10.1	14.1	-2°55.2	14.8	57.1
8	299°33.3	23°26.3	25°43.3	14.1	-2°40.4	14.8	57.1
9	314°33.1	23°26.3	40°16.4	14.2	-2°25.6	14.8	57.1
10	329°33.0	23°26.3	54°49.6	14.2	-2°10.8	14.8	57.0
11	344°32.9	23°26.3	69°22.9	14.3	-1°56.0	14.8	57.0
12	359°32.7	23°26.3	83°56.2	14.3	-1°41.2	14.8	57.0
13	14°32.6	23°26.3	98°29.6	14.4	-1°26.5	14.8	56.9
14	29°32.4	23°26.3	113°02.9	14.4	-1°11.7	14.7	56.9
15	44°32.3	23°26.3	127°36.4	14.4	-0°57.0	14.7	56.9
16	59°32.2	23°26.3	142°09.8	14.5	-0°42.2	14.7	56.8
17	74°32.0	23°26.2	156°43.3	14.5	-0°27.5	14.7	56.8
18	89°31.9	23°26.2	171°16.9	14.6	-0°12.8	14.7	56.8
19	104°31.8	23°26.2	185°50.4	14.6	0°01.9	14.7	56.7
20	119°31.6	23°26.2	200°24.0	14.6	0°16.5	14.7	56.7
21	134°31.5	23°26.2	214°57.7	14.6	0°31.2	14.6	56.7
22	149°31.4	23°26.2	229°31.3	14.7	0°45.8	14.6	56.6
23	164°31.2	23°26.2	244°05.0	14.7	1°00.4	14.6	56.6
	SD.=15.7	d=0.0	S.D.=15.7				

Mie	AHG	Dec	AHG	v	Dec	d	HP
0	179°31.1	23°26.2	258°38.7	14.7	1°15.0	14.6	56.6
1	194°31.0	23°26.2	273°12.5	14.8	1°29.6	14.6	56.5
2	209°30.8	23°26.2	287°46.3	14.8	1°44.1	14.5	56.5
3	224°30.7	23°26.2	302°20.0	14.8	1°58.6	14.5	56.5
4	239°30.5	23°26.1	316°53.9	14.8	2°13.1	14.5	56.4
5	254°30.4	23°26.1	331°27.7	14.8	2°27.6	14.5	56.4
6	269°30.3	23°26.1	346°01.6	14.9	2°42.1	14.4	56.4
7	284°30.1	23°26.1	0°35.4	14.9	2°56.5	14.4	56.4
8	299°30.0	23°26.1	15°09.3	14.9	3°10.9	14.4	56.3
9	314°29.9	23°26.1	29°43.2	14.9	3°25.3	14.4	56.3
10	329°29.7	23°26.0	44°17.2	14.9	3°39.6	14.3	56.3
11	344°29.6	23°26.0	58°51.1	14.9	3°53.9	14.3	56.2
12	359°29.5	23°26.0	73°25.1	15.0	4°08.2	14.3	56.2
13	14°29.3	23°26.0	87°59.0	15.0	4°22.4	14.2	56.2
14	29°29.2	23°26.0	102°33.0	15.0	4°36.6	14.2	56.1
15	44°29.0	23°26.0	117°07.0	15.0	4°50.8	14.2	56.1
16	59°28.9	23°25.9	131°41.0	15.0	5°05.0	14.1	56.1
17	74°28.8	23°25.9	146°15.0	15.0	5°19.1	14.1	56.1
18	89°28.6	23°25.9	160°49.0	15.0	5°33.1	14.1	56.0
19	104°28.5	23°25.9	175°23.0	15.0	5°47.2	14.0	56.0
20	119°28.4	23°25.8	189°57.0	15.0	6°01.2	14.0	56.0
21	134°28.2	23°25.8	204°31.0	15.0	6°15.2	13.9	55.9
22	149°28.1	23°25.8	219°05.1	15.0	6°29.1	13.9	55.9
23	164°28.0	23°25.8	233°39.1	15.0	6°43.0	13.9	55.9
	SD.=15.7	d=-0.0	S.D.=15.4				

Jue	AHG	Dec	AHG	v	Dec	d	HP
0	179°27.8	23°25.7	248°13.1	15.0	6°56.8	13.8	55.9
1	194°27.7	23°25.7	262°47.1	15.0	7°10.6	13.8	55.8
2	209°27.6	23°25.7	277°21.1	15.0	7°24.4	13.7	55.8
3	224°27.4	23°25.6	291°55.1	15.0	7°38.1	13.7	55.8
4	239°27.3	23°25.6	306°29.2	15.0	7°51.8	13.7	55.8
5	254°27.2	23°25.6	321°03.2	15.0	8°05.4	13.6	55.7
6	269°27.0	23°25.6	335°37.2	15.0	8°19.0	13.6	55.7
7	284°26.9	23°25.5	350°11.1	15.0	8°32.5	13.5	55.7
8	299°26.7	23°25.5	4°45.1	15.0	8°46.0	13.5	55.7
9	314°26.6	23°25.5	19°19.1	15.0	8°59.5	13.4	55.6
10	329°26.5	23°25.4	33°53.0	15.0	9°12.9	13.4	55.6
11	344°26.3	23°25.4	48°27.0	14.9	9°26.2	13.3	55.6
12	359°26.2	23°25.3	63°00.9	14.9	9°39.5	13.3	55.5
13	14°26.1	23°25.3	77°34.8	14.9	9°52.8	13.2	55.5
14	29°25.9	23°25.3	92°08.7	14.9	10°06.0	13.2	55.5
15	44°25.8	23°25.2	106°42.6	14.9	10°19.1	13.1	55.5
16	59°25.7	23°25.2	121°16.5	14.9	10°32.2	13.1	55.5
17	74°25.5	23°25.2	135°50.3	14.8	10°45.3	13.0	55.4
18	89°25.4	23°25.1	150°24.2	14.8	10°58.2	13.0	55.4
19	104°25.3	23°25.1	164°58.0	14.8	11°11.2	12.9	55.4
20	119°25.1	23°25.0	179°31.8	14.8	11°24.1	12.8	55.4
21	134°25.0	23°25.0	194°05.6	14.8	11°36.9	12.8	55.3
22	149°24.9	23°24.9	208°39.3	14.7	11°49.6	12.7	55.3
23	164°24.7	23°24.9	223°13.0	14.7	12°02.3	12.7	55.3
	SD.=15.7	d=-0.0	S.D.=15.2				

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	–:–	–:–	–:–
68	–:–	–:–	–:–	–:–	–:–	–:–
66	–:–	–:–	–:–	–:–	–:–	–:–
64	–:–	–:–	01:31	22:32	–:–	–:–
62	–:–	–:–	02:10	21:54	–:–	–:–
60	–:–	00:49	02:36	21:28	23:14	–:–
58	–:–	01:41	02:57	21:07	22:23	–:–
56	–:–	02:11	03:13	20:51	21:53	–:–
54	00:45	02:33	03:28	20:36	21:31	23:18
52	01:33	02:51	03:40	20:24	21:13	22:31
50	02:01	03:06	03:51	20:13	20:58	22:03
45	02:46	03:36	04:14	19:51	20:28	21:18
40	03:17	03:59	04:32	19:32	20:05	20:47
35	03:40	04:17	04:47	19:17	19:47	20:24
30	03:59	04:32	05:00	19:04	19:32	20:05
20	04:28	04:57	05:22	18:42	19:07	19:36
10	04:51	05:18	05:41	18:23	18:46	19:13
0	05:10	05:36	05:58	18:06	18:28	18:54
S 10	05:27	05:53	06:16	17:48	18:11	18:37
20	05:43	06:10	06:34	17:30	17:54	18:21
30	05:59	06:29	06:56	17:08	17:35	18:05
35	06:08	06:40	07:08	16:56	17:24	17:56
40	06:18	06:52	07:22	16:42	17:12	17:47
45	06:28	07:05	07:39	16:25	16:59	17:36
50	06:40	07:21	08:00	16:04	16:43	17:24
52	06:45	07:29	08:10	15:54	16:35	17:19
54	06:51	07:37	08:21	15:43	16:27	17:13
56	06:57	07:46	08:34	15:30	16:18	17:07
58	07:04	07:56	08:48	15:16	16:08	17:00
60	07:11	08:08	09:06	14:58	15:56	16:53

	Orto luna			Ocaso luna		
Lat.	Mar	Mie	Jue	Mar	Mie	Jue
N 72	01:01	00:31	00:01	12:02	14:06	16:14
70	00:55	00:33	00:10	12:05	14:00	15:56
68	00:50	00:34	00:18	12:07	13:54	15:42
66	00:46	00:35	00:25	12:08	13:50	15:31
64	00:42	00:36	00:30	12:10	13:46	15:21
62	00:39	00:37	00:35	12:11	13:43	15:13
60	00:36	00:38	00:39	12:12	13:40	15:06
58	00:34	00:38	00:43	12:13	13:37	15:00
56	00:31	00:39	00:47	12:14	13:35	14:55
54	00:29	00:40	00:50	12:15	13:33	14:50
52	00:28	00:40	00:52	12:16	13:31	14:46
50	00:26	00:41	00:55	12:16	13:30	14:42
45	00:22	00:42	01:01	12:18	13:26	14:33
40	00:19	00:42	01:05	12:19	13:23	14:26
35	00:17	00:43	01:09	12:20	13:21	14:20
30	00:14	00:44	01:13	12:21	13:18	14:15
20	00:10	00:45	01:19	12:22	13:14	14:06
10	00:07	00:46	01:25	12:23	13:11	13:58
0	00:03	00:47	01:30	12:24	13:08	13:51
S 10	–:–	00:48	01:36	12:26	13:05	13:43
20	–:–	00:49	01:41	12:27	13:01	13:36
30	–:–	00:51	01:48	12:28	12:57	13:27
35	–:–	00:52	01:52	12:29	12:55	13:22
40	–:–	00:52	01:56	12:30	12:53	13:16
45	–:–	00:54	02:01	12:31	12:50	13:09
50	–:–	00:55	02:07	12:32	12:46	13:01
52	–:–	00:55	02:10	12:32	12:45	12:57
54	–:–	00:56	02:13	12:33	12:43	12:53
56	–:–	00:57	02:17	12:34	12:41	12:49
58	–:–	00:57	02:21	12:34	12:39	12:44
60	–:–	00:58	02:25	12:35	12:37	12:39

Día	Sol			Luna		
	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
21	01:43	01:49	12:01	06:13	18:35	22(46%)
22	01:56	02:02	12:02	06:57	19:19	23(36%)
23	02:09	02:15	12:02	07:40	20:01	24(27%)

Junio 24, 25, 26 (Vie, Sa, Dom)

	Aries	Venus		Martes		Júpiter		Saturno	
Vie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	272°07.8	212°45.1	18°49.4	251°05.6	6°53.3	265°22.8	1°32.6	304°28.6	-14°19.0
1	287°10.2	227°44.5	18°50.0	266°06.4	6°54.0	280°25.1	1°32.7	319°31.1	-14°19.1
2	302°12.7	242°43.9	18°50.7	281°07.1	6°54.6	295°27.3	1°32.8	334°33.7	-14°19.1
3	317°15.2	257°43.3	18°51.4	296°07.9	6°55.3	310°29.5	1°32.9	349°36.2	-14°19.1
4	332°17.6	272°42.7	18°52.1	311°08.7	6°56.0	325°31.7	1°33.0	4°38.7	-14°19.2
5	347°20.1	287°42.1	18°52.7	326°09.5	6°56.6	340°33.9	1°33.1	19°41.3	-14°19.2
6	2°22.5	302°41.5	18°53.4	341°10.3	6°57.3	355°36.1	1°33.2	34°43.8	-14°19.2
7	17°25.0	317°40.9	18°54.1	356°11.1	6°58.0	10°38.4	1°33.3	49°46.3	-14°19.3
8	32°27.5	332°40.3	18°54.8	11°11.9	6°58.6	25°40.6	1°33.4	64°48.9	-14°19.3
9	47°29.9	347°39.7	18°55.4	26°12.7	6°59.3	40°42.8	1°33.4	79°51.4	-14°19.3
10	62°32.4	2°39.1	18°56.1	41°13.4	6°59.9	55°45.0	1°33.5	94°53.9	-14°19.4
11	77°34.9	17°38.5	18°56.8	56°14.2	7°00.6	70°47.2	1°33.6	109°56.5	-14°19.4
12	92°37.3	32°37.9	18°57.4	71°15.0	7°01.3	85°49.5	1°33.7	124°59.0	-14°19.4
13	107°39.8	47°37.3	18°58.1	86°15.8	7°01.9	100°51.7	1°33.8	140°01.6	-14°19.4
14	122°42.3	62°36.7	18°58.8	101°16.6	7°02.6	115°53.9	1°33.9	155°04.1	-14°19.5
15	137°44.7	77°36.1	18°59.4	116°17.4	7°03.3	130°56.1	1°34.0	170°06.6	-14°19.5
16	152°47.2	92°35.5	19°00.1	131°18.2	7°03.9	145°58.3	1°34.1	185°09.2	-14°19.5
17	167°49.7	107°34.9	19°00.8	146°19.0	7°04.6	161°00.6	1°34.2	200°11.7	-14°19.6
18	182°52.1	122°34.3	19°01.4	161°19.7	7°05.2	176°02.8	1°34.3	215°14.2	-14°19.6
19	197°54.6	137°33.7	19°02.1	176°20.5	7°05.9	191°05.0	1°34.4	230°16.8	-14°19.6
20	212°57.0	152°33.1	19°02.7	191°21.3	7°06.6	206°07.2	1°34.5	245°19.3	-14°19.7
21	227°59.5	167°32.5	19°03.4	206°22.1	7°07.2	221°09.5	1°34.6	260°21.9	-14°19.7
22	243°02.0	182°31.9	19°04.1	221°22.9	7°07.9	236°11.7	1°34.6	275°24.4	-14°19.7
23	258°04.4	197°31.3	19°04.7	236°23.7	7°08.6	251°13.9	1°34.7	290°26.9	-14°19.8
Mer.pass.:5:50:		v-0.6 d0.7 m-3.8		v0.8 d0.7 m0.5		v2.2 d0.1 m-2.2		v2.5 d-0.0 m0.6	

Sa	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	273°06.9	212°30.6	19°05.4	251°24.5	7°09.2	266°16.1	1°34.8	305°29.5	-14°19.8
1	288°09.4	227°30.0	19°06.0	266°25.3	7°09.9	281°18.3	1°34.9	320°32.0	-14°19.8
2	303°11.8	242°29.4	19°06.7	281°26.0	7°10.5	296°20.6	1°35.0	335°34.6	-14°19.9
3	318°14.3	257°28.8	19°07.4	296°26.8	7°11.2	311°22.8	1°35.1	350°37.1	-14°19.9
4	333°16.8	272°28.2	19°08.0	311°27.6	7°11.9	326°25.0	1°35.2	5°39.6	-14°20.0
5	348°19.2	287°27.6	19°08.7	326°28.4	7°12.5	341°27.2	1°35.3	20°42.2	-14°20.0
6	3°21.7	302°27.0	19°09.3	341°29.2	7°13.2	356°29.5	1°35.4	35°44.7	-14°20.0
7	18°24.2	317°26.4	19°10.0	356°30.0	7°13.8	11°31.7	1°35.5	50°47.2	-14°20.1
8	33°26.6	332°25.8	19°10.6	11°30.8	7°14.5	26°33.9	1°35.6	65°49.8	-14°20.1
9	48°29.1	347°25.1	19°11.3	26°31.6	7°15.2	41°36.1	1°35.6	80°52.3	-14°20.1
10	63°31.5	2°24.5	19°11.9	41°32.3	7°15.8	56°38.4	1°35.7	95°54.9	-14°20.2
11	78°34.0	17°23.9	19°12.6	56°33.1	7°16.5	71°40.6	1°35.8	110°57.4	-14°20.2
12	93°36.5	32°23.3	19°13.2	71°33.9	7°17.1	86°42.8	1°35.9	125°59.9	-14°20.2
13	108°38.9	47°22.7	19°13.9	86°34.7	7°17.8	101°45.0	1°36.0	141°02.5	-14°20.3
14	123°41.4	62°22.1	19°14.5	101°35.5	7°18.4	116°47.3	1°36.1	156°05.0	-14°20.3
15	138°43.9	77°21.4	19°15.2	116°36.3	7°19.1	131°49.5	1°36.2	171°07.6	-14°20.3
16	153°46.3	92°20.8	19°15.8	131°37.1	7°19.8	146°51.7	1°36.3	186°10.1	-14°20.4
17	168°48.8	107°20.2	19°16.5	146°37.9	7°20.4	161°54.0	1°36.4	201°12.7	-14°20.4
18	183°51.3	122°19.6	19°17.1	161°38.7	7°21.1	176°56.2	1°36.5	216°15.2	-14°20.4
19	198°53.7	137°19.0	19°17.7	176°39.4	7°21.7	191°58.4	1°36.5	231°17.7	-14°20.5
20	213°56.2	152°18.4	19°18.4	191°40.2	7°22.4	207°00.6	1°36.6	246°20.3	-14°20.5
21	228°58.6	167°17.7	19°19.0	206°41.0	7°23.1	222°02.9	1°36.7	261°22.8	-14°20.5
22	244°01.1	182°17.1	19°19.7	221°41.8	7°23.7	237°05.1	1°36.8	276°25.4	-14°20.6
23	259°03.6	197°16.5	19°20.3	236°42.6	7°24.4	252°07.3	1°36.9	291°27.9	-14°20.6
Mer.pass.:5:46:		v-0.6 d0.7 m-3.8		v0.8 d0.7 m0.5		v2.2 d0.1 m-2.2		v2.5 d-0.0 m0.6	

Dom	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	274°06.0	212°15.9	19°20.9	251°43.4	7°25.0	267°09.6	1°37.0	306°30.4	-14°20.6
1	289°08.5	227°15.3	19°21.6	266°44.2	7°25.7	282°11.8	1°37.1	321°33.0	-14°20.7
2	304°11.0	242°14.6	19°22.2	281°45.0	7°26.3	297°14.0	1°37.2	336°35.5	-14°20.7
3	319°13.4	257°14.0	19°22.9	296°45.8	7°27.0	312°16.2	1°37.3	351°38.1	-14°20.7
4	334°15.9	272°13.4	19°23.5	311°46.5	7°27.7	327°18.5	1°37.3	6°40.6	-14°20.8
5	349°18.4	287°12.8	19°24.1	326°47.3	7°28.3	342°20.7	1°37.4	21°43.2	-14°20.8
6	4°20.8	302°12.1	19°24.8	341°48.1	7°29.0	357°22.9	1°37.5	36°45.7	-14°20.8
7	19°23.3	317°11.5	19°25.4	356°48.9	7°29.6	12°25.2	1°37.6	51°48.2	-14°20.9
8	34°25.8	332°10.9	19°26.0	11°49.7	7°30.3	27°27.4	1°37.7	66°50.8	-14°20.9
9	49°28.2	347°10.3	19°26.7	26°50.5	7°30.9	42°29.6	1°37.8	81°53.3	-14°21.0
10	64°30.7	2°09.6	19°27.3	41°51.3	7°31.6	57°31.9	1°37.9	96°55.9	-14°21.0
11	79°33.1	17°09.0	19°27.9	56°52.1	7°32.2	72°34.1	1°38.0	111°58.4	-14°21.0
12	94°35.6	32°08.4	19°28.5	71°52.9	7°32.9	87°36.3	1°38.0	127°01.0	-14°21.1
13	109°38.1	47°07.8	19°29.2	86°53.6	7°33.6	102°38.6	1°38.1	142°03.5	-14°21.1
14	124°40.5	62°07.1	19°29.8	101°54.4	7°34.2	117°40.8	1°38.2	157°06.1	-14°21.1
15	139°43.0	77°06.5	19°30.4	116°55.2	7°34.9	132°43.0	1°38.3	172°08.6	-14°21.2
16	154°45.5	92°05.9	19°31.0	131°56.0	7°35.5	147°45.3	1°38.4	187°11.1	-14°21.2
17	169°47.9	107°05.2	19°31.7	146°56.8	7°36.2	162°47.5	1°38.5	202°13.7	-14°21.2
18	184°50.4	122°04.6	19°32.3	161°57.6	7°36.8	177°49.7	1°38.6	217°16.2	-14°21.3
19	199°52.9	137°04.0	19°32.9	176°58.4	7°37.5	192°52.0	1°38.7	232°18.8	-14°21.3
20	214°55.3	152°03.4	19°33.5	191°59.2	7°38.1	207°54.2	1°38.7	247°21.3	-14°21.3
21	229°57.8	167°02.7	19°34.2	207°00.0	7°38.8	222°56.4	1°38.8	262°23.9	-14°21.4
22	245°00.3	182°02.1	19°34.8	222°00.8	7°39.4	237°58.7	1°38.9	277°26.4	-14°21.4
23	260°02.7	197°01.5	19°35.4	237°01.5	7°40.1	253°00.9	1°39.0	292°29.0	-14°21.4
Mer.pass.:5:42:		v-0.6 d0.6 m-3.8		v0.8 d0.7 m0.5		v2.2 d0.1 m-2.3		v2.5 d-0.0 m0.6	

Estrellas

	AHS	Dec
Alpheratz	357°36.9	29°12.6
Ankaa	353°09.3	-42°10.9
Schedar	349°33.5	56°39.3
Diphda	348°49.4	-17°51.8
Achernar	335°22.0	-57°07.2
Hamal	327°53.8	23°33.9
Polaris	315°21.7	89°21.2
Akamar	315°13.7	-40°12.8
Menkar	314°08.6	4°10.6
Mirfak	308°31.6	49°56.2
Aldebaran	290°42.4	16°33.2
Rigel	281°06.2	-8°10.5
Capella	280°25.5	46°01.2
Bellatrix	278°25.5	6°22.2
Elnath	278°04.9	28°37.5
Alnilam	275°40.2	-1°11.3
Betelgeuse	270°54.7	7°24.7
Canopus	263°53.9	-52°42.4
Sirius	258°28.4	-16°44.6
Adara	255°07.9	-29°00.2
Procyon	244°53.3	5°10.2
Pollux	243°20.1	27°58.4
Avior	234°16.1	-59°35.0
Suhail	222°48.2	-43°31.5
Miaplacidus	221°39.4	-69°48.7
Alphard	217°50.0	-8°45.3
Regulus	207°36.8	11°51.6
Dubhe	193°43.8	61°38.2
Denebola	182°27.1	14°27.0
Gienah	175°45.7	-17°40.0
Acrux	173°02.4	-63°13.6
Gacrux	171°53.9	-57°14.5
Alioth	166°14.8	55°50.6
Spica	158°24.4	-11°16.7
Alcaid	152°53.5	49°12.4
Hadar	148°38.6	-60°29.0
Menkent	147°59.9	-36°28.9
Arcturus	145°49.5	19°04.4
Rigil Kent.	139°42.7	-60°55.8
Zubenelg.	136°58.1	-16°08.1
Kochab	137°19.0	74°04.1
Alphecca	126°05.3	26°38.5
Antares	112°18.1	-26°28.9
Atria	107°13.6	-69°04.1
Sabik	102°04.8	-15°45.1
Shaula	96°12.8	-37°07.2
Rasalhague	96°00.2	12°32.7
Etamin	90°42.6	51°29.2
Kaus Aust.	83°34.9	-34°22.4
Vega	80°34.2	38°48.2
Nunki	75°50.0	-26°16.1
Altair	62°01.8	8°55.6
Peacock	53°08.5	-56°39.6
Deneb	49°26.8	45°21.4
Enif	33°40.7	9°58.6
Alnair	27°35.3	-46°50.9
Fomalhaut	15°16.8	-29°30.1
Scheat	13°47.2	28°12.0
Markab	13°31.9	15°19.4

Jun 24 Vie	AHS	Paso Merid
Venus	300°37.4	09:49
Mars	338°57.8	07:15
Jupiter	353°15.1	06:18
Saturn	32°20.8	03:41

Jun 25 Sa	AHS	Paso Merid
Venus	299°23.7	09:50
Mars	338°17.6	07:14
Jupiter	353°09.2	06:14
Saturn	32°22.6	03:37

Jun 26 Dom	AHS	Paso Merid
Venus	298°09.8	09:51
Mars	337°37.3	07:13
Jupiter	353°03.5	06:10
Saturn	32°24.4	03:33

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.1

h	Sol		Luna				
Vie	AHG	Dec	AHG	v	Dec	d	HP
0	179°24.6	23°24.9	237°46.7	14.7	12°15.0	12.6	55.3
1	194°24.4	23°24.8	252°20.4	14.7	12°27.6	12.6	55.2
2	209°24.3	23°24.8	266°54.1	14.6	12°40.1	12.5	55.2
3	224°24.2	23°24.7	281°27.7	14.6	12°52.6	12.4	55.2
4	239°24.0	23°24.7	296°01.3	14.6	13°05.0	12.4	55.2
5	254°23.9	23°24.6	310°34.9	14.6	13°17.3	12.3	55.2
6	269°23.8	23°24.6	325°08.4	14.5	13°29.6	12.2	55.1
7	284°23.6	23°24.5	339°41.9	14.5	13°41.8	12.2	55.1
8	299°23.5	23°24.5	354°15.4	14.5	13°54.0	12.1	55.1
9	314°23.4	23°24.4	8°48.9	14.4	14°06.1	12.1	55.1
10	329°23.2	23°24.4	23°22.3	14.4	14°18.1	12.0	55.1
11	344°23.1	23°24.3	37°55.7	14.4	14°30.0	11.9	55.0
12	359°23.0	23°24.3	52°29.0	14.3	14°41.9	11.9	55.0
13	14°22.8	23°24.2	67°02.3	14.3	14°53.7	11.8	55.0
14	29°22.7	23°24.2	81°35.6	14.3	15°05.5	11.7	55.0
15	44°22.6	23°24.1	96°08.9	14.2	15°17.2	11.6	55.0
16	59°22.4	23°24.0	110°42.1	14.2	15°28.8	11.6	54.9
17	74°22.3	23°24.0	125°15.3	14.2	15°40.3	11.5	54.9
18	89°22.2	23°23.9	139°48.4	14.1	15°51.8	11.4	54.9
19	104°22.0	23°23.9	154°21.5	14.1	16°03.1	11.4	54.9
20	119°21.9	23°23.8	168°54.6	14.0	16°14.5	11.3	54.9
21	134°21.8	23°23.8	183°27.6	14.0	16°25.7	11.2	54.8
22	149°21.6	23°23.7	198°00.6	14.0	16°36.9	11.1	54.8
23	164°21.5	23°23.6	212°33.5	13.9	16°48.0	11.1	54.8
	SD.=15.7	d=-0.0	S.D.=15.1				

Sa	AHG	Dec	AHG	v	Dec	d	HP
0	179°21.4	23°23.6	227°06.4	13.9	16°59.0	11.0	54.8
1	194°21.2	23°23.5	241°39.3	13.8	17°09.9	10.9	54.8
2	209°21.1	23°23.4	256°12.1	13.8	17°20.8	10.8	54.8
3	224°21.0	23°23.4	270°44.9	13.8	17°31.6	10.7	54.7
4	239°20.8	23°23.3	285°17.6	13.7	17°42.3	10.7	54.7
5	254°20.7	23°23.3	299°50.3	13.7	17°52.9	10.6	54.7
6	269°20.6	23°23.2	314°23.0	13.6	18°03.4	10.5	54.7
7	284°20.4	23°23.1	328°55.6	13.6	18°13.9	10.4	54.7
8	299°20.3	23°23.1	343°28.1	13.5	18°24.2	10.3	54.7
9	314°20.2	23°23.0	358°00.7	13.5	18°34.5	10.2	54.6
10	329°20.0	23°22.9	12°33.1	13.4	18°44.7	10.2	54.6
11	344°19.9	23°22.8	27°05.6	13.4	18°54.9	10.1	54.6
12	359°19.8	23°22.8	41°37.9	13.4	19°04.9	10.0	54.6
13	14°19.6	23°22.7	56°10.3	13.3	19°14.9	9.9	54.6
14	29°19.5	23°22.6	70°42.6	13.3	19°24.7	9.8	54.6
15	44°19.4	23°22.6	85°14.8	13.2	19°34.5	9.7	54.5
16	59°19.2	23°22.5	99°47.0	13.2	19°44.2	9.6	54.5
17	74°19.1	23°22.4	114°19.1	13.1	19°53.8	9.6	54.5
18	89°19.0	23°22.3	128°51.2	13.1	20°03.3	9.5	54.5
19	104°18.8	23°22.3	143°23.3	13.0	20°12.7	9.4	54.5
20	119°18.7	23°22.2	157°55.3	13.0	20°22.0	9.3	54.5
21	134°18.6	23°22.1	172°27.2	12.9	20°31.2	9.2	54.5
22	149°18.4	23°22.0	186°59.1	12.9	20°40.4	9.1	54.4
23	164°18.3	23°22.0	201°31.0	12.8	20°49.4	9.0	54.4
	SD.=15.7	d=-0.1	S.D.=14.9				

Dom	AHG	Dec	AHG	v	Dec	d	HP
0	179°18.2	23°21.9	216°02.8	12.8	20°58.4	8.9	54.4
1	194°18.0	23°21.8	230°34.6	12.7	21°07.2	8.8	54.4
2	209°17.9	23°21.7	245°06.3	12.7	21°16.0	8.7	54.4
3	224°17.8	23°21.6	259°37.9	12.6	21°24.7	8.6	54.4
4	239°17.6	23°21.6	274°09.5	12.6	21°33.2	8.5	54.4
5	254°17.5	23°21.5	288°41.1	12.5	21°41.7	8.4	54.4
6	269°17.4	23°21.4	303°12.6	12.5	21°50.1	8.3	54.3
7	284°17.2	23°21.3	317°44.1	12.4	21°58.3	8.2	54.3
8	299°17.1	23°21.2	332°15.5	12.4	22°06.5	8.1	54.3
9	314°17.0	23°21.1	346°46.9	12.3	22°14.6	8.0	54.3
10	329°16.8	23°21.0	1°18.2	12.3	22°22.5	7.9	54.3
11	344°16.7	23°21.0	15°49.5	12.2	22°30.4	7.8	54.3
12	359°16.6	23°20.9	30°20.7	12.2	22°38.1	7.7	54.3
13	14°16.4	23°20.8	44°51.8	12.1	22°45.8	7.6	54.3
14	29°16.3	23°20.7	59°23.0	12.1	22°53.3	7.5	54.3
15	44°16.2	23°20.6	73°54.0	12.1	23°00.8	7.4	54.2
16	59°16.0	23°20.5	88°25.1	12.0	23°08.1	7.3	54.2
17	74°15.9	23°20.4	102°56.1	12.0	23°15.4	7.2	54.2
18	89°15.8	23°20.3	117°27.0	11.9	23°22.5	7.1	54.2
19	104°15.6	23°20.2	131°57.9	11.9	23°29.5	7.0	54.2
20	119°15.5	23°20.1	146°28.7	11.8	23°36.4	6.9	54.2
21	134°15.4	23°20.1	160°59.5	11.8	23°43.2	6.7	54.2
22	149°15.3	23°20.0	175°30.3	11.7	23°49.9	6.6	54.2
23	164°15.1	23°19.9	190°01.0	11.7	23°56.5	6.5	54.2
	SD.=15.7	d=-0.1	S.D.=14.8				

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	–:–	–:–	–:–
68	–:–	–:–	–:–	–:–	–:–	–:–
66	–:–	–:–	–:–	–:–	–:–	–:–
64	–:–	–:–	01:33	22:31	–:–	–:–
62	–:–	–:–	02:11	21:54	–:–	–:–
60	–:–	00:52	02:37	21:28	23:12	–:–
58	–:–	01:42	02:58	21:07	22:23	–:–
56	–:–	02:12	03:15	20:51	21:53	–:–
54	00:48	02:34	03:29	20:36	21:31	23:17
52	01:34	02:52	03:41	20:24	21:13	22:31
50	02:02	03:07	03:52	20:13	20:58	22:03
45	02:47	03:37	04:14	19:51	20:28	21:18
40	03:18	04:00	04:32	19:33	20:06	20:47
35	03:41	04:18	04:47	19:18	19:48	20:24
30	04:00	04:33	05:00	19:05	19:32	20:06
20	04:29	04:58	05:23	18:43	19:07	19:37
10	04:51	05:18	05:41	18:24	18:47	19:14
0	05:10	05:36	05:59	18:06	18:29	18:55
S 10	05:27	05:54	06:16	17:49	18:12	18:38
20	05:43	06:11	06:35	17:30	17:54	18:22
30	06:00	06:30	06:56	17:09	17:36	18:05
35	06:09	06:40	07:09	16:57	17:25	17:57
40	06:18	06:52	07:23	16:43	17:13	17:47
45	06:28	07:06	07:40	16:26	17:00	17:37
50	06:40	07:22	08:00	16:05	16:44	17:25
52	06:45	07:29	08:10	15:55	16:36	17:20
54	06:51	07:37	08:21	15:44	16:28	17:14
56	06:57	07:46	08:34	15:32	16:19	17:08
58	07:04	07:57	08:49	15:17	16:09	17:01
60	07:12	08:08	09:06	14:59	15:57	16:54

	Orto luna			Ocaso luna		
Lat.	Vie	Sa	Dom	Vie	Sa	Dom
N 72	22:23	–:–	–:–	18:48	–:–	–:–
70	23:07	–:–	–:–	18:05	–:–	–:–
68	00:00	22:56	–:–	17:36	19:52	–:–
66	00:13	23:40	22:48	17:15	19:09	21:39
64	00:24	00:18	00:10	16:58	18:40	20:29
62	00:33	00:32	00:33	16:44	18:18	19:53
60	00:41	00:45	00:51	16:33	18:00	19:28
58	00:49	00:56	01:06	16:23	17:46	19:08
56	00:55	01:05	01:19	16:14	17:33	18:51
54	01:01	01:14	01:30	16:06	17:23	18:37
52	01:06	01:21	01:41	16:00	17:13	18:25
50	01:10	01:28	01:50	15:53	17:04	18:14
45	01:20	01:43	02:09	15:40	16:46	17:52
40	01:29	01:55	02:24	15:29	16:32	17:34
35	01:36	02:05	02:38	15:20	16:19	17:19
30	01:43	02:14	02:49	15:12	16:09	17:05
20	01:54	02:30	03:09	14:58	15:50	16:43
10	02:04	02:44	03:27	14:46	15:34	16:24
0	02:13	02:57	03:43	14:34	15:19	16:06
S 10	02:23	03:11	04:00	14:23	15:04	15:48
20	02:33	03:25	04:17	14:11	14:49	15:29
30	02:44	03:41	04:38	13:57	14:30	15:07
35	02:51	03:51	04:50	13:49	14:20	14:55
40	02:59	04:02	05:04	13:40	14:08	14:40
45	03:08	04:15	05:21	13:30	13:54	14:22
50	03:19	04:30	05:41	13:17	13:37	14:01
52	03:24	04:38	05:51	13:12	13:29	13:51
54	03:30	04:46	06:02	13:05	13:20	13:39
56	03:36	04:56	06:15	12:58	13:10	13:26
58	03:43	05:06	06:29	12:50	12:59	13:11
60	03:51	05:19	06:47	12:41	12:45	12:53

	Sol			Luna		
Día	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
24	02:22	02:28	12:02	08:23	20:45	25(18%)
25	02:35	02:41	12:02	09:08	21:31	26(11%)
26	02:47	02:54	12:02	09:54	22:18	27(6%)

Junio 27, 28, 29 (Lun, Mar, Mie)

	Aries	Venus		Martes		Júpiter		Saturno	
Lun	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	275°05.2	212°00.8	19°36.0	252°02.3	7°40.7	268°03.1	1°39.1	307°31.5	-14°21.5
1	290°07.6	227°00.2	19°36.6	267°03.1	7°41.4	283°05.4	1°39.2	322°34.0	-14°21.5
2	305°10.1	241°59.6	19°37.3	282°03.9	7°42.1	298°07.6	1°39.3	337°36.6	-14°21.6
3	320°12.6	256°58.9	19°37.9	297°04.7	7°42.7	313°09.8	1°39.3	352°39.1	-14°21.6
4	335°15.0	271°58.3	19°38.5	312°05.5	7°43.4	328°12.1	1°39.4	7°41.7	-14°21.6
5	350°17.5	286°57.7	19°39.1	327°06.3	7°44.0	343°14.3	1°39.5	22°44.2	-14°21.7
6	5°20.0	301°57.0	19°39.7	342°07.1	7°44.7	358°16.5	1°39.6	37°46.8	-14°21.7
7	20°22.4	316°56.4	19°40.3	357°07.9	7°45.3	13°18.8	1°39.7	52°49.3	-14°21.7
8	35°24.9	331°55.7	19°40.9	12°08.7	7°46.0	28°21.0	1°39.8	67°51.9	-14°21.8
9	50°27.4	346°55.1	19°41.5	27°09.4	7°46.6	43°23.3	1°39.9	82°54.4	-14°21.8
10	65°29.8	1°54.5	19°42.2	42°10.2	7°47.3	58°25.5	1°39.9	97°57.0	-14°21.8
11	80°32.3	16°53.8	19°42.8	57°11.0	7°47.9	73°27.7	1°40.0	112°59.5	-14°21.9
12	95°34.8	31°53.2	19°43.4	72°11.8	7°48.6	88°30.0	1°40.1	128°02.1	-14°21.9
13	110°37.2	46°52.6	19°44.0	87°12.6	7°49.2	103°32.2	1°40.2	143°04.6	-14°22.0
14	125°39.7	61°51.9	19°44.6	102°13.4	7°49.9	118°34.4	1°40.3	158°07.2	-14°22.0
15	140°42.1	76°51.3	19°45.2	117°14.2	7°50.5	133°36.7	1°40.4	173°09.7	-14°22.0
16	155°44.6	91°50.6	19°45.8	132°15.0	7°51.2	148°38.9	1°40.4	188°12.3	-14°22.1
17	170°47.1	106°50.0	19°46.4	147°15.8	7°51.8	163°41.2	1°40.5	203°14.8	-14°22.1
18	185°49.5	121°49.4	19°47.0	162°16.6	7°52.5	178°43.4	1°40.6	218°17.4	-14°22.1
19	200°52.0	136°48.7	19°47.6	177°17.4	7°53.1	193°45.6	1°40.7	233°19.9	-14°22.2
20	215°54.5	151°48.1	19°48.2	192°18.1	7°53.8	208°47.9	1°40.8	248°22.5	-14°22.2
21	230°56.9	166°47.4	19°48.8	207°18.9	7°54.4	223°50.1	1°40.9	263°25.0	-14°22.3
22	245°59.4	181°46.8	19°49.4	222°19.7	7°55.1	238°52.4	1°40.9	278°27.5	-14°22.3
23	261°01.9	196°46.2	19°50.0	237°20.5	7°55.7	253°54.6	1°41.0	293°30.1	-14°22.3
Mer.pass.:	5:38:	v-0.6	d0.6	m-3.8	v0.8	d0.7	m0.5	v2.2	d0.1	m-2.3	v2.5	d-0.0	m0.6

Mar	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	276°04.3	211°45.5	19°50.6	252°21.3	7°56.4	268°56.8	1°41.1	308°32.6	-14°22.4
1	291°06.8	226°44.9	19°51.2	267°22.1	7°57.0	283°59.1	1°41.2	323°35.2	-14°22.4
2	306°09.3	241°44.2	19°51.8	282°22.9	7°57.7	299°01.3	1°41.3	338°37.7	-14°22.4
3	321°11.7	256°43.6	19°52.4	297°23.7	7°58.3	314°03.6	1°41.4	353°40.3	-14°22.5
4	336°14.2	271°42.9	19°53.0	312°24.5	7°59.0	329°05.8	1°41.4	8°42.8	-14°22.5
5	351°16.6	286°42.3	19°53.6	327°25.3	7°59.6	344°08.1	1°41.5	23°45.4	-14°22.5
6	6°19.1	301°41.6	19°54.2	342°26.1	8°00.3	359°10.3	1°41.6	38°47.9	-14°22.6
7	21°21.6	316°41.0	19°54.8	357°26.9	8°00.9	14°12.5	1°41.7	53°50.5	-14°22.6
8	36°24.0	331°40.3	19°55.4	12°27.6	8°01.6	29°14.8	1°41.8	68°53.0	-14°22.7
9	51°26.5	346°39.7	19°56.0	27°28.4	8°02.2	44°17.0	1°41.9	83°55.6	-14°22.7
10	66°29.0	1°39.0	19°56.5	42°29.2	8°02.9	59°19.3	1°41.9	98°58.1	-14°22.7
11	81°31.4	16°38.4	19°57.1	57°30.0	8°03.5	74°21.5	1°42.0	114°00.7	-14°22.8
12	96°33.9	31°37.8	19°57.7	72°30.8	8°04.1	89°23.8	1°42.1	129°03.3	-14°22.8
13	111°36.4	46°37.1	19°58.3	87°31.6	8°04.8	104°26.0	1°42.2	144°05.8	-14°22.8
14	126°38.8	61°36.5	19°58.9	102°32.4	8°05.4	119°28.3	1°42.3	159°08.4	-14°22.9
15	141°41.3	76°35.8	19°59.5	117°33.2	8°06.1	134°30.5	1°42.4	174°10.9	-14°22.9
16	156°43.7	91°35.2	20°00.1	132°34.0	8°06.7	149°32.8	1°42.4	189°13.5	-14°23.0
17	171°46.2	106°34.5	20°00.6	147°34.8	8°07.4	164°35.0	1°42.5	204°16.0	-14°23.0
18	186°48.7	121°33.8	20°01.2	162°35.6	8°08.0	179°37.2	1°42.6	219°18.6	-14°23.0
19	201°51.1	136°33.2	20°01.8	177°36.4	8°08.7	194°39.5	1°42.7	234°21.1	-14°23.1
20	216°53.6	151°32.5	20°02.4	192°37.1	8°09.3	209°41.7	1°42.8	249°23.7	-14°23.1
21	231°56.1	166°31.9	20°03.0	207°37.9	8°10.0	224°44.0	1°42.8	264°26.2	-14°23.2
22	246°58.5	181°31.2	20°03.5	222°38.7	8°10.6	239°46.2	1°42.9	279°28.8	-14°23.2
23	262°01.0	196°30.6	20°04.1	237°39.5	8°11.3	254°48.5	1°43.0	294°31.3	-14°23.2
Mer.pass.:	5:34:	v-0.6	d0.6	m-3.8	v0.8	d0.6	m0.5	v2.2	d0.1	m-2.3	v2.5	d-0.0	m0.6

Mie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	277°03.5	211°29.9	20°04.7	252°40.3	8°11.9	269°50.7	1°43.1	309°33.9	-14°23.3
1	292°05.9	226°29.3	20°05.3	267°41.1	8°12.5	284°53.0	1°43.2	324°36.4	-14°23.3
2	307°08.4	241°28.6	20°05.8	282°41.9	8°13.2	299°55.2	1°43.2	339°39.0	-14°23.3
3	322°10.9	256°28.0	20°06.4	297°42.7	8°13.8	314°57.5	1°43.3	354°41.5	-14°23.4
4	337°13.3	271°27.3	20°07.0	312°43.5	8°14.5	329°59.7	1°43.4	9°44.1	-14°23.4
5	352°15.8	286°26.6	20°07.6	327°44.3	8°15.1	345°02.0	1°43.5	24°46.6	-14°23.5
6	7°18.2	301°26.0	20°08.1	342°45.1	8°15.8	0°04.2	1°43.6	39°49.2	-14°23.5
7	22°20.7	316°25.3	20°08.7	357°45.9	8°16.4	15°06.5	1°43.6	54°51.8	-14°23.5
8	37°23.2	331°24.7	20°09.3	12°46.7	8°17.0	30°08.7	1°43.7	69°54.3	-14°23.6
9	52°25.6	346°24.0	20°09.9	27°47.5	8°17.7	45°11.0	1°43.8	84°56.9	-14°23.6
10	67°28.1	1°23.4	20°10.4	42°48.2	8°18.3	60°13.2	1°43.9	99°59.4	-14°23.7
11	82°30.6	16°22.7	20°11.0	57°49.0	8°19.0	75°15.5	1°44.0	115°02.0	-14°23.7
12	97°33.0	31°22.0	20°11.6	72°49.8	8°19.6	90°17.7	1°44.0	130°04.5	-14°23.7
13	112°35.5	46°21.4	20°12.1	87°50.6	8°20.3	105°20.0	1°44.1	145°07.1	-14°23.8
14	127°38.0	61°20.7	20°12.7	102°51.4	8°20.9	120°22.2	1°44.2	160°09.6	-14°23.8
15	142°40.4	76°20.1	20°13.2	117°52.2	8°21.5	135°24.5	1°44.3	175°12.2	-14°23.8
16	157°42.9	91°19.4	20°13.8	132°53.0	8°22.2	150°26.7	1°44.3	190°14.7	-14°23.9
17	172°45.4	106°18.7	20°14.4	147°53.8	8°22.8	165°29.0	1°44.4	205°17.3	-14°23.9
18	187°47.8	121°18.1	20°14.9	162°54.6	8°23.5	180°31.2	1°44.5	220°19.9	-14°24.0
19	202°50.3	136°17.4	20°15.5	177°55.4	8°24.1	195°33.5	1°44.6	235°22.4	-14°24.0
20	217°52.7	151°16.7	20°16.1	192°56.2	8°24.8	210°35.7	1°44.7	250°25.0	-14°24.0
21	232°55.2	166°16.1	20°16.6	207°57.0	8°25.4	225°38.0	1°44.7	265°27.5	-14°24.1
22	247°57.7	181°15.4	20°17.2	222°57.8	8°26.0	240°40.2	1°44.8	280°30.1	-14°24.1
23	263°00.1	196°14.8	20°17.7	237°58.6	8°26.7	255°42.5	1°44.9	295°32.6	-14°24.2
Mer.pass.:	5:30:	v-0.7	d0.6	m-3.8	v0.8	d0.6	m0.5	v2.2	d0.1	m-2.3	v2.6	d-0.0	m0.6

Estrellas

	AHS	Dec
Alpheratz	357°36.9	29°12.7
Ankaa	353°09.2	-42°10.9
Schedar	349°33.4	56°39.3
Diphda	348°49.3	-17°51.8
Achernar	335°22.0	-57°07.1
Hamal	327°53.7	23°34.0
Polaris	315°20.2	89°21.2
Akamar	315°13.7	-40°12.8
Menkar	314°08.6	4°10.6
Mirfak	308°31.6	49°56.2
Aldebaran	290°42.4	16°33.2
Rigel	281°06.2	-8°10.5
Capella	280°25.5	46°01.2
Bellatrix	278°25.5	6°22.2
Elnath	278°04.9	28°37.5
Alnilam	275°40.2	-1°11.3
Betelgeuse	270°54.7	7°24.7
Canopus	263°53.9	-52°42.4
Sirius	258°28.3	-16°44.6
Adara	255°07.9	-29°00.2
Procyon	244°53.3	5°10.2
Pollux	243°20.1	27°58.4
Avior	234°16.2	-59°35.0
Suhail	222°48.2	-43°31.5
Miaplacidus	221°39.4	-69°48.7
Alphard	217°50.0	-8°45.3
Regulus	207°36.8	11°51.6
Dubhe	193°43.8	61°38.2
Denebola	182°27.1	14°27.0
Gienah	175°45.7	-17°40.0
Acrux	173°02.4	-63°13.6
Gacrux	171°53.9	-57°14.5
Alioth	166°14.8	55°50.6
Spica	158°24.4	-11°16.7
Alcaid	152°53.5	49°12.4
Hadar	148°38.6	-60°29.1
Menkent	147°59.9	-36°28.9
Arcturus	145°49.5	19°04.4
Rigil Kent.	139°42.7	-60°55.8
Zubenelg.	136°58.1	-16°08.1
Kochab	137°19.1	74°04.1
Alphecca	126°05.3	26°38.5
Antares	112°18.1	-26°28.9
Atria	107°13.6	-69°04.1
Sabik	102°04.8	-15°45.1
Shaula	96°12.8	-37°07.2
Rasalhague	96°00.2	12°32.7
Etamin	90°42.6	51°29.2
Kaus Aust.	83°34.9	-34°22.4
Vega	80°34.2	38°48.2
Nunki	75°50.0	-26°16.1
Altair	62°01.7	8°55.6
Peacock	53°08.5	-56°39.6
Deneb	49°26.8	45°21.4
Enif	33°40.6	9°58.6
Alnair	27°35.3	-46°50.9
Fomalhaut	15°16.8	-29°30.1
Scheat	13°47.1	28°12.1
Markab	13°31.9	15°19.4

Jun 27 Lun	AHS	Paso Merid
Venus	296°55.6	09:52
Mars	336°57.2	07:11
Jupiter	352°57.9	06:07
Saturn	32°26.3	03:29

Jun 28 Mar	AHS	Paso Merid
Venus	295°41.2	09:53
Mars	336°17.0	07:10
Jupiter	352°52.5	06:03
Saturn	32°28.3	03:25

Jun 29 Mie	AHS	Paso Merid
Venus	294°26.5	09:54
Mars	335°36.9	07:09
Jupiter	352°47.3	06:00
Saturn	32°30.4	03:21

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.1

h	Sol		Luna				
Lun	AHG	Dec	AHG	v	Dec	d	HP
0	179°15.0	23°19.8	204°31.6	11.6	24°03.0	6.4	54.2
1	194°14.9	23°19.7	219°02.2	11.6	24°09.3	6.3	54.2
2	209°14.7	23°19.6	233°32.8	11.5	24°15.6	6.2	54.1
3	224°14.6	23°19.5	248°03.3	11.5	24°21.7	6.1	54.1
4	239°14.5	23°19.4	262°33.8	11.5	24°27.7	6.0	54.1
5	254°14.3	23°19.3	277°04.2	11.4	24°33.6	5.8	54.1
6	269°14.2	23°19.2	291°34.6	11.4	24°39.4	5.7	54.1
7	284°14.1	23°19.1	306°05.0	11.3	24°45.1	5.6	54.1
8	299°13.9	23°19.0	320°35.3	11.3	24°50.6	5.5	54.1
9	314°13.8	23°18.9	335°05.6	11.3	24°56.1	5.4	54.1
10	329°13.7	23°18.8	349°35.8	11.2	25°01.4	5.3	54.1
11	344°13.5	23°18.7	4°06.0	11.2	25°06.6	5.2	54.1
12	359°13.4	23°18.6	18°36.2	11.1	25°11.7	5.0	54.1
13	14°13.3	23°18.5	33°06.3	11.1	25°16.7	4.9	54.1
14	29°13.2	23°18.3	47°36.4	11.1	25°21.5	4.8	54.1
15	44°13.0	23°18.2	62°06.4	11.0	25°26.3	4.7	54.0
16	59°12.9	23°18.1	76°36.4	11.0	25°30.9	4.6	54.0
17	74°12.8	23°18.0	91°06.4	11.0	25°35.4	4.4	54.0
18	89°12.6	23°17.9	105°36.3	10.9	25°39.8	4.3	54.0
19	104°12.5	23°17.8	120°06.2	10.9	25°44.0	4.2	54.0
20	119°12.4	23°17.7	134°36.1	10.9	25°48.1	4.1	54.0
21	134°12.2	23°17.6	149°05.9	10.8	25°52.1	3.9	54.0
22	149°12.1	23°17.5	163°35.7	10.8	25°56.0	3.8	54.0
23	164°12.0	23°17.4	178°05.5	10.8	25°59.8	3.7	54.0
	SD.=15.7	d=-0.1	S.D.=14.8				

Mar	AHG	Dec	AHG	v	Dec	d	HP
0	179°11.9	23°17.2	192°35.2	10.7	26°03.4	3.6	54.0
1	194°11.7	23°17.1	207°05.0	10.7	26°07.0	3.5	54.0
2	209°11.6	23°17.0	221°34.6	10.7	26°10.3	3.3	54.0
3	224°11.5	23°16.9	236°04.3	10.6	26°13.6	3.2	54.0
4	239°11.3	23°16.8	250°33.9	10.6	26°16.8	3.1	54.0
5	254°11.2	23°16.7	265°03.6	10.6	26°19.8	3.0	54.0
6	269°11.1	23°16.6	279°33.1	10.6	26°22.7	2.8	54.0
7	284°11.0	23°16.4	294°02.7	10.6	26°25.4	2.7	54.0
8	299°10.8	23°16.3	308°32.2	10.5	26°28.1	2.6	54.0
9	314°10.7	23°16.2	323°01.8	10.5	26°30.6	2.4	54.0
10	329°10.6	23°16.1	337°31.3	10.5	26°33.0	2.3	54.0
11	344°10.4	23°16.0	352°00.7	10.5	26°35.2	2.2	54.0
12	359°10.3	23°15.8	6°30.2	10.5	26°37.4	2.1	54.0
13	14°10.2	23°15.7	20°59.7	10.4	26°39.4	1.9	54.0
14	29°10.1	23°15.6	35°29.1	10.4	26°41.2	1.8	53.9
15	44°09.9	23°15.5	49°58.5	10.4	26°43.0	1.7	53.9
16	59°09.8	23°15.3	64°27.9	10.4	26°44.6	1.6	53.9
17	74°09.7	23°15.2	78°57.3	10.4	26°46.1	1.4	53.9
18	89°09.5	23°15.1	93°26.7	10.4	26°47.5	1.3	53.9
19	104°09.4	23°15.0	107°56.0	10.4	26°48.7	1.2	53.9
20	119°09.3	23°14.8	122°25.4	10.4	26°49.8	1.0	53.9
21	134°09.2	23°14.7	136°54.7	10.3	26°50.8	0.9	53.9
22	149°09.0	23°14.6	151°24.1	10.3	26°51.6	0.8	53.9
23	164°08.9	23°14.5	165°53.4	10.3	26°52.3	0.7	53.9
	SD.=15.7	d=-0.1	S.D.=14.7				

Mie	AHG	Dec	AHG	v	Dec	d	HP
0	179°08.8	23°14.3	180°22.7	10.3	26°52.9	0.5	53.9
1	194°08.6	23°14.2	194°52.1	10.3	26°53.4	0.4	53.9
2	209°08.5	23°14.1	209°21.4	10.3	26°53.7	0.3	53.9
3	224°08.4	23°13.9	223°50.7	10.3	26°53.9	0.1	53.9
4	239°08.3	23°13.8	238°20.0	10.3	26°54.0	0.0	53.9
5	254°08.1	23°13.7	252°49.3	10.3	26°53.9	-0.1	53.9
6	269°08.0	23°13.5	267°18.7	10.3	26°53.8	-0.2	53.9
7	284°07.9	23°13.4	281°48.0	10.3	26°53.4	-0.4	53.9
8	299°07.8	23°13.3	296°17.3	10.3	26°53.0	-0.5	53.9
9	314°07.6	23°13.1	310°46.6	10.3	26°52.4	-0.6	53.9
10	329°07.5	23°13.0	325°16.0	10.3	26°51.7	-0.8	53.9
11	344°07.4	23°12.8	339°45.3	10.3	26°50.9	-0.9	53.9
12	359°07.3	23°12.7	354°14.7	10.4	26°49.9	-1.0	53.9
13	14°07.1	23°12.6	8°44.0	10.4	26°48.9	-1.2	53.9
14	29°07.0	23°12.4	23°13.4	10.4	26°47.6	-1.3	53.9
15	44°06.9	23°12.3	37°42.8	10.4	26°46.3	-1.4	53.9
16	59°06.8	23°12.1	52°12.2	10.4	26°44.8	-1.5	53.9
17	74°06.6	23°12.0	66°41.6	10.4	26°43.2	-1.7	53.9
18	89°06.5	23°11.9	81°11.0	10.4	26°41.5	-1.8	53.9
19	104°06.4	23°11.7	95°40.5	10.4	26°39.6	-1.9	53.9
20	119°06.2	23°11.6	110°09.9	10.5	26°37.6	-2.0	53.9
21	134°06.1	23°11.4	124°39.4	10.5	26°35.5	-2.2	53.9
22	149°06.0	23°11.3	139°08.9	10.5	26°33.3	-2.3	53.9
23	164°05.9	23°11.1	153°38.4	10.5	26°30.9	-2.4	54.0
	SD.=15.7	d=-0.1	S.D.=14.7				

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	–:–	–:–	–:–
68	–:–	–:–	–:–	–:–	–:–	–:–
66	–:–	–:–	–:–	–:–	–:–	–:–
64	–:–	–:–	01:37	22:29	–:–	–:–
62	–:–	–:–	02:13	21:52	–:–	–:–
60	–:–	00:57	02:39	21:27	23:08	–:–
58	–:–	01:45	03:00	21:07	22:21	–:–
56	–:–	02:14	03:16	20:50	21:52	–:–
54	00:52	02:36	03:30	20:36	21:30	23:13
52	01:36	02:54	03:43	20:24	21:12	22:29
50	02:04	03:09	03:53	20:13	20:58	22:02
45	02:49	03:38	04:16	19:51	20:28	21:18
40	03:19	04:01	04:34	19:33	20:06	20:47
35	03:42	04:19	04:48	19:18	19:48	20:24
30	04:01	04:34	05:01	19:05	19:33	20:06
20	04:30	04:59	05:23	18:43	19:08	19:37
10	04:52	05:19	05:42	18:24	18:47	19:15
0	05:11	05:37	06:00	18:07	18:29	18:56
S 10	05:28	05:54	06:17	17:50	18:12	18:39
20	05:44	06:11	06:35	17:31	17:55	18:23
30	06:00	06:30	06:57	17:10	17:37	18:06
35	06:09	06:41	07:09	16:58	17:26	17:58
40	06:18	06:52	07:23	16:44	17:14	17:48
45	06:29	07:06	07:40	16:27	17:01	17:38
50	06:40	07:22	08:00	16:07	16:45	17:27
52	06:45	07:29	08:10	15:57	16:38	17:21
54	06:51	07:37	08:21	15:46	16:30	17:16
56	06:57	07:46	08:34	15:33	16:21	17:10
58	07:04	07:56	08:48	15:19	16:10	17:03
60	07:11	08:08	09:05	15:01	15:59	16:55

	Orto luna			Ocaso luna		
Lat.	Lun	Mar	Mie	Lun	Mar	Mie
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	–:–	–:–	–:–
68	–:–	–:–	–:–	–:–	–:–	–:–
66	–:–	–:–	–:–	–:–	–:–	–:–
64	23:26	–:–	–:–	22:45	–:–	–:–
62	00:35	00:45	01:14	21:26	22:43	23:23
60	01:01	01:21	01:58	20:50	21:58	22:43
58	01:22	01:47	02:28	20:24	21:29	22:15
56	01:39	02:08	02:50	20:04	21:06	21:53
54	01:53	02:25	03:09	19:47	20:48	21:36
52	02:06	02:40	03:24	19:33	20:32	21:21
50	02:17	02:52	03:38	19:20	20:19	21:07
45	02:40	03:19	04:06	18:54	19:51	20:40
40	02:59	03:40	04:27	18:33	19:29	20:19
35	03:15	03:57	04:45	18:16	19:11	20:01
30	03:28	04:12	05:01	18:02	18:56	19:46
20	03:52	04:38	05:28	17:37	18:29	19:20
10	04:12	05:00	05:50	17:15	18:06	18:57
0	04:31	05:21	06:12	16:55	17:45	18:36
S 10	04:50	05:42	06:33	16:35	17:24	18:15
20	05:11	06:04	06:56	16:14	17:01	17:52
30	05:35	06:30	07:22	15:49	16:35	17:26
35	05:49	06:45	07:38	15:34	16:20	17:11
40	06:05	07:03	07:56	15:17	16:02	16:52
45	06:25	07:25	08:18	14:57	15:40	16:31
50	06:49	07:52	08:46	14:32	15:12	16:03
52	07:01	08:05	08:59	14:20	14:59	15:49
54	07:15	08:21	09:15	14:06	14:43	15:34
56	07:31	08:39	09:34	13:50	14:25	15:15
58	07:49	09:01	09:57	13:31	14:03	14:52
60	08:13	09:30	10:27	13:07	13:34	14:22

Día	Sol			Luna		
	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
27	03:00	03:06	12:03	10:43	23:07	28(2%)
28	03:13	03:19	12:03	11:33	23:58	29(0%)
29	03:25	03:31	12:03	12:23	00:49	0(0%)

Junio 30, 01, 02 (Jue, Vie, Sa)

	Aries	Venus		Martes		Júpiter		Saturno	
Jue	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	278°02.6	211°14.1	20°18.3	252°59.4	8°27.3	270°44.8	1°45.0	310°35.2	-14°24.2
1	293°05.1	226°13.4	20°18.8	268°00.1	8°28.0	285°47.0	1°45.0	325°37.7	-14°24.2
2	308°07.5	241°12.8	20°19.4	283°00.9	8°28.6	300°49.3	1°45.1	340°40.3	-14°24.3
3	323°10.0	256°12.1	20°19.9	298°01.7	8°29.2	315°51.5	1°45.2	355°42.9	-14°24.3
4	338°12.5	271°11.4	20°20.5	313°02.5	8°29.9	330°53.8	1°45.3	10°45.4	-14°24.4
5	353°14.9	286°10.8	20°21.0	328°03.3	8°30.5	345°56.0	1°45.4	25°48.0	-14°24.4
6	8°17.4	301°10.1	20°21.6	343°04.1	8°31.2	0°58.3	1°45.4	40°50.5	-14°24.4
7	23°19.9	316°09.4	20°22.1	358°04.9	8°31.8	16°00.5	1°45.5	55°53.1	-14°24.5
8	38°22.3	331°08.7	20°22.7	13°05.7	8°32.4	31°02.8	1°45.6	70°55.6	-14°24.5
9	53°24.8	346°08.1	20°23.2	28°06.5	8°33.1	46°05.1	1°45.7	85°58.2	-14°24.6
10	68°27.2	1°07.4	20°23.8	43°07.3	8°33.7	61°07.3	1°45.7	101°00.8	-14°24.6
11	83°29.7	16°06.7	20°24.3	58°08.1	8°34.4	76°09.6	1°45.8	116°03.3	-14°24.6
12	98°32.2	31°06.1	20°24.9	73°08.9	8°35.0	91°11.8	1°45.9	131°05.9	-14°24.7
13	113°34.6	46°05.4	20°25.4	88°09.7	8°35.6	106°14.1	1°46.0	146°08.4	-14°24.7
14	128°37.1	61°04.7	20°26.0	103°10.5	8°36.3	121°16.3	1°46.0	161°11.0	-14°24.8
15	143°39.6	76°04.1	20°26.5	118°11.3	8°36.9	136°18.6	1°46.1	176°13.6	-14°24.8
16	158°42.0	91°03.4	20°27.0	133°12.1	8°37.5	151°20.9	1°46.2	191°16.1	-14°24.8
17	173°44.5	106°02.7	20°27.6	148°12.9	8°38.2	166°23.1	1°46.3	206°18.7	-14°24.9
18	188°47.0	121°02.0	20°28.1	163°13.7	8°38.8	181°25.4	1°46.3	221°21.2	-14°24.9
19	203°49.4	136°01.4	20°28.7	178°14.4	8°39.5	196°27.6	1°46.4	236°23.8	-14°25.0
20	218°51.9	151°00.7	20°29.2	193°15.2	8°40.1	211°29.9	1°46.5	251°26.3	-14°25.0
21	233°54.4	166°00.0	20°29.7	208°16.0	8°40.7	226°32.2	1°46.6	266°28.9	-14°25.0
22	248°56.8	180°59.3	20°30.3	223°16.8	8°41.4	241°34.4	1°46.6	281°31.5	-14°25.1
23	263°59.3	195°58.7	20°30.8	238°17.6	8°42.0	256°36.7	1°46.7	296°34.0	-14°25.1
Mer.pass.:5:26:		v-0.7 d0.6 m-3.8		v0.8 d0.6 m0.5		v2.3 d0.1 m-2.3		v2.6 d-0.0 m0.6	

Vie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	279°01.7	210°58.0	20°31.3	253°18.4	8°42.6	271°38.9	1°46.8	311°36.6	-14°25.2
1	294°04.2	225°57.3	20°31.9	268°19.2	8°43.3	286°41.2	1°46.9	326°39.1	-14°25.2
2	309°06.7	240°56.6	20°32.4	283°20.0	8°43.9	301°43.5	1°46.9	341°41.7	-14°25.2
3	324°09.1	255°56.0	20°32.9	298°20.8	8°44.5	316°45.7	1°47.0	356°44.3	-14°25.3
4	339°11.6	270°55.3	20°33.5	313°21.6	8°45.2	331°48.0	1°47.1	11°46.8	-14°25.3
5	354°14.1	285°54.6	20°34.0	328°22.4	8°45.8	346°50.2	1°47.2	26°49.4	-14°25.4
6	9°16.5	300°53.9	20°34.5	343°23.2	8°46.4	1°52.5	1°47.2	41°51.9	-14°25.4
7	24°19.0	315°53.2	20°35.1	358°24.0	8°47.1	16°54.8	1°47.3	56°54.5	-14°25.4
8	39°21.5	330°52.6	20°35.6	13°24.8	8°47.7	31°57.0	1°47.4	71°57.1	-14°25.5
9	54°23.9	345°51.9	20°36.1	28°25.6	8°48.4	46°59.3	1°47.5	86°59.6	-14°25.5
10	69°26.4	0°51.2	20°36.6	43°26.4	8°49.0	62°01.6	1°47.5	102°02.2	-14°25.6
11	84°28.8	15°50.5	20°37.2	58°27.2	8°49.6	77°03.8	1°47.6	117°04.8	-14°25.6
12	99°31.3	30°49.8	20°37.7	73°28.0	8°50.3	92°06.1	1°47.7	132°07.3	-14°25.6
13	114°33.8	45°49.2	20°38.2	88°28.8	8°50.9	107°08.3	1°47.8	147°09.9	-14°25.7
14	129°36.2	60°48.5	20°38.7	103°29.6	8°51.5	122°10.6	1°47.8	162°12.4	-14°25.7
15	144°38.7	75°47.8	20°39.2	118°30.4	8°52.2	137°12.9	1°47.9	177°15.0	-14°25.8
16	159°41.2	90°47.1	20°39.8	133°31.1	8°52.8	152°15.1	1°48.0	192°17.6	-14°25.8
17	174°43.6	105°46.4	20°40.3	148°31.9	8°53.4	167°17.4	1°48.0	207°20.1	-14°25.9
18	189°46.1	120°45.8	20°40.8	163°32.7	8°54.1	182°19.7	1°48.1	222°22.7	-14°25.9
19	204°48.6	135°45.1	20°41.3	178°33.5	8°54.7	197°21.9	1°48.2	237°25.2	-14°25.9
20	219°51.0	150°44.4	20°41.8	193°34.3	8°55.3	212°24.2	1°48.3	252°27.8	-14°26.0
21	234°53.5	165°43.7	20°42.3	208°35.1	8°56.0	227°26.5	1°48.3	267°30.4	-14°26.0
22	249°56.0	180°43.0	20°42.9	223°35.9	8°56.6	242°28.7	1°48.4	282°32.9	-14°26.1
23	264°58.4	195°42.3	20°43.4	238°36.7	8°57.2	257°31.0	1°48.5	297°35.5	-14°26.1
Mer.pass.:5:22:		v-0.7 d0.5 m-3.8		v0.8 d0.6 m0.5		v2.3 d0.1 m-2.3		v2.6 d-0.0 m0.6	

Sa	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	280°00.9	210°41.6	20°43.9	253°37.5	8°57.8	272°33.3	1°48.6	312°38.1	-14°26.1
1	295°03.3	225°41.0	20°44.4	268°38.3	8°58.5	287°35.5	1°48.6	327°40.6	-14°26.2
2	310°05.8	240°40.3	20°44.9	283°39.1	8°59.1	302°37.8	1°48.7	342°43.2	-14°26.2
3	325°08.3	255°39.6	20°45.4	298°39.9	8°59.7	317°40.1	1°48.8	357°45.8	-14°26.3
4	340°10.7	270°38.9	20°45.9	313°40.7	9°00.4	332°42.3	1°48.8	12°48.3	-14°26.3
5	355°13.2	285°38.2	20°46.4	328°41.5	9°01.0	347°44.6	1°48.9	27°50.9	-14°26.4
6	10°15.7	300°37.5	20°46.9	343°42.3	9°01.6	2°46.9	1°49.0	42°53.4	-14°26.4
7	25°18.1	315°36.8	20°47.4	358°43.1	9°02.3	17°49.2	1°49.1	57°56.0	-14°26.4
8	40°20.6	330°36.1	20°47.9	13°43.9	9°02.9	32°51.4	1°49.1	72°58.6	-14°26.5
9	55°23.1	345°35.4	20°48.4	28°44.7	9°03.5	47°53.7	1°49.2	88°01.1	-14°26.5
10	70°25.5	0°34.8	20°48.9	43°45.5	9°04.2	62°56.0	1°49.3	103°03.7	-14°26.6
11	85°28.0	15°34.1	20°49.4	58°46.3	9°04.8	77°58.2	1°49.3	118°06.3	-14°26.6
12	100°30.5	30°33.4	20°49.9	73°47.1	9°05.4	93°00.5	1°49.4	133°08.8	-14°26.6
13	115°32.9	45°32.7	20°50.4	88°47.9	9°06.0	108°02.8	1°49.5	148°11.4	-14°26.7
14	130°35.4	60°32.0	20°50.9	103°48.7	9°06.7	123°05.0	1°49.5	163°14.0	-14°26.7
15	145°37.8	75°31.3	20°51.4	118°49.5	9°07.3	138°07.3	1°49.6	178°16.5	-14°26.8
16	160°40.3	90°30.6	20°51.9	133°50.3	9°07.9	153°09.6	1°49.7	193°19.1	-14°26.8
17	175°42.8	105°29.9	20°52.4	148°51.1	9°08.6	168°11.9	1°49.8	208°21.7	-14°26.9
18	190°45.2	120°29.2	20°52.9	163°51.9	9°09.2	183°14.1	1°49.8	223°24.2	-14°26.9
19	205°47.7	135°28.5	20°53.4	178°52.7	9°09.8	198°16.4	1°49.9	238°26.8	-14°26.9
20	220°50.2	150°27.8	20°53.9	193°53.5	9°10.4	213°18.7	1°50.0	253°29.4	-14°27.0
21	235°52.6	165°27.1	20°54.4	208°54.3	9°11.1	228°20.9	1°50.0	268°31.9	-14°27.0
22	250°55.1	180°26.4	20°54.9	223°55.1	9°11.7	243°23.2	1°50.1	283°34.5	-14°27.1
23	265°57.6	195°25.7	20°55.4	238°55.9	9°12.3	258°25.5	1°50.2	298°37.1	-14°27.1
Mer.pass.:5:19:		v-0.7 d0.5 m-3.8		v0.8 d0.6 m0.4		v2.3 d0.1 m-2.3		v2.6 d-0.0 m0.6	

Estrellas

	AHS	Dec
Alpheratz	357°36.9	29°12.7
Ankaa	353°09.2	-42°10.9
Schedar	349°33.4	56°39.3
Diphda	348°49.3	-17°51.7
Achernar	335°22.0	-57°07.1
Hamal	327°53.7	23°34.0
Polaris	315°18.8	89°21.2
Akamar	315°13.6	-40°12.7
Menkar	314°08.5	4°10.6
Mirfak	308°31.6	49°56.2
Aldebaran	290°42.3	16°33.2
Rigel	281°06.2	-8°10.5
Capella	280°25.4	46°01.2
Bellatrix	278°25.4	6°22.2
Elnath	278°04.9	28°37.5
Alnilam	275°40.2	-1°11.3
Betelgeuse	270°54.7	7°24.7
Canopus	263°53.9	-52°42.4
Sirius	258°28.3	-16°44.6
Adara	255°07.9	-29°00.1
Procyon	244°53.3	5°10.2
Pollux	243°20.1	27°58.4
Avior	234°16.2	-59°34.9
Suhail	222°48.2	-43°31.5
Miaplacidus	221°39.4	-69°48.7
Alphard	217°50.0	-8°45.3
Regulus	207°36.8	11°51.6
Dubhe	193°43.8	61°38.1
Denebola	182°27.1	14°27.0
Gienah	175°45.7	-17°40.0
Acrux	173°02.4	-63°13.6
Gacrux	171°53.9	-57°14.5
Alioth	166°14.8	55°50.6
Spica	158°24.4	-11°16.7
Alcaid	152°53.5	49°12.4
Hadar	148°38.7	-60°29.1
Menkent	147°59.9	-36°28.9
Arcturus	145°49.5	19°04.4
Rigil Kent.	139°42.8	-60°55.8
Zubenelg.	136°58.1	-16°08.1
Kochab	137°19.1	74°04.1
Alphecca	126°05.3	26°38.5
Antares	112°18.0	-26°28.9
Atria	107°13.6	-69°04.1
Sabik	102°04.8	-15°45.1
Shaula	96°12.8	-37°07.2
Rasalhague	96°00.2	12°32.7
Etamin	90°42.6	51°29.2
Kaus Aust.	83°34.8	-34°22.4
Vega	80°34.2	38°48.2
Nunki	75°50.0	-26°16.1
Altair	62°01.7	8°55.6
Peacock	53°08.5	-56°39.6
Deneb	49°26.8	45°21.5
Enif	33°40.6	9°58.6
Alnair	27°35.3	-46°50.9
Fomalhaut	15°16.7	-29°30.1
Scheat	13°47.1	28°12.1
Markab	13°31.8	15°19.4

Jun 30 Jue	AHS	Paso Merid
Venus	293°11.5	09:56
Mars	334°56.8	07:08
Jupiter	352°42.1	05:56
Saturn	32°32.6	03:17

Jul 01 Vie	AHS	Paso Merid
Venus	291°56.2	09:57
Mars	334°16.7	07:06
Jupiter	352°37.2	05:53
Saturn	32°34.8	03:13

Jul 02 Sa	AHS	Paso Merid
Venus	290°40.8	09:58
Mars	333°36.6	07:05
Jupiter	352°32.4	05:49
Saturn	32°37.2	03:09

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.1

h	Sol		Luna				
Jue	AHG	Dec	AHG	v	Dec	d	HP
0	179°05.7	23°11.0	168°07.9	10.5	26°28.4	-2.6	54.0
1	194°05.6	23°10.8	182°37.5	10.6	26°25.8	-2.7	54.0
2	209°05.5	23°10.7	197°07.1	10.6	26°23.1	-2.8	54.0
3	224°05.4	23°10.5	211°36.7	10.6	26°20.2	-2.9	54.0
4	239°05.2	23°10.4	226°06.3	10.6	26°17.2	-3.1	54.0
5	254°05.1	23°10.2	240°36.0	10.7	26°14.1	-3.2	54.0
6	269°05.0	23°10.1	255°05.6	10.7	26°10.8	-3.3	54.0
7	284°04.9	23°09.9	269°35.4	10.7	26°07.5	-3.4	54.0
8	299°04.7	23°09.8	284°05.1	10.8	26°04.0	-3.6	54.0
9	314°04.6	23°09.6	298°34.9	10.8	26°00.4	-3.7	54.0
10	329°04.5	23°09.5	313°04.7	10.8	25°56.6	-3.8	54.0
11	344°04.4	23°09.3	327°34.5	10.8	25°52.7	-3.9	54.0
12	359°04.3	23°09.2	342°04.3	10.9	25°48.8	-4.0	54.0
13	14°04.1	23°09.0	356°34.2	10.9	25°44.7	-4.2	54.0
14	29°04.0	23°08.9	11°04.2	10.9	25°40.4	-4.3	54.0
15	44°03.9	23°08.7	25°34.1	11.0	25°36.1	-4.4	54.0
16	59°03.8	23°08.5	40°04.1	11.0	25°31.6	-4.5	54.0
17	74°03.6	23°08.4	54°34.2	11.1	25°27.0	-4.7	54.0
18	89°03.5	23°08.2	69°04.2	11.1	25°22.3	-4.8	54.0
19	104°03.4	23°08.1	83°34.3	11.1	25°17.5	-4.9	54.0
20	119°03.3	23°07.9	98°04.5	11.2	25°12.5	-5.0	54.0
21	134°03.1	23°07.7	112°34.7	11.2	25°07.4	-5.1	54.0
22	149°03.0	23°07.6	127°04.9	11.2	25°02.3	-5.2	54.1
23	164°02.9	23°07.4	141°35.1	11.3	24°57.0	-5.4	54.1
	SD.=15.7	d=-0.1			S.D.=14.7		

Vie	AHG	Dec	AHG	v	Dec	d	HP
0	179°02.8	23°07.2	156°05.4	11.3	24°51.5	-5.5	54.1
1	194°02.7	23°07.1	170°35.8	11.4	24°46.0	-5.6	54.1
2	209°02.5	23°06.9	185°06.2	11.4	24°40.4	-5.7	54.1
3	224°02.4	23°06.7	199°36.6	11.4	24°34.6	-5.8	54.1
4	239°02.3	23°06.6	214°07.1	11.5	24°28.7	-5.9	54.1
5	254°02.2	23°06.4	228°37.6	11.5	24°22.7	-6.0	54.1
6	269°02.0	23°06.2	243°08.2	11.6	24°16.6	-6.2	54.1
7	284°01.9	23°06.1	257°38.8	11.6	24°10.4	-6.3	54.1
8	299°01.8	23°05.9	272°09.4	11.7	24°04.1	-6.4	54.1
9	314°01.7	23°05.7	286°40.1	11.7	23°57.6	-6.5	54.1
10	329°01.6	23°05.6	301°10.8	11.8	23°51.1	-6.6	54.1
11	344°01.4	23°05.4	315°41.6	11.8	23°44.4	-6.7	54.2
12	359°01.3	23°05.2	330°12.5	11.9	23°37.6	-6.8	54.2
13	14°01.2	23°05.0	344°43.3	11.9	23°30.8	-6.9	54.2
14	29°01.1	23°04.9	359°14.3	11.9	23°23.8	-7.0	54.2
15	44°01.0	23°04.7	13°45.2	12.0	23°16.7	-7.1	54.2
16	59°00.8	23°04.5	28°16.2	12.0	23°09.5	-7.3	54.2
17	74°00.7	23°04.3	42°47.3	12.1	23°02.2	-7.4	54.2
18	89°00.6	23°04.2	57°18.4	12.1	22°54.8	-7.5	54.2
19	104°00.5	23°04.0	71°49.6	12.2	22°47.2	-7.6	54.2
20	119°00.3	23°03.8	86°20.8	12.2	22°39.6	-7.7	54.2
21	134°00.2	23°03.6	100°52.1	12.3	22°31.9	-7.8	54.2
22	149°00.1	23°03.5	115°23.4	12.3	22°24.1	-7.9	54.3
23	164°00.0	23°03.3	129°54.7	12.4	22°16.1	-8.0	54.3
	SD.=15.7	d=-0.2			S.D.=14.8		

Sa	AHG	Dec	AHG	v	Dec	d	HP
0	178°59.9	23°03.1	144°26.2	12.4	22°08.1	-8.1	54.3
1	193°59.7	23°02.9	158°57.6	12.5	22°00.0	-8.2	54.3
2	208°59.6	23°02.7	173°29.1	12.5	21°51.7	-8.3	54.3
3	223°59.5	23°02.6	188°00.7	12.6	21°43.4	-8.4	54.3
4	238°59.4	23°02.4	202°32.3	12.6	21°35.0	-8.5	54.3
5	253°59.3	23°02.2	217°03.9	12.7	21°26.4	-8.6	54.3
6	268°59.2	23°02.0	231°35.6	12.7	21°17.8	-8.7	54.4
7	283°59.0	23°01.8	246°07.4	12.8	21°09.1	-8.8	54.4
8	298°58.9	23°01.6	260°39.2	12.8	21°00.3	-8.9	54.4
9	313°58.8	23°01.4	275°11.0	12.9	20°51.3	-9.0	54.4
10	328°58.7	23°01.3	289°42.9	12.9	20°42.3	-9.1	54.4
11	343°58.6	23°01.1	304°14.9	13.0	20°33.2	-9.1	54.4
12	358°58.4	23°00.9	318°46.9	13.0	20°24.0	-9.2	54.4
13	13°58.3	23°00.7	333°18.9	13.1	20°14.7	-9.3	54.4
14	28°58.2	23°00.5	347°51.0	13.1	20°05.4	-9.4	54.5
15	43°58.1	23°00.3	2°23.2	13.2	19°55.9	-9.5	54.5
16	58°58.0	23°00.1	16°55.4	13.2	19°46.3	-9.6	54.5
17	73°57.9	22°59.9	31°27.6	13.3	19°36.7	-9.7	54.5
18	88°57.7	22°59.7	45°59.9	13.3	19°27.0	-9.8	54.5
19	103°57.6	22°59.5	60°32.2	13.4	19°17.1	-9.9	54.5
20	118°57.5	22°59.3	75°04.6	13.4	19°07.2	-10.0	54.5
21	133°57.4	22°59.1	89°37.0	13.4	18°57.2	-10.0	54.6
22	148°57.3	22°58.9	104°09.5	13.5	18°47.1	-10.1	54.6
23	163°57.1	22°58.7	118°42.0	13.5	18°37.0	-10.2	54.6
	SD.=15.7	d=-0.2			S.D.=14.8		

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	–:–	–:–	–:–
68	–:–	–:–	–:–	–:–	–:–	–:–
66	–:–	–:–	00:20	23:40	–:–	–:–
64	–:–	–:–	01:41	22:25	–:–	–:–
62	–:–	–:–	02:17	21:50	–:–	–:–
60	–:–	01:03	02:42	21:25	23:03	–:–
58	–:–	01:48	03:02	21:05	22:18	–:–
56	–:–	02:17	03:18	20:49	21:50	–:–
54	00:58	02:39	03:32	20:35	21:29	23:08
52	01:40	02:56	03:44	20:23	21:11	22:27
50	02:06	03:11	03:55	20:12	20:57	22:01
45	02:51	03:40	04:17	19:50	20:28	21:17
40	03:21	04:02	04:35	19:33	20:05	20:47
35	03:44	04:20	04:50	19:18	19:48	20:24
30	04:02	04:35	05:03	19:05	19:33	20:06
20	04:31	05:00	05:24	18:44	19:08	19:37
10	04:53	05:20	05:43	18:25	18:48	19:15
0	05:12	05:38	06:00	18:08	18:30	18:56
S 10	05:28	05:55	06:17	17:50	18:13	18:39
20	05:44	06:12	06:36	17:32	17:56	18:24
30	06:01	06:30	06:57	17:11	17:38	18:07
35	06:09	06:41	07:09	16:59	17:27	17:59
40	06:18	06:52	07:23	16:45	17:16	17:50
45	06:28	07:06	07:39	16:29	17:02	17:40
50	06:40	07:21	08:00	16:08	16:47	17:28
52	06:45	07:29	08:09	15:59	16:39	17:23
54	06:51	07:37	08:20	15:48	16:31	17:17
56	06:57	07:46	08:33	15:35	16:22	17:11
58	07:03	07:56	08:47	15:21	16:12	17:05
60	07:11	08:07	09:04	15:04	16:01	16:57

	Orto luna			Ocaso luna		
Lat.	Jue	Vie	Sa	Jue	Vie	Sa
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	–:–	–:–	–:–
68	–:–	–:–	03:14	–:–	–:–	01:53
66	–:–	–:–	04:23	–:–	–:–	00:43
64	–:–	03:06	04:59	–:–	00:20	00:07
62	02:19	03:49	05:24	23:36	23:41	23:41
60	02:59	04:18	05:44	23:07	23:20	23:27
58	03:26	04:40	06:00	22:45	23:03	23:15
56	03:48	04:57	06:14	22:27	22:49	23:04
54	04:05	05:13	06:26	22:11	22:36	22:55
52	04:20	05:26	06:36	21:58	22:25	22:46
50	04:33	05:37	06:46	21:46	22:16	22:39
45	05:00	06:01	07:05	21:21	21:55	22:23
40	05:21	06:20	07:21	21:02	21:38	22:09
35	05:39	06:36	07:34	20:45	21:24	21:58
30	05:54	06:49	07:46	20:31	21:12	21:48
20	06:20	07:13	08:06	20:07	20:51	21:31
10	06:42	07:33	08:23	19:46	20:32	21:15
0	07:02	07:51	08:39	19:26	20:15	21:01
S 10	07:23	08:10	08:55	19:06	19:57	20:47
20	07:45	08:30	09:12	18:45	19:38	20:31
30	08:10	08:53	09:31	18:20	19:17	20:14
35	08:25	09:07	09:43	18:06	19:04	20:03
40	08:42	09:22	09:56	17:49	18:49	19:51
45	09:03	09:40	10:11	17:29	18:32	19:37
50	09:29	10:03	10:29	17:03	18:10	19:20
52	09:42	10:14	10:38	16:50	17:59	19:11
54	09:57	10:26	10:48	16:36	17:47	19:02
56	10:14	10:41	10:59	16:19	17:33	18:52
58	10:34	10:57	11:12	15:59	17:17	18:40
60	11:00	11:17	11:26	15:34	16:58	18:26

Día	Sol			Luna		
	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
30	03:37	03:43	12:03	13:14	00:49	1(2%)
1	03:49	03:55	12:03	14:03	01:38	2(5%)
2	04:01	04:06	12:04	14:50	02:26	3(10%)

Julio 03, 04, 05 (Dom, Lun, Mar)

Dom	Aries AHG	Venus AHG	Venus Dec	Martes AHG	Martes Dec	Júpiter AHG	Júpiter Dec	Saturno AHG	Saturno Dec
0	281°00.0	210°25.1	20°55.9	253°56.6	9°12.9	273°27.8	1°50.2	313°39.6	-14°27.2
1	296°02.5	225°24.4	20°56.4	268°57.4	9°13.6	288°30.0	1°50.3	328°42.2	-14°27.2
2	311°05.0	240°23.7	20°56.8	283°58.2	9°14.2	303°32.3	1°50.4	343°44.8	-14°27.2
3	326°07.4	255°23.0	20°57.3	298°59.0	9°14.8	318°34.6	1°50.4	358°47.3	-14°27.3
4	341°09.9	270°22.3	20°57.8	313°59.8	9°15.5	333°36.9	1°50.5	13°49.9	-14°27.3
5	356°12.3	285°21.6	20°58.3	329°00.6	9°16.1	348°39.1	1°50.6	28°52.5	-14°27.4
6	11°14.8	300°20.9	20°58.8	344°01.4	9°16.7	3°41.4	1°50.7	43°55.0	-14°27.4
7	26°17.3	315°20.2	20°59.3	359°02.2	9°17.3	18°43.7	1°50.7	58°57.6	-14°27.5
8	41°19.7	330°19.5	20°59.8	14°03.0	9°18.0	33°46.0	1°50.8	74°00.2	-14°27.5
9	56°22.2	345°18.8	21°00.2	29°03.8	9°18.6	48°48.2	1°50.9	89°02.7	-14°27.5
10	71°24.7	0°18.1	21°00.7	44°04.6	9°19.2	63°50.5	1°50.9	104°05.3	-14°27.6
11	86°27.1	15°17.4	21°01.2	59°05.4	9°19.8	78°52.8	1°51.0	119°07.9	-14°27.6
12	101°29.6	30°16.7	21°01.7	74°06.2	9°20.5	93°55.1	1°51.1	134°10.4	-14°27.7
13	116°32.1	45°16.0	21°02.1	89°07.0	9°21.1	108°57.3	1°51.1	149°13.0	-14°27.7
14	131°34.5	60°15.3	21°02.6	104°07.8	9°21.7	123°59.6	1°51.2	164°15.6	-14°27.8
15	146°37.0	75°14.6	21°03.1	119°08.6	9°22.3	139°01.9	1°51.3	179°18.1	-14°27.8
16	161°39.4	90°13.9	21°03.6	134°09.4	9°23.0	154°04.2	1°51.3	194°20.7	-14°27.8
17	176°41.9	105°13.2	21°04.0	149°10.2	9°23.6	169°06.5	1°51.4	209°23.3	-14°27.9
18	191°44.4	120°12.5	21°04.5	164°11.0	9°24.2	184°08.7	1°51.5	224°25.8	-14°27.9
19	206°46.8	135°11.7	21°05.0	179°11.8	9°24.8	199°11.0	1°51.5	239°28.4	-14°28.0
20	221°49.3	150°11.0	21°05.5	194°12.6	9°25.4	214°13.3	1°51.6	254°31.0	-14°28.0
21	236°51.8	165°10.3	21°05.9	209°13.4	9°26.1	229°15.6	1°51.7	269°33.5	-14°28.1
22	251°54.2	180°09.6	21°06.4	224°14.2	9°26.7	244°17.9	1°51.7	284°36.1	-14°28.1
23	266°56.7	195°08.9	21°06.9	239°15.0	9°27.3	259°20.1	1°51.8	299°38.7	-14°28.2
Mer.pass.:	5:15:	v-0.7 d0.5 m-3.8		v0.8 d0.6 m0.4		v2.3 d0.1 m-2.3		v2.6 d-0.0 m0.6	

Lun	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	281°59.2	210°08.2	21°07.3	254°15.8	9°27.9	274°22.4	1°51.9	314°41.3	-14°28.2
1	297°01.6	225°07.5	21°07.8	269°16.6	9°28.6	289°24.7	1°51.9	329°43.8	-14°28.2
2	312°04.1	240°06.8	21°08.3	284°17.4	9°29.2	304°27.0	1°52.0	344°46.4	-14°28.3
3	327°06.6	255°06.1	21°08.7	299°18.2	9°29.8	319°29.3	1°52.1	359°49.0	-14°28.3
4	342°09.0	270°05.4	21°09.2	314°19.0	9°30.4	334°31.5	1°52.1	14°51.5	-14°28.4
5	357°11.5	285°04.7	21°09.6	329°19.8	9°31.0	349°33.8	1°52.2	29°54.1	-14°28.4
6	12°13.9	300°04.0	21°10.1	344°20.6	9°31.7	4°36.1	1°52.3	44°56.7	-14°28.5
7	27°16.4	315°03.3	21°10.6	359°21.4	9°32.3	19°38.4	1°52.3	59°59.2	-14°28.5
8	42°18.9	330°02.6	21°11.0	14°22.2	9°32.9	34°40.7	1°52.4	75°01.8	-14°28.6
9	57°21.3	345°01.9	21°11.5	29°23.0	9°33.5	49°43.0	1°52.4	90°04.4	-14°28.6
10	72°23.8	0°01.1	21°11.9	44°23.8	9°34.1	64°45.2	1°52.5	105°07.0	-14°28.6
11	87°26.3	15°00.4	21°12.4	59°24.6	9°34.8	79°47.5	1°52.6	120°09.5	-14°28.7
12	102°28.7	29°59.7	21°12.8	74°25.4	9°35.4	94°49.8	1°52.6	135°12.1	-14°28.7
13	117°31.2	44°59.0	21°13.3	89°26.2	9°36.0	109°52.1	1°52.7	150°14.7	-14°28.8
14	132°33.7	59°58.3	21°13.7	104°27.0	9°36.6	124°54.4	1°52.8	165°17.2	-14°28.8
15	147°36.1	74°57.6	21°14.2	119°27.8	9°37.2	139°56.7	1°52.8	180°19.8	-14°28.9
16	162°38.6	89°56.9	21°14.6	134°28.6	9°37.9	154°58.9	1°52.9	195°22.4	-14°28.9
17	177°41.1	104°56.2	21°15.1	149°29.4	9°38.5	170°01.2	1°53.0	210°25.0	-14°28.9
18	192°43.5	119°55.5	21°15.5	164°30.2	9°39.1	185°03.5	1°53.0	225°27.5	-14°29.0
19	207°46.0	134°54.7	21°16.0	179°31.0	9°39.7	200°05.8	1°53.1	240°30.1	-14°29.0
20	222°48.4	149°54.0	21°16.4	194°31.8	9°40.3	215°08.1	1°53.2	255°32.7	-14°29.1
21	237°50.9	164°53.3	21°16.9	209°32.6	9°41.0	230°10.4	1°53.2	270°35.3	-14°29.1
22	252°53.4	179°52.6	21°17.3	224°33.4	9°41.6	245°12.7	1°53.3	285°37.8	-14°29.2
23	267°55.8	194°51.9	21°17.8	239°34.2	9°42.2	260°14.9	1°53.3	300°40.4	-14°29.2
Mer.pass.:	5:11:	v-0.7 d0.5 m-3.8		v0.8 d0.6 m0.4		v2.3 d0.1 m-2.3		v2.6 d-0.0 m0.6	

Mar	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	282°58.3	209°51.2	21°18.2	254°35.0	9°42.8	275°17.2	1°53.4	315°43.0	-14°29.3
1	298°00.8	224°50.4	21°18.7	269°35.8	9°43.4	290°19.5	1°53.5	330°45.5	-14°29.3
2	313°03.2	239°49.7	21°19.1	284°36.6	9°44.0	305°21.8	1°53.5	345°48.1	-14°29.4
3	328°05.7	254°49.0	21°19.5	299°37.4	9°44.7	320°24.1	1°53.6	0°50.7	-14°29.4
4	343°08.2	269°48.3	21°20.0	314°38.2	9°45.3	335°26.4	1°53.7	15°53.3	-14°29.4
5	358°10.6	284°47.6	21°20.4	329°39.0	9°45.9	350°28.7	1°53.7	30°55.8	-14°29.5
6	13°13.1	299°46.9	21°20.9	344°39.8	9°46.5	5°31.0	1°53.8	45°58.4	-14°29.5
7	28°15.5	314°46.1	21°21.3	359°40.6	9°47.1	20°33.2	1°53.8	61°01.0	-14°29.6
8	43°18.0	329°45.4	21°21.7	14°41.4	9°47.7	35°35.5	1°53.9	76°03.6	-14°29.6
9	58°20.5	344°44.7	21°22.2	29°42.2	9°48.4	50°37.8	1°54.0	91°06.1	-14°29.7
10	73°22.9	359°44.0	21°22.6	44°43.0	9°49.0	65°40.1	1°54.0	106°08.7	-14°29.7
11	88°25.4	14°43.3	21°23.0	59°43.8	9°49.6	80°42.4	1°54.1	121°11.3	-14°29.8
12	103°27.9	29°42.6	21°23.5	74°44.6	9°50.2	95°44.7	1°54.2	136°13.9	-14°29.8
13	118°30.3	44°41.8	21°23.9	89°45.4	9°50.8	110°47.0	1°54.2	151°16.4	-14°29.8
14	133°32.8	59°41.1	21°24.3	104°46.2	9°51.4	125°49.3	1°54.3	166°19.0	-14°29.9
15	148°35.3	74°40.4	21°24.7	119°47.0	9°52.0	140°51.6	1°54.3	181°21.6	-14°29.9
16	163°37.7	89°39.7	21°25.2	134°47.8	9°52.7	155°53.9	1°54.4	196°24.2	-14°30.0
17	178°40.2	104°38.9	21°25.6	149°48.6	9°53.3	170°56.2	1°54.5	211°26.7	-14°30.0
18	193°42.7	119°38.2	21°26.0	164°49.4	9°53.9	185°58.4	1°54.5	226°29.3	-14°30.1
19	208°45.1	134°37.5	21°26.4	179°50.2	9°54.5	201°00.7	1°54.6	241°31.9	-14°30.1
20	223°47.6	149°36.8	21°26.9	194°51.0	9°55.1	216°03.0	1°54.6	256°34.5	-14°30.2
21	238°50.0	164°36.1	21°27.3	209°51.8	9°55.7	231°05.3	1°54.7	271°37.0	-14°30.2
22	253°52.5	179°35.3	21°27.7	224°52.6	9°56.3	246°07.6	1°54.8	286°39.6	-14°30.3
23	268°55.0	194°34.6	21°28.1	239°53.4	9°57.0	261°09.9	1°54.8	301°42.2	-14°30.3
Mer.pass.:	5:07:	v-0.7 d0.4 m-3.8		v0.8 d0.6 m0.4		v2.3 d0.1 m-2.3		v2.6 d-0.0 m0.5	

Estrellas

	AHS	Dec
Alpheratz	357°36.9	29°12.7
Ankaa	353°09.2	-42°10.8
Schedar	349°33.4	56°39.3
Diphda	348°49.3	-17°51.7
Achernar	335°21.9	-57°07.1
Hamal	327°53.7	23°34.0
Polaris	315°17.6	89°21.2
Akamar	315°13.6	-40°12.7
Menkar	314°08.5	4°10.6
Mirfak	308°31.6	49°56.2
Aldebaran	290°42.3	16°33.2
Rigel	281°06.2	-8°10.5
Capella	280°25.4	46°01.2
Bellatrix	278°25.4	6°22.2
Elnath	278°04.9	28°37.5
Alnilam	275°40.2	-1°11.2
Betelgeuse	270°54.7	7°24.7
Canopus	263°53.9	-52°42.4
Sirius	258°28.3	-16°44.6
Adara	255°07.9	-29°00.1
Procyon	244°53.2	5°10.2
Pollux	243°20.1	27°58.4
Avior	234°16.2	-59°34.9
Suhail	222°48.2	-43°31.5
Miaplacidus	221°39.5	-69°48.7
Alphard	217°50.0	-8°45.3
Regulus	207°36.8	11°51.6
Dubhe	193°43.9	61°38.1
Denebola	182°27.1	14°27.0
Gienah	175°45.7	-17°40.0
Acrux	173°02.4	-63°13.6
Gacrux	171°54.0	-57°14.5
Alioth	166°14.8	55°50.6
Spica	158°24.4	-11°16.7
Alcaid	152°53.5	49°12.4
Hadar	148°38.7	-60°29.1
Menkent	147°59.9	-36°28.9
Arcturus	145°49.5	19°04.4
Rigil Kent.	139°42.8	-60°55.9
Zubenelg.	136°58.1	-16°08.1
Kochab	137°19.1	74°04.1
Alphecca	126°05.3	26°38.5
Antares	112°18.0	-26°28.9
Atria	107°13.6	-69°04.1
Sabik	102°04.8	-15°45.1
Shaula	96°12.8	-37°07.2
Rasalhague	96°00.2	12°32.7
Etamin	90°42.6	51°29.2
Kaus Aust.	83°34.8	-34°22.4
Vega	80°34.2	38°48.2
Nunki	75°50.0	-26°16.1
Altair	62°01.7	8°55.6
Peacock	53°08.4	-56°39.6
Deneb	49°26.8	45°21.5
Enif	33°40.6	9°58.6
Alnair	27°35.2	-46°50.9
Fomalhaut	15°16.7	-29°30.1
Scheat	13°47.1	28°12.1
Markab	13°31.8	15°19.4

Jul 03 Dom	AHS	Paso Merid
Venus	289°25.0	09:59
Mars	332°56.6	07:04
Jupiter	352°27.7	05:45
Saturn	32°39.6	03:05

Jul 04 Lun	AHS	Paso Merid
Venus	288°09.1	10:00
Mars	332°16.6	07:03
Jupiter	352°23.3	05:42
Saturn	32°42.1	03:01

Jul 05 Mar	AHS	Paso Merid
Venus	286°52.9	10:01
Mars	331°36.7	07:01
Jupiter	352°18.9	05:38
Saturn	32°44.7	02:57

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.1

h	Sol		Luna				
Dom	AHG	Dec	AHG	v	Dec	d	HP
0	178°57.0	22°58.5	133°14.6	13.6	18°26.7	-10.3	54.6
1	193°56.9	22°58.3	147°47.2	13.6	18°16.4	-10.4	54.6
2	208°56.8	22°58.2	162°19.9	13.7	18°06.0	-10.5	54.6
3	223°56.7	22°58.0	176°52.6	13.7	17°55.5	-10.5	54.7
4	238°56.6	22°57.8	191°25.3	13.8	17°44.9	-10.6	54.7
5	253°56.5	22°57.5	205°58.1	13.8	17°34.2	-10.7	54.7
6	268°56.3	22°57.3	220°30.9	13.8	17°23.5	-10.8	54.7
7	283°56.2	22°57.1	235°03.8	13.9	17°12.7	-10.9	54.7
8	298°56.1	22°56.9	249°36.7	13.9	17°01.8	-10.9	54.7
9	313°56.0	22°56.7	264°09.6	14.0	16°50.8	-11.0	54.8
10	328°55.9	22°56.5	278°42.6	14.0	16°39.7	-11.1	54.8
11	343°55.8	22°56.3	293°15.7	14.1	16°28.6	-11.2	54.8
12	358°55.6	22°56.1	307°48.8	14.1	16°17.4	-11.2	54.8
13	13°55.5	22°55.9	322°21.9	14.1	16°06.1	-11.3	54.8
14	28°55.4	22°55.7	336°55.0	14.2	15°54.8	-11.4	54.8
15	43°55.3	22°55.5	351°28.2	14.2	15°43.4	-11.5	54.9
16	58°55.2	22°55.3	6°01.4	14.2	15°31.9	-11.5	54.9
17	73°55.1	22°55.1	20°34.7	14.3	15°20.3	-11.6	54.9
18	88°55.0	22°54.9	35°08.0	14.3	15°08.7	-11.7	54.9
19	103°54.8	22°54.7	49°41.3	14.4	14°57.0	-11.7	54.9
20	118°54.7	22°54.4	64°14.7	14.4	14°45.2	-11.8	55.0
21	133°54.6	22°54.2	78°48.1	14.4	14°33.4	-11.9	55.0
22	148°54.5	22°54.0	93°21.6	14.5	14°21.4	-11.9	55.0
23	163°54.4	22°53.8	107°55.0	14.5	14°09.5	-12.0	55.0
	SD.=15.7	d=-0.2	S.D.=14.9				

Lun	AHG	Dec	AHG	v	Dec	d	HP
0	178°54.3	22°53.6	122°28.5	14.5	13°57.4	-12.1	55.0
1	193°54.2	22°53.4	137°02.1	14.5	13°45.3	-12.1	55.1
2	208°54.0	22°53.2	151°35.6	14.6	13°33.1	-12.2	55.1
3	223°53.9	22°52.9	166°09.2	14.6	13°20.9	-12.3	55.1
4	238°53.8	22°52.7	180°42.8	14.6	13°08.6	-12.3	55.1
5	253°53.7	22°52.5	195°16.5	14.7	12°56.2	-12.4	55.1
6	268°53.6	22°52.3	209°50.2	14.7	12°43.8	-12.5	55.2
7	283°53.5	22°52.1	224°23.9	14.7	12°31.3	-12.5	55.2
8	298°53.4	22°51.9	238°57.6	14.7	12°18.8	-12.6	55.2
9	313°53.3	22°51.6	253°31.4	14.8	12°06.2	-12.6	55.2
10	328°53.2	22°51.4	268°05.1	14.8	11°53.5	-12.7	55.3
11	343°53.0	22°51.2	282°38.9	14.8	11°40.8	-12.8	55.3
12	358°52.9	22°51.0	297°12.8	14.8	11°28.0	-12.8	55.3
13	13°52.8	22°50.7	311°46.6	14.9	11°15.2	-12.9	55.3
14	28°52.7	22°50.5	326°20.5	14.9	11°02.3	-12.9	55.3
15	43°52.6	22°50.3	340°54.4	14.9	10°49.3	-13.0	55.4
16	58°52.5	22°50.1	355°28.3	14.9	10°36.3	-13.0	55.4
17	73°52.4	22°49.8	10°02.2	14.9	10°23.3	-13.1	55.4
18	88°52.3	22°49.6	24°36.1	14.9	10°10.2	-13.1	55.4
19	103°52.2	22°49.4	39°10.1	15.0	9°57.0	-13.2	55.5
20	118°52.0	22°49.2	53°44.1	15.0	9°43.8	-13.2	55.5
21	133°51.9	22°48.9	68°18.0	15.0	9°30.6	-13.3	55.5
22	148°51.8	22°48.7	82°52.0	15.0	9°17.2	-13.3	55.5
23	163°51.7	22°48.5	97°26.0	15.0	9°03.9	-13.4	55.6
	SD.=15.7	d=-0.2	S.D.=15.0				

Mar	AHG	Dec	AHG	v	Dec	d	HP
0	178°51.6	22°48.2	112°00.1	15.0	8°50.5	-13.4	55.6
1	193°51.5	22°48.0	126°34.1	15.0	8°37.0	-13.5	55.6
2	208°51.4	22°47.8	141°08.1	15.0	8°23.5	-13.5	55.6
3	223°51.3	22°47.6	155°42.2	15.0	8°10.0	-13.6	55.7
4	238°51.2	22°47.3	170°16.2	15.1	7°56.4	-13.6	55.7
5	253°51.1	22°47.1	184°50.3	15.1	7°42.7	-13.7	55.7
6	268°50.9	22°46.8	199°24.4	15.1	7°29.1	-13.7	55.8
7	283°50.8	22°46.6	213°58.4	15.1	7°15.3	-13.7	55.8
8	298°50.7	22°46.4	228°32.5	15.1	7°01.6	-13.8	55.8
9	313°50.6	22°46.1	243°06.6	15.1	6°47.8	-13.8	55.8
10	328°50.5	22°45.9	257°40.6	15.1	6°33.9	-13.9	55.9
11	343°50.4	22°45.7	272°14.7	15.1	6°20.0	-13.9	55.9
12	358°50.3	22°45.4	286°48.8	15.1	6°06.1	-13.9	55.9
13	13°50.2	22°45.2	301°22.8	15.1	5°52.1	-14.0	55.9
14	28°50.1	22°44.9	315°56.9	15.1	5°38.1	-14.0	56.0
15	43°50.0	22°44.7	330°31.0	15.1	5°24.1	-14.1	56.0
16	58°49.9	22°44.5	345°05.0	15.0	5°10.0	-14.1	56.0
17	73°49.8	22°44.2	359°39.1	15.0	4°55.9	-14.1	56.1
18	88°49.7	22°44.0	14°13.1	15.0	4°41.8	-14.2	56.1
19	103°49.5	22°43.7	28°47.1	15.0	4°27.6	-14.2	56.1
20	118°49.4	22°43.5	43°21.2	15.0	4°13.4	-14.2	56.2
21	133°49.3	22°43.2	57°55.2	15.0	3°59.1	-14.3	56.2
22	148°49.2	22°43.0	72°29.2	15.0	3°44.8	-14.3	56.2
23	163°49.1	22°42.7	87°03.1	15.0	3°30.5	-14.3	56.2
	SD.=15.7	d=-0.2	S.D.=15.2				

	Crepúsculo			Crepúsculo		
	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	–:–	–:–	–:–
68	–:–	–:–	–:–	–:–	–:–	–:–
66	–:–	–:–	00:42	23:22	–:–	–:–
64	–:–	–:–	01:47	22:20	–:–	–:–
62	–:–	–:–	02:21	21:47	–:–	–:–
60	–:–	01:11	02:46	21:22	22:56	–:–
58	–:–	01:53	03:05	21:03	22:15	–:–
56	–:–	02:21	03:21	20:47	21:47	–:–
54	01:05	02:42	03:35	20:34	21:27	23:02
52	01:44	02:59	03:47	20:22	21:10	22:24
50	02:10	03:13	03:57	20:11	20:55	21:58
45	02:53	03:42	04:19	19:50	20:27	21:15
40	03:23	04:04	04:36	19:32	20:05	20:46
35	03:45	04:22	04:51	19:18	19:47	20:24
30	04:03	04:36	05:04	19:05	19:32	20:05
20	04:32	05:01	05:25	18:44	19:08	19:37
10	04:54	05:21	05:44	18:25	18:48	19:15
0	05:12	05:38	06:01	18:08	18:31	18:57
S 10	05:29	05:55	06:18	17:51	18:14	18:40
20	05:45	06:12	06:36	17:33	17:57	18:24
30	06:01	06:30	06:57	17:13	17:39	18:09
35	06:09	06:41	07:09	17:00	17:29	18:00
40	06:18	06:52	07:22	16:47	17:17	17:51
45	06:28	07:05	07:39	16:30	17:04	17:41
50	06:39	07:21	07:59	16:10	16:49	17:30
52	06:44	07:28	08:08	16:01	16:41	17:25
54	06:50	07:36	08:19	15:50	16:34	17:19
56	06:56	07:44	08:31	15:38	16:25	17:13
58	07:02	07:54	08:45	15:24	16:15	17:07
60	07:09	08:05	09:02	15:07	16:04	17:00

	Orto luna			Ocaso luna		
Lat.	Dom	Lun	Mar	Dom	Lun	Mar
N 72	04:01	07:13	09:25	02:44	01:05	00:24
70	05:18	07:36	09:35	01:25	00:40	00:12
68	05:56	07:54	09:43	00:47	00:20	00:01
66	06:22	08:08	09:50	00:19	00:05	23:42
64	06:42	08:20	09:55	23:52	23:45	23:39
62	06:58	08:30	10:00	23:41	23:39	23:37
60	07:12	08:38	10:04	23:31	23:34	23:35
58	07:23	08:46	10:08	23:23	23:29	23:34
56	07:33	08:52	10:11	23:16	23:24	23:32
54	07:42	08:58	10:14	23:09	23:20	23:31
52	07:49	09:03	10:17	23:03	23:17	23:29
50	07:56	09:08	10:19	22:58	23:14	23:28
45	08:11	09:18	10:25	22:46	23:06	23:26
40	08:23	09:26	10:29	22:36	23:00	23:23
35	08:34	09:33	10:33	22:28	22:55	23:21
30	08:43	09:39	10:36	22:21	22:51	23:20
20	08:58	09:50	10:42	22:08	22:43	23:17
10	09:12	10:00	10:47	21:56	22:36	23:14
0	09:24	10:08	10:51	21:46	22:29	23:12
S 10	09:37	10:17	10:56	21:35	22:22	23:09
20	09:50	10:26	11:01	21:23	22:15	23:06
30	10:06	10:37	11:06	21:10	22:07	23:03
35	10:14	10:43	11:10	21:02	22:02	23:01
40	10:24	10:50	11:13	20:54	21:56	22:59
45	10:36	10:58	11:17	20:43	21:50	22:57
50	10:50	11:07	11:22	20:31	21:42	22:54
52	10:57	11:12	11:25	20:25	21:38	22:53
54	11:04	11:16	11:27	20:18	21:34	22:51
56	11:12	11:22	11:30	20:11	21:30	22:50
58	11:21	11:28	11:33	20:03	21:25	22:48
60	11:31	11:34	11:36	19:53	21:20	22:46

Día	Sol			Luna		
	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
3	04:12	04:17	12:04	15:35	03:12	4(17%)
4	04:23	04:28	12:04	16:18	03:57	5(25%)
5	04:34	04:39	12:04	17:01	04:40	6(34%)

Julio 06, 07, 08 (Mie, Jue, Vie)

Mie	Aries AHG	Venus AHG	Venus Dec	Martes AHG	Martes Dec	Júpiter AHG	Júpiter Dec	Saturno AHG	Saturno Dec
0	283°57.4	209°33.9	21°28.5	254°54.2	9°57.6	276°12.2	1°54.9	316°44.8	-14°30.4
1	298°59.9	224°33.2	21°29.0	269°55.0	9°58.2	291°14.5	1°54.9	331°47.3	-14°30.4
2	314°02.4	239°32.4	21°29.4	284°55.8	9°58.8	306°16.8	1°55.0	346°49.9	-14°30.4
3	329°04.8	254°31.7	21°29.8	299°56.6	9°59.4	321°19.1	1°55.1	1°52.5	-14°30.5
4	344°07.3	269°31.0	21°30.2	314°57.4	10°00.0	336°21.4	1°55.1	16°55.1	-14°30.5
5	359°09.8	284°30.3	21°30.6	329°58.2	10°00.6	351°23.7	1°55.2	31°57.6	-14°30.6
6	14°12.2	299°29.5	21°31.0	344°59.0	10°01.2	6°26.0	1°55.2	47°00.2	-14°30.6
7	29°14.7	314°28.8	21°31.4	359°59.8	10°01.9	21°28.3	1°55.3	62°02.8	-14°30.7
8	44°17.2	329°28.1	21°31.9	15°00.7	10°02.5	36°30.6	1°55.4	77°05.4	-14°30.7
9	59°19.6	344°27.3	21°32.3	30°01.5	10°03.1	51°32.9	1°55.4	92°08.0	-14°30.8
10	74°22.1	359°26.6	21°32.7	45°02.3	10°03.7	66°35.2	1°55.5	107°10.5	-14°30.8
11	89°24.5	14°25.9	21°33.1	60°03.1	10°04.3	81°37.5	1°55.5	122°13.1	-14°30.9
12	104°27.0	29°25.2	21°33.5	75°03.9	10°04.9	96°39.7	1°55.6	137°15.7	-14°30.9
13	119°29.5	44°24.4	21°33.9	90°04.7	10°05.5	111°42.0	1°55.7	152°18.3	-14°31.0
14	134°31.9	59°23.7	21°34.3	105°05.5	10°06.1	126°44.3	1°55.7	167°20.8	-14°31.0
15	149°34.4	74°23.0	21°34.7	120°06.3	10°06.7	141°46.6	1°55.8	182°23.4	-14°31.0
16	164°36.9	89°22.2	21°35.1	135°07.1	10°07.3	156°48.9	1°55.8	197°26.0	-14°31.1
17	179°39.3	104°21.5	21°35.5	150°07.9	10°08.0	171°51.2	1°55.9	212°28.6	-14°31.1
18	194°41.8	119°20.8	21°35.9	165°08.7	10°08.6	186°53.5	1°55.9	227°31.2	-14°31.2
19	209°44.3	134°20.0	21°36.3	180°09.5	10°09.2	201°55.8	1°56.0	242°33.7	-14°31.2
20	224°46.7	149°19.3	21°36.7	195°10.3	10°09.8	216°58.1	1°56.1	257°36.3	-14°31.3
21	239°49.2	164°18.6	21°37.1	210°11.1	10°10.4	232°00.4	1°56.1	272°38.9	-14°31.3
22	254°51.6	179°17.9	21°37.5	225°11.9	10°11.0	247°02.7	1°56.2	287°41.5	-14°31.4
23	269°54.1	194°17.1	21°37.9	240°12.7	10°11.6	262°05.0	1°56.2	302°44.1	-14°31.4
Mer.pass.:5:03:		v-0.7 d0.4 m-3.8		v0.8 d0.6 m0.4		v2.3 d0.1 m-2.3		v2.6 d-0.0 m0.5	

Jue	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	284°56.6	209°16.4	21°38.3	255°13.5	10°12.2	277°07.3	1°56.3	317°46.6	-14°31.5
1	299°59.0	224°15.7	21°38.7	270°14.3	10°12.8	292°09.6	1°56.3	332°49.2	-14°31.5
2	315°01.5	239°14.9	21°39.1	285°15.1	10°13.4	307°11.9	1°56.4	347°51.8	-14°31.6
3	330°04.0	254°14.2	21°39.5	300°15.9	10°14.0	322°14.2	1°56.5	2°54.4	-14°31.6
4	345°06.4	269°13.4	21°39.9	315°16.7	10°14.6	337°16.5	1°56.5	17°57.0	-14°31.7
5	0°08.9	284°12.7	21°40.3	330°17.5	10°15.2	352°18.8	1°56.6	32°59.5	-14°31.7
6	15°11.4	299°12.0	21°40.6	345°18.3	10°15.9	7°21.1	1°56.6	48°02.1	-14°31.7
7	30°13.8	314°11.2	21°41.0	0°19.1	10°16.5	22°23.4	1°56.7	63°04.7	-14°31.8
8	45°16.3	329°10.5	21°41.4	15°19.9	10°17.1	37°25.7	1°56.7	78°07.3	-14°31.8
9	60°18.8	344°09.8	21°41.8	30°20.7	10°17.7	52°28.1	1°56.8	93°09.9	-14°31.9
10	75°21.2	359°09.0	21°42.2	45°21.5	10°18.3	67°30.4	1°56.9	108°12.4	-14°31.9
11	90°23.7	14°08.3	21°42.6	60°22.3	10°18.9	82°32.7	1°56.9	123°15.0	-14°32.0
12	105°26.1	29°07.6	21°43.0	75°23.1	10°19.5	97°35.0	1°57.0	138°17.6	-14°32.0
13	120°28.6	44°06.8	21°43.3	90°23.9	10°20.1	112°37.3	1°57.0	153°20.2	-14°32.1
14	135°31.1	59°06.1	21°43.7	105°24.8	10°20.7	127°39.6	1°57.1	168°22.8	-14°32.1
15	150°33.5	74°05.3	21°44.1	120°25.6	10°21.3	142°41.9	1°57.1	183°25.3	-14°32.2
16	165°36.0	89°04.6	21°44.5	135°26.4	10°21.9	157°44.2	1°57.2	198°27.9	-14°32.2
17	180°38.5	104°03.9	21°44.9	150°27.2	10°22.5	172°46.5	1°57.2	213°30.5	-14°32.3
18	195°40.9	119°03.1	21°45.2	165°28.0	10°23.1	187°48.8	1°57.3	228°33.1	-14°32.3
19	210°43.4	134°02.4	21°45.6	180°28.8	10°23.7	202°51.1	1°57.3	243°35.7	-14°32.4
20	225°45.9	149°01.6	21°46.0	195°29.6	10°24.3	217°53.4	1°57.4	258°38.2	-14°32.4
21	240°48.3	164°00.9	21°46.4	210°30.4	10°24.9	232°55.7	1°57.5	273°40.8	-14°32.5
22	255°50.8	179°00.2	21°46.7	225°31.2	10°25.5	247°58.0	1°57.5	288°43.4	-14°32.5
23	270°53.2	193°59.4	21°47.1	240°32.0	10°26.1	263°00.3	1°57.6	303°46.0	-14°32.6
Mer.pass.:4:59:		v-0.7 d0.4 m-3.8		v0.8 d0.6 m0.4		v2.3 d0.1 m-2.3		v2.6 d-0.0 m0.5	

Vie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	285°55.7	208°58.7	21°47.5	255°32.8	10°26.7	278°02.6	1°57.6	318°48.6	-14°32.6
1	300°58.2	223°57.9	21°47.8	270°33.6	10°27.3	293°04.9	1°57.7	333°51.2	-14°32.6
2	316°00.6	238°57.2	21°48.2	285°34.4	10°27.9	308°07.2	1°57.7	348°53.7	-14°32.7
3	331°03.1	253°56.5	21°48.6	300°35.2	10°28.5	323°09.6	1°57.8	3°56.3	-14°32.7
4	346°05.6	268°55.7	21°48.9	315°36.0	10°29.1	338°11.9	1°57.8	18°58.9	-14°32.8
5	1°08.0	283°55.0	21°49.3	330°36.8	10°29.7	353°14.2	1°57.9	34°01.5	-14°32.8
6	16°10.5	298°54.2	21°49.7	345°37.6	10°30.3	8°16.5	1°57.9	49°04.1	-14°32.9
7	31°13.0	313°53.5	21°50.0	0°38.4	10°31.0	23°18.8	1°58.0	64°06.7	-14°32.9
8	46°15.4	328°52.7	21°50.4	15°39.2	10°31.6	38°21.1	1°58.0	79°09.2	-14°33.0
9	61°17.9	343°52.0	21°50.8	30°40.0	10°32.2	53°23.4	1°58.1	94°11.8	-14°33.0
10	76°20.4	358°51.2	21°51.1	45°40.8	10°32.8	68°25.7	1°58.2	109°14.4	-14°33.1
11	91°22.8	13°50.5	21°51.5	60°41.7	10°33.4	83°28.0	1°58.2	124°17.0	-14°33.1
12	106°25.3	28°49.8	21°51.8	75°42.5	10°34.0	98°30.3	1°58.3	139°19.6	-14°33.2
13	121°27.7	43°49.0	21°52.2	90°43.3	10°34.6	113°32.7	1°58.3	154°22.2	-14°33.2
14	136°30.2	58°48.3	21°52.6	105°44.1	10°35.2	128°35.0	1°58.4	169°24.7	-14°33.3
15	151°32.7	73°47.5	21°52.9	120°44.9	10°35.8	143°37.3	1°58.4	184°27.3	-14°33.3
16	166°35.1	88°46.8	21°53.3	135°45.7	10°36.4	158°39.6	1°58.5	199°29.9	-14°33.4
17	181°37.6	103°46.0	21°53.6	150°46.5	10°37.0	173°41.9	1°58.5	214°32.5	-14°33.4
18	196°40.1	118°45.3	21°54.0	165°47.3	10°37.6	188°44.2	1°58.6	229°35.1	-14°33.5
19	211°42.5	133°44.5	21°54.3	180°48.1	10°38.2	203°46.5	1°58.6	244°37.7	-14°33.5
20	226°45.0	148°43.8	21°54.7	195°48.9	10°38.7	218°48.8	1°58.7	259°40.3	-14°33.6
21	241°47.5	163°43.0	21°55.0	210°49.7	10°39.3	233°51.1	1°58.7	274°42.8	-14°33.6
22	256°49.9	178°42.3	21°55.4	225°50.5	10°39.9	248°53.5	1°58.8	289°45.4	-14°33.7
23	271°52.4	193°41.5	21°55.7	240°51.3	10°40.5	263°55.8	1°58.8	304°48.0	-14°33.7
Mer.pass.:4:55:		v-0.7 d0.4 m-3.8		v0.8 d0.6 m0.4		v2.3 d0.1 m-2.3		v2.6 d-0.0 m0.5	

Estrellas

	AHS	Dec
Alpheratz	357°36.8	29°12.7
Ankaa	353°09.1	-42°10.8
Schedar	349°33.3	56°39.3
Diphda	348°49.3	-17°51.7
Achernar	335°21.9	-57°07.1
Hamal	327°53.7	23°34.0
Polaris	315°16.3	89°21.2
Akamar	315°13.6	-40°12.7
Menkar	314°08.5	4°10.6
Mirfak	308°31.5	49°56.2
Aldebaran	290°42.3	16°33.2
Rigel	281°06.2	-8°10.5
Capella	280°25.4	46°01.2
Bellatrix	278°25.4	6°22.2
Elnath	278°04.8	28°37.5
Alnilam	275°40.2	-1°11.2
Betelgeuse	270°54.7	7°24.7
Canopus	263°53.9	-52°42.4
Sirius	258°28.3	-16°44.6
Adara	255°07.9	-29°00.1
Procyon	244°53.2	5°10.2
Pollux	243°20.1	27°58.4
Avior	234°16.2	-59°34.9
Suhail	222°48.2	-43°31.4
Miaplacidus	221°39.5	-69°48.7
Alphard	217°50.0	-8°45.3
Regulus	207°36.8	11°51.6
Dubhe	193°43.9	61°38.1
Denebola	182°27.1	14°27.0
Gienah	175°45.7	-17°40.0
Acrux	173°02.5	-63°13.6
Gacrux	171°54.0	-57°14.5
Alioth	166°14.9	55°50.6
Spica	158°24.4	-11°16.7
Alcaid	152°53.5	49°12.4
Hadar	148°38.7	-60°29.1
Menkent	147°59.9	-36°28.9
Arcturus	145°49.5	19°04.4
Rigil Kent.	139°42.8	-60°55.9
Zubenelg.	136°58.1	-16°08.1
Kochab	137°19.2	74°04.1
Alphecca	126°05.3	26°38.5
Antares	112°18.1	-26°28.9
Atria	107°13.6	-69°04.2
Sabik	102°04.8	-15°45.1
Shaula	96°12.8	-37°07.2
Rasalhague	96°00.2	12°32.7
Etamin	90°42.6	51°29.2
Kaus Aust.	83°34.8	-34°22.4
Vega	80°34.2	38°48.2
Nunki	75°49.9	-26°16.1
Altair	62°01.7	8°55.6
Peacock	53°08.4	-56°39.6
Deneb	49°26.8	45°21.5
Enif	33°40.6	9°58.6
Alnair	27°35.2	-46°50.9
Fomalhaut	15°16.7	-29°30.1
Scheat	13°47.1	28°12.1
Markab	13°31.8	15°19.5

Jul 06 Mie	AHS	Paso Merid
Venus	285°36.4	10:02
Mars	330°56.8	07:00
Jupiter	352°14.8	05:34
Saturn	32°47.3	02:53

Jul 07 Jue	AHS	Paso Merid
Venus	284°19.8	10:03
Mars	330°16.9	06:59
Jupiter	352°10.8	05:31
Saturn	32°50.1	02:48

Jul 08 Vie	AHS	Paso Merid
Venus	283°03.0	10:05
Mars	329°37.1	06:57
Jupiter	352°06.9	05:27
Saturn	32°52.9	02:44

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.1

h	Sol		Luna				
Mie	AHG	Dec	AHG	v	Dec	d	HP
0	178°49.0	22°42.5	101°37.1	15.0	3°16.2	-14.3	56.3
1	193°48.9	22°42.3	116°11.0	14.9	3°01.8	-14.4	56.3
2	208°48.8	22°42.0	130°45.0	14.9	2°47.5	-14.4	56.3
3	223°48.7	22°41.8	145°18.9	14.9	2°33.0	-14.4	56.4
4	238°48.6	22°41.5	159°52.8	14.9	2°18.6	-14.5	56.4
5	253°48.5	22°41.3	174°26.6	14.9	2°04.1	-14.5	56.4
6	268°48.4	22°41.0	189°00.5	14.8	1°49.6	-14.5	56.5
7	283°48.3	22°40.7	203°34.3	14.8	1°35.1	-14.5	56.5
8	298°48.2	22°40.5	218°08.1	14.8	1°20.6	-14.6	56.5
9	313°48.1	22°40.2	232°41.9	14.8	1°06.0	-14.6	56.6
10	328°48.0	22°40.0	247°15.6	14.7	0°51.4	-14.6	56.6
11	343°47.9	22°39.7	261°49.3	14.7	0°36.8	-14.6	56.6
12	358°47.8	22°39.5	276°23.0	14.7	0°22.2	-14.6	56.7
13	13°47.7	22°39.2	290°56.7	14.6	0°07.6	-14.7	56.7
14	28°47.5	22°39.0	305°30.3	14.6	-0°07.1	-14.7	56.7
15	43°47.4	22°38.7	320°03.9	14.6	-0°21.8	-14.7	56.8
16	58°47.3	22°38.4	334°37.4	14.5	-0°36.5	-14.7	56.8
17	73°47.2	22°38.2	349°11.0	14.5	-0°51.2	-14.7	56.8
18	88°47.1	22°37.9	3°44.4	14.5	-1°05.9	-14.7	56.9
19	103°47.0	22°37.7	18°17.9	14.4	-1°20.6	-14.7	56.9
20	118°46.9	22°37.4	32°51.3	14.4	-1°35.4	-14.7	56.9
21	133°46.8	22°37.1	47°24.6	14.3	-1°50.1	-14.8	57.0
22	148°46.7	22°36.9	61°57.9	14.3	-2°04.9	-14.8	57.0
23	163°46.6	22°36.6	76°31.2	14.2	-2°19.7	-14.8	57.0
	SD.=15.7	d=-0.2	S.D.=15.4				

Jue	AHG	Dec	AHG	v	Dec	d	HP
0	178°46.5	22°36.4	91°04.4	14.2	-2°34.4	-14.8	57.1
1	193°46.4	22°36.1	105°37.6	14.2	-2°49.2	-14.8	57.1
2	208°46.3	22°35.8	120°10.7	14.1	-3°04.0	-14.8	57.1
3	223°46.2	22°35.6	134°43.8	14.1	-3°18.8	-14.8	57.2
4	238°46.1	22°35.3	149°16.8	14.0	-3°33.6	-14.8	57.2
5	253°46.0	22°35.0	163°49.8	13.9	-3°48.4	-14.8	57.2
6	268°45.9	22°34.8	178°22.7	13.9	-4°03.2	-14.8	57.3
7	283°45.8	22°34.5	192°55.6	13.8	-4°18.1	-14.8	57.3
8	298°45.7	22°34.2	207°28.4	13.8	-4°32.9	-14.8	57.3
9	313°45.6	22°34.0	222°01.2	13.7	-4°47.7	-14.8	57.4
10	328°45.5	22°33.7	236°33.9	13.7	-5°02.5	-14.8	57.4
11	343°45.4	22°33.4	251°06.5	13.6	-5°17.3	-14.8	57.5
12	358°45.3	22°33.1	265°39.1	13.5	-5°32.1	-14.8	57.5
13	13°45.2	22°32.9	280°11.6	13.5	-5°46.8	-14.8	57.5
14	28°45.1	22°32.6	294°44.0	13.4	-6°01.6	-14.8	57.6
15	43°45.0	22°32.3	309°16.4	13.3	-6°16.4	-14.8	57.6
16	58°44.9	22°32.0	323°48.7	13.3	-6°31.2	-14.8	57.6
17	73°44.8	22°31.8	338°20.9	13.2	-6°45.9	-14.7	57.7
18	88°44.7	22°31.5	352°53.1	13.1	-7°00.7	-14.7	57.7
19	103°44.6	22°31.2	7°25.2	13.1	-7°15.4	-14.7	57.8
20	118°44.5	22°30.9	21°57.2	13.0	-7°30.1	-14.7	57.8
21	133°44.4	22°30.7	36°29.2	12.9	-7°44.8	-14.7	57.8
22	148°44.3	22°30.4	51°01.0	12.8	-7°59.5	-14.7	57.9
23	163°44.2	22°30.1	65°32.8	12.8	-8°14.1	-14.7	57.9
	SD.=15.7	d=-0.3	S.D.=15.6				

Vie	AHG	Dec	AHG	v	Dec	d	HP
0	178°44.1	22°29.8	80°04.6	12.7	-8°28.8	-14.6	57.9
1	193°44.0	22°29.5	94°36.2	12.6	-8°43.4	-14.6	58.0
2	208°43.9	22°29.3	109°07.8	12.5	-8°58.0	-14.6	58.0
3	223°43.8	22°29.0	123°39.2	12.4	-9°12.6	-14.6	58.0
4	238°43.7	22°28.7	138°10.6	12.3	-9°27.1	-14.5	58.1
5	253°43.6	22°28.4	152°41.9	12.3	-9°41.6	-14.5	58.1
6	268°43.5	22°28.1	167°13.2	12.2	-9°56.1	-14.5	58.2
7	283°43.5	22°27.8	181°44.3	12.1	-10°10.6	-14.5	58.2
8	298°43.4	22°27.6	196°15.3	12.0	-10°25.0	-14.4	58.2
9	313°43.3	22°27.3	210°46.3	11.9	-10°39.4	-14.4	58.3
10	328°43.2	22°27.0	225°17.1	11.8	-10°53.8	-14.4	58.3
11	343°43.1	22°26.7	239°47.9	11.7	-11°08.2	-14.3	58.4
12	358°43.0	22°26.4	254°18.6	11.6	-11°22.5	-14.3	58.4
13	13°42.9	22°26.1	268°49.1	11.5	-11°36.7	-14.2	58.4
14	28°42.8	22°25.8	283°19.6	11.4	-11°50.9	-14.2	58.5
15	43°42.7	22°25.5	297°50.0	11.3	-12°05.1	-14.2	58.5
16	58°42.6	22°25.3	312°20.3	11.2	-12°19.3	-14.1	58.5
17	73°42.5	22°25.0	326°50.5	11.1	-12°33.4	-14.1	58.6
18	88°42.4	22°24.7	341°20.5	11.0	-12°47.4	-14.0	58.6
19	103°42.3	22°24.4	355°50.5	10.9	-13°01.4	-14.0	58.7
20	118°42.2	22°24.1	10°20.4	10.8	-13°15.4	-13.9	58.7
21	133°42.1	22°23.8	24°50.1	10.7	-13°29.3	-13.9	58.7
22	148°42.0	22°23.5	39°19.8	10.6	-13°43.1	-13.8	58.8
23	163°41.9	22°23.2	53°49.3	10.5	-13°56.9	-13.8	58.8
	SD.=15.7	d=-0.3	S.D.=15.8				

Lat.	Crepúsculo Naut.	Crepúsculo Civil	Orto Sol	Crepúsculo Civil	Crepúsculo Naut.	Ocaso Sol
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	–:–	–:–	–:–
68	–:–	–:–	–:–	–:–	–:–	–:–
66	–:–	–:–	00:58	23:08	–:–	–:–
64	–:–	–:–	01:54	22:14	–:–	–:–
62	–:–	–:–	02:26	21:42	–:–	–:–
60	–:–	01:20	02:50	21:19	22:48	–:–
58	–:–	01:59	03:09	21:00	22:10	–:–
56	–:–	02:25	03:24	20:45	21:44	–:–
54	01:13	02:45	03:38	20:32	21:24	22:54
52	01:49	03:02	03:49	20:20	21:07	22:19
50	02:14	03:16	04:00	20:10	20:53	21:55
45	02:56	03:44	04:21	19:49	20:25	21:13
40	03:25	04:06	04:38	19:31	20:04	20:45
35	03:47	04:23	04:53	19:17	19:46	20:23
30	04:05	04:38	05:05	19:05	19:32	20:05
20	04:33	05:02	05:26	18:44	19:08	19:37
10	04:55	05:22	05:44	18:25	18:48	19:15
0	05:13	05:39	06:01	18:09	18:31	18:57
S 10	05:29	05:55	06:18	17:52	18:15	18:41
20	05:45	06:12	06:36	17:34	17:58	18:25
30	06:00	06:30	06:56	17:14	17:40	18:10
35	06:09	06:40	07:08	17:02	17:30	18:01
40	06:18	06:51	07:22	16:48	17:19	17:53
45	06:27	07:04	07:38	16:32	17:06	17:43
50	06:38	07:19	07:57	16:13	16:51	17:32
52	06:43	07:26	08:07	16:03	16:44	17:27
54	06:49	07:34	08:17	15:53	16:36	17:22
56	06:54	07:43	08:29	15:41	16:27	17:16
58	07:01	07:52	08:43	15:27	16:18	17:10
60	07:08	08:03	08:59	15:11	16:07	17:03

Lat.	Orto luna Mie	Orto luna Jue	Orto luna Vie	Ocaso luna Mie	Ocaso luna Jue	Ocaso luna Vie
N 72	11:29	13:37	16:02	23:23	22:50	22:05
70	11:30	13:28	15:38	23:26	23:02	22:31
68	11:30	13:20	15:20	23:29	23:12	22:51
66	11:30	13:14	15:06	23:32	23:20	23:07
64	11:31	13:09	14:54	23:34	23:27	23:21
62	11:31	13:05	14:44	23:35	23:33	23:32
60	11:31	13:01	14:35	23:37	23:39	23:42
58	11:31	12:57	14:28	23:38	23:43	23:50
56	11:32	12:54	14:22	23:39	23:48	23:58
54	11:32	12:52	14:16	23:41	23:51	–:–
52	11:32	12:49	14:11	23:42	23:55	–:–
50	11:32	12:47	14:06	23:42	23:58	–:–
45	11:32	12:42	13:56	23:44	–:–	00:05
40	11:33	12:38	13:47	23:46	–:–	00:10
35	11:33	12:35	13:40	23:48	–:–	00:15
30	11:33	12:32	13:34	23:49	–:–	00:20
20	11:34	12:27	13:23	23:51	–:–	00:27
10	11:34	12:23	13:14	23:53	–:–	00:34
0	11:34	12:18	13:05	23:55	–:–	00:40
S 10	11:35	12:14	12:57	23:57	–:–	00:47
20	11:35	12:10	12:48	23:59	–:–	00:54
30	11:35	12:05	12:38	–:–	00:01	01:01
35	11:36	12:03	12:32	–:–	00:02	01:06
40	11:36	11:59	12:25	–:–	00:04	01:11
45	11:36	11:56	12:17	–:–	00:06	01:17
50	11:37	11:52	12:08	–:–	00:08	01:24
52	11:37	11:50	12:04	–:–	00:09	01:27
54	11:37	11:48	11:59	–:–	00:10	01:31
56	11:37	11:45	11:54	–:–	00:11	01:35
58	11:38	11:43	11:49	–:–	00:12	01:40
60	11:38	11:40	11:42	–:–	00:13	01:45

Día	Sol Ec. tiempo 00:00 h	Sol Ec. tiempo 12:00 h	Sol Paso Merid	Luna Paso Meridiano Superior	Luna Paso Meridiano Inferior	Luna Edad
6	04:44	04:49	12:04	17:44	05:22	7(44%)
7	04:54	04:59	12:04	18:29	06:06	8(54%)
8	05:04	05:08	12:05	19:17	06:52	9(65%)

Julio 09, 10, 11 (Sa, Dom, Lun)

Sa	Aries AHG	Venus AHG	Venus Dec	Martes AHG	Martes Dec	Júpiter AHG	Júpiter Dec	Saturno AHG	Saturno Dec
0	286°54.9	208°40.8	21°56.1	255°52.1	10°41.1	278°58.1	1°58.9	319°50.6	-14°33.8
1	301°57.3	223°40.0	21°56.4	270°52.9	10°41.7	294°00.4	1°58.9	334°53.2	-14°33.8
2	316°59.8	238°39.3	21°56.8	285°53.7	10°42.3	309°02.7	1°59.0	349°55.8	-14°33.9
3	332°02.2	253°38.5	21°57.1	300°54.5	10°42.9	324°05.0	1°59.0	4°58.4	-14°33.9
4	347°04.7	268°37.8	21°57.4	315°55.4	10°43.5	339°07.4	1°59.1	20°00.9	-14°34.0
5	2°07.2	283°37.0	21°57.8	330°56.2	10°44.1	354°09.7	1°59.1	35°03.5	-14°34.0
6	17°09.6	298°36.3	21°58.1	345°57.0	10°44.7	9°12.0	1°59.2	50°06.1	-14°34.0
7	32°12.1	313°35.5	21°58.5	0°57.8	10°45.3	24°14.3	1°59.2	65°08.7	-14°34.1
8	47°14.6	328°34.8	21°58.8	15°58.6	10°45.9	39°16.6	1°59.3	80°11.3	-14°34.1
9	62°17.0	343°34.0	21°59.1	30°59.4	10°46.5	54°18.9	1°59.3	95°13.9	-14°34.2
10	77°19.5	358°33.3	21°59.5	46°00.2	10°47.1	69°21.2	1°59.4	110°16.5	-14°34.2
11	92°22.0	13°32.5	21°59.8	61°01.0	10°47.7	84°23.6	1°59.4	125°19.0	-14°34.3
12	107°24.4	28°31.7	22°00.1	76°01.8	10°48.3	99°25.9	1°59.5	140°21.6	-14°34.3
13	122°26.9	43°31.0	22°00.5	91°02.6	10°48.9	114°28.2	1°59.5	155°24.2	-14°34.4
14	137°29.4	58°30.2	22°00.8	106°03.4	10°49.5	129°30.5	1°59.6	170°26.8	-14°34.4
15	152°31.8	73°29.5	22°01.1	121°04.2	10°50.1	144°32.8	1°59.6	185°29.4	-14°34.5
16	167°34.3	88°28.7	22°01.5	136°05.0	10°50.7	159°35.2	1°59.7	200°32.0	-14°34.5
17	182°36.7	103°28.0	22°01.8	151°05.8	10°51.3	174°37.5	1°59.7	215°34.6	-14°34.6
18	197°39.2	118°27.2	22°02.1	166°06.6	10°51.9	189°39.8	1°59.8	230°37.2	-14°34.6
19	212°41.7	133°26.5	22°02.4	181°07.5	10°52.5	204°42.1	1°59.8	245°39.7	-14°34.7
20	227°44.1	148°25.7	22°02.8	196°08.3	10°53.1	219°44.4	1°59.9	260°42.3	-14°34.7
21	242°46.6	163°24.9	22°03.1	211°09.1	10°53.6	234°46.8	1°59.9	275°44.9	-14°34.8
22	257°49.1	178°24.2	22°03.4	226°09.9	10°54.2	249°49.1	2°00.0	290°47.5	-14°34.8
23	272°51.5	193°23.4	22°03.7	241°10.7	10°54.8	264°51.4	2°00.0	305°50.1	-14°34.9
Mer.pass.:4:51:		v-0.8 d0.3 m-3.8		v0.8 d0.6 m0.4		v2.3 d0.1 m-2.4		v2.6 d-0.0 m0.5	

Dom	AHG	Venus AHG	Venus Dec	Martes AHG	Martes Dec	Júpiter AHG	Júpiter Dec	Saturno AHG	Saturno Dec
0	287°54.0	208°22.7	22°04.1	256°11.5	10°55.4	279°53.7	2°00.1	320°52.7	-14°34.9
1	302°56.5	223°21.9	22°04.4	271°12.3	10°56.0	294°56.0	2°00.1	335°55.3	-14°35.0
2	317°58.9	238°21.2	22°04.7	286°13.1	10°56.6	309°58.4	2°00.2	350°57.9	-14°35.0
3	333°01.4	253°20.4	22°05.0	301°13.9	10°57.2	325°00.7	2°00.2	6°00.4	-14°35.1
4	348°03.8	268°19.6	22°05.3	316°14.7	10°57.8	340°03.0	2°00.3	21°03.0	-14°35.1
5	3°06.3	283°18.9	22°05.6	331°15.5	10°58.4	355°05.3	2°00.3	36°05.6	-14°35.2
6	18°08.8	298°18.1	22°06.0	346°16.3	10°59.0	10°07.6	2°00.4	51°08.2	-14°35.2
7	33°11.2	313°17.4	22°06.3	1°17.2	10°59.6	25°10.0	2°00.4	66°10.8	-14°35.3
8	48°13.7	328°16.6	22°06.6	16°18.0	11°00.2	40°12.3	2°00.5	81°13.4	-14°35.3
9	63°16.2	343°15.8	22°06.9	31°18.8	11°00.7	55°14.6	2°00.5	96°16.0	-14°35.4
10	78°18.6	358°15.1	22°07.2	46°19.6	11°01.3	70°16.9	2°00.5	111°18.6	-14°35.4
11	93°21.1	13°14.3	22°07.5	61°20.4	11°01.9	85°19.3	2°00.6	126°21.2	-14°35.5
12	108°23.6	28°13.6	22°07.8	76°21.2	11°02.5	100°21.6	2°00.6	141°23.8	-14°35.5
13	123°26.0	43°12.8	22°08.1	91°22.0	11°03.1	115°23.9	2°00.7	156°26.3	-14°35.6
14	138°28.5	58°12.0	22°08.4	106°22.8	11°03.7	130°26.2	2°00.7	171°28.9	-14°35.6
15	153°31.0	73°11.3	22°08.7	121°23.6	11°04.3	145°28.6	2°00.8	186°31.5	-14°35.7
16	168°33.4	88°10.5	22°09.1	136°24.4	11°04.9	160°30.9	2°00.8	201°34.1	-14°35.7
17	183°35.9	103°09.7	22°09.4	151°25.2	11°05.5	175°33.2	2°00.9	216°36.7	-14°35.8
18	198°38.3	118°09.0	22°09.7	166°26.0	11°06.1	190°35.5	2°00.9	231°39.3	-14°35.8
19	213°40.8	133°08.2	22°10.0	181°26.9	11°06.6	205°37.9	2°01.0	246°41.9	-14°35.9
20	228°43.3	148°07.5	22°10.3	196°27.7	11°07.2	220°40.2	2°01.0	261°44.5	-14°35.9
21	243°45.7	163°06.7	22°10.6	211°28.5	11°07.8	235°42.5	2°01.1	276°47.1	-14°36.0
22	258°48.2	178°05.9	22°10.9	226°29.3	11°08.4	250°44.9	2°01.1	291°49.7	-14°36.0
23	273°50.7	193°05.2	22°11.2	241°30.1	11°09.0	265°47.2	2°01.1	306°52.2	-14°36.1
Mer.pass.:4:47:		v-0.8 d0.3 m-3.8		v0.8 d0.6 m0.4		v2.3 d0.0 m-2.4		v2.6 d-0.0 m0.5	

Lun	AHG	Venus AHG	Venus Dec	Martes AHG	Martes Dec	Júpiter AHG	Júpiter Dec	Saturno AHG	Saturno Dec
0	288°53.1	208°04.4	22°11.4	256°30.9	11°09.6	280°49.5	2°01.2	321°54.8	-14°36.1
1	303°55.6	223°03.6	22°11.7	271°31.7	11°10.2	295°51.8	2°01.2	336°57.4	-14°36.2
2	318°58.1	238°02.9	22°12.0	286°32.5	11°10.8	310°54.2	2°01.3	352°00.0	-14°36.2
3	334°00.5	253°02.1	22°12.3	301°33.3	11°11.3	325°56.5	2°01.3	7°02.6	-14°36.3
4	349°03.0	268°01.3	22°12.6	316°34.1	11°11.9	340°58.8	2°01.4	22°05.2	-14°36.3
5	4°05.5	283°00.6	22°12.9	331°34.9	11°12.5	356°01.2	2°01.4	37°07.8	-14°36.4
6	19°07.9	297°59.8	22°13.2	346°35.8	11°13.1	11°03.5	2°01.5	52°10.4	-14°36.4
7	34°10.4	312°59.0	22°13.5	1°36.6	11°13.7	26°05.8	2°01.5	67°13.0	-14°36.5
8	49°12.8	327°58.3	22°13.8	16°37.4	11°14.3	41°08.1	2°01.5	82°15.6	-14°36.5
9	64°15.3	342°57.5	22°14.1	31°38.2	11°14.9	56°10.5	2°01.6	97°18.2	-14°36.6
10	79°17.8	357°56.7	22°14.4	46°39.0	11°15.4	71°12.8	2°01.6	112°20.8	-14°36.6
11	94°20.2	12°56.0	22°14.6	61°39.8	11°16.0	86°15.1	2°01.7	127°23.4	-14°36.7
12	109°22.7	27°55.2	22°14.9	76°40.6	11°16.6	101°17.5	2°01.7	142°25.9	-14°36.7
13	124°25.2	42°54.4	22°15.2	91°41.4	11°17.2	116°19.8	2°01.8	157°28.5	-14°36.8
14	139°27.6	57°53.7	22°15.5	106°42.2	11°17.8	131°22.1	2°01.8	172°31.1	-14°36.8
15	154°30.1	72°52.9	22°15.8	121°43.0	11°18.4	146°24.5	2°01.9	187°33.7	-14°36.9
16	169°32.6	87°52.1	22°16.0	136°43.9	11°19.0	161°26.8	2°01.9	202°36.3	-14°36.9
17	184°35.0	102°51.3	22°16.3	151°44.7	11°19.5	176°29.1	2°01.9	217°38.9	-14°37.0
18	199°37.5	117°50.6	22°16.6	166°45.5	11°20.1	191°31.5	2°02.0	232°41.5	-14°37.1
19	214°40.0	132°49.8	22°16.9	181°46.3	11°20.7	206°33.8	2°02.0	247°44.1	-14°37.1
20	229°42.4	147°49.0	22°17.1	196°47.1	11°21.3	221°36.1	2°02.1	262°46.7	-14°37.2
21	244°44.9	162°48.3	22°17.4	211°47.9	11°21.9	236°38.5	2°02.1	277°49.3	-14°37.2
22	259°47.3	177°47.5	22°17.7	226°48.7	11°22.5	251°40.8	2°02.2	292°51.9	-14°37.3
23	274°49.8	192°46.7	22°18.0	241°49.5	11°23.0	266°43.1	2°02.2	307°54.5	-14°37.3
Mer.pass.:4:43:		v-0.8 d0.3 m-3.8		v0.8 d0.6 m0.4		v2.3 d0.0 m-2.4		v2.6 d-0.1 m0.5	

Estrellas	AHS	Dec
Alpheratz	357°36.8	29°12.7
Ankaa	353°09.1	-42°10.8
Schedar	349°33.3	56°39.3
Diphda	348°49.2	-17°51.7
Achernar	335°21.9	-57°07.1
Hamal	327°53.6	23°34.0
Polaris	315°14.7	89°21.2
Akamar	315°13.6	-40°12.7
Menkar	314°08.5	4°10.7
Mirfak	308°31.5	49°56.2
Aldebaran	290°42.3	16°33.2
Rigel	281°06.2	-8°10.5
Capella	280°25.4	46°01.2
Bellatrix	278°25.4	6°22.2
Elnath	278°04.8	28°37.5
Alnilam	275°40.1	-1°11.2
Betelgeuse	270°54.7	7°24.7
Canopus	263°53.9	-52°42.4
Sirius	258°28.3	-16°44.6
Adara	255°07.9	-29°00.1
Procyon	244°53.2	5°10.3
Pollux	243°20.1	27°58.4
Avior	234°16.2	-59°34.9
Suhail	222°48.2	-43°31.4
Miaplacidus	221°39.5	-69°48.6
Alphard	217°50.0	-8°45.3
Regulus	207°36.8	11°51.6
Dubhe	193°43.9	61°38.1
Denebola	182°27.1	14°27.0
Gienah	175°45.8	-17°40.0
Acrux	173°02.5	-63°13.6
Gacrux	171°54.0	-57°14.5
Alioth	166°14.9	55°50.6
Spica	158°24.4	-11°16.7
Alcaid	152°53.6	49°12.4
Hadar	148°38.7	-60°29.1
Menkent	147°59.9	-36°28.9
Arcturus	145°49.5	19°04.4
Rigil Kent.	139°42.8	-60°55.9
Zubenelg.	136°58.1	-16°08.1
Kochab	137°19.3	74°04.1
Alphecca	126°05.3	26°38.6
Antares	112°18.1	-26°28.9
Atria	107°13.6	-69°04.2
Sabik	102°04.8	-15°45.1
Shaula	96°12.8	-37°07.2
Rasalhague	96°00.2	12°32.7
Etamin	90°42.6	51°29.2
Kaus Aust.	83°34.8	-34°22.4
Vega	80°34.2	38°48.3
Nunki	75°49.9	-26°16.1
Altair	62°01.7	8°55.6
Peacock	53°08.4	-56°39.6
Deneb	49°26.7	45°21.5
Enif	33°40.6	9°58.6
Alnair	27°35.2	-46°50.9
Fomalhaut	15°16.7	-29°30.1
Scheat	13°47.0	28°12.1
Markab	13°31.8	15°19.5

Jul 09 Sa	AHS	Paso Merid
Venus	281°45.9	10:06
Mars	328°57.3	06:56
Jupiter	352°03.2	05:23
Saturn	32°55.7	02:40

Jul 10 Dom	AHS	Paso Merid
Venus	280°28.7	10:07
Mars	328°17.5	06:55
Jupiter	351°59.7	05:20
Saturn	32°58.7	02:36

Jul 11 Lun	AHS	Paso Merid
Venus	279°11.3	10:08
Mars	327°37.8	06:54
Jupiter	351°56.4	05:16
Saturn	33°01.7	02:32

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.1

h	Sol		Luna				
Sa	AHG	Dec	AHG	v	Dec	d	HP
0	178°41.8	22°22.9	68°18.8	10.4	-14°10.7	-13.7	58.8
1	193°41.7	22°22.6	82°48.1	10.3	-14°24.3	-13.7	58.9
2	208°41.7	22°22.3	97°17.3	10.2	-14°38.0	-13.6	58.9
3	223°41.6	22°22.0	111°46.4	10.0	-14°51.5	-13.5	59.0
4	238°41.5	22°21.7	126°15.4	9.9	-15°05.0	-13.5	59.0
5	253°41.4	22°21.4	140°44.2	9.8	-15°18.5	-13.4	59.0
6	268°41.3	22°21.1	155°13.0	9.7	-15°31.8	-13.3	59.1
7	283°41.2	22°20.8	169°41.6	9.6	-15°45.1	-13.3	59.1
8	298°41.1	22°20.5	184°10.1	9.5	-15°58.4	-13.2	59.1
9	313°41.0	22°20.2	198°38.5	9.3	-16°11.5	-13.1	59.2
10	328°40.9	22°19.9	213°06.8	9.2	-16°24.6	-13.0	59.2
11	343°40.8	22°19.6	227°34.9	9.1	-16°37.6	-13.0	59.3
12	358°40.7	22°19.3	242°03.0	9.0	-16°50.6	-12.9	59.3
13	13°40.6	22°19.0	256°30.9	8.8	-17°03.4	-12.8	59.3
14	28°40.6	22°18.7	270°58.6	8.7	-17°16.2	-12.7	59.4
15	43°40.5	22°18.4	285°26.3	8.6	-17°28.9	-12.6	59.4
16	58°40.4	22°18.1	299°53.8	8.5	-17°41.5	-12.6	59.4
17	73°40.3	22°17.8	314°21.2	8.3	-17°54.0	-12.5	59.5
18	88°40.2	22°17.5	328°48.5	8.2	-18°06.4	-12.4	59.5
19	103°40.1	22°17.2	343°15.7	8.1	-18°18.8	-12.3	59.6
20	118°40.0	22°16.8	357°42.7	8.0	-18°31.0	-12.2	59.6
21	133°39.9	22°16.5	12°09.6	7.8	-18°43.2	-12.1	59.6
22	148°39.8	22°16.2	26°36.3	7.7	-18°55.2	-12.0	59.7
23	163°39.7	22°15.9	41°02.9	7.6	-19°07.2	-11.9	59.7
	SD.=15.7	d=-0.3	S.D.=16.1				

Dom	AHG	Dec	AHG	v	Dec	d	HP
0	178°39.7	22°15.6	55°29.4	7.4	-19°19.0	-11.8	59.7
1	193°39.6	22°15.3	69°55.8	7.3	-19°30.8	-11.7	59.8
2	208°39.5	22°15.0	84°22.0	7.2	-19°42.4	-11.6	59.8
3	223°39.4	22°14.7	98°48.1	7.0	-19°53.9	-11.5	59.8
4	238°39.3	22°14.3	113°14.1	6.9	-20°05.4	-11.4	59.9
5	253°39.2	22°14.0	127°40.0	6.8	-20°16.7	-11.3	59.9
6	268°39.1	22°13.7	142°05.7	6.6	-20°27.9	-11.1	59.9
7	283°39.0	22°13.4	156°31.2	6.5	-20°38.9	-11.0	60.0
8	298°39.0	22°13.1	170°56.7	6.4	-20°49.9	-10.9	60.0
9	313°38.9	22°12.8	185°22.0	6.2	-21°00.8	-10.8	60.0
10	328°38.8	22°12.4	199°47.1	6.1	-21°11.5	-10.7	60.1
11	343°38.7	22°12.1	214°12.2	6.0	-21°22.1	-10.5	60.1
12	358°38.6	22°11.8	228°37.1	5.8	-21°32.5	-10.4	60.1
13	13°38.5	22°11.5	243°01.9	5.7	-21°42.9	-10.3	60.2
14	28°38.4	22°11.2	257°26.5	5.6	-21°53.1	-10.1	60.2
15	43°38.3	22°10.8	271°51.0	5.4	-22°03.2	-10.0	60.2
16	58°38.3	22°10.5	286°15.4	5.3	-22°13.1	-9.9	60.3
17	73°38.2	22°10.2	300°39.6	5.2	-22°22.9	-9.7	60.3
18	88°38.1	22°09.9	315°03.7	5.0	-22°32.6	-9.6	60.3
19	103°38.0	22°09.5	329°27.7	4.9	-22°42.1	-9.4	60.4
20	118°37.9	22°09.2	343°51.6	4.8	-22°51.5	-9.3	60.4
21	133°37.8	22°08.9	358°15.3	4.7	-23°00.7	-9.2	60.4
22	148°37.8	22°08.6	12°38.9	4.5	-23°09.8	-9.0	60.4
23	163°37.7	22°08.2	27°02.3	4.4	-23°18.7	-8.9	60.5
	SD.=15.7	d=-0.3	S.D.=16.3				

Lun	AHG	Dec	AHG	v	Dec	d	HP
0	178°37.6	22°07.9	41°25.7	4.3	-23°27.5	-8.7	60.5
1	193°37.5	22°07.6	55°48.9	4.2	-23°36.1	-8.5	60.5
2	208°37.4	22°07.3	70°12.0	4.0	-23°44.6	-8.4	60.6
3	223°37.3	22°06.9	84°35.0	3.9	-23°52.9	-8.2	60.6
4	238°37.3	22°06.6	98°57.8	3.8	-24°01.0	-8.1	60.6
5	253°37.2	22°06.3	113°20.5	3.7	-24°09.0	-7.9	60.6
6	268°37.1	22°05.9	127°43.1	3.5	-24°16.8	-7.7	60.7
7	283°37.0	22°05.6	142°05.6	3.4	-24°24.5	-7.6	60.7
8	298°36.9	22°05.3	156°28.0	3.3	-24°32.0	-7.4	60.7
9	313°36.8	22°04.9	170°50.2	3.2	-24°39.3	-7.2	60.7
10	328°36.8	22°04.6	185°12.4	3.1	-24°46.4	-7.1	60.8
11	343°36.7	22°04.3	199°34.4	3.0	-24°53.4	-6.9	60.8
12	358°36.6	22°03.9	213°56.3	2.9	-25°00.2	-6.7	60.8
13	13°36.5	22°03.6	228°18.1	2.8	-25°06.8	-6.5	60.8
14	28°36.4	22°03.2	242°39.9	2.7	-25°13.2	-6.3	60.9
15	43°36.3	22°02.9	257°01.5	2.6	-25°19.5	-6.2	60.9
16	58°36.3	22°02.6	271°23.0	2.4	-25°25.5	-6.0	60.9
17	73°36.2	22°02.2	285°44.4	2.4	-25°31.4	-5.8	60.9
18	88°36.1	22°01.9	300°05.7	2.3	-25°37.1	-5.6	60.9
19	103°36.0	22°01.6	314°26.9	2.2	-25°42.6	-5.4	61.0
20	118°35.9	22°01.2	328°48.0	2.1	-25°47.9	-5.2	61.0
21	133°35.9	22°00.9	343°09.0	2.0	-25°53.1	-5.0	61.0
22	148°35.8	22°00.5	357°29.9	1.9	-25°58.0	-4.8	61.0
23	163°35.7	22°00.2	11°50.8	1.8	-26°02.7	-4.6	61.0
	SD.=15.7	d=-0.3	S.D.=16.5				

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	–:–	–:–	–:–
68	–:–	–:–	–:–	–:–	–:–	–:–
66	–:–	–:–	01:13	22:54	–:–	–:–
64	–:–	–:–	02:02	22:07	–:–	–:–
62	–:–	–:–	02:32	21:37	–:–	–:–
60	–:–	01:29	02:55	21:15	22:39	–:–
58	–:–	02:05	03:13	20:57	22:05	–:–
56	–:–	02:30	03:28	20:42	21:40	–:–
54	01:22	02:49	03:41	20:29	21:21	22:47
52	01:55	03:05	03:52	20:18	21:05	22:15
50	02:18	03:19	04:02	20:08	20:51	21:52
45	02:59	03:47	04:23	19:47	20:24	21:11
40	03:27	04:08	04:40	19:30	20:03	20:43
35	03:49	04:25	04:54	19:16	19:46	20:21
30	04:07	04:39	05:07	19:04	19:31	20:04
20	04:34	05:03	05:27	18:43	19:08	19:37
10	04:56	05:22	05:45	18:26	18:48	19:15
0	05:13	05:39	06:02	18:09	18:31	18:57
S 10	05:29	05:56	06:18	17:53	18:15	18:41
20	05:45	06:12	06:36	17:35	17:59	18:26
30	06:00	06:30	06:56	17:15	17:41	18:11
35	06:08	06:40	07:07	17:04	17:32	18:03
40	06:17	06:50	07:21	16:50	17:21	17:54
45	06:26	07:03	07:36	16:35	17:08	17:45
50	06:37	07:18	07:56	16:16	16:53	17:34
52	06:42	07:25	08:05	16:06	16:46	17:29
54	06:47	07:32	08:15	15:56	16:39	17:24
56	06:53	07:41	08:27	15:45	16:31	17:19
58	06:59	07:50	08:40	15:31	16:21	17:13
60	07:05	08:01	08:56	15:16	16:11	17:06

	Orto luna			Ocaso luna		
Lat.	Sa	Dom	Lun	Sa	Dom	Lun
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	18:29	–:–	–:–	21:29	–:–	–:–
68	17:42	–:–	–:–	22:18	–:–	–:–
66	17:12	19:54	–:–	22:49	22:07	–:–
64	16:50	19:02	–:–	23:12	23:00	–:–
62	16:32	18:30	20:33	23:31	23:33	23:42
60	16:17	18:06	19:55	23:47	23:57	–:–
58	16:05	17:47	19:28	–:–	00:00	00:17
56	15:54	17:31	19:07	–:–	00:12	00:33
54	15:45	17:18	18:49	00:04	00:22	00:47
52	15:37	17:06	18:35	00:10	00:31	00:59
50	15:29	16:56	18:22	00:16	00:39	01:10
45	15:13	16:34	17:55	00:28	00:56	01:33
40	15:00	16:17	17:34	00:38	01:10	01:51
35	14:50	16:02	17:17	00:46	01:23	02:07
30	14:40	15:50	17:02	00:54	01:33	02:20
20	14:24	15:29	16:37	01:07	01:52	02:43
10	14:10	15:10	16:15	01:18	02:08	03:03
0	13:57	14:53	15:55	01:29	02:23	03:22
S 10	13:44	14:36	15:35	01:40	02:38	03:41
20	13:30	14:18	15:14	01:52	02:54	04:01
30	13:14	13:57	14:49	02:05	03:13	04:24
35	13:05	13:45	14:35	02:13	03:24	04:38
40	12:55	13:32	14:18	02:22	03:36	04:54
45	12:43	13:15	13:58	02:32	03:51	05:13
50	12:29	12:56	13:33	02:45	04:10	05:37
52	12:22	12:46	13:21	02:51	04:19	05:48
54	12:15	12:36	13:08	02:57	04:28	06:01
56	12:06	12:24	12:52	03:05	04:39	06:16
58	11:57	12:11	12:34	03:13	04:52	06:34
60	11:47	11:55	12:11	03:22	05:07	06:56

Día	Sol			Luna		
	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
9	05:13	05:17	12:05	20:09	07:42	10(75%)
10	05:21	05:26	12:05	21:07	08:37	11(85%)
11	05:30	05:34	12:05	22:10	09:38	12(92%)

Julio 12, 13, 14 (Mar, Mie, Jue)

	Aries	Venus		Martes		Júpiter		Saturno	
Mar	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	289°52.3	207°45.9	22°18.2	256°50.3	11°23.6	281°45.5	2°02.2	322°57.1	-14°37.4
1	304°54.7	222°45.2	22°18.5	271°51.1	11°24.2	296°47.8	2°02.3	337°59.7	-14°37.4
2	319°57.2	237°44.4	22°18.8	286°52.0	11°24.8	311°50.1	2°02.3	353°02.3	-14°37.5
3	334°59.7	252°43.6	22°19.0	301°52.8	11°25.4	326°52.5	2°02.4	8°04.8	-14°37.5
4	350°02.1	267°42.9	22°19.3	316°53.6	11°25.9	341°54.8	2°02.4	23°07.4	-14°37.6
5	5°04.6	282°42.1	22°19.6	331°54.4	11°26.5	356°57.1	2°02.4	38°10.0	-14°37.6
6	20°07.1	297°41.3	22°19.8	346°55.2	11°27.1	11°59.5	2°02.5	53°12.6	-14°37.7
7	35°09.5	312°40.5	22°20.1	1°56.0	11°27.7	27°01.8	2°02.5	68°15.2	-14°37.7
8	50°12.0	327°39.8	22°20.4	16°56.8	11°28.3	42°04.2	2°02.6	83°17.8	-14°37.8
9	65°14.5	342°39.0	22°20.6	31°57.6	11°28.9	57°06.5	2°02.6	98°20.4	-14°37.8
10	80°16.9	357°38.2	22°20.9	46°58.4	11°29.4	72°08.8	2°02.7	113°23.0	-14°37.9
11	95°19.4	12°37.4	22°21.1	61°59.3	11°30.0	87°11.2	2°02.7	128°25.6	-14°37.9
12	110°21.8	27°36.7	22°21.4	77°00.1	11°30.6	102°13.5	2°02.7	143°28.2	-14°38.0
13	125°24.3	42°35.9	22°21.7	92°00.9	11°31.2	117°15.8	2°02.8	158°30.8	-14°38.0
14	140°26.8	57°35.1	22°21.9	107°01.7	11°31.8	132°18.2	2°02.8	173°33.4	-14°38.1
15	155°29.2	72°34.3	22°22.2	122°02.5	11°32.3	147°20.5	2°02.9	188°36.0	-14°38.1
16	170°31.7	87°33.6	22°22.4	137°03.3	11°32.9	162°22.9	2°02.9	203°38.6	-14°38.2
17	185°34.2	102°32.8	22°22.7	152°04.1	11°33.5	177°25.2	2°02.9	218°41.2	-14°38.2
18	200°36.6	117°32.0	22°22.9	167°04.9	11°34.1	192°27.5	2°03.0	233°43.8	-14°38.3
19	215°39.1	132°31.2	22°23.2	182°05.7	11°34.6	207°29.9	2°03.0	248°46.4	-14°38.3
20	230°41.6	147°30.4	22°23.4	197°06.6	11°35.2	222°32.2	2°03.1	263°49.0	-14°38.4
21	245°44.0	162°29.7	22°23.7	212°07.4	11°35.8	237°34.6	2°03.1	278°51.6	-14°38.4
22	260°46.5	177°28.9	22°23.9	227°08.2	11°36.4	252°36.9	2°03.1	293°54.2	-14°38.5
23	275°49.0	192°28.1	22°24.2	242°09.0	11°37.0	267°39.2	2°03.2	308°56.8	-14°38.5
Mer.pass.:4:39:		v-0.8 d0.3 m-3.8		v0.8 d0.6 m0.4		v2.3 d0.0 m-2.4		v2.6 d-0.1 m0.5	

Mie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	290°51.4	207°27.3	22°24.4	257°09.8	11°37.5	282°41.6	2°03.2	323°59.4	-14°38.6
1	305°53.9	222°26.5	22°24.6	272°10.6	11°38.1	297°43.9	2°03.2	339°02.0	-14°38.7
2	320°56.3	237°25.8	22°24.9	287°11.4	11°38.7	312°46.3	2°03.3	354°04.6	-14°38.7
3	335°58.8	252°25.0	22°25.1	302°12.2	11°39.3	327°48.6	2°03.3	9°07.2	-14°38.8
4	351°01.3	267°24.2	22°25.4	317°13.1	11°39.8	342°51.0	2°03.4	24°09.7	-14°38.8
5	6°03.7	282°23.4	22°25.6	332°13.9	11°40.4	357°53.3	2°03.4	39°12.3	-14°38.9
6	21°06.2	297°22.6	22°25.9	347°14.7	11°41.0	12°55.6	2°03.4	54°14.9	-14°38.9
7	36°08.7	312°21.9	22°26.1	2°15.5	11°41.6	27°58.0	2°03.5	69°17.5	-14°39.0
8	51°11.1	327°21.1	22°26.3	17°16.3	11°42.1	43°00.3	2°03.5	84°20.1	-14°39.0
9	66°13.6	342°20.3	22°26.6	32°17.1	11°42.7	58°02.7	2°03.6	99°22.7	-14°39.1
10	81°16.1	357°19.5	22°26.8	47°17.9	11°43.3	73°05.0	2°03.6	114°25.3	-14°39.1
11	96°18.5	12°18.7	22°27.0	62°18.7	11°43.9	88°07.4	2°03.6	129°27.9	-14°39.2
12	111°21.0	27°18.0	22°27.3	77°19.6	11°44.4	103°09.7	2°03.7	144°30.5	-14°39.2
13	126°23.5	42°17.2	22°27.5	92°20.4	11°45.0	118°12.1	2°03.7	159°33.1	-14°39.3
14	141°25.9	57°16.4	22°27.7	107°21.2	11°45.6	133°14.4	2°03.7	174°35.7	-14°39.3
15	156°28.4	72°15.6	22°27.9	122°22.0	11°46.2	148°16.8	2°03.8	189°38.3	-14°39.4
16	171°30.8	87°14.8	22°28.2	137°22.8	11°46.7	163°19.1	2°03.8	204°40.9	-14°39.4
17	186°33.3	102°14.0	22°28.4	152°23.6	11°47.3	178°21.4	2°03.9	219°43.5	-14°39.5
18	201°35.8	117°13.3	22°28.6	167°24.4	11°47.9	193°23.8	2°03.9	234°46.1	-14°39.5
19	216°38.2	132°12.5	22°28.9	182°25.3	11°48.5	208°26.1	2°03.9	249°48.7	-14°39.6
20	231°40.7	147°11.7	22°29.1	197°26.1	11°49.0	223°28.5	2°04.0	264°51.3	-14°39.7
21	246°43.2	162°10.9	22°29.3	212°26.9	11°49.6	238°30.8	2°04.0	279°53.9	-14°39.7
22	261°45.6	177°10.1	22°29.5	227°27.7	11°50.2	253°33.2	2°04.0	294°56.5	-14°39.8
23	276°48.1	192°09.3	22°29.7	242°28.5	11°50.7	268°35.5	2°04.1	309°59.1	-14°39.8
Mer.pass.:4:35:		v-0.8 d0.2 m-3.8		v0.8 d0.6 m0.3		v2.3 d0.0 m-2.4		v2.6 d-0.1 m0.5	

Jue	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	291°50.6	207°08.6	22°30.0	257°29.3	11°51.3	283°37.9	2°04.1	325°01.7	-14°39.9
1	306°53.0	222°07.8	22°30.2	272°30.1	11°51.9	298°40.2	2°04.1	340°04.3	-14°39.9
2	321°55.5	237°07.0	22°30.4	287°30.9	11°52.5	313°42.6	2°04.2	355°06.9	-14°40.0
3	336°58.0	252°06.2	22°30.6	302°31.8	11°53.0	328°44.9	2°04.2	10°09.5	-14°40.0
4	352°00.4	267°05.4	22°30.8	317°32.6	11°53.6	343°47.3	2°04.3	25°12.1	-14°40.1
5	7°02.9	282°04.6	22°31.0	332°33.4	11°54.2	358°49.6	2°04.3	40°14.7	-14°40.1
6	22°05.3	297°03.8	22°31.2	347°34.2	11°54.7	13°52.0	2°04.3	55°17.3	-14°40.2
7	37°07.8	312°03.1	22°31.5	2°35.0	11°55.3	28°54.3	2°04.4	70°19.9	-14°40.2
8	52°10.3	327°02.3	22°31.7	17°35.8	11°55.9	43°56.7	2°04.4	85°22.5	-14°40.3
9	67°12.7	342°01.5	22°31.9	32°36.6	11°56.5	58°59.0	2°04.4	100°25.1	-14°40.3
10	82°15.2	357°00.7	22°32.1	47°37.5	11°57.0	74°01.4	2°04.5	115°27.7	-14°40.4
11	97°17.7	11°59.9	22°32.3	62°38.3	11°57.6	89°03.7	2°04.5	130°30.3	-14°40.4
12	112°20.1	26°59.1	22°32.5	77°39.1	11°58.2	104°06.1	2°04.5	145°32.9	-14°40.5
13	127°22.6	41°58.3	22°32.7	92°39.9	11°58.7	119°08.4	2°04.6	160°35.5	-14°40.6
14	142°25.1	56°57.5	22°32.9	107°40.7	11°59.3	134°10.8	2°04.6	175°38.1	-14°40.6
15	157°27.5	71°56.8	22°33.1	122°41.5	11°59.9	149°13.2	2°04.6	190°40.7	-14°40.7
16	172°30.0	86°56.0	22°33.3	137°42.3	12°00.4	164°15.5	2°04.7	205°43.3	-14°40.7
17	187°32.5	101°55.2	22°33.5	152°43.2	12°01.0	179°17.9	2°04.7	220°45.9	-14°40.8
18	202°34.9	116°54.4	22°33.7	167°44.0	12°01.6	194°20.2	2°04.7	235°48.5	-14°40.8
19	217°37.4	131°53.6	22°33.9	182°44.8	12°02.1	209°22.6	2°04.8	250°51.1	-14°40.9
20	232°39.8	146°52.8	22°34.1	197°45.6	12°02.7	224°24.9	2°04.8	265°53.7	-14°40.9
21	247°42.3	161°52.0	22°34.3	212°46.4	12°03.3	239°27.3	2°04.8	280°56.3	-14°41.0
22	262°44.8	176°51.2	22°34.5	227°47.2	12°03.8	254°29.6	2°04.9	295°58.9	-14°41.0
23	277°47.2	191°50.4	22°34.7	242°48.1	12°04.4	269°32.0	2°04.9	311°01.5	-14°41.1
Mer.pass.:4:31:		v-0.8 d0.2 m-3.8		v0.8 d0.6 m0.3		v2.3 d0.0 m-2.4		v2.6 d-0.1 m0.5	

Estrellas

	AHS	Dec
Alpheratz	357°36.8	29°12.7
Ankaa	353°09.1	-42°10.8
Schedar	349°33.3	56°39.3
Diphda	348°49.2	-17°51.7
Achernar	335°21.8	-57°07.1
Hamal	327°53.6	23°34.0
Polaris	315°13.0	89°21.2
Akamar	315°13.5	-40°12.7
Menkar	314°08.4	4°10.7
Mirfak	308°31.5	49°56.2
Aldebaran	290°42.3	16°33.2
Rigel	281°06.1	-8°10.5
Capella	280°25.4	46°01.2
Bellatrix	278°25.4	6°22.2
Elnath	278°04.8	28°37.5
Alnilam	275°40.1	-1°11.2
Betelgeuse	270°54.6	7°24.7
Canopus	263°53.9	-52°42.3
Sirius	258°28.3	-16°44.6
Adara	255°07.8	-29°00.1
Procyon	244°53.2	5°10.3
Pollux	243°20.1	27°58.4
Avior	234°16.2	-59°34.9
Suhail	222°48.2	-43°31.4
Miaplacidus	221°39.5	-69°48.6
Alphard	217°50.0	-8°45.3
Regulus	207°36.8	11°51.6
Dubhe	193°43.9	61°38.1
Denebola	182°27.1	14°27.0
Gienah	175°45.8	-17°40.0
Acrux	173°02.5	-63°13.6
Gacrux	171°54.0	-57°14.5
Alioth	166°14.9	55°50.6
Spica	158°24.4	-11°16.7
Alcaid	152°53.6	49°12.4
Hadar	148°38.7	-60°29.1
Menkent	147°59.9	-36°28.9
Arcturus	145°49.5	19°04.4
Rigil Kent.	139°42.8	-60°55.9
Zubenelg.	136°58.1	-16°08.1
Kochab	137°19.3	74°04.1
Alphecca	126°05.3	26°38.6
Antares	112°18.1	-26°28.9
Atria	107°13.6	-69°04.2
Sabik	102°04.8	-15°45.1
Shaula	96°12.8	-37°07.2
Rasalhague	96°00.2	12°32.7
Etamin	90°42.6	51°29.3
Kaus Aust.	83°34.8	-34°22.4
Vega	80°34.2	38°48.3
Nunki	75°49.9	-26°16.1
Altair	62°01.7	8°55.6
Peacock	53°08.4	-56°39.7
Deneb	49°26.7	45°21.5
Enif	33°40.5	9°58.6
Alnair	27°35.2	-46°50.9
Fomalhaut	15°16.6	-29°30.0
Scheat	13°47.0	28°12.1
Markab	13°31.8	15°19.5

Jul 12 Mar	AHS	Paso Merid
Venus	277°53.7	10:09
Mars	326°58.1	06:52
Jupiter	351°53.2	05:12
Saturn	33°04.8	02:28

Jul 13 Mie	AHS	Paso Merid
Venus	276°35.9	10:11
Mars	326°18.4	06:51
Jupiter	351°50.2	05:08
Saturn	33°07.9	02:24

Jul 14 Jue	AHS	Paso Merid
Venus	275°18.0	10:12
Mars	325°38.8	06:50
Jupiter	351°47.3	05:05
Saturn	33°11.2	02:19

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.1

h	Sol		Luna				
Mar	AHG	Dec	AHG	v	Dec	d	HP
0	178°35.6	21°59.8	26°11.6	1.7	-26°07.3	-4.4	61.1
1	193°35.6	21°59.5	40°32.3	1.7	-26°11.6	-4.2	61.1
2	208°35.5	21°59.1	54°52.9	1.6	-26°15.7	-4.0	61.1
3	223°35.4	21°58.8	69°13.4	1.5	-26°19.7	-3.8	61.1
4	238°35.3	21°58.5	83°33.9	1.4	-26°23.4	-3.6	61.1
5	253°35.2	21°58.1	97°54.3	1.4	-26°27.0	-3.4	61.1
6	268°35.2	21°57.8	112°14.6	1.3	-26°30.3	-3.2	61.2
7	283°35.1	21°57.4	126°34.9	1.2	-26°33.4	-3.0	61.2
8	298°35.0	21°57.1	140°55.1	1.2	-26°36.3	-2.8	61.2
9	313°34.9	21°56.7	155°15.2	1.1	-26°39.0	-2.6	61.2
10	328°34.8	21°56.4	169°35.3	1.1	-26°41.6	-2.4	61.2
11	343°34.8	21°56.0	183°55.4	1.0	-26°43.8	-2.2	61.2
12	358°34.7	21°55.7	198°15.4	1.0	-26°45.9	-2.0	61.2
13	13°34.6	21°55.3	212°35.4	0.9	-26°47.8	-1.8	61.3
14	28°34.5	21°55.0	226°55.3	0.9	-26°49.5	-1.6	61.3
15	43°34.5	21°54.6	241°15.2	0.9	-26°50.9	-1.3	61.3
16	58°34.4	21°54.3	255°35.0	0.8	-26°52.2	-1.1	61.3
17	73°34.3	21°53.9	269°54.8	0.8	-26°53.2	-0.9	61.3
18	88°34.2	21°53.5	284°14.6	0.8	-26°54.0	-0.7	61.3
19	103°34.2	21°53.2	298°34.4	0.8	-26°54.6	-0.5	61.3
20	118°34.1	21°52.8	312°54.2	0.8	-26°55.0	-0.3	61.3
21	133°34.0	21°52.5	327°13.9	0.7	-26°55.2	-0.1	61.3
22	148°33.9	21°52.1	341°33.7	0.7	-26°55.1	0.2	61.3
23	163°33.9	21°51.8	355°53.4	0.7	-26°54.9	0.4	61.3
	SD.=15.7	d=-0.3			S.D.=16.7		

Mie	AHG	Dec	AHG	v	Dec	d	HP
0	178°33.8	21°51.4	10°13.1	0.7	-26°54.4	0.6	61.3
1	193°33.7	21°51.0	24°32.8	0.7	-26°53.7	0.8	61.4
2	208°33.6	21°50.7	38°52.5	0.7	-26°52.8	1.0	61.4
3	223°33.6	21°50.3	53°12.3	0.7	-26°51.7	1.2	61.4
4	238°33.5	21°50.0	67°32.0	0.7	-26°50.3	1.4	61.4
5	253°33.4	21°49.6	81°51.8	0.8	-26°48.8	1.7	61.4
6	268°33.3	21°49.2	96°11.5	0.8	-26°47.0	1.9	61.4
7	283°33.3	21°48.9	110°31.3	0.8	-26°45.1	2.1	61.4
8	298°33.2	21°48.5	124°51.1	0.8	-26°42.9	2.3	61.4
9	313°33.1	21°48.1	139°11.0	0.9	-26°40.5	2.5	61.4
10	328°33.1	21°47.8	153°30.8	0.9	-26°37.8	2.7	61.4
11	343°33.0	21°47.4	167°50.7	0.9	-26°35.0	2.9	61.4
12	358°32.9	21°47.0	182°10.7	1.0	-26°32.0	3.1	61.4
13	13°32.8	21°46.7	196°30.6	1.0	-26°28.7	3.4	61.4
14	28°32.8	21°46.3	210°50.7	1.0	-26°25.3	3.6	61.4
15	43°32.7	21°45.9	225°10.7	1.1	-26°21.6	3.8	61.4
16	58°32.6	21°45.6	239°30.9	1.1	-26°17.7	4.0	61.4
17	73°32.6	21°45.2	253°51.0	1.2	-26°13.7	4.2	61.4
18	88°32.5	21°44.8	268°11.3	1.3	-26°09.4	4.4	61.4
19	103°32.4	21°44.4	282°31.6	1.3	-26°04.9	4.6	61.3
20	118°32.3	21°44.1	296°51.9	1.4	-26°00.2	4.8	61.3
21	133°32.3	21°43.7	311°12.3	1.5	-25°55.3	5.0	61.3
22	148°32.2	21°43.3	325°32.8	1.5	-25°50.2	5.2	61.3
23	163°32.1	21°43.0	339°53.4	1.6	-25°44.9	5.4	61.3
	SD.=15.7	d=-0.4			S.D.=16.7		

Jue	AHG	Dec	AHG	v	Dec	d	HP
0	178°32.1	21°42.6	354°14.0	1.7	-25°39.4	5.6	61.3
1	193°32.0	21°42.2	8°34.8	1.8	-25°33.7	5.8	61.3
2	208°31.9	21°41.8	22°55.5	1.8	-25°27.8	6.0	61.3
3	223°31.9	21°41.4	37°16.4	1.9	-25°21.8	6.2	61.3
4	238°31.8	21°41.1	51°37.4	2.0	-25°15.5	6.4	61.3
5	253°31.7	21°40.7	65°58.4	2.1	-25°09.0	6.6	61.3
6	268°31.7	21°40.3	80°19.6	2.2	-25°02.4	6.7	61.2
7	283°31.6	21°39.9	94°40.8	2.3	-24°55.5	6.9	61.2
8	298°31.5	21°39.6	109°02.1	2.4	-24°48.5	7.1	61.2
9	313°31.5	21°39.2	123°23.6	2.5	-24°41.3	7.3	61.2
10	328°31.4	21°38.8	137°45.1	2.6	-24°33.9	7.5	61.2
11	343°31.3	21°38.4	152°06.7	2.7	-24°26.3	7.7	61.2
12	358°31.3	21°38.0	166°28.5	2.8	-24°18.6	7.8	61.2
13	13°31.2	21°37.6	180°50.3	2.9	-24°10.6	8.0	61.1
14	28°31.1	21°37.3	195°12.2	3.0	-24°02.5	8.2	61.1
15	43°31.1	21°36.9	209°34.3	3.1	-23°54.2	8.4	61.1
16	58°31.0	21°36.5	223°56.5	3.2	-23°45.8	8.5	61.1
17	73°30.9	21°36.1	238°18.7	3.3	-23°37.2	8.7	61.1
18	88°30.9	21°35.7	252°41.1	3.4	-23°28.4	8.9	61.1
19	103°30.8	21°35.3	267°03.6	3.6	-23°19.4	9.0	61.0
20	118°30.7	21°34.9	281°26.2	3.7	-23°10.3	9.2	61.0
21	133°30.7	21°34.6	295°49.0	3.8	-23°01.0	9.4	61.0
22	148°30.6	21°34.2	310°11.8	3.9	-22°51.6	9.5	61.0
23	163°30.5	21°33.8	324°34.8	4.0	-22°42.0	9.7	61.0
	SD.=15.7	d=-0.4			S.D.=16.7		

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	–:–	–:–	–:–
68	–:–	–:–	–:–	–:–	–:–	–:–
66	–:–	–:–	01:26	22:41	–:–	–:–
64	–:–	–:–	02:10	22:00	–:–	–:–
62	–:–	00:31	02:38	21:32	23:31	–:–
60	–:–	01:38	03:00	21:10	22:31	–:–
58	–:–	02:11	03:17	20:53	21:59	–:–
56	00:28	02:35	03:32	20:39	21:35	23:34
54	01:30	02:54	03:45	20:26	21:17	22:39
52	02:01	03:09	03:56	20:15	21:01	22:09
50	02:23	03:23	04:05	20:06	20:48	21:47
45	03:02	03:50	04:26	19:45	20:21	21:08
40	03:30	04:10	04:42	19:29	20:01	20:41
35	03:51	04:27	04:56	19:15	19:44	20:20
30	04:08	04:41	05:08	19:03	19:30	20:03
20	04:35	05:04	05:28	18:43	19:07	19:36
10	04:56	05:23	05:46	18:26	18:48	19:15
0	05:14	05:40	06:02	18:09	18:32	18:58
S 10	05:30	05:56	06:18	17:53	18:16	18:42
20	05:45	06:12	06:35	17:36	18:00	18:27
30	05:59	06:29	06:55	17:17	17:43	18:12
35	06:07	06:39	07:06	17:05	17:33	18:04
40	06:16	06:49	07:19	16:52	17:23	17:56
45	06:25	07:02	07:35	16:37	17:10	17:47
50	06:35	07:16	07:53	16:18	16:56	17:37
52	06:40	07:23	08:02	16:10	16:49	17:32
54	06:45	07:30	08:12	16:00	16:42	17:27
56	06:50	07:38	08:24	15:48	16:34	17:22
58	06:56	07:47	08:36	15:36	16:25	17:16
60	07:03	07:57	08:52	15:20	16:15	17:09

	Orto luna			Ocaso luna		
Lat.	Mar	Mie	Jue	Mar	Mie	Jue
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	–:–	–:–	–:–
68	–:–	–:–	–:–	–:–	–:–	–:–
66	–:–	–:–	–:–	–:–	–:–	–:–
64	–:–	23:55	23:21	–:–	–:–	01:01
62	22:11	22:45	22:52	–:–	00:24	02:11
60	21:22	22:09	22:29	00:20	01:13	02:46
58	20:51	21:43	22:11	00:47	01:44	03:12
56	20:27	21:22	21:56	01:09	02:08	03:32
54	20:08	21:05	21:42	01:26	02:27	03:49
52	19:52	20:50	21:31	01:42	02:43	04:04
50	19:38	20:37	21:20	01:55	02:57	04:16
45	19:09	20:11	20:58	02:22	03:25	04:42
40	18:47	19:50	20:41	02:43	03:48	05:02
35	18:29	19:32	20:26	03:01	04:06	05:19
30	18:13	19:17	20:13	03:16	04:22	05:34
20	17:46	18:51	19:51	03:43	04:49	05:59
10	17:23	18:29	19:31	04:05	05:12	06:20
0	17:01	18:08	19:13	04:26	05:33	06:40
S 10	16:40	17:48	18:55	04:47	05:55	06:59
20	16:17	17:25	18:35	05:10	06:17	07:20
30	15:50	16:59	18:13	05:36	06:44	07:44
35	15:34	16:44	17:59	05:51	07:00	07:58
40	15:16	16:26	17:44	06:09	07:18	08:15
45	14:54	16:05	17:26	06:31	07:39	08:34
50	14:27	15:38	17:03	06:58	08:07	08:58
52	14:13	15:25	16:52	07:12	08:20	09:09
54	13:58	15:10	16:39	07:27	08:35	09:22
56	13:39	14:52	16:25	07:45	08:54	09:37
58	13:17	14:30	16:08	08:07	09:15	09:55
60	12:48	14:02	15:47	08:36	09:43	10:16

	Sol			Luna		
Día	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
12	05:38	05:41	12:05	23:17	10:43	13(97%)
13	05:45	05:48	12:05	00:24	11:50	14(100%)
14	05:52	05:55	12:05	00:24	12:56	15(99%)

Julio 15, 16, 17 (Vie, Sa, Dom)

	Aries	Venus		Martes		Júpiter		Saturno	
Vie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	292°49.7	206°49.6	22°34.9	257°48.9	12°05.0	284°34.3	2°04.9	326°04.1	-14°41.1
1	307°52.2	221°48.9	22°35.1	272°49.7	12°05.5	299°36.7	2°05.0	341°06.7	-14°41.2
2	322°54.6	236°48.1	22°35.3	287°50.5	12°06.1	314°39.1	2°05.0	356°09.3	-14°41.3
3	337°57.1	251°47.3	22°35.5	302°51.3	12°06.7	329°41.4	2°05.0	11°12.0	-14°41.3
4	352°59.6	266°46.5	22°35.6	317°52.1	12°07.2	344°43.8	2°05.1	26°14.6	-14°41.4
5	8°02.0	281°45.7	22°35.8	332°52.9	12°07.8	359°46.1	2°05.1	41°17.2	-14°41.4
6	23°04.5	296°44.9	22°36.0	347°53.8	12°08.4	14°48.5	2°05.1	56°19.8	-14°41.5
7	38°06.9	311°44.1	22°36.2	2°54.6	12°08.9	29°50.9	2°05.2	71°22.4	-14°41.5
8	53°09.4	326°43.3	22°36.4	17°55.4	12°09.5	44°53.2	2°05.2	86°25.0	-14°41.6
9	68°11.9	341°42.5	22°36.6	32°56.2	12°10.1	59°55.6	2°05.2	101°27.6	-14°41.6
10	83°14.3	356°41.7	22°36.7	47°57.0	12°10.6	74°57.9	2°05.3	116°30.2	-14°41.7
11	98°16.8	11°40.9	22°36.9	62°57.8	12°11.2	90°00.3	2°05.3	131°32.8	-14°41.7
12	113°19.3	26°40.1	22°37.1	77°58.7	12°11.8	105°02.6	2°05.3	146°35.4	-14°41.8
13	128°21.7	41°39.3	22°37.3	92°59.5	12°12.3	120°05.0	2°05.4	161°38.0	-14°41.8
14	143°24.2	56°38.5	22°37.5	108°00.3	12°12.9	135°07.4	2°05.4	176°40.6	-14°41.9
15	158°26.7	71°37.8	22°37.6	123°01.1	12°13.4	150°09.7	2°05.4	191°43.2	-14°42.0
16	173°29.1	86°37.0	22°37.8	138°01.9	12°14.0	165°12.1	2°05.4	206°45.8	-14°42.0
17	188°31.6	101°36.2	22°38.0	153°02.7	12°14.6	180°14.4	2°05.5	221°48.4	-14°42.1
18	203°34.1	116°35.4	22°38.2	168°03.6	12°15.1	195°16.8	2°05.5	236°51.0	-14°42.1
19	218°36.5	131°34.6	22°38.3	183°04.4	12°15.7	210°19.2	2°05.5	251°53.6	-14°42.2
20	233°39.0	146°33.8	22°38.5	198°05.2	12°16.3	225°21.5	2°05.6	266°56.2	-14°42.2
21	248°41.4	161°33.0	22°38.7	213°06.0	12°16.8	240°23.9	2°05.6	281°58.8	-14°42.3
22	263°43.9	176°32.2	22°38.8	228°06.8	12°17.4	255°26.3	2°05.6	297°01.4	-14°42.3
23	278°46.4	191°31.4	22°39.0	243°07.6	12°17.9	270°28.6	2°05.7	312°04.0	-14°42.4
Mer.pass.:4:27:		v-0.8 d0.2 m-3.8		v0.8 d0.6 m0.3		v2.4 d0.0 m-2.4		v2.6 d-0.1 m0.5	

Sa	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	293°48.8	206°30.6	22°39.2	258°08.5	12°18.5	285°31.0	2°05.7	327°06.6	-14°42.4
1	308°51.3	221°29.8	22°39.3	273°09.3	12°19.1	300°33.3	2°05.7	342°09.2	-14°42.5
2	323°53.8	236°29.0	22°39.5	288°10.1	12°19.6	315°35.7	2°05.7	357°11.8	-14°42.6
3	338°56.2	251°28.2	22°39.7	303°10.9	12°20.2	330°38.1	2°05.8	12°14.4	-14°42.6
4	353°58.7	266°27.4	22°39.8	318°11.7	12°20.7	345°40.4	2°05.8	27°17.1	-14°42.7
5	9°01.2	281°26.6	22°40.0	333°12.5	12°21.3	0°42.8	2°05.8	42°19.7	-14°42.7
6	24°03.6	296°25.8	22°40.2	348°13.4	12°21.9	15°45.2	2°05.9	57°22.3	-14°42.8
7	39°06.1	311°25.0	22°40.3	3°14.2	12°22.4	30°47.5	2°05.9	72°24.9	-14°42.8
8	54°08.6	326°24.2	22°40.5	18°15.0	12°23.0	45°49.9	2°05.9	87°27.5	-14°42.9
9	69°11.0	341°23.4	22°40.6	33°15.8	12°23.5	60°52.3	2°05.9	102°30.1	-14°42.9
10	84°13.5	356°22.6	22°40.8	48°16.6	12°24.1	75°54.6	2°06.0	117°32.7	-14°43.0
11	99°15.9	11°21.8	22°40.9	63°17.4	12°24.7	90°57.0	2°06.0	132°35.3	-14°43.0
12	114°18.4	26°21.0	22°41.1	78°18.3	12°25.2	105°59.4	2°06.0	147°37.9	-14°43.1
13	129°20.9	41°20.2	22°41.2	93°19.1	12°25.8	121°01.7	2°06.1	162°40.5	-14°43.2
14	144°23.3	56°19.4	22°41.4	108°19.9	12°26.3	136°04.1	2°06.1	177°43.1	-14°43.2
15	159°25.8	71°18.6	22°41.5	123°20.7	12°26.9	151°06.5	2°06.1	192°45.7	-14°43.3
16	174°28.3	86°17.8	22°41.7	138°21.5	12°27.4	166°08.8	2°06.1	207°48.3	-14°43.3
17	189°30.7	101°17.0	22°41.8	153°22.4	12°28.0	181°11.2	2°06.2	222°50.9	-14°43.4
18	204°33.2	116°16.2	22°42.0	168°23.2	12°28.6	196°13.6	2°06.2	237°53.5	-14°43.4
19	219°35.7	131°15.4	22°42.1	183°24.0	12°29.1	211°15.9	2°06.2	252°56.1	-14°43.5
20	234°38.1	146°14.6	22°42.3	198°24.8	12°29.7	226°18.3	2°06.3	267°58.8	-14°43.5
21	249°40.6	161°13.8	22°42.4	213°25.6	12°30.2	241°20.7	2°06.3	283°01.4	-14°43.6
22	264°43.0	176°13.0	22°42.6	228°26.5	12°30.8	256°23.1	2°06.3	298°04.0	-14°43.7
23	279°45.5	191°12.2	22°42.7	243°27.3	12°31.3	271°25.4	2°06.3	313°06.6	-14°43.7
Mer.pass.:4:24:		v-0.8 d0.2 m-3.8		v0.8 d0.6 m0.3		v2.4 d0.0 m-2.4		v2.6 d-0.1 m0.5	

Dom	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	294°48.0	206°11.4	22°42.8	258°28.1	12°31.9	286°27.8	2°06.4	328°09.2	-14°43.8
1	309°50.4	221°10.6	22°43.0	273°28.9	12°32.4	301°30.2	2°06.4	343°11.8	-14°43.8
2	324°52.9	236°09.8	22°43.1	288°29.7	12°33.0	316°32.5	2°06.4	358°14.4	-14°43.9
3	339°55.4	251°09.0	22°43.3	303°30.5	12°33.6	331°34.9	2°06.4	13°17.0	-14°43.9
4	354°57.8	266°08.2	22°43.4	318°31.4	12°34.1	346°37.3	2°06.5	28°19.6	-14°44.0
5	10°00.3	281°07.4	22°43.5	333°32.2	12°34.7	1°39.7	2°06.5	43°22.2	-14°44.0
6	25°02.8	296°06.6	22°43.7	348°33.0	12°35.2	16°42.0	2°06.5	58°24.8	-14°44.1
7	40°05.2	311°05.8	22°43.8	3°33.8	12°35.8	31°44.4	2°06.5	73°27.4	-14°44.2
8	55°07.7	326°05.0	22°43.9	18°34.6	12°36.3	46°46.8	2°06.6	88°30.0	-14°44.2
9	70°10.2	341°04.2	22°44.0	33°35.5	12°36.9	61°49.1	2°06.6	103°32.7	-14°44.3
10	85°12.6	356°03.4	22°44.2	48°36.3	12°37.4	76°51.5	2°06.6	118°35.3	-14°44.3
11	100°15.1	11°02.6	22°44.3	63°37.1	12°38.0	91°53.9	2°06.6	133°37.9	-14°44.4
12	115°17.5	26°01.8	22°44.4	78°37.9	12°38.5	106°56.3	2°06.7	148°40.5	-14°44.4
13	130°20.0	41°01.0	22°44.6	93°38.7	12°39.1	121°58.6	2°06.7	163°43.1	-14°44.5
14	145°22.5	56°00.2	22°44.7	108°39.6	12°39.6	137°01.0	2°06.7	178°45.7	-14°44.5
15	160°24.9	70°59.4	22°44.8	123°40.4	12°40.2	152°03.4	2°06.7	193°48.3	-14°44.6
16	175°27.4	85°58.6	22°44.9	138°41.2	12°40.7	167°05.8	2°06.8	208°50.9	-14°44.7
17	190°29.9	100°57.8	22°45.0	153°42.0	12°41.3	182°08.1	2°06.8	223°53.5	-14°44.7
18	205°32.3	115°57.0	22°45.2	168°42.8	12°41.8	197°10.5	2°06.8	238°56.1	-14°44.8
19	220°34.8	130°56.2	22°45.3	183°43.7	12°42.4	212°12.9	2°06.8	253°58.7	-14°44.8
20	235°37.3	145°55.4	22°45.4	198°44.5	12°42.9	227°15.3	2°06.9	269°01.4	-14°44.9
21	250°39.7	160°54.6	22°45.5	213°45.3	12°43.5	242°17.6	2°06.9	284°04.0	-14°44.9
22	265°42.2	175°53.8	22°45.6	228°46.1	12°44.0	257°20.0	2°06.9	299°06.6	-14°45.0
23	280°44.7	190°52.9	22°45.7	243°46.9	12°44.6	272°22.4	2°06.9	314°09.2	-14°45.0
Mer.pass.:4:20:		v-0.8 d0.1 m-3.8		v0.8 d0.6 m0.3		v2.4 d0.0 m-2.4		v2.6 d-0.1 m0.5	

Estrellas

	AHS	Dec
Alpheratz	357°36.8	29°12.7
Ankaa	353°09.0	-42°10.8
Schedar	349°33.2	56°39.3
Diphda	348°49.2	-17°51.7
Achernar	335°21.8	-57°07.1
Hamal	327°53.6	23°34.0
Polaris	315°11.5	89°21.2
Akamar	315°13.5	-40°12.7
Menkar	314°08.4	4°10.7
Mirfak	308°31.4	49°56.2
Aldebaran	290°42.2	16°33.2
Rigel	281°06.1	-8°10.5
Capella	280°25.3	46°01.2
Bellatrix	278°25.4	6°22.2
Elnath	278°04.8	28°37.5
Alnilam	275°40.1	-1°11.2
Betelgeuse	270°54.6	7°24.7
Canopus	263°53.8	-52°42.3
Sirius	258°28.3	-16°44.6
Adara	255°07.8	-29°00.1
Procyon	244°53.2	5°10.3
Pollux	243°20.1	27°58.4
Avior	234°16.2	-59°34.9
Suhail	222°48.2	-43°31.4
Miaplacidus	221°39.6	-69°48.6
Alphard	217°50.0	-8°45.3
Regulus	207°36.8	11°51.6
Dubhe	193°43.9	61°38.1
Denebola	182°27.1	14°27.0
Gienah	175°45.8	-17°40.0
Acrux	173°02.5	-63°13.6
Gacrux	171°54.0	-57°14.5
Alioth	166°14.9	55°50.6
Spica	158°24.4	-11°16.7
Alcaid	152°53.6	49°12.4
Hadar	148°38.8	-60°29.1
Menkent	148°00.0	-36°28.9
Arcturus	145°49.6	19°04.4
Rigil Kent.	139°42.9	-60°55.9
Zubenelg.	136°58.1	-16°08.1
Kochab	137°19.4	74°04.1
Alphecca	126°05.3	26°38.6
Antares	112°18.1	-26°28.9
Atria	107°13.6	-69°04.2
Sabik	102°04.8	-15°45.1
Shaula	96°12.8	-37°07.2
Rasalhague	96°00.2	12°32.7
Etamin	90°42.6	51°29.3
Kaus Aust.	83°34.8	-34°22.4
Vega	80°34.2	38°48.3
Nunki	75°49.9	-26°16.1
Altair	62°01.7	8°55.6
Peacock	53°08.3	-56°39.7
Deneb	49°26.7	45°21.5
Enif	33°40.5	9°58.7
Alnair	27°35.1	-46°50.9
Fomalhaut	15°16.6	-29°30.0
Scheat	13°47.0	28°12.1
Markab	13°31.7	15°19.5

Jul 15 Vie	AHS	Paso Merid
Venus	273°59.9	10:13
Mars	324°59.2	06:48
Jupiter	351°44.6	05:01
Saturn	33°14.4	02:15

Jul 16 Sa	AHS	Paso Merid
Venus	272°41.8	10:15
Mars	324°19.6	06:47
Jupiter	351°42.1	04:57
Saturn	33°17.8	02:11

Jul 17 Dom	AHS	Paso Merid
Venus	271°23.4	10:16
Mars	323°40.1	06:46
Jupiter	351°39.8	04:53
Saturn	33°21.2	02:07

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.1

h	Sol		Luna				
Vie	AHG	Dec	AHG	v	Dec	d	HP
0	178°30.5	21°33.4	338°57.9	4.2	-22°32.3	9.8	60.9
1	193°30.4	21°33.0	353°21.1	4.3	-22°22.4	10.0	60.9
2	208°30.3	21°32.6	7°44.5	4.4	-22°12.3	10.1	60.9
3	223°30.3	21°32.2	22°07.9	4.5	-22°02.1	10.3	60.9
4	238°30.2	21°31.8	36°31.5	4.7	-21°51.8	10.4	60.9
5	253°30.2	21°31.4	50°55.3	4.8	-21°41.3	10.6	60.8
6	268°30.1	21°31.0	65°19.1	4.9	-21°30.7	10.7	60.8
7	283°30.0	21°30.6	79°43.1	5.0	-21°19.9	10.8	60.8
8	298°30.0	21°30.2	94°07.2	5.2	-21°09.0	11.0	60.8
9	313°29.9	21°29.9	108°31.4	5.3	-20°58.0	11.1	60.7
10	328°29.8	21°29.5	122°55.8	5.4	-20°46.8	11.2	60.7
11	343°29.8	21°29.1	137°20.3	5.6	-20°35.5	11.4	60.7
12	358°29.7	21°28.7	151°44.9	5.7	-20°24.1	11.5	60.7
13	13°29.7	21°28.3	166°09.6	5.8	-20°12.6	11.6	60.6
14	28°29.6	21°27.9	180°34.5	5.9	-20°00.9	11.7	60.6
15	43°29.5	21°27.5	194°59.5	6.1	-19°49.1	11.9	60.6
16	58°29.5	21°27.1	209°24.6	6.2	-19°37.2	12.0	60.5
17	73°29.4	21°26.7	223°49.9	6.3	-19°25.2	12.1	60.5
18	88°29.4	21°26.3	238°15.3	6.5	-19°13.0	12.2	60.5
19	103°29.3	21°25.9	252°40.8	6.6	-19°00.8	12.3	60.5
20	118°29.2	21°25.5	267°06.5	6.7	-18°48.4	12.4	60.4
21	133°29.2	21°25.1	281°32.3	6.8	-18°36.0	12.5	60.4
22	148°29.1	21°24.6	295°58.2	7.0	-18°23.4	12.6	60.4
23	163°29.1	21°24.2	310°24.2	7.1	-18°10.7	12.7	60.3
	SD.=15.7	d=-0.4	S.D.=16.6				

Sa	AHG	Dec	AHG	v	Dec	d	HP
0	178°29.0	21°23.8	324°50.4	7.2	-17°57.9	12.8	60.3
1	193°28.9	21°23.4	339°16.7	7.4	-17°45.1	12.9	60.3
2	208°28.9	21°23.0	353°43.1	7.5	-17°32.1	13.0	60.2
3	223°28.8	21°22.6	8°09.6	7.6	-17°19.0	13.1	60.2
4	238°28.8	21°22.2	22°36.3	7.7	-17°05.9	13.2	60.2
5	253°28.7	21°21.8	37°03.1	7.9	-16°52.6	13.3	60.1
6	268°28.6	21°21.4	51°30.1	8.0	-16°39.3	13.4	60.1
7	283°28.6	21°21.0	65°57.1	8.1	-16°25.9	13.5	60.1
8	298°28.5	21°20.6	80°24.3	8.2	-16°12.4	13.5	60.0
9	313°28.5	21°20.2	94°51.6	8.4	-15°58.8	13.6	60.0
10	328°28.4	21°19.7	109°19.0	8.5	-15°45.1	13.7	60.0
11	343°28.4	21°19.3	123°46.5	8.6	-15°31.4	13.8	59.9
12	358°28.3	21°18.9	138°14.2	8.7	-15°17.6	13.8	59.9
13	13°28.2	21°18.5	152°42.0	8.8	-15°03.7	13.9	59.9
14	28°28.2	21°18.1	167°09.9	9.0	-14°49.7	14.0	59.8
15	43°28.1	21°17.7	181°37.9	9.1	-14°35.7	14.1	59.8
16	58°28.1	21°17.3	196°06.0	9.2	-14°21.6	14.1	59.8
17	73°28.0	21°16.9	210°34.3	9.3	-14°07.5	14.2	59.7
18	88°28.0	21°16.4	225°02.7	9.4	-13°53.3	14.2	59.7
19	103°27.9	21°16.0	239°31.1	9.5	-13°39.0	14.3	59.6
20	118°27.9	21°15.6	253°59.7	9.6	-13°24.7	14.4	59.6
21	133°27.8	21°15.2	268°28.4	9.8	-13°10.3	14.4	59.6
22	148°27.8	21°14.8	282°57.3	9.9	-12°55.8	14.5	59.5
23	163°27.7	21°14.3	297°26.2	10.0	-12°41.3	14.5	59.5
	SD.=15.7	d=-0.4	S.D.=16.5				

Dom	AHG	Dec	AHG	v	Dec	d	HP
0	178°27.6	21°13.9	311°55.2	10.1	-12°26.8	14.6	59.5
1	193°27.6	21°13.5	326°24.4	10.2	-12°12.2	14.6	59.4
2	208°27.5	21°13.1	340°53.6	10.3	-11°57.5	14.7	59.4
3	223°27.5	21°12.7	355°23.0	10.4	-11°42.8	14.7	59.3
4	238°27.4	21°12.2	9°52.4	10.5	-11°28.1	14.8	59.3
5	253°27.4	21°11.8	24°22.0	10.6	-11°13.3	14.8	59.3
6	268°27.3	21°11.4	38°51.6	10.7	-10°58.5	14.8	59.2
7	283°27.3	21°11.0	53°21.4	10.8	-10°43.7	14.9	59.2
8	298°27.2	21°10.5	67°51.3	10.9	-10°28.8	14.9	59.2
9	313°27.2	21°10.1	82°21.2	11.0	-10°13.9	14.9	59.1
10	328°27.1	21°09.7	96°51.3	11.1	-9°58.9	15.0	59.1
11	343°27.1	21°09.3	111°21.4	11.2	-9°43.9	15.0	59.0
12	358°27.0	21°08.8	125°51.6	11.3	-9°28.9	15.0	59.0
13	13°27.0	21°08.4	140°22.0	11.4	-9°13.8	15.1	59.0
14	28°26.9	21°08.0	154°52.4	11.5	-8°58.8	15.1	58.9
15	43°26.9	21°07.5	169°22.9	11.6	-8°43.7	15.1	58.9
16	58°26.8	21°07.1	183°53.5	11.6	-8°28.6	15.1	58.8
17	73°26.8	21°06.7	198°24.2	11.7	-8°13.4	15.2	58.8
18	88°26.7	21°06.2	212°55.0	11.8	-7°58.2	15.2	58.8
19	103°26.7	21°05.8	227°25.8	11.9	-7°43.1	15.2	58.7
20	118°26.6	21°05.4	241°56.8	12.0	-7°27.9	15.2	58.7
21	133°26.6	21°04.9	256°27.8	12.1	-7°12.7	15.2	58.6
22	148°26.5	21°04.5	270°58.9	12.1	-6°57.4	15.2	58.6
23	163°26.5	21°04.1	285°30.1	12.2	-6°42.2	15.2	58.6
	SD.=15.7	d=-0.4	S.D.=16.2				

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	–:–	–:–	–:–
68	–:–	–:–	–:–	–:–	–:–	–:–
66	–:–	–:–	01:40	22:29	–:–	–:–
64	–:–	–:–	02:18	21:52	–:–	–:–
62	–:–	00:57	02:45	21:26	23:10	–:–
60	–:–	01:48	03:05	21:05	22:21	–:–
58	–:–	02:18	03:22	20:49	21:52	–:–
56	00:52	02:41	03:36	20:35	21:30	23:15
54	01:39	02:59	03:48	20:23	21:12	22:31
52	02:07	03:14	03:59	20:12	20:57	22:03
50	02:28	03:27	04:09	20:03	20:45	21:43
45	03:06	03:53	04:28	19:43	20:19	21:05
40	03:33	04:13	04:45	19:27	19:59	20:39
35	03:54	04:29	04:58	19:14	19:43	20:18
30	04:10	04:43	05:10	19:02	19:29	20:01
20	04:37	05:05	05:30	18:43	19:07	19:35
10	04:57	05:24	05:47	18:25	18:48	19:15
0	05:14	05:40	06:03	18:10	18:32	18:58
S 10	05:30	05:56	06:18	17:54	18:17	18:42
20	05:44	06:11	06:35	17:37	18:01	18:28
30	05:59	06:28	06:54	17:18	17:44	18:14
35	06:06	06:38	07:05	17:07	17:35	18:06
40	06:15	06:48	07:18	16:55	17:25	17:58
45	06:23	07:00	07:33	16:40	17:13	17:49
50	06:33	07:14	07:51	16:22	16:59	17:39
52	06:38	07:20	08:00	16:13	16:52	17:35
54	06:43	07:27	08:09	16:03	16:45	17:30
56	06:48	07:35	08:20	15:53	16:38	17:25
58	06:53	07:44	08:32	15:40	16:29	17:19
60	06:59	07:54	08:47	15:26	16:19	17:13

	Orto luna			Ocaso luna		
Lat.	Vie	Sa	Dom	Vie	Sa	Dom
N 72	–:–	01:45	00:06	–:–	03:32	07:02
70	–:–	00:35	23:15	–:–	04:40	07:21
68	–:–	23:27	23:07	–:–	05:16	07:36
66	00:04	23:13	23:01	03:06	05:41	07:48
64	23:10	23:02	22:55	03:49	06:01	07:58
62	22:53	22:52	22:50	04:17	06:17	08:06
60	22:39	22:43	22:46	04:39	06:30	08:13
58	22:26	22:36	22:42	04:56	06:41	08:20
56	22:16	22:29	22:39	05:11	06:51	08:25
54	22:06	22:23	22:36	05:24	06:59	08:30
52	21:58	22:18	22:33	05:35	07:07	08:35
50	21:50	22:13	22:31	05:44	07:14	08:39
45	21:34	22:02	22:25	06:05	07:28	08:47
40	21:21	21:53	22:21	06:22	07:40	08:55
35	21:09	21:46	22:17	06:35	07:50	09:01
30	20:59	21:39	22:13	06:48	07:59	09:06
20	20:42	21:27	22:07	07:08	08:14	09:15
10	20:27	21:17	22:02	07:26	08:27	09:24
0	20:13	21:07	21:57	07:42	08:39	09:31
S 10	19:58	20:57	21:51	07:58	08:51	09:38
20	19:43	20:47	21:46	08:16	09:04	09:46
30	19:25	20:35	21:40	08:35	09:18	09:55
35	19:15	20:28	21:36	08:47	09:27	10:00
40	19:03	20:20	21:32	09:00	09:36	10:06
45	18:49	20:10	21:27	09:15	09:47	10:12
50	18:32	19:59	21:21	09:34	10:00	10:20
52	18:24	19:54	21:19	09:43	10:06	10:24
54	18:15	19:48	21:16	09:53	10:13	10:28
56	18:04	19:41	21:13	10:04	10:21	10:32
58	17:52	19:34	21:09	10:16	10:29	10:37
60	17:39	19:26	21:05	10:31	10:38	10:42

Día	Sol			Luna		
	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
15	05:58	06:01	12:06	01:27	13:57	16(95%)
16	06:04	06:07	12:06	02:26	14:53	17(89%)
17	06:09	06:12	12:06	03:19	15:43	18(81%)

Julio 18, 19, 20 (Lun, Mar, Mie)

	Aries	Venus		Martes		Júpiter		Saturno	
Lun	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	295°47.1	205°52.1	22°45.9	258°47.8	12°45.1	287°24.8	2°07.0	329°11.8	-14°45.1
1	310°49.6	220°51.3	22°46.0	273°48.6	12°45.7	302°27.2	2°07.0	344°14.4	-14°45.2
2	325°52.0	235°50.5	22°46.1	288°49.4	12°46.2	317°29.5	2°07.0	359°17.0	-14°45.2
3	340°54.5	250°49.7	22°46.2	303°50.2	12°46.8	332°31.9	2°07.0	14°19.6	-14°45.3
4	355°57.0	265°48.9	22°46.3	318°51.0	12°47.3	347°34.3	2°07.1	29°22.2	-14°45.3
5	10°59.4	280°48.1	22°46.4	333°51.9	12°47.9	2°36.7	2°07.1	44°24.8	-14°45.4
6	26°01.9	295°47.3	22°46.5	348°52.7	12°48.4	17°39.0	2°07.1	59°27.5	-14°45.4
7	41°04.4	310°46.5	22°46.6	3°53.5	12°49.0	32°41.4	2°07.1	74°30.1	-14°45.5
8	56°06.8	325°45.7	22°46.7	18°54.3	12°49.5	47°43.8	2°07.1	89°32.7	-14°45.6
9	71°09.3	340°44.9	22°46.8	33°55.2	12°50.1	62°46.2	2°07.2	104°35.3	-14°45.6
10	86°11.8	355°44.1	22°46.9	48°56.0	12°50.6	77°48.6	2°07.2	119°37.9	-14°45.7
11	101°14.2	10°43.3	22°47.0	63°56.8	12°51.2	92°51.0	2°07.2	134°40.5	-14°45.7
12	116°16.7	25°42.5	22°47.1	78°57.6	12°51.7	107°53.3	2°07.2	149°43.1	-14°45.8
13	131°19.1	40°41.7	22°47.2	93°58.4	12°52.3	122°55.7	2°07.3	164°45.7	-14°45.8
14	146°21.6	55°40.8	22°47.3	108°59.3	12°52.8	137°58.1	2°07.3	179°48.3	-14°45.9
15	161°24.1	70°40.0	22°47.4	124°00.1	12°53.4	153°00.5	2°07.3	194°51.0	-14°45.9
16	176°26.5	85°39.2	22°47.5	139°00.9	12°53.9	168°02.9	2°07.3	209°53.6	-14°46.0
17	191°29.0	100°38.4	22°47.6	154°01.7	12°54.5	183°05.2	2°07.3	224°56.2	-14°46.1
18	206°31.5	115°37.6	22°47.7	169°02.5	12°55.0	198°07.6	2°07.4	239°58.8	-14°46.1
19	221°33.9	130°36.8	22°47.8	184°03.4	12°55.5	213°10.0	2°07.4	255°01.4	-14°46.2
20	236°36.4	145°36.0	22°47.9	199°04.2	12°56.1	228°12.4	2°07.4	270°04.0	-14°46.2
21	251°38.9	160°35.2	22°48.0	214°05.0	12°56.6	243°14.8	2°07.4	285°06.6	-14°46.3
22	266°41.3	175°34.4	22°48.1	229°05.8	12°57.2	258°17.2	2°07.4	300°09.2	-14°46.3
23	281°43.8	190°33.6	22°48.2	244°06.7	12°57.7	273°19.5	2°07.5	315°11.9	-14°46.4
Mer.pass.:4:16:		v-0.8 d0.1 m-3.8		v0.8 d0.5 m0.3		v2.4 d0.0 m-2.4		v2.6 d-0.1 m0.5	

Mar	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	296°46.3	205°32.8	22°48.2	259°07.5	12°58.3	288°21.9	2°07.5	330°14.5	-14°46.5
1	311°48.7	220°32.0	22°48.3	274°08.3	12°58.8	303°24.3	2°07.5	345°17.1	-14°46.5
2	326°51.2	235°31.1	22°48.4	289°09.1	12°59.4	318°26.7	2°07.5	0°19.7	-14°46.6
3	341°53.6	250°30.3	22°48.5	304°10.0	12°59.9	333°29.1	2°07.6	15°22.3	-14°46.6
4	356°56.1	265°29.5	22°48.6	319°10.8	13°00.4	348°31.5	2°07.6	30°24.9	-14°46.7
5	11°58.6	280°28.7	22°48.7	334°11.6	13°01.0	3°33.9	2°07.6	45°27.5	-14°46.7
6	27°01.0	295°27.9	22°48.7	349°12.4	13°01.5	18°36.3	2°07.6	60°30.1	-14°46.8
7	42°03.5	310°27.1	22°48.8	4°13.2	13°02.1	33°38.6	2°07.6	75°32.8	-14°46.9
8	57°06.0	325°26.3	22°48.9	19°14.1	13°02.6	48°41.0	2°07.6	90°35.4	-14°46.9
9	72°08.4	340°25.5	22°49.0	34°14.9	13°03.2	63°43.4	2°07.7	105°38.0	-14°47.0
10	87°10.9	355°24.7	22°49.0	49°15.7	13°03.7	78°45.8	2°07.7	120°40.6	-14°47.0
11	102°13.4	10°23.8	22°49.1	64°16.5	13°04.2	93°48.2	2°07.7	135°43.2	-14°47.1
12	117°15.8	25°23.0	22°49.2	79°17.4	13°04.8	108°50.6	2°07.7	150°45.8	-14°47.1
13	132°18.3	40°22.2	22°49.3	94°18.2	13°05.3	123°53.0	2°07.7	165°48.4	-14°47.2
14	147°20.8	55°21.4	22°49.3	109°19.0	13°05.9	138°55.4	2°07.8	180°51.0	-14°47.3
15	162°23.2	70°20.6	22°49.4	124°19.8	13°06.4	153°57.7	2°07.8	195°53.7	-14°47.3
16	177°25.7	85°19.8	22°49.5	139°20.7	13°06.9	169°00.1	2°07.8	210°56.3	-14°47.4
17	192°28.1	100°19.0	22°49.5	154°21.5	13°07.5	184°02.5	2°07.8	225°58.9	-14°47.4
18	207°30.6	115°18.2	22°49.6	169°22.3	13°08.0	199°04.9	2°07.8	241°01.5	-14°47.5
19	222°33.1	130°17.4	22°49.7	184°23.1	13°08.6	214°07.3	2°07.9	256°04.1	-14°47.5
20	237°35.5	145°16.5	22°49.7	199°24.0	13°09.1	229°09.7	2°07.9	271°06.7	-14°47.6
21	252°38.0	160°15.7	22°49.8	214°24.8	13°09.6	244°12.1	2°07.9	286°09.3	-14°47.7
22	267°40.5	175°14.9	22°49.9	229°25.6	13°10.2	259°14.5	2°07.9	301°12.0	-14°47.7
23	282°42.9	190°14.1	22°49.9	244°26.4	13°10.7	274°16.9	2°07.9	316°14.6	-14°47.8
Mer.pass.:4:12:		v-0.8 d0.1 m-3.8		v0.8 d0.5 m0.3		v2.4 d0.0 m-2.4		v2.6 d-0.1 m0.4	

Mie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	297°45.4	205°13.3	22°50.0	259°27.3	13°11.3	289°19.3	2°07.9	331°17.2	-14°47.8
1	312°47.9	220°12.5	22°50.0	274°28.1	13°11.8	304°21.7	2°08.0	346°19.8	-14°47.9
2	327°50.3	235°11.7	22°50.1	289°28.9	13°12.3	319°24.1	2°08.0	1°22.4	-14°47.9
3	342°52.8	250°10.9	22°50.1	304°29.7	13°12.9	334°26.4	2°08.0	16°25.0	-14°48.0
4	357°55.2	265°10.0	22°50.2	319°30.6	13°13.4	349°28.8	2°08.0	31°27.7	-14°48.1
5	12°57.7	280°09.2	22°50.2	334°31.4	13°13.9	4°31.2	2°08.0	46°30.3	-14°48.1
6	28°00.2	295°08.4	22°50.3	349°32.2	13°14.5	19°33.6	2°08.0	61°32.9	-14°48.2
7	43°02.6	310°07.6	22°50.4	4°33.0	13°15.0	34°36.0	2°08.1	76°35.5	-14°48.2
8	58°05.1	325°06.8	22°50.4	19°33.9	13°15.5	49°38.4	2°08.1	91°38.1	-14°48.3
9	73°07.6	340°06.0	22°50.5	34°34.7	13°16.1	64°40.8	2°08.1	106°40.7	-14°48.3
10	88°10.0	355°05.2	22°50.5	49°35.5	13°16.6	79°43.2	2°08.1	121°43.3	-14°48.4
11	103°12.5	10°04.3	22°50.5	64°36.3	13°17.2	94°45.6	2°08.1	136°46.0	-14°48.5
12	118°15.0	25°03.5	22°50.6	79°37.2	13°17.7	109°48.0	2°08.1	151°48.6	-14°48.5
13	133°17.4	40°02.7	22°50.6	94°38.0	13°18.2	124°50.4	2°08.2	166°51.2	-14°48.6
14	148°19.9	55°01.9	22°50.7	109°38.8	13°18.8	139°52.8	2°08.2	181°53.8	-14°48.6
15	163°22.4	70°01.1	22°50.7	124°39.6	13°19.3	154°55.2	2°08.2	196°56.4	-14°48.7
16	178°24.8	85°00.3	22°50.8	139°40.5	13°19.8	169°57.6	2°08.2	211°59.0	-14°48.8
17	193°27.3	99°59.5	22°50.8	154°41.3	13°20.4	185°00.0	2°08.2	227°01.7	-14°48.8
18	208°29.7	114°58.6	22°50.8	169°42.1	13°20.9	200°02.4	2°08.2	242°04.3	-14°48.9
19	223°32.2	129°57.8	22°50.9	184°42.9	13°21.4	215°04.8	2°08.2	257°06.9	-14°48.9
20	238°34.7	144°57.0	22°50.9	199°43.8	13°22.0	230°07.2	2°08.3	272°09.5	-14°49.0
21	253°37.1	159°56.2	22°51.0	214°44.6	13°22.5	245°09.6	2°08.3	287°12.1	-14°49.0
22	268°39.6	174°55.4	22°51.0	229°45.4	13°23.0	260°12.0	2°08.3	302°14.7	-14°49.1
23	283°42.1	189°54.6	22°51.0	244°46.2	13°23.6	275°14.4	2°08.3	317°17.4	-14°49.2
Mer.pass.:4:08:		v-0.8 d0.1 m-3.8		v0.8 d0.5 m0.3		v2.4 d0.0 m-2.4		v2.6 d-0.1 m0.4	

Estrellas

	AHS	Dec
Alpheratz	357°36.7	29°12.7
Ankaa	353°09.0	-42°10.8
Schedar	349°33.2	56°39.4
Diphda	348°49.2	-17°51.7
Achernar	335°21.7	-57°07.1
Hamal	327°53.6	23°34.0
Polaris	315°10.2	89°21.2
Akamar	315°13.5	-40°12.7
Menkar	314°08.4	4°10.7
Mirfak	308°31.4	49°56.2
Aldebaran	290°42.2	16°33.2
Rigel	281°06.1	-8°10.5
Capella	280°25.3	46°01.2
Bellatrix	278°25.3	6°22.2
Elnath	278°04.8	28°37.5
Alnilam	275°40.1	-1°11.2
Betelgeuse	270°54.6	7°24.7
Canopus	263°53.8	-52°42.3
Sirius	258°28.3	-16°44.5
Adara	255°07.8	-29°00.1
Procyon	244°53.2	5°10.3
Pollux	243°20.1	27°58.4
Avior	234°16.2	-59°34.9
Suhail	222°48.2	-43°31.4
Miaplacidus	221°39.6	-69°48.6
Alphard	217°50.0	-8°45.3
Regulus	207°36.8	11°51.6
Dubhe	193°43.9	61°38.1
Denebola	182°27.1	14°27.0
Gienah	175°45.8	-17°40.0
Acrux	173°02.6	-63°13.6
Gacrux	171°54.1	-57°14.5
Alioth	166°14.9	55°50.6
Spica	158°24.5	-11°16.7
Alcaid	152°53.6	49°12.4
Hadar	148°38.8	-60°29.1
Menkent	148°00.0	-36°28.9
Arcturus	145°49.6	19°04.4
Rigil Kent.	139°42.9	-60°55.9
Zubenelg.	136°58.2	-16°08.1
Kochab	137°19.4	74°04.1
Alphecca	126°05.3	26°38.6
Antares	112°18.1	-26°28.9
Atria	107°13.7	-69°04.2
Sabik	102°04.8	-15°45.1
Shaula	96°12.8	-37°07.2
Rasalhague	96°00.2	12°32.8
Etamin	90°42.6	51°29.3
Kaus Aust.	83°34.8	-34°22.4
Vega	80°34.2	38°48.3
Nunki	75°49.9	-26°16.1
Altair	62°01.7	8°55.6
Peacock	53°08.3	-56°39.7
Deneb	49°26.7	45°21.6
Enif	33°40.5	9°58.7
Alnair	27°35.1	-46°50.9
Fomalhaut	15°16.6	-29°30.0
Scheat	13°47.0	28°12.1
Markab	13°31.7	15°19.5

Jul 18 Lun	AHS	Paso Merid
Venus	270°05.0	10:17
Mars	323°00.6	06:44
Jupiter	351°37.7	04:50
Saturn	33°24.7	02:03

Jul 19 Mar	AHS	Paso Merid
Venus	268°46.5	10:18
Mars	322°21.2	06:43
Jupiter	351°35.7	04:46
Saturn	33°28.2	01:59

Jul 20 Mie	AHS	Paso Merid
Venus	267°27.9	10:20
Mars	321°41.9	06:42
Jupiter	351°33.9	04:42
Saturn	33°31.8	01:55

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.1

h Sol Luna

Lun	AHG	Dec	AHG	v	Dec	d	HP
0	178°26.4	21°03.6	300°01.4	12.3	-6°26.9	15.3	58.5
1	193°26.4	21°03.2	314°32.7	12.4	-6°11.7	15.3	58.5
2	208°26.3	21°02.8	329°04.1	12.4	-5°56.4	15.3	58.4
3	223°26.3	21°02.3	343°35.6	12.5	-5°41.1	15.3	58.4
4	238°26.2	21°01.9	358°07.1	12.6	-5°25.8	15.3	58.4
5	253°26.2	21°01.5	12°38.8	12.7	-5°10.5	15.3	58.3
6	268°26.1	21°01.0	27°10.5	12.7	-4°55.3	15.3	58.3
7	283°26.1	21°00.6	41°42.2	12.8	-4°40.0	15.3	58.2
8	298°26.0	21°00.1	56°14.1	12.9	-4°24.7	15.3	58.2
9	313°26.0	20°59.7	70°45.9	12.9	-4°09.4	15.3	58.2
10	328°26.0	20°59.3	85°17.9	13.0	-3°54.1	15.3	58.1
11	343°25.9	20°58.8	99°49.9	13.1	-3°38.8	15.3	58.1
12	358°25.9	20°58.4	114°22.0	13.1	-3°23.5	15.3	58.0
13	13°25.8	20°57.9	128°54.2	13.2	-3°08.3	15.3	58.0
14	28°25.8	20°57.5	143°26.4	13.2	-2°53.0	15.3	58.0
15	43°25.7	20°57.0	157°58.6	13.3	-2°37.7	15.3	57.9
16	58°25.7	20°56.6	172°30.9	13.3	-2°22.5	15.2	57.9
17	73°25.6	20°56.2	187°03.3	13.4	-2°07.2	15.2	57.8
18	88°25.6	20°55.7	201°35.7	13.4	-1°52.0	15.2	57.8
19	103°25.5	20°55.3	216°08.2	13.5	-1°36.8	15.2	57.8
20	118°25.5	20°54.8	230°40.7	13.5	-1°21.6	15.2	57.7
21	133°25.5	20°54.4	245°13.3	13.6	-1°06.4	15.2	57.7
22	148°25.4	20°53.9	259°45.9	13.6	-0°51.2	15.2	57.6
23	163°25.4	20°53.5	274°18.6	13.7	-0°36.1	15.1	57.6
	SD.=15.7	d=-0.4			S.D.=16.0		

Mar	AHG	Dec	AHG	v	Dec	d	HP
0	178°25.3	20°53.0	288°51.3	13.7	-0°21.0	15.1	57.6
1	193°25.3	20°52.6	303°24.0	13.8	-0°05.8	15.1	57.5
2	208°25.2	20°52.1	317°56.8	13.8	0°09.3	15.1	57.5
3	223°25.2	20°51.7	332°29.6	13.9	0°24.3	15.1	57.4
4	238°25.2	20°51.2	347°02.5	13.9	0°39.4	15.0	57.4
5	253°25.1	20°50.8	1°35.4	13.9	0°54.4	15.0	57.4
6	268°25.1	20°50.3	16°08.4	14.0	1°09.4	15.0	57.3
7	283°25.0	20°49.8	30°41.4	14.0	1°24.4	15.0	57.3
8	298°25.0	20°49.4	45°14.4	14.0	1°39.3	14.9	57.3
9	313°25.0	20°48.9	59°47.4	14.1	1°54.2	14.9	57.2
10	328°24.9	20°48.5	74°20.5	14.1	2°09.1	14.9	57.2
11	343°24.9	20°48.0	88°53.6	14.1	2°24.0	14.8	57.1
12	358°24.8	20°47.6	103°26.8	14.2	2°38.8	14.8	57.1
13	13°24.8	20°47.1	117°59.9	14.2	2°53.6	14.8	57.1
14	28°24.8	20°46.6	132°33.1	14.2	3°08.4	14.8	57.0
15	43°24.7	20°46.2	147°06.4	14.2	3°23.1	14.7	57.0
16	58°24.7	20°45.7	161°39.6	14.3	3°37.8	14.7	57.0
17	73°24.6	20°45.3	176°12.9	14.3	3°52.5	14.6	56.9
18	88°24.6	20°44.8	190°46.2	14.3	4°07.1	14.6	56.9
19	103°24.6	20°44.3	205°19.5	14.3	4°21.7	14.6	56.8
20	118°24.5	20°43.9	219°52.8	14.3	4°36.3	14.5	56.8
21	133°24.5	20°43.4	234°26.2	14.4	4°50.8	14.5	56.8
22	148°24.4	20°43.0	248°59.5	14.4	5°05.2	14.5	56.7
23	163°24.4	20°42.5	263°32.9	14.4	5°19.7	14.4	56.7
	SD.=15.7	d=-0.5			S.D.=15.7		

Mie	AHG	Dec	AHG	v	Dec	d	HP
0	178°24.4	20°42.0	278°06.3	14.4	5°34.1	14.4	56.7
1	193°24.3	20°41.6	292°39.7	14.4	5°48.4	14.3	56.6
2	208°24.3	20°41.1	307°13.2	14.4	6°02.7	14.3	56.6
3	223°24.3	20°40.6	321°46.6	14.4	6°17.0	14.2	56.6
4	238°24.2	20°40.2	336°20.1	14.5	6°31.2	14.2	56.5
5	253°24.2	20°39.7	350°53.5	14.5	6°45.4	14.2	56.5
6	268°24.1	20°39.2	5°27.0	14.5	6°59.5	14.1	56.5
7	283°24.1	20°38.8	20°00.4	14.5	7°13.6	14.1	56.4
8	298°24.1	20°38.3	34°33.9	14.5	7°27.7	14.0	56.4
9	313°24.0	20°37.8	49°07.4	14.5	7°41.6	14.0	56.4
10	328°24.0	20°37.3	63°40.9	14.5	7°55.6	13.9	56.3
11	343°24.0	20°36.9	78°14.4	14.5	8°09.5	13.9	56.3
12	358°23.9	20°36.4	92°47.8	14.5	8°23.3	13.8	56.3
13	13°23.9	20°35.9	107°21.3	14.5	8°37.1	13.8	56.2
14	28°23.9	20°35.5	121°54.8	14.5	8°50.8	13.7	56.2
15	43°23.8	20°35.0	136°28.3	14.5	9°04.5	13.7	56.2
16	58°23.8	20°34.5	151°01.8	14.5	9°18.1	13.6	56.1
17	73°23.8	20°34.0	165°35.2	14.5	9°31.7	13.5	56.1
18	88°23.7	20°33.6	180°08.7	14.5	9°45.2	13.5	56.1
19	103°23.7	20°33.1	194°42.2	14.5	9°58.7	13.4	56.0
20	118°23.7	20°32.6	209°15.6	14.5	10°12.1	13.4	56.0
21	133°23.6	20°32.1	223°49.1	14.4	10°25.4	13.3	56.0
22	148°23.6	20°31.7	238°22.5	14.4	10°38.7	13.3	55.9
23	163°23.6	20°31.2	252°55.9	14.4	10°51.9	13.2	55.9
	SD.=15.7	d=-0.5			S.D.=15.5		

Lat.	Crepúsculo Naut.	Crepúsculo Civil	Orto Sol	Crepúsculo Civil	Crepúsculo Naut.	Ocaso Sol
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	–:–	–:–	–:–
68	–:–	–:–	00:46	23:17	–:–	–:–
66	–:–	–:–	01:53	22:16	–:–	–:–
64	–:–	–:–	02:27	21:43	–:–	–:–
62	–:–	01:15	02:52	21:19	22:53	–:–
60	–:–	01:58	03:12	21:00	22:12	–:–
58	–:–	02:26	03:27	20:44	21:45	–:–
56	01:09	02:47	03:41	20:31	21:24	23:00
54	01:48	03:04	03:53	20:19	21:08	22:22
52	02:14	03:18	04:03	20:09	20:53	21:57
50	02:34	03:31	04:12	20:00	20:41	21:38
45	03:10	03:56	04:31	19:41	20:16	21:02
40	03:36	04:15	04:47	19:25	19:57	20:36
35	03:56	04:31	05:00	19:12	19:41	20:16
30	04:12	04:45	05:11	19:01	19:28	20:00
20	04:38	05:07	05:31	18:42	19:06	19:34
10	04:58	05:25	05:47	18:25	18:48	19:14
0	05:15	05:41	06:03	18:10	18:32	18:58
S 10	05:30	05:56	06:18	17:55	18:17	18:43
20	05:44	06:11	06:34	17:38	18:02	18:29
30	05:58	06:27	06:53	17:20	17:46	18:15
35	06:05	06:36	07:04	17:09	17:37	18:08
40	06:13	06:46	07:16	16:57	17:27	18:00
45	06:21	06:58	07:30	16:43	17:15	17:52
50	06:31	07:11	07:48	16:25	17:02	17:42
52	06:35	07:17	07:56	16:17	16:56	17:38
54	06:40	07:24	08:06	16:08	16:49	17:33
56	06:45	07:32	08:16	15:57	16:41	17:29
58	06:50	07:40	08:28	15:45	16:33	17:23
60	06:56	07:50	08:42	15:31	16:24	17:17

Lat.	Orto luna Lun	Orto luna Mar	Orto luna Mie	Ocaso luna Lun	Ocaso luna Mar	Ocaso luna Mie
N 72	22:52	22:22	21:47	09:26	11:35	13:44
70	22:51	22:28	22:04	09:32	11:32	13:30
68	22:50	22:34	22:17	09:37	11:29	13:19
66	22:50	22:39	22:28	09:41	11:27	13:10
64	22:49	22:43	22:37	09:44	11:25	13:02
62	22:48	22:46	22:45	09:47	11:23	12:56
60	22:48	22:50	22:52	09:50	11:21	12:50
58	22:48	22:52	22:58	09:52	11:20	12:45
56	22:47	22:55	23:03	09:54	11:19	12:41
54	22:47	22:57	23:08	09:56	11:18	12:37
52	22:47	22:59	23:12	09:58	11:17	12:33
50	22:46	23:01	23:16	09:59	11:16	12:30
45	22:46	23:05	23:25	10:03	11:14	12:23
40	22:45	23:09	23:32	10:05	11:12	12:17
35	22:45	23:12	23:39	10:08	11:11	12:12
30	22:44	23:14	23:44	10:10	11:10	12:08
20	22:44	23:19	23:54	10:13	11:08	12:01
10	22:43	23:23	–:–	10:16	11:06	11:54
0	22:43	23:27	–:–	10:19	11:04	11:48
S 10	22:42	23:31	–:–	10:22	11:02	11:42
20	22:42	23:35	–:–	10:25	11:00	11:35
30	22:41	23:40	–:–	10:28	10:58	11:28
35	22:41	23:43	–:–	10:30	10:57	11:24
40	22:41	23:46	–:–	10:32	10:56	11:19
45	22:40	23:50	–:–	10:34	10:54	11:14
50	22:40	23:55	–:–	10:37	10:52	11:07
52	22:39	23:57	–:–	10:38	10:51	11:04
54	22:39	23:59	–:–	10:40	10:50	11:01
56	22:39	–:–	00:02	10:41	10:49	10:57
58	22:39	–:–	00:05	10:43	10:48	10:53
60	22:38	–:–	00:08	10:45	10:47	10:49

Día	Sol Ec. tiempo 00:00 h	Sol Ec. tiempo 12:00 h	Sol Paso Merid	Luna Paso Meridiano Superior	Luna Paso Meridiano Inferior	Luna Edad
18	06:14	06:17	12:06	04:07	16:30	19(72%)
19	06:19	06:21	12:06	04:53	17:15	20(61%)
20	06:23	06:24	12:06	05:37	17:59	21(51%)

Julio 21, 22, 23 (Jue, Vie, Sa)

	Aries	Venus		Martes		Júpiter		Saturno	
Jue	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	298°44.5	204°53.8	22°51.1	259°47.1	13°24.1	290°16.8	2°08.3	332°20.0	-14°49.2
1	313°47.0	219°52.9	22°51.1	274°47.9	13°24.6	305°19.2	2°08.3	347°22.6	-14°49.3
2	328°49.5	234°52.1	22°51.1	289°48.7	13°25.2	320°21.6	2°08.3	2°25.2	-14°49.3
3	343°51.9	249°51.3	22°51.1	304°49.6	13°25.7	335°24.0	2°08.4	17°27.8	-14°49.4
4	358°54.4	264°50.5	22°51.2	319°50.4	13°26.2	350°26.4	2°08.4	32°30.4	-14°49.4
5	13°56.8	279°49.7	22°51.2	334°51.2	13°26.8	5°28.8	2°08.4	47°33.1	-14°49.5
6	28°59.3	294°48.9	22°51.2	349°52.0	13°27.3	20°31.2	2°08.4	62°35.7	-14°49.6
7	44°01.8	309°48.0	22°51.2	4°52.9	13°27.8	35°33.6	2°08.4	77°38.3	-14°49.6
8	59°04.2	324°47.2	22°51.3	19°53.7	13°28.3	50°36.0	2°08.4	92°40.9	-14°49.7
9	74°06.7	339°46.4	22°51.3	34°54.5	13°28.9	65°38.4	2°08.4	107°43.5	-14°49.7
10	89°09.2	354°45.6	22°51.3	49°55.3	13°29.4	80°40.8	2°08.4	122°46.2	-14°49.8
11	104°11.6	9°44.8	22°51.3	64°56.2	13°29.9	95°43.2	2°08.5	137°48.8	-14°49.9
12	119°14.1	24°44.0	22°51.3	79°57.0	13°30.5	110°45.6	2°08.5	152°51.4	-14°49.9
13	134°16.6	39°43.1	22°51.4	94°57.8	13°31.0	125°48.0	2°08.5	167°54.0	-14°50.0
14	149°19.0	54°42.3	22°51.4	109°58.7	13°31.5	140°50.4	2°08.5	182°56.6	-14°50.0
15	164°21.5	69°41.5	22°51.4	124°59.5	13°32.1	155°52.8	2°08.5	197°59.2	-14°50.1
16	179°24.0	84°40.7	22°51.4	140°00.3	13°32.6	170°55.2	2°08.5	213°01.9	-14°50.1
17	194°26.4	99°39.9	22°51.4	155°01.1	13°33.1	185°57.6	2°08.5	228°04.5	-14°50.2
18	209°28.9	114°39.1	22°51.4	170°02.0	13°33.6	201°00.0	2°08.5	243°07.1	-14°50.3
19	224°31.3	129°38.2	22°51.4	185°02.8	13°34.2	216°02.4	2°08.6	258°09.7	-14°50.3
20	239°33.8	144°37.4	22°51.5	200°03.6	13°34.7	231°04.8	2°08.6	273°12.3	-14°50.4
21	254°36.3	159°36.6	22°51.5	215°04.5	13°35.2	246°07.2	2°08.6	288°15.0	-14°50.4
22	269°38.7	174°35.8	22°51.5	230°05.3	13°35.7	261°09.7	2°08.6	303°17.6	-14°50.5
23	284°41.2	189°35.0	22°51.5	245°06.1	13°36.3	276°12.1	2°08.6	318°20.2	-14°50.6
Mer.pass.:4:04:		v-0.8 d0.0 m-3.8		v0.8 d0.5 m0.3		v2.4 d0.0 m-2.4		v2.6 d-0.1 m0.4	

Vie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	299°43.7	204°34.2	22°51.5	260°06.9	13°36.8	291°14.5	2°08.6	333°22.8	-14°50.6
1	314°46.1	219°33.3	22°51.5	275°07.8	13°37.3	306°16.9	2°08.6	348°25.4	-14°50.7
2	329°48.6	234°32.5	22°51.5	290°08.6	13°37.8	321°19.3	2°08.6	3°28.1	-14°50.7
3	344°51.1	249°31.7	22°51.5	305°09.4	13°38.4	336°21.7	2°08.6	18°30.7	-14°50.8
4	359°53.5	264°30.9	22°51.5	320°10.3	13°38.9	351°24.1	2°08.7	33°33.3	-14°50.9
5	14°56.0	279°30.1	22°51.5	335°11.1	13°39.4	6°26.5	2°08.7	48°35.9	-14°50.9
6	29°58.5	294°29.2	22°51.5	350°11.9	13°40.0	21°28.9	2°08.7	63°38.5	-14°51.0
7	45°00.9	309°28.4	22°51.5	5°12.8	13°40.5	36°31.3	2°08.7	78°41.2	-14°51.0
8	60°03.4	324°27.6	22°51.5	20°13.6	13°41.0	51°33.7	2°08.7	93°43.8	-14°51.1
9	75°05.8	339°26.8	22°51.5	35°14.4	13°41.5	66°36.1	2°08.7	108°46.4	-14°51.1
10	90°08.3	354°26.0	22°51.5	50°15.2	13°42.0	81°38.6	2°08.7	123°49.0	-14°51.2
11	105°10.8	9°25.1	22°51.5	65°16.1	13°42.6	96°41.0	2°08.7	138°51.6	-14°51.3
12	120°13.2	24°24.3	22°51.4	80°16.9	13°43.1	111°43.4	2°08.7	153°54.3	-14°51.3
13	135°15.7	39°23.5	22°51.4	95°17.7	13°43.6	126°45.8	2°08.7	168°56.9	-14°51.4
14	150°18.2	54°22.7	22°51.4	110°18.6	13°44.1	141°48.2	2°08.8	183°59.5	-14°51.4
15	165°20.6	69°21.9	22°51.4	125°19.4	13°44.7	156°50.6	2°08.8	199°02.1	-14°51.5
16	180°23.1	84°21.1	22°51.4	140°20.2	13°45.2	171°53.0	2°08.8	214°04.7	-14°51.6
17	195°25.6	99°20.2	22°51.4	155°21.1	13°45.7	186°55.4	2°08.8	229°07.4	-14°51.6
18	210°28.0	114°19.4	22°51.4	170°21.9	13°46.2	201°57.9	2°08.8	244°10.0	-14°51.7
19	225°30.5	129°18.6	22°51.4	185°22.7	13°46.8	217°00.3	2°08.8	259°12.6	-14°51.7
20	240°33.0	144°17.8	22°51.3	200°23.6	13°47.3	232°02.7	2°08.8	274°15.2	-14°51.8
21	255°35.4	159°17.0	22°51.3	215°24.4	13°47.8	247°05.1	2°08.8	289°17.8	-14°51.9
22	270°37.9	174°16.1	22°51.3	230°25.2	13°48.3	262°07.5	2°08.8	304°20.5	-14°51.9
23	285°40.3	189°15.3	22°51.3	245°26.1	13°48.8	277°09.9	2°08.8	319°23.1	-14°52.0
Mer.pass.:4:00:		v-0.8 d0.0 m-3.8		v0.8 d0.5 m0.3		v2.4 d0.0 m-2.5		v2.6 d-0.1 m0.4	

Sa	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	300°42.8	204°14.5	22°51.2	260°26.9	13°49.4	292°12.3	2°08.8	334°25.7	-14°52.0
1	315°45.3	219°13.7	22°51.2	275°27.7	13°49.9	307°14.8	2°08.8	349°28.3	-14°52.1
2	330°47.7	234°12.9	22°51.2	290°28.5	13°50.4	322°17.2	2°08.8	4°30.9	-14°52.2
3	345°50.2	249°12.0	22°51.2	305°29.4	13°50.9	337°19.6	2°08.9	19°33.6	-14°52.2
4	0°52.7	264°11.2	22°51.1	320°30.2	13°51.4	352°22.0	2°08.9	34°36.2	-14°52.3
5	15°55.1	279°10.4	22°51.1	335°31.0	13°52.0	7°24.4	2°08.9	49°38.8	-14°52.3
6	30°57.6	294°09.6	22°51.1	350°31.9	13°52.5	22°26.8	2°08.9	64°41.4	-14°52.4
7	46°00.1	309°08.8	22°51.1	5°32.7	13°53.0	37°29.3	2°08.9	79°44.1	-14°52.4
8	61°02.5	324°07.9	22°51.0	20°33.5	13°53.5	52°31.7	2°08.9	94°46.7	-14°52.5
9	76°05.0	339°07.1	22°51.0	35°34.4	13°54.0	67°34.1	2°08.9	109°49.3	-14°52.6
10	91°07.4	354°06.3	22°51.0	50°35.2	13°54.5	82°36.5	2°08.9	124°51.9	-14°52.6
11	106°09.9	9°05.5	22°50.9	65°36.0	13°55.1	97°38.9	2°08.9	139°54.5	-14°52.7
12	121°12.4	24°04.7	22°50.9	80°36.9	13°55.6	112°41.3	2°08.9	154°57.2	-14°52.7
13	136°14.8	39°03.8	22°50.9	95°37.7	13°56.1	127°43.8	2°08.9	169°59.8	-14°52.8
14	151°17.3	54°03.0	22°50.8	110°38.5	13°56.6	142°46.2	2°08.9	185°02.4	-14°52.9
15	166°19.8	69°02.2	22°50.8	125°39.4	13°57.1	157°48.6	2°08.9	200°05.0	-14°52.9
16	181°22.2	84°01.4	22°50.7	140°40.2	13°57.7	172°51.0	2°08.9	215°07.7	-14°53.0
17	196°24.7	99°00.6	22°50.7	155°41.0	13°58.2	187°53.4	2°08.9	230°10.3	-14°53.0
18	211°27.2	113°59.7	22°50.6	170°41.9	13°58.7	202°55.9	2°08.9	245°12.9	-14°53.1
19	226°29.6	128°58.9	22°50.6	185°42.7	13°59.2	217°58.3	2°09.0	260°15.5	-14°53.2
20	241°32.1	143°58.1	22°50.6	200°43.5	13°59.7	233°00.7	2°09.0	275°18.2	-14°53.2
21	256°34.6	158°57.3	22°50.5	215°44.4	14°00.2	248°03.1	2°09.0	290°20.8	-14°53.3
22	271°37.0	173°56.5	22°50.5	230°45.2	14°00.7	263°05.5	2°09.0	305°23.4	-14°53.3
23	286°39.5	188°55.6	22°50.4	245°46.0	14°01.3	278°08.0	2°09.0	320°26.0	-14°53.4
Mer.pass.:3:56:		v-0.8 d-0.0 m-3.8		v0.8 d0.5 m0.3		v2.4 d0.0 m-2.5		v2.6 d-0.1 m0.4	

Estrellas

	AHS	Dec
Alpheratz	357°36.7	29°12.8
Ankaa	353°09.0	-42°10.8
Schedar	349°33.2	56°39.4
Diphda	348°49.1	-17°51.7
Achernar	335°21.7	-57°07.1
Hamal	327°53.5	23°34.0
Polaris	315°08.6	89°21.2
Akamar	315°13.4	-40°12.6
Menkar	314°08.4	4°10.7
Mirfak	308°31.4	49°56.2
Aldebaran	290°42.2	16°33.3
Rigel	281°06.1	-8°10.5
Capella	280°25.3	46°01.2
Bellatrix	278°25.3	6°22.2
Elnath	278°04.7	28°37.5
Alnilam	275°40.1	-1°11.2
Betelgeuse	270°54.6	7°24.7
Canopus	263°53.8	-52°42.3
Sirius	258°28.3	-16°44.5
Adara	255°07.8	-29°00.0
Procyon	244°53.2	5°10.3
Pollux	243°20.1	27°58.4
Avior	234°16.2	-59°34.8
Suhail	222°48.2	-43°31.4
Miaplacidus	221°39.6	-69°48.6
Alphard	217°50.0	-8°45.3
Regulus	207°36.8	11°51.6
Dubhe	193°44.0	61°38.1
Denebola	182°27.1	14°27.0
Gienah	175°45.8	-17°40.0
Acrux	173°02.6	-63°13.6
Gacrux	171°54.1	-57°14.5
Alioth	166°15.0	55°50.6
Spica	158°24.5	-11°16.7
Alcaid	152°53.6	49°12.4
Hadar	148°38.8	-60°29.1
Menkent	148°00.0	-36°28.9
Arcturus	145°49.6	19°04.4
Rigil Kent.	139°42.9	-60°55.9
Zubenelg.	136°58.2	-16°08.1
Kochab	137°19.5	74°04.1
Alphecca	126°05.3	26°38.6
Antares	112°18.1	-26°28.9
Atria	107°13.7	-69°04.2
Sabik	102°04.8	-15°45.1
Shaula	96°12.8	-37°07.2
Rasalhague	96°00.2	12°32.8
Etamin	90°42.6	51°29.3
Kaus Aust.	83°34.8	-34°22.4
Vega	80°34.2	38°48.3
Nunki	75°49.9	-26°16.1
Altair	62°01.7	8°55.7
Peacock	53°08.3	-56°39.7
Deneb	49°26.7	45°21.6
Enif	33°40.5	9°58.7
Alnair	27°35.1	-46°51.0
Fomalhaut	15°16.6	-29°30.0
Scheat	13°46.9	28°12.2
Markab	13°31.7	15°19.5

Jul 21 Jue	AHS	Paso Merid
Venus	266°09.2	10:21
Mars	321°02.5	06:40
Jupiter	351°32.3	04:38
Saturn	33°35.4	01:50

Jul 22 Vie	AHS	Paso Merid
Venus	264°50.5	10:22
Mars	320°23.3	06:39
Jupiter	351°30.8	04:34
Saturn	33°39.1	01:46

Jul 23 Sa	AHS	Paso Merid
Venus	263°31.7	10:24
Mars	319°44.1	06:38
Jupiter	351°29.5	04:30
Saturn	33°42.9	01:42

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.1

h	Sol		Luna				
Jue	AHG	Dec	AHG	v	Dec	d	HP
0	178°23.5	20°30.7	267°29.4	14.4	11°05.1	13.1	55.9
1	193°23.5	20°30.2	282°02.8	14.4	11°18.2	13.1	55.8
2	208°23.5	20°29.7	296°36.2	14.4	11°31.2	13.0	55.8
3	223°23.4	20°29.3	311°09.5	14.4	11°44.2	13.0	55.8
4	238°23.4	20°28.8	325°42.9	14.4	11°57.1	12.9	55.7
5	253°23.4	20°28.3	340°16.2	14.3	12°10.0	12.8	55.7
6	268°23.4	20°27.8	354°49.6	14.3	12°22.8	12.8	55.7
7	283°23.3	20°27.3	9°22.9	14.3	12°35.5	12.7	55.7
8	298°23.3	20°26.8	23°56.2	14.3	12°48.2	12.6	55.6
9	313°23.3	20°26.4	38°29.5	14.3	13°00.8	12.6	55.6
10	328°23.2	20°25.9	53°02.7	14.2	13°13.3	12.5	55.6
11	343°23.2	20°25.4	67°35.9	14.2	13°25.8	12.4	55.5
12	358°23.2	20°24.9	82°09.2	14.2	13°38.2	12.4	55.5
13	13°23.2	20°24.4	96°42.3	14.2	13°50.5	12.3	55.5
14	28°23.1	20°23.9	111°15.5	14.2	14°02.7	12.2	55.5
15	43°23.1	20°23.4	125°48.7	14.1	14°14.9	12.1	55.4
16	58°23.1	20°22.9	140°21.8	14.1	14°27.0	12.1	55.4
17	73°23.0	20°22.5	154°54.9	14.1	14°39.1	12.0	55.4
18	88°23.0	20°22.0	169°27.9	14.0	14°51.1	11.9	55.4
19	103°23.0	20°21.5	184°01.0	14.0	15°02.9	11.9	55.3
20	118°23.0	20°21.0	198°34.0	14.0	15°14.8	11.8	55.3
21	133°22.9	20°20.5	213°06.9	14.0	15°26.5	11.7	55.3
22	148°22.9	20°20.0	227°39.9	13.9	15°38.2	11.6	55.3
23	163°22.9	20°19.5	242°12.8	13.9	15°49.8	11.6	55.2
	SD.=15.7	d=-0.5		S.D.=15.2			

Vie	AHG	Dec	AHG	v	Dec	d	HP
0	178°22.9	20°19.0	256°45.7	13.9	16°01.3	11.5	55.2
1	193°22.8	20°18.5	271°18.6	13.8	16°12.7	11.4	55.2
2	208°22.8	20°18.0	285°51.4	13.8	16°24.1	11.3	55.2
3	223°22.8	20°17.5	300°24.2	13.8	16°35.4	11.2	55.1
4	238°22.8	20°17.0	314°56.9	13.7	16°46.6	11.2	55.1
5	253°22.7	20°16.5	329°29.6	13.7	16°57.7	11.1	55.1
6	268°22.7	20°16.0	344°02.3	13.7	17°08.8	11.0	55.1
7	283°22.7	20°15.5	358°35.0	13.6	17°19.7	10.9	55.0
8	298°22.7	20°15.0	13°07.6	13.6	17°30.6	10.8	55.0
9	313°22.6	20°14.5	27°40.2	13.6	17°41.4	10.8	55.0
10	328°22.6	20°14.0	42°12.7	13.5	17°52.1	10.7	55.0
11	343°22.6	20°13.5	56°45.2	13.5	18°02.7	10.6	54.9
12	358°22.6	20°13.0	71°17.7	13.4	18°13.3	10.5	54.9
13	13°22.5	20°12.5	85°50.1	13.4	18°23.7	10.4	54.9
14	28°22.5	20°12.0	100°22.5	13.4	18°34.1	10.3	54.9
15	43°22.5	20°11.5	114°54.9	13.3	18°44.4	10.2	54.9
16	58°22.5	20°11.0	129°27.2	13.3	18°54.6	10.2	54.8
17	73°22.4	20°10.5	143°59.4	13.2	19°04.7	10.1	54.8
18	88°22.4	20°10.0	158°31.7	13.2	19°14.7	10.0	54.8
19	103°22.4	20°09.5	173°03.9	13.2	19°24.7	9.9	54.8
20	118°22.4	20°09.0	187°36.0	13.1	19°34.5	9.8	54.8
21	133°22.4	20°08.5	202°08.1	13.1	19°44.2	9.7	54.7
22	148°22.3	20°08.0	216°40.2	13.0	19°53.9	9.6	54.7
23	163°22.3	20°07.5	231°12.2	13.0	20°03.5	9.5	54.7
	SD.=15.7	d=-0.5		S.D.=15.1			

Sa	AHG	Dec	AHG	v	Dec	d	HP
0	178°22.3	20°07.0	245°44.2	13.0	20°12.9	9.4	54.7
1	193°22.3	20°06.5	260°16.1	12.9	20°22.3	9.3	54.7
2	208°22.3	20°06.0	274°48.0	12.9	20°31.6	9.2	54.7
3	223°22.2	20°05.5	289°19.8	12.8	20°40.8	9.1	54.6
4	238°22.2	20°05.0	303°51.6	12.8	20°49.9	9.0	54.6
5	253°22.2	20°04.4	318°23.4	12.7	20°58.9	8.9	54.6
6	268°22.2	20°03.9	332°55.1	12.7	21°07.8	8.9	54.6
7	283°22.2	20°03.4	347°26.8	12.6	21°16.6	8.8	54.6
8	298°22.1	20°02.9	1°58.4	12.6	21°25.3	8.7	54.5
9	313°22.1	20°02.4	16°30.0	12.6	21°33.9	8.6	54.5
10	328°22.1	20°01.9	31°01.5	12.5	21°42.4	8.5	54.5
11	343°22.1	20°01.4	45°33.0	12.5	21°50.8	8.4	54.5
12	358°22.1	20°00.9	60°04.5	12.4	21°59.1	8.3	54.5
13	13°22.1	20°00.3	74°35.9	12.4	22°07.3	8.2	54.5
14	28°22.0	19°59.8	89°07.2	12.3	22°15.4	8.0	54.5
15	43°22.0	19°59.3	103°38.5	12.3	22°23.4	7.9	54.4
16	58°22.0	19°58.8	118°09.8	12.2	22°31.3	7.8	54.4
17	73°22.0	19°58.3	132°41.0	12.2	22°39.1	7.7	54.4
18	88°22.0	19°57.8	147°12.2	12.2	22°46.8	7.6	54.4
19	103°22.0	19°57.2	161°43.3	12.1	22°54.4	7.5	54.4
20	118°21.9	19°56.7	176°14.4	12.1	23°01.8	7.4	54.4
21	133°21.9	19°56.2	190°45.4	12.0	23°09.2	7.3	54.4
22	148°21.9	19°55.7	205°16.4	12.0	23°16.5	7.2	54.3
23	163°21.9	19°55.2	219°47.4	11.9	23°23.6	7.1	54.3
	SD.=15.7	d=-0.5		S.D.=14.9			

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	–:–	–:–	–:–
68	–:–	–:–	01:14	22:52	–:–	–:–
66	–:–	–:–	02:05	22:04	–:–	–:–
64	–:–	–:–	02:36	21:34	–:–	–:–
62	–:–	01:31	03:00	21:12	22:38	–:–
60	–:–	02:08	03:18	20:54	22:03	–:–
58	–:–	02:33	03:33	20:39	21:38	–:–
56	01:23	02:53	03:46	20:26	21:18	22:46
54	01:57	03:09	03:57	20:15	21:02	22:14
52	02:21	03:23	04:07	20:05	20:49	21:50
50	02:39	03:35	04:16	19:56	20:37	21:32
45	03:14	03:59	04:34	19:38	20:13	20:58
40	03:39	04:18	04:49	19:23	19:54	20:33
35	03:59	04:33	05:02	19:11	19:39	20:14
30	04:15	04:47	05:13	19:00	19:26	19:58
20	04:40	05:08	05:32	18:41	19:05	19:33
10	04:59	05:25	05:48	18:25	18:47	19:14
0	05:15	05:41	06:03	18:10	18:32	18:58
S 10	05:30	05:55	06:18	17:55	18:18	18:43
20	05:43	06:10	06:34	17:40	18:03	18:30
30	05:57	06:26	06:52	17:22	17:47	18:17
35	06:04	06:35	07:02	17:11	17:39	18:10
40	06:11	06:44	07:14	16:59	17:29	18:02
45	06:19	06:55	07:28	16:46	17:18	17:54
50	06:28	07:08	07:45	16:29	17:05	17:45
52	06:32	07:14	07:53	16:21	16:59	17:41
54	06:37	07:21	08:02	16:12	16:53	17:37
56	06:41	07:28	08:12	16:02	16:46	17:32
58	06:46	07:36	08:23	15:50	16:38	17:27
60	06:52	07:45	08:36	15:37	16:29	17:22

	Orto luna			Ocaso luna		
Lat.	Jue	Vie	Sa	Jue	Vie	Sa
N 72	20:57	–:–	–:–	16:07	–:–	–:–
70	21:31	20:22	–:–	15:35	18:19	–:–
68	21:56	21:22	–:–	15:12	17:19	–:–
66	22:15	21:57	21:24	14:54	16:45	18:56
64	22:30	22:23	22:13	14:40	16:21	18:08
62	22:43	22:43	22:44	14:28	16:02	17:37
60	22:54	22:59	23:08	14:18	15:46	17:14
58	23:04	23:13	23:27	14:09	15:33	16:56
56	23:13	23:25	23:43	14:01	15:21	16:40
54	23:20	23:36	23:56	13:54	15:11	16:27
52	23:27	23:45	–:–	13:48	15:03	16:16
50	23:33	23:54	–:–	13:43	14:55	16:05
45	23:47	–:–	00:11	13:31	14:38	15:44
40	23:58	–:–	00:26	13:21	14:24	15:27
35	–:–	00:07	00:39	13:13	14:13	15:12
30	–:–	00:16	00:50	13:06	14:03	15:00
20	–:–	00:30	01:09	12:53	13:46	14:39
10	00:03	00:43	01:25	12:42	13:31	14:20
0	00:11	00:55	01:41	12:32	13:17	14:03
S 10	00:19	01:07	01:56	12:22	13:03	13:46
20	00:28	01:20	02:13	12:11	12:48	13:28
30	00:38	01:35	02:32	11:59	12:31	13:07
35	00:44	01:44	02:44	11:52	12:21	12:55
40	00:51	01:54	02:57	11:44	12:10	12:41
45	00:59	02:06	03:13	11:34	11:57	12:24
50	01:08	02:20	03:32	11:23	11:41	12:04
52	01:12	02:27	03:41	11:18	11:34	11:54
54	01:17	02:35	03:51	11:12	11:26	11:44
56	01:23	02:43	04:03	11:06	11:17	11:31
58	01:29	02:53	04:16	10:59	11:06	11:17
60	01:36	03:04	04:32	10:51	10:55	11:01

Día	Sol			Luna		
	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
21	06:26	06:27	12:06	06:21	18:43	22(41%)
22	06:29	06:30	12:06	07:05	19:28	23(32%)
23	06:31	06:32	12:06	07:51	20:15	24(23%)

Julio 24, 25, 26 (Dom, Lun, Mar)

	Aries	Venus		Martes		Júpiter		Saturno	
Dom	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	301°41.9	203°54.8	22°50.4	260°46.9	14°01.8	293°10.4	2°09.0	335°28.6	-14°53.5
1	316°44.4	218°54.0	22°50.3	275°47.7	14°02.3	308°12.8	2°09.0	350°31.3	-14°53.5
2	331°46.9	233°53.2	22°50.3	290°48.5	14°02.8	323°15.2	2°09.0	5°33.9	-14°53.6
3	346°49.3	248°52.4	22°50.2	305°49.4	14°03.3	338°17.7	2°09.0	20°36.5	-14°53.6
4	1°51.8	263°51.5	22°50.2	320°50.2	14°03.8	353°20.1	2°09.0	35°39.1	-14°53.7
5	16°54.3	278°50.7	22°50.1	335°51.1	14°04.3	8°22.5	2°09.0	50°41.8	-14°53.8
6	31°56.7	293°49.9	22°50.0	350°51.9	14°04.9	23°24.9	2°09.0	65°44.4	-14°53.8
7	46°59.2	308°49.1	22°50.0	5°52.7	14°05.4	38°27.4	2°09.0	80°47.0	-14°53.9
8	62°01.7	323°48.3	22°49.9	20°53.6	14°05.9	53°29.8	2°09.0	95°49.6	-14°53.9
9	77°04.1	338°47.4	22°49.9	35°54.4	14°06.4	68°32.2	2°09.0	110°52.3	-14°54.0
10	92°06.6	353°46.6	22°49.8	50°55.2	14°06.9	83°34.6	2°09.0	125°54.9	-14°54.1
11	107°09.1	8°45.8	22°49.7	65°56.1	14°07.4	98°37.1	2°09.0	140°57.5	-14°54.1
12	122°11.5	23°45.0	22°49.7	80°56.9	14°07.9	113°39.5	2°09.0	156°00.1	-14°54.2
13	137°14.0	38°44.1	22°49.6	95°57.7	14°08.4	128°41.9	2°09.0	171°02.8	-14°54.2
14	152°16.4	53°43.3	22°49.5	110°58.6	14°08.9	143°44.3	2°09.0	186°05.4	-14°54.3
15	167°18.9	68°42.5	22°49.5	125°59.4	14°09.5	158°46.8	2°09.0	201°08.0	-14°54.4
16	182°21.4	83°41.7	22°49.4	141°00.2	14°10.0	173°49.2	2°09.0	216°10.6	-14°54.4
17	197°23.8	98°40.9	22°49.3	156°01.1	14°10.5	188°51.6	2°09.0	231°13.3	-14°54.5
18	212°26.3	113°40.0	22°49.3	171°01.9	14°11.0	203°54.0	2°09.0	246°15.9	-14°54.5
19	227°28.8	128°39.2	22°49.2	186°02.8	14°11.5	218°56.5	2°09.0	261°18.5	-14°54.6
20	242°31.2	143°38.4	22°49.1	201°03.6	14°12.0	233°58.9	2°09.0	276°21.1	-14°54.7
21	257°33.7	158°37.6	22°49.1	216°04.4	14°12.5	249°01.3	2°09.0	291°23.8	-14°54.7
22	272°36.2	173°36.8	22°49.0	231°05.3	14°13.0	264°03.8	2°09.0	306°26.4	-14°54.8
23	287°38.6	188°35.9	22°48.9	246°06.1	14°13.5	279°06.2	2°09.0	321°29.0	-14°54.8
Mer.pass.:3:52:		v-0.8 d-0.1 m-3.8		v0.8 d0.5 m0.3		v2.4 d0.0 m-2.5		v2.6 d-0.1 m0.4	

Lun	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	302°41.1	203°35.1	22°48.8	261°06.9	14°14.0	294°08.6	2°09.0	336°31.6	-14°54.9
1	317°43.6	218°34.3	22°48.7	276°07.8	14°14.6	309°11.0	2°09.0	351°34.3	-14°55.0
2	332°46.0	233°33.5	22°48.7	291°08.6	14°15.1	324°13.5	2°09.0	6°36.9	-14°55.0
3	347°48.5	248°32.7	22°48.6	306°09.4	14°15.6	339°15.9	2°09.0	21°39.5	-14°55.1
4	2°50.9	263°31.8	22°48.5	321°10.3	14°16.1	354°18.3	2°09.0	36°42.1	-14°55.1
5	17°53.4	278°31.0	22°48.4	336°11.1	14°16.6	9°20.8	2°09.0	51°44.8	-14°55.2
6	32°55.9	293°30.2	22°48.3	351°12.0	14°17.1	24°23.2	2°09.0	66°47.4	-14°55.3
7	47°58.3	308°29.4	22°48.3	6°12.8	14°17.6	39°25.6	2°09.0	81°50.0	-14°55.3
8	63°00.8	323°28.5	22°48.2	21°13.6	14°18.1	54°28.1	2°09.1	96°52.6	-14°55.4
9	78°03.3	338°27.7	22°48.1	36°14.5	14°18.6	69°30.5	2°09.1	111°55.3	-14°55.4
10	93°05.7	353°26.9	22°48.0	51°15.3	14°19.1	84°32.9	2°09.1	126°57.9	-14°55.5
11	108°08.2	8°26.1	22°47.9	66°16.2	14°19.6	99°35.4	2°09.0	142°00.5	-14°55.6
12	123°10.7	23°25.3	22°47.8	81°17.0	14°20.1	114°37.8	2°09.0	157°03.1	-14°55.6
13	138°13.1	38°24.4	22°47.7	96°17.8	14°20.6	129°40.2	2°09.0	172°05.8	-14°55.7
14	153°15.6	53°23.6	22°47.6	111°18.7	14°21.1	144°42.7	2°09.0	187°08.4	-14°55.8
15	168°18.1	68°22.8	22°47.5	126°19.5	14°21.6	159°45.1	2°09.0	202°11.0	-14°55.8
16	183°20.5	83°22.0	22°47.4	141°20.3	14°22.1	174°47.5	2°09.0	217°13.7	-14°55.9
17	198°23.0	98°21.2	22°47.3	156°21.2	14°22.6	189°50.0	2°09.0	232°16.3	-14°55.9
18	213°25.4	113°20.3	22°47.2	171°22.0	14°23.2	204°52.4	2°09.0	247°18.9	-14°56.0
19	228°27.9	128°19.5	22°47.1	186°22.9	14°23.7	219°54.8	2°09.0	262°21.5	-14°56.1
20	243°30.4	143°18.7	22°47.0	201°23.7	14°24.2	234°57.3	2°09.0	277°24.2	-14°56.1
21	258°32.8	158°17.9	22°46.9	216°24.5	14°24.7	249°59.7	2°09.0	292°26.8	-14°56.2
22	273°35.3	173°17.0	22°46.8	231°25.4	14°25.2	265°02.2	2°09.0	307°29.4	-14°56.2
23	288°37.8	188°16.2	22°46.7	246°26.2	14°25.7	280°04.6	2°09.0	322°32.0	-14°56.3
Mer.pass.:3:48:		v-0.8 d-0.1 m-3.8		v0.8 d0.5 m0.2		v2.4 d0.0 m-2.5		v2.6 d-0.1 m0.4	

Mar	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	303°40.2	203°15.4	22°46.6	261°27.1	14°26.2	295°07.0	2°09.0	337°34.7	-14°56.4
1	318°42.7	218°14.6	22°46.5	276°27.9	14°26.7	310°09.5	2°09.0	352°37.3	-14°56.4
2	333°45.2	233°13.8	22°46.4	291°28.7	14°27.2	325°11.9	2°09.0	7°39.9	-14°56.5
3	348°47.6	248°12.9	22°46.3	306°29.6	14°27.7	340°14.3	2°09.0	22°42.6	-14°56.5
4	3°50.1	263°12.1	22°46.2	321°30.4	14°28.2	355°16.8	2°09.0	37°45.2	-14°56.6
5	18°52.5	278°11.3	22°46.1	336°31.3	14°28.7	10°19.2	2°09.0	52°47.8	-14°56.7
6	33°55.0	293°10.5	22°46.0	351°32.1	14°29.2	25°21.7	2°09.0	67°50.4	-14°56.7
7	48°57.5	308°09.7	22°45.9	6°32.9	14°29.7	40°24.1	2°09.0	82°53.1	-14°56.8
8	63°59.9	323°08.8	22°45.7	21°33.8	14°30.2	55°26.5	2°09.0	97°55.7	-14°56.8
9	79°02.4	338°08.0	22°45.6	36°34.6	14°30.7	70°29.0	2°09.0	112°58.3	-14°56.9
10	94°04.9	353°07.2	22°45.5	51°35.5	14°31.2	85°31.4	2°09.0	128°00.9	-14°57.0
11	109°07.3	8°06.4	22°45.4	66°36.3	14°31.7	100°33.9	2°09.0	143°03.6	-14°57.0
12	124°09.8	23°05.6	22°45.3	81°37.2	14°32.2	115°36.3	2°09.0	158°06.2	-14°57.1
13	139°12.3	38°04.7	22°45.2	96°38.0	14°32.7	130°38.7	2°09.0	173°08.8	-14°57.1
14	154°14.7	53°03.9	22°45.0	111°38.8	14°33.2	145°41.2	2°09.0	188°11.5	-14°57.2
15	169°17.2	68°03.1	22°44.9	126°39.7	14°33.7	160°43.6	2°09.0	203°14.1	-14°57.3
16	184°19.7	83°02.3	22°44.8	141°40.5	14°34.2	175°46.1	2°09.0	218°16.7	-14°57.3
17	199°22.1	98°01.4	22°44.7	156°41.4	14°34.7	190°48.5	2°09.0	233°19.3	-14°57.4
18	214°24.6	113°00.6	22°44.5	171°42.2	14°35.2	205°51.0	2°09.0	248°22.0	-14°57.5
19	229°27.0	127°59.8	22°44.4	186°43.0	14°35.7	220°53.4	2°09.0	263°24.6	-14°57.5
20	244°29.5	142°59.0	22°44.3	201°43.9	14°36.2	235°55.8	2°09.0	278°27.2	-14°57.6
21	259°32.0	157°58.2	22°44.2	216°44.7	14°36.7	250°58.3	2°09.0	293°29.9	-14°57.6
22	274°34.4	172°57.3	22°44.0	231°45.6	14°37.2	266°00.7	2°09.0	308°32.5	-14°57.7
23	289°36.9	187°56.5	22°43.9	246°46.4	14°37.6	281°03.2	2°09.0	323°35.1	-14°57.8
Mer.pass.:3:44:		v-0.8 d-0.1 m-3.8		v0.8 d0.5 m0.2		v2.4 d-0.0 m-2.5		v2.6 d-0.1 m0.4	

Estrellas	AHS	Dec
Alpheratz	357°36.7	29°12.8
Ankaa	353°09.0	-42°10.8
Schedar	349°33.1	56°39.4
Diphda	348°49.1	-17°51.7
Achernar	335°21.7	-57°07.1
Hamal	327°53.5	23°34.0
Polaris	315°06.8	89°21.2
Akamar	315°13.4	-40°12.6
Menkar	314°08.3	4°10.7
Mirfak	308°31.3	49°56.2
Aldebaran	290°42.2	16°33.3
Rigel	281°06.1	-8°10.4
Capella	280°25.3	46°01.2
Bellatrix	278°25.3	6°22.2
Elnath	278°04.7	28°37.5
Alnilam	275°40.1	-1°11.2
Betelgeuse	270°54.6	7°24.7
Canopus	263°53.8	-52°42.3
Sirius	258°28.3	-16°44.5
Adara	255°07.8	-29°00.0
Procyon	244°53.2	5°10.3
Pollux	243°20.1	27°58.4
Avior	234°16.2	-59°34.8
Suhail	222°48.2	-43°31.4
Miaplacidus	221°39.6	-69°48.6
Alphard	217°50.0	-8°45.3
Regulus	207°36.8	11°51.6
Dubhe	193°44.0	61°38.1
Denebola	182°27.1	14°27.0
Gienah	175°45.8	-17°40.0
Acrux	173°02.6	-63°13.6
Gacrux	171°54.1	-57°14.5
Alioth	166°15.0	55°50.6
Spica	158°24.5	-11°16.6
Alcaid	152°53.6	49°12.4
Hadar	148°38.8	-60°29.1
Menkent	148°00.0	-36°28.9
Arcturus	145°49.6	19°04.4
Rigil Kent.	139°42.9	-60°55.9
Zubenelg.	136°58.2	-16°08.1
Kochab	137°19.5	74°04.1
Alphecca	126°05.3	26°38.6
Antares	112°18.1	-26°28.9
Atria	107°13.7	-69°04.2
Sabik	102°04.8	-15°45.1
Shaula	96°12.8	-37°07.2
Rasalhague	96°00.2	12°32.8
Etamin	90°42.7	51°29.3
Kaus Aust.	83°34.8	-34°22.4
Vega	80°34.2	38°48.3
Nunki	75°49.9	-26°16.1
Altair	62°01.7	8°55.7
Peacock	53°08.3	-56°39.7
Deneb	49°26.7	45°21.6
Enif	33°40.5	9°58.7
Alnair	27°35.1	-46°51.0
Fomalhaut	15°16.5	-29°30.0
Scheat	13°46.9	28°12.2
Markab	13°31.7	15°19.5

Jul 24 Dom	AHS	Paso Merid
Venus	262°12.9	10:25
Mars	319°04.9	06:37
Jupiter	351°28.4	04:27
Saturn	33°46.7	01:38

Jul 25 Lun	AHS	Paso Merid
Venus	260°54.0	10:26
Mars	318°25.9	06:35
Jupiter	351°27.5	04:23
Saturn	33°50.5	01:34

Jul 26 Mar	AHS	Paso Merid
Venus	259°35.2	10:28
Mars	317°46.8	06:34
Jupiter	351°26.8	04:19
Saturn	33°54.4	01:29

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.1

h	Sol		Luna				
Dom	AHG	Dec	AHG	v	Dec	d	HP
0	178°21.9	19°54.6	234°18.3	11.9	23°30.6	7.0	54.3
1	193°21.9	19°54.1	248°49.2	11.8	23°37.6	6.9	54.3
2	208°21.9	19°53.6	263°20.0	11.8	23°44.4	6.8	54.3
3	223°21.8	19°53.1	277°50.8	11.8	23°51.1	6.7	54.3
4	238°21.8	19°52.5	292°21.5	11.7	23°57.7	6.5	54.3
5	253°21.8	19°52.0	306°52.2	11.7	24°04.2	6.4	54.3
6	268°21.8	19°51.5	321°22.8	11.6	24°10.6	6.3	54.2
7	283°21.8	19°51.0	335°53.4	11.6	24°16.9	6.2	54.2
8	298°21.8	19°50.4	350°24.0	11.5	24°23.0	6.1	54.2
9	313°21.8	19°49.9	4°54.5	11.5	24°29.1	6.0	54.2
10	328°21.8	19°49.4	19°25.0	11.5	24°35.0	5.9	54.2
11	343°21.7	19°48.9	33°55.4	11.4	24°40.8	5.8	54.2
12	358°21.7	19°48.3	48°25.8	11.4	24°46.5	5.6	54.2
13	13°21.7	19°47.8	62°56.2	11.3	24°52.1	5.5	54.2
14	28°21.7	19°47.3	77°26.5	11.3	24°57.6	5.4	54.2
15	43°21.7	19°46.7	91°56.8	11.3	25°02.9	5.3	54.2
16	58°21.7	19°46.2	106°27.0	11.2	25°08.1	5.2	54.1
17	73°21.7	19°45.7	120°57.2	11.2	25°13.2	5.1	54.1
18	88°21.7	19°45.1	135°27.4	11.1	25°18.2	4.9	54.1
19	103°21.7	19°44.6	149°57.5	11.1	25°23.1	4.8	54.1
20	118°21.7	19°44.1	164°27.6	11.1	25°27.9	4.7	54.1
21	133°21.6	19°43.5	178°57.7	11.0	25°32.5	4.6	54.1
22	148°21.6	19°43.0	193°27.7	11.0	25°37.0	4.5	54.1
23	163°21.6	19°42.5	207°57.7	11.0	25°41.4	4.3	54.1
	SD.=15.7	d=-0.5	S.D.=14.8				

Lun	AHG	Dec	AHG	v	Dec	d	HP
0	178°21.6	19°41.9	222°27.7	10.9	25°45.7	4.2	54.1
1	193°21.6	19°41.4	236°57.6	10.9	25°49.9	4.1	54.1
2	208°21.6	19°40.9	251°27.5	10.9	25°53.9	4.0	54.1
3	223°21.6	19°40.3	265°57.3	10.8	25°57.8	3.8	54.1
4	238°21.6	19°39.8	280°27.2	10.8	26°01.6	3.7	54.1
5	253°21.6	19°39.3	294°56.9	10.8	26°05.3	3.6	54.1
6	268°21.6	19°38.7	309°26.7	10.8	26°08.8	3.5	54.0
7	283°21.6	19°38.2	323°56.5	10.7	26°12.2	3.4	54.0
8	298°21.6	19°37.6	338°26.2	10.7	26°15.5	3.2	54.0
9	313°21.6	19°37.1	352°55.9	10.7	26°18.7	3.1	54.0
10	328°21.6	19°36.6	7°25.5	10.6	26°21.7	3.0	54.0
11	343°21.5	19°36.0	21°55.1	10.6	26°24.6	2.9	54.0
12	358°21.5	19°35.5	36°24.8	10.6	26°27.4	2.7	54.0
13	13°21.5	19°34.9	50°54.3	10.6	26°30.1	2.6	54.0
14	28°21.5	19°34.4	65°23.9	10.6	26°32.6	2.5	54.0
15	43°21.5	19°33.8	79°53.5	10.5	26°35.0	2.4	54.0
16	58°21.5	19°33.3	94°23.0	10.5	26°37.3	2.2	54.0
17	73°21.5	19°32.8	108°52.5	10.5	26°39.5	2.1	54.0
18	88°21.5	19°32.2	123°22.0	10.5	26°41.5	2.0	54.0
19	103°21.5	19°31.7	137°51.4	10.5	26°43.4	1.8	54.0
20	118°21.5	19°31.1	152°20.9	10.4	26°45.2	1.7	54.0
21	133°21.5	19°30.6	166°50.3	10.4	26°46.9	1.6	54.0
22	148°21.5	19°30.0	181°19.7	10.4	26°48.4	1.5	54.0
23	163°21.5	19°29.5	195°49.1	10.4	26°49.8	1.3	54.0
	SD.=15.7	d=-0.5	S.D.=14.8				

Mar	AHG	Dec	AHG	v	Dec	d	HP
0	178°21.5	19°28.9	210°18.5	10.4	26°51.0	1.2	54.0
1	193°21.5	19°28.4	224°47.9	10.4	26°52.2	1.1	54.0
2	208°21.5	19°27.8	239°17.3	10.4	26°53.2	0.9	54.0
3	223°21.5	19°27.3	253°46.6	10.4	26°54.1	0.8	54.0
4	238°21.5	19°26.7	268°16.0	10.3	26°54.8	0.7	54.0
5	253°21.5	19°26.2	282°45.3	10.3	26°55.4	0.6	54.0
6	268°21.5	19°25.6	297°14.7	10.3	26°55.9	0.4	54.0
7	283°21.5	19°25.1	311°44.0	10.3	26°56.3	0.3	54.0
8	298°21.5	19°24.5	326°13.3	10.3	26°56.5	0.2	54.0
9	313°21.5	19°24.0	340°42.7	10.3	26°56.6	0.0	54.0
10	328°21.5	19°23.4	355°12.0	10.3	26°56.6	-0.1	54.0
11	343°21.5	19°22.9	9°41.3	10.3	26°56.4	-0.2	54.0
12	358°21.5	19°22.3	24°10.6	10.3	26°56.2	-0.3	54.0
13	13°21.5	19°21.7	38°39.9	10.3	26°55.7	-0.5	54.0
14	28°21.5	19°21.2	53°09.3	10.3	26°55.2	-0.6	54.0
15	43°21.5	19°20.6	67°38.6	10.3	26°54.5	-0.7	54.0
16	58°21.5	19°20.1	82°07.9	10.3	26°53.7	-0.9	54.0
17	73°21.5	19°19.5	96°37.3	10.3	26°52.8	-1.0	54.0
18	88°21.5	19°18.9	111°06.6	10.3	26°51.7	-1.1	54.0
19	103°21.5	19°18.4	125°35.9	10.4	26°50.5	-1.3	54.0
20	118°21.5	19°17.8	140°05.3	10.4	26°49.2	-1.4	54.0
21	133°21.5	19°17.3	154°34.7	10.4	26°47.8	-1.5	54.0
22	148°21.5	19°16.7	169°04.0	10.4	26°46.2	-1.6	54.0
23	163°21.5	19°16.1	183°33.4	10.4	26°44.5	-1.8	54.0
	SD.=15.7	d=-0.5	S.D.=14.7				

Lat.	Crepúsculo Naut.	Crepúsculo Civil	Orto Sol	Ocaso Sol Civil	Ocaso Sol Naut.	Ocaso Sol
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	–:–	–:–	–:–
68	–:–	–:–	01:35	22:33	–:–	–:–
66	–:–	–:–	02:18	21:52	–:–	–:–
64	–:–	00:44	02:46	21:25	23:19	–:–
62	–:–	01:45	03:07	21:04	22:24	–:–
60	–:–	02:17	03:24	20:47	21:53	–:–
58	00:40	02:41	03:39	20:33	21:30	23:24
56	01:36	03:00	03:51	20:21	21:12	22:34
54	02:06	03:15	04:02	20:10	20:57	22:05
52	02:28	03:28	04:11	20:01	20:44	21:44
50	02:45	03:39	04:20	19:53	20:33	21:26
45	03:18	04:03	04:38	19:35	20:10	20:54
40	03:42	04:21	04:52	19:21	19:52	20:30
35	04:01	04:36	05:04	19:09	19:37	20:11
30	04:17	04:48	05:15	18:58	19:24	19:56
20	04:41	05:09	05:33	18:40	19:04	19:32
10	05:00	05:26	05:49	18:24	18:47	19:13
0	05:16	05:41	06:03	18:10	18:32	18:58
S 10	05:29	05:55	06:17	17:56	18:18	18:44
20	05:42	06:09	06:33	17:41	18:04	18:31
30	05:55	06:24	06:50	17:23	17:49	18:18
35	06:02	06:33	07:00	17:13	17:41	18:11
40	06:09	06:42	07:11	17:02	17:31	18:04
45	06:17	06:53	07:25	16:49	17:21	17:57
50	06:25	07:05	07:41	16:32	17:09	17:48
52	06:29	07:11	07:49	16:25	17:03	17:45
54	06:33	07:17	07:57	16:16	16:57	17:41
56	06:37	07:24	08:07	16:07	16:50	17:36
58	06:42	07:31	08:18	15:56	16:42	17:32
60	06:47	07:40	08:30	15:43	16:34	17:27

Lat.	Orto luna Dom	Orto luna Lun	Orto luna Mar	Ocaso luna Dom	Ocaso luna Lun	Ocaso luna Mar
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	–:–	–:–	–:–
68	–:–	–:–	–:–	–:–	–:–	–:–
66	–:–	–:–	–:–	–:–	–:–	–:–
64	21:53	–:–	–:–	20:09	–:–	–:–
62	22:51	23:11	–:–	19:12	20:36	21:27
60	23:24	23:55	–:–	18:39	19:52	20:44
58	23:49	–:–	00:24	18:14	19:23	20:15
56	–:–	00:09	00:47	17:55	19:01	19:53
54	–:–	00:25	01:05	17:39	18:42	19:34
52	00:08	00:39	01:21	17:25	18:27	19:19
50	00:19	00:52	01:34	17:13	18:14	19:05
45	00:41	01:17	02:02	16:47	17:46	18:38
40	00:59	01:38	02:23	16:27	17:24	18:16
35	01:14	01:55	02:42	16:11	17:07	17:58
30	01:27	02:10	02:57	15:56	16:51	17:43
20	01:50	02:35	03:24	15:32	16:25	17:16
10	02:10	02:57	03:46	15:11	16:02	16:53
0	02:28	03:17	04:08	14:52	15:41	16:32
S 10	02:46	03:38	04:29	14:32	15:20	16:11
20	03:06	04:00	04:52	14:11	14:58	15:48
30	03:29	04:25	05:18	13:47	14:32	15:22
35	03:43	04:40	05:34	13:33	14:17	15:06
40	03:59	04:58	05:52	13:17	13:59	14:48
45	04:17	05:19	06:14	12:57	13:37	14:26
50	04:41	05:46	06:42	12:33	13:10	13:58
52	04:52	05:59	06:56	12:21	12:57	13:44
54	05:05	06:14	07:12	12:08	12:42	13:28
56	05:20	06:31	07:31	11:52	12:24	13:09
58	05:38	06:53	07:54	11:34	12:02	12:46
60	06:00	07:21	08:24	11:12	11:34	12:16

Día	Sol Ec. tiempo 00:00 h	Sol Ec. tiempo 12:00 h	Sol Paso Merid	Luna Paso Meridiano Superior	Luna Paso Meridiano Inferior	Luna Edad
24	06:32	06:33	12:06	08:39	21:04	25(16%)
25	06:34	06:34	12:06	09:29	21:54	26(9%)
26	06:34	06:34	12:06	10:19	22:45	27(5%)

Julio 27, 28, 29 (Mie, Jue, Vie)

	Aries	Venus		Martes		Júpiter		Saturno	
Mie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	304°39.4	202°55.7	22°43.8	261°47.3	14°38.1	296°05.6	2°08.9	338°37.8	-14°57.8
1	319°41.8	217°54.9	22°43.6	276°48.1	14°38.6	311°08.1	2°08.9	353°40.4	-14°57.9
2	334°44.3	232°54.1	22°43.5	291°48.9	14°39.1	326°10.5	2°08.9	8°43.0	-14°57.9
3	349°46.8	247°53.2	22°43.4	306°49.8	14°39.6	341°13.0	2°08.9	23°45.6	-14°58.0
4	4°49.2	262°52.4	22°43.2	321°50.6	14°40.1	356°15.4	2°08.9	38°48.3	-14°58.1
5	19°51.7	277°51.6	22°43.1	336°51.5	14°40.6	11°17.9	2°08.9	53°50.9	-14°58.1
6	34°54.2	292°50.8	22°43.0	351°52.3	14°41.1	26°20.3	2°08.9	68°53.5	-14°58.2
7	49°56.6	307°50.0	22°42.8	6°53.2	14°41.6	41°22.7	2°08.9	83°56.2	-14°58.3
8	64°59.1	322°49.1	22°42.7	21°54.0	14°42.1	56°25.2	2°08.9	98°58.8	-14°58.3
9	80°01.5	337°48.3	22°42.5	36°54.9	14°42.6	71°27.6	2°08.9	114°01.4	-14°58.4
10	95°04.0	352°47.5	22°42.4	51°55.7	14°43.1	86°30.1	2°08.9	129°04.0	-14°58.4
11	110°06.5	7°46.7	22°42.2	66°56.5	14°43.6	101°32.5	2°08.9	144°06.7	-14°58.5
12	125°08.9	22°45.9	22°42.1	81°57.4	14°44.1	116°35.0	2°08.9	159°09.3	-14°58.6
13	140°11.4	37°45.0	22°41.9	96°58.2	14°44.6	131°37.4	2°08.9	174°11.9	-14°58.6
14	155°13.9	52°44.2	22°41.8	111°59.1	14°45.1	146°39.9	2°08.9	189°14.6	-14°58.7
15	170°16.3	67°43.4	22°41.6	126°59.9	14°45.6	161°42.3	2°08.9	204°17.2	-14°58.7
16	185°18.8	82°42.6	22°41.5	142°00.8	14°46.0	176°44.8	2°08.8	219°19.8	-14°58.8
17	200°21.3	97°41.8	22°41.3	157°01.6	14°46.5	191°47.2	2°08.8	234°22.5	-14°58.9
18	215°23.7	112°40.9	22°41.2	172°02.5	14°47.0	206°49.7	2°08.8	249°25.1	-14°58.9
19	230°26.2	127°40.1	22°41.0	187°03.3	14°47.5	221°52.1	2°08.8	264°27.7	-14°59.0
20	245°28.7	142°39.3	22°40.9	202°04.2	14°48.0	236°54.6	2°08.8	279°30.4	-14°59.1
21	260°31.1	157°38.5	22°40.7	217°05.0	14°48.5	251°57.0	2°08.8	294°33.0	-14°59.1
22	275°33.6	172°37.7	22°40.6	232°05.8	14°49.0	266°59.5	2°08.8	309°35.6	-14°59.2
23	290°36.0	187°36.8	22°40.4	247°06.7	14°49.5	282°01.9	2°08.8	324°38.2	-14°59.2
Mer.pass.:3:40:		v-0.8 d-0.1 m-3.8		v0.8 d0.5 m0.2		v2.4 d-0.0 m-2.5		v2.6 d-0.1 m0.4	

Jue	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	305°38.5	202°36.0	22°40.3	262°07.5	14°50.0	297°04.4	2°08.8	339°40.9	-14°59.3
1	320°41.0	217°35.2	22°40.1	277°08.4	14°50.5	312°06.8	2°08.8	354°43.5	-14°59.4
2	335°43.4	232°34.4	22°39.9	292°09.2	14°50.9	327°09.3	2°08.8	9°46.1	-14°59.4
3	350°45.9	247°33.6	22°39.8	307°10.1	14°51.4	342°11.8	2°08.8	24°48.8	-14°59.5
4	5°48.4	262°32.7	22°39.6	322°10.9	14°51.9	357°14.2	2°08.7	39°51.4	-14°59.5
5	20°50.8	277°31.9	22°39.4	337°11.8	14°52.4	12°16.7	2°08.7	54°54.0	-14°59.6
6	35°53.3	292°31.1	22°39.3	352°12.6	14°52.9	27°19.1	2°08.7	69°56.7	-14°59.7
7	50°55.8	307°30.3	22°39.1	7°13.5	14°53.4	42°21.6	2°08.7	84°59.3	-14°59.7
8	65°58.2	322°29.5	22°38.9	22°14.3	14°53.9	57°24.0	2°08.7	100°01.9	-14°59.8
9	81°00.7	337°28.6	22°38.8	37°15.2	14°54.4	72°26.5	2°08.7	115°04.6	-14°59.9
10	96°03.2	352°27.8	22°38.6	52°16.0	14°54.9	87°28.9	2°08.7	130°07.2	-14°59.9
11	111°05.6	7°27.0	22°38.4	67°16.9	14°55.3	102°31.4	2°08.7	145°09.8	-15°00.0
12	126°08.1	22°26.2	22°38.3	82°17.7	14°55.8	117°33.9	2°08.7	160°12.5	-15°00.0
13	141°10.5	37°25.4	22°38.1	97°18.5	14°56.3	132°36.3	2°08.7	175°15.1	-15°00.1
14	156°13.0	52°24.5	22°37.9	112°19.4	14°56.8	147°38.8	2°08.7	190°17.7	-15°00.2
15	171°15.5	67°23.7	22°37.7	127°20.2	14°57.3	162°41.2	2°08.6	205°20.3	-15°00.2
16	186°17.9	82°22.9	22°37.5	142°21.1	14°57.8	177°43.7	2°08.6	220°23.0	-15°00.3
17	201°20.4	97°22.1	22°37.4	157°21.9	14°58.3	192°46.1	2°08.6	235°25.6	-15°00.4
18	216°22.9	112°21.3	22°37.2	172°22.8	14°58.7	207°48.6	2°08.6	250°28.2	-15°00.4
19	231°25.3	127°20.5	22°37.0	187°23.6	14°59.2	222°51.1	2°08.6	265°30.9	-15°00.5
20	246°27.8	142°19.6	22°36.8	202°24.5	14°59.7	237°53.5	2°08.6	280°33.5	-15°00.5
21	261°30.3	157°18.8	22°36.6	217°25.3	15°00.2	252°56.0	2°08.6	295°36.1	-15°00.6
22	276°32.7	172°18.0	22°36.5	232°26.2	15°00.7	267°58.4	2°08.6	310°38.8	-15°00.7
23	291°35.2	187°17.2	22°36.3	247°27.0	15°01.2	283°00.9	2°08.6	325°41.4	-15°00.7
Mer.pass.:3:36:		v-0.8 d-0.2 m-3.8		v0.8 d0.5 m0.2		v2.5 d-0.0 m-2.5		v2.6 d-0.1 m0.4	

Vie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	306°37.6	202°16.4	22°36.1	262°27.9	15°01.6	298°03.4	2°08.5	340°44.0	-15°00.8
1	321°40.1	217°15.5	22°35.9	277°28.7	15°02.1	313°05.8	2°08.5	355°46.7	-15°00.8
2	336°42.6	232°14.7	22°35.7	292°29.6	15°02.6	328°08.3	2°08.5	10°49.3	-15°00.9
3	351°45.0	247°13.9	22°35.5	307°30.4	15°03.1	343°10.7	2°08.5	25°51.9	-15°01.0
4	6°47.5	262°13.1	22°35.3	322°31.3	15°03.6	358°13.2	2°08.5	40°54.6	-15°01.0
5	21°50.0	277°12.3	22°35.1	337°32.1	15°04.1	13°15.7	2°08.5	55°57.2	-15°01.1
6	36°52.4	292°11.5	22°34.9	352°33.0	15°04.5	28°18.1	2°08.5	70°59.8	-15°01.2
7	51°54.9	307°10.6	22°34.7	7°33.8	15°05.0	43°20.6	2°08.5	86°02.5	-15°01.2
8	66°57.4	322°09.8	22°34.5	22°34.7	15°05.5	58°23.0	2°08.4	101°05.1	-15°01.3
9	81°59.8	337°09.0	22°34.3	37°35.5	15°06.0	73°25.5	2°08.4	116°07.7	-15°01.3
10	97°02.3	352°08.2	22°34.2	52°36.4	15°06.5	88°28.0	2°08.4	131°10.4	-15°01.4
11	112°04.8	7°07.4	22°34.0	67°37.2	15°06.9	103°30.4	2°08.4	146°13.0	-15°01.5
12	127°07.2	22°06.6	22°33.8	82°38.1	15°07.4	118°32.9	2°08.4	161°15.6	-15°01.5
13	142°09.7	37°05.7	22°33.5	97°38.9	15°07.9	133°35.4	2°08.4	176°18.3	-15°01.6
14	157°12.1	52°04.9	22°33.3	112°39.8	15°08.4	148°37.8	2°08.4	191°20.9	-15°01.7
15	172°14.6	67°04.1	22°33.1	127°40.6	15°08.9	163°40.3	2°08.3	206°23.5	-15°01.7
16	187°17.1	82°03.3	22°32.9	142°41.5	15°09.3	178°42.8	2°08.3	221°26.2	-15°01.8
17	202°19.5	97°02.5	22°32.7	157°42.3	15°09.8	193°45.2	2°08.3	236°28.8	-15°01.8
18	217°22.0	112°01.7	22°32.5	172°43.2	15°10.3	208°47.7	2°08.3	251°31.4	-15°01.9
19	232°24.5	127°00.8	22°32.3	187°44.1	15°10.8	223°50.2	2°08.3	266°34.1	-15°02.0
20	247°26.9	142°00.0	22°32.1	202°44.9	15°11.3	238°52.6	2°08.3	281°36.7	-15°02.0
21	262°29.4	156°59.2	22°31.9	217°45.8	15°11.7	253°55.1	2°08.3	296°39.3	-15°02.1
22	277°31.9	171°58.4	22°31.7	232°46.6	15°12.2	268°57.6	2°08.2	311°42.0	-15°02.2
23	292°34.3	186°57.6	22°31.5	247°47.5	15°12.7	284°00.0	2°08.2	326°44.6	-15°02.2
Mer.pass.:3:32:		v-0.8 d-0.2 m-3.8		v0.8 d0.5 m0.2		v2.5 d-0.0 m-2.5		v2.6 d-0.1 m0.4	

Estrellas

	AHS	Dec
Alpheratz	357°36.7	29°12.8
Ankaa	353°08.9	-42°10.8
Schedar	349°33.1	56°39.4
Diphda	348°49.1	-17°51.7
Achernar	335°21.6	-57°07.1
Hamal	327°53.5	23°34.0
Polaris	315°05.2	89°21.2
Akamar	315°13.4	-40°12.6
Menkar	314°08.3	4°10.7
Mirfak	308°31.3	49°56.2
Aldebaran	290°42.1	16°33.3
Rigel	281°06.0	-8°10.4
Capella	280°25.2	46°01.2
Bellatrix	278°25.3	6°22.2
Elnath	278°04.7	28°37.5
Alnilam	275°40.0	-1°11.2
Betelgeuse	270°54.5	7°24.7
Canopus	263°53.8	-52°42.3
Sirius	258°28.2	-16°44.5
Adara	255°07.8	-29°00.0
Procyon	244°53.2	5°10.3
Pollux	243°20.0	27°58.4
Avior	234°16.2	-59°34.8
Suhail	222°48.2	-43°31.3
Miaplacidus	221°39.6	-69°48.6
Alphard	217°50.0	-8°45.3
Regulus	207°36.8	11°51.6
Dubhe	193°44.0	61°38.1
Denebola	182°27.1	14°27.0
Gienah	175°45.8	-17°40.0
Acrux	173°02.6	-63°13.6
Gacrux	171°54.1	-57°14.5
Alioth	166°15.0	55°50.6
Spica	158°24.5	-11°16.6
Alcaid	152°53.7	49°12.4
Hadar	148°38.9	-60°29.1
Menkent	148°00.0	-36°28.9
Arcturus	145°49.6	19°04.4
Rigil Kent.	139°43.0	-60°55.9
Zubenelg.	136°58.2	-16°08.1
Kochab	137°19.6	74°04.1
Alphecca	126°05.3	26°38.6
Antares	112°18.1	-26°28.9
Atria	107°13.7	-69°04.2
Sabik	102°04.8	-15°45.1
Shaula	96°12.8	-37°07.2
Rasalhague	96°00.2	12°32.8
Etamin	90°42.7	51°29.3
Kaus Aust.	83°34.8	-34°22.4
Vega	80°34.2	38°48.4
Nunki	75°49.9	-26°16.1
Altair	62°01.6	8°55.7
Peacock	53°08.3	-56°39.7
Deneb	49°26.7	45°21.6
Enif	33°40.5	9°58.7
Alnair	27°35.0	-46°51.0
Fomalhaut	15°16.5	-29°30.0
Scheat	13°46.9	28°12.2
Markab	13°31.7	15°19.5

Jul 27 Mie	AHS	Paso Merid
Venus	258°16.3	10:29
Mars	317°07.9	06:32
Jupiter	351°26.3	04:15
Saturn	33°58.4	01:25

Jul 28 Jue	AHS	Paso Merid
Venus	256°57.5	10:30
Mars	316°29.0	06:31
Jupiter	351°25.9	04:11
Saturn	34°02.4	01:21

Jul 29 Vie	AHS	Paso Merid
Venus	255°38.7	10:31
Mars	315°50.2	06:30
Jupiter	351°25.7	04:07
Saturn	34°06.4	01:17

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.1

h	Sol		Luna				
Mie	AHG	Dec	AHG	v	Dec	d	HP
0	178°21.5	19°15.6	198°02.8	10.4	26°42.6	-1.9	54.0
1	193°21.5	19°15.0	212°32.3	10.4	26°40.7	-2.0	54.0
2	208°21.5	19°14.5	227°01.7	10.4	26°38.6	-2.2	54.0
3	223°21.5	19°13.9	241°31.1	10.5	26°36.4	-2.3	54.0
4	238°21.5	19°13.3	256°00.6	10.5	26°34.0	-2.4	54.0
5	253°21.5	19°12.8	270°30.1	10.5	26°31.6	-2.5	54.0
6	268°21.6	19°12.2	284°59.6	10.5	26°29.0	-2.7	54.0
7	283°21.6	19°11.6	299°29.1	10.5	26°26.2	-2.8	54.0
8	298°21.6	19°11.1	313°58.6	10.6	26°23.4	-2.9	54.0
9	313°21.6	19°10.5	328°28.2	10.6	26°20.4	-3.0	54.0
10	328°21.6	19°09.9	342°57.8	10.6	26°17.3	-3.2	54.0
11	343°21.6	19°09.4	357°27.4	10.6	26°14.0	-3.3	54.0
12	358°21.6	19°08.8	11°57.0	10.6	26°10.7	-3.4	54.0
13	13°21.6	19°08.2	26°26.7	10.7	26°07.2	-3.5	54.0
14	28°21.6	19°07.7	40°56.4	10.7	26°03.6	-3.7	54.0
15	43°21.6	19°07.1	55°26.1	10.7	25°59.9	-3.8	54.0
16	58°21.6	19°06.5	69°55.8	10.8	25°56.0	-3.9	54.0
17	73°21.6	19°05.9	84°25.6	10.8	25°52.0	-4.0	54.1
18	88°21.6	19°05.4	98°55.4	10.8	25°47.9	-4.2	54.1
19	103°21.6	19°04.8	113°25.2	10.8	25°43.7	-4.3	54.1
20	118°21.7	19°04.2	127°55.1	10.9	25°39.3	-4.4	54.1
21	133°21.7	19°03.6	142°25.0	10.9	25°34.9	-4.5	54.1
22	148°21.7	19°03.1	156°54.9	10.9	25°30.3	-4.7	54.1
23	163°21.7	19°02.5	171°24.9	11.0	25°25.6	-4.8	54.1
	SD.=15.7	d=-0.6	S.D.=14.7				

Jue	AHG	Dec	AHG	v	Dec	d	HP
0	178°21.7	19°01.9	185°54.9	11.0	25°20.7	-4.9	54.1
1	193°21.7	19°01.3	200°24.9	11.1	25°15.8	-5.0	54.1
2	208°21.7	19°00.8	214°55.0	11.1	25°10.7	-5.1	54.1
3	223°21.7	19°00.2	229°25.1	11.1	25°05.5	-5.3	54.1
4	238°21.7	18°59.6	243°55.2	11.2	25°00.2	-5.4	54.1
5	253°21.8	18°59.0	258°25.4	11.2	24°54.8	-5.5	54.1
6	268°21.8	18°58.5	272°55.6	11.2	24°49.2	-5.6	54.1
7	283°21.8	18°57.9	287°25.9	11.3	24°43.6	-5.7	54.1
8	298°21.8	18°57.3	301°56.2	11.3	24°37.8	-5.8	54.1
9	313°21.8	18°56.7	316°26.5	11.4	24°31.9	-6.0	54.2
10	328°21.8	18°56.1	330°56.9	11.4	24°25.9	-6.1	54.2
11	343°21.8	18°55.6	345°27.3	11.4	24°19.7	-6.2	54.2
12	358°21.8	18°55.0	359°57.8	11.5	24°13.5	-6.3	54.2
13	13°21.9	18°54.4	14°28.3	11.5	24°07.1	-6.4	54.2
14	28°21.9	18°53.8	28°58.9	11.6	24°00.7	-6.5	54.2
15	43°21.9	18°53.2	43°29.5	11.6	23°54.1	-6.6	54.2
16	58°21.9	18°52.6	58°00.1	11.7	23°47.4	-6.7	54.2
17	73°21.9	18°52.1	72°30.8	11.7	23°40.6	-6.9	54.2
18	88°21.9	18°51.5	87°01.5	11.8	23°33.7	-7.0	54.2
19	103°21.9	18°50.9	101°32.3	11.8	23°26.7	-7.1	54.2
20	118°22.0	18°50.3	116°03.1	11.8	23°19.5	-7.2	54.2
21	133°22.0	18°49.7	130°34.0	11.9	23°12.3	-7.3	54.3
22	148°22.0	18°49.1	145°04.9	11.9	23°04.9	-7.4	54.3
23	163°22.0	18°48.5	159°35.9	12.0	22°57.5	-7.5	54.3
	SD.=15.7	d=-0.6	S.D.=14.8				

Vie	AHG	Dec	AHG	v	Dec	d	HP
0	178°22.0	18°47.9	174°06.9	12.0	22°49.9	-7.6	54.3
1	193°22.0	18°47.4	188°38.0	12.1	22°42.2	-7.7	54.3
2	208°22.1	18°46.8	203°09.1	12.1	22°34.5	-7.8	54.3
3	223°22.1	18°46.2	217°40.2	12.2	22°26.6	-7.9	54.3
4	238°22.1	18°45.6	232°11.4	12.2	22°18.6	-8.0	54.3
5	253°22.1	18°45.0	246°42.7	12.3	22°10.5	-8.1	54.3
6	268°22.1	18°44.4	261°14.0	12.3	22°02.3	-8.2	54.3
7	283°22.1	18°43.8	275°45.4	12.4	21°54.0	-8.3	54.4
8	298°22.2	18°43.2	290°16.8	12.4	21°45.7	-8.4	54.4
9	313°22.2	18°42.6	304°48.2	12.5	21°37.2	-8.5	54.4
10	328°22.2	18°42.0	319°19.7	12.5	21°28.6	-8.6	54.4
11	343°22.2	18°41.4	333°51.3	12.6	21°19.9	-8.7	54.4
12	358°22.2	18°40.8	348°22.9	12.6	21°11.1	-8.8	54.4
13	13°22.3	18°40.2	2°54.5	12.7	21°02.2	-8.9	54.4
14	28°22.3	18°39.7	17°26.2	12.7	20°53.2	-9.0	54.4
15	43°22.3	18°39.1	31°58.0	12.8	20°44.2	-9.1	54.4
16	58°22.3	18°38.5	46°29.7	12.8	20°35.0	-9.2	54.5
17	73°22.3	18°37.9	61°01.6	12.9	20°25.7	-9.3	54.5
18	88°22.4	18°37.3	75°33.5	12.9	20°16.4	-9.4	54.5
19	103°22.4	18°36.7	90°05.4	13.0	20°06.9	-9.5	54.5
20	118°22.4	18°36.1	104°37.4	13.0	19°57.4	-9.6	54.5
21	133°22.4	18°35.5	119°09.5	13.1	19°47.8	-9.7	54.5
22	148°22.5	18°34.9	133°41.6	13.1	19°38.0	-9.8	54.5
23	163°22.5	18°34.3	148°13.7	13.2	19°28.2	-9.9	54.5
	SD.=15.8	d=-0.6	S.D.=14.8				

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	00:35	23:21	–:–	–:–
68	–:–	–:–	01:53	22:15	–:–	–:–
66	–:–	–:–	02:30	21:40	–:–	–:–
64	–:–	01:12	02:55	21:15	22:54	–:–
62	–:–	01:58	03:15	20:56	22:11	–:–
60	–:–	02:27	03:31	20:40	21:43	–:–
58	01:06	02:49	03:45	20:27	21:22	23:01
56	01:48	03:06	03:56	20:15	21:05	22:22
54	02:14	03:21	04:07	20:05	20:51	21:56
52	02:35	03:33	04:16	19:56	20:39	21:36
50	02:51	03:44	04:24	19:48	20:28	21:20
45	03:23	04:06	04:41	19:32	20:06	20:49
40	03:46	04:24	04:55	19:18	19:49	20:26
35	04:04	04:38	05:06	19:06	19:34	20:08
30	04:19	04:50	05:17	18:56	19:22	19:54
20	04:42	05:10	05:34	18:39	19:02	19:30
10	05:01	05:27	05:49	18:24	18:46	19:12
0	05:16	05:41	06:03	18:10	18:32	18:57
S 10	05:29	05:55	06:17	17:56	18:18	18:44
20	05:42	06:08	06:32	17:42	18:05	18:32
30	05:54	06:23	06:48	17:25	17:51	18:19
35	06:00	06:31	06:58	17:16	17:43	18:13
40	06:07	06:40	07:09	17:05	17:34	18:07
45	06:14	06:50	07:22	16:52	17:24	17:59
50	06:22	07:02	07:37	16:36	17:12	17:52
52	06:26	07:07	07:45	16:29	17:07	17:48
54	06:29	07:13	07:53	16:21	17:01	17:44
56	06:33	07:19	08:02	16:12	16:54	17:40
58	06:38	07:26	08:12	16:02	16:47	17:36
60	06:42	07:34	08:24	15:50	16:39	17:31

	Orto luna			Ocaso luna		
Lat.	Mie	Jue	Vie	Mie	Jue	Vie
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	–:–	–:–	–:–
68	–:–	–:–	–:–	–:–	–:–	–:–
66	–:–	–:–	01:53	–:–	23:07	22:36
64	–:–	00:38	02:38	22:39	22:21	22:12
62	00:06	01:32	03:07	21:46	21:51	21:53
60	00:49	02:04	03:29	21:13	21:29	21:37
58	01:18	02:28	03:47	20:49	21:10	21:23
56	01:40	02:47	04:02	20:30	20:55	21:12
54	01:58	03:03	04:15	20:13	20:41	21:01
52	02:13	03:17	04:27	19:59	20:30	20:52
50	02:27	03:29	04:37	19:47	20:19	20:44
45	02:54	03:53	04:57	19:22	19:57	20:27
40	03:16	04:13	05:14	19:01	19:40	20:12
35	03:34	04:30	05:28	18:44	19:25	20:00
30	03:49	04:44	05:41	18:30	19:12	19:49
20	04:15	05:08	06:02	18:05	18:49	19:31
10	04:37	05:29	06:20	17:43	18:30	19:14
0	04:58	05:48	06:37	17:23	18:12	18:59
S 10	05:19	06:08	06:53	17:02	17:54	18:44
20	05:42	06:28	07:11	16:41	17:34	18:27
30	06:08	06:52	07:32	16:15	17:11	18:08
35	06:23	07:06	07:44	16:00	16:58	17:57
40	06:41	07:22	07:58	15:43	16:42	17:44
45	07:02	07:42	08:14	15:22	16:24	17:29
50	07:29	08:06	08:34	14:55	16:01	17:10
52	07:42	08:17	08:43	14:42	15:49	17:01
54	07:57	08:30	08:54	14:27	15:37	16:51
56	08:15	08:45	09:06	14:10	15:22	16:40
58	08:36	09:03	09:19	13:49	15:05	16:27
60	09:04	09:25	09:35	13:21	14:43	16:11

Día	Sol			Luna		
	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
27	06:34	06:34	12:06	11:10	23:35	28(2%)
28	06:33	06:33	12:06	12:00	00:24	29(0%)
29	06:32	06:31	12:06	12:47	00:24	1(1%)

Julio 30, 31, 01 (Sa, Dom, Lun)

	Aries	Venus		Martes		Júpiter		Saturno	
Sa	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	307°36.8	201°56.8	22°31.3	262°48.3	15°13.2	299°02.5	2°08.2	341°47.2	-15°02.3
1	322°39.3	216°55.9	22°31.0	277°49.2	15°13.6	314°05.0	2°08.2	356°49.9	-15°02.3
2	337°41.7	231°55.1	22°30.8	292°50.0	15°14.1	329°07.4	2°08.2	11°52.5	-15°02.4
3	352°44.2	246°54.3	22°30.6	307°50.9	15°14.6	344°09.9	2°08.2	26°55.1	-15°02.5
4	7°46.6	261°53.5	22°30.4	322°51.7	15°15.1	359°12.4	2°08.2	41°57.8	-15°02.5
5	22°49.1	276°52.7	22°30.2	337°52.6	15°15.5	14°14.8	2°08.1	57°00.4	-15°02.6
6	37°51.6	291°51.9	22°29.9	352°53.4	15°16.0	29°17.3	2°08.1	72°03.0	-15°02.7
7	52°54.0	306°51.1	22°29.7	7°54.3	15°16.5	44°19.8	2°08.1	87°05.7	-15°02.7
8	67°56.5	321°50.2	22°29.5	22°55.1	15°17.0	59°22.2	2°08.1	102°08.3	-15°02.8
9	82°59.0	336°49.4	22°29.3	37°56.0	15°17.4	74°24.7	2°08.1	117°11.0	-15°02.8
10	98°01.4	351°48.6	22°29.0	52°56.9	15°17.9	89°27.2	2°08.1	132°13.6	-15°02.9
11	113°03.9	6°47.8	22°28.8	67°57.7	15°18.4	104°29.7	2°08.0	147°16.2	-15°03.0
12	128°06.4	21°47.0	22°28.6	82°58.6	15°18.9	119°32.1	2°08.0	162°18.9	-15°03.0
13	143°08.8	36°46.2	22°28.4	97°59.4	15°19.3	134°34.6	2°08.0	177°21.5	-15°03.1
14	158°11.3	51°45.4	22°28.1	113°00.3	15°19.8	149°37.1	2°08.0	192°24.1	-15°03.2
15	173°13.7	66°44.5	22°27.9	128°01.1	15°20.3	164°39.5	2°08.0	207°26.8	-15°03.2
16	188°16.2	81°43.7	22°27.7	143°02.0	15°20.8	179°42.0	2°08.0	222°29.4	-15°03.3
17	203°18.7	96°42.9	22°27.4	158°02.8	15°21.2	194°44.5	2°07.9	237°32.0	-15°03.3
18	218°21.1	111°42.1	22°27.2	173°03.7	15°21.7	209°47.0	2°07.9	252°34.7	-15°03.4
19	233°23.6	126°41.3	22°27.0	188°04.5	15°22.2	224°49.4	2°07.9	267°37.3	-15°03.5
20	248°26.1	141°40.5	22°26.7	203°05.4	15°22.7	239°51.9	2°07.9	282°39.9	-15°03.5
21	263°28.5	156°39.7	22°26.5	218°06.3	15°23.1	254°54.4	2°07.9	297°42.6	-15°03.6
22	278°31.0	171°38.8	22°26.3	233°07.1	15°23.6	269°56.9	2°07.9	312°45.2	-15°03.7
23	293°33.5	186°38.0	22°26.0	248°08.0	15°24.1	284°59.3	2°07.8	327°47.8	-15°03.7
Mer.pass.:	3:28:	v-0.8 d-0.2 m-3.8		v0.9 d0.5 m0.2		v2.5 d-0.0 m-2.5		v2.6 d-0.1 m0.4	

Dom	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	308°35.9	201°37.2	22°25.8	263°08.8	15°24.5	300°01.8	2°07.8	342°50.5	-15°03.8
1	323°38.4	216°36.4	22°25.5	278°09.7	15°25.0	315°04.3	2°07.8	357°53.1	-15°03.9
2	338°40.9	231°35.6	22°25.3	293°10.5	15°25.5	330°06.8	2°07.8	12°55.8	-15°03.9
3	353°43.3	246°34.8	22°25.0	308°11.4	15°25.9	345°09.2	2°07.8	27°58.4	-15°04.0
4	8°45.8	261°34.0	22°24.8	323°12.3	15°26.4	0°11.7	2°07.7	43°01.0	-15°04.0
5	23°48.2	276°33.2	22°24.5	338°13.1	15°26.9	15°14.2	2°07.7	58°03.7	-15°04.1
6	38°50.7	291°32.3	22°24.3	353°14.0	15°27.4	30°16.7	2°07.7	73°06.3	-15°04.2
7	53°53.2	306°31.5	22°24.1	8°14.8	15°27.8	45°19.2	2°07.7	88°08.9	-15°04.2
8	68°55.6	321°30.7	22°23.8	23°15.7	15°28.3	60°21.6	2°07.7	103°11.6	-15°04.3
9	83°58.1	336°29.9	22°23.5	38°16.5	15°28.8	75°24.1	2°07.7	118°14.2	-15°04.4
10	99°00.6	351°29.1	22°23.3	53°17.4	15°29.2	90°26.6	2°07.6	133°16.8	-15°04.4
11	114°03.0	6°28.3	22°23.0	68°18.3	15°29.7	105°29.1	2°07.6	148°19.5	-15°04.5
12	129°05.5	21°27.5	22°22.8	83°19.1	15°30.2	120°31.5	2°07.6	163°22.1	-15°04.5
13	144°08.0	36°26.7	22°22.5	98°20.0	15°30.6	135°34.0	2°07.6	178°24.7	-15°04.6
14	159°10.4	51°25.8	22°22.3	113°20.8	15°31.1	150°36.5	2°07.6	193°27.4	-15°04.7
15	174°12.9	66°25.0	22°22.0	128°21.7	15°31.6	165°39.0	2°07.5	208°30.0	-15°04.7
16	189°15.4	81°24.2	22°21.8	143°22.6	15°32.0	180°41.5	2°07.5	223°32.7	-15°04.8
17	204°17.8	96°23.4	22°21.5	158°23.4	15°32.5	195°43.9	2°07.5	238°35.3	-15°04.9
18	219°20.3	111°22.6	22°21.2	173°24.3	15°33.0	210°46.4	2°07.5	253°37.9	-15°04.9
19	234°22.7	126°21.8	22°21.0	188°25.1	15°33.4	225°48.9	2°07.5	268°40.6	-15°05.0
20	249°25.2	141°21.0	22°20.7	203°26.0	15°33.9	240°51.4	2°07.4	283°43.2	-15°05.0
21	264°27.7	156°20.2	22°20.4	218°26.8	15°34.4	255°53.9	2°07.4	298°45.8	-15°05.1
22	279°30.1	171°19.4	22°20.2	233°27.7	15°34.8	270°56.4	2°07.4	313°48.5	-15°05.2
23	294°32.6	186°18.5	22°19.9	248°28.6	15°35.3	285°58.8	2°07.4	328°51.1	-15°05.2
Mer.pass.:	3:25:	v-0.8 d-0.2 m-3.8		v0.9 d0.5 m0.2		v2.5 d-0.0 m-2.5		v2.6 d-0.1 m0.3	

Lun	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	309°35.1	201°17.7	22°19.6	263°29.4	15°35.8	301°01.3	2°07.3	343°53.8	-15°05.3
1	324°37.5	216°16.9	22°19.4	278°30.3	15°36.2	316°03.8	2°07.3	358°56.4	-15°05.4
2	339°40.0	231°16.1	22°19.1	293°31.1	15°36.7	331°06.3	2°07.3	13°59.0	-15°05.4
3	354°42.5	246°15.3	22°18.8	308°32.0	15°37.1	346°08.8	2°07.3	29°01.7	-15°05.5
4	9°44.9	261°14.5	22°18.6	323°32.9	15°37.6	1°11.3	2°07.3	44°04.3	-15°05.6
5	24°47.4	276°13.7	22°18.3	338°33.7	15°38.1	16°13.7	2°07.2	59°06.9	-15°05.6
6	39°49.8	291°12.9	22°18.0	353°34.6	15°38.5	31°16.2	2°07.2	74°09.6	-15°05.7
7	54°52.3	306°12.1	22°17.7	8°35.5	15°39.0	46°18.7	2°07.2	89°12.2	-15°05.7
8	69°54.8	321°11.3	22°17.5	23°36.3	15°39.5	61°21.2	2°07.2	104°14.9	-15°05.8
9	84°57.2	336°10.5	22°17.2	38°37.2	15°39.9	76°23.7	2°07.1	119°17.5	-15°05.9
10	99°59.7	351°09.6	22°16.9	53°38.0	15°40.4	91°26.2	2°07.1	134°20.1	-15°05.9
11	115°02.2	6°08.8	22°16.6	68°38.9	15°40.8	106°28.7	2°07.1	149°22.8	-15°06.0
12	130°04.6	21°08.0	22°16.3	83°39.8	15°41.3	121°31.1	2°07.1	164°25.4	-15°06.1
13	145°07.1	36°07.2	22°16.0	98°40.6	15°41.8	136°33.6	2°07.1	179°28.0	-15°06.1
14	160°09.6	51°06.4	22°15.8	113°41.5	15°42.2	151°36.1	2°07.0	194°30.7	-15°06.2
15	175°12.0	66°05.6	22°15.5	128°42.4	15°42.7	166°38.6	2°07.0	209°33.3	-15°06.2
16	190°14.5	81°04.8	22°15.2	143°43.2	15°43.1	181°41.1	2°07.0	224°36.0	-15°06.3
17	205°17.0	96°04.0	22°14.9	158°44.1	15°43.6	196°43.6	2°07.0	239°38.6	-15°06.4
18	220°19.4	111°03.2	22°14.6	173°44.9	15°44.1	211°46.1	2°06.9	254°41.2	-15°06.4
19	235°21.9	126°02.4	22°14.3	188°45.8	15°44.5	226°48.6	2°06.9	269°43.9	-15°06.5
20	250°24.3	141°01.6	22°14.0	203°46.7	15°45.0	241°51.1	2°06.9	284°46.5	-15°06.6
21	265°26.8	156°00.8	22°13.7	218°47.5	15°45.4	256°53.5	2°06.9	299°49.1	-15°06.6
22	280°29.3	171°00.0	22°13.4	233°48.4	15°45.9	271°56.0	2°06.8	314°51.8	-15°06.7
23	295°31.7	185°59.2	22°13.2	248°49.3	15°46.4	286°58.5	2°06.8	329°54.4	-15°06.8
Mer.pass.:	3:21:	v-0.8 d-0.3 m-3.8		v0.9 d0.5 m0.2		v2.5 d-0.0 m-2.5		v2.6 d-0.1 m0.3	

Estrellas

	AHS	Dec
Alpheratz	357°36.6	29°12.8
Ankaa	353°08.9	-42°10.8
Schedar	349°33.0	56°39.4
Diphda	348°49.1	-17°51.7
Achernar	335°21.6	-57°07.1
Hamal	327°53.5	23°34.0
Polaris	315°03.7	89°21.2
Akamar	315°13.4	-40°12.6
Menkar	314°08.3	4°10.7
Mirfak	308°31.2	49°56.2
Aldebaran	290°42.1	16°33.3
Rigel	281°06.0	-8°10.4
Capella	280°25.2	46°01.2
Bellatrix	278°25.3	6°22.2
Elnath	278°04.7	28°37.5
Alnilam	275°40.0	-1°11.2
Betelgeuse	270°54.5	7°24.7
Canopus	263°53.8	-52°42.2
Sirius	258°28.2	-16°44.5
Adara	255°07.8	-29°00.0
Procyon	244°53.2	5°10.3
Pollux	243°20.0	27°58.4
Avior	234°16.2	-59°34.8
Suhail	222°48.2	-43°31.3
Miaplacidus	221°39.6	-69°48.5
Alphard	217°50.0	-8°45.3
Regulus	207°36.8	11°51.6
Dubhe	193°44.0	61°38.1
Denebola	182°27.1	14°27.0
Gienah	175°45.8	-17°40.0
Acrux	173°02.7	-63°13.6
Gacrux	171°54.2	-57°14.5
Alioth	166°15.0	55°50.6
Spica	158°24.5	-11°16.6
Alcaid	152°53.7	49°12.4
Hadar	148°38.9	-60°29.1
Menkent	148°00.0	-36°28.9
Arcturus	145°49.6	19°04.4
Rigil Kent.	139°43.0	-60°55.9
Zubenelg.	136°58.2	-16°08.1
Kochab	137°19.6	74°04.1
Alphecca	126°05.3	26°38.6
Antares	112°18.1	-26°28.9
Atria	107°13.8	-69°04.2
Sabik	102°04.8	-15°45.1
Shaula	96°12.8	-37°07.2
Rasalhague	96°00.2	12°32.8
Etamin	90°42.7	51°29.3
Kaus Aust.	83°34.8	-34°22.4
Vega	80°34.2	38°48.4
Nunki	75°49.9	-26°16.1
Altair	62°01.6	8°55.7
Peacock	53°08.3	-56°39.7
Deneb	49°26.7	45°21.6
Enif	33°40.5	9°58.7
Alnair	27°35.0	-46°51.0
Fomalhaut	15°16.5	-29°30.0
Scheat	13°46.9	28°12.2
Markab	13°31.6	15°19.6

Jul 30 Sa	AHS	Paso Merid
Venus	254°20.0	10:33
Mars	315°11.5	06:28
Jupiter	351°25.7	04:03
Saturn	34°10.5	01:13

Jul 31 Dom	AHS	Paso Merid
Venus	253°01.3	10:34
Mars	314°32.9	06:27
Jupiter	351°25.9	03:59
Saturn	34°14.6	01:08

Ago 01 Lun	AHS	Paso Merid
Venus	251°42.7	10:35
Mars	313°54.4	06:26
Jupiter	351°26.3	03:55
Saturn	34°18.7	01:04

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.1

h	Sol		Luna				
Sa	AHG	Dec	AHG	v	Dec	d	HP
0	178°22.5	18°33.7	162°45.9	13.2	19°18.3	-9.9	54.6
1	193°22.5	18°33.1	177°18.1	13.3	19°08.3	-10.0	54.6
2	208°22.5	18°32.5	191°50.4	13.3	18°58.3	-10.1	54.6
3	223°22.6	18°31.9	206°22.7	13.4	18°48.1	-10.2	54.6
4	238°22.6	18°31.3	220°55.1	13.4	18°37.8	-10.3	54.6
5	253°22.6	18°30.6	235°27.6	13.5	18°27.5	-10.4	54.6
6	268°22.6	18°30.0	250°00.0	13.5	18°17.1	-10.5	54.6
7	283°22.7	18°29.4	264°32.5	13.5	18°06.6	-10.5	54.7
8	298°22.7	18°28.8	279°05.1	13.6	17°56.0	-10.6	54.7
9	313°22.7	18°28.2	293°37.7	13.6	17°45.4	-10.7	54.7
10	328°22.7	18°27.6	308°10.4	13.7	17°34.6	-10.8	54.7
11	343°22.8	18°27.0	322°43.1	13.7	17°23.8	-10.9	54.7
12	358°22.8	18°26.4	337°15.8	13.8	17°12.9	-10.9	54.7
13	13°22.8	18°25.8	351°48.6	13.8	17°01.9	-11.0	54.7
14	28°22.8	18°25.2	6°21.5	13.9	16°50.9	-11.1	54.8
15	43°22.9	18°24.6	20°54.3	13.9	16°39.7	-11.2	54.8
16	58°22.9	18°24.0	35°27.3	13.9	16°28.5	-11.2	54.8
17	73°22.9	18°23.4	50°00.2	14.0	16°17.2	-11.3	54.8
18	88°23.0	18°22.8	64°33.2	14.0	16°05.9	-11.4	54.8
19	103°23.0	18°22.1	79°06.3	14.1	15°54.4	-11.5	54.8
20	118°23.0	18°21.5	93°39.4	14.1	15°42.9	-11.5	54.8
21	133°23.0	18°20.9	108°12.5	14.2	15°31.4	-11.6	54.9
22	148°23.1	18°20.3	122°45.7	14.2	15°19.7	-11.7	54.9
23	163°23.1	18°19.7	137°18.9	14.2	15°08.0	-11.8	54.9
	SD.=15.8	d=-0.6			S.D.=14.9		

Dom	AHG	Dec	AHG	v	Dec	d	HP
0	178°23.1	18°19.1	151°52.2	14.3	14°56.2	-11.8	54.9
1	193°23.2	18°18.5	166°25.4	14.3	14°44.4	-11.9	54.9
2	208°23.2	18°17.8	180°58.8	14.3	14°32.4	-12.0	54.9
3	223°23.2	18°17.2	195°32.1	14.4	14°20.5	-12.0	55.0
4	238°23.2	18°16.6	210°05.5	14.4	14°08.4	-12.1	55.0
5	253°23.3	18°16.0	224°39.0	14.5	13°56.3	-12.2	55.0
6	268°23.3	18°15.4	239°12.5	14.5	13°44.1	-12.2	55.0
7	283°23.3	18°14.8	253°46.0	14.5	13°31.9	-12.3	55.0
8	298°23.4	18°14.1	268°19.5	14.6	13°19.5	-12.3	55.0
9	313°23.4	18°13.5	282°53.1	14.6	13°07.2	-12.4	55.1
10	328°23.4	18°12.9	297°26.7	14.6	12°54.7	-12.5	55.1
11	343°23.5	18°12.3	312°00.3	14.7	12°42.3	-12.5	55.1
12	358°23.5	18°11.7	326°34.0	14.7	12°29.7	-12.6	55.1
13	13°23.5	18°11.0	341°07.7	14.7	12°17.1	-12.6	55.1
14	28°23.6	18°10.4	355°41.4	14.7	12°04.4	-12.7	55.1
15	43°23.6	18°09.8	10°15.2	14.8	11°51.7	-12.8	55.2
16	58°23.6	18°09.2	24°49.0	14.8	11°38.9	-12.8	55.2
17	73°23.7	18°08.6	39°22.8	14.8	11°26.1	-12.9	55.2
18	88°23.7	18°07.9	53°56.6	14.9	11°13.2	-12.9	55.2
19	103°23.7	18°07.3	68°30.5	14.9	11°00.3	-13.0	55.2
20	118°23.8	18°06.7	83°04.4	14.9	10°47.3	-13.0	55.3
21	133°23.8	18°06.1	97°38.3	14.9	10°34.2	-13.1	55.3
22	148°23.8	18°05.4	112°12.2	14.9	10°21.1	-13.1	55.3
23	163°23.9	18°04.8	126°46.2	15.0	10°08.0	-13.2	55.3
	SD.=15.8	d=-0.6			S.D.=15.0		

Lun	AHG	Dec	AHG	v	Dec	d	HP
0	178°23.9	18°04.2	141°20.2	15.0	9°54.8	-13.2	55.3
1	193°23.9	18°03.6	155°54.2	15.0	9°41.5	-13.3	55.4
2	208°24.0	18°02.9	170°28.2	15.0	9°28.2	-13.3	55.4
3	223°24.0	18°02.3	185°02.2	15.1	9°14.9	-13.4	55.4
4	238°24.1	18°01.7	199°36.3	15.1	9°01.5	-13.4	55.4
5	253°24.1	18°01.0	214°10.4	15.1	8°48.1	-13.5	55.4
6	268°24.1	18°00.4	228°44.5	15.1	8°34.6	-13.5	55.5
7	283°24.2	17°59.8	243°18.6	15.1	8°21.1	-13.5	55.5
8	298°24.2	17°59.2	257°52.7	15.1	8°07.5	-13.6	55.5
9	313°24.2	17°58.5	272°26.8	15.1	7°53.9	-13.6	55.5
10	328°24.3	17°57.9	287°01.0	15.2	7°40.3	-13.7	55.5
11	343°24.3	17°57.3	301°35.1	15.2	7°26.6	-13.7	55.6
12	358°24.4	17°56.6	316°09.3	15.2	7°12.9	-13.7	55.6
13	13°24.4	17°56.0	330°43.5	15.2	6°59.1	-13.8	55.6
14	28°24.4	17°55.4	345°17.7	15.2	6°45.3	-13.8	55.6
15	43°24.5	17°54.7	359°51.9	15.2	6°31.5	-13.9	55.6
16	58°24.5	17°54.1	14°26.1	15.2	6°17.6	-13.9	55.7
17	73°24.6	17°53.5	29°00.3	15.2	6°03.7	-13.9	55.7
18	88°24.6	17°52.8	43°34.5	15.2	5°49.7	-14.0	55.7
19	103°24.6	17°52.2	58°08.7	15.2	5°35.7	-14.0	55.7
20	118°24.7	17°51.6	72°42.9	15.2	5°21.7	-14.0	55.7
21	133°24.7	17°50.9	87°17.1	15.2	5°07.7	-14.1	55.8
22	148°24.8	17°50.3	101°51.4	15.2	4°53.6	-14.1	55.8
23	163°24.8	17°49.6	116°25.6	15.2	4°39.5	-14.1	55.8
	SD.=15.8	d=-0.6			S.D.=15.1		

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	01:17	22:48	–:–	–:–
68	–:–	–:–	02:10	21:59	–:–	–:–
66	–:–	–:–	02:42	21:28	–:–	–:–
64	–:–	01:33	03:05	21:06	22:34	–:–
62	–:–	02:11	03:23	20:48	21:59	–:–
60	–:–	02:37	03:38	20:33	21:34	–:–
58	01:25	02:57	03:51	20:20	21:14	22:43
56	01:59	03:13	04:02	20:10	20:58	22:11
54	02:23	03:27	04:12	20:00	20:45	21:47
52	02:42	03:39	04:20	19:52	20:33	21:29
50	02:57	03:49	04:28	19:44	20:23	21:14
45	03:27	04:10	04:44	19:28	20:02	20:44
40	03:49	04:27	04:57	19:15	19:45	20:23
35	04:07	04:41	05:09	19:04	19:32	20:05
30	04:21	04:52	05:18	18:54	19:20	19:51
20	04:44	05:12	05:35	18:38	19:01	19:29
10	05:01	05:27	05:50	18:23	18:45	19:11
0	05:16	05:41	06:03	18:10	18:32	18:57
S 10	05:29	05:54	06:16	17:57	18:19	18:44
20	05:41	06:07	06:30	17:43	18:06	18:33
30	05:52	06:21	06:46	17:27	17:52	18:21
35	05:58	06:29	06:55	17:18	17:45	18:15
40	06:04	06:37	07:06	17:07	17:36	18:09
45	06:11	06:47	07:18	16:55	17:27	18:02
50	06:18	06:58	07:33	16:40	17:16	17:55
52	06:22	07:03	07:40	16:33	17:11	17:52
54	06:25	07:08	07:48	16:26	17:05	17:48
56	06:29	07:14	07:56	16:17	16:59	17:45
58	06:33	07:21	08:06	16:07	16:53	17:41
60	06:37	07:29	08:17	15:56	16:45	17:37

	Orto luna			Ocaso luna		
Lat.	Sa	Dom	Lun	Sa	Dom	Lun
N 72	–:–	04:42	07:01	–:–	22:45	22:12
70	02:38	05:12	07:14	00:02	22:30	22:06
68	03:29	05:34	07:24	22:38	22:17	22:00
66	04:01	05:51	07:33	22:20	22:07	21:56
64	04:24	06:04	07:40	22:05	21:58	21:52
62	04:43	06:16	07:46	21:52	21:51	21:49
60	04:58	06:25	07:52	21:41	21:44	21:46
58	05:10	06:34	07:56	21:32	21:38	21:43
56	05:21	06:41	08:00	21:24	21:33	21:41
54	05:31	06:48	08:04	21:16	21:28	21:39
52	05:40	06:54	08:07	21:10	21:24	21:37
50	05:47	06:59	08:10	21:04	21:20	21:35
45	06:04	07:10	08:17	20:51	21:12	21:31
40	06:17	07:20	08:22	20:40	21:05	21:28
35	06:28	07:28	08:27	20:31	20:59	21:25
30	06:38	07:35	08:31	20:23	20:54	21:23
20	06:55	07:47	08:38	20:09	20:44	21:18
10	07:09	07:57	08:45	19:56	20:36	21:14
0	07:23	08:07	08:50	19:45	20:28	21:11
S 10	07:36	08:17	08:56	19:33	20:20	21:07
20	07:51	08:28	09:02	19:20	20:12	21:03
30	08:07	08:39	09:09	19:05	20:02	20:58
35	08:17	08:46	09:13	18:57	19:56	20:56
40	08:28	08:54	09:18	18:47	19:50	20:53
45	08:40	09:03	09:23	18:36	19:42	20:49
50	08:56	09:14	09:29	18:22	19:33	20:45
52	09:03	09:19	09:32	18:15	19:29	20:43
54	09:11	09:24	09:35	18:08	19:24	20:41
56	09:20	09:30	09:39	18:00	19:19	20:38
58	09:30	09:37	09:42	17:50	19:13	20:36
60	09:41	09:45	09:47	17:40	19:07	20:33

Día	Sol			Luna		
	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
30	06:30	06:29	12:06	13:33	01:11	2(3%)
31	06:27	06:26	12:06	14:17	01:55	3(7%)
1	06:24	06:23	12:06	15:00	02:39	4(13%)

Agosto 02, 03, 04 (Mar, Mie, Jue)

	Aries	Venus		Martes		Júpiter		Saturno	
Mar	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	310°34.2	200°58.3	22°12.9	263°50.1	15°46.8	302°01.0	2°06.8	344°57.1	-15°06.8
1	325°36.7	215°57.5	22°12.6	278°51.0	15°47.3	317°03.5	2°06.8	359°59.7	-15°06.9
2	340°39.1	230°56.7	22°12.3	293°51.8	15°47.7	332°06.0	2°06.7	15°02.3	-15°06.9
3	355°41.6	245°55.9	22°12.0	308°52.7	15°48.2	347°08.5	2°06.7	30°05.0	-15°07.0
4	10°44.1	260°55.1	22°11.7	323°53.6	15°48.6	2°11.0	2°06.7	45°07.6	-15°07.1
5	25°46.5	275°54.3	22°11.4	338°54.4	15°49.1	17°13.5	2°06.7	60°10.3	-15°07.1
6	40°49.0	290°53.5	22°11.1	353°55.3	15°49.6	32°16.0	2°06.6	75°12.9	-15°07.2
7	55°51.4	305°52.7	22°10.8	8°56.2	15°50.0	47°18.5	2°06.6	90°15.5	-15°07.3
8	70°53.9	320°51.9	22°10.5	23°57.0	15°50.5	62°20.9	2°06.6	105°18.2	-15°07.3
9	85°56.4	335°51.1	22°10.1	38°57.9	15°50.9	77°23.4	2°06.6	120°20.8	-15°07.4
10	100°58.8	350°50.3	22°09.8	53°58.8	15°51.4	92°25.9	2°06.5	135°23.4	-15°07.5
11	116°01.3	5°49.5	22°09.5	68°59.6	15°51.8	107°28.4	2°06.5	150°26.1	-15°07.5
12	131°03.8	20°48.7	22°09.2	84°00.5	15°52.3	122°30.9	2°06.5	165°28.7	-15°07.6
13	146°06.2	35°47.9	22°08.9	99°01.4	15°52.7	137°33.4	2°06.5	180°31.4	-15°07.6
14	161°08.7	50°47.1	22°08.6	114°02.2	15°53.2	152°35.9	2°06.4	195°34.0	-15°07.7
15	176°11.2	65°46.3	22°08.3	129°03.1	15°53.6	167°38.4	2°06.4	210°36.6	-15°07.8
16	191°13.6	80°45.5	22°08.0	144°04.0	15°54.1	182°40.9	2°06.4	225°39.3	-15°07.8
17	206°16.1	95°44.7	22°07.7	159°04.8	15°54.6	197°43.4	2°06.4	240°41.9	-15°07.9
18	221°18.6	110°43.9	22°07.3	174°05.7	15°55.0	212°45.9	2°06.3	255°44.6	-15°08.0
19	236°21.0	125°43.1	22°07.0	189°06.6	15°55.5	227°48.4	2°06.3	270°47.2	-15°08.0
20	251°23.5	140°42.3	22°06.7	204°07.4	15°55.9	242°50.9	2°06.3	285°49.8	-15°08.1
21	266°25.9	155°41.5	22°06.4	219°08.3	15°56.4	257°53.4	2°06.2	300°52.5	-15°08.2
22	281°28.4	170°40.7	22°06.1	234°09.2	15°56.8	272°55.9	2°06.2	315°55.1	-15°08.2
23	296°30.9	185°39.9	22°05.8	249°10.0	15°57.3	287°58.4	2°06.2	330°57.8	-15°08.3
Mer.pass.:3:17:		v-0.8 d-0.3 m-3.8		v0.9 d0.5 m0.2		v2.5 d-0.0 m-2.5		v2.6 d-0.1 m0.3	

Mie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	311°33.3	200°39.1	22°05.4	264°10.9	15°57.7	303°00.9	2°06.2	346°00.4	-15°08.3
1	326°35.8	215°38.3	22°05.1	279°11.8	15°58.2	318°03.4	2°06.1	1°03.0	-15°08.4
2	341°38.3	230°37.5	22°04.8	294°12.6	15°58.6	333°05.9	2°06.1	16°05.7	-15°08.5
3	356°40.7	245°36.6	22°04.5	309°13.5	15°59.1	348°08.4	2°06.1	31°08.3	-15°08.5
4	11°43.2	260°35.8	22°04.1	324°14.4	15°59.5	3°10.9	2°06.1	46°11.0	-15°08.6
5	26°45.7	275°35.0	22°03.8	339°15.2	16°00.0	18°13.4	2°06.0	61°13.6	-15°08.7
6	41°48.1	290°34.2	22°03.5	354°16.1	16°00.4	33°15.9	2°06.0	76°16.2	-15°08.7
7	56°50.6	305°33.4	22°03.1	9°17.0	16°00.9	48°18.4	2°06.0	91°18.9	-15°08.8
8	71°53.1	320°32.6	22°02.8	24°17.9	16°01.3	63°20.9	2°05.9	106°21.5	-15°08.9
9	86°55.5	335°31.8	22°02.5	39°18.7	16°01.8	78°23.4	2°05.9	121°24.2	-15°08.9
10	101°58.0	350°31.0	22°02.1	54°19.6	16°02.2	93°25.9	2°05.9	136°26.8	-15°09.0
11	117°00.4	5°30.2	22°01.8	69°20.5	16°02.7	108°28.4	2°05.8	151°29.4	-15°09.0
12	132°02.9	20°29.4	22°01.5	84°21.3	16°03.1	123°30.9	2°05.8	166°32.1	-15°09.1
13	147°05.4	35°28.6	22°01.1	99°22.2	16°03.6	138°33.4	2°05.8	181°34.7	-15°09.2
14	162°07.8	50°27.8	22°00.8	114°23.1	16°04.0	153°35.9	2°05.8	196°37.4	-15°09.2
15	177°10.3	65°27.0	22°00.5	129°23.9	16°04.5	168°38.4	2°05.7	211°40.0	-15°09.3
16	192°12.8	80°26.2	22°00.1	144°24.8	16°04.9	183°40.9	2°05.7	226°42.6	-15°09.4
17	207°15.2	95°25.5	21°59.8	159°25.7	16°05.4	198°43.4	2°05.7	241°45.3	-15°09.4
18	222°17.7	110°24.7	21°59.4	174°26.6	16°05.8	213°45.9	2°05.6	256°47.9	-15°09.5
19	237°20.2	125°23.9	21°59.1	189°27.4	16°06.2	228°48.4	2°05.6	271°50.6	-15°09.6
20	252°22.6	140°23.1	21°58.7	204°28.3	16°06.7	243°50.9	2°05.6	286°53.2	-15°09.6
21	267°25.1	155°22.3	21°58.4	219°29.2	16°07.1	258°53.4	2°05.6	301°55.8	-15°09.7
22	282°27.5	170°21.5	21°58.1	234°30.0	16°07.6	273°55.9	2°05.5	316°58.5	-15°09.7
23	297°30.0	185°20.7	21°57.7	249°30.9	16°08.0	288°58.4	2°05.5	332°01.1	-15°09.8
Mer.pass.:3:13:		v-0.8 d-0.3 m-3.8		v0.9 d0.5 m0.2		v2.5 d-0.0 m-2.5		v2.6 d-0.1 m0.3	

Jue	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	312°32.5	200°19.9	21°57.4	264°31.8	16°08.5	304°00.9	2°05.5	347°03.8	-15°09.9
1	327°34.9	215°19.1	21°57.0	279°32.7	16°08.9	319°03.4	2°05.4	2°06.4	-15°09.9
2	342°37.4	230°18.3	21°56.7	294°33.5	16°09.4	334°05.9	2°05.4	17°09.0	-15°10.0
3	357°39.9	245°17.5	21°56.3	309°34.4	16°09.8	349°08.5	2°05.4	32°11.7	-15°10.1
4	12°42.3	260°16.7	21°55.9	324°35.3	16°10.2	4°11.0	2°05.3	47°14.3	-15°10.1
5	27°44.8	275°15.9	21°55.6	339°36.1	16°10.7	19°13.5	2°05.3	62°17.0	-15°10.2
6	42°47.3	290°15.1	21°55.2	354°37.0	16°11.1	34°16.0	2°05.3	77°19.6	-15°10.3
7	57°49.7	305°14.3	21°54.9	9°37.9	16°11.6	49°18.5	2°05.2	92°22.2	-15°10.3
8	72°52.2	320°13.5	21°54.5	24°38.8	16°12.0	64°21.0	2°05.2	107°24.9	-15°10.4
9	87°54.7	335°12.7	21°54.2	39°39.6	16°12.5	79°23.5	2°05.2	122°27.5	-15°10.5
10	102°57.1	350°11.9	21°53.8	54°40.5	16°12.9	94°26.0	2°05.1	137°30.2	-15°10.5
11	117°59.6	5°11.1	21°53.4	69°41.4	16°13.3	109°28.5	2°05.1	152°32.8	-15°10.6
12	133°02.0	20°10.3	21°53.1	84°42.3	16°13.8	124°31.0	2°05.1	167°35.4	-15°10.6
13	148°04.5	35°09.5	21°52.7	99°43.1	16°14.2	139°33.5	2°05.0	182°38.1	-15°10.7
14	163°07.0	50°08.7	21°52.4	114°44.0	16°14.7	154°36.1	2°05.0	197°40.7	-15°10.8
15	178°09.4	65°07.9	21°52.0	129°44.9	16°15.1	169°38.6	2°05.0	212°43.4	-15°10.8
16	193°11.9	80°07.1	21°51.6	144°45.8	16°15.6	184°41.1	2°04.9	227°46.0	-15°10.9
17	208°14.4	95°06.3	21°51.3	159°46.6	16°16.0	199°43.6	2°04.9	242°48.7	-15°11.0
18	223°16.8	110°05.6	21°50.9	174°47.5	16°16.4	214°46.1	2°04.9	257°51.3	-15°11.0
19	238°19.3	125°04.8	21°50.5	189°48.4	16°16.9	229°48.6	2°04.8	272°53.9	-15°11.1
20	253°21.8	140°04.0	21°50.1	204°49.3	16°17.3	244°51.1	2°04.8	287°56.6	-15°11.2
21	268°24.2	155°03.2	21°49.8	219°50.1	16°17.8	259°53.6	2°04.8	302°59.2	-15°11.2
22	283°26.7	170°02.4	21°49.4	234°51.0	16°18.2	274°56.1	2°04.7	318°01.9	-15°11.3
23	298°29.1	185°01.6	21°49.0	249°51.9	16°18.6	289°58.7	2°04.7	333°04.5	-15°11.3
Mer.pass.:3:09:		v-0.8 d-0.4 m-3.8		v0.9 d0.4 m0.2		v2.5 d-0.0 m-2.5		v2.6 d-0.1 m0.3	

Estrellas

	AHS	Dec
Alpheratz	357°36.6	29°12.8
Ankaa	353°08.9	-42°10.8
Schedar	349°33.0	56°39.4
Diphda	348°49.0	-17°51.7
Achernar	335°21.6	-57°07.1
Hamal	327°53.4	23°34.1
Polaris	315°02.3	89°21.2
Akamar	315°13.3	-40°12.6
Menkar	314°08.3	4°10.7
Mirfak	308°31.2	49°56.2
Aldebaran	290°42.1	16°33.3
Rigel	281°06.0	-8°10.4
Capella	280°25.2	46°01.1
Bellatrix	278°25.2	6°22.3
Elnath	278°04.7	28°37.5
Alnilam	275°40.0	-1°11.2
Betelgeuse	270°54.5	7°24.7
Canopus	263°53.7	-52°42.2
Sirius	258°28.2	-16°44.5
Adara	255°07.8	-29°00.0
Procyon	244°53.2	5°10.3
Pollux	243°20.0	27°58.4
Avior	234°16.2	-59°34.8
Suhail	222°48.2	-43°31.3
Miaplacidus	221°39.6	-69°48.5
Alphard	217°50.0	-8°45.3
Regulus	207°36.8	11°51.6
Dubhe	193°44.0	61°38.0
Denebola	182°27.1	14°27.0
Gienah	175°45.8	-17°40.0
Acrux	173°02.7	-63°13.6
Gacrux	171°54.2	-57°14.5
Alioth	166°15.0	55°50.6
Spica	158°24.5	-11°16.6
Alcaid	152°53.7	49°12.4
Hadar	148°38.9	-60°29.1
Menkent	148°00.0	-36°28.9
Arcturus	145°49.6	19°04.4
Rigil Kent.	139°43.0	-60°55.9
Zubenelg.	136°58.2	-16°08.1
Kochab	137°19.7	74°04.1
Alphecca	126°05.4	26°38.6
Antares	112°18.1	-26°28.9
Atria	107°13.8	-69°04.2
Sabik	102°04.9	-15°45.1
Shaula	96°12.8	-37°07.2
Rasalhague	96°00.2	12°32.8
Etamin	90°42.7	51°29.3
Kaus Aust.	83°34.8	-34°22.4
Vega	80°34.2	38°48.4
Nunki	75°49.9	-26°16.1
Altair	62°01.6	8°55.7
Peacock	53°08.3	-56°39.7
Deneb	49°26.7	45°21.6
Enif	33°40.4	9°58.7
Alnair	27°35.0	-46°51.0
Fomalhaut	15°16.5	-29°30.0
Scheat	13°46.9	28°12.2
Markab	13°31.6	15°19.6

Ago 02 Mar	AHS	Paso Merid
Venus	250°24.1	10:37
Mars	313°15.9	06:24
Jupiter	351°26.8	03:51
Saturn	34°22.9	01:00

Ago 03 Mie	AHS	Paso Merid
Venus	249°05.7	10:38
Mars	312°37.6	06:23
Jupiter	351°27.5	03:47
Saturn	34°27.1	00:56

Ago 04 Jue	AHS	Paso Merid
Venus	247°47.4	10:39
Mars	311°59.3	06:22
Jupiter	351°28.5	03:43
Saturn	34°31.3	00:52

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.1

h	Sol		Luna				
Mar	AHG	Dec	AHG	v	Dec	d	HP
0	178°24.8	17°49.0	130°59.8	15.2	4°25.4	-14.1	55.8
1	193°24.9	17°48.4	145°34.0	15.2	4°11.2	-14.2	55.9
2	208°24.9	17°47.7	160°08.2	15.2	3°57.0	-14.2	55.9
3	223°25.0	17°47.1	174°42.4	15.2	3°42.8	-14.2	55.9
4	238°25.0	17°46.4	189°16.6	15.2	3°28.6	-14.3	55.9
5	253°25.1	17°45.8	203°50.8	15.2	3°14.3	-14.3	56.0
6	268°25.1	17°45.2	218°25.0	15.2	3°00.0	-14.3	56.0
7	283°25.2	17°44.5	232°59.2	15.2	2°45.7	-14.3	56.0
8	298°25.2	17°43.9	247°33.4	15.2	2°31.4	-14.3	56.0
9	313°25.2	17°43.2	262°07.5	15.2	2°17.0	-14.4	56.0
10	328°25.3	17°42.6	276°41.7	15.1	2°02.6	-14.4	56.1
11	343°25.3	17°41.9	291°15.8	15.1	1°48.2	-14.4	56.1
12	358°25.4	17°41.3	305°49.9	15.1	1°33.8	-14.4	56.1
13	13°25.4	17°40.7	320°24.0	15.1	1°19.4	-14.4	56.1
14	28°25.5	17°40.0	334°58.1	15.1	1°04.9	-14.5	56.2
15	43°25.5	17°39.4	349°32.2	15.1	0°50.4	-14.5	56.2
16	58°25.6	17°38.7	4°06.2	15.0	0°36.0	-14.5	56.2
17	73°25.6	17°38.1	18°40.2	15.0	0°21.5	-14.5	56.2
18	88°25.7	17°37.4	33°14.2	15.0	0°06.9	-14.5	56.3
19	103°25.7	17°36.8	47°48.2	15.0	-0°07.6	-14.5	56.3
20	118°25.7	17°36.1	62°22.2	14.9	-0°22.1	-14.5	56.3
21	133°25.8	17°35.5	76°56.1	14.9	-0°36.7	-14.6	56.3
22	148°25.8	17°34.8	91°30.0	14.9	-0°51.2	-14.6	56.4
23	163°25.9	17°34.2	106°03.9	14.9	-1°05.8	-14.6	56.4
	SD.=15.8	d=-0.6		S.D.=15.2			

Mie	AHG	Dec	AHG	v	Dec	d	HP
0	178°25.9	17°33.5	120°37.7	14.8	-1°20.4	-14.6	56.4
1	193°26.0	17°32.9	135°11.6	14.8	-1°34.9	-14.6	56.4
2	208°26.0	17°32.2	149°45.3	14.8	-1°49.5	-14.6	56.5
3	223°26.1	17°31.6	164°19.1	14.7	-2°04.1	-14.6	56.5
4	238°26.1	17°30.9	178°52.8	14.7	-2°18.7	-14.6	56.5
5	253°26.2	17°30.3	193°26.5	14.7	-2°33.3	-14.6	56.6
6	268°26.2	17°29.6	208°00.2	14.6	-2°47.9	-14.6	56.6
7	283°26.3	17°29.0	222°33.8	14.6	-3°02.5	-14.6	56.6
8	298°26.3	17°28.3	237°07.3	14.6	-3°17.1	-14.6	56.6
9	313°26.4	17°27.7	251°40.9	14.5	-3°31.7	-14.6	56.7
10	328°26.4	17°27.0	266°14.4	14.5	-3°46.3	-14.6	56.7
11	343°26.5	17°26.3	280°47.8	14.4	-4°00.9	-14.6	56.7
12	358°26.5	17°25.7	295°21.2	14.4	-4°15.5	-14.6	56.7
13	13°26.6	17°25.0	309°54.6	14.3	-4°30.1	-14.6	56.8
14	28°26.7	17°24.4	324°27.9	14.3	-4°44.7	-14.6	56.8
15	43°26.7	17°23.7	339°01.2	14.2	-4°59.3	-14.6	56.8
16	58°26.8	17°23.1	353°34.4	14.2	-5°13.9	-14.6	56.9
17	73°26.8	17°22.4	8°07.6	14.1	-5°28.4	-14.6	56.9
18	88°26.9	17°21.7	22°40.7	14.1	-5°43.0	-14.5	56.9
19	103°26.9	17°21.1	37°13.7	14.0	-5°57.5	-14.5	56.9
20	118°27.0	17°20.4	51°46.8	14.0	-6°12.1	-14.5	57.0
21	133°27.0	17°19.8	66°19.7	13.9	-6°26.6	-14.5	57.0
22	148°27.1	17°19.1	80°52.6	13.9	-6°41.1	-14.5	57.0
23	163°27.1	17°18.4	95°25.5	13.8	-6°55.6	-14.5	57.1
	SD.=15.8	d=-0.7		S.D.=15.4			

Jue	AHG	Dec	AHG	v	Dec	d	HP
0	178°27.2	17°17.8	109°58.2	13.8	-7°10.0	-14.5	57.1
1	193°27.2	17°17.1	124°31.0	13.7	-7°24.5	-14.4	57.1
2	208°27.3	17°16.4	139°03.6	13.6	-7°38.9	-14.4	57.1
3	223°27.4	17°15.8	153°36.2	13.6	-7°53.3	-14.4	57.2
4	238°27.4	17°15.1	168°08.8	13.5	-8°07.7	-14.4	57.2
5	253°27.5	17°14.5	182°41.2	13.4	-8°22.1	-14.4	57.2
6	268°27.5	17°13.8	197°13.6	13.4	-8°36.4	-14.3	57.3
7	283°27.6	17°13.1	211°46.0	13.3	-8°50.8	-14.3	57.3
8	298°27.6	17°12.5	226°18.2	13.2	-9°05.1	-14.3	57.3
9	313°27.7	17°11.8	240°50.4	13.2	-9°19.3	-14.3	57.3
10	328°27.8	17°11.1	255°22.6	13.1	-9°33.6	-14.2	57.4
11	343°27.8	17°10.5	269°54.6	13.0	-9°47.8	-14.2	57.4
12	358°27.9	17°09.8	284°26.6	12.9	-10°02.0	-14.2	57.4
13	13°27.9	17°09.1	298°58.5	12.9	-10°16.1	-14.1	57.5
14	28°28.0	17°08.5	313°30.3	12.8	-10°30.2	-14.1	57.5
15	43°28.1	17°07.8	328°02.1	12.7	-10°44.3	-14.1	57.5
16	58°28.1	17°07.1	342°33.7	12.6	-10°58.3	-14.0	57.6
17	73°28.2	17°06.4	357°05.3	12.5	-11°12.4	-14.0	57.6
18	88°28.2	17°05.8	11°36.8	12.5	-11°26.3	-13.9	57.6
19	103°28.3	17°05.1	26°08.2	12.4	-11°40.3	-13.9	57.7
20	118°28.4	17°04.4	40°39.6	12.3	-11°54.1	-13.9	57.7
21	133°28.4	17°03.8	55°10.8	12.2	-12°08.0	-13.8	57.7
22	148°28.5	17°03.1	69°42.0	12.1	-12°21.8	-13.8	57.7
23	163°28.5	17°02.4	84°13.1	12.0	-12°35.5	-13.7	57.8
	SD.=15.8	d=-0.7		S.D.=15.6			

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	01:43	22:23	–:–	–:–
68	–:–	–:–	02:25	21:43	–:–	–:–
66	–:–	00:52	02:53	21:16	23:09	–:–
64	–:–	01:51	03:14	20:56	22:17	–:–
62	–:–	02:23	03:31	20:39	21:46	–:–
60	00:48	02:46	03:45	20:25	21:24	23:15
58	01:40	03:05	03:57	20:14	21:06	22:28
56	02:10	03:20	04:08	20:04	20:51	22:00
54	02:32	03:33	04:17	19:55	20:38	21:39
52	02:49	03:44	04:25	19:47	20:27	21:22
50	03:04	03:54	04:32	19:39	20:18	21:07
45	03:32	04:14	04:48	19:24	19:58	20:39
40	03:53	04:30	05:00	19:12	19:42	20:19
35	04:10	04:43	05:11	19:01	19:29	20:02
30	04:23	04:54	05:20	18:52	19:18	19:49
20	04:45	05:13	05:36	18:36	18:59	19:27
10	05:02	05:28	05:50	18:22	18:44	19:10
0	05:16	05:41	06:03	18:10	18:31	18:57
S 10	05:28	05:53	06:15	17:57	18:19	18:44
20	05:39	06:06	06:29	17:44	18:07	18:33
30	05:50	06:19	06:44	17:29	17:54	18:22
35	05:56	06:26	06:53	17:20	17:47	18:17
40	06:02	06:34	07:03	17:10	17:39	18:11
45	06:08	06:43	07:15	16:58	17:30	18:05
50	06:15	06:54	07:29	16:44	17:19	17:58
52	06:18	06:58	07:35	16:38	17:15	17:56
54	06:21	07:03	07:42	16:31	17:10	17:52
56	06:24	07:09	07:51	16:23	17:04	17:49
58	06:28	07:15	08:00	16:13	16:58	17:46
60	06:31	07:22	08:10	16:03	16:51	17:42

	Orto luna			Ocaso luna		
Lat.	Mar	Mie	Jue	Mar	Mie	Jue
N 72	09:05	11:09	13:24	21:42	21:11	20:32
70	09:08	11:03	13:06	21:44	21:21	20:53
68	09:11	10:58	12:52	21:45	21:28	21:09
66	09:13	10:54	12:40	21:45	21:34	21:22
64	09:15	10:50	12:31	21:46	21:40	21:33
62	09:16	10:47	12:23	21:47	21:45	21:43
60	09:18	10:45	12:16	21:47	21:49	21:51
58	09:19	10:43	12:10	21:48	21:52	21:58
56	09:20	10:41	12:04	21:48	21:56	22:04
54	09:21	10:39	11:59	21:48	21:58	22:10
52	09:22	10:37	11:55	21:49	22:01	22:15
50	09:22	10:36	11:51	21:49	22:04	22:20
45	09:24	10:32	11:43	21:50	22:09	22:30
40	09:25	10:30	11:36	21:50	22:13	22:39
35	09:27	10:27	11:30	21:51	22:17	22:46
30	09:28	10:25	11:25	21:51	22:21	22:53
20	09:30	10:22	11:16	21:52	22:27	23:04
10	09:31	10:19	11:08	21:53	22:32	23:14
0	09:33	10:16	11:01	21:53	22:37	23:23
S 10	09:34	10:13	10:54	21:54	22:42	23:33
20	09:36	10:10	10:46	21:55	22:47	23:43
30	09:38	10:07	10:38	21:55	22:54	23:54
35	09:39	10:05	10:33	21:56	22:57	–:–
40	09:40	10:03	10:27	21:56	23:01	–:–
45	09:42	10:01	10:21	21:57	23:06	–:–
50	09:44	09:58	10:13	21:57	23:11	–:–
52	09:44	09:56	10:10	21:58	23:14	–:–
54	09:45	09:55	10:06	21:58	23:17	–:–
56	09:46	09:53	10:02	21:58	23:20	–:–
58	09:47	09:52	09:57	21:59	23:24	–:–
60	09:48	09:50	09:52	21:59	23:28	–:–

	Sol			Luna		
Día	Ec. tiempo 00:00 h	Ec. tiempo 12:00 h	Paso Merid	Paso Meridiano Superior	Paso Meridiano Inferior	Edad
2	06:21	06:18	12:06	15:43	03:21	5(21%)
3	06:16	06:14	12:06	16:26	04:04	6(30%)
4	06:11	06:08	12:06	17:12	04:48	7(40%)

Agosto 05, 06, 07 (Vie, Sa, Dom)

	Aries	Venus		Martes		Júpiter		Saturno	
Vie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	313°31.6	200°00.8	21°48.6	264°52.8	16°19.1	305°01.2	2°04.7	348°07.1	-15°11.4
1	328°34.1	215°00.0	21°48.3	279°53.6	16°19.5	320°03.7	2°04.6	3°09.8	-15°11.5
2	343°36.5	229°59.2	21°47.9	294°54.5	16°19.9	335°06.2	2°04.6	18°12.4	-15°11.5
3	358°39.0	244°58.4	21°47.5	309°55.4	16°20.4	350°08.7	2°04.6	33°15.1	-15°11.6
4	13°41.5	259°57.6	21°47.1	324°56.3	16°20.8	5°11.2	2°04.5	48°17.7	-15°11.7
5	28°43.9	274°56.8	21°46.8	339°57.1	16°21.3	20°13.7	2°04.5	63°20.4	-15°11.7
6	43°46.4	289°56.1	21°46.4	354°58.0	16°21.7	35°16.3	2°04.5	78°23.0	-15°11.8
7	58°48.9	304°55.3	21°46.0	9°58.9	16°22.1	50°18.8	2°04.4	93°25.6	-15°11.9
8	73°51.3	319°54.5	21°45.6	24°59.8	16°22.6	65°21.3	2°04.4	108°28.3	-15°11.9
9	88°53.8	334°53.7	21°45.2	40°00.7	16°23.0	80°23.8	2°04.4	123°30.9	-15°12.0
10	103°56.3	349°52.9	21°44.8	55°01.5	16°23.4	95°26.3	2°04.3	138°33.6	-15°12.1
11	118°58.7	4°52.1	21°44.4	70°02.4	16°23.9	110°28.8	2°04.3	153°36.2	-15°12.1
12	134°01.2	19°51.3	21°44.1	85°03.3	16°24.3	125°31.4	2°04.3	168°38.8	-15°12.2
13	149°03.6	34°50.5	21°43.7	100°04.2	16°24.7	140°33.9	2°04.2	183°41.5	-15°12.2
14	164°06.1	49°49.7	21°43.3	115°05.1	16°25.2	155°36.4	2°04.2	198°44.1	-15°12.3
15	179°08.6	64°48.9	21°42.9	130°05.9	16°25.6	170°38.9	2°04.1	213°46.8	-15°12.4
16	194°11.0	79°48.2	21°42.5	145°06.8	16°26.0	185°41.4	2°04.1	228°49.4	-15°12.4
17	209°13.5	94°47.4	21°42.1	160°07.7	16°26.5	200°43.9	2°04.1	243°52.1	-15°12.5
18	224°16.0	109°46.6	21°41.7	175°08.6	16°26.9	215°46.5	2°04.0	258°54.7	-15°12.6
19	239°18.4	124°45.8	21°41.3	190°09.4	16°27.3	230°49.0	2°04.0	273°57.3	-15°12.6
20	254°20.9	139°45.0	21°40.9	205°10.3	16°27.8	245°51.5	2°04.0	289°00.0	-15°12.7
21	269°23.4	154°44.2	21°40.5	220°11.2	16°28.2	260°54.0	2°03.9	304°02.6	-15°12.8
22	284°25.8	169°43.4	21°40.1	235°12.1	16°28.6	275°56.5	2°03.9	319°05.3	-15°12.8
23	299°28.3	184°42.6	21°39.7	250°13.0	16°29.1	290°59.1	2°03.9	334°07.9	-15°12.9
Mer.pass.:3:05:		v-0.8 d-0.4 m-3.8		v0.9 d0.4 m0.1		v2.5 d-0.0 m-2.5		v2.6 d-0.1 m0.3	

Sa	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	314°30.8	199°41.9	21°39.3	265°13.8	16°29.5	306°01.6	2°03.8	349°10.6	-15°12.9
1	329°33.2	214°41.1	21°38.9	280°14.7	16°29.9	321°04.1	2°03.8	4°13.2	-15°13.0
2	344°35.7	229°40.3	21°38.5	295°15.6	16°30.4	336°06.6	2°03.7	19°15.8	-15°13.1
3	359°38.1	244°39.5	21°38.1	310°16.5	16°30.8	351°09.2	2°03.7	34°18.5	-15°13.1
4	14°40.6	259°38.7	21°37.7	325°17.4	16°31.2	6°11.7	2°03.7	49°21.1	-15°13.2
5	29°43.1	274°37.9	21°37.3	340°18.3	16°31.7	21°14.2	2°03.6	64°23.8	-15°13.3
6	44°45.5	289°37.1	21°36.9	355°19.1	16°32.1	36°16.7	2°03.6	79°26.4	-15°13.3
7	59°48.0	304°36.4	21°36.5	10°20.0	16°32.5	51°19.2	2°03.6	94°29.1	-15°13.4
8	74°50.5	319°35.6	21°36.1	25°20.9	16°33.0	66°21.8	2°03.5	109°31.7	-15°13.5
9	89°52.9	334°34.8	21°35.6	40°21.8	16°33.4	81°24.3	2°03.5	124°34.3	-15°13.5
10	104°55.4	349°34.0	21°35.2	55°22.7	16°33.8	96°26.8	2°03.4	139°37.0	-15°13.6
11	119°57.9	4°33.2	21°34.8	70°23.5	16°34.2	111°29.3	2°03.4	154°39.6	-15°13.7
12	135°00.3	19°32.4	21°34.4	85°24.4	16°34.7	126°31.9	2°03.4	169°42.3	-15°13.7
13	150°02.8	34°31.7	21°34.0	100°25.3	16°35.1	141°34.4	2°03.3	184°44.9	-15°13.8
14	165°05.3	49°30.9	21°33.6	115°26.2	16°35.5	156°36.9	2°03.3	199°47.6	-15°13.8
15	180°07.7	64°30.1	21°33.1	130°27.1	16°36.0	171°39.4	2°03.2	214°50.2	-15°13.9
16	195°10.2	79°29.3	21°32.7	145°28.0	16°36.4	186°42.0	2°03.2	229°52.8	-15°14.0
17	210°12.6	94°28.5	21°32.3	160°28.8	16°36.8	201°44.5	2°03.2	244°55.5	-15°14.0
18	225°15.1	109°27.7	21°31.9	175°29.7	16°37.2	216°47.0	2°03.1	259°58.1	-15°14.1
19	240°17.6	124°27.0	21°31.5	190°30.6	16°37.7	231°49.5	2°03.1	275°00.8	-15°14.2
20	255°20.0	139°26.2	21°31.0	205°31.5	16°38.1	246°52.1	2°03.0	290°03.4	-15°14.2
21	270°22.5	154°25.4	21°30.6	220°32.4	16°38.5	261°54.6	2°03.0	305°06.1	-15°14.3
22	285°25.0	169°24.6	21°30.2	235°33.3	16°38.9	276°57.1	2°03.0	320°08.7	-15°14.4
23	300°27.4	184°23.8	21°29.8	250°34.1	16°39.4	291°59.7	2°02.9	335°11.3	-15°14.4
Mer.pass.:3:01:		v-0.8 d-0.4 m-3.8		v0.9 d0.4 m0.1		v2.5 d-0.0 m-2.5		v2.6 d-0.1 m0.3	

Dom	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	315°29.9	199°23.1	21°29.3	265°35.0	16°39.8	307°02.2	2°02.9	350°14.0	-15°14.5
1	330°32.4	214°22.3	21°28.9	280°35.9	16°40.2	322°04.7	2°02.8	5°16.6	-15°14.6
2	345°34.8	229°21.5	21°28.5	295°36.8	16°40.6	337°07.2	2°02.8	20°19.3	-15°14.6
3	0°37.3	244°20.7	21°28.0	310°37.7	16°41.1	352°09.8	2°02.8	35°21.9	-15°14.7
4	15°39.7	259°19.9	21°27.6	325°38.6	16°41.5	7°12.3	2°02.7	50°24.6	-15°14.7
5	30°42.2	274°19.2	21°27.2	340°39.5	16°41.9	22°14.8	2°02.7	65°27.2	-15°14.8
6	45°44.7	289°18.4	21°26.7	355°40.3	16°42.3	37°17.4	2°02.6	80°29.9	-15°14.9
7	60°47.1	304°17.6	21°26.3	10°41.2	16°42.8	52°19.9	2°02.6	95°32.5	-15°14.9
8	75°49.6	319°16.8	21°25.9	25°42.1	16°43.2	67°22.4	2°02.6	110°35.1	-15°15.0
9	90°52.1	334°16.0	21°25.4	40°43.0	16°43.6	82°25.0	2°02.5	125°37.8	-15°15.1
10	105°54.5	349°15.3	21°25.0	55°43.9	16°44.0	97°27.5	2°02.5	140°40.4	-15°15.1
11	120°57.0	4°14.5	21°24.6	70°44.8	16°44.5	112°30.0	2°02.4	155°43.1	-15°15.2
12	135°59.5	19°13.7	21°24.1	85°45.7	16°44.9	127°32.5	2°02.4	170°45.7	-15°15.3
13	151°01.9	34°12.9	21°23.7	100°46.6	16°45.3	142°35.1	2°02.4	185°48.4	-15°15.3
14	166°04.4	49°12.2	21°23.2	115°47.4	16°45.7	157°37.6	2°02.3	200°51.0	-15°15.4
15	181°06.9	64°11.4	21°22.8	130°48.3	16°46.1	172°40.1	2°02.3	215°53.6	-15°15.5
16	196°09.3	79°10.6	21°22.3	145°49.2	16°46.6	187°42.7	2°02.2	230°56.3	-15°15.5
17	211°11.8	94°09.8	21°21.9	160°50.1	16°47.0	202°45.2	2°02.2	245°58.9	-15°15.6
18	226°14.2	109°09.1	21°21.4	175°51.0	16°47.4	217°47.7	2°02.1	261°01.6	-15°15.6
19	241°16.7	124°08.3	21°21.0	190°51.9	16°47.8	232°50.3	2°02.1	276°04.2	-15°15.7
20	256°19.2	139°07.5	21°20.5	205°52.8	16°48.3	247°52.8	2°02.1	291°06.9	-15°15.8
21	271°21.6	154°06.7	21°20.1	220°53.7	16°48.7	262°55.3	2°02.0	306°09.5	-15°15.8
22	286°24.1	169°06.0	21°19.6	235°54.6	16°49.1	277°57.9	2°02.0	321°12.2	-15°15.9
23	301°26.6	184°05.2	21°19.2	250°55.4	16°49.5	293°00.4	2°01.9	336°14.8	-15°16.0
Mer.pass.:2:57:		v-0.8 d-0.4 m-3.8		v0.9 d0.4 m0.1		v2.5 d-0.0 m-2.6		v2.6 d-0.1 m0.3	

Estrellas

	AHS	Dec
Alpheratz	357°36.6	29°12.8
Ankaa	353°08.9	-42°10.8
Schedar	349°33.0	56°39.4
Diphda	348°49.0	-17°51.7
Achernar	335°21.5	-57°07.1
Hamal	327°53.4	23°34.1
Polaris	315°00.6	89°21.2
Akamar	315°13.3	-40°12.6
Menkar	314°08.3	4°10.7
Mirfak	308°31.2	49°56.2
Aldebaran	290°42.1	16°33.3
Rigel	281°06.0	-8°10.4
Capella	280°25.1	46°01.1
Bellatrix	278°25.2	6°22.3
Elnath	278°04.6	28°37.5
Alnilam	275°40.0	-1°11.2
Betelgeuse	270°54.5	7°24.7
Canopus	263°53.7	-52°42.2
Sirius	258°28.2	-16°44.5
Adara	255°07.8	-29°00.0
Procyon	244°53.2	5°10.3
Pollux	243°20.0	27°58.4
Avior	234°16.2	-59°34.8
Suhail	222°48.2	-43°31.3
Miaplacidus	221°39.6	-69°48.5
Alphard	217°50.0	-8°45.2
Regulus	207°36.8	11°51.6
Dubhe	193°44.0	61°38.0
Denebola	182°27.2	14°27.0
Gienah	175°45.8	-17°40.0
Acrux	173°02.7	-63°13.6
Gacrux	171°54.2	-57°14.5
Alioth	166°15.1	55°50.6
Spica	158°24.5	-11°16.6
Alcaid	152°53.7	49°12.4
Hadar	148°39.0	-60°29.1
Menkent	148°00.1	-36°28.9
Arcturus	145°49.6	19°04.4
Rigil Kent.	139°43.1	-60°55.9
Zubenelg.	136°58.2	-16°08.1
Kochab	137°19.8	74°04.1
Alphecca	126°05.4	26°38.6
Antares	112°18.1	-26°28.9
Atria	107°13.8	-69°04.3
Sabik	102°04.9	-15°45.1
Shaula	96°12.8	-37°07.2
Rasalhague	96°00.2	12°32.8
Etamin	90°42.7	51°29.4
Kaus Aust.	83°34.8	-34°22.4
Vega	80°34.2	38°48.4
Nunki	75°49.9	-26°16.1
Altair	62°01.6	8°55.7
Peacock	53°08.3	-56°39.7
Deneb	49°26.7	45°21.7
Enif	33°40.4	9°58.7
Alnair	27°35.0	-46°51.0
Fomalhaut	15°16.5	-29°30.0
Scheat	13°46.9	28°12.2
Markab	13°31.6	15°19.6

Ago 05 Vie	AHS	Paso Merid
Venus	246°29.2	10:41
Mars	311°21.2	06:20
Jupiter	351°29.6	03:39
Saturn	34°35.5	00:47

Ago 06 Sa	AHS	Paso Merid
Venus	245°11.1	10:42
Mars	310°43.1	06:19
Jupiter	351°30.8	03:35
Saturn	34°39.8	00:43

Ago 07 Dom	AHS	Paso Merid
Venus	243°53.2	10:43
Mars	310°05.1	06:17
Jupiter	351°32.3	03:31
Saturn	34°44.1	00:39

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.1

h	Sol		Luna				
Vie	AHG	Dec	AHG	v	Dec	d	HP
0	178°28.6	17°01.7	98°44.1	11.9	-12°49.3	-13.7	57.8
1	193°28.7	17°01.1	113°15.0	11.9	-13°02.9	-13.6	57.8
2	208°28.7	17°00.4	127°45.8	11.8	-13°16.5	-13.6	57.9
3	223°28.8	16°59.7	142°16.5	11.7	-13°30.1	-13.5	57.9
4	238°28.8	16°59.0	156°47.1	11.6	-13°43.6	-13.5	57.9
5	253°28.9	16°58.4	171°17.6	11.5	-13°57.1	-13.4	58.0
6	268°29.0	16°57.7	185°48.0	11.4	-14°10.5	-13.4	58.0
7	283°29.0	16°57.0	200°18.4	11.3	-14°23.8	-13.3	58.0
8	298°29.1	16°56.3	214°48.6	11.2	-14°37.1	-13.3	58.1
9	313°29.2	16°55.7	229°18.7	11.1	-14°50.3	-13.2	58.1
10	328°29.2	16°55.0	243°48.8	11.0	-15°03.5	-13.1	58.1
11	343°29.3	16°54.3	258°18.7	10.9	-15°16.6	-13.1	58.2
12	358°29.4	16°53.6	272°48.5	10.8	-15°29.6	-13.0	58.2
13	13°29.4	16°52.9	287°18.2	10.7	-15°42.6	-12.9	58.2
14	28°29.5	16°52.3	301°47.8	10.6	-15°55.5	-12.9	58.2
15	43°29.6	16°51.6	316°17.4	10.5	-16°08.3	-12.8	58.3
16	58°29.6	16°50.9	330°46.8	10.3	-16°21.1	-12.7	58.3
17	73°29.7	16°50.2	345°16.1	10.2	-16°33.8	-12.7	58.3
18	88°29.8	16°49.5	359°45.2	10.1	-16°46.4	-12.6	58.4
19	103°29.8	16°48.8	14°14.3	10.0	-16°59.0	-12.5	58.4
20	118°29.9	16°48.2	28°43.3	9.9	-17°11.4	-12.4	58.4
21	133°30.0	16°47.5	43°12.1	9.8	-17°23.8	-12.3	58.5
22	148°30.0	16°46.8	57°40.9	9.7	-17°36.1	-12.3	58.5
23	163°30.1	16°46.1	72°09.5	9.6	-17°48.4	-12.2	58.5
	SD.=15.8	d=-0.7	S.D.=15.8				

Sa	AHG	Dec	AHG	v	Dec	d	HP
0	178°30.2	16°45.4	86°38.0	9.5	-18°00.5	-12.1	58.6
1	193°30.2	16°44.7	101°06.4	9.3	-18°12.5	-12.0	58.6
2	208°30.3	16°44.1	115°34.7	9.2	-18°24.5	-11.9	58.6
3	223°30.4	16°43.4	130°02.8	9.1	-18°36.4	-11.8	58.7
4	238°30.4	16°42.7	144°30.9	9.0	-18°48.2	-11.7	58.7
5	253°30.5	16°42.0	158°58.8	8.9	-18°59.9	-11.6	58.7
6	268°30.6	16°41.3	173°26.6	8.7	-19°11.5	-11.6	58.8
7	283°30.6	16°40.6	187°54.3	8.6	-19°23.0	-11.5	58.8
8	298°30.7	16°39.9	202°21.9	8.5	-19°34.4	-11.4	58.8
9	313°30.8	16°39.2	216°49.3	8.4	-19°45.7	-11.3	58.9
10	328°30.9	16°38.5	231°16.6	8.3	-19°56.9	-11.2	58.9
11	343°30.9	16°37.9	245°43.8	8.1	-20°08.0	-11.0	58.9
12	358°31.0	16°37.2	260°10.9	8.0	-20°19.0	-10.9	58.9
13	13°31.1	16°36.5	274°37.9	7.9	-20°29.9	-10.8	59.0
14	28°31.1	16°35.8	289°04.7	7.8	-20°40.7	-10.7	59.0
15	43°31.2	16°35.1	303°31.4	7.7	-20°51.3	-10.6	59.0
16	58°31.3	16°34.4	317°58.0	7.5	-21°01.9	-10.5	59.1
17	73°31.4	16°33.7	332°24.5	7.4	-21°12.3	-10.4	59.1
18	88°31.4	16°33.0	346°50.8	7.3	-21°22.7	-10.3	59.1
19	103°31.5	16°32.3	1°17.0	7.2	-21°32.9	-10.1	59.2
20	118°31.6	16°31.6	15°43.1	7.0	-21°43.0	-10.0	59.2
21	133°31.7	16°30.9	30°09.1	6.9	-21°52.9	-9.9	59.2
22	148°31.7	16°30.2	44°34.9	6.8	-22°02.8	-9.8	59.3
23	163°31.8	16°29.5	59°00.7	6.7	-22°12.5	-9.7	59.3
	SD.=15.8	d=-0.7	S.D.=16.0				

Dom	AHG	Dec	AHG	v	Dec	d	HP
0	178°31.9	16°28.8	73°26.3	6.5	-22°22.1	-9.5	59.3
1	193°31.9	16°28.1	87°51.7	6.4	-22°31.5	-9.4	59.3
2	208°32.0	16°27.5	102°17.1	6.3	-22°40.9	-9.3	59.4
3	223°32.1	16°26.8	116°42.3	6.2	-22°50.1	-9.1	59.4
4	238°32.2	16°26.1	131°07.4	6.0	-22°59.1	-9.0	59.4
5	253°32.3	16°25.4	145°32.4	5.9	-23°08.0	-8.9	59.5
6	268°32.3	16°24.7	159°57.3	5.8	-23°16.8	-8.7	59.5
7	283°32.4	16°24.0	174°22.0	5.7	-23°25.5	-8.6	59.5
8	298°32.5	16°23.3	188°46.6	5.6	-23°34.0	-8.4	59.6
9	313°32.6	16°22.6	203°11.1	5.4	-23°42.3	-8.3	59.6
10	328°32.6	16°21.9	217°35.5	5.3	-23°50.5	-8.1	59.6
11	343°32.7	16°21.2	231°59.8	5.2	-23°58.6	-8.0	59.6
12	358°32.8	16°20.5	246°23.9	5.1	-24°06.5	-7.8	59.7
13	13°32.9	16°19.8	260°48.0	5.0	-24°14.2	-7.7	59.7
14	28°32.9	16°19.1	275°11.9	4.9	-24°21.9	-7.5	59.7
15	43°33.0	16°18.3	289°35.7	4.7	-24°29.3	-7.4	59.8
16	58°33.1	16°17.6	303°59.3	4.6	-24°36.6	-7.2	59.8
17	73°33.2	16°16.9	318°22.9	4.5	-24°43.7	-7.1	59.8
18	88°33.3	16°16.2	332°46.4	4.4	-24°50.7	-6.9	59.8
19	103°33.3	16°15.5	347°09.7	4.3	-24°57.5	-6.7	59.9
20	118°33.4	16°14.8	1°32.9	4.2	-25°04.1	-6.6	59.9
21	133°33.5	16°14.1	15°56.1	4.1	-25°10.6	-6.4	59.9
22	148°33.6	16°13.4	30°19.1	4.0	-25°16.9	-6.2	59.9
23	163°33.7	16°12.7	44°42.0	3.9	-25°23.1	-6.1	60.0
	SD.=15.8	d=-0.7	S.D.=16.2				

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	–:–	–:–	00:58	23:01	–:–	–:–
70	–:–	–:–	02:04	22:02	–:–	–:–
68	–:–	–:–	02:39	21:29	–:–	–:–
66	–:–	01:23	03:04	21:05	22:42	–:–
64	–:–	02:06	03:24	20:46	22:01	–:–
62	–:–	02:34	03:39	20:30	21:34	–:–
60	01:15	02:56	03:52	20:18	21:14	22:51
58	01:54	03:13	04:04	20:07	20:57	22:14
56	02:20	03:27	04:13	19:57	20:43	21:49
54	02:40	03:39	04:22	19:49	20:32	21:30
52	02:56	03:49	04:29	19:41	20:21	21:14
50	03:10	03:59	04:36	19:35	20:12	21:01
45	03:36	04:18	04:51	19:20	19:53	20:34
40	03:57	04:33	05:03	19:08	19:38	20:14
35	04:12	04:46	05:13	18:58	19:26	19:59
30	04:26	04:56	05:22	18:49	19:15	19:46
20	04:46	05:14	05:37	18:34	18:58	19:25
10	05:03	05:28	05:50	18:21	18:43	19:09
0	05:16	05:41	06:03	18:09	18:31	18:56
S 10	05:27	05:53	06:15	17:57	18:19	18:45
20	05:38	06:04	06:27	17:45	18:08	18:34
30	05:48	06:17	06:42	17:30	17:55	18:24
35	05:53	06:24	06:50	17:22	17:49	18:19
40	05:59	06:31	07:00	17:13	17:41	18:14
45	06:04	06:39	07:11	17:02	17:33	18:08
50	06:10	06:49	07:24	16:49	17:23	18:02
52	06:13	06:54	07:30	16:42	17:19	17:59
54	06:16	06:58	07:37	16:36	17:14	17:57
56	06:19	07:04	07:45	16:28	17:09	17:54
58	06:22	07:09	07:53	16:20	17:03	17:51
60	06:25	07:16	08:03	16:10	16:57	17:47

	Orto luna			Ocaso luna		
Lat.	Vie	Sa	Dom	Vie	Sa	Dom
N 72	16:23	–:–	–:–	19:15	–:–	–:–
70	15:32	–:–	–:–	20:09	–:–	–:–
68	15:00	18:03	–:–	20:42	19:30	–:–
66	14:37	16:56	–:–	21:06	20:39	–:–
64	14:19	16:20	18:46	21:25	21:15	20:52
62	14:04	15:55	17:54	21:41	21:41	21:45
60	13:52	15:35	17:22	21:55	22:02	22:17
58	13:42	15:19	16:58	22:06	22:19	22:41
56	13:32	15:05	16:39	22:16	22:33	23:01
54	13:24	14:53	16:23	22:25	22:46	23:17
52	13:17	14:43	16:10	22:33	22:57	23:31
50	13:11	14:34	15:58	22:40	23:06	23:43
45	12:57	14:14	15:33	22:55	23:27	–:–
40	12:45	13:58	15:13	23:08	23:44	–:–
35	12:36	13:45	14:57	23:19	23:58	–:–
30	12:27	13:34	14:43	23:29	–:–	00:11
20	12:13	13:14	14:19	23:45	–:–	00:32
10	12:01	12:57	13:58	00:00	–:–	00:51
0	11:49	12:41	13:39	–:–	00:13	01:08
S 10	11:37	12:26	13:20	–:–	00:27	01:26
20	11:25	12:09	13:00	–:–	00:42	01:44
30	11:11	11:50	12:37	–:–	00:59	02:06
35	11:03	11:39	12:23	00:01	01:08	02:19
40	10:54	11:27	12:07	00:09	01:20	02:34
45	10:44	11:12	11:49	00:18	01:33	02:51
50	10:31	10:54	11:26	00:29	01:50	03:13
52	10:25	10:46	11:15	00:34	01:57	03:24
54	10:19	10:37	11:03	00:39	02:06	03:36
56	10:12	10:26	10:48	00:46	02:16	03:49
58	10:04	10:14	10:32	00:53	02:27	04:05
60	09:55	10:01	10:12	01:01	02:40	04:24

Día	Sol			Luna		
	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
5	06:06	06:03	12:06	18:01	05:36	8(51%)
6	05:59	05:56	12:05	18:54	06:27	9(62%)
7	05:52	05:49	12:05	19:53	07:23	10(72%)

Agosto 08, 09, 10 (Lun, Mar, Mie)

	Aries	Venus		Martes		Júpiter		Saturno	
Lun	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	316°29.0	199°04.4	21°18.7	265°56.3	16°49.9	308°03.0	2°01.9	351°17.4	-15°16.0
1	331°31.5	214°03.6	21°18.3	280°57.2	16°50.3	323°05.5	2°01.8	6°20.1	-15°16.1
2	346°34.0	229°02.9	21°17.8	295°58.1	16°50.8	338°08.0	2°01.8	21°22.7	-15°16.2
3	1°36.4	244°02.1	21°17.4	310°59.0	16°51.2	353°10.6	2°01.7	36°25.4	-15°16.2
4	16°38.9	259°01.3	21°16.9	325°59.9	16°51.6	8°13.1	2°01.7	51°28.0	-15°16.3
5	31°41.4	274°00.5	21°16.5	341°00.8	16°52.0	23°15.6	2°01.7	66°30.7	-15°16.4
6	46°43.8	288°59.8	21°16.0	356°01.7	16°52.4	38°18.2	2°01.6	81°33.3	-15°16.4
7	61°46.3	303°59.0	21°15.5	11°02.6	16°52.9	53°20.7	2°01.6	96°36.0	-15°16.5
8	76°48.7	318°58.2	21°15.1	26°03.5	16°53.3	68°23.3	2°01.5	111°38.6	-15°16.5
9	91°51.2	333°57.5	21°14.6	41°04.3	16°53.7	83°25.8	2°01.5	126°41.2	-15°16.6
10	106°53.7	348°56.7	21°14.1	56°05.2	16°54.1	98°28.3	2°01.4	141°43.9	-15°16.7
11	121°56.1	3°55.9	21°13.7	71°06.1	16°54.5	113°30.9	2°01.4	156°46.5	-15°16.7
12	136°58.6	18°55.1	21°13.2	86°07.0	16°54.9	128°33.4	2°01.3	171°49.2	-15°16.8
13	152°01.1	33°54.4	21°12.7	101°07.9	16°55.4	143°36.0	2°01.3	186°51.8	-15°16.9
14	167°03.5	48°53.6	21°12.3	116°08.8	16°55.8	158°38.5	2°01.3	201°54.5	-15°16.9
15	182°06.0	63°52.8	21°11.8	131°09.7	16°56.2	173°41.0	2°01.2	216°57.1	-15°17.0
16	197°08.5	78°52.1	21°11.3	146°10.6	16°56.6	188°43.6	2°01.2	231°59.8	-15°17.1
17	212°10.9	93°51.3	21°10.9	161°11.5	16°57.0	203°46.1	2°01.1	247°02.4	-15°17.1
18	227°13.4	108°50.5	21°10.4	176°12.4	16°57.4	218°48.7	2°01.1	262°05.0	-15°17.2
19	242°15.9	123°49.8	21°09.9	191°13.3	16°57.8	233°51.2	2°01.0	277°07.7	-15°17.3
20	257°18.3	138°49.0	21°09.4	206°14.2	16°58.3	248°53.7	2°01.0	292°10.3	-15°17.3
21	272°20.8	153°48.2	21°09.0	221°15.1	16°58.7	263°56.3	2°00.9	307°13.0	-15°17.4
22	287°23.2	168°47.4	21°08.5	236°15.9	16°59.1	278°58.8	2°00.9	322°15.6	-15°17.4
23	302°25.7	183°46.7	21°08.0	251°16.8	16°59.5	294°01.4	2°00.8	337°18.3	-15°17.5
Mer.pass.:2:53:		v-0.8 d-0.5 m-3.8		v0.9 d0.4 m0.1		v2.5 d-0.0 m-2.6		v2.6 d-0.1 m0.3	

Mar	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	317°28.2	198°45.9	21°07.5	266°17.7	16°59.9	309°03.9	2°00.8	352°20.9	-15°17.6
1	332°30.6	213°45.1	21°07.0	281°18.6	17°00.3	324°06.5	2°00.8	7°23.6	-15°17.6
2	347°33.1	228°44.4	21°06.6	296°19.5	17°00.7	339°09.0	2°00.7	22°26.2	-15°17.7
3	2°35.6	243°43.6	21°06.1	311°20.4	17°01.1	354°11.5	2°00.7	37°28.8	-15°17.8
4	17°38.0	258°42.8	21°05.6	326°21.3	17°01.6	9°14.1	2°00.6	52°31.5	-15°17.8
5	32°40.5	273°42.1	21°05.1	341°22.2	17°02.0	24°16.6	2°00.6	67°34.1	-15°17.9
6	47°43.0	288°41.3	21°04.6	356°23.1	17°02.4	39°19.2	2°00.5	82°36.8	-15°18.0
7	62°45.4	303°40.5	21°04.1	11°24.0	17°02.8	54°21.7	2°00.5	97°39.4	-15°18.0
8	77°47.9	318°39.8	21°03.7	26°24.9	17°03.2	69°24.3	2°00.4	112°42.1	-15°18.1
9	92°50.4	333°39.0	21°03.2	41°25.8	17°03.6	84°26.8	2°00.4	127°44.7	-15°18.2
10	107°52.8	348°38.3	21°02.7	56°26.7	17°04.0	99°29.4	2°00.3	142°47.4	-15°18.2
11	122°55.3	3°37.5	21°02.2	71°27.6	17°04.4	114°31.9	2°00.3	157°50.0	-15°18.3
12	137°57.7	18°36.7	21°01.7	86°28.5	17°04.8	129°34.5	2°00.2	172°52.6	-15°18.3
13	153°00.2	33°36.0	21°01.2	101°29.4	17°05.2	144°37.0	2°00.2	187°55.3	-15°18.4
14	168°02.7	48°35.2	21°00.7	116°30.3	17°05.7	159°39.5	2°00.1	202°57.9	-15°18.5
15	183°05.1	63°34.4	21°00.2	131°31.2	17°06.1	174°42.1	2°00.1	218°00.6	-15°18.5
16	198°07.6	78°33.7	20°59.7	146°32.1	17°06.5	189°44.6	2°00.0	233°03.2	-15°18.6
17	213°10.1	93°32.9	20°59.2	161°33.0	17°06.9	204°47.2	2°00.0	248°05.9	-15°18.7
18	228°12.5	108°32.1	20°58.7	176°33.9	17°07.3	219°49.7	1°59.9	263°08.5	-15°18.7
19	243°15.0	123°31.4	20°58.2	191°34.8	17°07.7	234°52.3	1°59.9	278°11.2	-15°18.8
20	258°17.5	138°30.6	20°57.7	206°35.7	17°08.1	249°54.8	1°59.8	293°13.8	-15°18.9
21	273°19.9	153°29.9	20°57.2	221°36.6	17°08.5	264°57.4	1°59.8	308°16.5	-15°18.9
22	288°22.4	168°29.1	20°56.7	236°37.5	17°08.9	279°59.9	1°59.7	323°19.1	-15°19.0
23	303°24.9	183°28.3	20°56.2	251°38.4	17°09.3	295°02.5	1°59.7	338°21.7	-15°19.1
Mer.pass.:2:49:		v-0.8 d-0.5 m-3.8		v0.9 d0.4 m0.1		v2.5 d-0.0 m-2.6		v2.6 d-0.1 m0.3	

Mie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	318°27.3	198°27.6	20°55.7	266°39.3	17°09.7	310°05.0	1°59.6	353°24.4	-15°19.1
1	333°29.8	213°26.8	20°55.2	281°40.2	17°10.1	325°07.6	1°59.6	8°27.0	-15°19.2
2	348°32.2	228°26.1	20°54.7	296°41.1	17°10.5	340°10.1	1°59.5	23°29.7	-15°19.2
3	3°34.7	243°25.3	20°54.2	311°42.0	17°10.9	355°12.7	1°59.5	38°32.3	-15°19.3
4	18°37.2	258°24.5	20°53.7	326°42.9	17°11.4	10°15.2	1°59.4	53°35.0	-15°19.4
5	33°39.6	273°23.8	20°53.2	341°43.8	17°11.8	25°17.8	1°59.4	68°37.6	-15°19.4
6	48°42.1	288°23.0	20°52.6	356°44.7	17°12.2	40°20.4	1°59.3	83°40.3	-15°19.5
7	63°44.6	303°22.3	20°52.1	11°45.6	17°12.6	55°22.9	1°59.3	98°42.9	-15°19.6
8	78°47.0	318°21.5	20°51.6	26°46.5	17°13.0	70°25.5	1°59.2	113°45.6	-15°19.6
9	93°49.5	333°20.8	20°51.1	41°47.4	17°13.4	85°28.0	1°59.2	128°48.2	-15°19.7
10	108°52.0	348°20.0	20°50.6	56°48.3	17°13.8	100°30.6	1°59.1	143°50.8	-15°19.8
11	123°54.4	3°19.2	20°50.1	71°49.2	17°14.2	115°33.1	1°59.1	158°53.5	-15°19.8
12	138°56.9	18°18.5	20°49.6	86°50.1	17°14.6	130°35.7	1°59.0	173°56.1	-15°19.9
13	153°59.4	33°17.7	20°49.0	101°51.0	17°15.0	145°38.2	1°59.0	188°58.8	-15°20.0
14	169°01.8	48°17.0	20°48.5	116°51.9	17°15.4	160°40.8	1°58.9	204°01.4	-15°20.0
15	184°04.3	63°16.2	20°48.0	131°52.8	17°15.8	175°43.3	1°58.9	219°04.1	-15°20.1
16	199°06.7	78°15.5	20°47.5	146°53.7	17°16.2	190°45.9	1°58.8	234°06.7	-15°20.1
17	214°09.2	93°14.7	20°47.0	161°54.6	17°16.6	205°48.4	1°58.8	249°09.4	-15°20.2
18	229°11.7	108°13.9	20°46.4	176°55.5	17°17.0	220°51.0	1°58.7	264°12.0	-15°20.3
19	244°14.1	123°13.2	20°45.9	191°56.4	17°17.4	235°53.6	1°58.7	279°14.7	-15°20.3
20	259°16.6	138°12.4	20°45.4	206°57.3	17°17.8	250°56.1	1°58.6	294°17.3	-15°20.4
21	274°19.1	153°11.7	20°44.9	221°58.2	17°18.2	265°58.7	1°58.6	309°19.9	-15°20.5
22	289°21.5	168°10.9	20°44.3	236°59.1	17°18.6	281°01.2	1°58.5	324°22.6	-15°20.5
23	304°24.0	183°10.2	20°43.8	252°00.0	17°19.0	296°03.8	1°58.5	339°25.2	-15°20.6
Mer.pass.:2:45:		v-0.8 d-0.5 m-3.8		v0.9 d0.4 m0.1		v2.6 d-0.0 m-2.6		v2.6 d-0.1 m0.3	

Estrellas

	AHS	Dec
Alpheratz	357°36.6	29°12.8
Ankaa	353°08.8	-42°10.8
Schedar	349°33.0	56°39.4
Diphda	348°49.0	-17°51.6
Achernar	335°21.5	-57°07.1
Hamal	327°53.4	23°34.1
Polaris	314°58.8	89°21.2
Akamar	315°13.3	-40°12.6
Menkar	314°08.2	4°10.7
Mirfak	308°31.1	49°56.2
Aldebaran	290°42.1	16°33.3
Rigel	281°06.0	-8°10.4
Capella	280°25.1	46°01.1
Bellatrix	278°25.2	6°22.3
Elnath	278°04.6	28°37.5
Alnilam	275°40.0	-1°11.2
Betelgeuse	270°54.5	7°24.7
Canopus	263°53.7	-52°42.2
Sirius	258°28.2	-16°44.5
Adara	255°07.7	-29°00.0
Procyon	244°53.1	5°10.3
Pollux	243°20.0	27°58.4
Avior	234°16.2	-59°34.7
Suhail	222°48.2	-43°31.3
Miaplacidus	221°39.6	-69°48.5
Alphard	217°50.0	-8°45.2
Regulus	207°36.8	11°51.6
Dubhe	193°44.0	61°38.0
Denebola	182°27.2	14°27.0
Gienah	175°45.8	-17°40.0
Acrux	173°02.7	-63°13.6
Gacrux	171°54.2	-57°14.5
Alioth	166°15.1	55°50.6
Spica	158°24.5	-11°16.6
Alcaid	152°53.7	49°12.4
Hadar	148°39.0	-60°29.1
Menkent	148°00.1	-36°28.9
Arcturus	145°49.6	19°04.4
Rigil Kent.	139°43.1	-60°55.9
Zubenelg.	136°58.2	-16°08.1
Kochab	137°19.8	74°04.1
Alphecca	126°05.4	26°38.6
Antares	112°18.1	-26°28.9
Atria	107°13.8	-69°04.3
Sabik	102°04.9	-15°45.1
Shaula	96°12.8	-37°07.2
Rasalhague	96°00.2	12°32.8
Etamin	90°42.7	51°29.4
Kaus Aust.	83°34.8	-34°22.4
Vega	80°34.3	38°48.4
Nunki	75°49.9	-26°16.1
Altair	62°01.6	8°55.7
Peacock	53°08.3	-56°39.7
Deneb	49°26.7	45°21.7
Enif	33°40.4	9°58.7
Alnair	27°35.0	-46°51.0
Fomalhaut	15°16.4	-29°30.0
Scheat	13°46.8	28°12.2
Markab	13°31.6	15°19.6

Ago 08 Lun	AHS	Paso Merid
Venus	242°35.4	10:44
Mars	309°27.3	06:16
Jupiter	351°33.9	03:27
Saturn	34°48.4	00:35

Ago 09 Mar	AHS	Paso Merid
Venus	241°17.7	10:45
Mars	308°49.6	06:14
Jupiter	351°35.7	03:23
Saturn	34°52.7	00:31

Ago 10 Mie	AHS	Paso Merid
Venus	240°00.3	10:47
Mars	308°11.9	06:13
Jupiter	351°37.7	03:19
Saturn	34°57.1	00:26

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.1

h Sol Luna

Lun	AHG	Dec	AHG	v	Dec	d	HP
0	178°33.7	16°12.0	59°04.8	3.8	-25°29.0	-5.9	60.0
1	193°33.8	16°11.3	73°27.5	3.7	-25°34.8	-5.7	60.0
2	208°33.9	16°10.6	87°50.2	3.6	-25°40.4	-5.5	60.0
3	223°34.0	16°09.9	102°12.7	3.5	-25°45.9	-5.4	60.1
4	238°34.1	16°09.2	116°35.1	3.4	-25°51.2	-5.2	60.1
5	253°34.2	16°08.5	130°57.4	3.3	-25°56.2	-5.0	60.1
6	268°34.2	16°07.7	145°19.6	3.2	-26°01.2	-4.8	60.1
7	283°34.3	16°07.0	159°41.8	3.1	-26°05.9	-4.6	60.2
8	298°34.4	16°06.3	174°03.8	3.0	-26°10.4	-4.4	60.2
9	313°34.5	16°05.6	188°25.8	2.9	-26°14.8	-4.3	60.2
10	328°34.6	16°04.9	202°47.7	2.8	-26°19.0	-4.1	60.2
11	343°34.6	16°04.2	217°09.5	2.8	-26°22.9	-3.9	60.3
12	358°34.7	16°03.5	231°31.2	2.7	-26°26.7	-3.7	60.3
13	13°34.8	16°02.8	245°52.8	2.6	-26°30.3	-3.5	60.3
14	28°34.9	16°02.1	260°14.4	2.5	-26°33.7	-3.3	60.3
15	43°35.0	16°01.3	274°35.9	2.5	-26°37.0	-3.1	60.4
16	58°35.1	16°00.6	288°57.3	2.4	-26°40.0	-2.9	60.4
17	73°35.2	15°59.9	303°18.7	2.3	-26°42.8	-2.7	60.4
18	88°35.2	15°59.2	317°40.0	2.3	-26°45.5	-2.5	60.4
19	103°35.3	15°58.5	332°01.2	2.2	-26°47.9	-2.3	60.4
20	118°35.4	15°57.8	346°22.4	2.1	-26°50.1	-2.1	60.5
21	133°35.5	15°57.1	0°43.5	2.1	-26°52.2	-1.9	60.5
22	148°35.6	15°56.3	15°04.6	2.0	-26°54.0	-1.7	60.5
23	163°35.7	15°55.6	29°25.6	2.0	-26°55.7	-1.5	60.5
	SD.=15.8	d=-0.7			S.D.=16.4		

Mar	AHG	Dec	AHG	v	Dec	d	HP
0	178°35.8	15°54.9	43°46.6	1.9	-26°57.1	-1.3	60.5
1	193°35.8	15°54.2	58°07.5	1.9	-26°58.3	-1.1	60.6
2	208°35.9	15°53.5	72°28.4	1.9	-26°59.4	-0.9	60.6
3	223°36.0	15°52.7	86°49.2	1.8	-27°00.2	-0.7	60.6
4	238°36.1	15°52.0	101°10.0	1.8	-27°00.8	-0.5	60.6
5	253°36.2	15°51.3	115°30.8	1.8	-27°01.3	-0.3	60.6
6	268°36.3	15°50.6	129°51.5	1.7	-27°01.5	-0.1	60.6
7	283°36.4	15°49.9	144°12.3	1.7	-27°01.5	0.1	60.7
8	298°36.5	15°49.1	158°32.9	1.7	-27°01.3	0.3	60.7
9	313°36.6	15°48.4	172°53.6	1.7	-27°00.9	0.5	60.7
10	328°36.6	15°47.7	187°14.3	1.6	-27°00.3	0.7	60.7
11	343°36.7	15°47.0	201°34.9	1.6	-26°59.5	0.9	60.7
12	358°36.8	15°46.3	215°55.6	1.6	-26°58.5	1.1	60.7
13	13°36.9	15°45.5	230°16.2	1.6	-26°57.3	1.3	60.7
14	28°37.0	15°44.8	244°36.8	1.6	-26°55.8	1.5	60.8
15	43°37.1	15°44.1	258°57.4	1.6	-26°54.2	1.7	60.8
16	58°37.2	15°43.4	273°18.0	1.6	-26°52.3	1.9	60.8
17	73°37.3	15°42.6	287°38.7	1.6	-26°50.3	2.2	60.8
18	88°37.4	15°41.9	301°59.3	1.6	-26°48.0	2.4	60.8
19	103°37.5	15°41.2	316°19.9	1.6	-26°45.6	2.6	60.8
20	118°37.6	15°40.5	330°40.6	1.7	-26°42.9	2.8	60.8
21	133°37.7	15°39.7	345°01.3	1.7	-26°40.0	3.0	60.8
22	148°37.7	15°39.0	359°22.0	1.7	-26°36.9	3.2	60.8
23	163°37.8	15°38.3	13°42.7	1.7	-26°33.7	3.4	60.9
	SD.=15.8	d=-0.7			S.D.=16.5		

Mie	AHG	Dec	AHG	v	Dec	d	HP
0	178°37.9	15°37.5	28°03.4	1.8	-26°30.2	3.6	60.9
1	193°38.0	15°36.8	42°24.2	1.8	-26°26.5	3.8	60.9
2	208°38.1	15°36.1	56°45.0	1.8	-26°22.6	4.0	60.9
3	223°38.2	15°35.4	71°05.8	1.9	-26°18.5	4.2	60.9
4	238°38.3	15°34.6	85°26.7	1.9	-26°14.2	4.4	60.9
5	253°38.4	15°33.9	99°47.6	1.9	-26°09.7	4.6	60.9
6	268°38.5	15°33.2	114°08.6	2.0	-26°05.0	4.8	60.9
7	283°38.6	15°32.4	128°29.6	2.0	-26°00.1	5.0	60.9
8	298°38.7	15°31.7	142°50.7	2.1	-25°55.0	5.2	60.9
9	313°38.8	15°31.0	157°11.8	2.1	-25°49.7	5.4	60.9
10	328°38.9	15°30.2	171°33.0	2.2	-25°44.2	5.6	60.9
11	343°39.0	15°29.5	185°54.2	2.3	-25°38.5	5.8	60.9
12	358°39.1	15°28.8	200°15.5	2.3	-25°32.6	6.0	60.9
13	13°39.2	15°28.0	214°36.9	2.4	-25°26.6	6.2	60.9
14	28°39.3	15°27.3	228°58.3	2.5	-25°20.3	6.4	60.9
15	43°39.4	15°26.6	243°19.8	2.5	-25°13.8	6.5	60.9
16	58°39.5	15°25.8	257°41.3	2.6	-25°07.2	6.7	60.9
17	73°39.6	15°25.1	272°02.9	2.7	-25°00.4	6.9	60.9
18	88°39.7	15°24.4	286°24.7	2.7	-24°53.3	7.1	60.9
19	103°39.8	15°23.6	300°46.4	2.8	-24°46.1	7.3	60.9
20	118°39.8	15°22.9	315°08.3	2.9	-24°38.8	7.5	60.9
21	133°39.9	15°22.2	329°30.2	3.0	-24°31.2	7.7	60.9
22	148°40.0	15°21.4	343°52.3	3.1	-24°23.4	7.8	60.9
23	163°40.1	15°20.7	358°14.4	3.2	-24°15.5	8.0	60.9
	SD.=15.8	d=-0.7			S.D.=16.6		

Lat.	Crepúsculo Naut.	Crepúsculo Civil	Orto Sol	Crepúsculo Civil	Crepúsculo Naut.	Ocaso Sol
N 72	–:–	–:–	01:35	22:28	–:–	–:–
70	–:–	–:–	02:23	21:43	–:–	–:–
68	–:–	00:27	02:53	21:14	23:22	–:–
66	–:–	01:45	03:16	20:53	22:20	–:–
64	–:–	02:21	03:33	20:36	21:47	–:–
62	00:25	02:45	03:48	20:22	21:23	23:27
60	01:35	03:05	04:00	20:10	21:04	22:31
58	02:07	03:20	04:10	20:00	20:49	22:01
56	02:30	03:34	04:19	19:51	20:36	21:39
54	02:48	03:45	04:27	19:43	20:25	21:21
52	03:03	03:55	04:34	19:36	20:15	21:06
50	03:16	04:04	04:41	19:29	20:06	20:54
45	03:41	04:22	04:54	19:16	19:48	20:29
40	04:00	04:36	05:06	19:05	19:34	20:10
35	04:15	04:48	05:15	18:55	19:22	19:55
30	04:28	04:58	05:24	18:47	19:12	19:43
20	04:48	05:15	05:38	18:33	18:56	19:23
10	05:03	05:29	05:51	18:20	18:42	19:08
0	05:16	05:41	06:02	18:09	18:30	18:55
S 10	05:27	05:52	06:14	17:58	18:19	18:45
20	05:36	06:03	06:26	17:46	18:09	18:35
30	05:46	06:14	06:39	17:32	17:57	18:25
35	05:51	06:21	06:47	17:24	17:51	18:21
40	05:56	06:28	06:56	17:16	17:44	18:16
45	06:01	06:35	07:06	17:05	17:36	18:11
50	06:06	06:45	07:19	16:53	17:27	18:06
52	06:08	06:49	07:25	16:47	17:23	18:03
54	06:11	06:53	07:31	16:41	17:19	18:01
56	06:13	06:58	07:38	16:34	17:14	17:59
58	06:16	07:03	07:46	16:26	17:09	17:56
60	06:19	07:09	07:55	16:17	17:03	17:53

Lat.	Orto luna Lun	Orto luna Mar	Orto luna Mie	Ocaso luna Lun	Ocaso luna Mar	Ocaso luna Mie
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	–:–	–:–	–:–
68	–:–	–:–	–:–	–:–	–:–	–:–
66	–:–	–:–	–:–	–:–	–:–	–:–
64	–:–	–:–	21:43	–:–	–:–	–:–
62	19:47	20:48	21:01	22:04	23:22	–:–
60	18:59	20:03	20:33	22:52	–:–	00:06
58	18:28	19:33	20:11	23:23	–:–	00:36
56	18:05	19:11	19:53	23:47	–:–	00:58
54	17:46	18:52	19:37	–:–	00:06	01:17
52	17:30	18:36	19:24	–:–	00:22	01:32
50	17:16	18:22	19:12	–:–	00:36	01:46
45	16:48	17:54	18:48	00:09	01:04	02:14
40	16:26	17:32	18:28	00:29	01:26	02:35
35	16:08	17:14	18:12	00:46	01:45	02:53
30	15:52	16:58	17:57	01:01	02:01	03:09
20	15:26	16:31	17:33	01:26	02:28	03:35
10	15:03	16:08	17:12	01:48	02:51	03:57
0	14:42	15:47	16:52	02:08	03:13	04:18
S 10	14:20	15:26	16:32	02:29	03:34	04:39
20	13:58	15:03	16:11	02:50	03:57	05:01
30	13:32	14:36	15:47	03:16	04:24	05:27
35	13:16	14:20	15:32	03:31	04:40	05:42
40	12:59	14:02	15:15	03:48	04:58	05:59
45	12:37	13:40	14:55	04:09	05:20	06:20
50	12:10	13:12	14:30	04:35	05:48	06:46
52	11:57	12:58	14:17	04:48	06:02	06:59
54	11:42	12:42	14:03	05:03	06:18	07:13
56	11:25	12:23	13:47	05:20	06:37	07:30
58	11:04	12:01	13:27	05:41	07:00	07:50
60	10:37	11:31	13:02	06:07	07:30	08:15

Día	Sol Ec. tiempo 00:00 h	Sol Ec. tiempo 12:00 h	Sol Paso Merid	Luna Paso Meridiano Superior	Luna Paso Meridiano Inferior	Luna Edad
8	05:45	05:41	12:05	20:56	08:24	11(82%)
9	05:37	05:33	12:05	22:02	09:29	12(90%)
10	05:28	05:24	12:05	23:07	10:35	13(96%)

Agosto 11, 12, 13 (Jue, Vie, Sa)

	Aries	Venus		Martes		Júpiter		Saturno	
Jue	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	319°26.5	198°09.4	20°43.3	267°00.9	17°19.4	311°06.3	1°58.4	354°27.9	-15°20.7
1	334°28.9	213°08.7	20°42.7	282°01.8	17°19.8	326°08.9	1°58.4	9°30.5	-15°20.7
2	349°31.4	228°07.9	20°42.2	297°02.7	17°20.2	341°11.5	1°58.3	24°33.2	-15°20.8
3	4°33.8	243°07.2	20°41.7	312°03.6	17°20.6	356°14.0	1°58.3	39°35.8	-15°20.9
4	19°36.3	258°06.4	20°41.1	327°04.5	17°21.0	11°16.6	1°58.2	54°38.5	-15°20.9
5	34°38.8	273°05.7	20°40.6	342°05.4	17°21.4	26°19.1	1°58.2	69°41.1	-15°21.0
6	49°41.2	288°04.9	20°40.1	357°06.3	17°21.8	41°21.7	1°58.1	84°43.8	-15°21.0
7	64°43.7	303°04.2	20°39.5	12°07.2	17°22.2	56°24.3	1°58.0	99°46.4	-15°21.1
8	79°46.2	318°03.4	20°39.0	27°08.1	17°22.6	71°26.8	1°58.0	114°49.1	-15°21.2
9	94°48.6	333°02.7	20°38.5	42°09.0	17°23.0	86°29.4	1°57.9	129°51.7	-15°21.2
10	109°51.1	348°01.9	20°37.9	57°09.9	17°23.4	101°31.9	1°57.9	144°54.3	-15°21.3
11	124°53.6	3°01.2	20°37.4	72°10.8	17°23.8	116°34.5	1°57.8	159°57.0	-15°21.4
12	139°56.0	18°00.4	20°36.8	87°11.8	17°24.2	131°37.1	1°57.8	174°59.6	-15°21.4
13	154°58.5	32°59.7	20°36.3	102°12.7	17°24.6	146°39.6	1°57.7	190°02.3	-15°21.5
14	170°01.0	47°58.9	20°35.7	117°13.6	17°25.0	161°42.2	1°57.7	205°04.9	-15°21.6
15	185°03.4	62°58.2	20°35.2	132°14.5	17°25.4	176°44.8	1°57.6	220°07.6	-15°21.6
16	200°05.9	77°57.4	20°34.7	147°15.4	17°25.8	191°47.3	1°57.6	235°10.2	-15°21.7
17	215°08.3	92°56.7	20°34.1	162°16.3	17°26.2	206°49.9	1°57.5	250°12.9	-15°21.8
18	230°10.8	107°55.9	20°33.6	177°17.2	17°26.5	221°52.4	1°57.4	265°15.5	-15°21.8
19	245°13.3	122°55.2	20°33.0	192°18.1	17°26.9	236°55.0	1°57.4	280°18.2	-15°21.9
20	260°15.7	137°54.4	20°32.5	207°19.0	17°27.3	251°57.6	1°57.3	295°20.8	-15°21.9
21	275°18.2	152°53.7	20°31.9	222°19.9	17°27.7	267°00.1	1°57.3	310°23.5	-15°22.0
22	290°20.7	167°52.9	20°31.4	237°20.8	17°28.1	282°02.7	1°57.2	325°26.1	-15°22.1
23	305°23.1	182°52.2	20°30.8	252°21.7	17°28.5	297°05.3	1°57.2	340°28.7	-15°22.1
Mer.pass.:	2:41:	v-0.8 d-0.5 m-3.8		v0.9 d0.4 m0.1		v2.6 d-0.1 m-2.6		v2.6 d-0.1 m0.3	

Vie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	320°25.6	197°51.5	20°30.2	267°22.6	17°28.9	312°07.8	1°57.1	355°31.4	-15°22.2
1	335°28.1	212°50.7	20°29.7	282°23.6	17°29.3	327°10.4	1°57.1	10°34.0	-15°22.3
2	350°30.5	227°50.0	20°29.1	297°24.5	17°29.7	342°13.0	1°57.0	25°36.7	-15°22.3
3	5°33.0	242°49.2	20°28.6	312°25.4	17°30.1	357°15.5	1°56.9	40°39.3	-15°22.4
4	20°35.5	257°48.5	20°28.0	327°26.3	17°30.5	12°18.1	1°56.9	55°42.0	-15°22.5
5	35°37.9	272°47.7	20°27.5	342°27.2	17°30.9	27°20.7	1°56.8	70°44.6	-15°22.5
6	50°40.4	287°47.0	20°26.9	357°28.1	17°31.3	42°23.2	1°56.8	85°47.3	-15°22.6
7	65°42.8	302°46.2	20°26.3	12°29.0	17°31.7	57°25.8	1°56.7	100°49.9	-15°22.7
8	80°45.3	317°45.5	20°25.8	27°29.9	17°32.0	72°28.4	1°56.7	115°52.6	-15°22.7
9	95°47.8	332°44.8	20°25.2	42°30.8	17°32.4	87°30.9	1°56.6	130°55.2	-15°22.8
10	110°50.2	347°44.0	20°24.6	57°31.7	17°32.8	102°33.5	1°56.6	145°57.9	-15°22.8
11	125°52.7	2°43.3	20°24.1	72°32.7	17°33.2	117°36.1	1°56.5	161°00.5	-15°22.9
12	140°55.2	17°42.5	20°23.5	87°33.6	17°33.6	132°38.6	1°56.4	176°03.1	-15°23.0
13	155°57.6	32°41.8	20°22.9	102°34.5	17°34.0	147°41.2	1°56.4	191°05.8	-15°23.0
14	171°00.1	47°41.1	20°22.4	117°35.4	17°34.4	162°43.8	1°56.3	206°08.4	-15°23.1
15	186°02.6	62°40.3	20°21.8	132°36.3	17°34.8	177°46.3	1°56.3	221°11.1	-15°23.2
16	201°05.0	77°39.6	20°21.2	147°37.2	17°35.2	192°48.9	1°56.2	236°13.7	-15°23.2
17	216°07.5	92°38.8	20°20.7	162°38.1	17°35.6	207°51.5	1°56.2	251°16.4	-15°23.3
18	231°10.0	107°38.1	20°20.1	177°39.0	17°35.9	222°54.1	1°56.1	266°19.0	-15°23.4
19	246°12.4	122°37.4	20°19.5	192°40.0	17°36.3	237°56.6	1°56.0	281°21.7	-15°23.4
20	261°14.9	137°36.6	20°18.9	207°40.9	17°36.7	252°59.2	1°56.0	296°24.3	-15°23.5
21	276°17.3	152°35.9	20°18.4	222°41.8	17°37.1	268°01.8	1°55.9	311°27.0	-15°23.6
22	291°19.8	167°35.1	20°17.8	237°42.7	17°37.5	283°04.3	1°55.9	326°29.6	-15°23.6
23	306°22.3	182°34.4	20°17.2	252°43.6	17°37.9	298°06.9	1°55.8	341°32.3	-15°23.7
Mer.pass.:	2:37:	v-0.7 d-0.6 m-3.8		v0.9 d0.4 m0.1		v2.6 d-0.1 m-2.6		v2.6 d-0.1 m0.3	

Sa	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	321°24.7	197°33.7	20°16.6	267°44.5	17°38.3	313°09.5	1°55.7	356°34.9	-15°23.7
1	336°27.2	212°32.9	20°16.0	282°45.4	17°38.7	328°12.1	1°55.7	11°37.5	-15°23.8
2	351°29.7	227°32.2	20°15.5	297°46.4	17°39.0	343°14.6	1°55.6	26°40.2	-15°23.9
3	6°32.1	242°31.5	20°14.9	312°47.3	17°39.4	358°17.2	1°55.6	41°42.8	-15°23.9
4	21°34.6	257°30.7	20°14.3	327°48.2	17°39.8	13°19.8	1°55.5	56°45.5	-15°24.0
5	36°37.1	272°30.0	20°13.7	342°49.1	17°40.2	28°22.4	1°55.4	71°48.1	-15°24.1
6	51°39.5	287°29.3	20°13.1	357°50.0	17°40.6	43°24.9	1°55.4	86°50.8	-15°24.1
7	66°42.0	302°28.5	20°12.5	12°50.9	17°41.0	58°27.5	1°55.3	101°53.4	-15°24.2
8	81°44.4	317°27.8	20°12.0	27°51.9	17°41.4	73°30.1	1°55.3	116°56.1	-15°24.3
9	96°46.9	332°27.0	20°11.4	42°52.8	17°41.7	88°32.7	1°55.2	131°58.7	-15°24.3
10	111°49.4	347°26.3	20°10.8	57°53.7	17°42.1	103°35.2	1°55.2	147°01.4	-15°24.4
11	126°51.8	2°25.6	20°10.2	72°54.6	17°42.5	118°37.8	1°55.1	162°04.0	-15°24.4
12	141°54.3	17°24.8	20°09.6	87°55.5	17°42.9	133°40.4	1°55.0	177°06.7	-15°24.5
13	156°56.8	32°24.1	20°09.0	102°56.4	17°43.3	148°43.0	1°55.0	192°09.3	-15°24.6
14	171°59.2	47°23.4	20°08.4	117°57.4	17°43.7	163°45.5	1°54.9	207°12.0	-15°24.6
15	187°01.7	62°22.6	20°07.8	132°58.3	17°44.0	178°48.1	1°54.8	222°14.6	-15°24.7
16	202°04.2	77°21.9	20°07.2	147°59.2	17°44.4	193°50.7	1°54.8	237°17.2	-15°24.8
17	217°06.6	92°21.2	20°06.6	163°00.1	17°44.8	208°53.3	1°54.7	252°19.9	-15°24.8
18	232°09.1	107°20.5	20°06.0	178°01.0	17°45.2	223°55.8	1°54.7	267°22.5	-15°24.9
19	247°11.6	122°19.7	20°05.4	193°01.9	17°45.6	238°58.4	1°54.6	282°25.2	-15°25.0
20	262°14.0	137°19.0	20°04.8	208°02.9	17°45.9	254°01.0	1°54.5	297°27.8	-15°25.0
21	277°16.5	152°18.3	20°04.2	223°03.8	17°46.3	269°03.6	1°54.5	312°30.5	-15°25.1
22	292°18.9	167°17.5	20°03.6	238°04.7	17°46.7	284°06.2	1°54.4	327°33.1	-15°25.2
23	307°21.4	182°16.8	20°03.0	253°05.6	17°47.1	299°08.7	1°54.4	342°35.8	-15°25.2
Mer.pass.:	2:33:	v-0.7 d-0.6 m-3.8		v0.9 d0.4 m0.1		v2.6 d-0.1 m-2.6		v2.6 d-0.1 m0.3	

Estrellas

	AHS	Dec
Alpheratz	357°36.6	29°12.8
Ankaa	353°08.8	-42°10.8
Schedar	349°32.9	56°39.5
Diphda	348°49.0	-17°51.6
Achernar	335°21.5	-57°07.1
Hamal	327°53.4	23°34.1
Polaris	314°57.1	89°21.2
Akamar	315°13.2	-40°12.6
Menkar	314°08.2	4°10.7
Mirfak	308°31.1	49°56.2
Aldebaran	290°42.0	16°33.3
Rigel	281°05.9	-8°10.4
Capella	280°25.1	46°01.1
Bellatrix	278°25.2	6°22.3
Elnath	278°04.6	28°37.5
Alnilam	275°39.9	-1°11.1
Betelgeuse	270°54.4	7°24.7
Canopus	263°53.7	-52°42.2
Sirius	258°28.2	-16°44.5
Adara	255°07.7	-29°00.0
Procyon	244°53.1	5°10.3
Pollux	243°20.0	27°58.4
Avior	234°16.2	-59°34.7
Suhail	222°48.2	-43°31.3
Miaplacidus	221°39.6	-69°48.5
Alphard	217°50.0	-8°45.2
Regulus	207°36.8	11°51.6
Dubhe	193°44.0	61°38.0
Denebola	182°27.1	14°27.0
Gienah	175°45.8	-17°39.9
Acrux	173°02.8	-63°13.6
Gacrux	171°54.2	-57°14.5
Alioth	166°15.1	55°50.6
Spica	158°24.5	-11°16.6
Alcaid	152°53.7	49°12.4
Hadar	148°39.0	-60°29.1
Menkent	148°00.1	-36°28.9
Arcturus	145°49.7	19°04.4
Rigil Kent.	139°43.1	-60°55.9
Zubenelg.	136°58.2	-16°08.1
Kochab	137°19.9	74°04.1
Alphecca	126°05.4	26°38.6
Antares	112°18.1	-26°28.9
Atria	107°13.9	-69°04.3
Sabik	102°04.9	-15°45.1
Shaula	96°12.8	-37°07.2
Rasalhague	96°00.2	12°32.8
Etamin	90°42.7	51°29.4
Kaus Aust.	83°34.8	-34°22.4
Vega	80°34.3	38°48.4
Nunki	75°49.9	-26°16.1
Altair	62°01.6	8°55.7
Peacock	53°08.2	-56°39.7
Deneb	49°26.7	45°21.7
Enif	33°40.4	9°58.8
Alnair	27°35.0	-46°51.0
Fomalhaut	15°16.4	-29°30.0
Scheat	13°46.8	28°12.3
Markab	13°31.6	15°19.6

Ago 11 Jue	AHS	Paso Merid
Venus	238°43.0	10:48
Mars	307°34.4	06:12
Jupiter	351°39.9	03:15
Saturn	35°01.4	00:22

Ago 12 Vie	AHS	Paso Merid
Venus	237°25.9	10:49
Mars	306°57.1	06:10
Jupiter	351°42.2	03:11
Saturn	35°05.8	00:18

Ago 13 Sa	AHS	Paso Merid
Venus	236°08.9	10:50
Mars	306°19.8	06:09
Jupiter	351°44.8	03:07
Saturn	35°10.2	00:14

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.1

h	Sol		Luna				
Jue	AHG	Dec	AHG	v	Dec	d	HP
0	178°40.2	15°19.9	12°36.6	3.2	-24°07.4	8.2	60.9
1	193°40.3	15°19.2	26°58.9	3.3	-23°59.1	8.4	60.9
2	208°40.4	15°18.5	41°21.2	3.4	-23°50.7	8.5	60.9
3	223°40.5	15°17.7	55°43.7	3.5	-23°42.1	8.7	60.9
4	238°40.6	15°17.0	70°06.3	3.6	-23°33.3	8.9	60.9
5	253°40.7	15°16.2	84°28.9	3.7	-23°24.3	9.0	60.9
6	268°40.8	15°15.5	98°51.7	3.8	-23°15.2	9.2	60.9
7	283°40.9	15°14.8	113°14.6	3.9	-23°05.9	9.4	60.9
8	298°41.0	15°14.0	127°37.5	4.0	-22°56.4	9.5	60.9
9	313°41.1	15°13.3	142°00.6	4.1	-22°46.8	9.7	60.9
10	328°41.3	15°12.5	156°23.7	4.2	-22°37.0	9.9	60.9
11	343°41.4	15°11.8	170°47.0	4.3	-22°27.1	10.0	60.9
12	358°41.5	15°11.0	185°10.4	4.4	-22°17.0	10.2	60.8
13	13°41.6	15°10.3	199°33.9	4.5	-22°06.8	10.3	60.8
14	28°41.7	15°09.6	213°57.4	4.6	-21°56.4	10.5	60.8
15	43°41.8	15°08.8	228°21.1	4.7	-21°45.9	10.6	60.8
16	58°41.9	15°08.1	242°44.9	4.9	-21°35.2	10.8	60.8
17	73°42.0	15°07.3	257°08.9	5.0	-21°24.3	10.9	60.8
18	88°42.1	15°06.6	271°32.9	5.1	-21°13.4	11.0	60.8
19	103°42.2	15°05.8	285°57.0	5.2	-21°02.2	11.2	60.8
20	118°42.3	15°05.1	300°21.3	5.3	-20°51.0	11.3	60.8
21	133°42.4	15°04.3	314°45.6	5.4	-20°39.6	11.5	60.7
22	148°42.5	15°03.6	329°10.1	5.5	-20°28.1	11.6	60.7
23	163°42.6	15°02.8	343°34.7	5.6	-20°16.4	11.7	60.7
	SD.=15.8	d=-0.7	S.D.=16.6				

Vie	AHG	Dec	AHG	v	Dec	d	HP
0	178°42.7	15°02.1	357°59.4	5.8	-20°04.6	11.8	60.7
1	193°42.8	15°01.3	12°24.2	5.9	-19°52.7	12.0	60.7
2	208°42.9	15°00.6	26°49.1	6.0	-19°40.7	12.1	60.7
3	223°43.0	14°59.8	41°14.2	6.1	-19°28.5	12.2	60.6
4	238°43.1	14°59.1	55°39.3	6.2	-19°16.2	12.3	60.6
5	253°43.2	14°58.3	70°04.6	6.3	-19°03.8	12.5	60.6
6	268°43.3	14°57.6	84°30.0	6.4	-18°51.3	12.6	60.6
7	283°43.4	14°56.8	98°55.5	6.6	-18°38.7	12.7	60.6
8	298°43.6	14°56.1	113°21.1	6.7	-18°25.9	12.8	60.6
9	313°43.7	14°55.3	127°46.9	6.8	-18°13.1	12.9	60.5
10	328°43.8	14°54.6	142°12.7	6.9	-18°00.1	13.0	60.5
11	343°43.9	14°53.8	156°38.7	7.0	-17°47.1	13.1	60.5
12	358°44.0	14°53.1	171°04.8	7.1	-17°33.9	13.2	60.5
13	13°44.1	14°52.3	185°31.0	7.3	-17°20.6	13.3	60.5
14	28°44.2	14°51.6	199°57.3	7.4	-17°07.2	13.4	60.4
15	43°44.3	14°50.8	214°23.7	7.5	-16°53.8	13.5	60.4
16	58°44.4	14°50.1	228°50.2	7.6	-16°40.2	13.6	60.4
17	73°44.5	14°49.3	243°16.9	7.7	-16°26.5	13.7	60.4
18	88°44.6	14°48.6	257°43.7	7.8	-16°12.8	13.8	60.3
19	103°44.7	14°47.8	272°10.5	7.9	-15°58.9	13.9	60.3
20	118°44.9	14°47.0	286°37.5	8.0	-15°45.0	14.0	60.3
21	133°45.0	14°46.3	301°04.6	8.2	-15°31.0	14.0	60.3
22	148°45.1	14°45.5	315°31.8	8.3	-15°16.9	14.1	60.2
23	163°45.2	14°44.8	329°59.1	8.4	-15°02.7	14.2	60.2
	SD.=15.8	d=-0.7	S.D.=16.6				

Sa	AHG	Dec	AHG	v	Dec	d	HP
0	178°45.3	14°44.0	344°26.6	8.5	-14°48.5	14.3	60.2
1	193°45.4	14°43.2	358°54.1	8.6	-14°34.2	14.4	60.2
2	208°45.5	14°42.5	13°21.7	8.7	-14°19.8	14.4	60.1
3	223°45.6	14°41.7	27°49.5	8.8	-14°05.3	14.5	60.1
4	238°45.7	14°41.0	42°17.3	8.9	-13°50.8	14.6	60.1
5	253°45.9	14°40.2	56°45.3	9.0	-13°36.2	14.6	60.1
6	268°46.0	14°39.4	71°13.4	9.1	-13°21.5	14.7	60.0
7	283°46.1	14°38.7	85°41.5	9.2	-13°06.8	14.8	60.0
8	298°46.2	14°37.9	100°09.8	9.3	-12°52.0	14.8	60.0
9	313°46.3	14°37.2	114°38.2	9.4	-12°37.1	14.9	59.9
10	328°46.4	14°36.4	129°06.7	9.5	-12°22.2	14.9	59.9
11	343°46.5	14°35.6	143°35.2	9.6	-12°07.2	15.0	59.9
12	358°46.7	14°34.9	158°03.9	9.7	-11°52.2	15.0	59.9
13	13°46.8	14°34.1	172°32.7	9.8	-11°37.2	15.1	59.8
14	28°46.9	14°33.3	187°01.6	9.9	-11°22.0	15.1	59.8
15	43°47.0	14°32.6	201°30.5	10.0	-11°06.9	15.2	59.8
16	58°47.1	14°31.8	215°59.6	10.1	-10°51.7	15.2	59.7
17	73°47.2	14°31.1	230°28.7	10.2	-10°36.4	15.3	59.7
18	88°47.3	14°30.3	244°58.0	10.3	-10°21.1	15.3	59.7
19	103°47.5	14°29.5	259°27.3	10.4	-10°05.8	15.4	59.6
20	118°47.6	14°28.8	273°56.7	10.5	-9°50.4	15.4	59.6
21	133°47.7	14°28.0	288°26.3	10.6	-9°35.0	15.4	59.6
22	148°47.8	14°27.2	302°55.9	10.6	-9°19.5	15.5	59.5
23	163°47.9	14°26.5	317°25.5	10.7	-9°04.1	15.5	59.5
	SD.=15.8	d=-0.8	S.D.=16.4				

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	–:–	–:–	02:02	22:02	–:–	–:–
70	–:–	–:–	02:40	21:26	–:–	–:–
68	–:–	01:16	03:06	21:00	22:45	–:–
66	–:–	02:04	03:26	20:41	22:01	–:–
64	–:–	02:34	03:42	20:25	21:33	–:–
62	01:08	02:56	03:56	20:13	21:11	22:54
60	01:51	03:14	04:07	20:02	20:54	22:15
58	02:19	03:28	04:16	19:52	20:40	21:48
56	02:39	03:40	04:25	19:44	20:28	21:28
54	02:56	03:51	04:32	19:37	20:18	21:12
52	03:10	04:00	04:39	19:30	20:09	20:58
50	03:22	04:08	04:45	19:24	20:00	20:47
45	03:46	04:26	04:58	19:11	19:44	20:23
40	04:04	04:39	05:09	19:01	19:30	20:06
35	04:18	04:51	05:18	18:52	19:19	19:51
30	04:30	05:00	05:26	18:44	19:09	19:39
20	04:49	05:16	05:39	18:31	18:54	19:21
10	05:03	05:29	05:51	18:19	18:41	19:06
0	05:15	05:40	06:02	18:08	18:30	18:55
S 10	05:26	05:51	06:12	17:58	18:20	18:45
20	05:35	06:01	06:24	17:47	18:09	18:36
30	05:44	06:12	06:37	17:34	17:59	18:27
35	05:48	06:18	06:44	17:27	17:53	18:23
40	05:52	06:24	06:52	17:18	17:46	18:19
45	05:57	06:31	07:02	17:09	17:39	18:14
50	06:01	06:40	07:14	16:57	17:31	18:09
52	06:03	06:43	07:19	16:52	17:28	18:08
54	06:05	06:47	07:25	16:46	17:24	18:05
56	06:08	06:52	07:32	16:39	17:19	18:03
58	06:10	06:57	07:39	16:32	17:14	18:01
60	06:13	07:02	07:48	16:23	17:09	17:59

	Orto luna			Ocaso luna		
Lat.	Jue	Vie	Sa	Jue	Vie	Sa
N 72	–:–	–:–	21:52	–:–	–:–	03:49
70	–:–	–:–	21:38	–:–	–:–	04:20
68	22:36	21:51	21:26	–:–	01:59	04:42
66	21:55	21:32	21:17	–:–	02:40	04:59
64	21:26	21:16	21:09	00:43	03:07	05:13
62	21:04	21:03	21:02	01:24	03:28	05:25
60	20:46	20:52	20:56	01:52	03:45	05:35
58	20:31	20:43	20:50	02:13	04:00	05:43
56	20:18	20:34	20:45	02:31	04:12	05:51
54	20:07	20:26	20:41	02:46	04:22	05:57
52	19:57	20:20	20:37	02:59	04:32	06:03
50	19:48	20:13	20:33	03:10	04:40	06:09
45	19:28	20:00	20:25	03:34	04:58	06:20
40	19:13	19:49	20:19	03:52	05:12	06:30
35	19:00	19:39	20:13	04:08	05:24	06:38
30	18:48	19:31	20:08	04:21	05:34	06:45
20	18:28	19:16	19:59	04:44	05:52	06:57
10	18:11	19:04	19:52	05:04	06:08	07:07
0	17:54	18:52	19:44	05:22	06:22	07:17
S 10	17:38	18:40	19:37	05:40	06:36	07:27
20	17:20	18:27	19:29	06:00	06:51	07:37
30	17:00	18:12	19:20	06:22	07:09	07:49
35	16:48	18:03	19:15	06:35	07:19	07:55
40	16:34	17:53	19:09	06:50	07:30	08:03
45	16:18	17:41	19:02	07:07	07:43	08:11
50	15:58	17:27	18:54	07:29	07:59	08:22
52	15:48	17:21	18:50	07:39	08:06	08:27
54	15:37	17:13	18:46	07:50	08:15	08:32
56	15:25	17:05	18:41	08:03	08:24	08:38
58	15:10	16:55	18:36	08:18	08:34	08:44
60	14:53	16:44	18:30	08:36	08:46	08:51

Día	Sol			Luna		
	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
11	05:19	05:14	12:05	00:08	11:38	14(99%)
12	05:09	05:04	12:05	00:08	12:37	15(100%)
13	04:59	04:53	12:04	01:04	13:30	16(97%)

Agosto 14, 15, 16 (Dom, Lun, Mar)

	Aries	Venus		Martes		Júpiter		Saturno	
Dom	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	322°23.9	197°16.1	20°02.4	268°06.5	17°47.5	314°11.3	1°54.3	357°38.4	-15°25.3
1	337°26.3	212°15.3	20°01.8	283°07.5	17°47.9	329°13.9	1°54.2	12°41.1	-15°25.3
2	352°28.8	227°14.6	20°01.2	298°08.4	17°48.2	344°16.5	1°54.2	27°43.7	-15°25.4
3	7°31.3	242°13.9	20°00.6	313°09.3	17°48.6	359°19.1	1°54.1	42°46.4	-15°25.5
4	22°33.7	257°13.2	20°00.0	328°10.2	17°49.0	14°21.6	1°54.1	57°49.0	-15°25.5
5	37°36.2	272°12.4	19°59.4	343°11.1	17°49.4	29°24.2	1°54.0	72°51.7	-15°25.6
6	52°38.7	287°11.7	19°58.8	358°12.1	17°49.7	44°26.8	1°53.9	87°54.3	-15°25.7
7	67°41.1	302°11.0	19°58.2	13°13.0	17°50.1	59°29.4	1°53.9	102°56.9	-15°25.7
8	82°43.6	317°10.3	19°57.6	28°13.9	17°50.5	74°32.0	1°53.8	117°59.6	-15°25.8
9	97°46.0	332°09.5	19°56.9	43°14.8	17°50.9	89°34.6	1°53.7	133°02.2	-15°25.9
10	112°48.5	347°08.8	19°56.3	58°15.8	17°51.3	104°37.1	1°53.7	148°04.9	-15°25.9
11	127°51.0	2°08.1	19°55.7	73°16.7	17°51.6	119°39.7	1°53.6	163°07.5	-15°26.0
12	142°53.4	17°07.4	19°55.1	88°17.6	17°52.0	134°42.3	1°53.5	178°10.2	-15°26.1
13	157°55.9	32°06.6	19°54.5	103°18.5	17°52.4	149°44.9	1°53.5	193°12.8	-15°26.1
14	172°58.4	47°05.9	19°53.9	118°19.4	17°52.8	164°47.5	1°53.4	208°15.5	-15°26.2
15	188°00.8	62°05.2	19°53.2	133°20.4	17°53.1	179°50.1	1°53.4	223°18.1	-15°26.2
16	203°03.3	77°04.5	19°52.6	148°21.3	17°53.5	194°52.6	1°53.3	238°20.8	-15°26.3
17	218°05.8	92°03.7	19°52.0	163°22.2	17°53.9	209°55.2	1°53.2	253°23.4	-15°26.4
18	233°08.2	107°03.0	19°51.4	178°23.1	17°54.3	224°57.8	1°53.2	268°26.1	-15°26.4
19	248°10.7	122°02.3	19°50.8	193°24.1	17°54.6	240°00.4	1°53.1	283°28.7	-15°26.5
20	263°13.2	137°01.6	19°50.1	208°25.0	17°55.0	255°03.0	1°53.0	298°31.4	-15°26.6
21	278°15.6	152°00.8	19°49.5	223°25.9	17°55.4	270°05.6	1°53.0	313°34.0	-15°26.6
22	293°18.1	167°00.1	19°48.9	238°26.8	17°55.8	285°08.2	1°52.9	328°36.7	-15°26.7
23	308°20.5	181°59.4	19°48.3	253°27.8	17°56.1	300°10.7	1°52.8	343°39.3	-15°26.8
Mer.pass.:2:29:		v-0.7 d-0.6 m-3.8		v0.9 d0.4 m0.1		v2.6 d-0.1 m-2.6		v2.6 d-0.1 m0.3	

Lun	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	323°23.0	196°58.7	19°47.6	268°28.7	17°56.5	315°13.3	1°52.8	358°41.9	-15°26.8
1	338°25.5	211°58.0	19°47.0	283°29.6	17°56.9	330°15.9	1°52.7	13°44.6	-15°26.9
2	353°27.9	226°57.2	19°46.4	298°30.5	17°57.3	345°18.5	1°52.7	28°47.2	-15°26.9
3	8°30.4	241°56.5	19°45.7	313°31.5	17°57.6	0°21.1	1°52.6	43°49.9	-15°27.0
4	23°32.9	256°55.8	19°45.1	328°32.4	17°58.0	15°23.7	1°52.5	58°52.5	-15°27.1
5	38°35.3	271°55.1	19°44.5	343°33.3	17°58.4	30°26.3	1°52.5	73°55.2	-15°27.1
6	53°37.8	286°54.4	19°43.9	358°34.2	17°58.8	45°28.9	1°52.4	88°57.8	-15°27.2
7	68°40.3	301°53.6	19°43.2	13°35.2	17°59.1	60°31.4	1°52.3	104°00.5	-15°27.3
8	83°42.7	316°52.9	19°42.6	28°36.1	17°59.5	75°34.0	1°52.3	119°03.1	-15°27.3
9	98°45.2	331°52.2	19°41.9	43°37.0	17°59.9	90°36.6	1°52.2	134°05.8	-15°27.4
10	113°47.6	346°51.5	19°41.3	58°38.0	18°00.2	105°39.2	1°52.1	149°08.4	-15°27.5
11	128°50.1	1°50.8	19°40.7	73°38.9	18°00.6	120°41.8	1°52.1	164°11.1	-15°27.5
12	143°52.6	16°50.1	19°40.0	88°39.8	18°01.0	135°44.4	1°52.0	179°13.7	-15°27.6
13	158°55.0	31°49.3	19°39.4	103°40.7	18°01.4	150°47.0	1°51.9	194°16.4	-15°27.6
14	173°57.5	46°48.6	19°38.7	118°41.7	18°01.7	165°49.6	1°51.9	209°19.0	-15°27.7
15	189°00.0	61°47.9	19°38.1	133°42.6	18°02.1	180°52.2	1°51.8	224°21.6	-15°27.8
16	204°02.4	76°47.2	19°37.5	148°43.5	18°02.5	195°54.8	1°51.7	239°24.3	-15°27.8
17	219°04.9	91°46.5	19°36.8	163°44.5	18°02.8	210°57.4	1°51.7	254°26.9	-15°27.9
18	234°07.4	106°45.8	19°36.2	178°45.4	18°03.2	225°59.9	1°51.6	269°29.6	-15°28.0
19	249°09.8	121°45.1	19°35.5	193°46.3	18°03.6	241°02.5	1°51.5	284°32.2	-15°28.0
20	264°12.3	136°44.3	19°34.9	208°47.2	18°03.9	256°05.1	1°51.5	299°34.9	-15°28.1
21	279°14.8	151°43.6	19°34.2	223°48.2	18°04.3	271°07.7	1°51.4	314°37.5	-15°28.2
22	294°17.2	166°42.9	19°33.6	238°49.1	18°04.7	286°10.3	1°51.3	329°40.2	-15°28.2
23	309°19.7	181°42.2	19°32.9	253°50.0	18°05.0	301°12.9	1°51.3	344°42.8	-15°28.3
Mer.pass.:2:26:		v-0.7 d-0.6 m-3.8		v0.9 d0.4 m0.1		v2.6 d-0.1 m-2.6		v2.6 d-0.1 m0.3	

Mar	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	324°22.1	196°41.5	19°32.3	268°51.0	18°05.4	316°15.5	1°51.2	359°45.5	-15°28.4
1	339°24.6	211°40.8	19°31.6	283°51.9	18°05.8	331°18.1	1°51.1	14°48.1	-15°28.4
2	354°27.1	226°40.1	19°31.0	298°52.8	18°06.1	346°20.7	1°51.1	29°50.8	-15°28.5
3	9°29.5	241°39.4	19°30.3	313°53.8	18°06.5	1°23.3	1°51.0	44°53.4	-15°28.5
4	24°32.0	256°38.7	19°29.7	328°54.7	18°06.9	16°25.9	1°50.9	59°56.1	-15°28.6
5	39°34.5	271°37.9	19°29.0	343°55.6	18°07.2	31°28.5	1°50.9	74°58.7	-15°28.7
6	54°36.9	286°37.2	19°28.4	358°56.6	18°07.6	46°31.1	1°50.8	90°01.4	-15°28.7
7	69°39.4	301°36.5	19°27.7	13°57.5	18°08.0	61°33.7	1°50.7	105°04.0	-15°28.8
8	84°41.9	316°35.8	19°27.0	28°58.4	18°08.3	76°36.3	1°50.7	120°06.6	-15°28.9
9	99°44.3	331°35.1	19°26.4	43°59.4	18°08.7	91°38.9	1°50.6	135°09.3	-15°28.9
10	114°46.8	346°34.4	19°25.7	59°00.3	18°09.1	106°41.5	1°50.5	150°11.9	-15°29.0
11	129°49.3	1°33.7	19°25.1	74°01.2	18°09.4	121°44.1	1°50.4	165°14.6	-15°29.1
12	144°51.7	16°33.0	19°24.4	89°02.2	18°09.8	136°46.7	1°50.4	180°17.2	-15°29.1
13	159°54.2	31°32.3	19°23.7	104°03.1	18°10.2	151°49.3	1°50.3	195°19.9	-15°29.2
14	174°56.6	46°31.6	19°23.1	119°04.0	18°10.5	166°51.9	1°50.2	210°22.5	-15°29.2
15	189°59.1	61°30.9	19°22.4	134°05.0	18°10.9	181°54.5	1°50.2	225°25.2	-15°29.3
16	205°01.6	76°30.2	19°21.7	149°05.9	18°11.3	196°57.1	1°50.1	240°27.8	-15°29.4
17	220°04.0	91°29.4	19°21.1	164°06.8	18°11.6	211°59.7	1°50.0	255°30.5	-15°29.4
18	235°06.5	106°28.7	19°20.4	179°07.8	18°12.0	227°02.3	1°50.0	270°33.1	-15°29.5
19	250°09.0	121°28.0	19°19.7	194°08.7	18°12.3	242°04.9	1°49.9	285°35.8	-15°29.6
20	265°11.4	136°27.3	19°19.1	209°09.7	18°12.7	257°07.5	1°49.8	300°38.4	-15°29.6
21	280°13.9	151°26.6	19°18.4	224°10.6	18°13.1	272°10.1	1°49.7	315°41.1	-15°29.7
22	295°16.4	166°25.9	19°17.7	239°11.5	18°13.4	287°12.7	1°49.7	330°43.7	-15°29.8
23	310°18.8	181°25.2	19°17.0	254°12.5	18°13.8	302°15.3	1°49.6	345°46.3	-15°29.8
Mer.pass.:2:22:		v-0.7 d-0.7 m-3.8		v0.9 d0.4 m0.0		v2.6 d-0.1 m-2.6		v2.6 d-0.1 m0.3	

Estrellas

	AHS	Dec
Alpheratz	357°36.5	29°12.9
Ankaa	353°08.8	-42°10.8
Schedar	349°32.9	56°39.5
Diphda	348°49.0	-17°51.6
Achernar	335°21.4	-57°07.1
Hamal	327°53.3	23°34.1
Polaris	314°55.8	89°21.2
Akamar	315°13.2	-40°12.6
Menkar	314°08.2	4°10.8
Mirfak	308°31.1	49°56.2
Aldebaran	290°42.0	16°33.3
Rigel	281°05.9	-8°10.4
Capella	280°25.0	46°01.1
Bellatrix	278°25.2	6°22.3
Elnath	278°04.6	28°37.5
Alnilam	275°39.9	-1°11.1
Betelgeuse	270°54.4	7°24.7
Canopus	263°53.7	-52°42.2
Sirius	258°28.1	-16°44.5
Adara	255°07.7	-28°59.9
Procyon	244°53.1	5°10.3
Pollux	243°19.9	27°58.4
Avior	234°16.2	-59°34.7
Suhail	222°48.2	-43°31.3
Miaplacidus	221°39.6	-69°48.5
Alphard	217°50.0	-8°45.2
Regulus	207°36.8	11°51.6
Dubhe	193°44.0	61°38.0
Denebola	182°27.2	14°27.0
Gienah	175°45.8	-17°39.9
Acrux	173°02.8	-63°13.5
Gacrux	171°54.2	-57°14.5
Alioth	166°15.1	55°50.6
Spica	158°24.5	-11°16.6
Alcaid	152°53.8	49°12.4
Hadar	148°39.0	-60°29.1
Menkent	148°00.1	-36°28.9
Arcturus	145°49.7	19°04.4
Rigil Kent.	139°43.1	-60°55.9
Zubenelg.	136°58.3	-16°08.1
Kochab	137°19.9	74°04.1
Alphecca	126°05.4	26°38.6
Antares	112°18.1	-26°28.9
Atria	107°13.9	-69°04.3
Sabik	102°04.9	-15°45.1
Shaula	96°12.8	-37°07.2
Rasalhague	96°00.2	12°32.8
Etamin	90°42.8	51°29.4
Kaus Aust.	83°34.8	-34°22.4
Vega	80°34.3	38°48.4
Nunki	75°49.9	-26°16.1
Altair	62°01.6	8°55.7
Peacock	53°08.2	-56°39.8
Deneb	49°26.7	45°21.7
Enif	33°40.4	9°58.8
Alnair	27°34.9	-46°51.0
Fomalhaut	15°16.4	-29°30.0
Scheat	13°46.8	28°12.3
Markab	13°31.6	15°19.6

Ago 14 Dom	AHS	Paso Merid
Venus	234°52.2	10:51
Mars	305°42.7	06:07
Jupiter	351°47.4	03:03
Saturn	35°14.5	00:09

Ago 15 Lun	AHS	Paso Merid
Venus	233°35.7	10:53
Mars	305°05.7	06:06
Jupiter	351°50.3	02:59
Saturn	35°18.9	00:05

Ago 16 Mar	AHS	Paso Merid
Venus	232°19.3	10:54
Mars	304°28.8	06:04
Jupiter	351°53.4	02:54
Saturn	35°23.3	00:01

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.1

h Sol Luna

Dom	AHG	Dec	AHG	v	Dec	d	HP
0	178°48.0	14°25.7	331°55.3	10.8	-8°48.6	15.5	59.5
1	193°48.2	14°24.9	346°25.2	10.9	-8°33.0	15.5	59.4
2	208°48.3	14°24.2	0°55.1	11.0	-8°17.5	15.6	59.4
3	223°48.4	14°23.4	15°25.2	11.1	-8°01.9	15.6	59.4
4	238°48.5	14°22.6	29°55.3	11.1	-7°46.3	15.6	59.3
5	253°48.6	14°21.8	44°25.5	11.2	-7°30.6	15.6	59.3
6	268°48.7	14°21.1	58°55.7	11.3	-7°15.0	15.7	59.3
7	283°48.9	14°20.3	73°26.1	11.4	-6°59.3	15.7	59.2
8	298°49.0	14°19.5	87°56.5	11.5	-6°43.6	15.7	59.2
9	313°49.1	14°18.8	102°27.0	11.5	-6°27.9	15.7	59.2
10	328°49.2	14°18.0	116°57.6	11.6	-6°12.2	15.7	59.1
11	343°49.3	14°17.2	131°28.2	11.7	-5°56.5	15.7	59.1
12	358°49.5	14°16.4	145°58.9	11.7	-5°40.7	15.7	59.0
13	13°49.6	14°15.7	160°29.7	11.8	-5°25.0	15.8	59.0
14	28°49.7	14°14.9	175°00.6	11.9	-5°09.2	15.8	59.0
15	43°49.8	14°14.1	189°31.5	12.0	-4°53.5	15.8	58.9
16	58°49.9	14°13.3	204°02.5	12.0	-4°37.7	15.8	58.9
17	73°50.1	14°12.6	218°33.5	12.1	-4°21.9	15.8	58.9
18	88°50.2	14°11.8	233°04.6	12.1	-4°06.1	15.8	58.8
19	103°50.3	14°11.0	247°35.8	12.2	-3°50.4	15.8	58.8
20	118°50.4	14°10.2	262°07.0	12.3	-3°34.6	15.8	58.8
21	133°50.5	14°09.5	276°38.3	12.3	-3°18.8	15.8	58.7
22	148°50.7	14°08.7	291°09.7	12.4	-3°03.1	15.8	58.7
23	163°50.8	14°07.9	305°41.1	12.4	-2°47.3	15.8	58.6
	SD.=15.8	d=-0.8		S.D.=16.2			

Lun	AHG	Dec	AHG	v	Dec	d	HP
0	178°50.9	14°07.1	320°12.6	12.5	-2°31.6	15.7	58.6
1	193°51.0	14°06.4	334°44.1	12.6	-2°15.8	15.7	58.6
2	208°51.1	14°05.6	349°15.7	12.6	-2°00.1	15.7	58.5
3	223°51.3	14°04.8	3°47.3	12.7	-1°44.4	15.7	58.5
4	238°51.4	14°04.0	18°19.0	12.7	-1°28.7	15.7	58.4
5	253°51.5	14°03.2	32°50.7	12.8	-1°13.0	15.7	58.4
6	268°51.6	14°02.5	47°22.5	12.8	-0°57.3	15.7	58.4
7	283°51.8	14°01.7	61°54.3	12.9	-0°41.7	15.6	58.3
8	298°51.9	14°00.9	76°26.2	12.9	-0°26.0	15.6	58.3
9	313°52.0	14°00.1	90°58.1	12.9	-0°10.4	15.6	58.3
10	328°52.1	13°59.3	105°30.1	13.0	0°05.2	15.6	58.2
11	343°52.3	13°58.6	120°02.1	13.0	0°20.7	15.6	58.2
12	358°52.4	13°57.8	134°34.2	13.1	0°36.3	15.5	58.1
13	13°52.5	13°57.0	149°06.2	13.1	0°51.8	15.5	58.1
14	28°52.6	13°56.2	163°38.4	13.1	1°07.3	15.5	58.1
15	43°52.8	13°55.4	178°10.5	13.2	1°22.8	15.5	58.0
16	58°52.9	13°54.6	192°42.7	13.2	1°38.3	15.4	58.0
17	73°53.0	13°53.9	207°15.0	13.3	1°53.7	15.4	57.9
18	88°53.1	13°53.1	221°47.2	13.3	2°09.1	15.4	57.9
19	103°53.3	13°52.3	236°19.5	13.3	2°24.4	15.3	57.9
20	118°53.4	13°51.5	250°51.9	13.3	2°39.7	15.3	57.8
21	133°53.5	13°50.7	265°24.2	13.4	2°55.0	15.3	57.8
22	148°53.6	13°49.9	279°56.6	13.4	3°10.3	15.2	57.8
23	163°53.8	13°49.2	294°29.0	13.4	3°25.5	15.2	57.7
	SD.=15.8	d=-0.8		S.D.=16.0			

Mar	AHG	Dec	AHG	v	Dec	d	HP
0	178°53.9	13°48.4	309°01.5	13.5	3°40.7	15.2	57.7
1	193°54.0	13°47.6	323°33.9	13.5	3°55.8	15.1	57.6
2	208°54.2	13°46.8	338°06.4	13.5	4°11.0	15.1	57.6
3	223°54.3	13°46.0	352°38.9	13.5	4°26.0	15.0	57.6
4	238°54.4	13°45.2	7°11.5	13.5	4°41.1	15.0	57.5
5	253°54.5	13°44.4	21°44.0	13.6	4°56.0	15.0	57.5
6	268°54.7	13°43.6	36°16.6	13.6	5°11.0	14.9	57.4
7	283°54.8	13°42.8	50°49.2	13.6	5°25.9	14.9	57.4
8	298°54.9	13°42.1	65°21.8	13.6	5°40.7	14.8	57.4
9	313°55.1	13°41.3	79°54.5	13.6	5°55.5	14.8	57.3
10	328°55.2	13°40.5	94°27.1	13.7	6°10.3	14.7	57.3
11	343°55.3	13°39.7	108°59.8	13.7	6°25.0	14.7	57.3
12	358°55.4	13°38.9	123°32.4	13.7	6°39.7	14.6	57.2
13	13°55.6	13°38.1	138°05.1	13.7	6°54.3	14.6	57.2
14	28°55.7	13°37.3	152°37.8	13.7	7°08.8	14.5	57.1
15	43°55.8	13°36.5	167°10.5	13.7	7°23.4	14.5	57.1
16	58°56.0	13°35.7	181°43.2	13.7	7°37.8	14.4	57.1
17	73°56.1	13°34.9	196°16.0	13.7	7°52.2	14.4	57.0
18	88°56.2	13°34.1	210°48.7	13.7	8°06.6	14.3	57.0
19	103°56.4	13°33.3	225°21.4	13.7	8°20.9	14.3	57.0
20	118°56.5	13°32.6	239°54.2	13.7	8°35.1	14.2	56.9
21	133°56.6	13°31.8	254°26.9	13.7	8°49.3	14.2	56.9
22	148°56.8	13°31.0	268°59.6	13.7	9°03.4	14.1	56.9
23	163°56.9	13°30.2	283°32.4	13.7	9°17.5	14.0	56.8
	SD.=15.8	d=-0.8		S.D.=15.7			

Lat.	Crepúsculo Naut.	Crepúsculo Civil	Orto Sol	Crepúsculo Civil	Crepúsculo Naut.	Ocaso Sol
N 72	–:–	–:–	02:24	21:39	–:–	–:–
70	–:–	–:–	02:56	21:09	–:–	–:–
68	–:–	01:43	03:19	20:47	22:19	–:–
66	–:–	02:21	03:37	20:29	21:44	–:–
64	–:–	02:47	03:52	20:15	21:19	–:–
62	01:32	03:07	04:04	20:03	21:00	22:31
60	02:06	03:23	04:14	19:53	20:44	21:59
58	02:30	03:36	04:23	19:45	20:31	21:36
56	02:48	03:47	04:31	19:37	20:20	21:18
54	03:04	03:57	04:38	19:30	20:10	21:03
52	03:17	04:06	04:44	19:24	20:02	20:51
50	03:28	04:13	04:50	19:18	19:54	20:40
45	03:50	04:30	05:02	19:07	19:39	20:18
40	04:07	04:42	05:12	18:57	19:26	20:01
35	04:21	04:53	05:20	18:49	19:15	19:47
30	04:32	05:02	05:27	18:41	19:06	19:36
20	04:50	05:17	05:40	18:29	18:52	19:19
10	05:04	05:29	05:51	18:18	18:40	19:05
0	05:15	05:40	06:01	18:08	18:29	18:54
S 10	05:25	05:50	06:11	17:58	18:20	18:45
20	05:33	05:59	06:22	17:47	18:10	18:36
30	05:41	06:09	06:34	17:36	18:00	18:28
35	05:45	06:15	06:41	17:29	17:55	18:25
40	05:49	06:20	06:48	17:21	17:49	18:21
45	05:52	06:27	06:57	17:12	17:43	18:17
50	05:56	06:35	07:08	17:01	17:35	18:13
52	05:58	06:38	07:13	16:56	17:32	18:12
54	06:00	06:42	07:19	16:51	17:28	18:10
56	06:02	06:46	07:25	16:45	17:24	18:08
58	06:04	06:50	07:32	16:38	17:20	18:06
60	06:06	06:55	07:40	16:30	17:15	18:04

Lat.	Orto luna Dom	Orto luna Lun	Orto luna Mar	Ocaso luna Dom	Ocaso luna Lun	Ocaso luna Mar
N 72	21:16	20:44	20:11	06:33	08:51	11:04
70	21:12	20:48	20:23	06:44	08:52	10:54
68	21:08	20:51	20:34	06:53	08:52	10:46
66	21:05	20:53	20:42	07:01	08:53	10:40
64	21:02	20:56	20:49	07:07	08:53	10:35
62	21:00	20:58	20:55	07:12	08:53	10:30
60	20:58	20:59	21:01	07:17	08:53	10:26
58	20:56	21:01	21:06	07:21	08:54	10:22
56	20:54	21:02	21:10	07:25	08:54	10:19
54	20:53	21:03	21:14	07:28	08:54	10:16
52	20:51	21:04	21:17	07:31	08:54	10:14
50	20:50	21:05	21:21	07:34	08:54	10:12
45	20:47	21:08	21:28	07:39	08:54	10:07
40	20:45	21:09	21:33	07:44	08:55	10:02
35	20:43	21:11	21:39	07:48	08:55	09:59
30	20:41	21:13	21:43	07:52	08:55	09:56
20	20:38	21:15	21:51	07:58	08:55	09:50
10	20:36	21:17	21:58	08:03	08:55	09:46
0	20:33	21:20	22:05	08:08	08:55	09:41
S 10	20:31	21:22	22:11	08:13	08:56	09:37
20	20:28	21:24	22:19	08:18	08:56	09:32
30	20:25	21:27	22:27	08:24	08:56	09:27
35	20:23	21:28	22:32	08:27	08:56	09:24
40	20:21	21:30	22:37	08:31	08:56	09:20
45	20:19	21:32	22:43	08:35	08:56	09:16
50	20:16	21:35	22:51	08:40	08:56	09:11
52	20:15	21:36	22:55	08:42	08:56	09:09
54	20:14	21:37	22:59	08:45	08:56	09:07
56	20:12	21:39	23:03	08:48	08:56	09:04
58	20:10	21:40	23:08	08:51	08:56	09:01
60	20:08	21:42	23:13	08:54	08:56	08:58

Día	Sol Ec. tiempo 00:00 h	Sol Ec. tiempo 12:00 h	Sol Paso Merid	Luna Paso Meridiano Superior	Luna Paso Meridiano Inferior	Luna Edad
14	04:48	04:42	12:04	01:56	14:20	17(92%)
15	04:36	04:30	12:04	02:44	15:07	18(85%)
16	04:24	04:18	12:04	03:30	15:52	19(76%)

Agosto 17, 18, 19 (Mie, Jue, Vie)

	Aries	Venus		Martes		Júpiter		Saturno	
Mie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	325°21.3	196°24.5	19°16.4	269°13.4	18°14.1	317°17.9	1°49.5	0°49.0	-15°29.9
1	340°23.7	211°23.8	19°15.7	284°14.3	18°14.5	332°20.5	1°49.5	15°51.6	-15°29.9
2	355°26.2	226°23.1	19°15.0	299°15.3	18°14.9	347°23.1	1°49.4	30°54.3	-15°30.0
3	10°28.7	241°22.4	19°14.3	314°16.2	18°15.2	2°25.7	1°49.3	45°56.9	-15°30.1
4	25°31.1	256°21.7	19°13.7	329°17.2	18°15.6	17°28.3	1°49.3	60°59.6	-15°30.1
5	40°33.6	271°21.0	19°13.0	344°18.1	18°15.9	32°30.9	1°49.2	76°02.2	-15°30.2
6	55°36.1	286°20.3	19°12.3	359°19.0	18°16.3	47°33.5	1°49.1	91°04.9	-15°30.3
7	70°38.5	301°19.6	19°11.6	14°20.0	18°16.7	62°36.1	1°49.0	106°07.5	-15°30.3
8	85°41.0	316°18.9	19°10.9	29°20.9	18°17.0	77°38.7	1°49.0	121°10.2	-15°30.4
9	100°43.5	331°18.2	19°10.3	44°21.9	18°17.4	92°41.3	1°48.9	136°12.8	-15°30.4
10	115°45.9	346°17.5	19°09.6	59°22.8	18°17.7	107°43.9	1°48.8	151°15.5	-15°30.5
11	130°48.4	1°16.8	19°08.9	74°23.7	18°18.1	122°46.5	1°48.8	166°18.1	-15°30.6
12	145°50.9	16°16.1	19°08.2	89°24.7	18°18.5	137°49.1	1°48.7	181°20.8	-15°30.6
13	160°53.3	31°15.4	19°07.5	104°25.6	18°18.8	152°51.7	1°48.6	196°23.4	-15°30.7
14	175°55.8	46°14.7	19°06.8	119°26.6	18°19.2	167°54.3	1°48.5	211°26.1	-15°30.8
15	190°58.2	61°14.0	19°06.1	134°27.5	18°19.5	182°56.9	1°48.5	226°28.7	-15°30.8
16	206°00.7	76°13.3	19°05.5	149°28.4	18°19.9	197°59.5	1°48.4	241°31.3	-15°30.9
17	221°03.2	91°12.6	19°04.8	164°29.4	18°20.2	213°02.1	1°48.3	256°34.0	-15°31.0
18	236°05.6	106°11.9	19°04.1	179°30.3	18°20.6	228°04.7	1°48.2	271°36.6	-15°31.0
19	251°08.1	121°11.2	19°03.4	194°31.3	18°21.0	243°07.3	1°48.2	286°39.3	-15°31.1
20	266°10.6	136°10.5	19°02.7	209°32.2	18°21.3	258°09.9	1°48.1	301°41.9	-15°31.1
21	281°13.0	151°09.8	19°02.0	224°33.2	18°21.7	273°12.5	1°48.0	316°44.6	-15°31.2
22	296°15.5	166°09.1	19°01.3	239°34.1	18°22.0	288°15.2	1°48.0	331°47.2	-15°31.3
23	311°18.0	181°08.5	19°00.6	254°35.0	18°22.4	303°17.8	1°47.9	346°49.9	-15°31.3
Mer.pass.:2:18:		v-0.7 d-0.7 m-3.8		v0.9 d0.4 m0.0		v2.6 d-0.1 m-2.6		v2.6 d-0.1 m0.3	

Jue	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	326°20.4	196°07.8	18°59.9	269°36.0	18°22.7	318°20.4	1°47.8	1°52.5	-15°31.4
1	341°22.9	211°07.1	18°59.2	284°36.9	18°23.1	333°23.0	1°47.7	16°55.2	-15°31.5
2	356°25.4	226°06.4	18°58.5	299°37.9	18°23.4	348°25.6	1°47.7	31°57.8	-15°31.5
3	11°27.8	241°05.7	18°57.8	314°38.8	18°23.8	3°28.2	1°47.6	47°00.5	-15°31.6
4	26°30.3	256°05.0	18°57.1	329°39.8	18°24.1	18°30.8	1°47.5	62°03.1	-15°31.7
5	41°32.7	271°04.3	18°56.4	344°40.7	18°24.5	33°33.4	1°47.4	77°05.8	-15°31.7
6	56°35.2	286°03.6	18°55.7	359°41.7	18°24.9	48°36.0	1°47.4	92°08.4	-15°31.8
7	71°37.7	301°02.9	18°55.0	14°42.6	18°25.2	63°38.6	1°47.3	107°11.0	-15°31.8
8	86°40.1	316°02.2	18°54.3	29°43.6	18°25.6	78°41.2	1°47.2	122°13.7	-15°31.9
9	101°42.6	331°01.5	18°53.6	44°44.5	18°25.9	93°43.9	1°47.1	137°16.3	-15°32.0
10	116°45.1	346°00.8	18°52.9	59°45.4	18°26.3	108°46.5	1°47.1	152°19.0	-15°32.0
11	131°47.5	1°00.2	18°52.2	74°46.4	18°26.6	123°49.1	1°47.0	167°21.6	-15°32.1
12	146°50.0	15°59.5	18°51.5	89°47.3	18°27.0	138°51.7	1°46.9	182°24.3	-15°32.2
13	161°52.5	30°58.8	18°50.8	104°48.3	18°27.3	153°54.3	1°46.8	197°26.9	-15°32.2
14	176°54.9	45°58.1	18°50.0	119°49.2	18°27.7	168°56.9	1°46.8	212°29.6	-15°32.3
15	191°57.4	60°57.4	18°49.3	134°50.2	18°28.0	183°59.5	1°46.7	227°32.2	-15°32.3
16	206°59.8	75°56.7	18°48.6	149°51.1	18°28.4	199°02.1	1°46.6	242°34.9	-15°32.4
17	222°02.3	90°56.0	18°47.9	164°52.1	18°28.7	214°04.8	1°46.5	257°37.5	-15°32.5
18	237°04.8	105°55.3	18°47.2	179°53.0	18°29.1	229°07.4	1°46.5	272°40.2	-15°32.5
19	252°07.2	120°54.6	18°46.5	194°54.0	18°29.4	244°10.0	1°46.4	287°42.8	-15°32.6
20	267°09.7	135°54.0	18°45.8	209°54.9	18°29.8	259°12.6	1°46.3	302°45.5	-15°32.7
21	282°12.2	150°53.3	18°45.0	224°55.9	18°30.1	274°15.2	1°46.2	317°48.1	-15°32.7
22	297°14.6	165°52.6	18°44.3	239°56.8	18°30.5	289°17.8	1°46.2	332°50.7	-15°32.8
23	312°17.1	180°51.9	18°43.6	254°57.8	18°30.8	304°20.4	1°46.1	347°53.4	-15°32.9
Mer.pass.:2:14:		v-0.7 d-0.7 m-3.8		v0.9 d0.4 m0.0		v2.6 d-0.1 m-2.6		v2.6 d-0.1 m0.3	

Vie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	327°19.6	195°51.2	18°42.9	269°58.7	18°31.2	319°23.1	1°46.0	2°56.0	-15°32.9
1	342°22.0	210°50.5	18°42.2	284°59.7	18°31.5	334°25.7	1°45.9	17°58.7	-15°33.0
2	357°24.5	225°49.9	18°41.4	300°00.6	18°31.9	349°28.3	1°45.9	33°01.3	-15°33.0
3	12°27.0	240°49.2	18°40.7	315°01.6	18°32.2	4°30.9	1°45.8	48°04.0	-15°33.1
4	27°29.4	255°48.5	18°40.0	330°02.5	18°32.5	19°33.5	1°45.7	63°06.6	-15°33.2
5	42°31.9	270°47.8	18°39.3	345°03.5	18°32.9	34°36.1	1°45.6	78°09.3	-15°33.2
6	57°34.3	285°47.1	18°38.6	0°04.4	18°33.2	49°38.8	1°45.6	93°11.9	-15°33.3
7	72°36.8	300°46.4	18°37.8	15°05.4	18°33.6	64°41.4	1°45.5	108°14.6	-15°33.4
8	87°39.3	315°45.8	18°37.1	30°06.3	18°33.9	79°44.0	1°45.4	123°17.2	-15°33.4
9	102°41.7	330°45.1	18°36.4	45°07.3	18°34.3	94°46.6	1°45.3	138°19.9	-15°33.5
10	117°44.2	345°44.4	18°35.6	60°08.3	18°34.6	109°49.2	1°45.2	153°22.5	-15°33.5
11	132°46.7	0°43.7	18°34.9	75°09.2	18°35.0	124°51.8	1°45.2	168°25.1	-15°33.6
12	147°49.1	15°43.0	18°34.2	90°10.2	18°35.3	139°54.5	1°45.1	183°27.8	-15°33.7
13	162°51.6	30°42.4	18°33.5	105°11.1	18°35.7	154°57.1	1°45.0	198°30.4	-15°33.7
14	177°54.1	45°41.7	18°32.7	120°12.1	18°36.0	169°59.7	1°44.9	213°33.1	-15°33.8
15	192°56.5	60°41.0	18°32.0	135°13.0	18°36.3	185°02.3	1°44.9	228°35.7	-15°33.9
16	207°59.0	75°40.3	18°31.2	150°14.0	18°36.7	200°04.9	1°44.8	243°38.4	-15°33.9
17	223°01.5	90°39.6	18°30.5	165°14.9	18°37.0	215°07.6	1°44.7	258°41.0	-15°34.0
18	238°03.9	105°39.0	18°29.8	180°15.9	18°37.4	230°10.2	1°44.6	273°43.7	-15°34.0
19	253°06.4	120°38.3	18°29.0	195°16.9	18°37.7	245°12.8	1°44.5	288°46.3	-15°34.1
20	268°08.8	135°37.6	18°28.3	210°17.8	18°38.1	260°15.4	1°44.5	303°49.0	-15°34.2
21	283°11.3	150°36.9	18°27.6	225°18.8	18°38.4	275°18.0	1°44.4	318°51.6	-15°34.2
22	298°13.8	165°36.3	18°26.8	240°19.7	18°38.7	290°20.7	1°44.3	333°54.3	-15°34.3
23	313°16.2	180°35.6	18°26.1	255°20.7	18°39.1	305°23.3	1°44.2	348°56.9	-15°34.4
Mer.pass.:2:10:		v-0.7 d-0.7 m-3.8		v1.0 d0.3 m0.0		v2.6 d-0.1 m-2.6		v2.6 d-0.1 m0.3	

Estrellas

	AHS	Dec
Alpheratz	357°36.5	29°12.9
Ankaa	353°08.8	-42°10.8
Schedar	349°32.9	56°39.5
Diphda	348°48.9	-17°51.6
Achernar	335°21.4	-57°07.1
Hamal	327°53.3	23°34.1
Polaris	314°54.2	89°21.2
Akamar	315°13.2	-40°12.6
Menkar	314°08.2	4°10.8
Mirfak	308°31.0	49°56.3
Aldebaran	290°42.0	16°33.3
Rigel	281°05.9	-8°10.4
Capella	280°25.0	46°01.1
Bellatrix	278°25.1	6°22.3
Elnath	278°04.5	28°37.5
Alnilam	275°39.9	-1°11.1
Betelgeuse	270°54.4	7°24.7
Canopus	263°53.6	-52°42.2
Sirius	258°28.1	-16°44.4
Adara	255°07.7	-28°59.9
Procyon	244°53.1	5°10.3
Pollux	243°19.9	27°58.4
Avior	234°16.1	-59°34.7
Suhail	222°48.2	-43°31.2
Miaplacidus	221°39.6	-69°48.4
Alphard	217°50.0	-8°45.2
Regulus	207°36.8	11°51.6
Dubhe	193°44.0	61°38.0
Denebola	182°27.2	14°27.0
Gienah	175°45.8	-17°39.9
Acrux	173°02.8	-63°13.5
Gacrux	171°54.3	-57°14.4
Alioth	166°15.1	55°50.5
Spica	158°24.6	-11°16.6
Alcaid	152°53.8	49°12.4
Hadar	148°39.0	-60°29.1
Menkent	148°00.1	-36°28.9
Arcturus	145°49.7	19°04.4
Rigil Kent.	139°43.2	-60°55.9
Zubenelg.	136°58.3	-16°08.1
Kochab	137°20.0	74°04.1
Alphecca	126°05.4	26°38.6
Antares	112°18.2	-26°28.9
Atria	107°13.9	-69°04.3
Sabik	102°04.9	-15°45.1
Shaula	96°12.8	-37°07.2
Rasalhague	96°00.2	12°32.8
Etamin	90°42.8	51°29.4
Kaus Aust.	83°34.8	-34°22.4
Vega	80°34.3	38°48.4
Nunki	75°49.9	-26°16.1
Altair	62°01.7	8°55.7
Peacock	53°08.3	-56°39.8
Deneb	49°26.7	45°21.7
Enif	33°40.4	9°58.8
Alnair	27°34.9	-46°51.0
Fomalhaut	15°16.4	-29°30.0
Scheat	13°46.8	28°12.3
Markab	13°31.6	15°19.6

Ago 17 Mie	AHS	Paso Merid
Venus	231°03.2	10:55
Mars	303°52.1	06:03
Jupiter	351°56.6	02:50
Saturn	35°27.7	23:53

Ago 18 Jue	AHS	Paso Merid
Venus	229°47.3	10:56
Mars	303°15.6	06:01
Jupiter	351°59.9	02:46
Saturn	35°32.1	23:48

Ago 19 Vie	AHS	Paso Merid
Venus	228°31.7	10:57
Mars	302°39.2	06:00
Jupiter	352°03.5	02:42
Saturn	35°36.5	23:44

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.1

h	Sol		Luna				
Mie	AHG	Dec	AHG	v	Dec	d	HP
0	178°57.0	13°29.4	298°05.1	13.7	9°31.5	14.0	56.8
1	193°57.2	13°28.6	312°37.9	13.7	9°45.4	13.9	56.7
2	208°57.3	13°27.8	327°10.6	13.7	9°59.3	13.9	56.7
3	223°57.4	13°27.0	341°43.3	13.7	10°13.1	13.8	56.7
4	238°57.6	13°26.2	356°16.1	13.7	10°26.9	13.7	56.6
5	253°57.7	13°25.4	10°48.8	13.7	10°40.6	13.7	56.6
6	268°57.8	13°24.6	25°21.5	13.7	10°54.2	13.6	56.6
7	283°58.0	13°23.8	39°54.2	13.7	11°07.8	13.5	56.5
8	298°58.1	13°23.0	54°26.9	13.7	11°21.3	13.5	56.5
9	313°58.2	13°22.2	68°59.7	13.7	11°34.7	13.4	56.5
10	328°58.4	13°21.4	83°32.3	13.7	11°48.1	13.3	56.4
11	343°58.5	13°20.6	98°05.0	13.7	12°01.4	13.3	56.4
12	358°58.6	13°19.8	112°37.7	13.7	12°14.6	13.2	56.4
13	13°58.8	13°19.0	127°10.4	13.7	12°27.8	13.1	56.3
14	28°58.9	13°18.2	141°43.0	13.6	12°40.9	13.1	56.3
15	43°59.0	13°17.4	156°15.6	13.6	12°53.9	13.0	56.3
16	58°59.2	13°16.6	170°48.2	13.6	13°06.8	12.9	56.2
17	73°59.3	13°15.8	185°20.8	13.6	13°19.7	12.8	56.2
18	88°59.5	13°15.0	199°53.4	13.6	13°32.5	12.8	56.2
19	103°59.6	13°14.2	214°26.0	13.6	13°45.2	12.7	56.1
20	118°59.7	13°13.4	228°58.6	13.5	13°57.8	12.6	56.1
21	133°59.9	13°12.6	243°31.1	13.5	14°10.4	12.5	56.1
22	149°00.0	13°11.8	258°03.6	13.5	14°22.9	12.5	56.0
23	164°00.1	13°11.0	272°36.1	13.5	14°35.3	12.4	56.0
	SD.=15.8	d=-0.8			S.D.=15.5		

Jue	AHG	Dec	AHG	v	Dec	d	HP
0	179°00.3	13°10.2	287°08.6	13.5	14°47.7	12.3	56.0
1	194°00.4	13°09.4	301°41.0	13.4	14°59.9	12.2	55.9
2	209°00.6	13°08.5	316°13.4	13.4	15°12.1	12.1	55.9
3	224°00.7	13°07.7	330°45.9	13.4	15°24.2	12.1	55.9
4	239°00.8	13°06.9	345°18.2	13.4	15°36.2	12.0	55.8
5	254°01.0	13°06.1	359°50.6	13.3	15°48.1	11.9	55.8
6	269°01.1	13°05.3	14°22.9	13.3	16°00.0	11.8	55.8
7	284°01.2	13°04.5	28°55.2	13.3	16°11.8	11.7	55.7
8	299°01.4	13°03.7	43°27.5	13.3	16°23.5	11.6	55.7
9	314°01.5	13°02.9	57°59.8	13.2	16°35.1	11.6	55.7
10	329°01.7	13°02.1	72°32.0	13.2	16°46.6	11.5	55.7
11	344°01.8	13°01.3	87°04.2	13.2	16°58.0	11.4	55.6
12	359°01.9	13°00.5	101°36.4	13.2	17°09.3	11.3	55.6
13	14°02.1	12°59.7	116°08.5	13.1	17°20.6	11.2	55.6
14	29°02.2	12°58.9	130°40.6	13.1	17°31.8	11.1	55.5
15	44°02.4	12°58.0	145°12.7	13.1	17°42.9	11.0	55.5
16	59°02.5	12°57.2	159°44.7	13.0	17°53.8	10.9	55.5
17	74°02.7	12°56.4	174°16.7	13.0	18°04.7	10.9	55.5
18	89°02.8	12°55.6	188°48.7	13.0	18°15.6	10.8	55.4
19	104°02.9	12°54.8	203°20.7	12.9	18°26.3	10.7	55.4
20	119°03.1	12°54.0	217°52.6	12.9	18°36.9	10.6	55.4
21	134°03.2	12°53.2	232°24.5	12.9	18°47.4	10.5	55.3
22	149°03.4	12°52.4	246°56.3	12.8	18°57.9	10.4	55.3
23	164°03.5	12°51.6	261°28.2	12.8	19°08.2	10.3	55.3
	SD.=15.8	d=-0.8			S.D.=15.3		

Vie	AHG	Dec	AHG	v	Dec	d	HP
0	179°03.6	12°50.7	275°59.9	12.8	19°18.5	10.2	55.3
1	194°03.8	12°49.9	290°31.7	12.7	19°28.6	10.1	55.2
2	209°03.9	12°49.1	305°03.4	12.7	19°38.7	10.0	55.2
3	224°04.1	12°48.3	319°35.1	12.7	19°48.7	9.9	55.2
4	239°04.2	12°47.5	334°06.7	12.6	19°58.5	9.8	55.2
5	254°04.4	12°46.7	348°38.3	12.6	20°08.3	9.7	55.1
6	269°04.5	12°45.9	3°09.9	12.5	20°18.0	9.6	55.1
7	284°04.7	12°45.0	17°41.4	12.5	20°27.6	9.5	55.1
8	299°04.8	12°44.2	32°12.9	12.5	20°37.0	9.4	55.1
9	314°04.9	12°43.4	46°44.4	12.4	20°46.4	9.3	55.0
10	329°05.1	12°42.6	61°15.8	12.4	20°55.7	9.2	55.0
11	344°05.2	12°41.8	75°47.2	12.4	21°04.9	9.1	55.0
12	359°05.4	12°41.0	90°18.5	12.3	21°13.9	9.0	55.0
13	14°05.5	12°40.1	104°49.8	12.3	21°22.9	8.9	55.0
14	29°05.7	12°39.3	119°21.1	12.2	21°31.8	8.8	54.9
15	44°05.8	12°38.5	133°52.3	12.2	21°40.5	8.7	54.9
16	59°06.0	12°37.7	148°23.5	12.2	21°49.2	8.6	54.9
17	74°06.1	12°36.9	162°54.6	12.1	21°57.7	8.5	54.9
18	89°06.3	12°36.0	177°25.7	12.1	22°06.2	8.4	54.9
19	104°06.4	12°35.2	191°56.8	12.0	22°14.5	8.3	54.8
20	119°06.5	12°34.4	206°27.8	12.0	22°22.7	8.2	54.8
21	134°06.7	12°33.6	220°58.8	12.0	22°30.9	8.1	54.8
22	149°06.8	12°32.8	235°29.8	11.9	22°38.9	8.0	54.8
23	164°07.0	12°31.9	250°00.7	11.9	22°46.8	7.9	54.7
	SD.=15.8	d=-0.8			S.D.=15.1		

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	–:–	–:–	02:44	21:19	–:–	–:–
70	–:–	01:12	03:11	20:53	22:44	–:–
68	–:–	02:05	03:32	20:33	21:57	–:–
66	–:–	02:36	03:48	20:17	21:28	–:–
64	01:04	02:59	04:01	20:05	21:06	22:54
62	01:50	03:17	04:12	19:54	20:49	22:12
60	02:19	03:31	04:21	19:45	20:34	21:45
58	02:40	03:43	04:29	19:37	20:22	21:25
56	02:57	03:54	04:37	19:30	20:12	21:08
54	03:11	04:03	04:43	19:23	20:03	20:54
52	03:23	04:11	04:49	19:18	19:55	20:43
50	03:34	04:18	04:54	19:13	19:48	20:33
45	03:55	04:33	05:05	19:02	19:33	20:12
40	04:11	04:46	05:14	18:53	19:21	19:56
35	04:24	04:56	05:22	18:45	19:12	19:43
30	04:34	05:04	05:29	18:38	19:03	19:33
20	04:51	05:18	05:41	18:27	18:49	19:16
10	05:04	05:29	05:51	18:17	18:38	19:03
0	05:15	05:39	06:01	18:07	18:28	18:53
S 10	05:23	05:48	06:10	17:58	18:19	18:44
20	05:31	05:57	06:20	17:48	18:11	18:37
30	05:38	06:06	06:31	17:37	18:02	18:30
35	05:42	06:11	06:37	17:31	17:57	18:27
40	05:45	06:17	06:44	17:24	17:52	18:24
45	05:48	06:22	06:53	17:16	17:46	18:20
50	05:51	06:29	07:03	17:06	17:39	18:17
52	05:53	06:32	07:07	17:01	17:36	18:16
54	05:54	06:35	07:12	16:56	17:33	18:15
56	05:55	06:39	07:18	16:51	17:30	18:13
58	05:57	06:43	07:24	16:44	17:26	18:12
60	05:58	06:47	07:31	16:37	17:22	18:10

	Orto luna			Ocaso luna		
Lat.	Mie	Jue	Vie	Mie	Jue	Vie
N 72	19:28	–:–	–:–	13:23	–:–	–:–
70	19:54	19:04	–:–	12:59	15:25	–:–
68	20:13	19:45	–:–	12:41	14:45	–:–
66	20:29	20:13	19:47	12:27	14:18	16:22
64	20:42	20:35	20:25	12:15	13:57	15:44
62	20:54	20:52	20:53	12:05	13:41	15:18
60	21:03	21:07	21:14	11:57	13:27	14:57
58	21:12	21:19	21:31	11:49	13:15	14:40
56	21:19	21:30	21:46	11:43	13:05	14:26
54	21:26	21:40	21:59	11:37	12:56	14:14
52	21:32	21:49	22:10	11:32	12:48	14:03
50	21:37	21:56	22:20	11:27	12:41	13:54
45	21:49	22:13	22:41	11:17	12:26	13:34
40	21:59	22:26	22:58	11:09	12:14	13:18
35	22:07	22:38	23:12	11:01	12:03	13:04
30	22:15	22:48	23:25	10:55	11:54	12:52
20	22:28	23:06	23:47	10:44	11:38	12:32
10	22:39	23:21	–:–	10:35	11:24	12:15
0	22:50	23:36	–:–	10:26	11:12	11:58
S 10	23:01	23:50	–:–	10:17	10:59	11:42
20	23:12	–:–	00:06	10:08	10:45	11:25
30	23:26	–:–	00:24	09:58	10:30	11:05
35	23:34	–:–	00:35	09:51	10:21	10:54
40	23:42	–:–	00:47	09:45	10:11	10:40
45	23:53	–:–	01:01	09:37	09:59	10:25
50	–:–	00:06	01:19	09:27	09:45	10:06
52	–:–	00:12	01:28	09:23	09:38	09:57
54	–:–	00:18	01:37	09:18	09:31	09:47
56	–:–	00:26	01:48	09:12	09:23	09:36
58	–:–	00:34	02:00	09:07	09:13	09:23
60	–:–	00:44	02:14	09:00	09:03	09:08

	Sol			Luna		
Día	Ec. tiempo 00:00 h	Ec. tiempo 12:00 h	Paso Merid	Paso Meridiano Superior	Paso Meridiano Inferior	Edad
17	04:12	04:05	12:04	04:15	16:37	20(67%)
18	03:59	03:52	12:03	05:00	17:23	21(57%)
19	03:45	03:38	12:03	05:46	18:10	22(47%)

Agosto 20, 21, 22 (Sa, Dom, Lun)

	Aries	Venus		Martes		Júpiter		Saturno	
Sa	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	328°18.7	195°34.9	18°25.3	270°21.6	18°39.4	320°25.9	1°44.2	3°59.5	-15°34.4
1	343°21.2	210°34.2	18°24.6	285°22.6	18°39.8	335°28.5	1°44.1	19°02.2	-15°34.5
2	358°23.6	225°33.6	18°23.9	300°23.6	18°40.1	350°31.2	1°44.0	34°04.8	-15°34.5
3	13°26.1	240°32.9	18°23.1	315°24.5	18°40.5	5°33.8	1°43.9	49°07.5	-15°34.6
4	28°28.6	255°32.2	18°22.4	330°25.5	18°40.8	20°36.4	1°43.8	64°10.1	-15°34.7
5	43°31.0	270°31.5	18°21.6	345°26.4	18°41.1	35°39.0	1°43.8	79°12.8	-15°34.7
6	58°33.5	285°30.9	18°20.9	0°27.4	18°41.5	50°41.6	1°43.7	94°15.4	-15°34.8
7	73°35.9	300°30.2	18°20.1	15°28.3	18°41.8	65°44.3	1°43.6	109°18.1	-15°34.9
8	88°38.4	315°29.5	18°19.4	30°29.3	18°42.2	80°46.9	1°43.5	124°20.7	-15°34.9
9	103°40.9	330°28.8	18°18.6	45°30.3	18°42.5	95°49.5	1°43.4	139°23.4	-15°35.0
10	118°43.3	345°28.2	18°17.9	60°31.2	18°42.8	110°52.1	1°43.4	154°26.0	-15°35.0
11	133°45.8	0°27.5	18°17.1	75°32.2	18°43.2	125°54.8	1°43.3	169°28.7	-15°35.1
12	148°48.3	15°26.8	18°16.4	90°33.2	18°43.5	140°57.4	1°43.2	184°31.3	-15°35.2
13	163°50.7	30°26.2	18°15.6	105°34.1	18°43.8	156°00.0	1°43.1	199°33.9	-15°35.2
14	178°53.2	45°25.5	18°14.9	120°35.1	18°44.2	171°02.6	1°43.0	214°36.6	-15°35.3
15	193°55.7	60°24.8	18°14.1	135°36.0	18°44.5	186°05.3	1°43.0	229°39.2	-15°35.4
16	208°58.1	75°24.2	18°13.4	150°37.0	18°44.9	201°07.9	1°42.9	244°41.9	-15°35.4
17	224°00.6	90°23.5	18°12.6	165°38.0	18°45.2	216°10.5	1°42.8	259°44.5	-15°35.5
18	239°03.1	105°22.8	18°11.8	180°38.9	18°45.5	231°13.2	1°42.7	274°47.2	-15°35.5
19	254°05.5	120°22.2	18°11.1	195°39.9	18°45.9	246°15.8	1°42.6	289°49.8	-15°35.6
20	269°08.0	135°21.5	18°10.3	210°40.9	18°46.2	261°18.4	1°42.6	304°52.5	-15°35.7
21	284°10.4	150°20.8	18°09.6	225°41.8	18°46.5	276°21.0	1°42.5	319°55.1	-15°35.7
22	299°12.9	165°20.2	18°08.8	240°42.8	18°46.9	291°23.7	1°42.4	334°57.8	-15°35.8
23	314°15.4	180°19.5	18°08.0	255°43.7	18°47.2	306°26.3	1°42.3	350°00.4	-15°35.9
Mer.pass.:2:06:		v-0.7 d-0.7 m-3.8		v1.0 d0.3 m0.0		v2.6 d-0.1 m-2.6		v2.6 d-0.1 m0.3	

Dom	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	329°17.8	195°18.8	18°07.3	270°44.7	18°47.5	321°28.9	1°42.2	5°03.0	-15°35.9
1	344°20.3	210°18.2	18°06.5	285°45.7	18°47.9	336°31.6	1°42.1	20°05.7	-15°36.0
2	359°22.8	225°17.5	18°05.7	300°46.6	18°48.2	351°34.2	1°42.1	35°08.3	-15°36.0
3	14°25.2	240°16.8	18°05.0	315°47.6	18°48.6	6°36.8	1°42.0	50°11.0	-15°36.1
4	29°27.7	255°16.2	18°04.2	330°48.6	18°48.9	21°39.4	1°41.9	65°13.6	-15°36.2
5	44°30.2	270°15.5	18°03.4	345°49.5	18°49.2	36°42.1	1°41.8	80°16.3	-15°36.2
6	59°32.6	285°14.8	18°02.7	0°50.5	18°49.6	51°44.7	1°41.7	95°18.9	-15°36.3
7	74°35.1	300°14.2	18°01.9	15°51.5	18°49.9	66°47.3	1°41.7	110°21.6	-15°36.4
8	89°37.6	315°13.5	18°01.1	30°52.4	18°50.2	81°50.0	1°41.6	125°24.2	-15°36.4
9	104°40.0	330°12.8	18°00.4	45°53.4	18°50.6	96°52.6	1°41.5	140°26.9	-15°36.5
10	119°42.5	345°12.2	17°59.6	60°54.4	18°50.9	111°55.2	1°41.4	155°29.5	-15°36.5
11	134°44.9	0°11.5	17°58.8	75°55.3	18°51.2	126°57.9	1°41.3	170°32.1	-15°36.6
12	149°47.4	15°10.9	17°58.0	90°56.3	18°51.5	142°00.5	1°41.2	185°34.8	-15°36.7
13	164°49.9	30°10.2	17°57.3	105°57.3	18°51.9	157°03.1	1°41.2	200°37.4	-15°36.7
14	179°52.3	45°09.5	17°56.5	120°58.3	18°52.2	172°05.8	1°41.1	215°40.1	-15°36.8
15	194°54.8	60°08.9	17°55.7	135°59.2	18°52.5	187°08.4	1°41.0	230°42.7	-15°36.9
16	209°57.3	75°08.2	17°54.9	151°00.2	18°52.9	202°11.0	1°40.9	245°45.4	-15°36.9
17	224°59.7	90°07.6	17°54.2	166°01.2	18°53.2	217°13.7	1°40.8	260°48.0	-15°37.0
18	240°02.2	105°06.9	17°53.4	181°02.1	18°53.5	232°16.3	1°40.7	275°50.7	-15°37.0
19	255°04.7	120°06.2	17°52.6	196°03.1	18°53.9	247°18.9	1°40.7	290°53.3	-15°37.1
20	270°07.1	135°05.6	17°51.8	211°04.1	18°54.2	262°21.6	1°40.6	305°56.0	-15°37.2
21	285°09.6	150°04.9	17°51.0	226°05.1	18°54.5	277°24.2	1°40.5	320°58.6	-15°37.2
22	300°12.1	165°04.3	17°50.2	241°06.0	18°54.9	292°26.8	1°40.4	336°01.2	-15°37.3
23	315°14.5	180°03.6	17°49.5	256°07.0	18°55.2	307°29.5	1°40.3	351°03.9	-15°37.4
Mer.pass.:2:02:		v-0.7 d-0.8 m-3.8		v1.0 d0.3 m-0.0		v2.6 d-0.1 m-2.6		v2.6 d-0.1 m0.3	

Lun	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	330°17.0	195°03.0	17°48.7	271°08.0	18°55.5	322°32.1	1°40.2	6°06.5	-15°37.4
1	345°19.4	210°02.3	17°47.9	286°08.9	18°55.8	337°34.7	1°40.1	21°09.2	-15°37.5
2	0°21.9	225°01.7	17°47.1	301°09.9	18°56.2	352°37.4	1°40.1	36°11.8	-15°37.5
3	15°24.4	240°01.0	17°46.3	316°10.9	18°56.5	7°40.0	1°40.0	51°14.5	-15°37.6
4	30°26.8	255°00.3	17°45.5	331°11.9	18°56.8	22°42.6	1°39.9	66°17.1	-15°37.7
5	45°29.3	269°59.7	17°44.7	346°12.8	18°57.2	37°45.3	1°39.8	81°19.8	-15°37.7
6	60°31.8	284°59.0	17°44.0	1°13.8	18°57.5	52°47.9	1°39.7	96°22.4	-15°37.8
7	75°34.2	299°58.4	17°43.2	16°14.8	18°57.8	67°50.6	1°39.6	111°25.1	-15°37.8
8	90°36.7	314°57.7	17°42.4	31°15.8	18°58.1	82°53.2	1°39.6	126°27.7	-15°37.9
9	105°39.2	329°57.1	17°41.6	46°16.7	18°58.5	97°55.8	1°39.5	141°30.3	-15°38.0
10	120°41.6	344°56.4	17°40.8	61°17.7	18°58.8	112°58.5	1°39.4	156°33.0	-15°38.0
11	135°44.1	359°55.8	17°40.0	76°18.7	18°59.1	128°01.1	1°39.3	171°35.6	-15°38.1
12	150°46.5	14°55.1	17°39.2	91°19.7	18°59.4	143°03.8	1°39.2	186°38.3	-15°38.2
13	165°49.0	29°54.5	17°38.4	106°20.6	18°59.8	158°06.4	1°39.1	201°40.9	-15°38.2
14	180°51.5	44°53.8	17°37.6	121°21.6	19°00.1	173°09.0	1°39.0	216°43.6	-15°38.3
15	195°53.9	59°53.2	17°36.8	136°22.6	19°00.4	188°11.7	1°39.0	231°46.2	-15°38.3
16	210°56.4	74°52.5	17°36.0	151°23.6	19°00.7	203°14.3	1°38.9	246°48.9	-15°38.4
17	225°58.9	89°51.9	17°35.2	166°24.6	19°01.1	218°16.9	1°38.8	261°51.5	-15°38.5
18	241°01.3	104°51.2	17°34.4	181°25.5	19°01.4	233°19.6	1°38.7	276°54.1	-15°38.5
19	256°03.8	119°50.6	17°33.6	196°26.5	19°01.7	248°22.2	1°38.6	291°56.8	-15°38.6
20	271°06.3	134°49.9	17°32.8	211°27.5	19°02.0	263°24.9	1°38.5	306°59.4	-15°38.7
21	286°08.7	149°49.3	17°32.0	226°28.5	19°02.4	278°27.5	1°38.4	322°02.1	-15°38.7
22	301°11.2	164°48.6	17°31.2	241°29.4	19°02.7	293°30.2	1°38.3	337°04.7	-15°38.8
23	316°13.7	179°48.0	17°30.4	256°30.4	19°03.0	308°32.8	1°38.3	352°07.4	-15°38.8
Mer.pass.:1:58:		v-0.7 d-0.8 m-3.8		v1.0 d0.3 m-0.0		v2.6 d-0.1 m-2.7		v2.6 d-0.1 m0.3	

Estrellas

	AHS	Dec
Alpheratz	357°36.5	29°12.9
Ankaa	353°08.7	-42°10.8
Schedar	349°32.8	56°39.5
Diphda	348°48.9	-17°51.6
Achernar	335°21.4	-57°07.1
Hamal	327°53.3	23°34.1
Polaris	314°52.5	89°21.2
Akamar	315°13.2	-40°12.6
Menkar	314°08.1	4°10.8
Mirfak	308°31.0	49°56.3
Aldebaran	290°42.0	16°33.3
Rigel	281°05.9	-8°10.4
Capella	280°25.0	46°01.1
Bellatrix	278°25.1	6°22.3
Elnath	278°04.5	28°37.5
Alnilam	275°39.9	-1°11.1
Betelgeuse	270°54.4	7°24.7
Canopus	263°53.6	-52°42.2
Sirius	258°28.1	-16°44.4
Adara	255°07.7	-28°59.9
Procyon	244°53.1	5°10.3
Pollux	243°19.9	27°58.3
Avior	234°16.1	-59°34.7
Suhail	222°48.2	-43°31.2
Miaplacidus	221°39.6	-69°48.4
Alphard	217°50.0	-8°45.2
Regulus	207°36.8	11°51.6
Dubhe	193°44.0	61°38.0
Denebola	182°27.2	14°27.0
Gienah	175°45.8	-17°39.9
Acrux	173°02.8	-63°13.5
Gacrux	171°54.3	-57°14.4
Alioth	166°15.1	55°50.5
Spica	158°24.6	-11°16.6
Alcaid	152°53.8	49°12.4
Hadar	148°39.1	-60°29.0
Menkent	148°00.1	-36°28.9
Arcturus	145°49.7	19°04.4
Rigil Kent.	139°43.2	-60°55.9
Zubenelg.	136°58.3	-16°08.1
Kochab	137°20.1	74°04.1
Alphecca	126°05.4	26°38.6
Antares	112°18.2	-26°28.9
Atria	107°14.0	-69°04.3
Sabik	102°04.9	-15°45.1
Shaula	96°12.9	-37°07.2
Rasalhague	96°00.2	12°32.8
Etamin	90°42.8	51°29.4
Kaus Aust.	83°34.8	-34°22.5
Vega	80°34.3	38°48.4
Nunki	75°49.9	-26°16.1
Altair	62°01.7	8°55.7
Peacock	53°08.3	-56°39.8
Deneb	49°26.7	45°21.7
Enif	33°40.4	9°58.8
Alnair	27°34.9	-46°51.0
Fomalhaut	15°16.4	-29°30.0
Scheat	13°46.8	28°12.3
Markab	13°31.5	15°19.6

Ago 20 Sa	AHS	Paso Merid
Venus	227°16.2	10:58
Mars	302°02.9	05:58
Jupiter	352°07.2	02:38
Saturn	35°40.8	23:40

Ago 21 Dom	AHS	Paso Merid
Venus	226°01.0	10:59
Mars	301°26.9	05:57
Jupiter	352°11.1	02:34
Saturn	35°45.2	23:36

Ago 22 Lun	AHS	Paso Merid
Venus	224°46.0	11:00
Mars	300°51.0	05:55
Jupiter	352°15.1	02:29
Saturn	35°49.6	23:31

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.1

h	Sol		Luna				
Sa	AHG	Dec	AHG	v	Dec	d	HP
0	179°07.1	12°31.1	264°31.6	11.9	22°54.6	7.7	54.7
1	194°07.3	12°30.3	279°02.4	11.8	23°02.3	7.6	54.7
2	209°07.4	12°29.5	293°33.2	11.8	23°09.9	7.5	54.7
3	224°07.6	12°28.6	308°03.9	11.7	23°17.4	7.4	54.7
4	239°07.7	12°27.8	322°34.7	11.7	23°24.7	7.3	54.7
5	254°07.9	12°27.0	337°05.3	11.7	23°32.0	7.2	54.6
6	269°08.0	12°26.2	351°36.0	11.6	23°39.1	7.1	54.6
7	284°08.2	12°25.4	6°06.6	11.6	23°46.1	7.0	54.6
8	299°08.3	12°24.5	20°37.1	11.5	23°53.0	6.9	54.6
9	314°08.5	12°23.7	35°07.7	11.5	23°59.8	6.7	54.6
10	329°08.6	12°22.9	49°38.2	11.5	24°06.5	6.6	54.6
11	344°08.8	12°22.1	64°08.6	11.4	24°13.1	6.5	54.5
12	359°08.9	12°21.2	78°39.0	11.4	24°19.5	6.4	54.5
13	14°09.1	12°20.4	93°09.4	11.4	24°25.9	6.3	54.5
14	29°09.2	12°19.6	107°39.7	11.3	24°32.1	6.2	54.5
15	44°09.4	12°18.7	122°10.1	11.3	24°38.2	6.0	54.5
16	59°09.5	12°17.9	136°40.3	11.3	24°44.2	5.9	54.5
17	74°09.7	12°17.1	151°10.6	11.2	24°50.1	5.8	54.4
18	89°09.8	12°16.3	165°40.8	11.2	24°55.8	5.7	54.4
19	104°10.0	12°15.4	180°10.9	11.1	25°01.4	5.6	54.4
20	119°10.1	12°14.6	194°41.0	11.1	25°06.9	5.5	54.4
21	134°10.3	12°13.8	209°11.1	11.1	25°12.3	5.3	54.4
22	149°10.4	12°13.0	223°41.2	11.0	25°17.6	5.2	54.4
23	164°10.6	12°12.1	238°11.2	11.0	25°22.8	5.1	54.4
	SD.=15.8	d=-0.8	S.D.=14.9				

Dom	AHG	Dec	AHG	v	Dec	d	HP
0	179°10.7	12°11.3	252°41.2	11.0	25°27.8	5.0	54.4
1	194°10.9	12°10.5	267°11.2	10.9	25°32.7	4.9	54.3
2	209°11.0	12°09.6	281°41.1	10.9	25°37.5	4.7	54.3
3	224°11.2	12°08.8	296°11.0	10.9	25°42.2	4.6	54.3
4	239°11.4	12°08.0	310°40.9	10.9	25°46.7	4.5	54.3
5	254°11.5	12°07.1	325°10.7	10.8	25°51.1	4.4	54.3
6	269°11.7	12°06.3	339°40.5	10.8	25°55.4	4.2	54.3
7	284°11.8	12°05.5	354°10.3	10.8	25°59.6	4.1	54.3
8	299°12.0	12°04.6	8°40.1	10.7	26°03.7	4.0	54.3
9	314°12.1	12°03.8	23°09.8	10.7	26°07.6	3.9	54.3
10	329°12.3	12°03.0	37°39.5	10.7	26°11.4	3.7	54.2
11	344°12.4	12°02.1	52°09.2	10.7	26°15.1	3.6	54.2
12	359°12.6	12°01.3	66°38.8	10.6	26°18.6	3.5	54.2
13	14°12.7	12°00.5	81°08.5	10.6	26°22.0	3.4	54.2
14	29°12.9	11°59.6	95°38.1	10.6	26°25.3	3.2	54.2
15	44°13.1	11°58.8	110°07.7	10.6	26°28.5	3.1	54.2
16	59°13.2	11°58.0	124°37.2	10.5	26°31.6	3.0	54.2
17	74°13.4	11°57.1	139°06.7	10.5	26°34.5	2.9	54.2
18	89°13.5	11°56.3	153°36.3	10.5	26°37.3	2.7	54.2
19	104°13.7	11°55.5	168°05.8	10.5	26°39.9	2.6	54.2
20	119°13.8	11°54.6	182°35.2	10.5	26°42.5	2.5	54.2
21	134°14.0	11°53.8	197°04.7	10.4	26°44.9	2.3	54.2
22	149°14.1	11°52.9	211°34.1	10.4	26°47.2	2.2	54.2
23	164°14.3	11°52.1	226°03.6	10.4	26°49.3	2.1	54.1
	SD.=15.8	d=-0.8	S.D.=14.8				

Lun	AHG	Dec	AHG	v	Dec	d	HP
0	179°14.5	11°51.3	240°33.0	10.4	26°51.4	2.0	54.1
1	194°14.6	11°50.4	255°02.4	10.4	26°53.3	1.8	54.1
2	209°14.8	11°49.6	269°31.7	10.4	26°55.0	1.7	54.1
3	224°14.9	11°48.8	284°01.1	10.4	26°56.7	1.6	54.1
4	239°15.1	11°47.9	298°30.5	10.3	26°58.2	1.4	54.1
5	254°15.2	11°47.1	312°59.8	10.3	26°59.6	1.3	54.1
6	269°15.4	11°46.2	327°29.1	10.3	27°00.8	1.2	54.1
7	284°15.6	11°45.4	341°58.5	10.3	27°01.9	1.1	54.1
8	299°15.7	11°44.6	356°27.8	10.3	27°02.9	0.9	54.1
9	314°15.9	11°43.7	10°57.1	10.3	27°03.8	0.8	54.1
10	329°16.0	11°42.9	25°26.4	10.3	27°04.5	0.7	54.1
11	344°16.2	11°42.0	39°55.7	10.3	27°05.1	0.5	54.1
12	359°16.4	11°41.2	54°25.0	10.3	27°05.6	0.4	54.1
13	14°16.5	11°40.3	68°54.2	10.3	27°05.9	0.3	54.1
14	29°16.7	11°39.5	83°23.5	10.3	27°06.2	0.1	54.1
15	44°16.8	11°38.7	97°52.8	10.3	27°06.2	0.0	54.1
16	59°17.0	11°37.8	112°22.1	10.3	27°06.2	-0.1	54.1
17	74°17.2	11°37.0	126°51.4	10.3	27°06.0	-0.2	54.1
18	89°17.3	11°36.1	141°20.7	10.3	27°05.7	-0.4	54.1
19	104°17.5	11°35.3	155°49.9	10.3	27°05.3	-0.5	54.1
20	119°17.6	11°34.4	170°19.2	10.3	27°04.7	-0.6	54.1
21	134°17.8	11°33.6	184°48.5	10.3	27°04.0	-0.8	54.1
22	149°18.0	11°32.8	199°17.8	10.3	27°03.2	-0.9	54.1
23	164°18.1	11°31.9	213°47.1	10.3	27°02.2	-1.0	54.1
	SD.=15.8	d=-0.8	S.D.=14.8				

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	–:–	–:–	03:02	21:00	–:–	–:–
70	–:–	01:44	03:26	20:37	22:15	–:–
68	–:–	02:24	03:44	20:20	21:38	–:–
66	–:–	02:50	03:58	20:06	21:12	–:–
64	01:31	03:10	04:10	19:54	20:53	22:28
62	02:07	03:26	04:20	19:45	20:37	21:55
60	02:31	03:40	04:29	19:36	20:25	21:32
58	02:50	03:51	04:36	19:29	20:14	21:13
56	03:06	04:01	04:43	19:22	20:04	20:58
54	03:19	04:09	04:48	19:17	19:56	20:46
52	03:30	04:17	04:54	19:12	19:48	20:35
50	03:39	04:23	04:58	19:07	19:42	20:25
45	03:59	04:37	05:09	18:57	19:28	20:06
40	04:14	04:49	05:17	18:48	19:17	19:51
35	04:26	04:58	05:24	18:41	19:08	19:39
30	04:36	05:06	05:31	18:35	19:00	19:29
20	04:52	05:19	05:42	18:24	18:47	19:14
10	05:04	05:30	05:51	18:15	18:37	19:02
0	05:14	05:39	06:00	18:06	18:28	18:52
S 10	05:22	05:47	06:08	17:58	18:19	18:44
20	05:29	05:55	06:18	17:49	18:12	18:37
30	05:35	06:03	06:28	17:39	18:03	18:31
35	05:38	06:08	06:34	17:33	17:59	18:29
40	05:41	06:12	06:40	17:27	17:54	18:26
45	05:43	06:18	06:48	17:19	17:49	18:24
50	05:46	06:24	06:57	17:10	17:43	18:21
52	05:47	06:26	07:01	17:06	17:41	18:20
54	05:48	06:29	07:06	17:01	17:38	18:19
56	05:49	06:32	07:11	16:56	17:35	18:18
58	05:50	06:36	07:17	16:51	17:32	18:17
60	05:51	06:39	07:23	16:44	17:28	18:17

	Orto luna			Ocaso luna		
Lat.	Sa	Dom	Lun	Sa	Dom	Lun
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	–:–	–:–	–:–
68	–:–	–:–	–:–	–:–	–:–	–:–
66	–:–	–:–	–:–	–:–	–:–	–:–
64	20:08	–:–	–:–	17:42	–:–	–:–
62	20:56	21:09	21:50	16:55	18:27	19:31
60	21:26	21:51	22:37	16:25	17:44	18:44
58	21:50	22:20	23:07	16:02	17:16	18:14
56	22:09	22:42	23:30	15:44	16:54	17:51
54	22:24	23:00	23:49	15:28	16:36	17:32
52	22:38	23:16	–:–	15:15	16:20	17:16
50	22:50	23:29	–:–	15:03	16:07	17:02
45	23:15	23:57	–:–	14:39	15:40	16:34
40	23:35	–:–	00:18	14:20	15:18	16:12
35	23:52	–:–	00:36	14:04	15:01	15:54
30	–:–	00:06	00:52	13:50	14:45	15:38
20	–:–	00:31	01:18	13:26	14:19	15:11
10	00:05	00:52	01:41	13:06	13:57	14:48
0	00:23	01:12	02:02	12:47	13:36	14:27
S 10	00:41	01:32	02:24	12:28	13:15	14:06
20	01:00	01:54	02:47	12:07	12:53	13:42
30	01:22	02:19	03:13	11:44	12:27	13:16
35	01:35	02:34	03:29	11:30	12:12	13:00
40	01:50	02:51	03:47	11:15	11:55	12:41
45	02:08	03:11	04:09	10:56	11:33	12:19
50	02:31	03:38	04:37	10:32	11:07	11:51
52	02:41	03:50	04:51	10:21	10:54	11:37
54	02:54	04:05	05:07	10:09	10:39	11:21
56	03:08	04:22	05:26	09:54	10:22	11:02
58	03:24	04:43	05:50	09:37	10:00	10:39
60	03:44	05:09	06:21	09:17	09:34	10:08

	Sol			Luna		
Día	Ec. tiempo 00:00 h	Ec. tiempo 12:00 h	Paso Merid	Paso Meridiano Superior	Paso Meridiano Inferior	Edad
20	03:31	03:24	12:03	06:34	18:59	23(38%)
21	03:17	03:10	12:03	07:24	19:49	24(29%)
22	03:02	02:55	12:02	08:14	20:40	25(21%)

Agosto 23, 24, 25 (Mar, Mie, Jue)

	Aries	Venus		Martes		Júpiter		Saturno	
Mar	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	331°16.1	194°47.3	17°29.6	271°31.4	19°03.3	323°35.4	1°38.2	7°10.0	-15°38.9
1	346°18.6	209°46.7	17°28.8	286°32.4	19°03.6	338°38.1	1°38.1	22°12.7	-15°39.0
2	1°21.0	224°46.0	17°28.0	301°33.4	19°04.0	353°40.7	1°38.0	37°15.3	-15°39.0
3	16°23.5	239°45.4	17°27.2	316°34.4	19°04.3	8°43.4	1°37.9	52°17.9	-15°39.1
4	31°26.0	254°44.8	17°26.3	331°35.3	19°04.6	23°46.0	1°37.8	67°20.6	-15°39.1
5	46°28.4	269°44.1	17°25.5	346°36.3	19°04.9	38°48.7	1°37.7	82°23.2	-15°39.2
6	61°30.9	284°43.5	17°24.7	1°37.3	19°05.3	53°51.3	1°37.6	97°25.9	-15°39.3
7	76°33.4	299°42.8	17°23.9	16°38.3	19°05.6	68°53.9	1°37.6	112°28.5	-15°39.3
8	91°35.8	314°42.2	17°23.1	31°39.3	19°05.9	83°56.6	1°37.5	127°31.2	-15°39.4
9	106°38.3	329°41.5	17°22.3	46°40.2	19°06.2	98°59.2	1°37.4	142°33.8	-15°39.5
10	121°40.8	344°40.9	17°21.5	61°41.2	19°06.5	114°01.9	1°37.3	157°36.5	-15°39.5
11	136°43.2	359°40.3	17°20.7	76°42.2	19°06.9	129°04.5	1°37.2	172°39.1	-15°39.6
12	151°45.7	14°39.6	17°19.8	91°43.2	19°07.2	144°07.2	1°37.1	187°41.7	-15°39.6
13	166°48.2	29°39.0	17°19.0	106°44.2	19°07.5	159°09.8	1°37.0	202°44.4	-15°39.7
14	181°50.6	44°38.3	17°18.2	121°45.2	19°07.8	174°12.5	1°36.9	217°47.0	-15°39.8
15	196°53.1	59°37.7	17°17.4	136°46.2	19°08.1	189°15.1	1°36.9	232°49.7	-15°39.8
16	211°55.5	74°37.1	17°16.6	151°47.1	19°08.4	204°17.8	1°36.8	247°52.3	-15°39.9
17	226°58.0	89°36.4	17°15.8	166°48.1	19°08.8	219°20.4	1°36.7	262°55.0	-15°39.9
18	242°00.5	104°35.8	17°14.9	181°49.1	19°09.1	234°23.0	1°36.6	277°57.6	-15°40.0
19	257°02.9	119°35.1	17°14.1	196°50.1	19°09.4	249°25.7	1°36.5	293°00.3	-15°40.1
20	272°05.4	134°34.5	17°13.3	211°51.1	19°09.7	264°28.3	1°36.4	308°02.9	-15°40.1
21	287°07.9	149°33.9	17°12.5	226°52.1	19°10.0	279°31.0	1°36.3	323°05.5	-15°40.2
22	302°10.3	164°33.2	17°11.6	241°53.1	19°10.4	294°33.6	1°36.2	338°08.2	-15°40.3
23	317°12.8	179°32.6	17°10.8	256°54.0	19°10.7	309°36.3	1°36.1	353°10.8	-15°40.3
Mer.pass.:1:54:		v-0.6 d-0.8 m-3.8		v1.0 d0.3 m-0.0		v2.6 d-0.1 m-2.7		v2.6 d-0.1 m0.3	

Mie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	332°15.3	194°32.0	17°10.0	271°55.0	19°11.0	324°38.9	1°36.1	8°13.5	-15°40.4
1	347°17.7	209°31.3	17°09.2	286°56.0	19°11.3	339°41.6	1°36.0	23°16.1	-15°40.4
2	2°20.2	224°30.7	17°08.3	301°57.0	19°11.6	354°44.2	1°35.9	38°18.8	-15°40.5
3	17°22.7	239°30.0	17°07.5	316°58.0	19°11.9	9°46.9	1°35.8	53°21.4	-15°40.6
4	32°25.1	254°29.4	17°06.7	331°59.0	19°12.2	24°49.5	1°35.7	68°24.0	-15°40.6
5	47°27.6	269°28.8	17°05.8	347°00.0	19°12.6	39°52.2	1°35.6	83°26.7	-15°40.7
6	62°30.0	284°28.1	17°05.0	2°01.0	19°12.9	54°54.8	1°35.5	98°29.3	-15°40.7
7	77°32.5	299°27.5	17°04.2	17°02.0	19°13.2	69°57.5	1°35.4	113°32.0	-15°40.8
8	92°35.0	314°26.9	17°03.3	32°03.0	19°13.5	85°00.1	1°35.3	128°34.6	-15°40.9
9	107°37.4	329°26.2	17°02.5	47°03.9	19°13.8	100°02.8	1°35.2	143°37.3	-15°40.9
10	122°39.9	344°25.6	17°01.7	62°04.9	19°14.1	115°05.4	1°35.1	158°39.9	-15°41.0
11	137°42.4	359°25.0	17°00.8	77°05.9	19°14.4	130°08.1	1°35.1	173°42.5	-15°41.0
12	152°44.8	14°24.3	17°00.0	92°06.9	19°14.8	145°10.7	1°35.0	188°45.2	-15°41.1
13	167°47.3	29°23.7	16°59.2	107°07.9	19°15.1	160°13.4	1°34.9	203°47.8	-15°41.2
14	182°49.8	44°23.1	16°58.3	122°08.9	19°15.4	175°16.0	1°34.8	218°50.5	-15°41.2
15	197°52.2	59°22.5	16°57.5	137°09.9	19°15.7	190°18.7	1°34.7	233°53.1	-15°41.3
16	212°54.7	74°21.8	16°56.7	152°10.9	19°16.0	205°21.4	1°34.6	248°55.8	-15°41.3
17	227°57.1	89°21.2	16°55.8	167°11.9	19°16.3	220°24.0	1°34.5	263°58.4	-15°41.4
18	242°59.6	104°20.6	16°55.0	182°12.9	19°16.6	235°26.7	1°34.4	279°01.1	-15°41.5
19	258°02.1	119°19.9	16°54.1	197°13.9	19°16.9	250°29.3	1°34.3	294°03.7	-15°41.5
20	273°04.5	134°19.3	16°53.3	212°14.9	19°17.2	265°32.0	1°34.2	309°06.3	-15°41.6
21	288°07.0	149°18.7	16°52.4	227°15.9	19°17.6	280°34.6	1°34.1	324°09.0	-15°41.7
22	303°09.5	164°18.1	16°51.6	242°16.9	19°17.9	295°37.3	1°34.1	339°11.6	-15°41.7
23	318°11.9	179°17.4	16°50.8	257°17.9	19°18.2	310°39.9	1°34.0	354°14.3	-15°41.8
Mer.pass.:1:50:		v-0.6 d-0.8 m-3.8		v1.0 d0.3 m-0.0		v2.6 d-0.1 m-2.7		v2.6 d-0.1 m0.3	

Jue	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	333°14.4	194°16.8	16°49.9	272°18.9	19°18.5	325°42.6	1°33.9	9°16.9	-15°41.8
1	348°16.9	209°16.2	16°49.1	287°19.9	19°18.8	340°45.2	1°33.8	24°19.6	-15°41.9
2	3°19.3	224°15.6	16°48.2	302°20.9	19°19.1	355°47.9	1°33.7	39°22.2	-15°42.0
3	18°21.8	239°14.9	16°47.4	317°21.9	19°19.4	10°50.6	1°33.6	54°24.8	-15°42.0
4	33°24.3	254°14.3	16°46.5	332°22.9	19°19.7	25°53.2	1°33.5	69°27.5	-15°42.1
5	48°26.7	269°13.7	16°45.7	347°23.9	19°20.0	40°55.9	1°33.4	84°30.1	-15°42.1
6	63°29.2	284°13.1	16°44.8	2°24.9	19°20.3	55°58.5	1°33.3	99°32.8	-15°42.2
7	78°31.6	299°12.4	16°44.0	17°25.9	19°20.7	71°01.2	1°33.2	114°35.4	-15°42.3
8	93°34.1	314°11.8	16°43.1	32°26.9	19°21.0	86°03.8	1°33.1	129°38.1	-15°42.3
9	108°36.6	329°11.2	16°42.3	47°27.9	19°21.3	101°06.5	1°33.0	144°40.7	-15°42.4
10	123°39.0	344°10.6	16°41.4	62°28.9	19°21.6	116°09.1	1°32.9	159°43.3	-15°42.4
11	138°41.5	359°09.9	16°40.5	77°29.9	19°21.9	131°11.8	1°32.8	174°46.0	-15°42.5
12	153°44.0	14°09.3	16°39.7	92°30.9	19°22.2	146°14.5	1°32.8	189°48.6	-15°42.6
13	168°46.4	29°08.7	16°38.8	107°31.9	19°22.5	161°17.1	1°32.7	204°51.3	-15°42.6
14	183°48.9	44°08.1	16°38.0	122°32.9	19°22.8	176°19.8	1°32.6	219°53.9	-15°42.7
15	198°51.4	59°07.5	16°37.1	137°33.9	19°23.1	191°22.4	1°32.5	234°56.5	-15°42.7
16	213°53.8	74°06.8	16°36.3	152°34.9	19°23.4	206°25.1	1°32.4	249°59.2	-15°42.8
17	228°56.3	89°06.2	16°35.4	167°35.9	19°23.7	221°27.8	1°32.3	265°01.8	-15°42.9
18	243°58.8	104°05.6	16°34.5	182°36.9	19°24.0	236°30.4	1°32.2	280°04.5	-15°42.9
19	259°01.2	119°05.0	16°33.7	197°37.9	19°24.3	251°33.1	1°32.1	295°07.1	-15°43.0
20	274°03.7	134°04.4	16°32.8	212°38.9	19°24.6	266°35.7	1°32.0	310°09.8	-15°43.0
21	289°06.1	149°03.7	16°31.9	227°39.9	19°24.9	281°38.4	1°31.9	325°12.4	-15°43.1
22	304°08.6	164°03.1	16°31.1	242°40.9	19°25.2	296°41.1	1°31.8	340°15.0	-15°43.2
23	319°11.1	179°02.5	16°30.2	257°41.9	19°25.5	311°43.7	1°31.7	355°17.7	-15°43.2
Mer.pass.:1:46:		v-0.6 d-0.8 m-3.8		v1.0 d0.3 m-0.1		v2.7 d-0.1 m-2.7		v2.6 d-0.1 m0.3	

Estrellas

	AHS	Dec
Alpheratz	357°36.5	29°12.9
Ankaa	353°08.7	-42°10.8
Schedar	349°32.8	56°39.5
Diphda	348°48.9	-17°51.6
Achernar	335°21.3	-57°07.1
Hamal	327°53.3	23°34.1
Polaris	314°50.8	89°21.2
Akamar	315°13.1	-40°12.6
Menkar	314°08.1	4°10.8
Mirfak	308°31.0	49°56.3
Aldebaran	290°41.9	16°33.3
Rigel	281°05.8	-8°10.4
Capella	280°24.9	46°01.1
Bellatrix	278°25.1	6°22.3
Elnath	278°04.5	28°37.5
Alnilam	275°39.8	-1°11.1
Betelgeuse	270°54.4	7°24.7
Canopus	263°53.6	-52°42.1
Sirius	258°28.1	-16°44.4
Adara	255°07.6	-28°59.9
Procyon	244°53.1	5°10.3
Pollux	243°19.9	27°58.3
Avior	234°16.1	-59°34.7
Suhail	222°48.2	-43°31.2
Miaplacidus	221°39.6	-69°48.4
Alphard	217°50.0	-8°45.2
Regulus	207°36.8	11°51.6
Dubhe	193°44.0	61°37.9
Denebola	182°27.2	14°27.0
Gienah	175°45.8	-17°39.9
Acrux	173°02.8	-63°13.5
Gacrux	171°54.3	-57°14.4
Alioth	166°15.2	55°50.5
Spica	158°24.6	-11°16.6
Alcaid	152°53.8	49°12.4
Hadar	148°39.1	-60°29.0
Menkent	148°00.1	-36°28.9
Arcturus	145°49.7	19°04.4
Rigil Kent.	139°43.2	-60°55.9
Zubenelg.	136°58.3	-16°08.1
Kochab	137°20.1	74°04.1
Alphecca	126°05.5	26°38.6
Antares	112°18.2	-26°28.9
Atria	107°14.0	-69°04.3
Sabik	102°04.9	-15°45.1
Shaula	96°12.9	-37°07.3
Rasalhague	96°00.2	12°32.8
Etamin	90°42.8	51°29.4
Kaus Aust.	83°34.9	-34°22.5
Vega	80°34.3	38°48.4
Nunki	75°49.9	-26°16.1
Altair	62°01.7	8°55.7
Peacock	53°08.3	-56°39.8
Deneb	49°26.7	45°21.8
Enif	33°40.4	9°58.8
Alnair	27°34.9	-46°51.0
Fomalhaut	15°16.4	-29°30.0
Scheat	13°46.8	28°12.3
Markab	13°31.5	15°19.6

Ago 23 Mar	AHS	Paso Merid
Venus	223°31.2	11:01
Mars	300°15.3	05:54
Jupiter	352°19.3	02:25
Saturn	35°53.9	23:27

Ago 24 Mie	AHS	Paso Merid
Venus	222°16.7	11:02
Mars	299°39.8	05:52
Jupiter	352°23.7	02:21
Saturn	35°58.2	23:23

Ago 25 Jue	AHS	Paso Merid
Venus	221°02.4	11:03
Mars	299°04.5	05:50
Jupiter	352°28.2	02:17
Saturn	36°02.5	23:19

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.1

h	Sol		Luna				
Mar	AHG	Dec	AHG	v	Dec	d	HP
0	179°18.3	11°31.1	228°16.4	10.3	27°01.1	-1.2	54.1
1	194°18.4	11°30.2	242°45.7	10.3	26°59.9	-1.3	54.1
2	209°18.6	11°29.4	257°15.1	10.3	26°58.6	-1.4	54.1
3	224°18.8	11°28.5	271°44.4	10.3	26°57.1	-1.5	54.1
4	239°18.9	11°27.7	286°13.8	10.4	26°55.5	-1.7	54.1
5	254°19.1	11°26.8	300°43.1	10.4	26°53.7	-1.8	54.1
6	269°19.3	11°26.0	315°12.5	10.4	26°51.9	-1.9	54.1
7	284°19.4	11°25.1	329°41.9	10.4	26°49.9	-2.1	54.1
8	299°19.6	11°24.3	344°11.3	10.4	26°47.8	-2.2	54.1
9	314°19.8	11°23.4	358°40.7	10.4	26°45.5	-2.3	54.1
10	329°19.9	11°22.6	13°10.1	10.4	26°43.1	-2.4	54.1
11	344°20.1	11°21.7	27°39.6	10.5	26°40.6	-2.6	54.1
12	359°20.2	11°20.9	42°09.0	10.5	26°38.0	-2.7	54.1
13	14°20.4	11°20.0	56°38.5	10.5	26°35.2	-2.8	54.1
14	29°20.6	11°19.2	71°08.0	10.5	26°32.3	-3.0	54.1
15	44°20.7	11°18.3	85°37.5	10.5	26°29.3	-3.1	54.1
16	59°20.9	11°17.5	100°07.1	10.6	26°26.2	-3.2	54.1
17	74°21.1	11°16.6	114°36.7	10.6	26°22.9	-3.3	54.1
18	89°21.2	11°15.8	129°06.3	10.6	26°19.5	-3.5	54.1
19	104°21.4	11°14.9	143°35.9	10.6	26°16.0	-3.6	54.1
20	119°21.6	11°14.1	158°05.5	10.7	26°12.3	-3.7	54.1
21	134°21.7	11°13.2	172°35.2	10.7	26°08.5	-3.8	54.1
22	149°21.9	11°12.4	187°04.9	10.7	26°04.6	-4.0	54.2
23	164°22.1	11°11.5	201°34.6	10.7	26°00.6	-4.1	54.2
	SD.=15.8	d=-0.8			S.D.=14.8		

Mie	AHG	Dec	AHG	v	Dec	d	HP
0	179°22.2	11°10.7	216°04.4	10.8	25°56.5	-4.2	54.2
1	194°22.4	11°09.8	230°34.2	10.8	25°52.2	-4.3	54.2
2	209°22.6	11°09.0	245°04.0	10.8	25°47.8	-4.5	54.2
3	224°22.7	11°08.1	259°33.8	10.9	25°43.3	-4.6	54.2
4	239°22.9	11°07.3	274°03.7	10.9	25°38.6	-4.7	54.2
5	254°23.1	11°06.4	288°33.6	10.9	25°33.9	-4.8	54.2
6	269°23.2	11°05.5	303°03.5	11.0	25°29.0	-4.9	54.2
7	284°23.4	11°04.7	317°33.5	11.0	25°24.0	-5.1	54.2
8	299°23.6	11°03.8	332°03.5	11.0	25°18.8	-5.2	54.2
9	314°23.7	11°03.0	346°33.6	11.1	25°13.6	-5.3	54.2
10	329°23.9	11°02.1	1°03.6	11.1	25°08.2	-5.4	54.2
11	344°24.1	11°01.3	15°33.8	11.1	25°02.7	-5.5	54.2
12	359°24.2	11°00.4	30°03.9	11.2	24°57.1	-5.7	54.2
13	14°24.4	10°59.6	44°34.1	11.2	24°51.4	-5.8	54.3
14	29°24.6	10°58.7	59°04.3	11.2	24°45.6	-5.9	54.3
15	44°24.7	10°57.8	73°34.6	11.3	24°39.6	-6.0	54.3
16	59°24.9	10°57.0	88°04.9	11.3	24°33.5	-6.1	54.3
17	74°25.1	10°56.1	102°35.2	11.4	24°27.3	-6.3	54.3
18	89°25.2	10°55.3	117°05.6	11.4	24°21.0	-6.4	54.3
19	104°25.4	10°54.4	131°36.1	11.4	24°14.6	-6.5	54.3
20	119°25.6	10°53.5	146°06.5	11.5	24°08.0	-6.6	54.3
21	134°25.8	10°52.7	160°37.0	11.5	24°01.4	-6.7	54.3
22	149°25.9	10°51.8	175°07.6	11.6	23°54.6	-6.8	54.3
23	164°26.1	10°51.0	189°38.2	11.6	23°47.7	-6.9	54.3
	SD.=15.8	d=-0.9			S.D.=14.8		

Jue	AHG	Dec	AHG	v	Dec	d	HP
0	179°26.3	10°50.1	204°08.8	11.7	23°40.7	-7.1	54.4
1	194°26.4	10°49.2	218°39.5	11.7	23°33.6	-7.2	54.4
2	209°26.6	10°48.4	233°10.2	11.7	23°26.4	-7.3	54.4
3	224°26.8	10°47.5	247°41.0	11.8	23°19.1	-7.4	54.4
4	239°26.9	10°46.7	262°11.8	11.8	23°11.7	-7.5	54.4
5	254°27.1	10°45.8	276°42.6	11.9	23°04.1	-7.6	54.4
6	269°27.3	10°44.9	291°13.5	11.9	22°56.4	-7.7	54.4
7	284°27.5	10°44.1	305°44.5	12.0	22°48.7	-7.8	54.4
8	299°27.6	10°43.2	320°15.5	12.0	22°40.8	-7.9	54.4
9	314°27.8	10°42.3	334°46.5	12.1	22°32.8	-8.0	54.5
10	329°28.0	10°41.5	349°17.6	12.1	22°24.8	-8.1	54.5
11	344°28.1	10°40.6	3°48.7	12.1	22°16.6	-8.2	54.5
12	359°28.3	10°39.8	18°19.9	12.2	22°08.3	-8.3	54.5
13	14°28.5	10°38.9	32°51.1	12.2	21°59.9	-8.4	54.5
14	29°28.7	10°38.0	47°22.4	12.3	21°51.4	-8.6	54.5
15	44°28.8	10°37.2	61°53.7	12.3	21°42.8	-8.7	54.5
16	59°29.0	10°36.3	76°25.0	12.4	21°34.1	-8.8	54.5
17	74°29.2	10°35.4	90°56.5	12.4	21°25.3	-8.9	54.6
18	89°29.4	10°34.6	105°27.9	12.5	21°16.4	-9.0	54.6
19	104°29.5	10°33.7	119°59.4	12.5	21°07.4	-9.1	54.6
20	119°29.7	10°32.8	134°30.9	12.6	20°58.3	-9.2	54.6
21	134°29.9	10°32.0	149°02.5	12.6	20°49.0	-9.3	54.6
22	149°30.1	10°31.1	163°34.2	12.7	20°39.7	-9.3	54.6
23	164°30.2	10°30.2	178°05.9	12.7	20°30.4	-9.4	54.6
	SD.=15.8	d=-0.9			S.D.=14.8		

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	–:–	01:14	03:19	20:41	22:39	–:–
70	–:–	02:08	03:40	20:22	21:50	–:–
68	–:–	02:40	03:56	20:06	21:20	–:–
66	01:04	03:04	04:08	19:54	20:58	22:50
64	01:52	03:21	04:19	19:44	20:41	22:07
62	02:21	03:36	04:28	19:35	20:26	21:39
60	02:43	03:48	04:36	19:27	20:15	21:19
58	03:00	03:58	04:42	19:21	20:05	21:02
56	03:14	04:07	04:48	19:15	19:56	20:49
54	03:26	04:15	04:54	19:10	19:48	20:37
52	03:36	04:22	04:59	19:05	19:41	20:27
50	03:45	04:28	05:03	19:01	19:35	20:18
45	04:03	04:41	05:12	18:52	19:23	20:00
40	04:18	04:52	05:20	18:44	19:12	19:46
35	04:29	05:00	05:27	18:38	19:04	19:35
30	04:39	05:08	05:33	18:32	18:56	19:26
20	04:53	05:20	05:42	18:22	18:45	19:11
10	05:05	05:30	05:51	18:14	18:35	19:00
0	05:14	05:38	05:59	18:06	18:27	18:51
S 10	05:21	05:46	06:07	17:58	18:19	18:44
20	05:27	05:53	06:15	17:50	18:12	18:38
30	05:32	06:00	06:25	17:41	18:05	18:33
35	05:35	06:04	06:30	17:35	18:01	18:31
40	05:37	06:08	06:36	17:29	17:57	18:29
45	05:39	06:13	06:43	17:23	17:53	18:27
50	05:40	06:18	06:51	17:14	17:48	18:25
52	05:41	06:20	06:55	17:11	17:45	18:25
54	05:42	06:23	06:59	17:07	17:43	18:24
56	05:42	06:25	07:04	17:02	17:40	18:24
58	05:43	06:28	07:09	16:57	17:37	18:23
60	05:43	06:31	07:15	16:51	17:34	18:23

	Orto luna			Ocaso luna		
Lat.	Mar	Mie	Jue	Mar	Mie	Jue
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	–:–	–:–	–:–
68	–:–	–:–	–:–	–:–	–:–	21:40
66	–:–	22:59	–:–	–:–	21:51	20:57
64	–:–	–:–	00:10	–:–	20:40	20:27
62	23:10	–:–	00:46	19:57	20:04	20:05
60	23:47	–:–	01:11	19:19	19:38	19:47
58	–:–	00:13	01:31	18:53	19:17	19:32
56	–:–	00:34	01:48	18:32	19:00	19:19
54	–:–	00:51	02:02	18:15	18:46	19:08
52	00:05	01:05	02:14	18:00	18:33	18:58
50	00:19	01:18	02:25	17:47	18:22	18:49
45	00:47	01:44	02:47	17:20	17:59	18:30
40	01:09	02:05	03:05	16:59	17:40	18:14
35	01:27	02:22	03:20	16:42	17:24	18:01
30	01:42	02:37	03:33	16:27	17:10	17:49
20	02:09	03:02	03:56	16:01	16:47	17:29
10	02:32	03:23	04:15	15:39	16:27	17:12
0	02:53	03:44	04:33	15:18	16:08	16:56
S 10	03:15	04:04	04:51	14:57	15:48	16:39
20	03:37	04:25	05:10	14:34	15:28	16:22
30	04:04	04:50	05:31	14:08	15:04	16:01
35	04:20	05:05	05:44	13:53	14:50	15:49
40	04:38	05:22	05:59	13:35	14:33	15:35
45	05:00	05:42	06:16	13:13	14:14	15:19
50	05:27	06:07	06:38	12:46	13:49	14:58
52	05:41	06:19	06:48	12:32	13:37	14:49
54	05:57	06:33	06:59	12:17	13:24	14:38
56	06:15	06:50	07:12	11:58	13:08	14:25
58	06:38	07:09	07:28	11:36	12:49	14:10
60	07:08	07:33	07:46	11:06	12:25	13:53

	Sol			Luna		
Día	Ec. tiempo 00:00 h	Ec. tiempo 12:00 h	Paso Merid	Paso Meridiano Superior	Paso Meridiano Inferior	Edad
23	02:47	02:39	12:02	09:05	21:30	26(14%)
24	02:31	02:23	12:02	09:55	22:20	27(8%)
25	02:15	02:07	12:02	10:44	23:07	28(3%)

Agosto 26, 27, 28 (Vie, Sa, Dom)

	Aries	Venus		Martes		Júpiter		Saturno	
Vie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	334°13.5	194°01.9	16°29.4	272°42.9	19°25.8	326°46.4	1°31.6	10°20.3	-15°43.3
1	349°16.0	209°01.3	16°28.5	287°43.9	19°26.1	341°49.0	1°31.5	25°23.0	-15°43.3
2	4°18.5	224°00.7	16°27.6	302°44.9	19°26.5	356°51.7	1°31.4	40°25.6	-15°43.4
3	19°20.9	239°00.0	16°26.8	317°45.9	19°26.8	11°54.4	1°31.3	55°28.3	-15°43.5
4	34°23.4	253°59.4	16°25.9	332°46.9	19°27.1	26°57.0	1°31.2	70°30.9	-15°43.5
5	49°25.9	268°58.8	16°25.0	347°47.9	19°27.4	41°59.7	1°31.1	85°33.5	-15°43.6
6	64°28.3	283°58.2	16°24.1	2°48.9	19°27.7	57°02.4	1°31.1	100°36.2	-15°43.6
7	79°30.8	298°57.6	16°23.3	17°49.9	19°28.0	72°05.0	1°31.0	115°38.8	-15°43.7
8	94°33.2	313°57.0	16°22.4	32°51.0	19°28.3	87°07.7	1°30.9	130°41.5	-15°43.8
9	109°35.7	328°56.4	16°21.5	47°52.0	19°28.6	102°10.4	1°30.8	145°44.1	-15°43.8
10	124°38.2	343°55.8	16°20.7	62°53.0	19°28.9	117°13.0	1°30.7	160°46.7	-15°43.9
11	139°40.6	358°55.1	16°19.8	77°54.0	19°29.2	132°15.7	1°30.6	175°49.4	-15°44.0
12	154°43.1	13°54.5	16°18.9	92°55.0	19°29.5	147°18.3	1°30.5	190°52.0	-15°44.0
13	169°45.6	28°53.9	16°18.0	107°56.0	19°29.8	162°21.0	1°30.4	205°54.7	-15°44.1
14	184°48.0	43°53.3	16°17.1	122°57.0	19°30.1	177°23.7	1°30.3	220°57.3	-15°44.1
15	199°50.5	58°52.7	16°16.3	137°58.0	19°30.4	192°26.3	1°30.2	236°00.0	-15°44.2
16	214°53.0	73°52.1	16°15.4	152°59.0	19°30.7	207°29.0	1°30.1	251°02.6	-15°44.3
17	229°55.4	88°51.5	16°14.5	168°00.0	19°31.0	222°31.7	1°30.0	266°05.2	-15°44.3
18	244°57.9	103°50.9	16°13.6	183°01.1	19°31.3	237°34.3	1°29.9	281°07.9	-15°44.4
19	260°00.4	118°50.3	16°12.8	198°02.1	19°31.6	252°37.0	1°29.8	296°10.5	-15°44.4
20	275°02.8	133°49.7	16°11.9	213°03.1	19°31.9	267°39.7	1°29.7	311°13.2	-15°44.5
21	290°05.3	148°49.0	16°11.0	228°04.1	19°32.2	282°42.3	1°29.6	326°15.8	-15°44.5
22	305°07.7	163°48.4	16°10.1	243°05.1	19°32.5	297°45.0	1°29.5	341°18.4	-15°44.6
23	320°10.2	178°47.8	16°09.2	258°06.1	19°32.8	312°47.7	1°29.4	356°21.1	-15°44.7
Mer.pass.:1:42:		v-0.6 d-0.9 m-3.8		v1.0 d0.3 m-0.1		v2.7 d-0.1 m-2.7		v2.6 d-0.1 m0.3	

Sa	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	335°12.7	193°47.2	16°08.3	273°07.1	19°33.1	327°50.3	1°29.3	11°23.7	-15°44.7
1	350°15.1	208°46.6	16°07.4	288°08.2	19°33.3	342°53.0	1°29.2	26°26.4	-15°44.8
2	5°17.6	223°46.0	16°06.6	303°09.2	19°33.6	357°55.7	1°29.1	41°29.0	-15°44.8
3	20°20.1	238°45.4	16°05.7	318°10.2	19°33.9	12°58.3	1°29.0	56°31.6	-15°44.9
4	35°22.5	253°44.8	16°04.8	333°11.2	19°34.2	28°01.0	1°28.9	71°34.3	-15°45.0
5	50°25.0	268°44.2	16°03.9	348°12.2	19°34.5	43°03.7	1°28.8	86°36.9	-15°45.0
6	65°27.5	283°43.6	16°03.0	3°13.2	19°34.8	58°06.3	1°28.7	101°39.6	-15°45.1
7	80°29.9	298°43.0	16°02.1	18°14.3	19°35.1	73°09.0	1°28.6	116°42.2	-15°45.1
8	95°32.4	313°42.4	16°01.2	33°15.3	19°35.4	88°11.7	1°28.5	131°44.9	-15°45.2
9	110°34.9	328°41.8	16°00.3	48°16.3	19°35.7	103°14.4	1°28.4	146°47.5	-15°45.3
10	125°37.3	343°41.2	15°59.4	63°17.3	19°36.0	118°17.0	1°28.3	161°50.1	-15°45.3
11	140°39.8	358°40.6	15°58.5	78°18.3	19°36.3	133°19.7	1°28.2	176°52.8	-15°45.4
12	155°42.2	13°40.0	15°57.7	93°19.3	19°36.6	148°22.4	1°28.1	191°55.4	-15°45.4
13	170°44.7	28°39.4	15°56.8	108°20.4	19°36.9	163°25.0	1°28.0	206°58.1	-15°45.5
14	185°47.2	43°38.8	15°55.9	123°21.4	19°37.2	178°27.7	1°27.9	222°00.7	-15°45.6
15	200°49.6	58°38.2	15°55.0	138°22.4	19°37.5	193°30.4	1°27.8	237°03.3	-15°45.6
16	215°52.1	73°37.6	15°54.1	153°23.4	19°37.8	208°33.1	1°27.7	252°06.0	-15°45.7
17	230°54.6	88°37.0	15°53.2	168°24.4	19°38.1	223°35.7	1°27.6	267°08.6	-15°45.7
18	245°57.0	103°36.4	15°52.3	183°25.5	19°38.4	238°38.4	1°27.6	282°11.3	-15°45.8
19	260°59.5	118°35.8	15°51.4	198°26.5	19°38.6	253°41.1	1°27.5	297°13.9	-15°45.9
20	276°02.0	133°35.2	15°50.5	213°27.5	19°38.9	268°43.7	1°27.4	312°16.5	-15°45.9
21	291°04.4	148°34.6	15°49.6	228°28.5	19°39.2	283°46.4	1°27.3	327°19.2	-15°46.0
22	306°06.9	163°34.0	15°48.7	243°29.6	19°39.5	298°49.1	1°27.2	342°21.8	-15°46.0
23	321°09.3	178°33.4	15°47.8	258°30.6	19°39.8	313°51.8	1°27.1	357°24.5	-15°46.1
Mer.pass.:1:38:		v-0.6 d-0.9 m-3.8		v1.0 d0.3 m-0.1		v2.7 d-0.1 m-2.7		v2.6 d-0.1 m0.3	

Dom	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	336°11.8	193°32.8	15°46.9	273°31.6	19°40.1	328°54.4	1°27.0	12°27.1	-15°46.2
1	351°14.3	208°32.2	15°46.0	288°32.6	19°40.4	343°57.1	1°26.9	27°29.7	-15°46.2
2	6°16.7	223°31.6	15°45.1	303°33.7	19°40.7	358°59.8	1°26.8	42°32.4	-15°46.3
3	21°19.2	238°31.0	15°44.1	318°34.7	19°41.0	14°02.5	1°26.7	57°35.0	-15°46.3
4	36°21.7	253°30.4	15°43.2	333°35.7	19°41.3	29°05.1	1°26.6	72°37.7	-15°46.4
5	51°24.1	268°29.8	15°42.3	348°36.7	19°41.6	44°07.8	1°26.5	87°40.3	-15°46.5
6	66°26.6	283°29.2	15°41.4	3°37.8	19°41.8	59°10.5	1°26.4	102°42.9	-15°46.5
7	81°29.1	298°28.6	15°40.5	18°38.8	19°42.1	74°13.2	1°26.3	117°45.6	-15°46.6
8	96°31.5	313°28.0	15°39.6	33°39.8	19°42.4	89°15.8	1°26.2	132°48.2	-15°46.6
9	111°34.0	328°27.4	15°38.7	48°40.8	19°42.7	104°18.5	1°26.1	147°50.8	-15°46.7
10	126°36.5	343°26.8	15°37.8	63°41.9	19°43.0	119°21.2	1°26.0	162°53.5	-15°46.7
11	141°38.9	358°26.3	15°36.9	78°42.9	19°43.3	134°23.9	1°25.9	177°56.1	-15°46.8
12	156°41.4	13°25.7	15°36.0	93°43.9	19°43.6	149°26.5	1°25.8	192°58.8	-15°46.9
13	171°43.8	28°25.1	15°35.0	108°44.9	19°43.9	164°29.2	1°25.6	208°01.4	-15°46.9
14	186°46.3	43°24.5	15°34.1	123°46.0	19°44.2	179°31.9	1°25.5	223°04.0	-15°47.0
15	201°48.8	58°23.9	15°33.2	138°47.0	19°44.4	194°34.6	1°25.4	238°06.7	-15°47.0
16	216°51.2	73°23.3	15°32.3	153°48.0	19°44.7	209°37.2	1°25.3	253°09.3	-15°47.1
17	231°53.7	88°22.7	15°31.4	168°49.1	19°45.0	224°39.9	1°25.2	268°12.0	-15°47.2
18	246°56.2	103°22.1	15°30.5	183°50.1	19°45.3	239°42.6	1°25.1	283°14.6	-15°47.2
19	261°58.6	118°21.5	15°29.5	198°51.1	19°45.6	254°45.3	1°25.0	298°17.2	-15°47.3
20	277°01.1	133°20.9	15°28.6	213°52.2	19°45.9	269°48.0	1°24.9	313°19.9	-15°47.3
21	292°03.6	148°20.4	15°27.7	228°53.2	19°46.2	284°50.6	1°24.8	328°22.5	-15°47.4
22	307°06.0	163°19.8	15°26.8	243°54.2	19°46.4	299°53.3	1°24.7	343°25.2	-15°47.5
23	322°08.5	178°19.2	15°25.9	258°55.3	19°46.7	314°56.0	1°24.6	358°27.8	-15°47.5
Mer.pass.:1:34:		v-0.6 d-0.9 m-3.8		v1.0 d0.3 m-0.1		v2.7 d-0.1 m-2.7		v2.6 d-0.1 m0.3	

Estrellas

	AHS	Dec
Alpheratz	357°36.5	29°12.9
Ankaa	353°08.7	-42°10.8
Schedar	349°32.8	56°39.5
Diphda	348°48.9	-17°51.6
Achernar	335°21.3	-57°07.1
Hamal	327°53.2	23°34.1
Polaris	314°49.4	89°21.2
Akamar	315°13.1	-40°12.6
Menkar	314°08.1	4°10.8
Mirfak	308°30.9	49°56.3
Aldebaran	290°41.9	16°33.3
Rigel	281°05.8	-8°10.4
Capella	280°24.9	46°01.1
Bellatrix	278°25.1	6°22.3
Elnath	278°04.5	28°37.5
Alnilam	275°39.8	-1°11.1
Betelgeuse	270°54.3	7°24.8
Canopus	263°53.6	-52°42.1
Sirius	258°28.1	-16°44.4
Adara	255°07.6	-28°59.9
Procyon	244°53.0	5°10.3
Pollux	243°19.9	27°58.3
Avior	234°16.1	-59°34.7
Suhail	222°48.2	-43°31.2
Miaplacidus	221°39.6	-69°48.4
Alphard	217°50.0	-8°45.2
Regulus	207°36.8	11°51.6
Dubhe	193°44.0	61°37.9
Denebola	182°27.2	14°27.0
Gienah	175°45.8	-17°39.9
Acrux	173°02.9	-63°13.5
Gacrux	171°54.3	-57°14.4
Alioth	166°15.2	55°50.5
Spica	158°24.6	-11°16.6
Alcaid	152°53.8	49°12.3
Hadar	148°39.1	-60°29.0
Menkent	148°00.1	-36°28.9
Arcturus	145°49.7	19°04.4
Rigil Kent.	139°43.2	-60°55.9
Zubenelg.	136°58.3	-16°08.1
Kochab	137°20.2	74°04.1
Alphecca	126°05.5	26°38.6
Antares	112°18.2	-26°28.9
Atria	107°14.0	-69°04.3
Sabik	102°04.9	-15°45.1
Shaula	96°12.9	-37°07.3
Rasalhague	96°00.3	12°32.8
Etamin	90°42.9	51°29.4
Kaus Aust.	83°34.9	-34°22.5
Vega	80°34.3	38°48.5
Nunki	75°49.9	-26°16.1
Altair	62°01.7	8°55.7
Peacock	53°08.3	-56°39.8
Deneb	49°26.7	45°21.8
Enif	33°40.4	9°58.8
Alnair	27°34.9	-46°51.0
Fomalhaut	15°16.4	-29°30.0
Scheat	13°46.8	28°12.3
Markab	13°31.5	15°19.7

Ago 26 Vie	AHS	Paso Merid
Venus	219°48.4	11:04
Mars	298°29.4	05:49
Jupiter	352°32.8	02:13
Saturn	36°06.8	23:15

Ago 27 Sa	AHS	Paso Merid
Venus	218°34.5	11:05
Mars	297°54.5	05:47
Jupiter	352°37.7	02:08
Saturn	36°11.0	23:10

Ago 28 Dom	AHS	Paso Merid
Venus	217°21.0	11:06
Mars	297°19.8	05:45
Jupiter	352°42.6	02:04
Saturn	36°15.3	23:06

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.1

h	Sol		Luna				
Vie	AHG	Dec	AHG	v	Dec	d	HP
0	179°30.4	10°29.4	192°37.6	12.8	20°20.9	-9.5	54.6
1	194°30.6	10°28.5	207°09.4	12.8	20°11.3	-9.6	54.7
2	209°30.8	10°27.6	221°41.2	12.8	20°01.6	-9.7	54.7
3	224°30.9	10°26.8	236°13.1	12.9	19°51.8	-9.8	54.7
4	239°31.1	10°25.9	250°45.0	12.9	19°42.0	-9.9	54.7
5	254°31.3	10°25.0	265°16.9	13.0	19°32.0	-10.0	54.7
6	269°31.5	10°24.2	279°49.0	13.0	19°21.9	-10.1	54.7
7	284°31.6	10°23.3	294°21.0	13.1	19°11.8	-10.2	54.7
8	299°31.8	10°22.4	308°53.1	13.1	19°01.6	-10.3	54.8
9	314°32.0	10°21.5	323°25.3	13.2	18°51.3	-10.4	54.8
10	329°32.2	10°20.7	337°57.4	13.2	18°40.8	-10.5	54.8
11	344°32.3	10°19.8	352°29.7	13.3	18°30.4	-10.5	54.8
12	359°32.5	10°18.9	7°02.0	13.3	18°19.8	-10.6	54.8
13	14°32.7	10°18.1	21°34.3	13.3	18°09.1	-10.7	54.8
14	29°32.9	10°17.2	36°06.7	13.4	17°58.4	-10.8	54.9
15	44°33.0	10°16.3	50°39.1	13.4	17°47.5	-10.9	54.9
16	59°33.2	10°15.4	65°11.5	13.5	17°36.6	-11.0	54.9
17	74°33.4	10°14.6	79°44.0	13.5	17°25.6	-11.0	54.9
18	89°33.6	10°13.7	94°16.6	13.6	17°14.5	-11.1	54.9
19	104°33.8	10°12.8	108°49.2	13.6	17°03.4	-11.2	54.9
20	119°33.9	10°12.0	123°21.8	13.6	16°52.1	-11.3	54.9
21	134°34.1	10°11.1	137°54.4	13.7	16°40.8	-11.4	55.0
22	149°34.3	10°10.2	152°27.2	13.7	16°29.4	-11.4	55.0
23	164°34.5	10°09.3	166°59.9	13.8	16°17.9	-11.5	55.0
	SD.=15.8	d=-0.9			S.D.=14.9		

Sa	AHG	Dec	AHG	v	Dec	d	HP
0	179°34.6	10°08.5	181°32.7	13.8	16°06.4	-11.6	55.0
1	194°34.8	10°07.6	196°05.5	13.8	15°54.7	-11.7	55.0
2	209°35.0	10°06.7	210°38.4	13.9	15°43.0	-11.7	55.0
3	224°35.2	10°05.8	225°11.3	13.9	15°31.3	-11.8	55.1
4	239°35.4	10°05.0	239°44.2	14.0	15°19.4	-11.9	55.1
5	254°35.5	10°04.1	254°17.2	14.0	15°07.5	-12.0	55.1
6	269°35.7	10°03.2	268°50.3	14.0	14°55.5	-12.0	55.1
7	284°35.9	10°02.3	283°23.3	14.1	14°43.4	-12.1	55.1
8	299°36.1	10°01.4	297°56.4	14.1	14°31.3	-12.2	55.1
9	314°36.3	10°00.6	312°29.5	14.1	14°19.1	-12.2	55.2
10	329°36.4	9°59.7	327°02.7	14.2	14°06.8	-12.3	55.2
11	344°36.6	9°58.8	341°35.9	14.2	13°54.5	-12.4	55.2
12	359°36.8	9°57.9	356°09.1	14.3	13°42.1	-12.4	55.2
13	14°37.0	9°57.1	10°42.4	14.3	13°29.6	-12.5	55.2
14	29°37.2	9°56.2	25°15.7	14.3	13°17.1	-12.6	55.3
15	44°37.3	9°55.3	39°49.0	14.3	13°04.5	-12.6	55.3
16	59°37.5	9°54.4	54°22.4	14.4	12°51.8	-12.7	55.3
17	74°37.7	9°53.5	68°55.8	14.4	12°39.1	-12.8	55.3
18	89°37.9	9°52.7	83°29.2	14.4	12°26.3	-12.8	55.3
19	104°38.1	9°51.8	98°02.7	14.5	12°13.5	-12.9	55.3
20	119°38.2	9°50.9	112°36.2	14.5	12°00.5	-12.9	55.4
21	134°38.4	9°50.0	127°09.7	14.5	11°47.6	-13.0	55.4
22	149°38.6	9°49.1	141°43.2	14.6	11°34.6	-13.0	55.4
23	164°38.8	9°48.3	156°16.8	14.6	11°21.5	-13.1	55.4
	SD.=15.8	d=-0.9			S.D.=15.0		

Dom	AHG	Dec	AHG	v	Dec	d	HP
0	179°39.0	9°47.4	170°50.4	14.6	11°08.4	-13.2	55.4
1	194°39.2	9°46.5	185°24.0	14.6	10°55.2	-13.2	55.4
2	209°39.3	9°45.6	199°57.6	14.7	10°41.9	-13.3	55.5
3	224°39.5	9°44.7	214°31.3	14.7	10°28.6	-13.3	55.5
4	239°39.7	9°43.9	229°05.0	14.7	10°15.3	-13.4	55.5
5	254°39.9	9°43.0	243°38.7	14.7	10°01.9	-13.4	55.5
6	269°40.1	9°42.1	258°12.4	14.7	9°48.5	-13.5	55.5
7	284°40.3	9°41.2	272°46.1	14.8	9°35.0	-13.5	55.6
8	299°40.4	9°40.3	287°19.9	14.8	9°21.4	-13.6	55.6
9	314°40.6	9°39.4	301°53.7	14.8	9°07.8	-13.6	55.6
10	329°40.8	9°38.6	316°27.5	14.8	8°54.2	-13.7	55.6
11	344°41.0	9°37.7	331°01.3	14.8	8°40.5	-13.7	55.6
12	359°41.2	9°36.8	345°35.2	14.8	8°26.8	-13.8	55.7
13	14°41.4	9°35.9	0°09.0	14.9	8°13.0	-13.8	55.7
14	29°41.5	9°35.0	14°42.9	14.9	7°59.2	-13.8	55.7
15	44°41.7	9°34.1	29°16.8	14.9	7°45.3	-13.9	55.7
16	59°41.9	9°33.3	43°50.7	14.9	7°31.4	-13.9	55.7
17	74°42.1	9°32.4	58°24.6	14.9	7°17.5	-14.0	55.8
18	89°42.3	9°31.5	72°58.5	14.9	7°03.5	-14.0	55.8
19	104°42.5	9°30.6	87°32.4	14.9	6°49.5	-14.0	55.8
20	119°42.7	9°29.7	102°06.4	14.9	6°35.4	-14.1	55.8
21	134°42.8	9°28.8	116°40.3	15.0	6°21.3	-14.1	55.8
22	149°43.0	9°27.9	131°14.3	15.0	6°07.2	-14.1	55.9
23	164°43.2	9°27.0	145°48.3	15.0	5°53.1	-14.2	55.9
	SD.=15.8	d=-0.9			S.D.=15.1		

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	–:–	01:49	03:36	20:24	22:06	–:–
70	–:–	02:29	03:53	20:07	21:29	–:–
68	–:–	02:56	04:07	19:53	21:03	–:–
66	01:34	03:16	04:18	19:42	20:44	22:22
64	02:10	03:32	04:28	19:33	20:28	21:48
62	02:35	03:45	04:36	19:25	20:16	21:25
60	02:54	03:56	04:43	19:19	20:05	21:06
58	03:09	04:06	04:49	19:13	19:56	20:51
56	03:22	04:14	04:54	19:07	19:48	20:39
54	03:33	04:21	04:59	19:03	19:41	20:28
52	03:42	04:27	05:03	18:59	19:34	20:19
50	03:51	04:33	05:07	18:55	19:29	20:11
45	04:08	04:45	05:16	18:46	19:17	19:54
40	04:21	04:55	05:23	18:39	19:08	19:41
35	04:32	05:03	05:29	18:34	19:00	19:31
30	04:41	05:10	05:34	18:28	18:53	19:22
20	04:54	05:21	05:43	18:20	18:42	19:08
10	05:05	05:30	05:51	18:12	18:33	18:58
0	05:13	05:37	05:58	18:05	18:26	18:50
S 10	05:19	05:44	06:05	17:58	18:19	18:44
20	05:25	05:51	06:13	17:51	18:13	18:39
30	05:29	05:57	06:21	17:42	18:07	18:34
35	05:31	06:00	06:26	17:38	18:03	18:33
40	05:33	06:04	06:31	17:32	18:00	18:31
45	05:34	06:08	06:38	17:26	17:56	18:30
50	05:35	06:12	06:45	17:19	17:52	18:29
52	05:35	06:14	06:48	17:16	17:50	18:29
54	05:35	06:16	06:52	17:12	17:48	18:29
56	05:35	06:18	06:56	17:08	17:46	18:29
58	05:35	06:21	07:01	17:03	17:43	18:29
60	05:35	06:23	07:06	16:58	17:41	18:29

	Orto luna			Ocaso luna		
Lat.	Vie	Sa	Dom	Vie	Sa	Dom
N 72	–:–	02:00	04:33	22:09	21:09	20:33
70	–:–	02:40	04:50	21:27	20:50	20:24
68	00:51	03:08	05:03	20:58	20:35	20:17
66	01:33	03:28	05:14	20:36	20:22	20:11
64	02:01	03:44	05:23	20:19	20:12	20:05
62	02:23	03:58	05:30	20:05	20:03	20:01
60	02:40	04:09	05:37	19:52	19:55	19:57
58	02:54	04:19	05:43	19:42	19:48	19:53
56	03:07	04:27	05:48	19:32	19:42	19:50
54	03:18	04:35	05:52	19:24	19:37	19:47
52	03:27	04:42	05:57	19:17	19:32	19:45
50	03:35	04:48	06:00	19:10	19:27	19:42
45	03:53	05:01	06:08	18:56	19:18	19:37
40	04:08	05:11	06:15	18:44	19:09	19:33
35	04:20	05:21	06:21	18:33	19:02	19:29
30	04:31	05:29	06:26	18:24	18:56	19:26
20	04:49	05:42	06:34	18:09	18:45	19:20
10	05:05	05:54	06:42	17:55	18:35	19:15
0	05:20	06:05	06:49	17:42	18:26	19:10
S 10	05:35	06:16	06:56	17:29	18:17	19:05
20	05:50	06:28	07:04	17:15	18:07	18:59
30	06:08	06:41	07:12	16:59	17:56	18:53
35	06:19	06:49	07:17	16:49	17:50	18:50
40	06:31	06:58	07:22	16:39	17:42	18:46
45	06:44	07:08	07:29	16:26	17:33	18:41
50	07:01	07:20	07:36	16:10	17:23	18:35
52	07:09	07:26	07:40	16:03	17:18	18:33
54	07:18	07:32	07:44	15:55	17:12	18:30
56	07:28	07:39	07:48	15:45	17:06	18:26
58	07:39	07:47	07:53	15:35	16:59	18:23
60	07:52	07:56	07:58	15:23	16:51	18:19

	Sol			Luna		
Día	Ec. tiempo 00:00 h	Ec. tiempo 12:00 h	Paso Merid	Paso Meridiano Superior	Paso Meridiano Inferior	Edad
26	01:58	01:50	12:01	11:30	23:53	29(1%)
27	01:41	01:33	12:01	12:15	00:37	0(0%)
28	01:24	01:15	12:01	12:59	00:37	1(1%)

Agosto 29, 30, 31 (Lun, Mar, Mie)

	Aries	Venus		Martes		Júpiter		Saturno	
Lun	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	337°10.9	193°18.6	15°24.9	273°56.3	19°47.0	329°58.7	1°24.5	13°30.4	-15°47.6
1	352°13.4	208°18.0	15°24.0	288°57.3	19°47.3	345°01.4	1°24.4	28°33.1	-15°47.6
2	7°15.9	223°17.4	15°23.1	303°58.4	19°47.6	0°04.0	1°24.3	43°35.7	-15°47.7
3	22°18.3	238°16.8	15°22.2	318°59.4	19°47.9	15°06.7	1°24.2	58°38.3	-15°47.7
4	37°20.8	253°16.3	15°21.2	334°00.4	19°48.2	30°09.4	1°24.1	73°41.0	-15°47.8
5	52°23.3	268°15.7	15°20.3	349°01.5	19°48.4	45°12.1	1°24.0	88°43.6	-15°47.9
6	67°25.7	283°15.1	15°19.4	4°02.5	19°48.7	60°14.8	1°23.9	103°46.3	-15°47.9
7	82°28.2	298°14.5	15°18.5	19°03.5	19°49.0	75°17.4	1°23.8	118°48.9	-15°48.0
8	97°30.7	313°13.9	15°17.5	34°04.6	19°49.3	90°20.1	1°23.7	133°51.5	-15°48.0
9	112°33.1	328°13.3	15°16.6	49°05.6	19°49.6	105°22.8	1°23.6	148°54.2	-15°48.1
10	127°35.6	343°12.8	15°15.7	64°06.6	19°49.8	120°25.5	1°23.5	163°56.8	-15°48.2
11	142°38.1	358°12.2	15°14.8	79°07.7	19°50.1	135°28.2	1°23.4	178°59.5	-15°48.2
12	157°40.5	13°11.6	15°13.8	94°08.7	19°50.4	150°30.8	1°23.3	194°02.1	-15°48.3
13	172°43.0	28°11.0	15°12.9	109°09.8	19°50.7	165°33.5	1°23.2	209°04.7	-15°48.3
14	187°45.4	43°10.4	15°12.0	124°10.8	19°51.0	180°36.2	1°23.1	224°07.4	-15°48.4
15	202°47.9	58°09.8	15°11.0	139°11.8	19°51.3	195°38.9	1°23.0	239°10.0	-15°48.4
16	217°50.4	73°09.3	15°10.1	154°12.9	19°51.5	210°41.6	1°22.9	254°12.6	-15°48.5
17	232°52.8	88°08.7	15°09.2	169°13.9	19°51.8	225°44.3	1°22.8	269°15.3	-15°48.6
18	247°55.3	103°08.1	15°08.2	184°15.0	19°52.1	240°46.9	1°22.7	284°17.9	-15°48.6
19	262°57.8	118°07.5	15°07.3	199°16.0	19°52.4	255°49.6	1°22.6	299°20.6	-15°48.7
20	278°00.2	133°06.9	15°06.3	214°17.0	19°52.7	270°52.3	1°22.5	314°23.2	-15°48.7
21	293°02.7	148°06.4	15°05.4	229°18.1	19°52.9	285°55.0	1°22.4	329°25.8	-15°48.8
22	308°05.2	163°05.8	15°04.5	244°19.1	19°53.2	300°57.7	1°22.3	344°28.5	-15°48.9
23	323°07.6	178°05.2	15°03.5	259°20.2	19°53.5	316°00.4	1°22.2	359°31.1	-15°48.9
Mer.pass.:1:31:		v-0.6 d-0.9 m-3.8		v1.0 d0.3 m-0.1		v2.7 d-0.1 m-2.7		v2.6 d-0.1 m0.3	

Mar	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	338°10.1	193°04.6	15°02.6	274°21.2	19°53.8	331°03.1	1°22.1	14°33.7	-15°49.0
1	353°12.6	208°04.1	15°01.7	289°22.3	19°54.1	346°05.7	1°22.0	29°36.4	-15°49.0
2	8°15.0	223°03.5	15°00.7	304°23.3	19°54.3	1°08.4	1°21.8	44°39.0	-15°49.1
3	23°17.5	238°02.9	14°59.8	319°24.3	19°54.6	16°11.1	1°21.7	59°41.7	-15°49.1
4	38°19.9	253°02.3	14°58.8	334°25.4	19°54.9	31°13.8	1°21.6	74°44.3	-15°49.2
5	53°22.4	268°01.8	14°57.9	349°26.4	19°55.2	46°16.5	1°21.5	89°46.9	-15°49.3
6	68°24.9	283°01.2	14°56.9	4°27.5	19°55.4	61°19.2	1°21.4	104°49.6	-15°49.3
7	83°27.3	298°00.6	14°56.0	19°28.5	19°55.7	76°21.9	1°21.3	119°52.2	-15°49.4
8	98°29.8	313°00.0	14°55.0	34°29.6	19°56.0	91°24.5	1°21.2	134°54.8	-15°49.4
9	113°32.3	327°59.5	14°54.1	49°30.6	19°56.3	106°27.2	1°21.1	149°57.5	-15°49.5
10	128°34.7	342°58.9	14°53.2	64°31.7	19°56.5	121°29.9	1°21.0	165°00.1	-15°49.6
11	143°37.2	357°58.3	14°52.2	79°32.7	19°56.8	136°32.6	1°20.9	180°02.8	-15°49.6
12	158°39.7	12°57.7	14°51.3	94°33.8	19°57.1	151°35.3	1°20.8	195°05.4	-15°49.7
13	173°42.1	27°57.2	14°50.3	109°34.8	19°57.4	166°38.0	1°20.7	210°08.0	-15°49.7
14	188°44.6	42°56.6	14°49.4	124°35.9	19°57.7	181°40.7	1°20.6	225°10.7	-15°49.8
15	203°47.0	57°56.0	14°48.4	139°36.9	19°57.9	196°43.4	1°20.5	240°13.3	-15°49.8
16	218°49.5	72°55.5	14°47.5	154°38.0	19°58.2	211°46.0	1°20.4	255°15.9	-15°49.9
17	233°52.0	87°54.9	14°46.5	169°39.0	19°58.5	226°48.7	1°20.3	270°18.6	-15°50.0
18	248°54.4	102°54.3	14°45.6	184°40.1	19°58.8	241°51.4	1°20.2	285°21.2	-15°50.0
19	263°56.9	117°53.8	14°44.6	199°41.1	19°59.0	256°54.1	1°20.1	300°23.8	-15°50.1
20	278°59.4	132°53.2	14°43.6	214°42.2	19°59.3	271°56.8	1°20.0	315°26.5	-15°50.1
21	294°01.8	147°52.6	14°42.7	229°43.2	19°59.6	286°59.5	1°19.8	330°29.1	-15°50.2
22	309°04.3	162°52.1	14°41.7	244°44.3	19°59.8	302°02.2	1°19.7	345°31.8	-15°50.2
23	324°06.8	177°51.5	14°40.8	259°45.3	20°00.1	317°04.9	1°19.6	0°34.4	-15°50.3
Mer.pass.:1:27:		v-0.6 d-0.9 m-3.8		v1.0 d0.3 m-0.1		v2.7 d-0.1 m-2.7		v2.6 d-0.1 m0.3	

Mie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	339°09.2	192°50.9	14°39.8	274°46.4	20°00.4	332°07.6	1°19.5	15°37.0	-15°50.4
1	354°11.7	207°50.4	14°38.9	289°47.4	20°00.7	347°10.3	1°19.4	30°39.7	-15°50.4
2	9°14.2	222°49.8	14°37.9	304°48.5	20°00.9	2°12.9	1°19.3	45°42.3	-15°50.5
3	24°16.6	237°49.2	14°36.9	319°49.5	20°01.2	17°15.6	1°19.2	60°44.9	-15°50.5
4	39°19.1	252°48.7	14°36.0	334°50.6	20°01.5	32°18.3	1°19.1	75°47.6	-15°50.6
5	54°21.5	267°48.1	14°35.0	349°51.6	20°01.8	47°21.0	1°19.0	90°50.2	-15°50.6
6	69°24.0	282°47.5	14°34.1	4°52.7	20°02.0	62°23.7	1°18.9	105°52.8	-15°50.7
7	84°26.5	297°47.0	14°33.1	19°53.7	20°02.3	77°26.4	1°18.8	120°55.5	-15°50.8
8	99°28.9	312°46.4	14°32.1	34°54.8	20°02.6	92°29.1	1°18.7	135°58.1	-15°50.8
9	114°31.4	327°45.8	14°31.2	49°55.9	20°02.8	107°31.8	1°18.6	151°00.7	-15°50.9
10	129°33.9	342°45.3	14°30.2	64°56.9	20°03.1	122°34.5	1°18.5	166°03.4	-15°50.9
11	144°36.3	357°44.7	14°29.2	79°58.0	20°03.4	137°37.2	1°18.4	181°06.0	-15°51.0
12	159°38.8	12°44.1	14°28.3	94°59.0	20°03.6	152°39.9	1°18.2	196°08.6	-15°51.0
13	174°41.3	27°43.6	14°27.3	110°00.1	20°03.9	167°42.6	1°18.1	211°11.3	-15°51.1
14	189°43.7	42°43.0	14°26.3	125°01.2	20°04.2	182°45.3	1°18.0	226°13.9	-15°51.2
15	204°46.2	57°42.5	14°25.4	140°02.2	20°04.5	197°48.0	1°17.9	241°16.6	-15°51.2
16	219°48.6	72°41.9	14°24.4	155°03.3	20°04.7	212°50.7	1°17.8	256°19.2	-15°51.3
17	234°51.1	87°41.3	14°23.4	170°04.3	20°05.0	227°53.3	1°17.7	271°21.8	-15°51.3
18	249°53.6	102°40.8	14°22.5	185°05.4	20°05.3	242°56.0	1°17.6	286°24.5	-15°51.4
19	264°56.0	117°40.2	14°21.5	200°06.5	20°05.5	257°58.7	1°17.5	301°27.1	-15°51.4
20	279°58.5	132°39.7	14°20.5	215°07.5	20°05.8	273°01.4	1°17.4	316°29.7	-15°51.5
21	295°01.0	147°39.1	14°19.6	230°08.6	20°06.1	288°04.1	1°17.3	331°32.4	-15°51.6
22	310°03.4	162°38.5	14°18.6	245°09.6	20°06.3	303°06.8	1°17.2	346°35.0	-15°51.6
23	325°05.9	177°38.0	14°17.6	260°10.7	20°06.6	318°09.5	1°17.1	1°37.6	-15°51.7
Mer.pass.:1:23:		v-0.6 d-1.0 m-3.8		v1.1 d0.3 m-0.1		v2.7 d-0.1 m-2.7		v2.6 d-0.1 m0.3	

Estrellas

	AHS	Dec
Alpheratz	357°36.5	29°12.9
Ankaa	353°08.7	-42°10.8
Schedar	349°32.8	56°39.6
Diphda	348°48.9	-17°51.6
Achernar	335°21.3	-57°07.1
Hamal	327°53.2	23°34.1
Polaris	314°48.1	89°21.2
Akamar	315°13.1	-40°12.6
Menkar	314°08.1	4°10.8
Mirfak	308°30.9	49°56.3
Aldebaran	290°41.9	16°33.3
Rigel	281°05.8	-8°10.4
Capella	280°24.9	46°01.1
Bellatrix	278°25.0	6°22.3
Elnath	278°04.4	28°37.6
Alnilam	275°39.8	-1°11.1
Betelgeuse	270°54.3	7°24.8
Canopus	263°53.5	-52°42.1
Sirius	258°28.1	-16°44.4
Adara	255°07.6	-28°59.9
Procyon	244°53.0	5°10.3
Pollux	243°19.9	27°58.3
Avior	234°16.1	-59°34.6
Suhail	222°48.1	-43°31.2
Miaplacidus	221°39.6	-69°48.4
Alphard	217°50.0	-8°45.2
Regulus	207°36.8	11°51.6
Dubhe	193°44.0	61°37.9
Denebola	182°27.2	14°27.0
Gienah	175°45.9	-17°39.9
Acrux	173°02.9	-63°13.5
Gacrux	171°54.3	-57°14.4
Alioth	166°15.2	55°50.5
Spica	158°24.6	-11°16.6
Alcaid	152°53.8	49°12.3
Hadar	148°39.1	-60°29.0
Menkent	148°00.2	-36°28.9
Arcturus	145°49.7	19°04.4
Rigil Kent.	139°43.3	-60°55.9
Zubenelg.	136°58.3	-16°08.1
Kochab	137°20.2	74°04.1
Alphecca	126°05.5	26°38.6
Antares	112°18.2	-26°28.9
Atria	107°14.1	-69°04.3
Sabik	102°04.9	-15°45.1
Shaula	96°12.9	-37°07.3
Rasalhague	96°00.3	12°32.8
Etamin	90°42.9	51°29.4
Kaus Aust.	83°34.9	-34°22.5
Vega	80°34.3	38°48.5
Nunki	75°50.0	-26°16.1
Altair	62°01.7	8°55.7
Peacock	53°08.3	-56°39.8
Deneb	49°26.7	45°21.8
Enif	33°40.4	9°58.8
Alnair	27°34.9	-46°51.0
Fomalhaut	15°16.4	-29°30.1
Scheat	13°46.8	28°12.3
Markab	13°31.5	15°19.7

Ago 29 Lun	AHS	Paso Merid
Venus	216°07.6	11:07
Mars	296°45.3	05:44
Jupiter	352°47.7	02:00
Saturn	36°19.5	23:02

Ago 30 Mar	AHS	Paso Merid
Venus	214°54.6	11:08
Mars	296°11.1	05:42
Jupiter	352°53.0	01:55
Saturn	36°23.7	22:58

Ago 31 Mie	AHS	Paso Merid
Venus	213°41.7	11:09
Mars	295°37.1	05:41
Jupiter	352°58.3	01:51
Saturn	36°27.8	22:54

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.2

h	Sol		Luna				
Lun	AHG	Dec	AHG	v	Dec	d	HP
0	179°43.4	9°26.2	160°22.2	15.0	5°38.9	-14.2	55.9
1	194°43.6	9°25.3	174°56.2	15.0	5°24.6	-14.2	55.9
2	209°43.8	9°24.4	189°30.2	15.0	5°10.4	-14.3	55.9
3	224°44.0	9°23.5	204°04.1	15.0	4°56.1	-14.3	55.9
4	239°44.2	9°22.6	218°38.1	15.0	4°41.8	-14.3	56.0
5	254°44.3	9°21.7	233°12.1	15.0	4°27.4	-14.4	56.0
6	269°44.5	9°20.8	247°46.1	15.0	4°13.0	-14.4	56.0
7	284°44.7	9°19.9	262°20.1	15.0	3°58.6	-14.4	56.0
8	299°44.9	9°19.1	276°54.1	15.0	3°44.2	-14.4	56.1
9	314°45.1	9°18.2	291°28.0	15.0	3°29.7	-14.5	56.1
10	329°45.3	9°17.3	306°02.0	15.0	3°15.3	-14.5	56.1
11	344°45.5	9°16.4	320°36.0	15.0	3°00.7	-14.5	56.1
12	359°45.7	9°15.5	335°09.9	15.0	2°46.2	-14.5	56.1
13	14°45.8	9°14.6	349°43.9	14.9	2°31.7	-14.6	56.2
14	29°46.0	9°13.7	4°17.8	14.9	2°17.1	-14.6	56.2
15	44°46.2	9°12.8	18°51.8	14.9	2°02.5	-14.6	56.2
16	59°46.4	9°11.9	33°25.7	14.9	1°47.9	-14.6	56.2
17	74°46.6	9°11.0	47°59.6	14.9	1°33.3	-14.6	56.2
18	89°46.8	9°10.1	62°33.5	14.9	1°18.6	-14.6	56.3
19	104°47.0	9°09.3	77°07.4	14.9	1°04.0	-14.7	56.3
20	119°47.2	9°08.4	91°41.3	14.9	0°49.3	-14.7	56.3
21	134°47.4	9°07.5	106°15.1	14.9	0°34.6	-14.7	56.3
22	149°47.5	9°06.6	120°49.0	14.8	0°19.9	-14.7	56.3
23	164°47.7	9°05.7	135°22.8	14.8	0°05.2	-14.7	56.4
	SD.=15.8	d=-0.9			S.D.=15.2		

Mar	AHG	Dec	AHG	v	Dec	d	HP
0	179°47.9	9°04.8	149°56.6	14.8	-0°09.5	-14.7	56.4
1	194°48.1	9°03.9	164°30.4	14.8	-0°24.2	-14.7	56.4
2	209°48.3	9°03.0	179°04.2	14.8	-0°39.0	-14.7	56.4
3	224°48.5	9°02.1	193°37.9	14.7	-0°53.7	-14.7	56.4
4	239°48.7	9°01.2	208°11.6	14.7	-1°08.5	-14.8	56.5
5	254°48.9	9°00.3	222°45.3	14.7	-1°23.2	-14.8	56.5
6	269°49.1	8°59.4	237°19.0	14.7	-1°38.0	-14.8	56.5
7	284°49.3	8°58.5	251°52.6	14.6	-1°52.7	-14.8	56.5
8	299°49.4	8°57.6	266°26.2	14.6	-2°07.5	-14.8	56.5
9	314°49.6	8°56.7	280°59.8	14.6	-2°22.3	-14.8	56.6
10	329°49.8	8°55.8	295°33.4	14.5	-2°37.1	-14.8	56.6
11	344°50.0	8°54.9	310°06.9	14.5	-2°51.8	-14.8	56.6
12	359°50.2	8°54.0	324°40.4	14.5	-3°06.6	-14.8	56.6
13	14°50.4	8°53.1	339°13.9	14.4	-3°21.4	-14.8	56.7
14	29°50.6	8°52.3	353°47.3	14.4	-3°36.1	-14.8	56.7
15	44°50.8	8°51.4	8°20.7	14.4	-3°50.9	-14.8	56.7
16	59°51.0	8°50.5	22°54.1	14.3	-4°05.6	-14.7	56.7
17	74°51.2	8°49.6	37°27.4	14.3	-4°20.4	-14.7	56.7
18	89°51.4	8°48.7	52°00.7	14.3	-4°35.1	-14.7	56.8
19	104°51.6	8°47.8	66°33.9	14.2	-4°49.8	-14.7	56.8
20	119°51.8	8°46.9	81°07.1	14.2	-5°04.5	-14.7	56.8
21	134°51.9	8°46.0	95°40.3	14.1	-5°19.2	-14.7	56.8
22	149°52.1	8°45.1	110°13.4	14.1	-5°33.9	-14.7	56.8
23	164°52.3	8°44.2	124°46.5	14.0	-5°48.6	-14.7	56.9
	SD.=15.8	d=-0.9			S.D.=15.4		

Mie	AHG	Dec	AHG	v	Dec	d	HP
0	179°52.5	8°43.3	139°19.5	14.0	-6°03.2	-14.7	56.9
1	194°52.7	8°42.4	153°52.5	14.0	-6°17.9	-14.6	56.9
2	209°52.9	8°41.5	168°25.4	13.9	-6°32.5	-14.6	56.9
3	224°53.1	8°40.6	182°58.3	13.9	-6°47.1	-14.6	57.0
4	239°53.3	8°39.7	197°31.1	13.8	-7°01.7	-14.6	57.0
5	254°53.5	8°38.8	212°03.9	13.8	-7°16.3	-14.6	57.0
6	269°53.7	8°37.9	226°36.6	13.7	-7°30.8	-14.5	57.0
7	284°53.9	8°37.0	241°09.3	13.6	-7°45.3	-14.5	57.0
8	299°54.1	8°36.1	255°41.9	13.6	-7°59.8	-14.5	57.1
9	314°54.3	8°35.2	270°14.5	13.5	-8°14.3	-14.5	57.1
10	329°54.5	8°34.3	284°47.0	13.5	-8°28.7	-14.4	57.1
11	344°54.7	8°33.4	299°19.5	13.4	-8°43.2	-14.4	57.1
12	359°54.9	8°32.5	313°51.8	13.4	-8°57.6	-14.4	57.2
13	14°55.1	8°31.6	328°24.2	13.3	-9°11.9	-14.3	57.2
14	29°55.3	8°30.6	342°56.4	13.2	-9°26.2	-14.3	57.2
15	44°55.4	8°29.7	357°28.6	13.2	-9°40.5	-14.3	57.2
16	59°55.6	8°28.8	12°00.8	13.1	-9°54.8	-14.2	57.2
17	74°55.8	8°27.9	26°32.9	13.0	-10°09.0	-14.2	57.3
18	89°56.0	8°27.0	41°04.9	13.0	-10°23.2	-14.2	57.3
19	104°56.2	8°26.1	55°36.8	12.9	-10°37.3	-14.1	57.3
20	119°56.4	8°25.2	70°08.7	12.8	-10°51.5	-14.1	57.3
21	134°56.6	8°24.3	84°40.5	12.8	-11°05.5	-14.0	57.4
22	149°56.8	8°23.4	99°12.2	12.7	-11°19.6	-14.0	57.4
23	164°57.0	8°22.5	113°43.9	12.6	-11°33.5	-14.0	57.4
	SD.=15.8	d=-0.9			S.D.=15.5		

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	–:–	02:15	03:51	20:07	21:39	–:–
70	–:–	02:48	04:06	19:52	21:09	–:–
68	01:08	03:11	04:18	19:40	20:47	22:42
66	01:56	03:28	04:28	19:31	20:30	21:59
64	02:26	03:43	04:37	19:23	20:16	21:31
62	02:47	03:54	04:44	19:16	20:05	21:11
60	03:04	04:04	04:50	19:10	19:55	20:54
58	03:18	04:13	04:55	19:04	19:47	20:41
56	03:30	04:20	05:00	19:00	19:39	20:29
54	03:40	04:27	05:04	18:56	19:33	20:20
52	03:49	04:33	05:08	18:52	19:27	20:11
50	03:56	04:38	05:12	18:48	19:22	20:04
45	04:12	04:49	05:19	18:41	19:11	19:48
40	04:24	04:58	05:26	18:35	19:03	19:36
35	04:34	05:05	05:31	18:30	18:56	19:26
30	04:43	05:11	05:36	18:25	18:49	19:18
20	04:55	05:22	05:44	18:17	18:39	19:06
10	05:05	05:30	05:51	18:10	18:32	18:56
0	05:12	05:36	05:57	18:04	18:25	18:49
S 10	05:18	05:42	06:04	17:58	18:19	18:44
20	05:22	05:48	06:10	17:51	18:13	18:39
30	05:26	05:54	06:18	17:44	18:08	18:36
35	05:27	05:57	06:22	17:40	18:05	18:35
40	05:28	06:00	06:27	17:35	18:02	18:34
45	05:29	06:03	06:32	17:30	17:59	18:33
50	05:29	06:06	06:39	17:23	17:56	18:33
52	05:29	06:08	06:42	17:20	17:54	18:34
54	05:29	06:09	06:45	17:17	17:53	18:34
56	05:28	06:11	06:49	17:14	17:51	18:34
58	05:28	06:13	06:53	17:10	17:49	18:35
60	05:27	06:15	06:57	17:05	17:47	18:36

	Orto luna			Ocaso luna		
Lat.	Lun	Mar	Mie	Lun	Mar	Mie
N 72	06:41	08:46	10:57	20:02	19:31	18:55
70	06:47	08:42	10:43	20:01	19:38	19:11
68	06:52	08:39	10:31	20:00	19:44	19:25
66	06:56	08:37	10:22	20:00	19:48	19:36
64	06:59	08:35	10:14	19:59	19:52	19:46
62	07:02	08:33	10:08	19:58	19:56	19:54
60	07:04	08:32	10:02	19:58	19:59	20:01
58	07:06	08:30	09:57	19:58	20:02	20:07
56	07:08	08:29	09:52	19:57	20:04	20:12
54	07:10	08:28	09:48	19:57	20:07	20:17
52	07:12	08:27	09:45	19:57	20:09	20:22
50	07:13	08:26	09:42	19:56	20:11	20:26
45	07:16	08:25	09:35	19:56	20:15	20:35
40	07:19	08:23	09:29	19:55	20:18	20:42
35	07:21	08:22	09:24	19:55	20:21	20:49
30	07:23	08:21	09:20	19:55	20:24	20:55
20	07:26	08:19	09:12	19:54	20:28	21:04
10	07:29	08:17	09:06	19:53	20:32	21:13
0	07:32	08:15	09:00	19:53	20:36	21:21
S 10	07:35	08:14	08:54	19:52	20:40	21:30
20	07:38	08:12	08:47	19:51	20:44	21:39
30	07:41	08:10	08:40	19:50	20:49	21:49
35	07:43	08:09	08:36	19:50	20:51	21:55
40	07:45	08:08	08:31	19:49	20:54	22:01
45	07:48	08:06	08:26	19:49	20:58	22:09
50	07:51	08:05	08:20	19:48	21:02	22:19
52	07:52	08:04	08:17	19:48	21:04	22:23
54	07:54	08:03	08:14	19:47	21:06	22:28
56	07:55	08:02	08:10	19:47	21:09	22:33
58	07:57	08:02	08:06	19:46	21:11	22:39
60	07:59	08:00	08:02	19:46	21:14	22:46

	Sol			Luna		
Día	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
29	01:06	00:57	12:00	13:42	01:20	2(5%)
30	00:48	00:39	12:00	14:25	02:03	3(10%)
31	00:30	00:21	12:00	15:10	02:47	4(17%)

Septiembre 01, 02, 03 (Jue, Vie, Sa)

	Aries	Venus		Martes		Júpiter		Saturno	
Jue	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	340°08.4	192°37.4	14°16.6	275°11.8	20°06.9	333°12.2	1°16.9	16°40.3	-15°51.7
1	355°10.8	207°36.9	14°15.7	290°12.8	20°07.1	348°14.9	1°16.8	31°42.9	-15°51.8
2	10°13.3	222°36.3	14°14.7	305°13.9	20°07.4	3°17.6	1°16.7	46°45.5	-15°51.8
3	25°15.8	237°35.8	14°13.7	320°15.0	20°07.7	18°20.3	1°16.6	61°48.2	-15°51.9
4	40°18.2	252°35.2	14°12.7	335°16.0	20°07.9	33°23.0	1°16.5	76°50.8	-15°52.0
5	55°20.7	267°34.7	14°11.8	350°17.1	20°08.2	48°25.7	1°16.4	91°53.4	-15°52.0
6	70°23.1	282°34.1	14°10.8	5°18.2	20°08.5	63°28.4	1°16.3	106°56.1	-15°52.1
7	85°25.6	297°33.5	14°09.8	20°19.2	20°08.7	78°31.1	1°16.2	121°58.7	-15°52.1
8	100°28.1	312°33.0	14°08.8	35°20.3	20°09.0	93°33.8	1°16.1	137°01.3	-15°52.2
9	115°30.5	327°32.4	14°07.8	50°21.4	20°09.3	108°36.5	1°16.0	152°04.0	-15°52.2
10	130°33.0	342°31.9	14°06.9	65°22.4	20°09.5	123°39.2	1°15.9	167°06.6	-15°52.3
11	145°35.5	357°31.3	14°05.9	80°23.5	20°09.8	138°41.9	1°15.8	182°09.2	-15°52.3
12	160°37.9	12°30.8	14°04.9	95°24.6	20°10.0	153°44.6	1°15.6	197°11.9	-15°52.4
13	175°40.4	27°30.2	14°03.9	110°25.6	20°10.3	168°47.3	1°15.5	212°14.5	-15°52.5
14	190°42.9	42°29.7	14°02.9	125°26.7	20°10.6	183°50.0	1°15.4	227°17.1	-15°52.5
15	205°45.3	57°29.1	14°01.9	140°27.8	20°10.8	198°52.7	1°15.3	242°19.8	-15°52.6
16	220°47.8	72°28.6	14°01.0	155°28.8	20°11.1	213°55.4	1°15.2	257°22.4	-15°52.6
17	235°50.2	87°28.0	14°00.0	170°29.9	20°11.4	228°58.1	1°15.1	272°25.0	-15°52.7
18	250°52.7	102°27.5	13°59.0	185°31.0	20°11.6	244°00.8	1°15.0	287°27.7	-15°52.7
19	265°55.2	117°26.9	13°58.0	200°32.1	20°11.9	259°03.5	1°14.9	302°30.3	-15°52.8
20	280°57.6	132°26.4	13°57.0	215°33.1	20°12.2	274°06.2	1°14.8	317°32.9	-15°52.9
21	296°00.1	147°25.8	13°56.0	230°34.2	20°12.4	289°08.9	1°14.7	332°35.6	-15°52.9
22	311°02.6	162°25.3	13°55.0	245°35.3	20°12.7	304°11.6	1°14.5	347°38.2	-15°53.0
23	326°05.0	177°24.7	13°54.0	260°36.3	20°12.9	319°14.3	1°14.4	2°40.8	-15°53.0
Mer.pass.:	1:19:	v-0.6	d-1.0	m-3.8	v1.1	d0.3	m-0.1	v2.7	d-0.1 m-2.7	v2.6	d-0.1 m0.3

Vie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	341°07.5	192°24.2	13°53.1	275°37.4	20°13.2	334°17.0	1°14.3	17°43.5	-15°53.1
1	356°10.0	207°23.6	13°52.1	290°38.5	20°13.5	349°19.7	1°14.2	32°46.1	-15°53.1
2	11°12.4	222°23.1	13°51.1	305°39.6	20°13.7	4°22.4	1°14.1	47°48.7	-15°53.2
3	26°14.9	237°22.5	13°50.1	320°40.6	20°14.0	19°25.1	1°14.0	62°51.4	-15°53.2
4	41°17.4	252°22.0	13°49.1	335°41.7	20°14.2	34°27.8	1°13.9	77°54.0	-15°53.3
5	56°19.8	267°21.4	13°48.1	350°42.8	20°14.5	49°30.5	1°13.8	92°56.6	-15°53.4
6	71°22.3	282°20.9	13°47.1	5°43.9	20°14.8	64°33.2	1°13.7	107°59.3	-15°53.4
7	86°24.7	297°20.4	13°46.1	20°45.0	20°15.0	79°35.9	1°13.5	123°01.9	-15°53.5
8	101°27.2	312°19.8	13°45.1	35°46.0	20°15.3	94°38.6	1°13.4	138°04.5	-15°53.5
9	116°29.7	327°19.3	13°44.1	50°47.1	20°15.5	109°41.3	1°13.3	153°07.2	-15°53.6
10	131°32.1	342°18.7	13°43.1	65°48.2	20°15.8	124°44.0	1°13.2	168°09.8	-15°53.6
11	146°34.6	357°18.2	13°42.1	80°49.3	20°16.1	139°46.7	1°13.1	183°12.4	-15°53.7
12	161°37.1	12°17.6	13°41.1	95°50.3	20°16.3	154°49.4	1°13.0	198°15.1	-15°53.7
13	176°39.5	27°17.1	13°40.1	110°51.4	20°16.6	169°52.1	1°12.9	213°17.7	-15°53.8
14	191°42.0	42°16.6	13°39.1	125°52.5	20°16.8	184°54.8	1°12.8	228°20.3	-15°53.9
15	206°44.5	57°16.0	13°38.1	140°53.6	20°17.1	199°57.5	1°12.7	243°23.0	-15°53.9
16	221°46.9	72°15.5	13°37.1	155°54.7	20°17.3	215°00.2	1°12.5	258°25.6	-15°54.0
17	236°49.4	87°14.9	13°36.1	170°55.7	20°17.6	230°02.9	1°12.4	273°28.2	-15°54.0
18	251°51.9	102°14.4	13°35.1	185°56.8	20°17.9	245°05.7	1°12.3	288°30.8	-15°54.1
19	266°54.3	117°13.8	13°34.1	200°57.9	20°18.1	260°08.4	1°12.2	303°33.5	-15°54.1
20	281°56.8	132°13.3	13°33.1	215°59.0	20°18.4	275°11.1	1°12.1	318°36.1	-15°54.2
21	296°59.2	147°12.8	13°32.1	231°00.1	20°18.6	290°13.8	1°12.0	333°38.7	-15°54.2
22	312°01.7	162°12.2	13°31.1	246°01.2	20°18.9	305°16.5	1°11.9	348°41.4	-15°54.3
23	327°04.2	177°11.7	13°30.1	261°02.2	20°19.1	320°19.2	1°11.8	3°44.0	-15°54.4
Mer.pass.:	1:15:	v-0.5	d-1.0	m-3.8	v1.1	d0.3	m-0.1	v2.7	d-0.1 m-2.7	v2.6	d-0.1 m0.3

Sa	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	342°06.6	192°11.2	13°29.1	276°03.3	20°19.4	335°21.9	1°11.6	18°46.6	-15°54.4
1	357°09.1	207°10.6	13°28.1	291°04.4	20°19.6	350°24.6	1°11.5	33°49.3	-15°54.5
2	12°11.6	222°10.1	13°27.1	306°05.5	20°19.9	5°27.3	1°11.4	48°51.9	-15°54.5
3	27°14.0	237°09.5	13°26.1	321°06.6	20°20.2	20°30.0	1°11.3	63°54.5	-15°54.6
4	42°16.5	252°09.0	13°25.1	336°07.7	20°20.4	35°32.7	1°11.2	78°57.2	-15°54.6
5	57°19.0	267°08.5	13°24.0	351°08.8	20°20.7	50°35.4	1°11.1	93°59.8	-15°54.7
6	72°21.4	282°07.9	13°23.0	6°09.8	20°20.9	65°38.1	1°11.0	109°02.4	-15°54.7
7	87°23.9	297°07.4	13°22.0	21°10.9	20°21.2	80°40.8	1°10.9	124°05.1	-15°54.8
8	102°26.4	312°06.9	13°21.0	36°12.0	20°21.4	95°43.5	1°10.7	139°07.7	-15°54.9
9	117°28.8	327°06.3	13°20.0	51°13.1	20°21.7	110°46.3	1°10.6	154°10.3	-15°54.9
10	132°31.3	342°05.8	13°19.0	66°14.2	20°21.9	125°49.0	1°10.5	169°12.9	-15°55.0
11	147°33.7	357°05.3	13°18.0	81°15.3	20°22.2	140°51.7	1°10.4	184°15.6	-15°55.0
12	162°36.2	12°04.7	13°17.0	96°16.4	20°22.4	155°54.4	1°10.3	199°18.2	-15°55.1
13	177°38.7	27°04.2	13°15.9	111°17.5	20°22.7	170°57.1	1°10.2	214°20.8	-15°55.1
14	192°41.1	42°03.7	13°14.9	126°18.6	20°22.9	185°59.8	1°10.1	229°23.5	-15°55.2
15	207°43.6	57°03.1	13°13.9	141°19.7	20°23.2	201°02.5	1°09.9	244°26.1	-15°55.2
16	222°46.1	72°02.6	13°12.9	156°20.8	20°23.4	216°05.2	1°09.8	259°28.7	-15°55.3
17	237°48.5	87°02.1	13°11.9	171°21.8	20°23.7	231°07.9	1°09.7	274°31.4	-15°55.3
18	252°51.0	102°01.5	13°10.9	186°22.9	20°23.9	246°10.6	1°09.6	289°34.0	-15°55.4
19	267°53.5	117°01.0	13°09.8	201°24.0	20°24.2	261°13.4	1°09.5	304°36.6	-15°55.5
20	282°55.9	132°00.5	13°08.8	216°25.1	20°24.4	276°16.1	1°09.4	319°39.2	-15°55.5
21	297°58.4	146°59.9	13°07.8	231°26.2	20°24.7	291°18.8	1°09.3	334°41.9	-15°55.6
22	313°00.8	161°59.4	13°06.8	246°27.3	20°24.9	306°21.5	1°09.2	349°44.5	-15°55.6
23	328°03.3	176°58.9	13°05.8	261°28.4	20°25.2	321°24.2	1°09.0	4°47.1	-15°55.7
Mer.pass.:	1:11:	v-0.5	d-1.0	m-3.8	v1.1	d0.3	m-0.2	v2.7	d-0.1 m-2.7	v2.6	d-0.1 m0.3

Estrellas

	AHS	Dec
Alpheratz	357°36.5	29°12.9
Ankaa	353°08.7	-42°10.8
Schedar	349°32.8	56°39.6
Diphda	348°48.9	-17°51.6
Achernar	335°21.2	-57°07.1
Hamal	327°53.2	23°34.1
Polaris	314°46.6	89°21.3
Akamar	315°13.1	-40°12.6
Menkar	314°08.0	4°10.8
Mirfak	308°30.9	49°56.3
Aldebaran	290°41.9	16°33.3
Rigel	281°05.8	-8°10.4
Capella	280°24.9	46°01.1
Bellatrix	278°25.0	6°22.3
Elnath	278°04.4	28°37.6
Alnilam	275°39.8	-1°11.1
Betelgeuse	270°54.3	7°24.8
Canopus	263°53.5	-52°42.1
Sirius	258°28.0	-16°44.4
Adara	255°07.6	-28°59.9
Procyon	244°53.0	5°10.3
Pollux	243°19.8	27°58.3
Avior	234°16.1	-59°34.6
Suhail	222°48.1	-43°31.2
Miaplacidus	221°39.5	-69°48.4
Alphard	217°50.0	-8°45.2
Regulus	207°36.8	11°51.6
Dubhe	193°44.0	61°37.9
Denebola	182°27.2	14°27.0
Gienah	175°45.9	-17°39.9
Acrux	173°02.9	-63°13.5
Gacrux	171°54.3	-57°14.4
Alioth	166°15.2	55°50.5
Spica	158°24.6	-11°16.6
Alcaid	152°53.9	49°12.3
Hadar	148°39.2	-60°29.0
Menkent	148°00.2	-36°28.9
Arcturus	145°49.7	19°04.4
Rigil Kent.	139°43.3	-60°55.8
Zubenelg.	136°58.3	-16°08.1
Kochab	137°20.3	74°04.1
Alphecca	126°05.5	26°38.6
Antares	112°18.2	-26°28.9
Atria	107°14.1	-69°04.3
Sabik	102°05.0	-15°45.1
Shaula	96°12.9	-37°07.3
Rasalhague	96°00.3	12°32.8
Etamin	90°42.9	51°29.4
Kaus Aust.	83°34.9	-34°22.5
Vega	80°34.4	38°48.5
Nunki	75°50.0	-26°16.1
Altair	62°01.7	8°55.8
Peacock	53°08.3	-56°39.8
Deneb	49°26.7	45°21.8
Enif	33°40.4	9°58.8
Alnair	27°34.9	-46°51.1
Fomalhaut	15°16.4	-29°30.1
Scheat	13°46.8	28°12.3
Markab	13°31.5	15°19.7

Sep 01 Jue	AHS	Paso Merid
Venus	212°29.1	11:10
Mars	295°03.4	05:39
Jupiter	353°03.9	01:47
Saturn	36°31.9	22:49

Sep 02 Vie	AHS	Paso Merid
Venus	211°16.7	11:11
Mars	294°29.9	05:37
Jupiter	353°09.5	01:43
Saturn	36°36.0	22:45

Sep 03 Sa	AHS	Paso Merid
Venus	210°04.5	11:12
Mars	293°56.7	05:35
Jupiter	353°15.3	01:38
Saturn	36°40.0	22:41

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.2

h	Sol		Luna				
Jue	AHG	Dec	AHG	v	Dec	d	HP
0	179°57.2	8°21.6	128°15.5	12.6	-11°47.5	-13.9	57.4
1	194°57.4	8°20.7	142°47.0	12.5	-12°01.4	-13.9	57.4
2	209°57.6	8°19.8	157°18.4	12.4	-12°15.2	-13.8	57.5
3	224°57.8	8°18.9	171°49.8	12.3	-12°29.0	-13.8	57.5
4	239°58.0	8°18.0	186°21.1	12.2	-12°42.8	-13.7	57.5
5	254°58.2	8°17.1	200°52.3	12.2	-12°56.5	-13.7	57.5
6	269°58.4	8°16.2	215°23.4	12.1	-13°10.1	-13.6	57.6
7	284°58.6	8°15.3	229°54.5	12.0	-13°23.7	-13.6	57.6
8	299°58.8	8°14.4	244°25.5	11.9	-13°37.3	-13.5	57.6
9	314°59.0	8°13.5	258°56.3	11.8	-13°50.7	-13.5	57.6
10	329°59.2	8°12.5	273°27.1	11.8	-14°04.2	-13.4	57.6
11	344°59.4	8°11.6	287°57.9	11.7	-14°17.5	-13.3	57.7
12	359°59.6	8°10.7	302°28.5	11.6	-14°30.8	-13.3	57.7
13	14°59.8	8°09.8	316°59.0	11.5	-14°44.1	-13.2	57.7
14	30°00.0	8°08.9	331°29.5	11.4	-14°57.3	-13.1	57.7
15	45°00.2	8°08.0	345°59.9	11.3	-15°10.4	-13.1	57.8
16	60°00.4	8°07.1	0°30.1	11.2	-15°23.4	-13.0	57.8
17	75°00.6	8°06.2	15°00.3	11.1	-15°36.4	-12.9	57.8
18	90°00.8	8°05.3	29°30.4	11.1	-15°49.3	-12.9	57.8
19	105°01.0	8°04.4	44°00.4	11.0	-16°02.2	-12.8	57.8
20	120°01.2	8°03.5	58°30.4	10.9	-16°14.9	-12.7	57.9
21	135°01.4	8°02.5	73°00.2	10.8	-16°27.6	-12.7	57.9
22	150°01.6	8°01.6	87°29.9	10.7	-16°40.2	-12.6	57.9
23	165°01.8	8°00.7	101°59.5	10.6	-16°52.8	-12.5	57.9
	SD.=15.8	d=-0.9			S.D.=15.7		

Vie	AHG	Dec	AHG	v	Dec	d	HP
0	180°02.0	7°59.8	116°29.1	10.5	-17°05.3	-12.4	58.0
1	195°02.2	7°58.9	130°58.5	10.4	-17°17.6	-12.3	58.0
2	210°02.4	7°58.0	145°27.8	10.3	-17°29.9	-12.3	58.0
3	225°02.6	7°57.1	159°57.1	10.2	-17°42.2	-12.2	58.0
4	240°02.8	7°56.2	174°26.2	10.1	-17°54.3	-12.1	58.0
5	255°03.0	7°55.3	188°55.3	10.0	-18°06.4	-12.0	58.1
6	270°03.2	7°54.3	203°24.2	9.9	-18°18.3	-11.9	58.1
7	285°03.4	7°53.4	217°53.0	9.8	-18°30.2	-11.8	58.1
8	300°03.6	7°52.5	232°21.8	9.7	-18°42.0	-11.7	58.1
9	315°03.8	7°51.6	246°50.4	9.6	-18°53.7	-11.6	58.2
10	330°04.0	7°50.7	261°18.9	9.5	-19°05.3	-11.6	58.2
11	345°04.2	7°49.8	275°47.4	9.4	-19°16.8	-11.5	58.2
12	0°04.4	7°48.9	290°15.7	9.3	-19°28.2	-11.4	58.2
13	15°04.6	7°48.0	304°43.9	9.2	-19°39.5	-11.3	58.3
14	30°04.8	7°47.0	319°12.0	9.1	-19°50.7	-11.2	58.3
15	45°05.0	7°46.1	333°40.0	9.0	-20°01.8	-11.1	58.3
16	60°05.2	7°45.2	348°07.9	8.8	-20°12.8	-11.0	58.3
17	75°05.4	7°44.3	2°35.7	8.7	-20°23.7	-10.8	58.3
18	90°05.6	7°43.4	17°03.4	8.6	-20°34.5	-10.7	58.4
19	105°05.8	7°42.5	31°31.0	8.5	-20°45.2	-10.6	58.4
20	120°06.0	7°41.6	45°58.4	8.4	-20°55.8	-10.5	58.4
21	135°06.2	7°40.6	60°25.8	8.3	-21°06.2	-10.4	58.4
22	150°06.4	7°39.7	74°53.0	8.2	-21°16.6	-10.3	58.5
23	165°06.6	7°38.8	89°20.2	8.1	-21°26.8	-10.2	58.5
	SD.=15.8	d=-0.9			S.D.=15.8		

Sa	AHG	Dec	AHG	v	Dec	d	HP
0	180°06.8	7°37.9	103°47.2	8.0	-21°36.9	-10.1	58.5
1	195°07.0	7°37.0	118°14.2	7.9	-21°46.9	-9.9	58.5
2	210°07.2	7°36.1	132°41.0	7.8	-21°56.8	-9.8	58.5
3	225°07.4	7°35.2	147°07.7	7.7	-22°06.6	-9.7	58.6
4	240°07.6	7°34.2	161°34.3	7.5	-22°16.2	-9.6	58.6
5	255°07.8	7°33.3	176°00.8	7.4	-22°25.7	-9.4	58.6
6	270°08.0	7°32.4	190°27.2	7.3	-22°35.1	-9.3	58.6
7	285°08.2	7°31.5	204°53.5	7.2	-22°44.4	-9.2	58.7
8	300°08.5	7°30.6	219°19.6	7.1	-22°53.5	-9.1	58.7
9	315°08.7	7°29.6	233°45.7	7.0	-23°02.5	-8.9	58.7
10	330°08.9	7°28.7	248°11.7	6.9	-23°11.4	-8.8	58.7
11	345°09.1	7°27.8	262°37.5	6.8	-23°20.1	-8.7	58.7
12	0°09.3	7°26.9	277°03.2	6.7	-23°28.7	-8.5	58.8
13	15°09.5	7°26.0	291°28.9	6.6	-23°37.1	-8.4	58.8
14	30°09.7	7°25.1	305°54.4	6.5	-23°45.5	-8.2	58.8
15	45°09.9	7°24.1	320°19.8	6.4	-23°53.6	-8.1	58.8
16	60°10.1	7°23.2	334°45.2	6.3	-24°01.7	-8.0	58.8
17	75°10.3	7°22.3	349°10.4	6.2	-24°09.6	-7.8	58.9
18	90°10.5	7°21.4	3°35.5	6.1	-24°17.3	-7.7	58.9
19	105°10.7	7°20.5	18°00.5	6.0	-24°24.9	-7.5	58.9
20	120°10.9	7°19.5	32°25.4	5.9	-24°32.4	-7.4	58.9
21	135°11.1	7°18.6	46°50.2	5.8	-24°39.7	-7.2	59.0
22	150°11.3	7°17.7	61°14.9	5.7	-24°46.8	-7.1	59.0
23	165°11.5	7°16.8	75°39.5	5.6	-24°53.8	-6.9	59.0
	SD.=15.9	d=-0.9			S.D.=16.0		

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	–:–	02:38	04:06	19:50	21:16	–:–
70	00:06	03:05	04:19	19:37	20:51	23:16
68	01:40	03:24	04:30	19:27	20:32	22:12
66	02:15	03:40	04:38	19:19	20:16	21:39
64	02:40	03:53	04:45	19:12	20:04	21:16
62	02:59	04:03	04:52	19:06	19:54	20:57
60	03:14	04:12	04:57	19:01	19:45	20:43
58	03:27	04:20	05:02	18:56	19:38	20:30
56	03:37	04:27	05:06	18:52	19:31	20:20
54	03:47	04:33	05:10	18:48	19:25	20:11
52	03:55	04:38	05:13	18:45	19:20	20:03
50	04:02	04:43	05:16	18:42	19:16	19:56
45	04:16	04:53	05:23	18:36	19:06	19:42
40	04:28	05:01	05:29	18:30	18:58	19:31
35	04:37	05:08	05:33	18:26	18:51	19:22
30	04:44	05:13	05:38	18:21	18:46	19:14
20	04:56	05:22	05:45	18:14	18:37	19:03
10	05:05	05:30	05:51	18:09	18:30	18:54
0	05:11	05:36	05:56	18:03	18:24	18:48
S 10	05:16	05:41	06:02	17:58	18:19	18:43
20	05:20	05:46	06:08	17:52	18:14	18:40
30	05:22	05:50	06:14	17:46	18:10	18:37
35	05:23	05:53	06:18	17:42	18:07	18:37
40	05:24	05:55	06:22	17:38	18:05	18:36
45	05:23	05:57	06:27	17:33	18:03	18:37
50	05:23	06:00	06:33	17:28	18:00	18:38
52	05:22	06:01	06:35	17:25	17:59	18:38
54	05:22	06:02	06:38	17:22	17:58	18:39
56	05:21	06:04	06:41	17:19	17:57	18:40
58	05:20	06:05	06:45	17:16	17:55	18:41
60	05:19	06:07	06:48	17:12	17:54	18:42

	Orto luna			Ocaso luna		
Lat.	Jue	Vie	Sa	Jue	Vie	Sa
N 72	13:35	–:–	–:–	17:56	–:–	–:–
70	12:59	–:–	–:–	18:34	–:–	–:–
68	12:34	15:08	–:–	19:00	18:13	–:–
66	12:15	14:25	–:–	19:21	18:58	–:–
64	12:00	13:56	16:10	19:38	19:28	19:10
62	11:47	13:34	15:29	19:52	19:50	19:51
60	11:36	13:17	15:01	20:03	20:09	20:19
58	11:27	13:02	14:40	20:14	20:24	20:41
56	11:19	12:50	14:22	20:23	20:37	20:59
54	11:12	12:39	14:07	20:31	20:49	21:15
52	11:05	12:29	13:54	20:38	20:59	21:28
50	11:00	12:21	13:43	20:44	21:08	21:40
45	10:47	12:03	13:20	20:58	21:27	22:04
40	10:37	11:48	13:01	21:10	21:43	22:24
35	10:29	11:36	12:46	21:20	21:56	22:40
30	10:21	11:25	12:32	21:29	22:08	22:54
20	10:08	11:07	12:09	21:44	22:28	23:18
10	09:57	10:51	11:50	21:57	22:46	23:39
0	09:46	10:37	11:31	22:10	23:02	23:59
S 10	09:36	10:22	11:13	22:22	23:19	–:–
20	09:25	10:07	10:54	22:36	23:36	–:–
30	09:12	09:49	10:32	22:51	23:57	–:–
35	09:05	09:39	10:19	23:00	–:–	00:09
40	08:57	09:27	10:04	23:11	–:–	00:23
45	08:48	09:14	09:46	23:23	–:–	00:39
50	08:36	08:57	09:25	23:38	–:–	01:00
52	08:31	08:50	09:15	23:45	–:–	01:09
54	08:26	08:41	09:03	23:53	–:–	01:20
56	08:19	08:32	08:50	–:–	00:01	01:33
58	08:12	08:21	08:35	–:–	00:11	01:48
60	08:04	08:08	08:17	–:–	00:23	02:05

Día	Sol			Luna		
	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
1	00:11	00:02	12:00	15:57	03:33	5(26%)
2	00:08	00:18	11:59	16:49	04:23	6(36%)
3	00:27	00:37	11:59	17:45	05:16	7(47%)

Septiembre 04, 05, 06 (Dom, Lun, Mar)

	Aries	Venus		Martes		Júpiter		Saturno	
Dom	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	343°05.8	191°58.3	13°04.7	276°29.5	20°25.4	336°26.9	1°08.9	19°49.8	-15°55.7
1	358°08.2	206°57.8	13°03.7	291°30.6	20°25.7	351°29.6	1°08.8	34°52.4	-15°55.8
2	13°10.7	221°57.3	13°02.7	306°31.7	20°25.9	6°32.3	1°08.7	49°55.0	-15°55.8
3	28°13.2	236°56.8	13°01.7	321°32.8	20°26.2	21°35.0	1°08.6	64°57.6	-15°55.9
4	43°15.6	251°56.2	13°00.7	336°33.9	20°26.4	36°37.8	1°08.5	80°00.3	-15°55.9
5	58°18.1	266°55.7	12°59.6	351°35.0	20°26.7	51°40.5	1°08.3	95°02.9	-15°56.0
6	73°20.6	281°55.2	12°58.6	6°36.1	20°26.9	66°43.2	1°08.2	110°05.5	-15°56.1
7	88°23.0	296°54.7	12°57.6	21°37.2	20°27.2	81°45.9	1°08.1	125°08.2	-15°56.1
8	103°25.5	311°54.1	12°56.5	36°38.3	20°27.4	96°48.6	1°08.0	140°10.8	-15°56.2
9	118°28.0	326°53.6	12°55.5	51°39.4	20°27.7	111°51.3	1°07.9	155°13.4	-15°56.2
10	133°30.4	341°53.1	12°54.5	66°40.5	20°27.9	126°54.0	1°07.8	170°16.0	-15°56.3
11	148°32.9	356°52.6	12°53.5	81°41.6	20°28.2	141°56.7	1°07.7	185°18.7	-15°56.3
12	163°35.3	11°52.0	12°52.4	96°42.7	20°28.4	156°59.5	1°07.5	200°21.3	-15°56.4
13	178°37.8	26°51.5	12°51.4	111°43.8	20°28.7	172°02.2	1°07.4	215°23.9	-15°56.4
14	193°40.3	41°51.0	12°50.4	126°44.9	20°28.9	187°04.9	1°07.3	230°26.6	-15°56.5
15	208°42.7	56°50.5	12°49.3	141°46.0	20°29.2	202°07.6	1°07.2	245°29.2	-15°56.5
16	223°45.2	71°49.9	12°48.3	156°47.1	20°29.4	217°10.3	1°07.1	260°31.8	-15°56.6
17	238°47.7	86°49.4	12°47.3	171°48.2	20°29.7	232°13.0	1°07.0	275°34.4	-15°56.6
18	253°50.1	101°48.9	12°46.2	186°49.3	20°29.9	247°15.7	1°06.9	290°37.1	-15°56.7
19	268°52.6	116°48.4	12°45.2	201°50.4	20°30.1	262°18.5	1°06.7	305°39.7	-15°56.8
20	283°55.1	131°47.8	12°44.2	216°51.5	20°30.4	277°21.2	1°06.6	320°42.3	-15°56.8
21	298°57.5	146°47.3	12°43.1	231°52.6	20°30.6	292°23.9	1°06.5	335°45.0	-15°56.9
22	314°00.0	161°46.8	12°42.1	246°53.7	20°30.9	307°26.6	1°06.4	350°47.6	-15°56.9
23	329°02.5	176°46.3	12°41.1	261°54.8	20°31.1	322°29.3	1°06.3	5°50.2	-15°57.0
Mer.pass.:1:07:		v-0.5 d-1.0 m-3.8		v1.1 d0.2 m-0.2		v2.7 d-0.1 m-2.7		v2.6 d-0.1 m0.3	

Lun	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	344°04.9	191°45.8	12°40.0	276°55.9	20°31.4	337°32.0	1°06.2	20°52.8	-15°57.0
1	359°07.4	206°45.2	12°39.0	291°57.1	20°31.6	352°34.8	1°06.0	35°55.5	-15°57.1
2	14°09.8	221°44.7	12°38.0	306°58.2	20°31.9	7°37.5	1°05.9	50°58.1	-15°57.1
3	29°12.3	236°44.2	12°36.9	321°59.3	20°32.1	22°40.2	1°05.8	66°00.7	-15°57.2
4	44°14.8	251°43.7	12°35.9	337°00.4	20°32.3	37°42.9	1°05.7	81°03.3	-15°57.2
5	59°17.2	266°43.2	12°34.8	352°01.5	20°32.6	52°45.6	1°05.6	96°06.0	-15°57.3
6	74°19.7	281°42.7	12°33.8	7°02.6	20°32.8	67°48.3	1°05.5	111°08.6	-15°57.3
7	89°22.2	296°42.1	12°32.8	22°03.7	20°33.1	82°51.1	1°05.3	126°11.2	-15°57.4
8	104°24.6	311°41.6	12°31.7	37°04.8	20°33.3	97°53.8	1°05.2	141°13.9	-15°57.5
9	119°27.1	326°41.1	12°30.7	52°05.9	20°33.6	112°56.5	1°05.1	156°16.5	-15°57.5
10	134°29.6	341°40.6	12°29.6	67°07.0	20°33.8	127°59.2	1°05.0	171°19.1	-15°57.6
11	149°32.0	356°40.1	12°28.6	82°08.2	20°34.0	143°01.9	1°04.9	186°21.7	-15°57.6
12	164°34.5	11°39.6	12°27.6	97°09.3	20°34.3	158°04.7	1°04.8	201°24.4	-15°57.7
13	179°37.0	26°39.0	12°26.5	112°10.4	20°34.5	173°07.4	1°04.6	216°27.0	-15°57.7
14	194°39.4	41°38.5	12°25.5	127°11.5	20°34.8	188°10.1	1°04.5	231°29.6	-15°57.8
15	209°41.9	56°38.0	12°24.4	142°12.6	20°35.0	203°12.8	1°04.4	246°32.2	-15°57.8
16	224°44.3	71°37.5	12°23.4	157°13.7	20°35.2	218°15.5	1°04.3	261°34.9	-15°57.9
17	239°46.8	86°37.0	12°22.3	172°14.8	20°35.5	233°18.2	1°04.2	276°37.5	-15°57.9
18	254°49.3	101°36.5	12°21.3	187°16.0	20°35.7	248°21.0	1°04.1	291°40.1	-15°58.0
19	269°51.7	116°36.0	12°20.2	202°17.1	20°36.0	263°23.7	1°03.9	306°42.7	-15°58.0
20	284°54.2	131°35.4	12°19.2	217°18.2	20°36.2	278°26.4	1°03.8	321°45.4	-15°58.1
21	299°56.7	146°34.9	12°18.1	232°19.3	20°36.4	293°29.1	1°03.7	336°48.0	-15°58.1
22	314°59.1	161°34.4	12°17.1	247°20.4	20°36.7	308°31.8	1°03.6	351°50.6	-15°58.2
23	330°01.6	176°33.9	12°16.0	262°21.6	20°36.9	323°34.6	1°03.5	6°53.2	-15°58.3
Mer.pass.:1:03:		v-0.5 d-1.0 m-3.8		v1.1 d0.2 m-0.2		v2.7 d-0.1 m-2.7		v2.6 d-0.1 m0.4	

Mar	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	345°04.1	191°33.4	12°15.0	277°22.7	20°37.2	338°37.3	1°03.3	21°55.9	-15°58.3
1	0°06.5	206°32.9	12°13.9	292°23.8	20°37.4	353°40.0	1°03.2	36°58.5	-15°58.4
2	15°09.0	221°32.4	12°12.9	307°24.9	20°37.6	8°42.7	1°03.1	52°01.1	-15°58.4
3	30°11.5	236°31.9	12°11.8	322°26.0	20°37.9	23°45.5	1°03.0	67°03.7	-15°58.5
4	45°13.9	251°31.4	12°10.8	337°27.2	20°38.1	38°48.2	1°02.9	82°06.4	-15°58.5
5	60°16.4	266°30.9	12°09.7	352°28.3	20°38.3	53°50.9	1°02.8	97°09.0	-15°58.6
6	75°18.8	281°30.3	12°08.7	7°29.4	20°38.6	68°53.6	1°02.6	112°11.6	-15°58.6
7	90°21.3	296°29.8	12°07.6	22°30.5	20°38.8	83°56.3	1°02.5	127°14.2	-15°58.7
8	105°23.8	311°29.3	12°06.5	37°31.6	20°39.1	98°59.1	1°02.4	142°16.9	-15°58.7
9	120°26.2	326°28.8	12°05.5	52°32.8	20°39.3	114°01.8	1°02.3	157°19.5	-15°58.8
10	135°28.7	341°28.3	12°04.4	67°33.9	20°39.5	129°04.5	1°02.2	172°22.1	-15°58.8
11	150°31.2	356°27.8	12°03.4	82°35.0	20°39.8	144°07.2	1°02.0	187°24.7	-15°58.9
12	165°33.6	11°27.3	12°02.3	97°36.1	20°40.0	159°10.0	1°01.9	202°27.4	-15°58.9
13	180°36.1	26°26.8	12°01.3	112°37.3	20°40.2	174°12.7	1°01.8	217°30.0	-15°59.0
14	195°38.6	41°26.3	12°00.2	127°38.4	20°40.5	189°15.4	1°01.7	232°32.6	-15°59.0
15	210°41.0	56°25.8	11°59.1	142°39.5	20°40.7	204°18.1	1°01.6	247°35.2	-15°59.1
16	225°43.5	71°25.3	11°58.1	157°40.6	20°40.9	219°20.8	1°01.5	262°37.9	-15°59.1
17	240°45.9	86°24.8	11°57.0	172°41.8	20°41.2	234°23.6	1°01.3	277°40.5	-15°59.2
18	255°48.4	101°24.3	11°56.0	187°42.9	20°41.4	249°26.3	1°01.2	292°43.1	-15°59.3
19	270°50.9	116°23.8	11°54.9	202°44.0	20°41.6	264°29.0	1°01.1	307°45.7	-15°59.3
20	285°53.3	131°23.3	11°53.8	217°45.2	20°41.9	279°31.7	1°01.0	322°48.4	-15°59.4
21	300°55.8	146°22.8	11°52.8	232°46.3	20°42.1	294°34.5	1°00.9	337°51.0	-15°59.4
22	315°58.3	161°22.3	11°51.7	247°47.4	20°42.3	309°37.2	1°00.7	352°53.6	-15°59.5
23	331°00.7	176°21.7	11°50.6	262°48.5	20°42.6	324°39.9	1°00.6	7°56.2	-15°59.5
Mer.pass.:0:59:		v-0.5 d-1.1 m-3.8		v1.1 d0.2 m-0.2		v2.7 d-0.1 m-2.7		v2.6 d-0.1 m0.4	

Estrellas

	AHS	Dec
Alpheratz	357°36.4	29°12.9
Ankaa	353°08.7	-42°10.8
Schedar	349°32.7	56°39.6
Diphda	348°48.8	-17°51.6
Achernar	335°21.2	-57°07.1
Hamal	327°53.2	23°34.2
Polaris	314°44.9	89°21.3
Akamar	315°13.0	-40°12.6
Menkar	314°08.0	4°10.8
Mirfak	308°30.8	49°56.3
Aldebaran	290°41.8	16°33.3
Rigel	281°05.8	-8°10.4
Capella	280°24.8	46°01.1
Bellatrix	278°25.0	6°22.3
Elnath	278°04.4	28°37.6
Alnilam	275°39.8	-1°11.1
Betelgeuse	270°54.3	7°24.8
Canopus	263°53.5	-52°42.1
Sirius	258°28.0	-16°44.4
Adara	255°07.6	-28°59.9
Procyon	244°53.0	5°10.3
Pollux	243°19.8	27°58.3
Avior	234°16.0	-59°34.6
Suhail	222°48.1	-43°31.2
Miaplacidus	221°39.5	-69°48.3
Alphard	217°49.9	-8°45.2
Regulus	207°36.8	11°51.6
Dubhe	193°44.0	61°37.9
Denebola	182°27.2	14°27.0
Gienah	175°45.9	-17°39.9
Acrux	173°02.9	-63°13.5
Gacrux	171°54.3	-57°14.4
Alioth	166°15.2	55°50.5
Spica	158°24.6	-11°16.6
Alcaid	152°53.9	49°12.3
Hadar	148°39.2	-60°29.0
Menkent	148°00.2	-36°28.9
Arcturus	145°49.7	19°04.4
Rigil Kent.	139°43.3	-60°55.8
Zubenelg.	136°58.3	-16°08.1
Kochab	137°20.3	74°04.0
Alphecca	126°05.5	26°38.6
Antares	112°18.2	-26°28.9
Atria	107°14.2	-69°04.3
Sabik	102°05.0	-15°45.1
Shaula	96°12.9	-37°07.3
Rasalhague	96°00.3	12°32.8
Etamin	90°42.9	51°29.4
Kaus Aust.	83°34.9	-34°22.5
Vega	80°34.4	38°48.5
Nunki	75°50.0	-26°16.1
Altair	62°01.7	8°55.8
Peacock	53°08.3	-56°39.8
Deneb	49°26.7	45°21.8
Enif	33°40.4	9°58.8
Alnair	27°34.9	-46°51.1
Fomalhaut	15°16.3	-29°30.1
Scheat	13°46.8	28°12.4
Markab	13°31.5	15°19.7

Sep 04 Dom	AHS	Paso Merid
Venus	208°52.6	11:13
Mars	293°23.7	05:34
Jupiter	353°21.1	01:34
Saturn	36°44.0	22:37

Sep 05 Lun	AHS	Paso Merid
Venus	207°40.8	11:13
Mars	292°51.0	05:32
Jupiter	353°27.1	01:30
Saturn	36°47.9	22:33

Sep 06 Mar	AHS	Paso Merid
Venus	206°29.3	11:14
Mars	292°18.6	05:30
Jupiter	353°33.2	01:25
Saturn	36°51.8	22:28

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.2

h Sol Luna

Dom	AHG	Dec	AHG	v	Dec	d	HP
0	180°11.7	7°15.9	90°04.1	5.5	-25°00.7	-6.8	59.0
1	195°11.9	7°14.9	104°28.5	5.4	-25°07.3	-6.6	59.0
2	210°12.1	7°14.0	118°52.8	5.3	-25°13.9	-6.4	59.1
3	225°12.4	7°13.1	133°17.0	5.2	-25°20.2	-6.3	59.1
4	240°12.6	7°12.2	147°41.2	5.1	-25°26.4	-6.1	59.1
5	255°12.8	7°11.3	162°05.2	5.0	-25°32.5	-6.0	59.1
6	270°13.0	7°10.3	176°29.1	4.9	-25°38.4	-5.8	59.1
7	285°13.2	7°09.4	190°53.0	4.8	-25°44.1	-5.6	59.2
8	300°13.4	7°08.5	205°16.8	4.7	-25°49.6	-5.5	59.2
9	315°13.6	7°07.6	219°40.5	4.6	-25°55.0	-5.3	59.2
10	330°13.8	7°06.6	234°04.1	4.6	-26°00.2	-5.1	59.2
11	345°14.0	7°05.7	248°27.6	4.5	-26°05.3	-5.0	59.2
12	0°14.2	7°04.8	262°51.0	4.4	-26°10.2	-4.8	59.3
13	15°14.4	7°03.9	277°14.4	4.3	-26°14.9	-4.6	59.3
14	30°14.6	7°02.9	291°37.6	4.2	-26°19.4	-4.4	59.3
15	45°14.8	7°02.0	306°00.8	4.2	-26°23.8	-4.3	59.3
16	60°15.0	7°01.1	320°24.0	4.1	-26°27.9	-4.1	59.3
17	75°15.3	7°00.2	334°47.0	4.0	-26°31.9	-3.9	59.4
18	90°15.5	6°59.3	349°10.0	3.9	-26°35.8	-3.7	59.4
19	105°15.7	6°58.3	3°32.9	3.9	-26°39.4	-3.6	59.4
20	120°15.9	6°57.4	17°55.7	3.8	-26°42.9	-3.4	59.4
21	135°16.1	6°56.5	32°18.5	3.7	-26°46.1	-3.2	59.4
22	150°16.3	6°55.6	46°41.2	3.7	-26°49.2	-3.0	59.5
23	165°16.5	6°54.6	61°03.9	3.6	-26°52.1	-2.8	59.5
	SD.=15.9	d=-0.9			S.D.=16.1		

Lun	AHG	Dec	AHG	v	Dec	d	HP
0	180°16.7	6°53.7	75°26.5	3.6	-26°54.9	-2.6	59.5
1	195°16.9	6°52.8	89°49.0	3.5	-26°57.4	-2.5	59.5
2	210°17.1	6°51.9	104°11.5	3.5	-26°59.8	-2.3	59.5
3	225°17.3	6°50.9	118°33.9	3.4	-27°02.0	-2.1	59.5
4	240°17.6	6°50.0	132°56.3	3.4	-27°03.9	-1.9	59.6
5	255°17.8	6°49.1	147°18.7	3.3	-27°05.7	-1.7	59.6
6	270°18.0	6°48.1	161°40.9	3.3	-27°07.3	-1.5	59.6
7	285°18.2	6°47.2	176°03.2	3.2	-27°08.8	-1.3	59.6
8	300°18.4	6°46.3	190°25.4	3.2	-27°10.0	-1.1	59.6
9	315°18.6	6°45.4	204°47.6	3.2	-27°11.0	-0.9	59.6
10	330°18.8	6°44.4	219°09.7	3.1	-27°11.9	-0.7	59.7
11	345°19.0	6°43.5	233°31.8	3.1	-27°12.5	-0.6	59.7
12	0°19.2	6°42.6	247°53.9	3.1	-27°13.0	-0.4	59.7
13	15°19.4	6°41.7	262°15.9	3.0	-27°13.2	-0.2	59.7
14	30°19.7	6°40.7	276°37.9	3.0	-27°13.3	0.0	59.7
15	45°19.9	6°39.8	290°59.9	3.0	-27°13.2	0.2	59.7
16	60°20.1	6°38.9	305°21.9	3.0	-27°12.9	0.4	59.8
17	75°20.3	6°37.9	319°43.9	2.9	-27°12.3	0.6	59.8
18	90°20.5	6°37.0	334°05.8	2.9	-27°11.6	0.8	59.8
19	105°20.7	6°36.1	348°27.7	2.9	-27°10.7	1.0	59.8
20	120°20.9	6°35.2	2°49.7	2.9	-27°09.6	1.2	59.8
21	135°21.1	6°34.2	17°11.6	2.9	-27°08.4	1.4	59.8
22	150°21.3	6°33.3	31°33.5	2.9	-27°06.9	1.6	59.8
23	165°21.5	6°32.4	45°55.4	2.9	-27°05.2	1.8	59.8
	SD.=15.9	d=-0.9			S.D.=16.2		

Mar	AHG	Dec	AHG	v	Dec	d	HP
0	180°21.8	6°31.4	60°17.3	2.9	-27°03.3	2.0	59.9
1	195°22.0	6°30.5	74°39.2	2.9	-27°01.2	2.2	59.9
2	210°22.2	6°29.6	89°01.1	2.9	-26°59.0	2.4	59.9
3	225°22.4	6°28.6	103°23.0	2.9	-26°56.5	2.6	59.9
4	240°22.6	6°27.7	117°45.0	2.9	-26°53.9	2.8	59.9
5	255°22.8	6°26.8	132°06.9	3.0	-26°51.0	2.9	59.9
6	270°23.0	6°25.9	146°28.9	3.0	-26°48.0	3.1	59.9
7	285°23.2	6°24.9	160°50.9	3.0	-26°44.7	3.3	59.9
8	300°23.5	6°24.0	175°12.9	3.0	-26°41.3	3.5	60.0
9	315°23.7	6°23.1	189°34.9	3.0	-26°37.7	3.7	60.0
10	330°23.9	6°22.1	203°57.0	3.1	-26°33.9	3.9	60.0
11	345°24.1	6°21.2	218°19.1	3.1	-26°29.9	4.1	60.0
12	0°24.3	6°20.3	232°41.2	3.1	-26°25.7	4.3	60.0
13	15°24.5	6°19.3	247°03.4	3.2	-26°21.3	4.5	60.0
14	30°24.7	6°18.4	261°25.6	3.2	-26°16.7	4.7	60.0
15	45°24.9	6°17.5	275°47.8	3.3	-26°11.9	4.9	60.0
16	60°25.2	6°16.5	290°10.1	3.3	-26°07.0	5.0	60.0
17	75°25.4	6°15.6	304°32.4	3.3	-26°01.8	5.2	60.0
18	90°25.6	6°14.7	318°54.8	3.4	-25°56.5	5.4	60.1
19	105°25.8	6°13.7	333°17.2	3.4	-25°51.0	5.6	60.1
20	120°26.0	6°12.8	347°39.6	3.5	-25°45.3	5.8	60.1
21	135°26.2	6°11.9	2°02.1	3.5	-25°39.4	6.0	60.1
22	150°26.4	6°10.9	16°24.7	3.6	-25°33.3	6.2	60.1
23	165°26.6	6°10.0	30°47.3	3.7	-25°27.1	6.3	60.1
	SD.=15.9	d=-0.9			S.D.=16.3		

Lat.	Crepúsculo Naut.	Crepúsculo Civil	Orto Sol	Crepúsculo Civil	Crepúsculo Naut.	Ocaso Sol
N 72	–:–	02:58	04:21	19:34	20:55	–:–
70	01:16	03:20	04:32	19:23	20:33	22:31
68	02:03	03:38	04:41	19:15	20:17	21:48
66	02:32	03:51	04:48	19:07	20:03	21:21
64	02:53	04:03	04:54	19:01	19:52	21:01
62	03:10	04:12	05:00	18:56	19:43	20:45
60	03:24	04:20	05:04	18:52	19:36	20:31
58	03:35	04:27	05:08	18:48	19:29	20:20
56	03:45	04:33	05:12	18:44	19:23	20:11
54	03:53	04:38	05:15	18:41	19:18	20:03
52	04:01	04:43	05:18	18:38	19:13	19:55
50	04:07	04:47	05:21	18:36	19:09	19:49
45	04:21	04:57	05:27	18:30	19:00	19:36
40	04:31	05:04	05:31	18:25	18:53	19:26
35	04:39	05:10	05:36	18:21	18:47	19:17
30	04:46	05:15	05:39	18:18	18:42	19:10
20	04:57	05:23	05:45	18:12	18:34	19:00
10	05:05	05:29	05:51	18:07	18:28	18:52
0	05:10	05:35	05:55	18:02	18:23	18:47
S 10	05:15	05:39	06:00	17:57	18:18	18:43
20	05:17	05:43	06:05	17:53	18:15	18:40
30	05:19	05:47	06:11	17:47	18:11	18:39
35	05:19	05:49	06:14	17:44	18:09	18:39
40	05:19	05:50	06:17	17:41	18:08	18:39
45	05:18	05:52	06:21	17:37	18:06	18:40
50	05:17	05:54	06:26	17:32	18:04	18:42
52	05:16	05:55	06:28	17:30	18:04	18:43
54	05:15	05:55	06:31	17:28	18:03	18:44
56	05:13	05:56	06:33	17:25	18:02	18:45
58	05:12	05:57	06:36	17:22	18:02	18:47
60	05:10	05:58	06:40	17:19	18:01	18:49

Lat.	Orto luna Dom	Orto luna Lun	Orto luna Mar	Ocaso luna Dom	Ocaso luna Lun	Ocaso luna Mar
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	–:–	–:–	–:–
68	–:–	–:–	–:–	–:–	–:–	–:–
66	–:–	–:–	–:–	–:–	–:–	–:–
64	–:–	–:–	20:26	–:–	–:–	21:25
62	17:27	18:52	19:13	19:59	20:46	22:38
60	16:42	17:58	18:37	20:44	21:40	23:13
58	16:12	17:26	18:11	21:14	22:12	23:39
56	15:50	17:02	17:51	21:36	22:36	23:59
54	15:32	16:42	17:33	21:55	22:55	–:–
52	15:16	16:26	17:19	22:11	23:12	–:–
50	15:02	16:12	17:06	22:25	23:26	–:–
45	14:35	15:43	16:39	22:53	23:55	–:–
40	14:13	15:20	16:18	23:15	–:–	00:17
35	13:55	15:01	16:01	23:33	–:–	00:36
30	13:40	14:45	15:45	23:49	–:–	00:52
20	13:14	14:18	15:20	–:–	00:16	01:19
10	12:51	13:55	14:57	–:–	00:39	01:42
0	12:31	13:33	14:37	–:–	01:00	02:03
S 10	12:10	13:11	14:16	00:19	01:22	02:25
20	11:48	12:48	13:53	00:40	01:45	02:48
30	11:22	12:21	13:27	01:04	02:11	03:14
35	11:07	12:05	13:12	01:19	02:27	03:30
40	10:50	11:47	12:54	01:36	02:45	03:48
45	10:29	11:24	12:33	01:56	03:08	04:10
50	10:03	10:56	12:06	02:21	03:36	04:38
52	09:50	10:42	11:52	02:33	03:50	04:51
54	09:36	10:26	11:37	02:47	04:06	05:07
56	09:19	10:07	11:19	03:04	04:25	05:25
58	08:59	09:44	10:57	03:23	04:48	05:47
60	08:34	09:13	10:29	03:48	05:18	06:16

Día	Sol Ec. tiempo 00:00 h	Sol Ec. tiempo 12:00 h	Sol Paso Merid	Luna Paso Meridiano Superior	Luna Paso Meridiano Inferior	Luna Edad
4	00:47	00:57	11:59	18:45	06:14	8(59%)
5	01:07	01:17	11:58	19:48	07:16	9(70%)
6	01:27	01:37	11:58	20:51	08:19	10(80%)

Septiembre 07, 08, 09 (Mie, Jue, Vie)

	Aries	Venus		Martes		Júpiter		Saturno	
Mie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	346°03.2	191°21.2	11°49.6	277°49.7	20°42.8	339°42.6	1°00.5	22°58.9	-15°59.6
1	1°05.7	206°20.7	11°48.5	292°50.8	20°43.0	354°45.4	1°00.4	38°01.5	-15°59.6
2	16°08.1	221°20.2	11°47.4	307°51.9	20°43.3	9°48.1	1°00.3	53°04.1	-15°59.7
3	31°10.6	236°19.7	11°46.4	322°53.1	20°43.5	24°50.8	1°00.1	68°06.7	-15°59.7
4	46°13.1	251°19.2	11°45.3	337°54.2	20°43.7	39°53.5	1°00.0	83°09.4	-15°59.8
5	61°15.5	266°18.7	11°44.2	352°55.3	20°44.0	54°56.3	0°59.9	98°12.0	-15°59.8
6	76°18.0	281°18.2	11°43.2	7°56.5	20°44.2	69°59.0	0°59.8	113°14.6	-15°59.9
7	91°20.4	296°17.7	11°42.1	22°57.6	20°44.4	85°01.7	0°59.7	128°17.2	-15°59.9
8	106°22.9	311°17.2	11°41.0	37°58.7	20°44.7	100°04.5	0°59.5	143°19.8	-16°00.0
9	121°25.4	326°16.7	11°40.0	52°59.9	20°44.9	115°07.2	0°59.4	158°22.5	-16°00.0
10	136°27.8	341°16.2	11°38.9	68°01.0	20°45.1	130°09.9	0°59.3	173°25.1	-16°00.1
11	151°30.3	356°15.7	11°37.8	83°02.1	20°45.4	145°12.6	0°59.2	188°27.7	-16°00.1
12	166°32.8	11°15.2	11°36.8	98°03.3	20°45.6	160°15.4	0°59.1	203°30.3	-16°00.2
13	181°35.2	26°14.7	11°35.7	113°04.4	20°45.8	175°18.1	0°58.9	218°33.0	-16°00.2
14	196°37.7	41°14.3	11°34.6	128°05.6	20°46.1	190°20.8	0°58.8	233°35.6	-16°00.3
15	211°40.2	56°13.8	11°33.5	143°06.7	20°46.3	205°23.5	0°58.7	248°38.2	-16°00.3
16	226°42.6	71°13.3	11°32.5	158°07.8	20°46.5	220°26.3	0°58.6	263°40.8	-16°00.4
17	241°45.1	86°12.8	11°31.4	173°09.0	20°46.7	235°29.0	0°58.5	278°43.4	-16°00.4
18	256°47.6	101°12.3	11°30.3	188°10.1	20°47.0	250°31.7	0°58.3	293°46.1	-16°00.5
19	271°50.0	116°11.8	11°29.2	203°11.3	20°47.2	265°34.5	0°58.2	308°48.7	-16°00.6
20	286°52.5	131°11.3	11°28.2	218°12.4	20°47.4	280°37.2	0°58.1	323°51.3	-16°00.6
21	301°54.9	146°10.8	11°27.1	233°13.5	20°47.7	295°39.9	0°58.0	338°53.9	-16°00.7
22	316°57.4	161°10.3	11°26.0	248°14.7	20°47.9	310°42.6	0°57.9	353°56.6	-16°00.7
23	331°59.9	176°09.8	11°24.9	263°15.8	20°48.1	325°45.4	0°57.7	8°59.2	-16°00.8
Mer.pass.:0:55:		v-0.5 d-1.1 m-3.8		v1.1 d0.2 m-0.2		v2.7 d-0.1 m-2.7		v2.6 d-0.1 m0.4	

Jue	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	347°02.3	191°09.3	11°23.8	278°17.0	20°48.3	340°48.1	0°57.6	24°01.8	-16°00.8
1	2°04.8	206°08.8	11°22.8	293°18.1	20°48.6	355°50.8	0°57.5	39°04.4	-16°00.9
2	17°07.3	221°08.3	11°21.7	308°19.3	20°48.8	10°53.6	0°57.4	54°07.0	-16°00.9
3	32°09.7	236°07.8	11°20.6	323°20.4	20°49.0	25°56.3	0°57.3	69°09.7	-16°01.0
4	47°12.2	251°07.3	11°19.5	338°21.5	20°49.3	40°59.0	0°57.1	84°12.3	-16°01.0
5	62°14.7	266°06.8	11°18.4	353°22.7	20°49.5	56°01.8	0°57.0	99°14.9	-16°01.1
6	77°17.1	281°06.3	11°17.4	8°23.8	20°49.7	71°04.5	0°56.9	114°17.5	-16°01.1
7	92°19.6	296°05.8	11°16.3	23°25.0	20°49.9	86°07.2	0°56.8	129°20.1	-16°01.2
8	107°22.1	311°05.4	11°15.2	38°26.1	20°50.2	101°09.9	0°56.6	144°22.8	-16°01.2
9	122°24.5	326°04.9	11°14.1	53°27.3	20°50.4	116°12.7	0°56.5	159°25.4	-16°01.3
10	137°27.0	341°04.4	11°13.0	68°28.4	20°50.6	131°15.4	0°56.4	174°28.0	-16°01.3
11	152°29.4	356°03.9	11°12.0	83°29.6	20°50.8	146°18.1	0°56.3	189°30.6	-16°01.4
12	167°31.9	11°03.4	11°10.9	98°30.7	20°51.1	161°20.9	0°56.2	204°33.2	-16°01.4
13	182°34.4	26°02.9	11°09.8	113°31.9	20°51.3	176°23.6	0°56.0	219°35.9	-16°01.5
14	197°36.8	41°02.4	11°08.7	128°33.0	20°51.5	191°26.3	0°55.9	234°38.5	-16°01.5
15	212°39.3	56°01.9	11°07.6	143°34.2	20°51.7	206°29.1	0°55.8	249°41.1	-16°01.6
16	227°41.8	71°01.4	11°06.5	158°35.3	20°52.0	221°31.8	0°55.7	264°43.7	-16°01.6
17	242°44.2	86°01.0	11°05.4	173°36.5	20°52.2	236°34.5	0°55.5	279°46.3	-16°01.7
18	257°46.7	101°00.5	11°04.3	188°37.6	20°52.4	251°37.3	0°55.4	294°49.0	-16°01.7
19	272°49.2	116°00.0	11°03.3	203°38.8	20°52.6	266°40.0	0°55.3	309°51.6	-16°01.8
20	287°51.6	130°59.5	11°02.2	218°39.9	20°52.9	281°42.7	0°55.2	324°54.2	-16°01.8
21	302°54.1	145°59.0	11°01.1	233°41.1	20°53.1	296°45.5	0°55.1	339°56.8	-16°01.9
22	317°56.5	160°58.5	11°00.0	248°42.2	20°53.3	311°48.2	0°54.9	354°59.4	-16°01.9
23	332°59.0	175°58.0	10°58.9	263°43.4	20°53.5	326°50.9	0°54.8	10°02.1	-16°02.0
Mer.pass.:0:51:		v-0.5 d-1.1 m-3.8		v1.1 d0.2 m-0.2		v2.7 d-0.1 m-2.7		v2.6 d-0.1 m0.4	

Vie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	348°01.5	190°57.5	10°57.8	278°44.6	20°53.7	341°53.7	0°54.7	25°04.7	-16°02.0
1	3°03.9	205°57.1	10°56.7	293°45.7	20°54.0	356°56.4	0°54.6	40°07.3	-16°02.1
2	18°06.4	220°56.6	10°55.6	308°46.9	20°54.2	11°59.1	0°54.4	55°09.9	-16°02.1
3	33°08.9	235°56.1	10°54.5	323°48.0	20°54.4	27°01.9	0°54.3	70°12.5	-16°02.2
4	48°11.3	250°55.6	10°53.4	338°49.2	20°54.6	42°04.6	0°54.2	85°15.2	-16°02.2
5	63°13.8	265°55.1	10°52.3	353°50.3	20°54.9	57°07.3	0°54.1	100°17.8	-16°02.3
6	78°16.3	280°54.6	10°51.2	8°51.5	20°55.1	72°10.1	0°54.0	115°20.4	-16°02.3
7	93°18.7	295°54.2	10°50.1	23°52.7	20°55.3	87°12.8	0°53.8	130°23.0	-16°02.4
8	108°21.2	310°53.7	10°49.1	38°53.8	20°55.5	102°15.5	0°53.7	145°25.6	-16°02.4
9	123°23.7	325°53.2	10°48.0	53°55.0	20°55.7	117°18.3	0°53.6	160°28.2	-16°02.5
10	138°26.1	340°52.7	10°46.9	68°56.1	20°56.0	132°21.0	0°53.5	175°30.9	-16°02.5
11	153°28.6	355°52.2	10°45.8	83°57.3	20°56.2	147°23.7	0°53.3	190°33.5	-16°02.6
12	168°31.0	10°51.7	10°44.7	98°58.5	20°56.4	162°26.5	0°53.2	205°36.1	-16°02.6
13	183°33.5	25°51.3	10°43.6	113°59.6	20°56.6	177°29.2	0°53.1	220°38.7	-16°02.7
14	198°36.0	40°50.8	10°42.5	129°00.8	20°56.8	192°31.9	0°53.0	235°41.3	-16°02.7
15	213°38.4	55°50.3	10°41.4	144°02.0	20°57.1	207°34.7	0°52.8	250°44.0	-16°02.8
16	228°40.9	70°49.8	10°40.3	159°03.1	20°57.3	222°37.4	0°52.7	265°46.6	-16°02.8
17	243°43.4	85°49.3	10°39.2	174°04.3	20°57.5	237°40.2	0°52.6	280°49.2	-16°02.9
18	258°45.8	100°48.9	10°38.1	189°05.5	20°57.7	252°42.9	0°52.5	295°51.8	-16°02.9
19	273°48.3	115°48.4	10°37.0	204°06.6	20°57.9	267°45.6	0°52.4	310°54.4	-16°03.0
20	288°50.8	130°47.9	10°35.9	219°07.8	20°58.2	282°48.4	0°52.2	325°57.0	-16°03.0
21	303°53.2	145°47.4	10°34.8	234°09.0	20°58.4	297°51.1	0°52.1	340°59.7	-16°03.1
22	318°55.7	160°46.9	10°33.7	249°10.1	20°58.6	312°53.8	0°52.0	356°02.3	-16°03.1
23	333°58.2	175°46.5	10°32.6	264°11.3	20°58.8	327°56.6	0°51.9	11°04.9	-16°03.2
Mer.pass.:0:47:		v-0.5 d-1.1 m-3.8		v1.2 d0.2 m-0.2		v2.7 d-0.1 m-2.8		v2.6 d-0.1 m0.4	

Estrellas

	AHS	Dec
Alpheratz	357°36.4	29°13.0
Ankaa	353°08.6	-42°10.9
Schedar	349°32.7	56°39.6
Diphda	348°48.8	-17°51.6
Achernar	335°21.2	-57°07.1
Hamal	327°53.2	23°34.2
Polaris	314°43.4	89°21.3
Akamar	315°13.0	-40°12.6
Menkar	314°08.0	4°10.8
Mirfak	308°30.8	49°56.3
Aldebaran	290°41.8	16°33.3
Rigel	281°05.7	-8°10.4
Capella	280°24.8	46°01.1
Bellatrix	278°25.0	6°22.3
Elnath	278°04.3	28°37.6
Alnilam	275°39.7	-1°11.1
Betelgeuse	270°54.2	7°24.8
Canopus	263°53.4	-52°42.1
Sirius	258°28.0	-16°44.4
Adara	255°07.5	-28°59.9
Procyon	244°53.0	5°10.3
Pollux	243°19.8	27°58.3
Avior	234°16.0	-59°34.6
Suhail	222°48.1	-43°31.2
Miaplacidus	221°39.5	-69°48.3
Alphard	217°49.9	-8°45.2
Regulus	207°36.8	11°51.6
Dubhe	193°44.0	61°37.9
Denebola	182°27.2	14°26.9
Gienah	175°45.9	-17°39.9
Acrux	173°02.9	-63°13.5
Gacrux	171°54.3	-57°14.4
Alioth	166°15.2	55°50.5
Spica	158°24.6	-11°16.6
Alcaid	152°53.9	49°12.3
Hadar	148°39.2	-60°29.0
Menkent	148°00.2	-36°28.9
Arcturus	145°49.7	19°04.4
Rigil Kent.	139°43.3	-60°55.8
Zubenelg.	136°58.3	-16°08.1
Kochab	137°20.4	74°04.0
Alphecca	126°05.5	26°38.6
Antares	112°18.2	-26°28.9
Atria	107°14.2	-69°04.3
Sabik	102°05.0	-15°45.1
Shaula	96°12.9	-37°07.3
Rasalhague	96°00.3	12°32.8
Etamin	90°42.9	51°29.4
Kaus Aust.	83°34.9	-34°22.5
Vega	80°34.4	38°48.5
Nunki	75°50.0	-26°16.1
Altair	62°01.7	8°55.8
Peacock	53°08.3	-56°39.8
Deneb	49°26.7	45°21.8
Enif	33°40.4	9°58.8
Alnair	27°34.9	-46°51.1
Fomalhaut	15°16.3	-29°30.1
Scheat	13°46.7	28°12.4
Markab	13°31.5	15°19.7

Sep 07 Mie	AHS	Paso Merid
Venus	205°18.0	11:15
Mars	291°46.5	05:28
Jupiter	353°39.4	01:21
Saturn	36°55.7	22:24

Sep 08 Jue	AHS	Paso Merid
Venus	204°07.0	11:16
Mars	291°14.6	05:26
Jupiter	353°45.8	01:17
Saturn	36°59.5	22:20

Sep 09 Vie	AHS	Paso Merid
Venus	202°56.1	11:17
Mars	290°43.1	05:25
Jupiter	353°52.2	01:12
Saturn	37°03.2	22:16

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.2

h	Sol		Luna				
Mie	AHG	Dec	AHG	v	Dec	d	HP
0	180°26.9	6°09.1	45°10.0	3.7	-25°20.6	6.5	60.1
1	195°27.1	6°08.1	59°32.7	3.8	-25°14.0	6.7	60.1
2	210°27.3	6°07.2	73°55.6	3.8	-25°07.3	6.9	60.1
3	225°27.5	6°06.3	88°18.4	3.9	-25°00.3	7.1	60.1
4	240°27.7	6°05.3	102°41.4	4.0	-24°53.1	7.2	60.1
5	255°27.9	6°04.4	117°04.4	4.0	-24°45.8	7.4	60.1
6	270°28.1	6°03.5	131°27.4	4.1	-24°38.3	7.6	60.1
7	285°28.4	6°02.5	145°50.6	4.2	-24°30.7	7.8	60.1
8	300°28.6	6°01.6	160°13.8	4.3	-24°22.8	7.9	60.1
9	315°28.8	6°00.7	174°37.1	4.3	-24°14.8	8.1	60.1
10	330°29.0	5°59.7	189°00.4	4.4	-24°06.6	8.3	60.1
11	345°29.2	5°58.8	203°23.9	4.5	-23°58.3	8.4	60.1
12	0°29.4	5°57.8	217°47.4	4.6	-23°49.8	8.6	60.1
13	15°29.6	5°56.9	232°11.0	4.6	-23°41.1	8.8	60.2
14	30°29.9	5°56.0	246°34.7	4.7	-23°32.3	8.9	60.2
15	45°30.1	5°55.0	260°58.5	4.8	-23°23.3	9.1	60.2
16	60°30.3	5°54.1	275°22.3	4.9	-23°14.1	9.2	60.2
17	75°30.5	5°53.2	289°46.3	5.0	-23°04.8	9.4	60.2
18	90°30.7	5°52.2	304°10.3	5.1	-22°55.4	9.5	60.2
19	105°30.9	5°51.3	318°34.4	5.2	-22°45.7	9.7	60.2
20	120°31.2	5°50.4	332°58.6	5.2	-22°36.0	9.9	60.2
21	135°31.4	5°49.4	347°22.9	5.3	-22°26.0	10.0	60.2
22	150°31.6	5°48.5	1°47.3	5.4	-22°15.9	10.2	60.2
23	165°31.8	5°47.5	16°11.7	5.5	-22°05.7	10.3	60.2
	SD.=15.9	d=-0.9	S.D.=16.4				

Jue	AHG	Dec	AHG	v	Dec	d	HP
0	180°32.0	5°46.6	30°36.3	5.6	-21°55.3	10.4	60.2
1	195°32.2	5°45.7	45°01.0	5.7	-21°44.8	10.6	60.1
2	210°32.4	5°44.7	59°25.7	5.8	-21°34.2	10.7	60.1
3	225°32.7	5°43.8	73°50.5	5.9	-21°23.4	10.9	60.1
4	240°32.9	5°42.8	88°15.5	6.0	-21°12.4	11.0	60.1
5	255°33.1	5°41.9	102°40.5	6.1	-21°01.3	11.1	60.1
6	270°33.3	5°41.0	117°05.6	6.2	-20°50.1	11.3	60.1
7	285°33.5	5°40.0	131°30.9	6.3	-20°38.8	11.4	60.1
8	300°33.7	5°39.1	145°56.2	6.4	-20°27.3	11.5	60.1
9	315°34.0	5°38.1	160°21.6	6.5	-20°15.7	11.7	60.1
10	330°34.2	5°37.2	174°47.1	6.6	-20°03.9	11.8	60.1
11	345°34.4	5°36.3	189°12.8	6.7	-19°52.1	11.9	60.1
12	0°34.6	5°35.3	203°38.5	6.8	-19°40.1	12.1	60.1
13	15°34.8	5°34.4	218°04.3	6.9	-19°28.0	12.2	60.1
14	30°35.0	5°33.4	232°30.2	7.0	-19°15.7	12.3	60.1
15	45°35.3	5°32.5	246°56.2	7.1	-19°03.4	12.4	60.1
16	60°35.5	5°31.6	261°22.3	7.2	-18°50.9	12.5	60.1
17	75°35.7	5°30.6	275°48.5	7.3	-18°38.3	12.6	60.1
18	90°35.9	5°29.7	290°14.8	7.4	-18°25.6	12.8	60.1
19	105°36.1	5°28.7	304°41.2	7.5	-18°12.8	12.9	60.0
20	120°36.3	5°27.8	319°07.7	7.5	-17°59.9	13.0	60.0
21	135°36.6	5°26.9	333°34.3	7.6	-17°46.9	13.1	60.0
22	150°36.8	5°25.9	348°01.0	7.7	-17°33.8	13.2	60.0
23	165°37.0	5°25.0	2°27.8	7.8	-17°20.5	13.3	60.0
	SD.=15.9	d=-0.9	S.D.=16.4				

Vie	AHG	Dec	AHG	v	Dec	d	HP
0	180°37.2	5°24.0	16°54.7	7.9	-17°07.2	13.4	60.0
1	195°37.4	5°23.1	31°21.7	8.0	-16°53.8	13.5	60.0
2	210°37.7	5°22.2	45°48.8	8.1	-16°40.3	13.6	60.0
3	225°37.9	5°21.2	60°16.0	8.2	-16°26.6	13.7	60.0
4	240°38.1	5°20.3	74°43.2	8.3	-16°12.9	13.8	59.9
5	255°38.3	5°19.3	89°10.6	8.4	-15°59.1	13.9	59.9
6	270°38.5	5°18.4	103°38.1	8.5	-15°45.2	13.9	59.9
7	285°38.7	5°17.4	118°05.6	8.6	-15°31.2	14.0	59.9
8	300°39.0	5°16.5	132°33.3	8.7	-15°17.1	14.1	59.9
9	315°39.2	5°15.6	147°01.0	8.8	-15°03.0	14.2	59.9
10	330°39.4	5°14.6	161°28.9	8.9	-14°48.8	14.3	59.9
11	345°39.6	5°13.7	175°56.8	9.0	-14°34.4	14.4	59.8
12	0°39.8	5°12.7	190°24.8	9.1	-14°20.0	14.4	59.8
13	15°40.1	5°11.8	204°53.0	9.2	-14°05.6	14.5	59.8
14	30°40.3	5°10.8	219°21.2	9.3	-13°51.0	14.6	59.8
15	45°40.5	5°09.9	233°49.5	9.3	-13°36.4	14.7	59.8
16	60°40.7	5°08.9	248°17.9	9.4	-13°21.7	14.7	59.8
17	75°40.9	5°08.0	262°46.3	9.5	-13°07.0	14.8	59.7
18	90°41.1	5°07.1	277°14.9	9.6	-12°52.2	14.9	59.7
19	105°41.4	5°06.1	291°43.5	9.7	-12°37.3	14.9	59.7
20	120°41.6	5°05.2	306°12.3	9.8	-12°22.3	15.0	59.7
21	135°41.8	5°04.2	320°41.1	9.9	-12°07.3	15.0	59.7
22	150°42.0	5°03.3	335°10.0	9.9	-11°52.3	15.1	59.7
23	165°42.2	5°02.3	349°39.0	10.0	-11°37.1	15.1	59.6
	SD.=15.9	d=-0.9	S.D.=16.4				

Lat.	Crepúsculo Naut.	Crepúsculo Civil	Orto Sol	Crepúsculo Civil	Crepúsculo Naut.	Ocaso Sol
N 72	00:35	03:16	04:35	19:18	20:35	22:59
70	01:48	03:35	04:44	19:09	20:16	22:00
68	02:23	03:50	04:51	19:02	20:02	21:27
66	02:47	04:02	04:58	18:56	19:50	21:04
64	03:06	04:12	05:03	18:51	19:41	20:46
62	03:21	04:21	05:07	18:46	19:33	20:32
60	03:33	04:28	05:11	18:43	19:26	20:20
58	03:43	04:34	05:15	18:39	19:20	20:10
56	03:52	04:39	05:18	18:36	19:15	20:02
54	04:00	04:44	05:21	18:34	19:10	19:54
52	04:06	04:48	05:23	18:31	19:06	19:48
50	04:12	04:52	05:25	18:29	19:02	19:42
45	04:25	05:00	05:30	18:24	18:54	19:30
40	04:34	05:07	05:34	18:20	18:48	19:20
35	04:42	05:12	05:38	18:17	18:43	19:13
30	04:48	05:17	05:41	18:14	18:38	19:07
20	04:58	05:24	05:46	18:09	18:31	18:57
10	05:05	05:29	05:50	18:05	18:26	18:51
0	05:10	05:34	05:54	18:01	18:22	18:46
S 10	05:13	05:37	05:58	17:57	18:18	18:43
20	05:15	05:40	06:03	17:53	18:15	18:41
30	05:15	05:43	06:07	17:49	18:13	18:40
35	05:15	05:44	06:10	17:46	18:12	18:41
40	05:14	05:46	06:13	17:43	18:11	18:42
45	05:13	05:47	06:16	17:40	18:10	18:44
50	05:10	05:48	06:20	17:36	18:09	18:46
52	05:09	05:48	06:22	17:35	18:08	18:48
54	05:07	05:48	06:24	17:33	18:08	18:49
56	05:06	05:49	06:26	17:31	18:08	18:51
58	05:04	05:49	06:28	17:28	18:08	18:53
60	05:01	05:49	06:31	17:26	18:08	18:56

Lat.	Orto luna Mie	Orto luna Jue	Orto luna Vie	Ocaso luna Mie	Ocaso luna Jue	Ocaso luna Vie
N 72	–:–	22:05	20:27	–:–	23:59	–:–
70	–:–	20:57	20:06	–:–	–:–	01:05
68	–:–	20:20	19:49	–:–	–:–	01:41
66	20:29	19:53	19:35	23:32	–:–	02:06
64	19:46	19:33	19:24	–:–	00:14	02:25
62	19:17	19:16	19:14	–:–	00:42	02:41
60	18:54	19:02	19:06	–:–	01:03	02:54
58	18:36	18:50	18:58	–:–	01:21	03:05
56	18:21	18:39	18:52	–:–	01:36	03:15
54	18:07	18:30	18:46	00:16	01:48	03:23
52	17:56	18:22	18:41	00:30	01:59	03:31
50	17:45	18:14	18:36	00:43	02:09	03:38
45	17:24	17:58	18:25	01:09	02:30	03:52
40	17:06	17:45	18:16	01:29	02:46	04:04
35	16:51	17:33	18:09	01:46	03:00	04:14
30	16:38	17:23	18:02	02:01	03:12	04:23
20	16:16	17:06	17:51	02:25	03:33	04:38
10	15:56	16:51	17:40	02:47	03:50	04:51
0	15:38	16:37	17:31	03:06	04:07	05:03
S 10	15:20	16:22	17:21	03:26	04:23	05:15
20	15:01	16:07	17:11	03:47	04:40	05:27
30	14:38	15:49	16:59	04:11	05:00	05:42
35	14:25	15:39	16:52	04:25	05:11	05:50
40	14:09	15:27	16:44	04:41	05:24	05:59
45	13:51	15:13	16:35	05:00	05:40	06:10
50	13:28	14:56	16:23	05:24	05:58	06:23
52	13:17	14:48	16:18	05:36	06:07	06:29
54	13:04	14:39	16:12	05:49	06:17	06:36
56	12:50	14:28	16:06	06:04	06:28	06:43
58	12:33	14:17	15:59	06:21	06:40	06:52
60	12:12	14:03	15:50	06:43	06:55	07:01

Día	Sol Ec. tiempo 00:00 h	Sol Ec. tiempo 12:00 h	Sol Paso Merid	Luna Paso Meridiano Superior	Luna Paso Meridiano Inferior	Luna Edad
7	01:47	01:58	11:58	21:52	09:22	11(88%)
8	02:08	02:18	11:57	22:49	10:21	12(95%)
9	02:29	02:39	11:57	23:42	11:16	13(99%)

Septiembre 10, 11, 12 (Sa, Dom, Lun)

	Aries	Venus		Martes		Júpiter		Saturno	
Sa	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	349°00.6	190°46.0	10°31.5	279°12.5	20°59.0	342°59.3	0°51.7	26°07.5	-16°03.2
1	4°03.1	205°45.5	10°30.3	294°13.6	20°59.2	358°02.0	0°51.6	41°10.1	-16°03.3
2	19°05.5	220°45.0	10°29.2	309°14.8	20°59.5	13°04.8	0°51.5	56°12.7	-16°03.3
3	34°08.0	235°44.6	10°28.1	324°16.0	20°59.7	28°07.5	0°51.4	71°15.4	-16°03.4
4	49°10.5	250°44.1	10°27.0	339°17.1	20°59.9	43°10.3	0°51.2	86°18.0	-16°03.4
5	64°12.9	265°43.6	10°25.9	354°18.3	21°00.1	58°13.0	0°51.1	101°20.6	-16°03.5
6	79°15.4	280°43.1	10°24.8	9°19.5	21°00.3	73°15.7	0°51.0	116°23.2	-16°03.5
7	94°17.9	295°42.6	10°23.7	24°20.7	21°00.5	88°18.5	0°50.9	131°25.8	-16°03.6
8	109°20.3	310°42.2	10°22.6	39°21.8	21°00.8	103°21.2	0°50.7	146°28.4	-16°03.6
9	124°22.8	325°41.7	10°21.5	54°23.0	21°01.0	118°24.0	0°50.6	161°31.1	-16°03.7
10	139°25.3	340°41.2	10°20.4	69°24.2	21°01.2	133°26.7	0°50.5	176°33.7	-16°03.7
11	154°27.7	355°40.7	10°19.3	84°25.3	21°01.4	148°29.4	0°50.4	191°36.3	-16°03.8
12	169°30.2	10°40.3	10°18.2	99°26.5	21°01.6	163°32.2	0°50.2	206°38.9	-16°03.8
13	184°32.6	25°39.8	10°17.1	114°27.7	21°01.8	178°34.9	0°50.1	221°41.5	-16°03.9
14	199°35.1	40°39.3	10°15.9	129°28.9	21°02.1	193°37.6	0°50.0	236°44.1	-16°03.9
15	214°37.6	55°38.9	10°14.8	144°30.0	21°02.3	208°40.4	0°49.9	251°46.8	-16°04.0
16	229°40.0	70°38.4	10°13.7	159°31.2	21°02.5	223°43.1	0°49.7	266°49.4	-16°04.0
17	244°42.5	85°37.9	10°12.6	174°32.4	21°02.7	238°45.9	0°49.6	281°52.0	-16°04.1
18	259°45.0	100°37.4	10°11.5	189°33.6	21°02.9	253°48.6	0°49.5	296°54.6	-16°04.1
19	274°47.4	115°37.0	10°10.4	204°34.8	21°03.1	268°51.3	0°49.4	311°57.2	-16°04.2
20	289°49.9	130°36.5	10°09.3	219°35.9	21°03.3	283°54.1	0°49.2	326°59.8	-16°04.2
21	304°52.4	145°36.0	10°08.2	234°37.1	21°03.5	298°56.8	0°49.1	342°02.4	-16°04.3
22	319°54.8	160°35.5	10°07.0	249°38.3	21°03.8	313°59.6	0°49.0	357°05.1	-16°04.3
23	334°57.3	175°35.1	10°05.9	264°39.5	21°04.0	329°02.3	0°48.9	12°07.7	-16°04.4
Mer.pass.:0:43:		v-0.5 d-1.1 m-3.8		v1.2 d0.2 m-0.3		v2.7 d-0.1 m-2.8		v2.6 d-0.0 m0.4	

Dom	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	349°59.8	190°34.6	10°04.8	279°40.7	21°04.2	344°05.1	0°48.7	27°10.3	-16°04.4
1	5°02.2	205°34.1	10°03.7	294°41.8	21°04.4	359°07.8	0°48.6	42°12.9	-16°04.5
2	20°04.7	220°33.7	10°02.6	309°43.0	21°04.6	14°10.5	0°48.5	57°15.5	-16°04.5
3	35°07.1	235°33.2	10°01.5	324°44.2	21°04.8	29°13.3	0°48.4	72°18.1	-16°04.6
4	50°09.6	250°32.7	10°00.3	339°45.4	21°05.0	44°16.0	0°48.2	87°20.7	-16°04.6
5	65°12.1	265°32.3	9°59.2	354°46.6	21°05.2	59°18.8	0°48.1	102°23.4	-16°04.7
6	80°14.5	280°31.8	9°58.1	9°47.8	21°05.5	74°21.5	0°48.0	117°26.0	-16°04.7
7	95°17.0	295°31.3	9°57.0	24°49.0	21°05.7	89°24.2	0°47.9	132°28.6	-16°04.8
8	110°19.5	310°30.9	9°55.9	39°50.1	21°05.9	104°27.0	0°47.7	147°31.2	-16°04.8
9	125°21.9	325°30.4	9°54.7	54°51.3	21°06.1	119°29.7	0°47.6	162°33.8	-16°04.8
10	140°24.4	340°29.9	9°53.6	69°52.5	21°06.3	134°32.5	0°47.5	177°36.4	-16°04.9
11	155°26.9	355°29.5	9°52.5	84°53.7	21°06.5	149°35.2	0°47.4	192°39.0	-16°04.9
12	170°29.3	10°29.0	9°51.4	99°54.9	21°06.7	164°38.0	0°47.2	207°41.7	-16°05.0
13	185°31.8	25°28.5	9°50.3	114°56.1	21°06.9	179°40.7	0°47.1	222°44.3	-16°05.0
14	200°34.2	40°28.1	9°49.1	129°57.3	21°07.1	194°43.4	0°47.0	237°46.9	-16°05.1
15	215°36.7	55°27.6	9°48.0	144°58.5	21°07.3	209°46.2	0°46.9	252°49.5	-16°05.1
16	230°39.2	70°27.1	9°46.9	159°59.7	21°07.6	224°48.9	0°46.7	267°52.1	-16°05.2
17	245°41.6	85°26.7	9°45.8	175°00.8	21°07.8	239°51.7	0°46.6	282°54.7	-16°05.2
18	260°44.1	100°26.2	9°44.6	190°02.0	21°08.0	254°54.4	0°46.5	297°57.3	-16°05.3
19	275°46.6	115°25.7	9°43.5	205°03.2	21°08.2	269°57.2	0°46.4	312°59.9	-16°05.3
20	290°49.0	130°25.3	9°42.4	220°04.4	21°08.4	284°59.9	0°46.2	328°02.6	-16°05.4
21	305°51.5	145°24.8	9°41.3	235°05.6	21°08.6	300°02.6	0°46.1	343°05.2	-16°05.4
22	320°54.0	160°24.3	9°40.1	250°06.8	21°08.8	315°05.4	0°46.0	358°07.8	-16°05.5
23	335°56.4	175°23.9	9°39.0	265°08.0	21°09.0	330°08.1	0°45.8	13°10.4	-16°05.5
Mer.pass.:0:39:		v-0.5 d-1.1 m-3.8		v1.2 d0.2 m-0.3		v2.7 d-0.1 m-2.8		v2.6 d-0.0 m0.4	

Lun	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	350°58.9	190°23.4	9°37.9	280°09.2	21°09.2	345°10.9	0°45.7	28°13.0	-16°05.6
1	6°01.4	205°22.9	9°36.7	295°10.4	21°09.4	0°13.6	0°45.6	43°15.6	-16°05.6
2	21°03.8	220°22.5	9°35.6	310°11.6	21°09.6	15°16.4	0°45.5	58°18.2	-16°05.7
3	36°06.3	235°22.0	9°34.5	325°12.8	21°09.8	30°19.1	0°45.3	73°20.8	-16°05.7
4	51°08.7	250°21.6	9°33.4	340°14.0	21°10.1	45°21.9	0°45.2	88°23.5	-16°05.8
5	66°11.2	265°21.1	9°32.2	355°15.2	21°10.3	60°24.6	0°45.1	103°26.1	-16°05.8
6	81°13.7	280°20.6	9°31.1	10°16.4	21°10.5	75°27.4	0°45.0	118°28.7	-16°05.9
7	96°16.1	295°20.2	9°30.0	25°17.6	21°10.7	90°30.1	0°44.8	133°31.3	-16°05.9
8	111°18.6	310°19.7	9°28.8	40°18.8	21°10.9	105°32.8	0°44.7	148°33.9	-16°05.9
9	126°21.1	325°19.3	9°27.7	55°20.0	21°11.1	120°35.6	0°44.6	163°36.5	-16°06.0
10	141°23.5	340°18.8	9°26.6	70°21.2	21°11.3	135°38.3	0°44.5	178°39.1	-16°06.0
11	156°26.0	355°18.3	9°25.4	85°22.4	21°11.5	150°41.1	0°44.3	193°41.7	-16°06.1
12	171°28.5	10°17.9	9°24.3	100°23.6	21°11.7	165°43.8	0°44.2	208°44.4	-16°06.1
13	186°30.9	25°17.4	9°23.2	115°24.8	21°11.9	180°46.6	0°44.1	223°47.0	-16°06.2
14	201°33.4	40°17.0	9°22.0	130°26.0	21°12.1	195°49.3	0°43.9	238°49.6	-16°06.2
15	216°35.8	55°16.5	9°20.9	145°27.2	21°12.3	210°52.1	0°43.8	253°52.2	-16°06.3
16	231°38.3	70°16.0	9°19.8	160°28.4	21°12.5	225°54.8	0°43.7	268°54.8	-16°06.3
17	246°40.8	85°15.6	9°18.6	175°29.6	21°12.7	240°57.6	0°43.6	283°57.4	-16°06.4
18	261°43.2	100°15.1	9°17.5	190°30.8	21°12.9	256°00.3	0°43.4	299°00.0	-16°06.4
19	276°45.7	115°14.7	9°16.4	205°32.0	21°13.1	271°03.1	0°43.3	314°02.6	-16°06.5
20	291°48.2	130°14.2	9°15.2	220°33.2	21°13.3	286°05.8	0°43.2	329°05.2	-16°06.5
21	306°50.6	145°13.8	9°14.1	235°34.4	21°13.5	301°08.5	0°43.1	344°07.8	-16°06.6
22	321°53.1	160°13.3	9°13.0	250°35.6	21°13.7	316°11.3	0°42.9	359°10.5	-16°06.6
23	336°55.6	175°12.8	9°11.8	265°36.9	21°13.9	331°14.0	0°42.8	14°13.1	-16°06.7
Mer.pass.:0:35:		v-0.5 d-1.1 m-3.8		v1.2 d0.2 m-0.3		v2.7 d-0.1 m-2.8		v2.6 d-0.0 m0.4	

Estrellas

	AHS	Dec
Alpheratz	357°36.4	29°13.0
Ankaa	353°08.6	-42°10.9
Schedar	349°32.7	56°39.6
Diphda	348°48.8	-17°51.6
Achernar	335°21.2	-57°07.1
Hamal	327°53.1	23°34.2
Polaris	314°42.2	89°21.3
Akamar	315°13.0	-40°12.6
Menkar	314°08.0	4°10.8
Mirfak	308°30.8	49°56.3
Aldebaran	290°41.8	16°33.3
Rigel	281°05.7	-8°10.3
Capella	280°24.8	46°01.2
Bellatrix	278°24.9	6°22.3
Elnath	278°04.3	28°37.6
Alnilam	275°39.7	-1°11.1
Betelgeuse	270°54.2	7°24.8
Canopus	263°53.4	-52°42.1
Sirius	258°28.0	-16°44.4
Adara	255°07.5	-28°59.9
Procyon	244°52.9	5°10.3
Pollux	243°19.8	27°58.3
Avior	234°16.0	-59°34.6
Suhail	222°48.1	-43°31.2
Miaplacidus	221°39.5	-69°48.3
Alphard	217°49.9	-8°45.2
Regulus	207°36.8	11°51.6
Dubhe	193°44.0	61°37.8
Denebola	182°27.2	14°26.9
Gienah	175°45.9	-17°39.9
Acrux	173°02.9	-63°13.4
Gacrux	171°54.3	-57°14.4
Alioth	166°15.2	55°50.4
Spica	158°24.6	-11°16.6
Alcaid	152°53.9	49°12.3
Hadar	148°39.2	-60°29.0
Menkent	148°00.2	-36°28.8
Arcturus	145°49.8	19°04.4
Rigil Kent.	139°43.4	-60°55.8
Zubenelg.	136°58.3	-16°08.1
Kochab	137°20.4	74°04.0
Alphecca	126°05.5	26°38.6
Antares	112°18.3	-26°28.9
Atria	107°14.2	-69°04.3
Sabik	102°05.0	-15°45.1
Shaula	96°12.9	-37°07.3
Rasalhague	96°00.3	12°32.8
Etamin	90°43.0	51°29.4
Kaus Aust.	83°34.9	-34°22.5
Vega	80°34.4	38°48.5
Nunki	75°50.0	-26°16.1
Altair	62°01.7	8°55.8
Peacock	53°08.3	-56°39.9
Deneb	49°26.8	45°21.8
Enif	33°40.4	9°58.8
Alnair	27°34.9	-46°51.1
Fomalhaut	15°16.3	-29°30.1
Scheat	13°46.7	28°12.4
Markab	13°31.5	15°19.7

Sep 10 Sa	AHS	Paso Merid
Venus	201°45.4	11:17
Mars	290°11.8	05:23
Jupiter	353°58.7	01:08
Saturn	37°06.9	22:12

Sep 11 Dom	AHS	Paso Merid
Venus	200°34.9	11:18
Mars	289°40.9	05:21
Jupiter	354°05.3	01:03
Saturn	37°10.5	22:07

Sep 12 Lun	AHS	Paso Merid
Venus	199°24.5	11:19
Mars	289°10.3	05:19
Jupiter	354°12.0	00:59
Saturn	37°14.1	22:03

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.2

h	Sol		Luna				
Sa	AHG	Dec	AHG	v	Dec	d	HP
0	180°42.5	5°01.4	4°08.0	10.1	-11°22.0	15.2	59.6
1	195°42.7	5°00.4	18°37.2	10.2	-11°06.7	15.3	59.6
2	210°42.9	4°59.5	33°06.4	10.3	-10°51.5	15.3	59.6
3	225°43.1	4°58.5	47°35.7	10.3	-10°36.1	15.4	59.6
4	240°43.3	4°57.6	62°05.1	10.4	-10°20.8	15.4	59.5
5	255°43.6	4°56.7	76°34.6	10.5	-10°05.3	15.4	59.5
6	270°43.8	4°55.7	91°04.1	10.6	-9°49.9	15.5	59.5
7	285°44.0	4°54.8	105°33.7	10.7	-9°34.4	15.5	59.5
8	300°44.2	4°53.8	120°03.4	10.7	-9°18.8	15.6	59.4
9	315°44.4	4°52.9	134°33.2	10.8	-9°03.2	15.6	59.4
10	330°44.7	4°51.9	149°03.0	10.9	-8°47.6	15.6	59.4
11	345°44.9	4°51.0	163°32.9	10.9	-8°31.9	15.7	59.4
12	0°45.1	4°50.0	178°02.9	11.0	-8°16.3	15.7	59.4
13	15°45.3	4°49.1	192°33.0	11.1	-8°00.5	15.7	59.3
14	30°45.5	4°48.1	207°03.1	11.2	-7°44.8	15.8	59.3
15	45°45.8	4°47.2	221°33.3	11.2	-7°29.0	15.8	59.3
16	60°46.0	4°46.2	236°03.5	11.3	-7°13.2	15.8	59.3
17	75°46.2	4°45.3	250°33.8	11.3	-6°57.4	15.8	59.2
18	90°46.4	4°44.3	265°04.2	11.4	-6°41.5	15.9	59.2
19	105°46.6	4°43.4	279°34.7	11.5	-6°25.6	15.9	59.2
20	120°46.9	4°42.4	294°05.2	11.5	-6°09.7	15.9	59.2
21	135°47.1	4°41.5	308°35.7	11.6	-5°53.8	15.9	59.1
22	150°47.3	4°40.5	323°06.4	11.7	-5°37.9	15.9	59.1
23	165°47.5	4°39.6	337°37.0	11.7	-5°22.0	15.9	59.1
	SD.=15.9	d=-0.9			S.D.=16.3		

Dom	AHG	Dec	AHG	v	Dec	d	HP
0	180°47.7	4°38.6	352°07.8	11.8	-5°06.0	16.0	59.0
1	195°48.0	4°37.7	6°38.6	11.8	-4°50.0	16.0	59.0
2	210°48.2	4°36.7	21°09.4	11.9	-4°34.1	16.0	59.0
3	225°48.4	4°35.8	35°40.3	11.9	-4°18.1	16.0	59.0
4	240°48.6	4°34.8	50°11.3	12.0	-4°02.1	16.0	58.9
5	255°48.8	4°33.9	64°42.3	12.0	-3°46.1	16.0	58.9
6	270°49.1	4°32.9	79°13.4	12.1	-3°30.1	16.0	58.9
7	285°49.3	4°32.0	93°44.5	12.1	-3°14.1	16.0	58.9
8	300°49.5	4°31.0	108°15.6	12.2	-2°58.1	16.0	58.8
9	315°49.7	4°30.1	122°46.8	12.2	-2°42.1	16.0	58.8
10	330°49.9	4°29.1	137°18.1	12.3	-2°26.1	16.0	58.8
11	345°50.2	4°28.2	151°49.4	12.3	-2°10.1	16.0	58.7
12	0°50.4	4°27.2	166°20.7	12.4	-1°54.1	16.0	58.7
13	15°50.6	4°26.3	180°52.1	12.4	-1°38.1	16.0	58.7
14	30°50.8	4°25.3	195°23.5	12.4	-1°22.2	16.0	58.6
15	45°51.0	4°24.4	209°55.0	12.5	-1°06.2	16.0	58.6
16	60°51.3	4°23.4	224°26.5	12.5	-0°50.3	15.9	58.6
17	75°51.5	4°22.5	238°58.0	12.6	-0°34.3	15.9	58.6
18	90°51.7	4°21.5	253°29.6	12.6	-0°18.4	15.9	58.5
19	105°51.9	4°20.6	268°01.2	12.6	-0°02.5	15.9	58.5
20	120°52.2	4°19.6	282°32.9	12.7	0°13.4	15.9	58.5
21	135°52.4	4°18.7	297°04.5	12.7	0°29.3	15.9	58.4
22	150°52.6	4°17.7	311°36.2	12.7	0°45.1	15.8	58.4
23	165°52.8	4°16.8	326°08.0	12.8	1°00.9	15.8	58.4
	SD.=15.9	d=-0.9			S.D.=16.1		

Lun	AHG	Dec	AHG	v	Dec	d	HP
0	180°53.0	4°15.8	340°39.8	12.8	1°16.7	15.8	58.3
1	195°53.3	4°14.9	355°11.6	12.8	1°32.5	15.8	58.3
2	210°53.5	4°13.9	9°43.4	12.8	1°48.3	15.7	58.3
3	225°53.7	4°13.0	24°15.3	12.9	2°04.0	15.7	58.2
4	240°53.9	4°12.0	38°47.1	12.9	2°19.7	15.7	58.2
5	255°54.2	4°11.1	53°19.1	12.9	2°35.4	15.7	58.2
6	270°54.4	4°10.1	67°51.0	12.9	2°51.0	15.6	58.1
7	285°54.6	4°09.2	82°22.9	13.0	3°06.7	15.6	58.1
8	300°54.8	4°08.2	96°54.9	13.0	3°22.2	15.6	58.1
9	315°55.0	4°07.3	111°26.9	13.0	3°37.8	15.5	58.0
10	330°55.3	4°06.3	125°58.9	13.0	3°53.3	15.5	58.0
11	345°55.5	4°05.3	140°31.0	13.0	4°08.8	15.5	58.0
12	0°55.7	4°04.4	155°03.0	13.1	4°24.2	15.4	57.9
13	15°55.9	4°03.4	169°35.1	13.1	4°39.6	15.4	57.9
14	30°56.1	4°02.5	184°07.1	13.1	4°55.0	15.3	57.9
15	45°56.4	4°01.5	198°39.2	13.1	5°10.3	15.3	57.8
16	60°56.6	4°00.6	213°11.3	13.1	5°25.5	15.3	57.8
17	75°56.8	3°59.6	227°43.5	13.1	5°40.8	15.2	57.8
18	90°57.0	3°58.7	242°15.6	13.1	5°56.0	15.2	57.7
19	105°57.3	3°57.7	256°47.7	13.1	6°11.1	15.1	57.7
20	120°57.5	3°56.8	271°19.9	13.2	6°26.2	15.1	57.7
21	135°57.7	3°55.8	285°52.0	13.2	6°41.2	15.0	57.6
22	150°57.9	3°54.8	300°24.2	13.2	6°56.2	15.0	57.6
23	165°58.1	3°53.9	314°56.4	13.2	7°11.2	14.9	57.6
	SD.=15.9	d=-1.0			S.D.=15.9		

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	01:27	03:33	04:49	19:02	20:16	22:16
70	02:12	03:50	04:56	18:55	20:00	21:35
68	02:40	04:03	05:02	18:49	19:48	21:08
66	03:01	04:13	05:07	18:44	19:38	20:49
64	03:17	04:22	05:11	18:40	19:29	20:33
62	03:31	04:29	05:15	18:37	19:22	20:20
60	03:42	04:35	05:18	18:34	19:16	20:09
58	03:51	04:41	05:21	18:31	19:11	20:00
56	03:59	04:45	05:24	18:28	19:06	19:53
54	04:06	04:50	05:26	18:26	19:02	19:46
52	04:12	04:53	05:28	18:24	18:59	19:40
50	04:17	04:57	05:30	18:23	18:55	19:35
45	04:29	05:04	05:34	18:19	18:48	19:24
40	04:37	05:10	05:37	18:16	18:43	19:15
35	04:44	05:14	05:40	18:13	18:38	19:08
30	04:50	05:18	05:42	18:10	18:35	19:03
20	04:59	05:24	05:47	18:06	18:29	18:54
10	05:05	05:29	05:50	18:03	18:24	18:49
0	05:09	05:33	05:53	18:00	18:21	18:45
S 10	05:11	05:36	05:57	17:57	18:18	18:42
20	05:12	05:38	06:00	17:54	18:16	18:41
30	05:12	05:40	06:03	17:50	18:14	18:42
35	05:11	05:40	06:05	17:48	18:14	18:43
40	05:09	05:41	06:08	17:46	18:13	18:45
45	05:07	05:41	06:10	17:44	18:13	18:47
50	05:04	05:41	06:13	17:41	18:13	18:51
52	05:02	05:41	06:15	17:40	18:13	18:52
54	05:00	05:41	06:16	17:38	18:13	18:54
56	04:58	05:41	06:18	17:37	18:14	18:57
58	04:55	05:41	06:20	17:35	18:14	19:00
60	04:52	05:40	06:22	17:33	18:14	19:03

	Orto luna			Ocaso luna		
Lat.	Sa	Dom	Lun	Sa	Dom	Lun
N 72	19:44	19:10	18:37	03:29	05:58	08:13
70	19:35	19:10	18:45	03:48	06:03	08:09
68	19:28	19:10	18:52	04:03	06:07	08:05
66	19:22	19:10	18:58	04:14	06:11	08:02
64	19:16	19:09	19:03	04:24	06:14	07:59
62	19:12	19:09	19:07	04:32	06:17	07:56
60	19:08	19:09	19:11	04:39	06:19	07:54
58	19:04	19:09	19:14	04:45	06:21	07:53
56	19:01	19:09	19:17	04:51	06:23	07:51
54	18:58	19:09	19:20	04:56	06:24	07:49
52	18:56	19:09	19:22	05:00	06:26	07:48
50	18:53	19:09	19:24	05:04	06:27	07:47
45	18:48	19:09	19:29	05:12	06:30	07:44
40	18:44	19:09	19:33	05:19	06:32	07:42
35	18:40	19:09	19:37	05:25	06:34	07:40
30	18:37	19:09	19:40	05:31	06:36	07:39
20	18:31	19:09	19:45	05:40	06:39	07:36
10	18:26	19:09	19:50	05:48	06:42	07:33
0	18:21	19:09	19:55	05:55	06:44	07:31
S 10	18:16	19:09	20:00	06:02	06:46	07:29
20	18:11	19:09	20:05	06:10	06:49	07:26
30	18:05	19:09	20:11	06:18	06:52	07:23
35	18:02	19:09	20:14	06:23	06:53	07:21
40	17:58	19:09	20:18	06:29	06:55	07:20
45	17:53	19:09	20:22	06:35	06:57	07:17
50	17:48	19:09	20:28	06:43	07:00	07:15
52	17:45	19:09	20:30	06:46	07:01	07:14
54	17:43	19:09	20:33	06:50	07:02	07:12
56	17:40	19:09	20:36	06:54	07:03	07:11
58	17:36	19:09	20:40	06:59	07:05	07:10
60	17:32	19:09	20:43	07:04	07:06	07:08

Día	Sol			Luna		
	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
10	02:50	03:00	11:57	00:32	12:08	14(100%)
11	03:11	03:21	11:56	00:32	12:56	15(98%)
12	03:32	03:43	11:56	01:19	13:43	16(94%)

Septiembre 13, 14, 15 (Mar, Mie, Jue.)

	Aries	Venus		Martes		Júpiter		Saturno	
Mar	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	351°58.0	190°12.4	9°10.7	280°38.1	21°14.1	346°16.8	0°42.7	29°15.7	-16°06.7
1	7°00.5	205°11.9	9°09.5	295°39.3	21°14.3	1°19.5	0°42.5	44°18.3	-16°06.7
2	22°03.0	220°11.5	9°08.4	310°40.5	21°14.5	16°22.3	0°42.4	59°20.9	-16°06.8
3	37°05.4	235°11.0	9°07.3	325°41.7	21°14.7	31°25.0	0°42.3	74°23.5	-16°06.8
4	52°07.9	250°10.6	9°06.1	340°42.9	21°15.0	46°27.8	0°42.2	89°26.1	-16°06.9
5	67°10.3	265°10.1	9°05.0	355°44.1	21°15.2	61°30.5	0°42.0	104°28.7	-16°06.9
6	82°12.8	280°09.7	9°03.8	10°45.3	21°15.4	76°33.3	0°41.9	119°31.3	-16°07.0
7	97°15.3	295°09.2	9°02.7	25°46.5	21°15.6	91°36.0	0°41.8	134°33.9	-16°07.0
8	112°17.7	310°08.7	9°01.5	40°47.8	21°15.8	106°38.8	0°41.7	149°36.5	-16°07.1
9	127°20.2	325°08.3	9°00.4	55°49.0	21°16.0	121°41.5	0°41.5	164°39.2	-16°07.1
10	142°22.7	340°07.8	8°59.3	70°50.2	21°16.2	136°44.3	0°41.4	179°41.8	-16°07.2
11	157°25.1	355°07.4	8°58.1	85°51.4	21°16.4	151°47.0	0°41.3	194°44.4	-16°07.2
12	172°27.6	10°06.9	8°57.0	100°52.6	21°16.6	166°49.8	0°41.1	209°47.0	-16°07.3
13	187°30.1	25°06.5	8°55.8	115°53.8	21°16.8	181°52.5	0°41.0	224°49.6	-16°07.3
14	202°32.5	40°06.0	8°54.7	130°55.1	21°17.0	196°55.3	0°40.9	239°52.2	-16°07.4
15	217°35.0	55°05.6	8°53.5	145°56.3	21°17.2	211°58.0	0°40.8	254°54.8	-16°07.4
16	232°37.4	70°05.1	8°52.4	160°57.5	21°17.4	227°00.8	0°40.6	269°57.4	-16°07.4
17	247°39.9	85°04.7	8°51.2	175°58.7	21°17.6	242°03.5	0°40.5	285°00.0	-16°07.5
18	262°42.4	100°04.2	8°50.1	190°59.9	21°17.8	257°06.3	0°40.4	300°02.6	-16°07.5
19	277°44.8	115°03.8	8°49.0	206°01.2	21°18.0	272°09.0	0°40.2	315°05.2	-16°07.6
20	292°47.3	130°03.3	8°47.8	221°02.4	21°18.2	287°11.8	0°40.1	330°07.8	-16°07.6
21	307°49.8	145°02.9	8°46.7	236°03.6	21°18.4	302°14.5	0°40.0	345°10.5	-16°07.7
22	322°52.2	160°02.4	8°45.5	251°04.8	21°18.5	317°17.3	0°39.9	0°13.1	-16°07.7
23	337°54.7	175°02.0	8°44.4	266°06.0	21°18.7	332°20.0	0°39.7	15°15.7	-16°07.8
Mer.pass.:0:32:		v-0.5 d-1.1 m-3.8		v1.2 d0.2 m-0.3		v2.7 d-0.1 m-2.8		v2.6 d-0.0 m0.4	

Mie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	352°57.2	190°01.5	8°43.2	281°07.3	21°18.9	347°22.8	0°39.6	30°18.3	-16°07.8
1	7°59.6	205°01.1	8°42.1	296°08.5	21°19.1	2°25.5	0°39.5	45°20.9	-16°07.9
2	23°02.1	220°00.6	8°40.9	311°09.7	21°19.3	17°28.3	0°39.3	60°23.5	-16°07.9
3	38°04.6	235°00.2	8°39.8	326°10.9	21°19.5	32°31.0	0°39.2	75°26.1	-16°08.0
4	53°07.0	249°59.7	8°38.6	341°12.2	21°19.7	47°33.8	0°39.1	90°28.7	-16°08.0
5	68°09.5	264°59.3	8°37.5	356°13.4	21°19.9	62°36.5	0°39.0	105°31.3	-16°08.0
6	83°11.9	279°58.8	8°36.3	11°14.6	21°20.1	77°39.3	0°38.8	120°33.9	-16°08.1
7	98°14.4	294°58.4	8°35.2	26°15.9	21°20.3	92°42.0	0°38.7	135°36.5	-16°08.1
8	113°16.9	309°57.9	8°34.0	41°17.1	21°20.5	107°44.8	0°38.6	150°39.1	-16°08.2
9	128°19.3	324°57.5	8°32.9	56°18.3	21°20.7	122°47.5	0°38.4	165°41.7	-16°08.2
10	143°21.8	339°57.0	8°31.7	71°19.5	21°20.9	137°50.3	0°38.3	180°44.3	-16°08.3
11	158°24.3	354°56.6	8°30.5	86°20.8	21°21.1	152°53.0	0°38.2	195°46.9	-16°08.3
12	173°26.7	9°56.1	8°29.4	101°22.0	21°21.3	167°55.8	0°38.1	210°49.6	-16°08.4
13	188°29.2	24°55.7	8°28.2	116°23.2	21°21.5	182°58.6	0°37.9	225°52.2	-16°08.4
14	203°31.7	39°55.3	8°27.1	131°24.5	21°21.7	198°01.3	0°37.8	240°54.8	-16°08.5
15	218°34.1	54°54.8	8°25.9	146°25.7	21°21.9	213°04.1	0°37.7	255°57.4	-16°08.5
16	233°36.6	69°54.4	8°24.8	161°26.9	21°22.1	228°06.8	0°37.5	271°00.0	-16°08.5
17	248°39.1	84°53.9	8°23.6	176°28.2	21°22.3	243°09.6	0°37.4	286°02.6	-16°08.6
18	263°41.5	99°53.5	8°22.5	191°29.4	21°22.5	258°12.3	0°37.3	301°05.2	-16°08.6
19	278°44.0	114°53.0	8°21.3	206°30.6	21°22.7	273°15.1	0°37.1	316°07.8	-16°08.7
20	293°46.4	129°52.6	8°20.1	221°31.9	21°22.9	288°17.8	0°37.0	331°10.4	-16°08.7
21	308°48.9	144°52.1	8°19.0	236°33.1	21°23.1	303°20.6	0°36.9	346°13.0	-16°08.8
22	323°51.4	159°51.7	8°17.8	251°34.3	21°23.2	318°23.3	0°36.8	1°15.6	-16°08.8
23	338°53.8	174°51.3	8°16.7	266°35.6	21°23.4	333°26.1	0°36.6	16°18.2	-16°08.9
Mer.pass.:0:28:		v-0.4 d-1.1 m-3.8		v1.2 d0.2 m-0.3		v2.8 d-0.1 m-2.8		v2.6 d-0.0 m0.4	

Jue	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	353°56.3	189°50.8	8°15.5	281°36.8	21°23.6	348°28.8	0°36.5	31°20.8	-16°08.9
1	8°58.8	204°50.4	8°14.3	296°38.1	21°23.8	3°31.6	0°36.4	46°23.4	-16°08.9
2	24°01.2	219°49.9	8°13.2	311°39.3	21°24.0	18°34.3	0°36.2	61°26.0	-16°09.0
3	39°03.7	234°49.5	8°12.0	326°40.5	21°24.2	33°37.1	0°36.1	76°28.6	-16°09.0
4	54°06.2	249°49.0	8°10.9	341°41.8	21°24.4	48°39.9	0°36.0	91°31.2	-16°09.1
5	69°08.6	264°48.6	8°09.7	356°43.0	21°24.6	63°42.6	0°35.8	106°33.8	-16°09.1
6	84°11.1	279°48.2	8°08.5	11°44.3	21°24.8	78°45.4	0°35.7	121°36.4	-16°09.2
7	99°13.5	294°47.7	8°07.4	26°45.5	21°25.0	93°48.1	0°35.6	136°39.0	-16°09.2
8	114°16.0	309°47.3	8°06.2	41°46.8	21°25.2	108°50.9	0°35.5	151°41.7	-16°09.3
9	129°18.5	324°46.8	8°05.1	56°48.0	21°25.4	123°53.6	0°35.3	166°44.3	-16°09.3
10	144°20.9	339°46.4	8°03.9	71°49.2	21°25.6	138°56.4	0°35.2	181°46.9	-16°09.3
11	159°23.4	354°46.0	8°02.7	86°50.5	21°25.7	153°59.1	0°35.1	196°49.5	-16°09.4
12	174°25.9	9°45.5	8°01.6	101°51.7	21°25.9	169°01.9	0°34.9	211°52.1	-16°09.4
13	189°28.3	24°45.1	8°00.4	116°53.0	21°26.1	184°04.6	0°34.8	226°54.7	-16°09.5
14	204°30.8	39°44.6	7°59.2	131°54.2	21°26.3	199°07.4	0°34.7	241°57.3	-16°09.5
15	219°33.3	54°44.2	7°58.1	146°55.5	21°26.5	214°10.2	0°34.5	256°59.9	-16°09.6
16	234°35.7	69°43.8	7°56.9	161°56.7	21°26.7	229°12.9	0°34.4	272°02.5	-16°09.6
17	249°38.2	84°43.3	7°55.7	176°58.0	21°26.9	244°15.7	0°34.3	287°05.1	-16°09.7
18	264°40.7	99°42.9	7°54.6	191°59.2	21°27.1	259°18.4	0°34.2	302°07.7	-16°09.7
19	279°43.1	114°42.4	7°53.4	207°00.5	21°27.3	274°21.2	0°34.0	317°10.3	-16°09.7
20	294°45.6	129°42.0	7°52.2	222°01.7	21°27.5	289°23.9	0°33.9	332°12.9	-16°09.8
21	309°48.0	144°41.6	7°51.1	237°03.0	21°27.6	304°26.7	0°33.8	347°15.5	-16°09.8
22	324°50.5	159°41.1	7°49.9	252°04.2	21°27.8	319°29.5	0°33.6	2°18.1	-16°09.9
23	339°53.0	174°40.7	7°48.7	267°05.5	21°28.0	334°32.2	0°33.5	17°20.7	-16°09.9
Mer.pass.:0:24:		v-0.4 d-1.2 m-3.8		v1.2 d0.2 m-0.3		v2.8 d-0.1 m-2.8		v2.6 d-0.0 m0.4	

Estrellas

	AHS	Dec
Alpheratz	357°36.4	29°13.0
Ankaa	353°08.6	-42°10.9
Schedar	349°32.7	56°39.6
Diphda	348°48.8	-17°51.6
Achernar	335°21.1	-57°07.1
Hamal	327°53.1	23°34.2
Polaris	314°40.9	89°21.3
Akamar	315°13.0	-40°12.6
Menkar	314°08.0	4°10.8
Mirfak	308°30.8	49°56.3
Aldebaran	290°41.8	16°33.3
Rigel	281°05.7	-8°10.3
Capella	280°24.7	46°01.2
Bellatrix	278°24.9	6°22.3
Elnath	278°04.3	28°37.6
Alnilam	275°39.7	-1°11.1
Betelgeuse	270°54.2	7°24.8
Canopus	263°53.4	-52°42.1
Sirius	258°27.9	-16°44.4
Adara	255°07.5	-28°59.9
Procyon	244°52.9	5°10.3
Pollux	243°19.8	27°58.3
Avior	234°16.0	-59°34.6
Suhail	222°48.1	-43°31.1
Miaplacidus	221°39.5	-69°48.3
Alphard	217°49.9	-8°45.2
Regulus	207°36.7	11°51.6
Dubhe	193°44.0	61°37.8
Denebola	182°27.2	14°26.9
Gienah	175°45.9	-17°39.9
Acrux	173°02.9	-63°13.4
Gacrux	171°54.4	-57°14.3
Alioth	166°15.2	55°50.4
Spica	158°24.6	-11°16.6
Alcaid	152°53.9	49°12.3
Hadar	148°39.2	-60°29.0
Menkent	148°00.2	-36°28.8
Arcturus	145°49.8	19°04.4
Rigil Kent.	139°43.4	-60°55.8
Zubenelg.	136°58.4	-16°08.0
Kochab	137°20.5	74°04.0
Alphecca	126°05.6	26°38.6
Antares	112°18.3	-26°28.9
Atria	107°14.3	-69°04.3
Sabik	102°05.0	-15°45.1
Shaula	96°13.0	-37°07.3
Rasalhague	96°00.3	12°32.8
Etamin	90°43.0	51°29.4
Kaus Aust.	83°34.9	-34°22.5
Vega	80°34.4	38°48.5
Nunki	75°50.0	-26°16.1
Altair	62°01.7	8°55.8
Peacock	53°08.3	-56°39.9
Deneb	49°26.8	45°21.8
Enif	33°40.4	9°58.8
Alnair	27°34.9	-46°51.1
Fomalhaut	15°16.3	-29°30.1
Scheat	13°46.7	28°12.4
Markab	13°31.5	15°19.7

Sep 13 Mar	AHS	Paso Merid
Venus	198°14.4	11:20
Mars	288°40.0	05:17
Jupiter	354°18.8	00:55
Saturn	37°17.6	21:59

Sep 14 Mie	AHS	Paso Merid
Venus	197°04.4	11:20
Mars	288°10.1	05:15
Jupiter	354°25.6	00:50
Saturn	37°21.1	21:55

Sep 15 Jue	AHS	Paso Merid
Venus	195°54.5	11:21
Mars	287°40.5	05:13
Jupiter	354°32.5	00:46
Saturn	37°24.5	21:51

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.2

h	Sol		Luna				
Mar	AHG	Dec	AHG	v	Dec	d	HP
0	180°58.4	3°52.9	329°28.5	13.2	7°26.1	14.9	57.5
1	195°58.6	3°52.0	344°00.7	13.2	7°40.9	14.8	57.5
2	210°58.8	3°51.0	358°32.9	13.2	7°55.7	14.8	57.5
3	225°59.0	3°50.1	13°05.1	13.2	8°10.4	14.7	57.4
4	240°59.3	3°49.1	27°37.3	13.2	8°25.1	14.6	57.4
5	255°59.5	3°48.2	42°09.4	13.2	8°39.7	14.6	57.4
6	270°59.7	3°47.2	56°41.6	13.2	8°54.3	14.5	57.3
7	285°59.9	3°46.2	71°13.8	13.2	9°08.8	14.5	57.3
8	301°00.2	3°45.3	85°46.0	13.2	9°23.2	14.4	57.3
9	316°00.4	3°44.3	100°18.2	13.2	9°37.6	14.4	57.2
10	331°00.6	3°43.4	114°50.3	13.2	9°51.9	14.3	57.2
11	346°00.8	3°42.4	129°22.5	13.2	10°06.2	14.2	57.2
12	1°01.0	3°41.5	143°54.6	13.2	10°20.4	14.2	57.1
13	16°01.3	3°40.5	158°26.8	13.1	10°34.5	14.1	57.1
14	31°01.5	3°39.6	172°58.9	13.1	10°48.6	14.0	57.1
15	46°01.7	3°38.6	187°31.1	13.1	11°02.6	14.0	57.0
16	61°01.9	3°37.6	202°03.2	13.1	11°16.5	13.9	57.0
17	76°02.2	3°36.7	216°35.3	13.1	11°30.4	13.8	57.0
18	91°02.4	3°35.7	231°07.4	13.1	11°44.2	13.8	56.9
19	106°02.6	3°34.8	245°39.5	13.1	11°57.9	13.7	56.9
20	121°02.8	3°33.8	260°11.6	13.1	12°11.5	13.6	56.9
21	136°03.1	3°32.8	274°43.6	13.1	12°25.1	13.5	56.8
22	151°03.3	3°31.9	289°15.7	13.0	12°38.6	13.5	56.8
23	166°03.5	3°30.9	303°47.7	13.0	12°52.0	13.4	56.8
	SD.=15.9	d=-1.0			S.D.=15.7		

Mie	AHG	Dec	AHG	v	Dec	d	HP
0	181°03.7	3°30.0	318°19.7	13.0	13°05.4	13.3	56.7
1	196°03.9	3°29.0	332°51.7	13.0	13°18.7	13.2	56.7
2	211°04.2	3°28.1	347°23.7	13.0	13°31.9	13.2	56.7
3	226°04.4	3°27.1	1°55.7	13.0	13°45.0	13.1	56.6
4	241°04.6	3°26.1	16°27.6	12.9	13°58.0	13.0	56.6
5	256°04.8	3°25.2	30°59.5	12.9	14°11.0	12.9	56.6
6	271°05.1	3°24.2	45°31.4	12.9	14°23.9	12.8	56.5
7	286°05.3	3°23.3	60°03.3	12.9	14°36.7	12.8	56.5
8	301°05.5	3°22.3	74°35.2	12.9	14°49.4	12.7	56.5
9	316°05.7	3°21.3	89°07.0	12.8	15°02.1	12.6	56.4
10	331°06.0	3°20.4	103°38.9	12.8	15°14.6	12.5	56.4
11	346°06.2	3°19.4	118°10.6	12.8	15°27.1	12.4	56.4
12	1°06.4	3°18.5	132°42.4	12.8	15°39.5	12.3	56.3
13	16°06.6	3°17.5	147°14.2	12.7	15°51.8	12.3	56.3
14	31°06.8	3°16.6	161°45.9	12.7	16°04.0	12.2	56.3
15	46°07.1	3°15.6	176°17.6	12.7	16°16.1	12.1	56.2
16	61°07.3	3°14.6	190°49.2	12.7	16°28.1	12.0	56.2
17	76°07.5	3°13.7	205°20.9	12.6	16°40.1	11.9	56.2
18	91°07.7	3°12.7	219°52.5	12.6	16°52.0	11.8	56.1
19	106°08.0	3°11.8	234°24.1	12.6	17°03.7	11.7	56.1
20	121°08.2	3°10.8	248°55.6	12.5	17°15.4	11.6	56.1
21	136°08.4	3°09.8	263°27.2	12.5	17°27.0	11.5	56.1
22	151°08.6	3°08.9	277°58.7	12.5	17°38.5	11.4	56.0
23	166°08.9	3°07.9	292°30.1	12.5	17°49.9	11.4	56.0
	SD.=15.9	d=-1.0			S.D.=15.5		

Jue	AHG	Dec	AHG	v	Dec	d	HP
0	181°09.1	3°06.9	307°01.6	12.4	18°01.2	11.3	56.0
1	196°09.3	3°06.0	321°33.0	12.4	18°12.4	11.2	55.9
2	211°09.5	3°05.0	336°04.4	12.4	18°23.5	11.1	55.9
3	226°09.8	3°04.1	350°35.7	12.3	18°34.5	11.0	55.9
4	241°10.0	3°03.1	5°07.0	12.3	18°45.4	10.9	55.8
5	256°10.2	3°02.1	19°38.3	12.3	18°56.3	10.8	55.8
6	271°10.4	3°01.2	34°09.6	12.2	19°07.0	10.7	55.8
7	286°10.6	3°00.2	48°40.8	12.2	19°17.6	10.6	55.8
8	301°10.9	2°59.3	63°12.0	12.2	19°28.1	10.5	55.7
9	316°11.1	2°58.3	77°43.1	12.1	19°38.6	10.4	55.7
10	331°11.3	2°57.3	92°14.2	12.1	19°48.9	10.3	55.7
11	346°11.5	2°56.4	106°45.3	12.1	19°59.1	10.2	55.6
12	1°11.8	2°55.4	121°16.4	12.0	20°09.2	10.1	55.6
13	16°12.0	2°54.4	135°47.4	12.0	20°19.2	10.0	55.6
14	31°12.2	2°53.5	150°18.4	12.0	20°29.1	9.9	55.6
15	46°12.4	2°52.5	164°49.3	11.9	20°38.9	9.8	55.5
16	61°12.7	2°51.6	179°20.2	11.9	20°48.6	9.6	55.5
17	76°12.9	2°50.6	193°51.1	11.9	20°58.2	9.5	55.5
18	91°13.1	2°49.6	208°21.9	11.8	21°07.7	9.4	55.5
19	106°13.3	2°48.7	222°52.7	11.8	21°17.1	9.3	55.4
20	121°13.6	2°47.7	237°23.5	11.8	21°26.4	9.2	55.4
21	136°13.8	2°46.8	251°54.3	11.7	21°35.5	9.1	55.4
22	151°14.0	2°45.8	266°25.0	11.7	21°44.6	9.0	55.4
23	166°14.2	2°44.8	280°55.6	11.6	21°53.5	8.9	55.3
	SD.=15.9	d=-1.0			S.D.=15.3		

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	01:58	03:49	05:02	18:46	19:58	21:45
70	02:33	04:03	05:08	18:41	19:45	21:13
68	02:56	04:14	05:13	18:36	19:34	20:51
66	03:14	04:23	05:17	18:33	19:25	20:34
64	03:29	04:31	05:20	18:29	19:18	20:20
62	03:40	04:37	05:23	18:27	19:12	20:08
60	03:50	04:43	05:25	18:24	19:07	19:59
58	03:59	04:47	05:27	18:22	19:02	19:51
56	04:06	04:52	05:29	18:21	18:58	19:44
54	04:12	04:55	05:31	18:19	18:55	19:38
52	04:18	04:59	05:33	18:17	18:51	19:32
50	04:23	05:02	05:34	18:16	18:49	19:27
45	04:33	05:08	05:37	18:13	18:43	19:17
40	04:41	05:13	05:40	18:11	18:38	19:10
35	04:47	05:17	05:42	18:09	18:34	19:04
30	04:52	05:20	05:44	18:07	18:31	18:59
20	04:59	05:25	05:47	18:04	18:26	18:51
10	05:04	05:29	05:50	18:01	18:22	18:47
0	05:08	05:32	05:52	17:59	18:20	18:44
S 10	05:09	05:34	05:55	17:57	18:18	18:42
20	05:10	05:35	05:57	17:54	18:16	18:42
30	05:08	05:36	06:00	17:52	18:16	18:44
35	05:07	05:36	06:01	17:51	18:16	18:45
40	05:04	05:36	06:03	17:49	18:16	18:47
45	05:01	05:35	06:05	17:47	18:17	18:51
50	04:57	05:35	06:07	17:45	18:18	18:55
52	04:55	05:34	06:08	17:44	18:18	18:57
54	04:53	05:34	06:09	17:43	18:19	19:00
56	04:50	05:33	06:10	17:42	18:19	19:03
58	04:47	05:32	06:11	17:41	18:20	19:06
60	04:43	05:31	06:13	17:40	18:21	19:10

	Orto luna			Ocaso luna		
Lat.	Mar	Mie	Jue	Mar	Mie	Jue
N 72	17:59	16:54	–:–	10:31	13:14	–:–
70	18:18	17:38	–:–	10:14	12:31	–:–
68	18:33	18:08	17:21	10:01	12:03	14:29
66	18:45	18:30	18:08	09:51	11:42	13:44
64	18:56	18:48	18:38	09:42	11:26	13:14
62	19:05	19:03	19:01	09:34	11:12	12:52
60	19:12	19:15	19:20	09:28	11:01	12:34
58	19:19	19:26	19:36	09:22	10:51	12:19
56	19:25	19:35	19:49	09:17	10:42	12:06
54	19:31	19:44	20:00	09:13	10:34	11:55
52	19:36	19:51	20:11	09:09	10:28	11:45
50	19:40	19:58	20:20	09:05	10:22	11:37
45	19:50	20:13	20:39	08:57	10:08	11:18
40	19:58	20:25	20:55	08:50	09:58	11:04
35	20:05	20:35	21:09	08:45	09:48	10:51
30	20:11	20:45	21:21	08:40	09:40	10:40
20	20:22	21:00	21:41	08:31	09:26	10:21
10	20:32	21:14	21:59	08:24	09:14	10:05
0	20:41	21:28	22:15	08:17	09:03	09:50
S 10	20:50	21:41	22:32	08:10	08:52	09:35
20	21:00	21:55	22:50	08:03	08:40	09:19
30	21:11	22:11	23:11	07:54	08:27	09:01
35	21:18	22:21	23:23	07:50	08:19	08:50
40	21:25	22:32	23:37	07:44	08:10	08:38
45	21:34	22:45	23:54	07:38	08:00	08:24
50	21:45	23:01	–:–	07:30	07:47	08:07
52	21:50	23:09	–:–	07:27	07:41	07:59
54	21:56	23:17	–:–	07:23	07:35	07:50
56	22:02	23:26	–:–	07:19	07:28	07:40
58	22:09	23:37	–:–	07:14	07:20	07:28
60	22:16	23:50	–:–	07:09	07:11	07:15

Día	Sol			Luna		
	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
13	03:53	04:04	11:55	02:06	14:28	17(89%)
14	04:15	04:26	11:55	02:52	15:15	18(81%)
15	04:36	04:47	11:55	03:38	16:02	19(73%)

Septiembre 16, 17, 18 (Vie, Sa, Dom.)

	Aries	Venus		Martes		Júpiter		Saturno	
Vie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	354°55.4	189°40.2	7°47.6	282°06.7	21°28.2	349°35.0	0°33.4	32°23.3	-16°10.0
1	9°57.9	204°39.8	7°46.4	297°08.0	21°28.4	4°37.7	0°33.2	47°25.9	-16°10.0
2	25°00.4	219°39.4	7°45.2	312°09.3	21°28.6	19°40.5	0°33.1	62°28.5	-16°10.1
3	40°02.8	234°38.9	7°44.0	327°10.5	21°28.8	34°43.2	0°33.0	77°31.1	-16°10.1
4	55°05.3	249°38.5	7°42.9	342°11.8	21°29.0	49°46.0	0°32.9	92°33.7	-16°10.1
5	70°07.8	264°38.1	7°41.7	357°13.0	21°29.2	64°48.7	0°32.7	107°36.3	-16°10.2
6	85°10.2	279°37.6	7°40.5	12°14.3	21°29.3	79°51.5	0°32.6	122°38.9	-16°10.2
7	100°12.7	294°37.2	7°39.4	27°15.5	21°29.5	94°54.3	0°32.5	137°41.5	-16°10.3
8	115°15.2	309°36.8	7°38.2	42°16.8	21°29.7	109°57.0	0°32.3	152°44.1	-16°10.3
9	130°17.6	324°36.3	7°37.0	57°18.1	21°29.9	124°59.8	0°32.2	167°46.7	-16°10.4
10	145°20.1	339°35.9	7°35.8	72°19.3	21°30.1	140°02.5	0°32.1	182°49.3	-16°10.4
11	160°22.5	354°35.5	7°34.7	87°20.6	21°30.3	155°05.3	0°31.9	197°51.9	-16°10.4
12	175°25.0	9°35.0	7°33.5	102°21.8	21°30.5	170°08.1	0°31.8	212°54.5	-16°10.5
13	190°27.5	24°34.6	7°32.3	117°23.1	21°30.7	185°10.8	0°31.7	227°57.1	-16°10.5
14	205°29.9	39°34.2	7°31.2	132°24.4	21°30.8	200°13.6	0°31.5	242°59.7	-16°10.6
15	220°32.4	54°33.7	7°30.0	147°25.6	21°31.0	215°16.3	0°31.4	258°02.3	-16°10.6
16	235°34.9	69°33.3	7°28.8	162°26.9	21°31.2	230°19.1	0°31.3	273°04.9	-16°10.7
17	250°37.3	84°32.9	7°27.6	177°28.2	21°31.4	245°21.8	0°31.2	288°07.5	-16°10.7
18	265°39.8	99°32.4	7°26.5	192°29.4	21°31.6	260°24.6	0°31.0	303°10.1	-16°10.7
19	280°42.3	114°32.0	7°25.3	207°30.7	21°31.8	275°27.4	0°30.9	318°12.7	-16°10.8
20	295°44.7	129°31.6	7°24.1	222°32.0	21°31.9	290°30.1	0°30.8	333°15.3	-16°10.8
21	310°47.2	144°31.1	7°22.9	237°33.2	21°32.1	305°32.9	0°30.6	348°17.9	-16°10.9
22	325°49.6	159°30.7	7°21.7	252°34.5	21°32.3	320°35.6	0°30.5	3°20.5	-16°10.9
23	340°52.1	174°30.3	7°20.6	267°35.8	21°32.5	335°38.4	0°30.4	18°23.1	-16°11.0
Mer.pass.:0:20:		v-0.4 d-1.2 m-3.8		v1.3 d0.2 m-0.3		v2.8 d-0.1 m-2.8		v2.6 d-0.0 m0.4	

Sa	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	355°54.6	189°29.8	7°19.4	282°37.0	21°32.7	350°41.2	0°30.2	33°25.7	-16°11.0
1	10°57.0	204°29.4	7°18.2	297°38.3	21°32.9	5°43.9	0°30.1	48°28.3	-16°11.0
2	25°59.5	219°29.0	7°17.0	312°39.6	21°33.1	20°46.7	0°30.0	63°30.9	-16°11.1
3	41°02.0	234°28.5	7°15.9	327°40.9	21°33.2	35°49.4	0°29.8	78°33.5	-16°11.1
4	56°04.4	249°28.1	7°14.7	342°42.1	21°33.4	50°52.2	0°29.7	93°36.1	-16°11.2
5	71°06.9	264°27.7	7°13.5	357°43.4	21°33.6	65°54.9	0°29.6	108°38.7	-16°11.2
6	86°09.4	279°27.2	7°12.3	12°44.7	21°33.8	80°57.7	0°29.4	123°41.3	-16°11.3
7	101°11.8	294°26.8	7°11.1	27°45.9	21°34.0	96°00.5	0°29.3	138°43.9	-16°11.3
8	116°14.3	309°26.4	7°10.0	42°47.2	21°34.2	111°03.2	0°29.2	153°46.5	-16°11.3
9	131°16.8	324°26.0	7°08.8	57°48.5	21°34.3	126°06.0	0°29.1	168°49.1	-16°11.4
10	146°19.2	339°25.5	7°07.6	72°49.8	21°34.5	141°08.7	0°28.9	183°51.7	-16°11.4
11	161°21.7	354°25.1	7°06.4	87°51.1	21°34.7	156°11.5	0°28.8	198°54.3	-16°11.5
12	176°24.1	9°24.7	7°05.2	102°52.3	21°34.9	171°14.3	0°28.7	213°56.9	-16°11.5
13	191°26.6	24°24.2	7°04.0	117°53.6	21°35.1	186°17.0	0°28.5	228°59.5	-16°11.6
14	206°29.1	39°23.8	7°02.9	132°54.9	21°35.2	201°19.8	0°28.4	244°02.1	-16°11.6
15	221°31.5	54°23.4	7°01.7	147°56.2	21°35.4	216°22.6	0°28.3	259°04.7	-16°11.6
16	236°34.0	69°23.0	7°00.5	162°57.4	21°35.6	231°25.3	0°28.1	274°07.3	-16°11.7
17	251°36.5	84°22.5	6°59.3	177°58.7	21°35.8	246°28.1	0°28.0	289°09.9	-16°11.7
18	266°38.9	99°22.1	6°58.1	193°00.0	21°36.0	261°30.8	0°27.9	304°12.5	-16°11.8
19	281°41.4	114°21.7	6°56.9	208°01.3	21°36.2	276°33.6	0°27.7	319°15.1	-16°11.8
20	296°43.9	129°21.2	6°55.8	223°02.6	21°36.3	291°36.4	0°27.6	334°17.7	-16°11.9
21	311°46.3	144°20.8	6°54.6	238°03.9	21°36.5	306°39.1	0°27.5	349°20.3	-16°11.9
22	326°48.8	159°20.4	6°53.4	253°05.1	21°36.7	321°41.9	0°27.3	4°22.9	-16°11.9
23	341°51.3	174°20.0	6°52.2	268°06.4	21°36.9	336°44.6	0°27.2	19°25.5	-16°12.0
Mer.pass.:0:16:		v-0.4 d-1.2 m-3.8		v1.3 d0.2 m-0.4		v2.8 d-0.1 m-2.8		v2.6 d-0.0 m0.4	

Dom	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	356°53.7	189°19.5	6°51.0	283°07.7	21°37.1	351°47.4	0°27.1	34°28.1	-16°12.0
1	11°56.2	204°19.1	6°49.8	298°09.0	21°37.2	6°50.2	0°26.9	49°30.6	-16°12.1
2	26°58.6	219°18.7	6°48.6	313°10.3	21°37.4	21°52.9	0°26.8	64°33.2	-16°12.1
3	42°01.1	234°18.3	6°47.4	328°11.6	21°37.6	36°55.7	0°26.7	79°35.8	-16°12.1
4	57°03.6	249°17.8	6°46.3	343°12.9	21°37.8	51°58.4	0°26.6	94°38.4	-16°12.2
5	72°06.0	264°17.4	6°45.1	358°14.2	21°38.0	67°01.2	0°26.4	109°41.0	-16°12.2
6	87°08.5	279°17.0	6°43.9	13°15.4	21°38.1	82°04.0	0°26.3	124°43.6	-16°12.3
7	102°11.0	294°16.6	6°42.7	28°16.7	21°38.3	97°06.7	0°26.2	139°46.2	-16°12.3
8	117°13.4	309°16.1	6°41.5	43°18.0	21°38.5	112°09.5	0°26.0	154°48.8	-16°12.4
9	132°15.9	324°15.7	6°40.3	58°19.3	21°38.7	127°12.3	0°25.9	169°51.4	-16°12.4
10	147°18.4	339°15.3	6°39.1	73°20.6	21°38.8	142°15.0	0°25.8	184°54.0	-16°12.4
11	162°20.8	354°14.9	6°37.9	88°21.9	21°39.0	157°17.8	0°25.6	199°56.6	-16°12.5
12	177°23.3	9°14.4	6°36.7	103°23.2	21°39.2	172°20.5	0°25.5	214°59.2	-16°12.5
13	192°25.8	24°14.0	6°35.5	118°24.5	21°39.4	187°23.3	0°25.4	230°01.8	-16°12.6
14	207°28.2	39°13.6	6°34.4	133°25.8	21°39.6	202°26.1	0°25.2	245°04.4	-16°12.6
15	222°30.7	54°13.2	6°33.2	148°27.1	21°39.7	217°28.8	0°25.1	260°07.0	-16°12.6
16	237°33.1	69°12.7	6°32.0	163°28.4	21°39.9	232°31.6	0°25.0	275°09.6	-16°12.7
17	252°35.6	84°12.3	6°30.8	178°29.7	21°40.1	247°34.4	0°24.8	290°12.2	-16°12.7
18	267°38.1	99°11.9	6°29.6	193°31.0	21°40.3	262°37.1	0°24.7	305°14.8	-16°12.8
19	282°40.5	114°11.5	6°28.4	208°32.3	21°40.4	277°39.9	0°24.6	320°17.4	-16°12.8
20	297°43.0	129°11.1	6°27.2	223°33.6	21°40.6	292°42.6	0°24.4	335°20.0	-16°12.8
21	312°45.5	144°10.6	6°26.0	238°34.9	21°40.8	307°45.4	0°24.3	350°22.5	-16°12.9
22	327°47.9	159°10.2	6°24.8	253°36.2	21°41.0	322°48.2	0°24.2	5°25.1	-16°12.9
23	342°50.4	174°09.8	6°23.6	268°37.5	21°41.1	337°50.9	0°24.0	20°27.7	-16°13.0
Mer.pass.:0:12:		v-0.4 d-1.2 m-3.8		v1.3 d0.2 m-0.4		v2.8 d-0.1 m-2.8		v2.6 d-0.0 m0.4	

Estrellas	AHS	Dec
Alpheratz	357°36.4	29°13.0
Ankaa	353°08.6	-42°10.9
Schedar	349°32.7	56°39.7
Diphda	348°48.8	-17°51.6
Achernar	335°21.1	-57°07.1
Hamal	327°53.1	23°34.2
Polaris	314°39.5	89°21.3
Akamar	315°13.0	-40°12.6
Menkar	314°07.9	4°10.8
Mirfak	308°30.7	49°56.3
Aldebaran	290°41.7	16°33.3
Rigel	281°05.7	-8°10.3
Capella	280°24.7	46°01.2
Bellatrix	278°24.9	6°22.3
Elnath	278°04.3	28°37.6
Alnilam	275°39.7	-1°11.1
Betelgeuse	270°54.2	7°24.8
Canopus	263°53.3	-52°42.1
Sirius	258°27.9	-16°44.4
Adara	255°07.5	-28°59.9
Procyon	244°52.9	5°10.3
Pollux	243°19.7	27°58.3
Avior	234°15.9	-59°34.6
Suhail	222°48.1	-43°31.1
Miaplacidus	221°39.4	-69°48.3
Alphard	217°49.9	-8°45.2
Regulus	207°36.7	11°51.6
Dubhe	193°44.0	61°37.8
Denebola	182°27.2	14°26.9
Gienah	175°45.9	-17°39.9
Acrux	173°02.9	-63°13.4
Gacrux	171°54.4	-57°14.3
Alioth	166°15.2	55°50.4
Spica	158°24.6	-11°16.6
Alcaid	152°53.9	49°12.3
Hadar	148°39.2	-60°29.0
Menkent	148°00.2	-36°28.8
Arcturus	145°49.8	19°04.4
Rigil Kent.	139°43.4	-60°55.8
Zubenelg.	136°58.4	-16°08.0
Kochab	137°20.5	74°04.0
Alphecca	126°05.6	26°38.6
Antares	112°18.3	-26°28.9
Atria	107°14.3	-69°04.3
Sabik	102°05.0	-15°45.1
Shaula	96°13.0	-37°07.3
Rasalhague	96°00.4	12°32.8
Etamin	90°43.0	51°29.4
Kaus Aust.	83°35.0	-34°22.5
Vega	80°34.5	38°48.5
Nunki	75°50.0	-26°16.1
Altair	62°01.7	8°55.8
Peacock	53°08.3	-56°39.9
Deneb	49°26.8	45°21.9
Enif	33°40.4	9°58.8
Alnair	27°34.9	-46°51.1
Fomalhaut	15°16.3	-29°30.1
Scheat	13°46.7	28°12.4
Markab	13°31.5	15°19.7

Sep 16 Vie	AHS	Paso Merid
Venus	194°44.8	11:22
Mars	287°11.3	05:11
Jupiter	354°39.5	00:42
Saturn	37°27.9	21:47

Sep 17 Sa	AHS	Paso Merid
Venus	193°35.2	11:22
Mars	286°42.5	05:09
Jupiter	354°46.6	00:37
Saturn	37°31.1	21:43

Sep 18 Dom	AHS	Paso Merid
Venus	192°25.8	11:23
Mars	286°14.0	05:07
Jupiter	354°53.7	00:33
Saturn	37°34.3	21:38

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.2

h	Sol		Luna				
Vie	AHG	Dec	AHG	v	Dec	d	HP
0	181°14.4	2°43.9	295°26.2	11.6	22°02.4	8.8	55.3
1	196°14.7	2°42.9	309°56.8	11.6	22°11.1	8.7	55.3
2	211°14.9	2°41.9	324°27.4	11.5	22°19.7	8.6	55.3
3	226°15.1	2°41.0	338°57.9	11.5	22°28.2	8.4	55.2
4	241°15.3	2°40.0	353°28.4	11.5	22°36.6	8.3	55.2
5	256°15.6	2°39.0	7°58.9	11.4	22°44.8	8.2	55.2
6	271°15.8	2°38.1	22°29.3	11.4	22°53.0	8.1	55.2
7	286°16.0	2°37.1	36°59.7	11.4	23°01.0	8.0	55.1
8	301°16.2	2°36.2	51°30.0	11.3	23°09.0	7.9	55.1
9	316°16.5	2°35.2	66°00.3	11.3	23°16.8	7.8	55.1
10	331°16.7	2°34.2	80°30.6	11.3	23°24.5	7.6	55.1
11	346°16.9	2°33.3	95°00.9	11.2	23°32.1	7.5	55.0
12	1°17.1	2°32.3	109°31.1	11.2	23°39.5	7.4	55.0
13	16°17.4	2°31.3	124°01.3	11.2	23°46.9	7.3	55.0
14	31°17.6	2°30.4	138°31.4	11.1	23°54.1	7.2	55.0
15	46°17.8	2°29.4	153°01.5	11.1	24°01.2	7.1	55.0
16	61°18.0	2°28.4	167°31.6	11.1	24°08.2	6.9	54.9
17	76°18.3	2°27.5	182°01.6	11.0	24°15.1	6.8	54.9
18	91°18.5	2°26.5	196°31.6	11.0	24°21.8	6.7	54.9
19	106°18.7	2°25.5	211°01.6	11.0	24°28.5	6.6	54.9
20	121°18.9	2°24.6	225°31.6	10.9	24°35.0	6.5	54.9
21	136°19.1	2°23.6	240°01.5	10.9	24°41.4	6.3	54.8
22	151°19.4	2°22.7	254°31.4	10.9	24°47.6	6.2	54.8
23	166°19.6	2°21.7	269°01.2	10.8	24°53.8	6.1	54.8
	SD.=15.9	d=-1.0			S.D.=15.1		

Sa	AHG	Dec	AHG	v	Dec	d	HP
0	181°19.8	2°20.7	283°31.1	10.8	24°59.8	6.0	54.8
1	196°20.0	2°19.8	298°00.9	10.8	25°05.7	5.8	54.8
2	211°20.3	2°18.8	312°30.6	10.8	25°11.5	5.7	54.7
3	226°20.5	2°17.8	327°00.4	10.7	25°17.2	5.6	54.7
4	241°20.7	2°16.9	341°30.1	10.7	25°22.7	5.5	54.7
5	256°20.9	2°15.9	355°59.8	10.7	25°28.1	5.3	54.7
6	271°21.2	2°14.9	10°29.4	10.6	25°33.4	5.2	54.7
7	286°21.4	2°14.0	24°59.0	10.6	25°38.5	5.1	54.7
8	301°21.6	2°13.0	39°28.6	10.6	25°43.6	5.0	54.6
9	316°21.8	2°12.0	53°58.2	10.6	25°48.5	4.8	54.6
10	331°22.1	2°11.1	68°27.8	10.5	25°53.2	4.7	54.6
11	346°22.3	2°10.1	82°57.3	10.5	25°57.9	4.6	54.6
12	1°22.5	2°09.1	97°26.8	10.5	26°02.4	4.5	54.6
13	16°22.7	2°08.2	111°56.3	10.5	26°06.8	4.3	54.6
14	31°22.9	2°07.2	126°25.7	10.4	26°11.1	4.2	54.6
15	46°23.2	2°06.2	140°55.2	10.4	26°15.2	4.1	54.5
16	61°23.4	2°05.3	155°24.6	10.4	26°19.2	3.9	54.5
17	76°23.6	2°04.3	169°54.0	10.4	26°23.1	3.8	54.5
18	91°23.8	2°03.3	184°23.4	10.4	26°26.9	3.7	54.5
19	106°24.1	2°02.4	198°52.7	10.3	26°30.5	3.6	54.5
20	121°24.3	2°01.4	213°22.0	10.3	26°34.0	3.4	54.5
21	136°24.5	2°00.4	227°51.4	10.3	26°37.4	3.3	54.5
22	151°24.7	1°59.5	242°20.7	10.3	26°40.6	3.2	54.4
23	166°25.0	1°58.5	256°50.0	10.3	26°43.7	3.0	54.4
	SD.=15.9	d=-1.0			S.D.=14.9		

Dom	AHG	Dec	AHG	v	Dec	d	HP
0	181°25.2	1°57.5	271°19.2	10.3	26°46.7	2.9	54.4
1	196°25.4	1°56.6	285°48.5	10.3	26°49.5	2.8	54.4
2	211°25.6	1°55.6	300°17.7	10.2	26°52.3	2.7	54.4
3	226°25.9	1°54.6	314°47.0	10.2	26°54.9	2.5	54.4
4	241°26.1	1°53.7	329°16.2	10.2	26°57.3	2.4	54.4
5	256°26.3	1°52.7	343°45.4	10.2	26°59.6	2.3	54.4
6	271°26.5	1°51.7	358°14.6	10.2	27°01.8	2.1	54.4
7	286°26.7	1°50.8	12°43.8	10.2	27°03.9	2.0	54.3
8	301°27.0	1°49.8	27°13.0	10.2	27°05.8	1.9	54.3
9	316°27.2	1°48.8	41°42.1	10.2	27°07.6	1.7	54.3
10	331°27.4	1°47.9	56°11.3	10.2	27°09.3	1.6	54.3
11	346°27.6	1°46.9	70°40.5	10.2	27°10.8	1.5	54.3
12	1°27.9	1°45.9	85°09.6	10.2	27°12.3	1.3	54.3
13	16°28.1	1°45.0	99°38.8	10.1	27°13.5	1.2	54.3
14	31°28.3	1°44.0	114°07.9	10.1	27°14.7	1.1	54.3
15	46°28.5	1°43.0	128°37.0	10.1	27°15.7	0.9	54.3
16	61°28.8	1°42.0	143°06.2	10.1	27°16.6	0.8	54.3
17	76°29.0	1°41.1	157°35.3	10.1	27°17.3	0.7	54.3
18	91°29.2	1°40.1	172°04.5	10.1	27°17.9	0.6	54.3
19	106°29.4	1°39.1	186°33.6	10.1	27°18.4	0.4	54.3
20	121°29.6	1°38.2	201°02.8	10.1	27°18.8	0.3	54.3
21	136°29.9	1°37.2	215°31.9	10.1	27°19.0	0.2	54.2
22	151°30.1	1°36.2	230°01.1	10.2	27°19.1	0.0	54.2
23	166°30.3	1°35.3	244°30.2	10.2	27°19.0	-0.1	54.2
	SD.=15.9	d=-1.0			S.D.=14.8		

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	02:23	04:05	05:16	18:31	19:41	21:20
70	02:51	04:17	05:20	18:27	19:29	20:54
68	03:11	04:26	05:23	18:24	19:21	20:34
66	03:27	04:34	05:26	18:21	19:13	20:19
64	03:39	04:40	05:28	18:19	19:07	20:07
62	03:50	04:45	05:30	18:17	19:02	19:57
60	03:59	04:50	05:32	18:15	18:57	19:48
58	04:06	04:54	05:34	18:14	18:53	19:41
56	04:12	04:58	05:35	18:13	18:50	19:35
54	04:18	05:01	05:37	18:11	18:47	19:29
52	04:23	05:04	05:38	18:10	18:44	19:25
50	04:28	05:06	05:39	18:09	18:42	19:20
45	04:37	05:11	05:41	18:07	18:37	19:11
40	04:44	05:16	05:43	18:06	18:33	19:05
35	04:49	05:19	05:44	18:04	18:30	18:59
30	04:54	05:22	05:46	18:03	18:27	18:55
20	05:00	05:26	05:48	18:01	18:23	18:49
10	05:04	05:29	05:50	17:59	18:20	18:45
0	05:07	05:31	05:51	17:58	18:18	18:42
S 10	05:07	05:32	05:53	17:56	18:17	18:42
20	05:07	05:32	05:54	17:55	18:17	18:43
30	05:04	05:32	05:56	17:53	18:17	18:45
35	05:02	05:32	05:57	17:53	18:18	18:47
40	04:59	05:31	05:58	17:52	18:19	18:50
45	04:56	05:30	05:59	17:51	18:20	18:54
50	04:50	05:28	06:00	17:50	18:22	19:00
52	04:48	05:27	06:01	17:49	18:23	19:02
54	04:45	05:26	06:01	17:49	18:24	19:05
56	04:42	05:25	06:02	17:48	18:25	19:09
58	04:38	05:24	06:03	17:47	18:27	19:13
60	04:33	05:22	06:04	17:47	18:28	19:17

	Orto luna			Ocaso luna		
Lat.	Vie	Sa	Dom	Vie	Sa	Dom
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	–:–	–:–	–:–
68	–:–	–:–	–:–	–:–	–:–	–:–
66	–:–	–:–	–:–	–:–	–:–	–:–
64	18:23	–:–	–:–	15:10	–:–	–:–
62	19:02	19:08	19:34	14:32	16:11	17:31
60	19:29	19:48	20:25	14:05	15:31	16:40
58	19:51	20:16	20:56	13:45	15:04	16:09
56	20:08	20:37	21:20	13:28	14:42	15:45
54	20:23	20:55	21:39	13:13	14:25	15:26
52	20:36	21:10	21:55	13:00	14:10	15:10
50	20:48	21:23	22:09	12:49	13:57	14:56
45	21:11	21:50	22:37	12:26	13:30	14:28
40	21:31	22:12	23:00	12:08	13:09	14:05
35	21:47	22:30	23:18	11:53	12:52	13:47
30	22:01	22:45	23:34	11:39	12:37	13:31
20	22:24	23:11	–:–	11:17	12:11	13:04
10	22:45	23:34	–:–	10:57	11:49	12:41
0	23:04	23:55	–:–	10:39	11:29	12:20
S 10	23:24	–:–	00:16	10:21	11:08	11:58
20	23:45	–:–	00:39	10:01	10:46	11:35
30	–:–	00:09	01:05	09:39	10:21	11:08
35	–:–	00:24	01:21	09:26	10:06	10:52
40	–:–	00:40	01:39	09:11	09:49	10:34
45	–:–	01:00	02:01	08:53	09:29	10:12
50	00:15	01:26	02:29	08:31	09:03	09:43
52	00:25	01:38	02:43	08:21	08:50	09:29
54	00:36	01:52	02:59	08:09	08:36	09:13
56	00:49	02:08	03:18	07:56	08:19	08:54
58	01:05	02:28	03:41	07:40	07:59	08:31
60	01:23	02:53	04:12	07:21	07:34	08:00

Día	Sol			Luna		
	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
16	04:58	05:08	11:54	04:26	16:51	20(64%)
17	05:19	05:30	11:54	05:16	17:41	21(54%)
18	05:41	05:51	11:54	06:07	18:32	22(45%)

Septiembre 19, 20, 21 (Lun, Mar, Mie.)

	Aries	Venus		Martes		Júpiter		Saturno	
Lun	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	357°52.9	189°09.4	6°22.4	283°38.8	21°41.3	352°53.7	0°23.9	35°30.3	-16°13.0
1	12°55.3	204°08.9	6°21.2	298°40.1	21°41.5	7°56.5	0°23.8	50°32.9	-16°13.1
2	27°57.8	219°08.5	6°20.0	313°41.4	21°41.7	22°59.2	0°23.6	65°35.5	-16°13.1
3	43°00.2	234°08.1	6°18.8	328°42.7	21°41.8	38°02.0	0°23.5	80°38.1	-16°13.1
4	58°02.7	249°07.7	6°17.6	343°44.0	21°42.0	53°04.8	0°23.4	95°40.7	-16°13.2
5	73°05.2	264°07.3	6°16.4	358°45.3	21°42.2	68°07.5	0°23.2	110°43.3	-16°13.2
6	88°07.6	279°06.8	6°15.2	13°46.6	21°42.4	83°10.3	0°23.1	125°45.9	-16°13.3
7	103°10.1	294°06.4	6°14.0	28°47.9	21°42.5	98°13.0	0°23.0	140°48.5	-16°13.3
8	118°12.6	309°06.0	6°12.9	43°49.2	21°42.7	113°15.8	0°22.8	155°51.1	-16°13.3
9	133°15.0	324°05.6	6°11.7	58°50.5	21°42.9	128°18.6	0°22.7	170°53.7	-16°13.4
10	148°17.5	339°05.2	6°10.5	73°51.9	21°43.1	143°21.3	0°22.6	185°56.3	-16°13.4
11	163°20.0	354°04.7	6°09.3	88°53.2	21°43.2	158°24.1	0°22.4	200°58.8	-16°13.5
12	178°22.4	9°04.3	6°08.1	103°54.5	21°43.4	173°26.9	0°22.3	216°01.4	-16°13.5
13	193°24.9	24°03.9	6°06.9	118°55.8	21°43.6	188°29.6	0°22.2	231°04.0	-16°13.5
14	208°27.4	39°03.5	6°05.7	133°57.1	21°43.8	203°32.4	0°22.0	246°06.6	-16°13.6
15	223°29.8	54°03.1	6°04.5	148°58.4	21°43.9	218°35.2	0°21.9	261°09.2	-16°13.6
16	238°32.3	69°02.7	6°03.3	163°59.7	21°44.1	233°37.9	0°21.8	276°11.8	-16°13.7
17	253°34.7	84°02.2	6°02.1	179°01.0	21°44.3	248°40.7	0°21.6	291°14.4	-16°13.7
18	268°37.2	99°01.8	6°00.9	194°02.4	21°44.4	263°43.5	0°21.5	306°17.0	-16°13.7
19	283°39.7	114°01.4	5°59.7	209°03.7	21°44.6	278°46.2	0°21.4	321°19.6	-16°13.8
20	298°42.1	129°01.0	5°58.5	224°05.0	21°44.8	293°49.0	0°21.3	336°22.2	-16°13.8
21	313°44.6	144°00.6	5°57.3	239°06.3	21°45.0	308°51.7	0°21.1	351°24.8	-16°13.9
22	328°47.1	159°00.1	5°56.1	254°07.6	21°45.1	323°54.5	0°21.0	6°27.3	-16°13.9
23	343°49.5	173°59.7	5°54.9	269°09.0	21°45.3	338°57.3	0°20.9	21°29.9	-16°13.9
Mer.pass.:0:08:		v-0.4 d-1.2 m-3.8		v1.3 d0.2 m-0.4		v2.8 d-0.1 m-2.8		v2.6 d-0.0 m0.4	

Mar	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	358°52.0	188°59.3	5°53.7	284°10.3	21°45.5	354°00.0	0°20.7	36°32.5	-16°14.0
1	13°54.5	203°58.9	5°52.4	299°11.6	21°45.7	9°02.8	0°20.6	51°35.1	-16°14.0
2	28°56.9	218°58.5	5°51.2	314°12.9	21°45.8	24°05.6	0°20.5	66°37.7	-16°14.1
3	43°59.4	233°58.1	5°50.0	329°14.2	21°46.0	39°08.3	0°20.3	81°40.3	-16°14.1
4	59°01.9	248°57.6	5°48.8	344°15.6	21°46.2	54°11.1	0°20.2	96°42.9	-16°14.1
5	74°04.3	263°57.2	5°47.6	359°16.9	21°46.3	69°13.9	0°20.1	111°45.5	-16°14.2
6	89°06.8	278°56.8	5°46.4	14°18.2	21°46.5	84°16.6	0°19.9	126°48.1	-16°14.2
7	104°09.2	293°56.4	5°45.2	29°19.5	21°46.7	99°19.4	0°19.8	141°50.7	-16°14.3
8	119°11.7	308°56.0	5°44.0	44°20.9	21°46.8	114°22.2	0°19.7	156°53.2	-16°14.3
9	134°14.2	323°55.6	5°42.8	59°22.2	21°47.0	129°24.9	0°19.5	171°55.8	-16°14.3
10	149°16.6	338°55.2	5°41.6	74°23.5	21°47.2	144°27.7	0°19.4	186°58.4	-16°14.4
11	164°19.1	353°54.7	5°40.4	89°24.8	21°47.4	159°30.5	0°19.3	202°01.0	-16°14.4
12	179°21.6	8°54.3	5°39.2	104°26.2	21°47.5	174°33.2	0°19.1	217°03.6	-16°14.4
13	194°24.0	23°53.9	5°38.0	119°27.5	21°47.7	189°36.0	0°19.0	232°06.2	-16°14.5
14	209°26.5	38°53.5	5°36.8	134°28.8	21°47.9	204°38.8	0°18.9	247°08.8	-16°14.5
15	224°29.0	53°53.1	5°35.6	149°30.2	21°48.0	219°41.5	0°18.7	262°11.4	-16°14.6
16	239°31.4	68°52.7	5°34.4	164°31.5	21°48.2	234°44.3	0°18.6	277°14.0	-16°14.6
17	254°33.9	83°52.3	5°33.2	179°32.8	21°48.4	249°47.1	0°18.5	292°16.5	-16°14.6
18	269°36.4	98°51.8	5°32.0	194°34.2	21°48.5	264°49.8	0°18.3	307°19.1	-16°14.7
19	284°38.8	113°51.4	5°30.7	209°35.5	21°48.7	279°52.6	0°18.2	322°21.7	-16°14.7
20	299°41.3	128°51.0	5°29.5	224°36.8	21°48.9	294°55.4	0°18.1	337°24.3	-16°14.8
21	314°43.7	143°50.6	5°28.3	239°38.2	21°49.0	309°58.1	0°17.9	352°26.9	-16°14.8
22	329°46.2	158°50.2	5°27.1	254°39.5	21°49.2	325°00.9	0°17.8	7°29.5	-16°14.8
23	344°48.7	173°49.8	5°25.9	269°40.8	21°49.4	340°03.7	0°17.7	22°32.1	-16°14.9
Mer.pass.:0:04:		v-0.4 d-1.2 m-3.8		v1.3 d0.2 m-0.4		v2.8 d-0.1 m-2.8		v2.6 d-0.0 m0.4	

Mie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	359°51.1	188°49.4	5°24.7	284°42.2	21°49.5	355°06.4	0°17.5	37°34.7	-16°14.9
1	14°53.6	203°49.0	5°23.5	299°43.5	21°49.7	10°09.2	0°17.4	52°37.2	-16°15.0
2	29°56.1	218°48.5	5°22.3	314°44.9	21°49.9	25°12.0	0°17.3	67°39.8	-16°15.0
3	44°58.5	233°48.1	5°21.1	329°46.2	21°50.0	40°14.7	0°17.1	82°42.4	-16°15.0
4	60°01.0	248°47.7	5°19.9	344°47.5	21°50.2	55°17.5	0°17.0	97°45.0	-16°15.1
5	75°03.5	263°47.3	5°18.7	359°48.9	21°50.4	70°20.3	0°16.9	112°47.6	-16°15.1
6	90°05.9	278°46.9	5°17.4	14°50.2	21°50.5	85°23.0	0°16.7	127°50.2	-16°15.1
7	105°08.4	293°46.5	5°16.2	29°51.6	21°50.7	100°25.8	0°16.6	142°52.8	-16°15.2
8	120°10.8	308°46.1	5°15.0	44°52.9	21°50.9	115°28.6	0°16.5	157°55.4	-16°15.2
9	135°13.3	323°45.7	5°13.8	59°54.3	21°51.0	130°31.3	0°16.3	172°57.9	-16°15.3
10	150°15.8	338°45.2	5°12.6	74°55.6	21°51.2	145°34.1	0°16.2	188°00.5	-16°15.3
11	165°18.2	353°44.8	5°11.4	89°56.9	21°51.4	160°36.9	0°16.1	203°03.1	-16°15.3
12	180°20.7	8°44.4	5°10.2	104°58.3	21°51.5	175°39.6	0°15.9	218°05.7	-16°15.4
13	195°23.2	23°44.0	5°09.0	119°59.6	21°51.7	190°42.4	0°15.8	233°08.3	-16°15.4
14	210°25.6	38°43.6	5°07.7	135°01.0	21°51.9	205°45.2	0°15.7	248°10.9	-16°15.5
15	225°28.1	53°43.2	5°06.5	150°02.3	21°52.0	220°47.9	0°15.5	263°13.5	-16°15.5
16	240°30.6	68°42.8	5°05.3	165°03.7	21°52.2	235°50.7	0°15.4	278°16.0	-16°15.5
17	255°33.0	83°42.4	5°04.1	180°05.0	21°52.4	250°53.5	0°15.3	293°18.6	-16°15.6
18	270°35.5	98°42.0	5°02.9	195°06.4	21°52.5	265°56.2	0°15.1	308°21.2	-16°15.6
19	285°38.0	113°41.6	5°01.7	210°07.7	21°52.7	280°59.0	0°15.0	323°23.8	-16°15.6
20	300°40.4	128°41.1	5°00.5	225°09.1	21°52.9	296°01.8	0°14.9	338°26.4	-16°15.7
21	315°42.9	143°40.7	4°59.2	240°10.4	21°53.0	311°04.5	0°14.7	353°29.0	-16°15.7
22	330°45.3	158°40.3	4°58.0	255°11.8	21°53.2	326°07.3	0°14.6	8°31.6	-16°15.8
23	345°47.8	173°39.9	4°56.8	270°13.2	21°53.4	341°10.1	0°14.5	23°34.1	-16°15.8
Mer.pass.:23:56		v-0.4 d-1.2 m-3.8		v1.3 d0.2 m-0.4		v2.8 d-0.1 m-2.8		v2.6 d-0.0 m0.4	

Estrellas

	AHS	Dec
Alpheratz	357°36.4	29°13.0
Ankaa	353°08.6	-42°10.9
Schedar	349°32.7	56°39.7
Diphda	348°48.8	-17°51.6
Achernar	335°21.1	-57°07.1
Hamal	327°53.1	23°34.2
Polaris	314°38.1	89°21.3
Akamar	315°12.9	-40°12.6
Menkar	314°07.9	4°10.8
Mirfak	308°30.7	49°56.3
Aldebaran	290°41.7	16°33.3
Rigel	281°05.6	-8°10.3
Capella	280°24.7	46°01.2
Bellatrix	278°24.9	6°22.3
Elnath	278°04.2	28°37.6
Alnilam	275°39.6	-1°11.1
Betelgeuse	270°54.2	7°24.8
Canopus	263°53.3	-52°42.1
Sirius	258°27.9	-16°44.4
Adara	255°07.5	-28°59.9
Procyon	244°52.9	5°10.3
Pollux	243°19.7	27°58.3
Avior	234°15.9	-59°34.6
Suhail	222°48.0	-43°31.1
Miaplacidus	221°39.4	-69°48.3
Alphard	217°49.9	-8°45.2
Regulus	207°36.7	11°51.5
Dubhe	193°44.0	61°37.8
Denebola	182°27.1	14°26.9
Gienah	175°45.9	-17°39.9
Acrux	173°02.9	-63°13.4
Gacrux	171°54.3	-57°14.3
Alioth	166°15.2	55°50.4
Spica	158°24.6	-11°16.6
Alcaid	152°53.9	49°12.3
Hadar	148°39.3	-60°29.0
Menkent	148°00.2	-36°28.8
Arcturus	145°49.8	19°04.4
Rigil Kent.	139°43.4	-60°55.8
Zubenelg.	136°58.4	-16°08.0
Kochab	137°20.6	74°04.0
Alphecca	126°05.6	26°38.6
Antares	112°18.3	-26°28.9
Atria	107°14.4	-69°04.3
Sabik	102°05.0	-15°45.1
Shaula	96°13.0	-37°07.3
Rasalhague	96°00.4	12°32.8
Etamin	90°43.1	51°29.4
Kaus Aust.	83°35.0	-34°22.5
Vega	80°34.5	38°48.5
Nunki	75°50.0	-26°16.1
Altair	62°01.7	8°55.8
Peacock	53°08.4	-56°39.9
Deneb	49°26.8	45°21.9
Enif	33°40.4	9°58.8
Alnair	27°34.9	-46°51.1
Fomalhaut	15°16.3	-29°30.1
Scheat	13°46.7	28°12.4
Markab	13°31.5	15°19.7

Sep 19 Lun	AHS	Paso Merid
Venus	191°16.5	11:24
Mars	285°45.9	05:05
Jupiter	355°00.8	00:28
Saturn	37°37.5	21:34

Sep 20 Mar	AHS	Paso Merid
Venus	190°07.3	11:24
Mars	285°18.3	05:03
Jupiter	355°08.0	00:24
Saturn	37°40.5	21:30

Sep 21 Mie	AHS	Paso Merid
Venus	188°58.2	11:25
Mars	284°51.0	05:01
Jupiter	355°15.3	00:20
Saturn	37°43.5	21:26

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.2

h	Sol		Luna				
Lun	AHG	Dec	AHG	v	Dec	d	HP
0	181°30.5	1°34.3	258°59.4	10.2	27°18.9	-0.2	54.2
1	196°30.8	1°33.3	273°28.5	10.2	27°18.6	-0.4	54.2
2	211°31.0	1°32.4	287°57.7	10.2	27°18.1	-0.5	54.2
3	226°31.2	1°31.4	302°26.9	10.2	27°17.6	-0.6	54.2
4	241°31.4	1°30.4	316°56.1	10.2	27°16.9	-0.8	54.2
5	256°31.7	1°29.5	331°25.3	10.2	27°16.0	-0.9	54.2
6	271°31.9	1°28.5	345°54.5	10.2	27°15.1	-1.0	54.2
7	286°32.1	1°27.5	0°23.7	10.2	27°14.0	-1.2	54.2
8	301°32.3	1°26.5	14°53.0	10.2	27°12.8	-1.3	54.2
9	316°32.5	1°25.6	29°22.2	10.3	27°11.4	-1.4	54.2
10	331°32.8	1°24.6	43°51.5	10.3	27°09.9	-1.5	54.2
11	346°33.0	1°23.6	58°20.8	10.3	27°08.3	-1.7	54.2
12	1°33.2	1°22.7	72°50.1	10.3	27°06.6	-1.8	54.2
13	16°33.4	1°21.7	87°19.4	10.3	27°04.7	-1.9	54.2
14	31°33.7	1°20.7	101°48.7	10.3	27°02.7	-2.1	54.2
15	46°33.9	1°19.8	116°18.1	10.4	27°00.6	-2.2	54.2
16	61°34.1	1°18.8	130°47.5	10.4	26°58.3	-2.3	54.2
17	76°34.3	1°17.8	145°16.9	10.4	26°55.9	-2.5	54.2
18	91°34.5	1°16.8	159°46.3	10.4	26°53.4	-2.6	54.2
19	106°34.8	1°15.9	174°15.7	10.4	26°50.7	-2.7	54.2
20	121°35.0	1°14.9	188°45.2	10.5	26°48.0	-2.8	54.2
21	136°35.2	1°13.9	203°14.6	10.5	26°45.1	-3.0	54.2
22	151°35.4	1°13.0	217°44.2	10.5	26°42.0	-3.1	54.2
23	166°35.7	1°12.0	232°13.7	10.5	26°38.9	-3.2	54.2
	SD.=15.9	d=-1.0			S.D.=14.8		

Mar	AHG	Dec	AHG	v	Dec	d	HP
0	181°35.9	1°11.0	246°43.3	10.6	26°35.6	-3.3	54.2
1	196°36.1	1°10.1	261°12.8	10.6	26°32.2	-3.5	54.2
2	211°36.3	1°09.1	275°42.5	10.6	26°28.6	-3.6	54.2
3	226°36.6	1°08.1	290°12.1	10.7	26°25.0	-3.7	54.2
4	241°36.8	1°07.1	304°41.8	10.7	26°21.2	-3.9	54.2
5	256°37.0	1°06.2	319°11.5	10.7	26°17.3	-4.0	54.2
6	271°37.2	1°05.2	333°41.2	10.7	26°13.2	-4.1	54.2
7	286°37.4	1°04.2	348°11.0	10.8	26°09.1	-4.2	54.2
8	301°37.7	1°03.3	2°40.8	10.8	26°04.8	-4.4	54.2
9	316°37.9	1°02.3	17°10.6	10.8	26°00.4	-4.5	54.2
10	331°38.1	1°01.3	31°40.4	10.9	25°55.8	-4.6	54.3
11	346°38.3	1°00.3	46°10.3	10.9	25°51.2	-4.7	54.3
12	1°38.5	0°59.4	60°40.3	10.9	25°46.4	-4.8	54.3
13	16°38.8	0°58.4	75°10.2	11.0	25°41.5	-5.0	54.3
14	31°39.0	0°57.4	89°40.2	11.0	25°36.4	-5.1	54.3
15	46°39.2	0°56.5	104°10.3	11.1	25°31.3	-5.2	54.3
16	61°39.4	0°55.5	118°40.3	11.1	25°26.0	-5.3	54.3
17	76°39.7	0°54.5	133°10.4	11.1	25°20.6	-5.4	54.3
18	91°39.9	0°53.6	147°40.6	11.2	25°15.1	-5.6	54.3
19	106°40.1	0°52.6	162°10.8	11.2	25°09.5	-5.7	54.3
20	121°40.3	0°51.6	176°41.0	11.2	25°03.8	-5.8	54.3
21	136°40.5	0°50.6	191°11.2	11.3	24°57.9	-5.9	54.3
22	151°40.8	0°49.7	205°41.5	11.3	24°51.9	-6.0	54.3
23	166°41.0	0°48.7	220°11.9	11.4	24°45.8	-6.2	54.3
	SD.=15.9	d=-1.0			S.D.=14.8		

Mie	AHG	Dec	AHG	v	Dec	d	HP
0	181°41.2	0°47.7	234°42.3	11.4	24°39.6	-6.3	54.4
1	196°41.4	0°46.8	249°12.7	11.4	24°33.3	-6.4	54.4
2	211°41.7	0°45.8	263°43.1	11.5	24°26.8	-6.5	54.4
3	226°41.9	0°44.8	278°13.6	11.5	24°20.3	-6.6	54.4
4	241°42.1	0°43.8	292°44.2	11.6	24°13.6	-6.7	54.4
5	256°42.3	0°42.9	307°14.8	11.6	24°06.8	-6.8	54.4
6	271°42.5	0°41.9	321°45.4	11.6	23°59.9	-7.0	54.4
7	286°42.8	0°40.9	336°16.1	11.7	23°52.9	-7.1	54.4
8	301°43.0	0°39.9	350°46.8	11.7	23°45.8	-7.2	54.4
9	316°43.2	0°39.0	5°17.5	11.8	23°38.5	-7.3	54.4
10	331°43.4	0°38.0	19°48.3	11.8	23°31.2	-7.4	54.5
11	346°43.6	0°37.0	34°19.2	11.9	23°23.7	-7.5	54.5
12	1°43.9	0°36.1	48°50.1	11.9	23°16.1	-7.6	54.5
13	16°44.1	0°35.1	63°21.0	12.0	23°08.5	-7.7	54.5
14	31°44.3	0°34.1	77°52.0	12.0	23°00.7	-7.8	54.5
15	46°44.5	0°33.1	92°23.0	12.0	22°52.8	-8.0	54.5
16	61°44.7	0°32.2	106°54.0	12.1	22°44.8	-8.1	54.5
17	76°45.0	0°31.2	121°25.2	12.1	22°36.6	-8.2	54.5
18	91°45.2	0°30.2	135°56.3	12.2	22°28.4	-8.3	54.6
19	106°45.4	0°29.3	150°27.5	12.2	22°20.1	-8.4	54.6
20	121°45.6	0°28.3	164°58.7	12.3	22°11.7	-8.5	54.6
21	136°45.9	0°27.3	179°30.0	12.3	22°03.1	-8.6	54.6
22	151°46.1	0°26.3	194°01.3	12.4	21°54.5	-8.7	54.6
23	166°46.3	0°25.4	208°32.7	12.4	21°45.8	-8.8	54.6
	SD.=15.9	d=-1.0			S.D.=14.8		

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	02:45	04:20	05:29	18:15	19:24	20:57
70	03:08	04:29	05:32	18:13	19:15	20:35
68	03:25	04:37	05:34	18:11	19:07	20:18
66	03:39	04:44	05:36	18:10	19:01	20:05
64	03:50	04:49	05:37	18:08	18:56	19:55
62	03:59	04:54	05:38	18:07	18:52	19:46
60	04:07	04:57	05:39	18:06	18:48	19:38
58	04:13	05:01	05:40	18:05	18:45	19:32
56	04:19	05:04	05:41	18:05	18:42	19:26
54	04:24	05:06	05:42	18:04	18:39	19:21
52	04:29	05:09	05:43	18:03	18:37	19:17
50	04:32	05:11	05:43	18:03	18:35	19:13
45	04:40	05:15	05:44	18:02	18:31	19:05
40	04:47	05:18	05:46	18:01	18:28	18:59
35	04:52	05:21	05:46	18:00	18:25	18:55
30	04:55	05:23	05:47	17:59	18:23	18:51
20	05:01	05:26	05:48	17:58	18:20	18:46
10	05:04	05:28	05:49	17:57	18:18	18:43
0	05:06	05:30	05:50	17:57	18:17	18:41
S 10	05:06	05:30	05:51	17:56	18:17	18:41
20	05:04	05:30	05:52	17:56	18:18	18:43
30	05:01	05:28	05:52	17:55	18:19	18:47
35	04:58	05:27	05:53	17:55	18:20	18:50
40	04:54	05:26	05:53	17:55	18:22	18:53
45	04:50	05:24	05:53	17:54	18:24	18:58
50	04:44	05:21	05:54	17:54	18:26	19:04
52	04:41	05:20	05:54	17:54	18:28	19:08
54	04:37	05:19	05:54	17:54	18:29	19:11
56	04:33	05:17	05:54	17:54	18:31	19:15
58	04:29	05:15	05:54	17:54	18:33	19:20
60	04:24	05:13	05:54	17:54	18:35	19:25

	Orto luna			Ocaso luna		
Lat.	Lun	Mar	Mie	Lun	Mar	Mie
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	–:–	–:–	–:–
68	–:–	–:–	21:26	–:–	–:–	20:52
66	–:–	–:–	22:52	–:–	–:–	19:24
64	–:–	21:30	23:30	–:–	19:05	18:46
62	20:43	22:17	23:56	18:08	18:18	18:19
60	21:27	22:48	–:–	17:24	17:47	17:58
58	21:56	23:11	–:–	16:55	17:24	17:41
56	22:18	23:29	–:–	16:33	17:05	17:26
54	22:36	23:45	–:–	16:14	16:49	17:14
52	22:52	23:58	–:–	15:59	16:35	17:02
50	23:05	–:–	00:10	15:45	16:23	16:53
45	23:33	–:–	00:34	15:17	15:58	16:32
40	23:54	–:–	00:53	14:55	15:38	16:15
35	–:–	00:12	01:09	14:37	15:22	16:00
30	–:–	00:27	01:23	14:22	15:07	15:48
20	00:01	00:53	01:47	13:55	14:42	15:26
10	00:24	01:16	02:07	13:32	14:21	15:07
0	00:46	01:37	02:26	13:11	14:01	14:50
S 10	01:08	01:58	02:45	12:49	13:41	14:32
20	01:31	02:20	03:06	12:26	13:19	14:13
30	01:58	02:46	03:29	11:59	12:54	13:51
35	02:14	03:01	03:43	11:44	12:39	13:38
40	02:32	03:19	03:58	11:25	12:22	13:23
45	02:55	03:40	04:17	11:03	12:01	13:05
50	03:24	04:07	04:40	10:34	11:35	12:43
52	03:38	04:20	04:51	10:20	11:22	12:32
54	03:54	04:35	05:04	10:04	11:07	12:20
56	04:13	04:52	05:19	09:45	10:50	12:06
58	04:37	05:14	05:36	09:21	10:29	11:49
60	05:09	05:41	05:56	08:49	10:02	11:29

Día	Sol			Luna		
	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
19	06:02	06:13	11:53	06:58	19:23	23(35%)
20	06:23	06:34	11:53	07:48	20:13	24(27%)
21	06:45	06:55	11:53	08:38	21:02	25(19%)

Septiembre 22, 23, 24 (Jue, Vie, Sa.)

	Aries	Venus		Martes		Júpiter		Saturno	
Jue	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	0°50.3	188°39.5	4°55.6	285°14.5	21°53.5	356°12.9	0°14.3	38°36.7	-16°15.8
1	15°52.7	203°39.1	4°54.4	300°15.9	21°53.7	11°15.6	0°14.2	53°39.3	-16°15.9
2	30°55.2	218°38.7	4°53.2	315°17.2	21°53.8	26°18.4	0°14.1	68°41.9	-16°15.9
3	45°57.7	233°38.3	4°51.9	330°18.6	21°54.0	41°21.2	0°13.9	83°44.5	-16°15.9
4	61°00.1	248°37.9	4°50.7	345°19.9	21°54.2	56°23.9	0°13.8	98°47.1	-16°16.0
5	76°02.6	263°37.5	4°49.5	0°21.3	21°54.3	71°26.7	0°13.6	113°49.6	-16°16.0
6	91°05.1	278°37.1	4°48.3	15°22.7	21°54.5	86°29.5	0°13.5	128°52.2	-16°16.1
7	106°07.5	293°36.7	4°47.1	30°24.0	21°54.7	101°32.2	0°13.4	143°54.8	-16°16.1
8	121°10.0	308°36.2	4°45.9	45°25.4	21°54.8	116°35.0	0°13.2	158°57.4	-16°16.1
9	136°12.5	323°35.8	4°44.6	60°26.7	21°55.0	131°37.8	0°13.1	174°00.0	-16°16.2
10	151°14.9	338°35.4	4°43.4	75°28.1	21°55.1	146°40.5	0°13.0	189°02.6	-16°16.2
11	166°17.4	353°35.0	4°42.2	90°29.5	21°55.3	161°43.3	0°12.8	204°05.1	-16°16.2
12	181°19.8	8°34.6	4°41.0	105°30.8	21°55.5	176°46.1	0°12.7	219°07.7	-16°16.3
13	196°22.3	23°34.2	4°39.8	120°32.2	21°55.6	191°48.8	0°12.6	234°10.3	-16°16.3
14	211°24.8	38°33.8	4°38.5	135°33.6	21°55.8	206°51.6	0°12.4	249°12.9	-16°16.3
15	226°27.2	53°33.4	4°37.3	150°34.9	21°56.0	221°54.4	0°12.3	264°15.5	-16°16.4
16	241°29.7	68°33.0	4°36.1	165°36.3	21°56.1	236°57.2	0°12.2	279°18.1	-16°16.4
17	256°32.2	83°32.6	4°34.9	180°37.7	21°56.3	251°59.9	0°12.0	294°20.6	-16°16.5
18	271°34.6	98°32.2	4°33.7	195°39.1	21°56.4	267°02.7	0°11.9	309°23.2	-16°16.5
19	286°37.1	113°31.8	4°32.4	210°40.4	21°56.6	282°05.5	0°11.8	324°25.8	-16°16.5
20	301°39.6	128°31.4	4°31.2	225°41.8	21°56.8	297°08.2	0°11.6	339°28.4	-16°16.6
21	316°42.0	143°31.0	4°30.0	240°43.2	21°56.9	312°11.0	0°11.5	354°31.0	-16°16.6
22	331°44.5	158°30.6	4°28.8	255°44.5	21°57.1	327°13.8	0°11.4	9°33.5	-16°16.6
23	346°46.9	173°30.2	4°27.6	270°45.9	21°57.2	342°16.5	0°11.2	24°36.1	-16°16.7
Mer.pass.:23:52		v-0.4 d-1.2 m-3.8		v1.4 d0.2 m-0.4		v2.8 d-0.1 m-2.8		v2.6 d-0.0 m0.5	

Vie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	1°49.4	188°29.7	4°26.3	285°47.3	21°57.4	357°19.3	0°11.1	39°38.7	-16°16.7
1	16°51.9	203°29.3	4°25.1	300°48.7	21°57.6	12°22.1	0°11.0	54°41.3	-16°16.8
2	31°54.3	218°28.9	4°23.9	315°50.0	21°57.7	27°24.8	0°10.8	69°43.9	-16°16.8
3	46°56.8	233°28.5	4°22.7	330°51.4	21°57.9	42°27.6	0°10.7	84°46.4	-16°16.8
4	61°59.3	248°28.1	4°21.4	345°52.8	21°58.0	57°30.4	0°10.6	99°49.0	-16°16.9
5	77°01.7	263°27.7	4°20.2	0°54.2	21°58.2	72°33.2	0°10.4	114°51.6	-16°16.9
6	92°04.2	278°27.3	4°19.0	15°55.6	21°58.4	87°35.9	0°10.3	129°54.2	-16°16.9
7	107°06.7	293°26.9	4°17.8	30°56.9	21°58.5	102°38.7	0°10.2	144°56.8	-16°17.0
8	122°09.1	308°26.5	4°16.5	45°58.3	21°58.7	117°41.5	0°10.0	159°59.3	-16°17.0
9	137°11.6	323°26.1	4°15.3	60°59.7	21°58.8	132°44.2	0°09.9	175°01.9	-16°17.0
10	152°14.1	338°25.7	4°14.1	76°01.1	21°59.0	147°47.0	0°09.8	190°04.5	-16°17.1
11	167°16.5	353°25.3	4°12.9	91°02.5	21°59.1	162°49.8	0°09.6	205°07.1	-16°17.1
12	182°19.0	8°24.9	4°11.6	106°03.8	21°59.3	177°52.5	0°09.5	220°09.7	-16°17.1
13	197°21.4	23°24.5	4°10.4	121°05.2	21°59.5	192°55.3	0°09.4	235°12.2	-16°17.2
14	212°23.9	38°24.1	4°09.2	136°06.6	21°59.6	207°58.1	0°09.2	250°14.8	-16°17.2
15	227°26.4	53°23.7	4°08.0	151°08.0	21°59.8	223°00.9	0°09.1	265°17.4	-16°17.3
16	242°28.8	68°23.3	4°06.7	166°09.4	21°59.9	238°03.6	0°09.0	280°20.0	-16°17.3
17	257°31.3	83°22.9	4°05.5	181°10.8	22°00.1	253°06.4	0°08.8	295°22.6	-16°17.3
18	272°33.8	98°22.5	4°04.3	196°12.2	22°00.2	268°09.2	0°08.7	310°25.1	-16°17.4
19	287°36.2	113°22.1	4°03.1	211°13.6	22°00.4	283°11.9	0°08.6	325°27.7	-16°17.4
20	302°38.7	128°21.7	4°01.8	226°14.9	22°00.6	298°14.7	0°08.4	340°30.3	-16°17.4
21	317°41.2	143°21.3	4°00.6	241°16.3	22°00.7	313°17.5	0°08.3	355°32.9	-16°17.5
22	332°43.6	158°20.9	3°59.4	256°17.7	22°00.9	328°20.2	0°08.2	10°35.5	-16°17.5
23	347°46.1	173°20.5	3°58.2	271°19.1	22°01.0	343°23.0	0°08.0	25°38.0	-16°17.5
Mer.pass.:23:48		v-0.4 d-1.2 m-3.8		v1.4 d0.2 m-0.5		v2.8 d-0.1 m-2.8		v2.6 d-0.0 m0.5	

Sa	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	2°48.5	188°20.1	3°56.9	286°20.5	22°01.2	358°25.8	0°07.9	40°40.6	-16°17.6
1	17°51.0	203°19.7	3°55.7	301°21.9	22°01.3	13°28.6	0°07.8	55°43.2	-16°17.6
2	32°53.5	218°19.3	3°54.5	316°23.3	22°01.5	28°31.3	0°07.6	70°45.8	-16°17.6
3	47°55.9	233°18.9	3°53.2	331°24.7	22°01.7	43°34.1	0°07.5	85°48.3	-16°17.7
4	62°58.4	248°18.5	3°52.0	346°26.1	22°01.8	58°36.9	0°07.4	100°50.9	-16°17.7
5	78°00.9	263°18.1	3°50.8	1°27.5	22°02.0	73°39.6	0°07.2	115°53.5	-16°17.7
6	93°03.3	278°17.7	3°49.6	16°28.9	22°02.1	88°42.4	0°07.1	130°56.1	-16°17.8
7	108°05.8	293°17.3	3°48.3	31°30.3	22°02.3	103°45.2	0°07.0	145°58.6	-16°17.8
8	123°08.3	308°16.9	3°47.1	46°31.7	22°02.4	118°47.9	0°06.8	161°01.2	-16°17.9
9	138°10.7	323°16.5	3°45.9	61°33.1	22°02.6	133°50.7	0°06.7	176°03.8	-16°17.9
10	153°13.2	338°16.1	3°44.6	76°34.5	22°02.7	148°53.5	0°06.6	191°06.4	-16°17.9
11	168°15.7	353°15.7	3°43.4	91°35.9	22°02.9	163°56.3	0°06.4	206°09.0	-16°18.0
12	183°18.1	8°15.3	3°42.2	106°37.3	22°03.1	178°59.0	0°06.3	221°11.5	-16°18.0
13	198°20.6	23°14.9	3°40.9	121°38.7	22°03.2	194°01.8	0°06.2	236°14.1	-16°18.0
14	213°23.0	38°14.5	3°39.7	136°40.1	22°03.4	209°04.6	0°06.0	251°16.7	-16°18.1
15	228°25.5	53°14.1	3°38.5	151°41.5	22°03.5	224°07.3	0°05.9	266°19.3	-16°18.1
16	243°28.0	68°13.7	3°37.3	166°42.9	22°03.7	239°10.1	0°05.8	281°21.8	-16°18.1
17	258°30.4	83°13.3	3°36.0	181°44.3	22°03.8	254°12.9	0°05.6	296°24.4	-16°18.2
18	273°32.9	98°12.9	3°34.8	196°45.7	22°04.0	269°15.7	0°05.5	311°27.0	-16°18.2
19	288°35.4	113°12.5	3°33.6	211°47.2	22°04.1	284°18.4	0°05.3	326°29.6	-16°18.2
20	303°37.8	128°12.1	3°32.3	226°48.6	22°04.3	299°21.2	0°05.2	341°32.1	-16°18.3
21	318°40.3	143°11.7	3°31.1	241°50.0	22°04.4	314°24.0	0°05.1	356°34.7	-16°18.3
22	333°42.8	158°11.3	3°29.9	256°51.4	22°04.6	329°26.7	0°04.9	11°37.3	-16°18.3
23	348°45.2	173°10.9	3°28.6	271°52.8	22°04.7	344°29.5	0°04.8	26°39.9	-16°18.4
Mer.pass.:23:44		v-0.4 d-1.2 m-3.8		v1.4 d0.2 m-0.5		v2.8 d-0.1 m-2.8		v2.6 d-0.0 m0.5	

Estrellas

	AHS	Dec
Alpheratz	357°36.4	29°13.0
Ankaa	353°08.6	-42°10.9
Schedar	349°32.7	56°39.7
Diphda	348°48.8	-17°51.6
Achernar	335°21.1	-57°07.2
Hamal	327°53.1	23°34.2
Polaris	314°37.0	89°21.3
Akamar	315°12.9	-40°12.6
Menkar	314°07.9	4°10.8
Mirfak	308°30.7	49°56.4
Aldebaran	290°41.7	16°33.3
Rigel	281°05.6	-8°10.3
Capella	280°24.6	46°01.2
Bellatrix	278°24.9	6°22.3
Elnath	278°04.2	28°37.6
Alnilam	275°39.6	-1°11.1
Betelgeuse	270°54.1	7°24.8
Canopus	263°53.3	-52°42.1
Sirius	258°27.9	-16°44.4
Adara	255°07.4	-28°59.9
Procyon	244°52.9	5°10.3
Pollux	243°19.7	27°58.3
Avior	234°15.9	-59°34.6
Suhail	222°48.0	-43°31.1
Miaplacidus	221°39.4	-69°48.3
Alphard	217°49.9	-8°45.2
Regulus	207°36.7	11°51.5
Dubhe	193°43.9	61°37.8
Denebola	182°27.1	14°26.9
Gienah	175°45.8	-17°39.9
Acrux	173°02.9	-63°13.4
Gacrux	171°54.4	-57°14.3
Alioth	166°15.2	55°50.4
Spica	158°24.6	-11°16.6
Alcaid	152°53.9	49°12.2
Hadar	148°39.3	-60°28.9
Menkent	148°00.2	-36°28.8
Arcturus	145°49.8	19°04.4
Rigil Kent.	139°43.4	-60°55.8
Zubenelg.	136°58.4	-16°08.0
Kochab	137°20.6	74°04.0
Alphecca	126°05.6	26°38.6
Antares	112°18.3	-26°28.9
Atria	107°14.4	-69°04.3
Sabik	102°05.0	-15°45.1
Shaula	96°13.0	-37°07.3
Rasalhague	96°00.4	12°32.8
Etamin	90°43.1	51°29.4
Kaus Aust.	83°35.0	-34°22.5
Vega	80°34.5	38°48.5
Nunki	75°50.0	-26°16.1
Altair	62°01.7	8°55.8
Peacock	53°08.4	-56°39.9
Deneb	49°26.8	45°21.9
Enif	33°40.4	9°58.8
Alnair	27°34.9	-46°51.1
Fomalhaut	15°16.3	-29°30.1
Scheat	13°46.7	28°12.4
Markab	13°31.5	15°19.7

Sep 22 Jue	AHS	Paso Merid
Venus	187°49.2	11:26
Mars	284°24.2	04:59
Jupiter	355°22.6	00:15
Saturn	37°46.4	21:22

Sep 23 Vie	AHS	Paso Merid
Venus	186°40.3	11:26
Mars	283°57.9	04:56
Jupiter	355°29.9	00:11
Saturn	37°49.3	21:18

Sep 24 Sa	AHS	Paso Merid
Venus	185°31.5	11:27
Mars	283°32.0	04:54
Jupiter	355°37.2	00:06
Saturn	37°52.1	21:14

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.2

h	Sol		Luna				
Jue	AHG	Dec	AHG	v	Dec	d	HP
0	181°46.5	0°24.4	223°04.1	12.4	21°36.9	-8.9	54.6
1	196°46.7	0°23.4	237°35.6	12.5	21°28.0	-9.0	54.7
2	211°47.0	0°22.4	252°07.1	12.5	21°18.9	-9.1	54.7
3	226°47.2	0°21.5	266°38.7	12.6	21°09.8	-9.2	54.7
4	241°47.4	0°20.5	281°10.3	12.6	21°00.6	-9.3	54.7
5	256°47.6	0°19.5	295°41.9	12.7	20°51.2	-9.4	54.7
6	271°47.8	0°18.6	310°13.6	12.7	20°41.8	-9.5	54.7
7	286°48.1	0°17.6	324°45.3	12.8	20°32.2	-9.6	54.7
8	301°48.3	0°16.6	339°17.1	12.8	20°22.6	-9.7	54.8
9	316°48.5	0°15.6	353°48.9	12.8	20°12.9	-9.8	54.8
10	331°48.7	0°14.7	8°20.8	12.9	20°03.0	-9.9	54.8
11	346°48.9	0°13.7	22°52.7	12.9	19°53.1	-10.0	54.8
12	1°49.2	0°12.7	37°24.6	13.0	19°43.1	-10.1	54.8
13	16°49.4	0°11.7	51°56.6	13.0	19°33.0	-10.2	54.8
14	31°49.6	0°10.8	66°28.6	13.1	19°22.8	-10.2	54.9
15	46°49.8	0°09.8	81°00.7	13.1	19°12.5	-10.3	54.9
16	61°50.0	0°08.8	95°32.8	13.1	19°02.1	-10.4	54.9
17	76°50.3	0°07.9	110°05.0	13.2	18°51.6	-10.5	54.9
18	91°50.5	0°06.9	124°37.2	13.2	18°41.1	-10.6	54.9
19	106°50.7	0°05.9	139°09.4	13.3	18°30.4	-10.7	54.9
20	121°50.9	0°04.9	153°41.7	13.3	18°19.7	-10.8	55.0
21	136°51.1	0°04.0	168°14.0	13.3	18°08.9	-10.9	55.0
22	151°51.4	0°03.0	182°46.4	13.4	17°57.9	-11.0	55.0
23	166°51.6	0°02.0	197°18.8	13.4	17°46.9	-11.0	55.0
	SD.=15.9	d=-1.0			S.D.=14.9		

Vie	AHG	Dec	AHG	v	Dec	d	HP
0	181°51.8	0°01.0	211°51.2	13.5	17°35.9	-11.1	55.0
1	196°52.0	0°00.1	226°23.7	13.5	17°24.7	-11.2	55.1
2	211°52.2	-0°00.9	240°56.2	13.5	17°13.4	-11.3	55.1
3	226°52.4	-0°01.9	255°28.8	13.6	17°02.1	-11.4	55.1
4	241°52.7	-0°02.8	270°01.4	13.6	16°50.7	-11.5	55.1
5	256°52.9	-0°03.8	284°34.0	13.6	16°39.2	-11.5	55.1
6	271°53.1	-0°04.8	299°06.7	13.7	16°27.6	-11.6	55.2
7	286°53.3	-0°05.8	313°39.4	13.7	16°16.0	-11.7	55.2
8	301°53.5	-0°06.7	328°12.1	13.8	16°04.2	-11.8	55.2
9	316°53.8	-0°07.7	342°44.9	13.8	15°52.4	-11.9	55.2
10	331°54.0	-0°08.7	357°17.7	13.8	15°40.5	-11.9	55.2
11	346°54.2	-0°09.7	11°50.5	13.9	15°28.5	-12.0	55.3
12	1°54.4	-0°10.6	26°23.4	13.9	15°16.5	-12.1	55.3
13	16°54.6	-0°11.6	40°56.3	13.9	15°04.4	-12.2	55.3
14	31°54.9	-0°12.6	55°29.3	14.0	14°52.2	-12.2	55.3
15	46°55.1	-0°13.6	70°02.2	14.0	14°39.9	-12.3	55.3
16	61°55.3	-0°14.5	84°35.2	14.0	14°27.6	-12.4	55.4
17	76°55.5	-0°15.5	99°08.3	14.1	14°15.2	-12.4	55.4
18	91°55.7	-0°16.5	113°41.3	14.1	14°02.7	-12.5	55.4
19	106°55.9	-0°17.5	128°14.4	14.1	13°50.2	-12.6	55.4
20	121°56.2	-0°18.4	142°47.6	14.1	13°37.5	-12.7	55.4
21	136°56.4	-0°19.4	157°20.7	14.2	13°24.9	-12.7	55.5
22	151°56.6	-0°20.4	171°53.9	14.2	13°12.1	-12.8	55.5
23	166°56.8	-0°21.3	186°27.1	14.2	12°59.3	-12.9	55.5
	SD.=15.9	d=-1.0			S.D.=15.0		

Sa	AHG	Dec	AHG	v	Dec	d	HP
0	181°57.0	-0°22.3	201°00.3	14.2	12°46.4	-12.9	55.5
1	196°57.3	-0°23.3	215°33.6	14.3	12°33.5	-13.0	55.5
2	211°57.5	-0°24.3	230°06.9	14.3	12°20.4	-13.0	55.6
3	226°57.7	-0°25.2	244°40.2	14.3	12°07.4	-13.1	55.6
4	241°57.9	-0°26.2	259°13.5	14.3	11°54.2	-13.2	55.6
5	256°58.1	-0°27.2	273°46.8	14.4	11°41.0	-13.2	55.6
6	271°58.3	-0°28.2	288°20.2	14.4	11°27.8	-13.3	55.7
7	286°58.6	-0°29.1	302°53.6	14.4	11°14.5	-13.3	55.7
8	301°58.8	-0°30.1	317°27.0	14.4	11°01.1	-13.4	55.7
9	316°59.0	-0°31.1	332°00.5	14.4	10°47.6	-13.5	55.7
10	331°59.2	-0°32.1	346°33.9	14.5	10°34.1	-13.5	55.7
11	346°59.4	-0°33.0	1°07.4	14.5	10°20.6	-13.6	55.8
12	1°59.6	-0°34.0	15°40.9	14.5	10°07.0	-13.6	55.8
13	16°59.9	-0°35.0	30°14.4	14.5	9°53.3	-13.7	55.8
14	32°00.1	-0°36.0	44°47.9	14.5	9°39.6	-13.7	55.8
15	47°00.3	-0°36.9	59°21.4	14.5	9°25.9	-13.8	55.9
16	62°00.5	-0°37.9	73°55.0	14.6	9°12.1	-13.8	55.9
17	77°00.7	-0°38.9	88°28.6	14.6	8°58.2	-13.9	55.9
18	92°00.9	-0°39.8	103°02.1	14.6	8°44.3	-13.9	55.9
19	107°01.2	-0°40.8	117°35.7	14.6	8°30.3	-14.0	55.9
20	122°01.4	-0°41.8	132°09.3	14.6	8°16.3	-14.0	56.0
21	137°01.6	-0°42.8	146°42.9	14.6	8°02.3	-14.1	56.0
22	152°01.8	-0°43.7	161°16.5	14.6	7°48.2	-14.1	56.0
23	167°02.0	-0°44.7	175°50.2	14.6	7°34.0	-14.2	56.0
	SD.=15.9	d=-1.0			S.D.=15.1		

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	03:04	04:34	05:43	18:00	19:08	20:36
70	03:23	04:42	05:44	17:59	19:00	20:18
68	03:38	04:48	05:44	17:58	18:54	20:03
66	03:50	04:54	05:45	17:58	18:49	19:52
64	04:00	04:58	05:46	17:58	18:45	19:43
62	04:08	05:02	05:46	17:57	18:42	19:35
60	04:15	05:05	05:46	17:57	18:39	19:28
58	04:20	05:07	05:47	17:57	18:36	19:23
56	04:26	05:10	05:47	17:57	18:34	19:18
54	04:30	05:12	05:47	17:56	18:32	19:13
52	04:34	05:14	05:47	17:56	18:30	19:10
50	04:37	05:15	05:48	17:56	18:28	19:06
45	04:44	05:19	05:48	17:56	18:25	18:59
40	04:50	05:21	05:48	17:56	18:23	18:54
35	04:54	05:23	05:49	17:56	18:21	18:50
30	04:57	05:25	05:49	17:55	18:19	18:47
20	05:01	05:27	05:49	17:55	18:17	18:43
10	05:04	05:28	05:49	17:55	18:16	18:41
0	05:04	05:28	05:49	17:56	18:16	18:40
S 10	05:04	05:28	05:49	17:56	18:17	18:41
20	05:01	05:27	05:49	17:56	18:18	18:44
30	04:57	05:25	05:48	17:57	18:21	18:49
35	04:53	05:23	05:48	17:57	18:22	18:52
40	04:49	05:21	05:48	17:58	18:25	18:56
45	04:44	05:18	05:47	17:58	18:27	19:02
50	04:37	05:15	05:47	17:59	18:31	19:09
52	04:33	05:13	05:47	17:59	18:33	19:13
54	04:29	05:11	05:46	17:59	18:35	19:17
56	04:25	05:09	05:46	18:00	18:37	19:21
58	04:20	05:07	05:46	18:00	18:40	19:27
60	04:14	05:04	05:45	18:01	18:43	19:33

	Orto luna			Ocaso luna		
Lat.	Jue	Vie	Sa	Jue	Vie	Sa
N 72	22:26	–:–	01:51	21:31	19:41	18:58
70	23:52	–:–	02:14	20:04	19:15	18:46
68	–:–	00:30	02:32	19:25	18:56	18:36
66	–:–	00:56	02:46	18:57	18:40	18:27
64	–:–	01:17	02:58	18:36	18:27	18:20
62	–:–	01:33	03:07	18:18	18:16	18:14
60	00:16	01:47	03:16	18:04	18:07	18:09
58	00:33	01:58	03:23	17:52	17:59	18:04
56	00:47	02:08	03:29	17:41	17:51	18:00
54	00:59	02:17	03:35	17:31	17:45	17:56
52	01:10	02:25	03:40	17:23	17:39	17:52
50	01:19	02:32	03:45	17:15	17:34	17:49
45	01:39	02:47	03:55	16:59	17:22	17:42
40	01:55	02:59	04:03	16:45	17:12	17:37
35	02:09	03:09	04:10	16:34	17:04	17:32
30	02:21	03:19	04:16	16:24	16:57	17:27
20	02:41	03:34	04:27	16:06	16:44	17:19
10	02:58	03:48	04:36	15:51	16:33	17:12
0	03:14	04:00	04:45	15:37	16:22	17:06
S 10	03:30	04:13	04:54	15:22	16:11	16:59
20	03:48	04:26	05:03	15:07	16:00	16:52
30	04:07	04:42	05:13	14:49	15:46	16:44
35	04:19	04:50	05:19	14:38	15:39	16:39
40	04:32	05:00	05:26	14:26	15:30	16:34
45	04:47	05:12	05:34	14:12	15:19	16:28
50	05:06	05:26	05:43	13:54	15:07	16:20
52	05:15	05:33	05:47	13:46	15:01	16:17
54	05:25	05:40	05:52	13:36	14:54	16:13
56	05:36	05:48	05:57	13:26	14:47	16:08
58	05:49	05:57	06:03	13:14	14:39	16:04
60	06:04	06:08	06:10	12:59	14:29	15:58

Día	Sol			Luna		
	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
22	07:06	07:17	11:52	09:25	21:48	26(12%)
23	07:27	07:38	11:52	10:11	22:33	27(6%)
24	07:48	07:58	11:52	10:55	23:17	28(2%)

Septiembre 25, 26, 27 (Dom, Lun, Mar.)

	Aries	Venus		Martes		Júpiter		Saturno	
Dom	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	3°47.7	188°10.5	3°27.4	286°54.2	22°04.9	359°32.3	0°04.7	41°42.4	-16°18.4
1	18°50.2	203°10.1	3°26.2	301°55.6	22°05.0	14°35.0	0°04.5	56°45.0	-16°18.4
2	33°52.6	218°09.7	3°24.9	316°57.0	22°05.2	29°37.8	0°04.4	71°47.6	-16°18.5
3	48°55.1	233°09.3	3°23.7	331°58.5	22°05.4	44°40.6	0°04.3	86°50.2	-16°18.5
4	63°57.5	248°08.9	3°22.5	346°59.9	22°05.5	59°43.4	0°04.1	101°52.7	-16°18.5
5	79°00.0	263°08.5	3°21.2	2°01.3	22°05.7	74°46.1	0°04.0	116°55.3	-16°18.6
6	94°02.5	278°08.1	3°20.0	17°02.7	22°05.8	89°48.9	0°03.9	131°57.9	-16°18.6
7	109°04.9	293°07.7	3°18.8	32°04.1	22°06.0	104°51.7	0°03.7	147°00.5	-16°18.6
8	124°07.4	308°07.3	3°17.5	47°05.6	22°06.1	119°54.4	0°03.6	162°03.0	-16°18.7
9	139°09.9	323°06.9	3°16.3	62°07.0	22°06.3	134°57.2	0°03.5	177°05.6	-16°18.7
10	154°12.3	338°06.5	3°15.1	77°08.4	22°06.4	150°00.0	0°03.3	192°08.2	-16°18.7
11	169°14.8	353°06.1	3°13.8	92°09.8	22°06.6	165°02.8	0°03.2	207°10.7	-16°18.8
12	184°17.3	8°05.7	3°12.6	107°11.2	22°06.7	180°05.5	0°03.1	222°13.3	-16°18.8
13	199°19.7	23°05.3	3°11.4	122°12.7	22°06.9	195°08.3	0°02.9	237°15.9	-16°18.8
14	214°22.2	38°04.9	3°10.1	137°14.1	22°07.0	210°11.1	0°02.8	252°18.5	-16°18.9
15	229°24.6	53°04.5	3°08.9	152°15.5	22°07.2	225°13.8	0°02.7	267°21.0	-16°18.9
16	244°27.1	68°04.1	3°07.6	167°16.9	22°07.3	240°16.6	0°02.5	282°23.6	-16°18.9
17	259°29.6	83°03.7	3°06.4	182°18.4	22°07.5	255°19.4	0°02.4	297°26.2	-16°19.0
18	274°32.0	98°03.3	3°05.2	197°19.8	22°07.6	270°22.2	0°02.3	312°28.8	-16°19.0
19	289°34.5	113°02.9	3°03.9	212°21.2	22°07.8	285°24.9	0°02.1	327°31.3	-16°19.0
20	304°37.0	128°02.5	3°02.7	227°22.7	22°07.9	300°27.7	0°02.0	342°33.9	-16°19.1
21	319°39.4	143°02.1	3°01.5	242°24.1	22°08.1	315°30.5	0°01.9	357°36.5	-16°19.1
22	334°41.9	158°01.7	3°00.2	257°25.5	22°08.2	330°33.2	0°01.7	12°39.0	-16°19.1
23	349°44.4	173°01.3	2°59.0	272°27.0	22°08.4	345°36.0	0°01.6	27°41.6	-16°19.2
Mer.pass.:23:40		v-0.4 d-1.2 m-3.8		v1.4 d0.2 m-0.5		v2.8 d-0.1 m-2.8		v2.6 d-0.0 m0.5	

Lun	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	4°46.8	188°00.9	2°57.8	287°28.4	22°08.5	0°38.8	0°01.5	42°44.2	-16°19.2
1	19°49.3	203°00.5	2°56.5	302°29.8	22°08.7	15°41.6	0°01.3	57°46.8	-16°19.2
2	34°51.8	218°00.1	2°55.3	317°31.3	22°08.8	30°44.3	0°01.2	72°49.3	-16°19.3
3	49°54.2	232°59.7	2°54.0	332°32.7	22°09.0	45°47.1	0°01.1	87°51.9	-16°19.3
4	64°56.7	247°59.3	2°52.8	347°34.1	22°09.1	60°49.9	0°00.9	102°54.5	-16°19.3
5	79°59.1	262°58.9	2°51.6	2°35.6	22°09.3	75°52.6	0°00.8	117°57.0	-16°19.4
6	95°01.6	277°58.5	2°50.3	17°37.0	22°09.4	90°55.4	0°00.7	132°59.6	-16°19.4
7	110°04.1	292°58.1	2°49.1	32°38.5	22°09.6	105°58.2	0°00.5	148°02.2	-16°19.4
8	125°06.5	307°57.7	2°47.9	47°39.9	22°09.7	121°01.0	0°00.4	163°04.7	-16°19.5
9	140°09.0	322°57.3	2°46.6	62°41.3	22°09.9	136°03.7	0°00.3	178°07.3	-16°19.5
10	155°11.5	337°56.9	2°45.4	77°42.8	22°10.0	151°06.5	0°00.1	193°09.9	-16°19.5
11	170°13.9	352°56.5	2°44.1	92°44.2	22°10.1	166°09.3	-0°00.0	208°12.5	-16°19.6
12	185°16.4	7°56.1	2°42.9	107°45.7	22°10.3	181°12.0	-0°00.1	223°15.0	-16°19.6
13	200°18.9	22°55.8	2°41.7	122°47.1	22°10.4	196°14.8	-0°00.3	238°17.6	-16°19.6
14	215°21.3	37°55.4	2°40.4	137°48.6	22°10.6	211°17.6	-0°00.4	253°20.2	-16°19.7
15	230°23.8	52°55.0	2°39.2	152°50.0	22°10.7	226°20.4	-0°00.5	268°22.7	-16°19.7
16	245°26.2	67°54.6	2°37.9	167°51.5	22°10.9	241°23.1	-0°00.7	283°25.3	-16°19.7
17	260°28.7	82°54.2	2°36.7	182°52.9	22°11.0	256°25.9	-0°00.8	298°27.9	-16°19.8
18	275°31.2	97°53.8	2°35.5	197°54.3	22°11.2	271°28.7	-0°00.9	313°30.4	-16°19.8
19	290°33.6	112°53.4	2°34.2	212°55.8	22°11.3	286°31.4	-0°01.1	328°33.0	-16°19.8
20	305°36.1	127°53.0	2°33.0	227°57.2	22°11.5	301°34.2	-0°01.2	343°35.6	-16°19.9
21	320°38.6	142°52.6	2°31.7	242°58.7	22°11.6	316°37.0	-0°01.3	358°38.1	-16°19.9
22	335°41.0	157°52.2	2°30.5	258°00.2	22°11.8	331°39.8	-0°01.5	13°40.7	-16°19.9
23	350°43.5	172°51.8	2°29.3	273°01.6	22°11.9	346°42.5	-0°01.6	28°43.3	-16°20.0
Mer.pass.:23:36		v-0.4 d-1.2 m-3.8		v1.4 d0.1 m-0.5		v2.8 d-0.1 m-2.8		v2.6 d-0.0 m0.5	

Mar	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	5°46.0	187°51.4	2°28.0	288°03.1	22°12.1	1°45.3	-0°01.7	43°45.8	-16°20.0
1	20°48.4	202°51.0	2°26.8	303°04.5	22°12.2	16°48.1	-0°01.9	58°48.4	-16°20.0
2	35°50.9	217°50.6	2°25.5	318°06.0	22°12.4	31°50.8	-0°02.0	73°51.0	-16°20.0
3	50°53.4	232°50.2	2°24.3	333°07.4	22°12.5	46°53.6	-0°02.1	88°53.5	-16°20.1
4	65°55.8	247°49.8	2°23.0	348°08.9	22°12.6	61°56.4	-0°02.3	103°56.1	-16°20.1
5	80°58.3	262°49.4	2°21.8	3°10.3	22°12.8	76°59.2	-0°02.4	118°58.7	-16°20.1
6	96°00.7	277°49.0	2°20.6	18°11.8	22°12.9	92°01.9	-0°02.5	134°01.2	-16°20.2
7	111°03.2	292°48.6	2°19.3	33°13.3	22°13.1	107°04.7	-0°02.7	149°03.8	-16°20.2
8	126°05.7	307°48.2	2°18.1	48°14.7	22°13.2	122°07.5	-0°02.8	164°06.4	-16°20.2
9	141°08.1	322°47.9	2°16.8	63°16.2	22°13.4	137°10.2	-0°02.9	179°08.9	-16°20.3
10	156°10.6	337°47.5	2°15.6	78°17.7	22°13.5	152°13.0	-0°03.1	194°11.5	-16°20.3
11	171°13.1	352°47.1	2°14.3	93°19.1	22°13.7	167°15.8	-0°03.2	209°14.1	-16°20.3
12	186°15.5	7°46.7	2°13.1	108°20.6	22°13.8	182°18.6	-0°03.3	224°16.6	-16°20.4
13	201°18.0	22°46.3	2°11.9	123°22.0	22°13.9	197°21.3	-0°03.5	239°19.2	-16°20.4
14	216°20.5	37°45.9	2°10.6	138°23.5	22°14.1	212°24.1	-0°03.6	254°21.8	-16°20.4
15	231°22.9	52°45.5	2°09.4	153°25.0	22°14.2	227°26.9	-0°03.7	269°24.3	-16°20.5
16	246°25.4	67°45.1	2°08.1	168°26.5	22°14.4	242°29.6	-0°03.9	284°26.9	-16°20.5
17	261°27.8	82°44.7	2°06.9	183°27.9	22°14.5	257°32.4	-0°04.0	299°29.5	-16°20.5
18	276°30.3	97°44.3	2°05.6	198°29.4	22°14.7	272°35.2	-0°04.1	314°32.0	-16°20.5
19	291°32.8	112°43.9	2°04.4	213°30.9	22°14.8	287°38.0	-0°04.3	329°34.6	-16°20.6
20	306°35.2	127°43.5	2°03.2	228°32.3	22°15.0	302°40.7	-0°04.4	344°37.2	-16°20.6
21	321°37.7	142°43.1	2°01.9	243°33.8	22°15.1	317°43.5	-0°04.5	359°39.7	-16°20.6
22	336°40.2	157°42.7	2°00.7	258°35.3	22°15.2	332°46.3	-0°04.7	14°42.3	-16°20.7
23	351°42.6	172°42.3	1°59.4	273°36.8	22°15.4	347°49.0	-0°04.8	29°44.9	-16°20.7
Mer.pass.:23:33		v-0.4 d-1.2 m-3.8		v1.5 d0.1 m-0.5		v2.8 d-0.1 m-2.8		v2.6 d-0.0 m0.5	

Estrellas

	AHS	Dec
Alpheratz	357°36.4	29°13.0
Ankaa	353°08.6	-42°10.9
Schedar	349°32.7	56°39.7
Diphda	348°48.8	-17°51.6
Achernar	335°21.1	-57°07.2
Hamal	327°53.1	23°34.2
Polaris	314°36.0	89°21.4
Akamar	315°12.9	-40°12.6
Menkar	314°07.9	4°10.8
Mirfak	308°30.6	49°56.4
Aldebaran	290°41.7	16°33.3
Rigel	281°05.6	-8°10.3
Capella	280°24.6	46°01.2
Bellatrix	278°24.8	6°22.3
Elnath	278°04.2	28°37.6
Alnilam	275°39.6	-1°11.1
Betelgeuse	270°54.1	7°24.8
Canopus	263°53.3	-52°42.1
Sirius	258°27.9	-16°44.4
Adara	255°07.4	-28°59.9
Procyon	244°52.8	5°10.3
Pollux	243°19.7	27°58.3
Avior	234°15.8	-59°34.5
Suhail	222°48.0	-43°31.1
Miaplacidus	221°39.3	-69°48.3
Alphard	217°49.8	-8°45.2
Regulus	207°36.7	11°51.5
Dubhe	193°43.9	61°37.8
Denebola	182°27.1	14°26.9
Gienah	175°45.8	-17°39.9
Acrux	173°02.9	-63°13.4
Gacrux	171°54.4	-57°14.3
Alioth	166°15.2	55°50.4
Spica	158°24.6	-11°16.6
Alcaid	152°53.9	49°12.2
Hadar	148°39.3	-60°28.9
Menkent	148°00.2	-36°28.8
Arcturus	145°49.8	19°04.4
Rigil Kent.	139°43.5	-60°55.8
Zubenelg.	136°58.4	-16°08.0
Kochab	137°20.6	74°04.0
Alphecca	126°05.6	26°38.6
Antares	112°18.3	-26°28.9
Atria	107°14.4	-69°04.3
Sabik	102°05.1	-15°45.1
Shaula	96°13.0	-37°07.3
Rasalhague	96°00.4	12°32.8
Etamin	90°43.1	51°29.4
Kaus Aust.	83°35.0	-34°22.5
Vega	80°34.5	38°48.5
Nunki	75°50.1	-26°16.1
Altair	62°01.8	8°55.8
Peacock	53°08.4	-56°39.9
Deneb	49°26.8	45°21.9
Enif	33°40.4	9°58.8
Alnair	27°34.9	-46°51.1
Fomalhaut	15°16.3	-29°30.1
Scheat	13°46.7	28°12.4
Markab	13°31.5	15°19.7

Sep 25 Dom	AHS	Paso Merid
Venus	184°22.8	11:28
Mars	283°06.5	04:52
Jupiter	355°44.6	00:02
Saturn	37°54.7	21:10

Sep 26 Lun	AHS	Paso Merid
Venus	183°14.1	11:28
Mars	282°41.6	04:50
Jupiter	355°52.0	23:53
Saturn	37°57.4	21:05

Sep 27 Mar	AHS	Paso Merid
Venus	182°05.4	11:29
Mars	282°17.1	04:47
Jupiter	355°59.3	23:49
Saturn	37°59.9	21:01

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.2

h	Sol		Luna				
Dom	AHG	Dec	AHG	v	Dec	d	HP
0	182°02.2	-0°45.7	190°23.8	14.6	7°19.8	-14.2	56.1
1	197°02.5	-0°46.7	204°57.4	14.6	7°05.6	-14.3	56.1
2	212°02.7	-0°47.6	219°31.1	14.6	6°51.3	-14.3	56.1
3	227°02.9	-0°48.6	234°04.7	14.6	6°37.0	-14.3	56.1
4	242°03.1	-0°49.6	248°38.4	14.7	6°22.6	-14.4	56.2
5	257°03.3	-0°50.6	263°12.0	14.7	6°08.2	-14.4	56.2
6	272°03.5	-0°51.5	277°45.7	14.7	5°53.8	-14.5	56.2
7	287°03.8	-0°52.5	292°19.3	14.7	5°39.3	-14.5	56.2
8	302°04.0	-0°53.5	306°53.0	14.7	5°24.8	-14.5	56.2
9	317°04.2	-0°54.5	321°26.6	14.7	5°10.3	-14.6	56.3
10	332°04.4	-0°55.4	336°00.3	14.7	4°55.7	-14.6	56.3
11	347°04.6	-0°56.4	350°33.9	14.6	4°41.1	-14.6	56.3
12	2°04.8	-0°57.4	5°07.6	14.6	4°26.4	-14.7	56.3
13	17°05.0	-0°58.4	19°41.2	14.6	4°11.8	-14.7	56.4
14	32°05.3	-0°59.3	34°14.9	14.6	3°57.1	-14.7	56.4
15	47°05.5	-1°00.3	48°48.5	14.6	3°42.3	-14.7	56.4
16	62°05.7	-1°01.3	63°22.1	14.6	3°27.6	-14.8	56.4
17	77°05.9	-1°02.3	77°55.7	14.6	3°12.8	-14.8	56.5
18	92°06.1	-1°03.2	92°29.3	14.6	2°58.0	-14.8	56.5
19	107°06.3	-1°04.2	107°02.9	14.6	2°43.1	-14.9	56.5
20	122°06.6	-1°05.2	121°36.5	14.6	2°28.3	-14.9	56.5
21	137°06.8	-1°06.1	136°10.1	14.6	2°13.4	-14.9	56.5
22	152°07.0	-1°07.1	150°43.6	14.5	1°58.5	-14.9	56.6
23	167°07.2	-1°08.1	165°17.1	14.5	1°43.5	-14.9	56.6
	SD.=15.9	d=-1.0			S.D.=15.3		

Lun	AHG	Dec	AHG	v	Dec	d	HP
0	182°07.4	-1°09.1	179°50.7	14.5	1°28.6	-15.0	56.6
1	197°07.6	-1°10.0	194°24.2	14.5	1°13.6	-15.0	56.6
2	212°07.8	-1°11.0	208°57.7	14.5	0°58.6	-15.0	56.7
3	227°08.1	-1°12.0	223°31.1	14.5	0°43.6	-15.0	56.7
4	242°08.3	-1°13.0	238°04.6	14.4	0°28.6	-15.0	56.7
5	257°08.5	-1°13.9	252°38.0	14.4	0°13.6	-15.0	56.7
6	272°08.7	-1°14.9	267°11.4	14.4	-0°01.5	-15.1	56.8
7	287°08.9	-1°15.9	281°44.8	14.4	-0°16.5	-15.1	56.8
8	302°09.1	-1°16.9	296°18.1	14.3	-0°31.6	-15.1	56.8
9	317°09.3	-1°17.8	310°51.5	14.3	-0°46.7	-15.1	56.8
10	332°09.5	-1°18.8	325°24.8	14.3	-1°01.8	-15.1	56.8
11	347°09.8	-1°19.8	339°58.1	14.3	-1°16.8	-15.1	56.9
12	2°10.0	-1°20.8	354°31.3	14.2	-1°31.9	-15.1	56.9
13	17°10.2	-1°21.7	9°04.5	14.2	-1°47.1	-15.1	56.9
14	32°10.4	-1°22.7	23°37.7	14.2	-2°02.2	-15.1	56.9
15	47°10.6	-1°23.7	38°10.9	14.1	-2°17.3	-15.1	57.0
16	62°10.8	-1°24.6	52°44.0	14.1	-2°32.4	-15.1	57.0
17	77°11.0	-1°25.6	67°17.1	14.1	-2°47.5	-15.1	57.0
18	92°11.3	-1°26.6	81°50.2	14.0	-3°02.6	-15.1	57.0
19	107°11.5	-1°27.6	96°23.2	14.0	-3°17.7	-15.1	57.0
20	122°11.7	-1°28.5	110°56.2	14.0	-3°32.9	-15.1	57.1
21	137°11.9	-1°29.5	125°29.1	13.9	-3°48.0	-15.1	57.1
22	152°12.1	-1°30.5	140°02.0	13.9	-4°03.1	-15.1	57.1
23	167°12.3	-1°31.5	154°34.9	13.8	-4°18.2	-15.1	57.1
	SD.=15.9	d=-1.0			S.D.=15.4		

Mar	AHG	Dec	AHG	v	Dec	d	HP
0	182°12.5	-1°32.4	169°07.7	13.8	-4°33.2	-15.1	57.2
1	197°12.7	-1°33.4	183°40.5	13.8	-4°48.3	-15.1	57.2
2	212°13.0	-1°34.4	198°13.3	13.7	-5°03.4	-15.1	57.2
3	227°13.2	-1°35.4	212°46.0	13.7	-5°18.4	-15.1	57.2
4	242°13.4	-1°36.3	227°18.6	13.6	-5°33.5	-15.0	57.2
5	257°13.6	-1°37.3	241°51.2	13.6	-5°48.5	-15.0	57.3
6	272°13.8	-1°38.3	256°23.8	13.5	-6°03.5	-15.0	57.3
7	287°14.0	-1°39.3	270°56.3	13.5	-6°18.5	-15.0	57.3
8	302°14.2	-1°40.2	285°28.7	13.4	-6°33.5	-15.0	57.3
9	317°14.4	-1°41.2	300°01.1	13.4	-6°48.5	-15.0	57.4
10	332°14.7	-1°42.2	314°33.5	13.3	-7°03.4	-14.9	57.4
11	347°14.9	-1°43.1	329°05.8	13.3	-7°18.3	-14.9	57.4
12	2°15.1	-1°44.1	343°38.1	13.2	-7°33.2	-14.9	57.4
13	17°15.3	-1°45.1	358°10.2	13.2	-7°48.1	-14.9	57.4
14	32°15.5	-1°46.1	12°42.4	13.1	-8°02.9	-14.8	57.5
15	47°15.7	-1°47.0	27°14.5	13.1	-8°17.8	-14.8	57.5
16	62°15.9	-1°48.0	41°46.5	13.0	-8°32.6	-14.8	57.5
17	77°16.1	-1°49.0	56°18.5	12.9	-8°47.3	-14.7	57.5
18	92°16.3	-1°50.0	70°50.4	12.9	-9°02.1	-14.7	57.5
19	107°16.6	-1°50.9	85°22.2	12.8	-9°16.8	-14.7	57.6
20	122°16.8	-1°51.9	99°54.0	12.7	-9°31.4	-14.6	57.6
21	137°17.0	-1°52.9	114°25.7	12.7	-9°46.0	-14.6	57.6
22	152°17.2	-1°53.9	128°57.3	12.6	-10°00.6	-14.6	57.6
23	167°17.4	-1°54.8	143°28.9	12.6	-10°15.2	-14.5	57.6
	SD.=16.0	d=-1.0			S.D.=15.6		

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	03:22	04:48	05:56	17:44	18:52	20:17
70	03:38	04:54	05:55	17:45	18:46	20:01
68	03:51	04:59	05:55	17:46	18:41	19:49
66	04:01	05:03	05:54	17:46	18:37	19:39
64	04:09	05:07	05:54	17:47	18:34	19:31
62	04:16	05:09	05:54	17:47	18:32	19:24
60	04:22	05:12	05:53	17:48	18:29	19:18
58	04:27	05:14	05:53	17:48	18:27	19:14
56	04:32	05:16	05:53	17:49	18:26	19:09
54	04:36	05:17	05:53	17:49	18:24	19:06
52	04:39	05:19	05:52	17:49	18:23	19:02
50	04:42	05:20	05:52	17:50	18:22	18:59
45	04:48	05:22	05:52	17:50	18:19	18:54
40	04:53	05:24	05:51	17:51	18:18	18:49
35	04:56	05:26	05:51	17:51	18:16	18:46
30	04:59	05:27	05:50	17:52	18:16	18:43
20	05:02	05:28	05:50	17:53	18:15	18:40
10	05:04	05:28	05:49	17:54	18:15	18:39
0	05:03	05:27	05:48	17:55	18:15	18:39
S 10	05:02	05:26	05:47	17:56	18:17	18:41
20	04:58	05:24	05:46	17:57	18:19	18:45
30	04:53	05:21	05:45	17:58	18:22	18:50
35	04:49	05:19	05:44	17:59	18:25	18:54
40	04:44	05:16	05:43	18:00	18:28	18:59
45	04:38	05:12	05:42	18:02	18:31	19:06
50	04:30	05:08	05:40	18:03	18:36	19:14
52	04:26	05:06	05:40	18:04	18:38	19:18
54	04:21	05:04	05:39	18:05	18:40	19:23
56	04:16	05:01	05:38	18:06	18:43	19:28
58	04:10	04:58	05:37	18:07	18:46	19:34
60	04:04	04:54	05:36	18:08	18:50	19:41

	Orto luna			Ocaso luna		
Lat.	Dom	Lun	Mar	Dom	Lun	Mar
N 72	04:07	06:14	08:25	18:25	17:54	17:19
70	04:17	06:14	08:14	18:21	17:58	17:32
68	04:24	06:14	08:06	18:18	18:01	17:43
66	04:30	06:14	07:59	18:16	18:04	17:52
64	04:36	06:13	07:53	18:13	18:06	17:59
62	04:40	06:13	07:48	18:11	18:09	18:06
60	04:44	06:13	07:44	18:10	18:11	18:12
58	04:48	06:13	07:40	18:08	18:12	18:17
56	04:51	06:13	07:37	18:07	18:14	18:21
54	04:54	06:13	07:34	18:06	18:15	18:25
52	04:56	06:13	07:31	18:05	18:16	18:29
50	04:58	06:13	07:29	18:04	18:18	18:32
45	05:03	06:13	07:23	18:01	18:20	18:40
40	05:07	06:12	07:19	17:59	18:22	18:46
35	05:11	06:12	07:15	17:58	18:24	18:51
30	05:14	06:12	07:12	17:56	18:26	18:56
20	05:19	06:12	07:06	17:54	18:28	19:04
10	05:24	06:12	07:01	17:51	18:31	19:12
0	05:28	06:12	06:57	17:49	18:33	19:19
S 10	05:33	06:12	06:52	17:47	18:35	19:25
20	05:38	06:12	06:47	17:45	18:38	19:33
30	05:43	06:12	06:42	17:42	18:41	19:41
35	05:46	06:12	06:39	17:40	18:42	19:46
40	05:49	06:12	06:35	17:39	18:44	19:52
45	05:53	06:12	06:31	17:36	18:46	19:58
50	05:58	06:12	06:26	17:34	18:49	20:06
52	06:00	06:12	06:24	17:33	18:50	20:10
54	06:02	06:12	06:22	17:31	18:51	20:14
56	06:05	06:12	06:19	17:30	18:53	20:18
58	06:08	06:12	06:16	17:28	18:54	20:23
60	06:11	06:12	06:13	17:27	18:56	20:29

Día	Sol			Luna		
	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
25	08:09	08:19	11:51	11:38	00:00	29(0%)
26	08:30	08:40	11:51	12:22	00:00	1(0%)
27	08:50	09:00	11:51	13:07	00:44	2(3%)

Septiembre 28, 29, 30 (Mie, Jue, Vie.)

	Aries	Venus		Martes		Júpiter		Saturno	
Mie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	6°45.1	187°41.9	1°58.2	288°38.2	22°15.5	2°51.8	-0°04.9	44°47.4	-16°20.7
1	21°47.6	202°41.6	1°56.9	303°39.7	22°15.7	17°54.6	-0°05.1	59°50.0	-16°20.8
2	36°50.0	217°41.2	1°55.7	318°41.2	22°15.8	32°57.4	-0°05.2	74°52.6	-16°20.8
3	51°52.5	232°40.8	1°54.4	333°42.7	22°16.0	48°00.1	-0°05.3	89°55.1	-16°20.8
4	66°55.0	247°40.4	1°53.2	348°44.1	22°16.1	63°02.9	-0°05.5	104°57.7	-16°20.9
5	81°57.4	262°40.0	1°51.9	3°45.6	22°16.2	78°05.7	-0°05.6	120°00.2	-16°20.9
6	96°59.9	277°39.6	1°50.7	18°47.1	22°16.4	93°08.4	-0°05.7	135°02.8	-16°20.9
7	112°02.3	292°39.2	1°49.5	33°48.6	22°16.5	108°11.2	-0°05.9	150°05.4	-16°20.9
8	127°04.8	307°38.8	1°48.2	48°50.1	22°16.7	123°14.0	-0°06.0	165°07.9	-16°21.0
9	142°07.3	322°38.4	1°47.0	63°51.6	22°16.8	138°16.8	-0°06.1	180°10.5	-16°21.0
10	157°09.7	337°38.0	1°45.7	78°53.0	22°17.0	153°19.5	-0°06.3	195°13.1	-16°21.0
11	172°12.2	352°37.6	1°44.5	93°54.5	22°17.1	168°22.3	-0°06.4	210°15.6	-16°21.1
12	187°14.7	7°37.2	1°43.2	108°56.0	22°17.2	183°25.1	-0°06.5	225°18.2	-16°21.1
13	202°17.1	22°36.8	1°42.0	123°57.5	22°17.4	198°27.8	-0°06.7	240°20.8	-16°21.1
14	217°19.6	37°36.4	1°40.7	138°59.0	22°17.5	213°30.6	-0°06.8	255°23.3	-16°21.2
15	232°22.1	52°36.1	1°39.5	154°00.5	22°17.7	228°33.4	-0°06.9	270°25.9	-16°21.2
16	247°24.5	67°35.7	1°38.2	169°02.0	22°17.8	243°36.2	-0°07.1	285°28.4	-16°21.2
17	262°27.0	82°35.3	1°37.0	184°03.5	22°17.9	258°38.9	-0°07.2	300°31.0	-16°21.2
18	277°29.4	97°34.9	1°35.7	199°04.9	22°18.1	273°41.7	-0°07.3	315°33.6	-16°21.3
19	292°31.9	112°34.5	1°34.5	214°06.4	22°18.2	288°44.5	-0°07.5	330°36.1	-16°21.3
20	307°34.4	127°34.1	1°33.3	229°07.9	22°18.4	303°47.2	-0°07.6	345°38.7	-16°21.3
21	322°36.8	142°33.7	1°32.0	244°09.4	22°18.5	318°50.0	-0°07.7	0°41.2	-16°21.4
22	337°39.3	157°33.3	1°30.8	259°10.9	22°18.6	333°52.8	-0°07.9	15°43.8	-16°21.4
23	352°41.8	172°32.9	1°29.5	274°12.4	22°18.8	348°55.6	-0°08.0	30°46.4	-16°21.4
Mer.pass.:23:29		v-0.4 d-1.2 m-3.8		v1.5 d0.1 m-0.5		v2.8 d-0.1 m-2.8		v2.6 d-0.0 m0.5	

Jue	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	7°44.2	187°32.5	1°28.3	289°13.9	22°18.9	3°58.3	-0°08.1	45°48.9	-16°21.4
1	22°46.7	202°32.1	1°27.0	304°15.4	22°19.1	19°01.1	-0°08.3	60°51.5	-16°21.5
2	37°49.2	217°31.7	1°25.8	319°16.9	22°19.2	34°03.9	-0°08.4	75°54.0	-16°21.5
3	52°51.6	232°31.3	1°24.5	334°18.4	22°19.3	49°06.6	-0°08.5	90°56.6	-16°21.5
4	67°54.1	247°31.0	1°23.3	349°19.9	22°19.5	64°09.4	-0°08.7	105°59.2	-16°21.6
5	82°56.6	262°30.6	1°22.0	4°21.4	22°19.6	79°12.2	-0°08.8	121°01.7	-16°21.6
6	97°59.0	277°30.2	1°20.8	19°22.9	22°19.8	94°15.0	-0°08.9	136°04.3	-16°21.6
7	113°01.5	292°29.8	1°19.5	34°24.4	22°19.9	109°17.7	-0°09.1	151°06.8	-16°21.6
8	128°03.9	307°29.4	1°18.3	49°25.9	22°20.0	124°20.5	-0°09.2	166°09.4	-16°21.7
9	143°06.4	322°29.0	1°17.0	64°27.4	22°20.2	139°23.3	-0°09.3	181°12.0	-16°21.7
10	158°08.9	337°28.6	1°15.8	79°28.9	22°20.3	154°26.0	-0°09.5	196°14.5	-16°21.7
11	173°11.3	352°28.2	1°14.5	94°30.4	22°20.5	169°28.8	-0°09.6	211°17.1	-16°21.8
12	188°13.8	7°27.8	1°13.3	109°32.0	22°20.6	184°31.6	-0°09.7	226°19.6	-16°21.8
13	203°16.3	22°27.4	1°12.0	124°33.5	22°20.7	199°34.3	-0°09.9	241°22.2	-16°21.8
14	218°18.7	37°27.0	1°10.8	139°35.0	22°20.9	214°37.1	-0°10.0	256°24.8	-16°21.9
15	233°21.2	52°26.6	1°09.5	154°36.5	22°21.0	229°39.9	-0°10.1	271°27.3	-16°21.9
16	248°23.7	67°26.3	1°08.3	169°38.0	22°21.2	244°42.7	-0°10.2	286°29.9	-16°21.9
17	263°26.1	82°25.9	1°07.0	184°39.5	22°21.3	259°45.4	-0°10.4	301°32.4	-16°21.9
18	278°28.6	97°25.5	1°05.8	199°41.0	22°21.4	274°48.2	-0°10.5	316°35.0	-16°22.0
19	293°31.1	112°25.1	1°04.5	214°42.5	22°21.6	289°51.0	-0°10.6	331°37.6	-16°22.0
20	308°33.5	127°24.7	1°03.3	229°44.1	22°21.7	304°53.7	-0°10.8	346°40.1	-16°22.0
21	323°36.0	142°24.3	1°02.0	244°45.6	22°21.8	319°56.5	-0°10.9	1°42.7	-16°22.0
22	338°38.4	157°23.9	1°00.8	259°47.1	22°22.0	334°59.3	-0°11.0	16°45.2	-16°22.1
23	353°40.9	172°23.5	0°59.5	274°48.6	22°22.1	350°02.1	-0°11.2	31°47.8	-16°22.1
Mer.pass.:23:25		v-0.4 d-1.2 m-3.8		v1.5 d0.1 m-0.6		v2.8 d-0.1 m-2.8		v2.6 d-0.0 m0.5	

Vie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	8°43.4	187°23.1	0°58.3	289°50.1	22°22.3	5°04.8	-0°11.3	46°50.3	-16°22.1
1	23°45.8	202°22.7	0°57.0	304°51.6	22°22.4	20°07.6	-0°11.4	61°52.9	-16°22.2
2	38°48.3	217°22.3	0°55.8	319°53.2	22°22.5	35°10.4	-0°11.6	76°55.5	-16°22.2
3	53°50.8	232°21.9	0°54.5	334°54.7	22°22.7	50°13.1	-0°11.7	91°58.0	-16°22.2
4	68°53.2	247°21.6	0°53.3	349°56.2	22°22.8	65°15.9	-0°11.8	107°00.6	-16°22.2
5	83°55.7	262°21.2	0°52.0	4°57.7	22°22.9	80°18.7	-0°12.0	122°03.1	-16°22.3
6	98°58.2	277°20.8	0°50.8	19°59.3	22°23.1	95°21.4	-0°12.1	137°05.7	-16°22.3
7	114°00.6	292°20.4	0°49.5	35°00.8	22°23.2	110°24.2	-0°12.2	152°08.2	-16°22.3
8	129°03.1	307°20.0	0°48.3	50°02.3	22°23.4	125°27.0	-0°12.4	167°10.8	-16°22.4
9	144°05.6	322°19.6	0°47.0	65°03.8	22°23.5	140°29.8	-0°12.5	182°13.3	-16°22.4
10	159°08.0	337°19.2	0°45.8	80°05.4	22°23.6	155°32.5	-0°12.6	197°15.9	-16°22.4
11	174°10.5	352°18.8	0°44.5	95°06.9	22°23.8	170°35.3	-0°12.8	212°18.5	-16°22.4
12	189°12.9	7°18.4	0°43.3	110°08.4	22°23.9	185°38.1	-0°12.9	227°21.0	-16°22.5
13	204°15.4	22°18.0	0°42.0	125°10.0	22°24.0	200°40.8	-0°13.0	242°23.6	-16°22.5
14	219°17.9	37°17.6	0°40.8	140°11.5	22°24.2	215°43.6	-0°13.2	257°26.1	-16°22.5
15	234°20.3	52°17.3	0°39.5	155°13.0	22°24.3	230°46.4	-0°13.3	272°28.7	-16°22.5
16	249°22.8	67°16.9	0°38.3	170°14.6	22°24.4	245°49.1	-0°13.4	287°31.2	-16°22.6
17	264°25.3	82°16.5	0°37.0	185°16.1	22°24.6	260°51.9	-0°13.5	302°33.8	-16°22.6
18	279°27.7	97°16.1	0°35.8	200°17.6	22°24.7	275°54.7	-0°13.7	317°36.3	-16°22.6
19	294°30.2	112°15.7	0°34.5	215°19.2	22°24.8	290°57.5	-0°13.8	332°38.9	-16°22.7
20	309°32.7	127°15.3	0°33.3	230°20.7	22°25.0	306°00.2	-0°13.9	347°41.4	-16°22.7
21	324°35.1	142°14.9	0°32.0	245°22.2	22°25.1	321°03.0	-0°14.1	2°44.0	-16°22.7
22	339°37.6	157°14.5	0°30.8	260°23.8	22°25.3	336°05.8	-0°14.2	17°46.6	-16°22.7
23	354°40.0	172°14.1	0°29.5	275°25.3	22°25.4	351°08.5	-0°14.3	32°49.1	-16°22.8
Mer.pass.:23:21		v-0.4 d-1.3 m-3.8		v1.5 d0.1 m-0.6		v2.8 d-0.1 m-2.8		v2.6 d-0.0 m0.5	

Estrellas

	AHS	Dec
Alpheratz	357°36.4	29°13.0
Ankaa	353°08.6	-42°10.9
Schedar	349°32.6	56°39.7
Diphda	348°48.8	-17°51.7
Achernar	335°21.1	-57°07.2
Hamal	327°53.1	23°34.2
Polaris	314°34.9	89°21.4
Akamar	315°12.9	-40°12.6
Menkar	314°07.9	4°10.8
Mirfak	308°30.6	49°56.4
Aldebaran	290°41.7	16°33.3
Rigel	281°05.6	-8°10.3
Capella	280°24.6	46°01.2
Bellatrix	278°24.8	6°22.3
Elnath	278°04.2	28°37.6
Alnilam	275°39.6	-1°11.1
Betelgeuse	270°54.1	7°24.8
Canopus	263°53.2	-52°42.1
Sirius	258°27.8	-16°44.4
Adara	255°07.4	-28°59.9
Procyon	244°52.8	5°10.3
Pollux	243°19.6	27°58.3
Avior	234°15.8	-59°34.5
Suhail	222°48.0	-43°31.1
Miaplacidus	221°39.3	-69°48.3
Alphard	217°49.8	-8°45.2
Regulus	207°36.7	11°51.5
Dubhe	193°43.9	61°37.7
Denebola	182°27.1	14°26.9
Gienah	175°45.8	-17°39.9
Acrux	173°02.9	-63°13.4
Gacrux	171°54.4	-57°14.3
Alioth	166°15.2	55°50.4
Spica	158°24.6	-11°16.6
Alcaid	152°53.9	49°12.2
Hadar	148°39.3	-60°28.9
Menkent	148°00.2	-36°28.8
Arcturus	145°49.8	19°04.4
Rigil Kent.	139°43.5	-60°55.8
Zubenelg.	136°58.4	-16°08.0
Kochab	137°20.7	74°03.9
Alphecca	126°05.6	26°38.6
Antares	112°18.3	-26°28.9
Atria	107°14.5	-69°04.3
Sabik	102°05.1	-15°45.1
Shaula	96°13.1	-37°07.3
Rasalhague	96°00.4	12°32.8
Etamin	90°43.1	51°29.4
Kaus Aust.	83°35.0	-34°22.5
Vega	80°34.5	38°48.5
Nunki	75°50.1	-26°16.1
Altair	62°01.8	8°55.8
Peacock	53°08.4	-56°39.9
Deneb	49°26.9	45°21.9
Enif	33°40.4	9°58.8
Alnair	27°34.9	-46°51.1
Fomalhaut	15°16.3	-29°30.1
Scheat	13°46.8	28°12.4
Markab	13°31.5	15°19.7

Sep 28 Mie	AHS	Paso Merid
Venus	180°56.8	11:30
Mars	281°53.1	04:45
Jupiter	356°06.7	23:44
Saturn	38°02.3	20:57

Sep 28 Jue	AHS	Paso Merid
Venus	179°48.3	11:30
Mars	281°29.7	04:43
Jupiter	356°14.1	23:40
Saturn	38°04.7	20:53

Sep 30 Vie	AHS	Paso Merid
Venus	178°39.7	11:31
Mars	281°06.7	04:40
Jupiter	356°21.5	23:35
Saturn	38°07.0	20:49

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.2

h	Sol		Luna				
Mie	AHG	Dec	AHG	v	Dec	d	HP
0	182°17.6	-1°55.8	158°00.4	12.5	-10°29.7	-14.5	57.7
1	197°17.8	-1°56.8	172°31.9	12.4	-10°44.2	-14.5	57.7
2	212°18.0	-1°57.7	187°03.3	12.3	-10°58.6	-14.4	57.7
3	227°18.2	-1°58.7	201°34.6	12.3	-11°13.0	-14.4	57.7
4	242°18.4	-1°59.7	216°05.8	12.2	-11°27.4	-14.3	57.7
5	257°18.7	-2°00.7	230°37.0	12.1	-11°41.7	-14.3	57.8
6	272°18.9	-2°01.6	245°08.1	12.1	-11°55.9	-14.2	57.8
7	287°19.1	-2°02.6	259°39.1	12.0	-12°10.1	-14.2	57.8
8	302°19.3	-2°03.6	274°10.1	11.9	-12°24.3	-14.1	57.8
9	317°19.5	-2°04.6	288°40.9	11.8	-12°38.4	-14.1	57.8
10	332°19.7	-2°05.5	303°11.7	11.8	-12°52.4	-14.0	57.9
11	347°19.9	-2°06.5	317°42.4	11.7	-13°06.4	-14.0	57.9
12	2°20.1	-2°07.5	332°13.1	11.6	-13°20.3	-13.9	57.9
13	17°20.3	-2°08.4	346°43.6	11.5	-13°34.2	-13.8	57.9
14	32°20.5	-2°09.4	1°14.1	11.4	-13°48.0	-13.8	57.9
15	47°20.7	-2°10.4	15°44.5	11.4	-14°01.8	-13.7	57.9
16	62°21.0	-2°11.4	30°14.8	11.3	-14°15.5	-13.7	58.0
17	77°21.2	-2°12.3	44°45.1	11.2	-14°29.1	-13.6	58.0
18	92°21.4	-2°13.3	59°15.2	11.1	-14°42.6	-13.5	58.0
19	107°21.6	-2°14.3	73°45.3	11.0	-14°56.1	-13.5	58.0
20	122°21.8	-2°15.3	88°15.3	10.9	-15°09.6	-13.4	58.0
21	137°22.0	-2°16.2	102°45.2	10.9	-15°22.9	-13.3	58.1
22	152°22.2	-2°17.2	117°15.0	10.8	-15°36.2	-13.2	58.1
23	167°22.4	-2°18.2	131°44.7	10.7	-15°49.4	-13.2	58.1
	SD.=16.0	d=-1.0		S.D.=15.7			

Jue	AHG	Dec	AHG	v	Dec	d	HP
0	182°22.6	-2°19.1	146°14.3	10.6	-16°02.6	-13.1	58.1
1	197°22.8	-2°20.1	160°43.9	10.5	-16°15.6	-13.0	58.1
2	212°23.0	-2°21.1	175°13.3	10.4	-16°28.6	-12.9	58.1
3	227°23.2	-2°22.1	189°42.7	10.3	-16°41.5	-12.9	58.2
4	242°23.5	-2°23.0	204°12.0	10.2	-16°54.3	-12.8	58.2
5	257°23.7	-2°24.0	218°41.2	10.1	-17°07.1	-12.7	58.2
6	272°23.9	-2°25.0	233°10.2	10.0	-17°19.7	-12.6	58.2
7	287°24.1	-2°26.0	247°39.2	9.9	-17°32.3	-12.5	58.2
8	302°24.3	-2°26.9	262°08.1	9.9	-17°44.8	-12.4	58.2
9	317°24.5	-2°27.9	276°36.9	9.8	-17°57.1	-12.3	58.3
10	332°24.7	-2°28.9	291°05.7	9.7	-18°09.4	-12.3	58.3
11	347°24.9	-2°29.8	305°34.3	9.6	-18°21.7	-12.2	58.3
12	2°25.1	-2°30.8	320°02.8	9.5	-18°33.8	-12.1	58.3
13	17°25.3	-2°31.8	334°31.2	9.4	-18°45.8	-12.0	58.3
14	32°25.5	-2°32.8	348°59.6	9.3	-18°57.7	-11.9	58.3
15	47°25.7	-2°33.7	3°27.8	9.2	-19°09.5	-11.8	58.4
16	62°25.9	-2°34.7	17°55.9	9.1	-19°21.2	-11.7	58.4
17	77°26.1	-2°35.7	32°24.0	9.0	-19°32.9	-11.6	58.4
18	92°26.4	-2°36.6	46°51.9	8.9	-19°44.4	-11.5	58.4
19	107°26.6	-2°37.6	61°19.7	8.8	-19°55.8	-11.4	58.4
20	122°26.8	-2°38.6	75°47.5	8.7	-20°07.1	-11.3	58.4
21	137°27.0	-2°39.6	90°15.1	8.6	-20°18.3	-11.1	58.4
22	152°27.2	-2°40.5	104°42.7	8.5	-20°29.4	-11.0	58.5
23	167°27.4	-2°41.5	119°10.1	8.4	-20°40.4	-10.9	58.5
	SD.=16.0	d=-1.0		S.D.=15.9			

Vie	AHG	Dec	AHG	v	Dec	d	HP
0	182°27.6	-2°42.5	133°37.5	8.3	-20°51.2	-10.8	58.5
1	197°27.8	-2°43.4	148°04.7	8.2	-21°02.0	-10.7	58.5
2	212°28.0	-2°44.4	162°31.9	8.1	-21°12.6	-10.6	58.5
3	227°28.2	-2°45.4	176°58.9	8.0	-21°23.1	-10.5	58.5
4	242°28.4	-2°46.4	191°25.9	7.9	-21°33.5	-10.3	58.5
5	257°28.6	-2°47.3	205°52.7	7.8	-21°43.8	-10.2	58.6
6	272°28.8	-2°48.3	220°19.5	7.7	-21°53.9	-10.1	58.6
7	287°29.0	-2°49.3	234°46.2	7.6	-22°03.9	-10.0	58.6
8	302°29.2	-2°50.2	249°12.7	7.5	-22°13.8	-9.8	58.6
9	317°29.4	-2°51.2	263°39.2	7.4	-22°23.6	-9.7	58.6
10	332°29.6	-2°52.2	278°05.5	7.3	-22°33.2	-9.6	58.6
11	347°29.8	-2°53.2	292°31.8	7.2	-22°42.7	-9.4	58.6
12	2°30.0	-2°54.1	306°58.0	7.1	-22°52.1	-9.3	58.7
13	17°30.2	-2°55.1	321°24.0	7.0	-23°01.4	-9.2	58.7
14	32°30.5	-2°56.1	335°50.0	6.9	-23°10.5	-9.0	58.7
15	47°30.7	-2°57.0	350°15.9	6.8	-23°19.4	-8.9	58.7
16	62°30.9	-2°58.0	4°41.7	6.7	-23°28.3	-8.8	58.7
17	77°31.1	-2°59.0	19°07.4	6.6	-23°37.0	-8.6	58.7
18	92°31.3	-2°59.9	33°33.0	6.5	-23°45.5	-8.5	58.7
19	107°31.5	-3°00.9	47°58.5	6.5	-23°53.9	-8.3	58.7
20	122°31.7	-3°01.9	62°23.9	6.4	-24°02.2	-8.2	58.8
21	137°31.9	-3°02.9	76°49.2	6.3	-24°10.3	-8.0	58.8
22	152°32.1	-3°03.8	91°14.4	6.2	-24°18.3	-7.9	58.8
23	167°32.3	-3°04.8	105°39.5	6.1	-24°26.1	-7.7	58.8
	SD.=16.0	d=-1.0		S.D.=16.0			

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	03:38	05:02	06:09	17:29	18:36	19:59
70	03:52	05:06	06:07	17:31	18:32	19:45
68	04:03	05:10	06:05	17:33	18:28	19:35
66	04:12	05:13	06:04	17:35	18:26	19:27
64	04:19	05:15	06:03	17:36	18:24	19:20
62	04:25	05:17	06:02	17:38	18:22	19:14
60	04:30	05:19	06:01	17:39	18:20	19:09
58	04:34	05:21	06:00	17:40	18:19	19:05
56	04:38	05:22	05:59	17:41	18:18	19:01
54	04:41	05:23	05:58	17:42	18:17	18:58
52	04:44	05:24	05:57	17:42	18:16	18:55
50	04:47	05:25	05:57	17:43	18:15	18:53
45	04:52	05:26	05:55	17:45	18:14	18:48
40	04:56	05:27	05:54	17:46	18:13	18:44
35	04:58	05:28	05:53	17:47	18:12	18:42
30	05:01	05:28	05:52	17:48	18:12	18:40
20	05:03	05:28	05:50	17:50	18:12	18:38
10	05:03	05:28	05:49	17:52	18:13	18:37
0	05:02	05:26	05:47	17:54	18:14	18:38
S 10	05:00	05:24	05:45	17:55	18:16	18:41
20	04:56	05:21	05:43	17:58	18:20	18:45
30	04:49	05:17	05:41	18:00	18:24	18:52
35	04:45	05:14	05:40	18:02	18:27	18:57
40	04:39	05:11	05:38	18:03	18:31	19:03
45	04:32	05:07	05:36	18:05	18:35	19:10
50	04:23	05:01	05:34	18:08	18:40	19:19
52	04:18	04:59	05:33	18:09	18:43	19:24
54	04:13	04:56	05:31	18:10	18:46	19:29
56	04:08	04:53	05:30	18:12	18:49	19:35
58	04:01	04:49	05:29	18:13	18:53	19:41
60	03:54	04:45	05:27	18:15	18:57	19:49

	Orto luna			Ocaso luna		
Lat.	Mie	Jue	Vie	Mie	Jue	Vie
N 72	10:54	–:–	–:–	16:29	–:–	–:–
70	10:27	13:27	–:–	16:58	15:44	–:–
68	10:07	12:31	–:–	17:20	16:42	–:–
66	09:52	11:58	14:45	17:37	17:16	16:23
64	09:39	11:34	13:44	17:51	17:41	17:25
62	09:28	11:15	13:10	18:03	18:01	18:00
60	09:19	10:59	12:45	18:14	18:17	18:25
58	09:11	10:46	12:25	18:23	18:31	18:46
56	09:04	10:35	12:09	18:31	18:43	19:02
54	08:58	10:26	11:55	18:38	18:54	19:17
52	08:53	10:17	11:43	18:44	19:03	19:29
50	08:47	10:09	11:32	18:50	19:11	19:40
45	08:37	09:53	11:10	19:02	19:29	20:04
40	08:28	09:39	10:53	19:13	19:44	20:22
35	08:20	09:28	10:38	19:22	19:57	20:38
30	08:14	09:18	10:25	19:30	20:07	20:52
20	08:02	09:01	10:03	19:43	20:26	21:15
10	07:53	08:47	09:44	19:55	20:43	21:35
0	07:43	08:33	09:27	20:07	20:58	21:54
S 10	07:34	08:20	09:10	20:18	21:14	22:13
20	07:25	08:05	08:51	20:30	21:31	22:34
30	07:14	07:49	08:30	20:44	21:50	22:57
35	07:07	07:40	08:18	20:52	22:01	23:11
40	07:00	07:29	08:04	21:02	22:14	23:27
45	06:52	07:17	07:47	21:13	22:30	23:47
50	06:42	07:02	07:27	21:26	22:49	–:–
52	06:38	06:55	07:17	21:32	22:58	–:–
54	06:33	06:47	07:07	21:39	23:08	–:–
56	06:28	06:39	06:54	21:47	23:19	–:–
58	06:22	06:29	06:40	21:56	23:33	–:–
60	06:15	06:18	06:24	22:06	23:48	–:–

Día	Sol			Luna		
	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
28	09:10	09:20	11:50	13:54	01:30	3(8%)
29	09:30	09:40	11:50	14:45	02:19	4(14%)
30	09:50	10:00	11:50	15:40	03:12	5(23%)

Octubre 01, 02, 03 (Sa, Dom, Lun.)

Sa	Aries AHG	Venus AHG	Venus Dec	Martes AHG	Martes Dec	Júpiter AHG	Júpiter Dec	Saturno AHG	Saturno Dec
0	9°42.5	187°13.7	0°28.3	290°26.9	22°25.5	6°11.3	-0°14.5	47°51.7	-16°22.8
1	24°45.0	202°13.3	0°27.0	305°28.4	22°25.7	21°14.1	-0°14.6	62°54.2	-16°22.8
2	39°47.4	217°13.0	0°25.7	320°30.0	22°25.8	36°16.8	-0°14.7	77°56.8	-16°22.8
3	54°49.9	232°12.6	0°24.5	335°31.5	22°25.9	51°19.6	-0°14.9	92°59.3	-16°22.9
4	69°52.4	247°12.2	0°23.2	350°33.0	22°26.1	66°22.4	-0°15.0	108°01.9	-16°22.9
5	84°54.8	262°11.8	0°22.0	5°34.6	22°26.2	81°25.2	-0°15.1	123°04.4	-16°22.9
6	99°57.3	277°11.4	0°20.7	20°36.1	22°26.3	96°27.9	-0°15.3	138°07.0	-16°22.9
7	114°59.8	292°11.0	0°19.5	35°37.7	22°26.5	111°30.7	-0°15.4	153°09.5	-16°23.0
8	130°02.2	307°10.6	0°18.2	50°39.2	22°26.6	126°33.5	-0°15.5	168°12.1	-16°23.0
9	145°04.7	322°10.2	0°17.0	65°40.8	22°26.7	141°36.2	-0°15.6	183°14.6	-16°23.0
10	160°07.2	337°09.8	0°15.7	80°42.3	22°26.9	156°39.0	-0°15.8	198°17.2	-16°23.1
11	175°09.6	352°09.4	0°14.5	95°43.9	22°27.0	171°41.8	-0°15.9	213°19.7	-16°23.1
12	190°12.1	7°09.0	0°13.2	110°45.4	22°27.1	186°44.5	-0°16.0	228°22.3	-16°23.1
13	205°14.5	22°08.7	0°12.0	125°47.0	22°27.3	201°47.3	-0°16.2	243°24.8	-16°23.1
14	220°17.0	37°08.3	0°10.7	140°48.6	22°27.4	216°50.1	-0°16.3	258°27.4	-16°23.2
15	235°19.5	52°07.9	0°09.5	155°50.1	22°27.5	231°52.8	-0°16.4	273°29.9	-16°23.2
16	250°21.9	67°07.5	0°08.2	170°51.7	22°27.7	246°55.6	-0°16.6	288°32.5	-16°23.2
17	265°24.4	82°07.1	0°07.0	185°53.2	22°27.8	261°58.4	-0°16.7	303°35.0	-16°23.2
18	280°26.9	97°06.7	0°05.7	200°54.8	22°27.9	277°01.2	-0°16.8	318°37.6	-16°23.3
19	295°29.3	112°06.3	0°04.4	215°56.3	22°28.1	292°03.9	-0°17.0	333°40.1	-16°23.3
20	310°31.8	127°05.9	0°03.2	230°57.9	22°28.2	307°06.7	-0°17.1	348°42.7	-16°23.3
21	325°34.3	142°05.5	0°01.9	245°59.5	22°28.3	322°09.5	-0°17.2	3°45.3	-16°23.3
22	340°36.7	157°05.1	0°00.7	261°01.0	22°28.5	337°12.2	-0°17.3	18°47.8	-16°23.4
23	355°39.2	172°04.7	-0°00.6	276°02.6	22°28.6	352°15.0	-0°17.5	33°50.4	-16°23.4
Mer.pass.:23:17		v-0.4 d-1.3 m-3.8		v1.5 d0.1 m-0.6		v2.8 d-0.1 m-2.8		v2.6 d-0.0 m0.5	

Dom	AHG	Venus AHG	Venus Dec	Martes AHG	Martes Dec	Júpiter AHG	Júpiter Dec	Saturno AHG	Saturno Dec
0	10°41.7	187°04.4	-0°01.8	291°04.2	22°28.7	7°17.8	-0°17.6	48°52.9	-16°23.4
1	25°44.1	202°04.0	-0°03.1	306°05.7	22°28.9	22°20.5	-0°17.7	63°55.5	-16°23.4
2	40°46.6	217°03.6	-0°04.3	321°07.3	22°29.0	37°23.3	-0°17.9	78°58.0	-16°23.5
3	55°49.0	232°03.2	-0°05.6	336°08.9	22°29.1	52°26.1	-0°18.0	94°00.5	-16°23.5
4	70°51.5	247°02.8	-0°06.8	351°10.4	22°29.3	67°28.8	-0°18.1	109°03.1	-16°23.5
5	85°54.0	262°02.4	-0°08.1	6°12.0	22°29.4	82°31.6	-0°18.3	124°05.6	-16°23.5
6	100°56.4	277°02.0	-0°09.3	21°13.6	22°29.5	97°34.4	-0°18.4	139°08.2	-16°23.6
7	115°58.9	292°01.6	-0°10.6	36°15.1	22°29.7	112°37.1	-0°18.5	154°10.7	-16°23.6
8	131°01.4	307°01.2	-0°11.9	51°16.7	22°29.8	127°39.9	-0°18.7	169°13.3	-16°23.6
9	146°03.8	322°00.8	-0°13.1	66°18.3	22°29.9	142°42.7	-0°18.8	184°15.8	-16°23.6
10	161°06.3	337°00.4	-0°14.4	81°19.9	22°30.0	157°45.4	-0°18.9	199°18.4	-16°23.7
11	176°08.8	352°00.1	-0°15.6	96°21.4	22°30.2	172°48.2	-0°19.0	214°20.9	-16°23.7
12	191°11.2	6°59.7	-0°16.9	111°23.0	22°30.3	187°51.0	-0°19.2	229°23.5	-16°23.7
13	206°13.7	21°59.3	-0°18.1	126°24.6	22°30.4	202°53.8	-0°19.3	244°26.0	-16°23.7
14	221°16.2	36°58.9	-0°19.4	141°26.2	22°30.6	217°56.5	-0°19.4	259°28.6	-16°23.8
15	236°18.6	51°58.5	-0°20.6	156°27.7	22°30.7	232°59.3	-0°19.6	274°31.1	-16°23.8
16	251°21.1	66°58.1	-0°21.9	171°29.3	22°30.8	248°02.1	-0°19.7	289°33.7	-16°23.8
17	266°23.5	81°57.7	-0°23.1	186°30.9	22°31.0	263°04.8	-0°19.8	304°36.2	-16°23.8
18	281°26.0	96°57.3	-0°24.4	201°32.5	22°31.1	278°07.6	-0°20.0	319°38.8	-16°23.9
19	296°28.5	111°56.9	-0°25.6	216°34.1	22°31.2	293°10.4	-0°20.1	334°41.3	-16°23.9
20	311°30.9	126°56.5	-0°26.9	231°35.7	22°31.4	308°13.1	-0°20.2	349°43.9	-16°23.9
21	326°33.4	141°56.1	-0°28.2	246°37.2	22°31.5	323°15.9	-0°20.3	4°46.4	-16°23.9
22	341°35.9	156°55.8	-0°29.4	261°38.8	22°31.6	338°18.7	-0°20.5	19°49.0	-16°24.0
23	356°38.3	171°55.4	-0°30.7	276°40.4	22°31.7	353°21.4	-0°20.6	34°51.5	-16°24.0
Mer.pass.:23:13		v-0.4 d-1.3 m-3.8		v1.6 d0.1 m-0.6		v2.8 d-0.1 m-2.8		v2.5 d-0.0 m0.5	

Lun	AHG	Venus AHG	Venus Dec	Martes AHG	Martes Dec	Júpiter AHG	Júpiter Dec	Saturno AHG	Saturno Dec
0	11°40.8	186°55.0	-0°31.9	291°42.0	22°31.9	8°24.2	-0°20.7	49°54.0	-16°24.0
1	26°43.3	201°54.6	-0°33.2	306°43.6	22°32.0	23°27.0	-0°20.9	64°56.6	-16°24.0
2	41°45.7	216°54.2	-0°34.4	321°45.2	22°32.1	38°29.7	-0°21.0	79°59.1	-16°24.1
3	56°48.2	231°53.8	-0°35.7	336°46.8	22°32.3	53°32.5	-0°21.1	95°01.7	-16°24.1
4	71°50.7	246°53.4	-0°36.9	351°48.4	22°32.4	68°35.3	-0°21.2	110°04.2	-16°24.1
5	86°53.1	261°53.0	-0°38.2	6°50.0	22°32.5	83°38.0	-0°21.4	125°06.8	-16°24.1
6	101°55.6	276°52.6	-0°39.5	21°51.6	22°32.7	98°40.8	-0°21.5	140°09.3	-16°24.2
7	116°58.0	291°52.2	-0°40.7	36°53.2	22°32.8	113°43.6	-0°21.6	155°11.9	-16°24.2
8	132°00.5	306°51.8	-0°42.0	51°54.7	22°32.9	128°46.3	-0°21.8	170°14.4	-16°24.2
9	147°03.0	321°51.4	-0°43.2	66°56.3	22°33.0	143°49.1	-0°21.9	185°17.0	-16°24.2
10	162°05.4	336°51.1	-0°44.5	81°57.9	22°33.2	158°51.9	-0°22.0	200°19.5	-16°24.3
11	177°07.9	351°50.7	-0°45.7	96°59.5	22°33.3	173°54.6	-0°22.2	215°22.0	-16°24.3
12	192°10.4	6°50.3	-0°47.0	112°01.1	22°33.4	188°57.4	-0°22.3	230°24.6	-16°24.3
13	207°12.8	21°49.9	-0°48.2	127°02.7	22°33.6	204°00.2	-0°22.4	245°27.1	-16°24.3
14	222°15.3	36°49.5	-0°49.5	142°04.3	22°33.7	219°02.9	-0°22.5	260°29.7	-16°24.3
15	237°17.8	51°49.1	-0°50.7	157°06.0	22°33.8	234°05.7	-0°22.7	275°32.2	-16°24.4
16	252°20.2	66°48.7	-0°52.0	172°07.6	22°33.9	249°08.5	-0°22.8	290°34.8	-16°24.4
17	267°22.7	81°48.3	-0°53.3	187°09.2	22°34.1	264°11.2	-0°22.9	305°37.3	-16°24.4
18	282°25.1	96°47.9	-0°54.5	202°10.8	22°34.2	279°14.0	-0°23.1	320°39.9	-16°24.4
19	297°27.6	111°47.5	-0°55.8	217°12.4	22°34.3	294°16.8	-0°23.2	335°42.4	-16°24.5
20	312°30.1	126°47.1	-0°57.0	232°14.0	22°34.5	309°19.5	-0°23.3	350°44.9	-16°24.5
21	327°32.5	141°46.7	-0°58.3	247°15.6	22°34.6	324°22.3	-0°23.4	5°47.5	-16°24.5
22	342°35.0	156°46.3	-0°59.5	262°17.2	22°34.7	339°25.1	-0°23.6	20°50.0	-16°24.5
23	357°37.5	171°46.0	-1°00.8	277°18.8	22°34.8	354°27.8	-0°23.7	35°52.6	-16°24.6
Mer.pass.:23:09		v-0.4 d-1.3 m-3.8		v1.6 d0.1 m-0.6		v2.8 d-0.1 m-2.8		v2.5 d-0.0 m0.5	

Estrellas

	AHS	Dec
Alpheratz	357°36.4	29°13.0
Ankaa	353°08.6	-42°10.9
Schedar	349°32.6	56°39.7
Diphda	348°48.8	-17°51.7
Achernar	335°21.1	-57°07.2
Hamal	327°53.0	23°34.2
Polaris	314°33.6	89°21.4
Akamar	315°12.9	-40°12.6
Menkar	314°07.9	4°10.8
Mirfak	308°30.6	49°56.4
Aldebaran	290°41.6	16°33.3
Rigel	281°05.6	-8°10.3
Capella	280°24.5	46°01.2
Bellatrix	278°24.8	6°22.3
Elnath	278°04.1	28°37.6
Alnilam	275°39.6	-1°11.1
Betelgeuse	270°54.1	7°24.8
Canopus	263°53.2	-52°42.1
Sirius	258°27.8	-16°44.4
Adara	255°07.4	-28°59.9
Procyon	244°52.8	5°10.3
Pollux	243°19.6	27°58.3
Avior	234°15.8	-59°34.5
Suhail	222°47.9	-43°31.1
Miaplacidus	221°39.2	-69°48.2
Alphard	217°49.8	-8°45.2
Regulus	207°36.7	11°51.5
Dubhe	193°43.9	61°37.7
Denebola	182°27.1	14°26.9
Gienah	175°45.8	-17°39.9
Acrux	173°02.9	-63°13.3
Gacrux	171°54.3	-57°14.3
Alioth	166°15.2	55°50.3
Spica	158°24.6	-11°16.6
Alcaid	152°54.0	49°12.2
Hadar	148°39.3	-60°28.9
Menkent	148°00.2	-36°28.8
Arcturus	145°49.8	19°04.3
Rigil Kent.	139°43.5	-60°55.7
Zubenelg.	136°58.4	-16°08.0
Kochab	137°20.7	74°03.9
Alphecca	126°05.6	26°38.5
Antares	112°18.3	-26°28.9
Atria	107°14.5	-69°04.3
Sabik	102°05.1	-15°45.1
Shaula	96°13.1	-37°07.3
Rasalhague	96°00.4	12°32.8
Etamin	90°43.2	51°29.4
Kaus Aust.	83°35.0	-34°22.5
Vega	80°34.5	38°48.5
Nunki	75°50.1	-26°16.1
Altair	62°01.8	8°55.8
Peacock	53°08.4	-56°39.9
Deneb	49°26.9	45°21.9
Enif	33°40.4	9°58.9
Alnair	27°34.9	-46°51.1
Fomalhaut	15°16.3	-29°30.1
Scheat	13°46.8	28°12.5
Markab	13°31.5	15°19.7

Oct 01 Sa	AHS	Paso Merid
Venus	177°31.2	11:31
Mars	280°44.4	04:38
Jupiter	356°28.8	23:31
Saturn	38°09.2	20:45

Oct 02 Dom	AHS	Paso Merid
Venus	176°22.7	11:32
Mars	280°22.5	04:35
Jupiter	356°36.1	23:26
Saturn	38°11.2	20:41

Oct 03 Lun	AHS	Paso Merid
Venus	175°14.2	11:33
Mars	280°01.2	04:33
Jupiter	356°43.4	23:22
Saturn	38°13.3	20:37

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.2

h	Sol		Luna				
Sa	AHG	Dec	AHG	v	Dec	d	HP
0	182°32.5	-3°05.8	120°04.6	6.0	-24°33.8	-7.6	58.8
1	197°32.7	-3°06.7	134°29.5	5.9	-24°41.3	-7.4	58.8
2	212°32.9	-3°07.7	148°54.4	5.8	-24°48.7	-7.3	58.8
3	227°33.1	-3°08.7	163°19.2	5.7	-24°55.9	-7.1	58.8
4	242°33.3	-3°09.6	177°43.9	5.7	-25°02.9	-7.0	58.9
5	257°33.5	-3°10.6	192°08.5	5.6	-25°09.8	-6.8	58.9
6	272°33.7	-3°11.6	206°33.0	5.5	-25°16.6	-6.7	58.9
7	287°33.9	-3°12.6	220°57.5	5.4	-25°23.1	-6.5	58.9
8	302°34.1	-3°13.5	235°21.8	5.3	-25°29.6	-6.3	58.9
9	317°34.3	-3°14.5	249°46.1	5.2	-25°35.8	-6.2	58.9
10	332°34.5	-3°15.5	264°10.3	5.2	-25°41.9	-6.0	58.9
11	347°34.7	-3°16.4	278°34.5	5.1	-25°47.8	-5.8	58.9
12	2°34.9	-3°17.4	292°58.5	5.0	-25°53.6	-5.7	58.9
13	17°35.1	-3°18.4	307°22.5	5.0	-25°59.2	-5.5	59.0
14	32°35.3	-3°19.3	321°46.4	4.9	-26°04.6	-5.3	59.0
15	47°35.5	-3°20.3	336°10.3	4.8	-26°09.9	-5.2	59.0
16	62°35.7	-3°21.3	350°34.1	4.7	-26°15.0	-5.0	59.0
17	77°35.9	-3°22.2	4°57.8	4.7	-26°19.9	-4.8	59.0
18	92°36.1	-3°23.2	19°21.4	4.6	-26°24.6	-4.7	59.0
19	107°36.3	-3°24.2	33°45.0	4.5	-26°29.2	-4.5	59.0
20	122°36.5	-3°25.2	48°08.5	4.5	-26°33.6	-4.3	59.0
21	137°36.7	-3°26.1	62°32.0	4.4	-26°37.8	-4.1	59.0
22	152°36.9	-3°27.1	76°55.4	4.4	-26°41.9	-4.0	59.0
23	167°37.1	-3°28.1	91°18.7	4.3	-26°45.7	-3.8	59.0
	SD.=16.0	d=-1.0	S.D.=16.0				

Dom	AHG	Dec	AHG	v	Dec	d	HP
0	182°37.3	-3°29.0	105°42.0	4.3	-26°49.4	-3.6	59.1
1	197°37.5	-3°30.0	120°05.2	4.2	-26°52.9	-3.4	59.1
2	212°37.7	-3°31.0	134°28.4	4.2	-26°56.3	-3.2	59.1
3	227°37.9	-3°31.9	148°51.6	4.1	-26°59.4	-3.1	59.1
4	242°38.1	-3°32.9	163°14.7	4.1	-27°02.4	-2.9	59.1
5	257°38.3	-3°33.9	177°37.7	4.0	-27°05.2	-2.7	59.1
6	272°38.5	-3°34.8	192°00.7	4.0	-27°07.8	-2.5	59.1
7	287°38.7	-3°35.8	206°23.7	3.9	-27°10.2	-2.3	59.1
8	302°38.9	-3°36.8	220°46.6	3.9	-27°12.4	-2.1	59.1
9	317°39.1	-3°37.7	235°09.5	3.9	-27°14.5	-2.0	59.1
10	332°39.3	-3°38.7	249°32.4	3.8	-27°16.3	-1.8	59.1
11	347°39.5	-3°39.7	263°55.2	3.8	-27°18.0	-1.6	59.1
12	2°39.7	-3°40.6	278°18.0	3.8	-27°19.5	-1.4	59.2
13	17°39.9	-3°41.6	292°40.8	3.8	-27°20.8	-1.2	59.2
14	32°40.1	-3°42.6	307°03.5	3.7	-27°22.0	-1.0	59.2
15	47°40.3	-3°43.5	321°26.3	3.7	-27°22.9	-0.8	59.2
16	62°40.5	-3°44.5	335°49.0	3.7	-27°23.6	-0.7	59.2
17	77°40.7	-3°45.5	350°11.7	3.7	-27°24.2	-0.5	59.2
18	92°40.9	-3°46.4	4°34.3	3.7	-27°24.6	-0.3	59.2
19	107°41.1	-3°47.4	18°57.0	3.7	-27°24.8	-0.1	59.2
20	122°41.3	-3°48.4	33°19.7	3.7	-27°24.8	0.1	59.2
21	137°41.5	-3°49.3	47°42.3	3.6	-27°24.6	0.3	59.2
22	152°41.7	-3°50.3	62°05.0	3.6	-27°24.2	0.5	59.2
23	167°41.9	-3°51.3	76°27.6	3.6	-27°23.6	0.7	59.2
	SD.=16.0	d=-1.0	S.D.=16.1				

Lun	AHG	Dec	AHG	v	Dec	d	HP
0	182°42.1	-3°52.2	90°50.2	3.6	-27°22.9	0.9	59.2
1	197°42.3	-3°53.2	105°12.9	3.6	-27°21.9	1.0	59.2
2	212°42.5	-3°54.2	119°35.5	3.7	-27°20.8	1.2	59.3
3	227°42.7	-3°55.1	133°58.2	3.7	-27°19.5	1.4	59.3
4	242°42.9	-3°56.1	148°20.9	3.7	-27°17.9	1.6	59.3
5	257°43.1	-3°57.1	162°43.5	3.7	-27°16.2	1.8	59.3
6	272°43.3	-3°58.0	177°06.2	3.7	-27°14.4	2.0	59.3
7	287°43.5	-3°59.0	191°28.9	3.7	-27°12.3	2.2	59.3
8	302°43.7	-4°00.0	205°51.6	3.7	-27°10.0	2.4	59.3
9	317°43.8	-4°00.9	220°14.4	3.8	-27°07.6	2.5	59.3
10	332°44.0	-4°01.9	234°37.2	3.8	-27°04.9	2.7	59.3
11	347°44.2	-4°02.9	249°00.0	3.8	-27°02.1	2.9	59.3
12	2°44.4	-4°03.8	263°22.8	3.8	-26°59.1	3.1	59.3
13	17°44.6	-4°04.8	277°45.6	3.9	-26°55.9	3.3	59.3
14	32°44.8	-4°05.8	292°08.5	3.9	-26°52.5	3.5	59.3
15	47°45.0	-4°06.7	306°31.4	3.9	-26°49.0	3.7	59.3
16	62°45.2	-4°07.7	320°54.4	4.0	-26°45.2	3.8	59.3
17	77°45.4	-4°08.7	335°17.4	4.0	-26°41.3	4.0	59.3
18	92°45.6	-4°09.6	349°40.4	4.1	-26°37.2	4.2	59.3
19	107°45.8	-4°10.6	4°03.5	4.1	-26°32.9	4.4	59.3
20	122°46.0	-4°11.6	18°26.6	4.1	-26°28.4	4.6	59.3
21	137°46.2	-4°12.5	32°49.8	4.2	-26°23.8	4.7	59.3
22	152°46.4	-4°13.5	47°13.0	4.2	-26°18.9	4.9	59.3
23	167°46.6	-4°14.5	61°36.2	4.3	-26°13.9	5.1	59.3
	SD.=16.0	d=-1.0	S.D.=16.2				

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	03:54	05:16	06:23	17:14	18:20	19:41
70	04:05	05:18	06:19	17:18	18:18	19:30
68	04:15	05:21	06:16	17:21	18:16	19:22
66	04:22	05:23	06:14	17:24	18:14	19:14
64	04:28	05:24	06:11	17:26	18:13	19:09
62	04:33	05:25	06:09	17:28	18:12	19:04
60	04:37	05:26	06:08	17:30	18:11	19:00
58	04:41	05:27	06:06	17:31	18:10	18:56
56	04:44	05:28	06:05	17:33	18:10	18:53
54	04:47	05:28	06:04	17:34	18:09	18:50
52	04:49	05:29	06:02	17:35	18:09	18:48
50	04:52	05:29	06:01	17:36	18:09	18:46
45	04:56	05:30	05:59	17:39	18:08	18:42
40	04:59	05:30	05:57	17:41	18:08	18:39
35	05:01	05:30	05:55	17:43	18:08	18:37
30	05:02	05:30	05:54	17:44	18:08	18:36
20	05:04	05:29	05:51	17:47	18:09	18:35
10	05:03	05:28	05:49	17:50	18:11	18:35
0	05:01	05:25	05:46	17:53	18:13	18:37
S 10	04:58	05:22	05:44	17:55	18:16	18:41
20	04:53	05:19	05:41	17:58	18:20	18:46
30	04:45	05:13	05:37	18:02	18:26	18:54
35	04:40	05:10	05:35	18:04	18:29	18:59
40	04:34	05:06	05:33	18:06	18:34	19:06
45	04:26	05:01	05:30	18:09	18:39	19:14
50	04:16	04:55	05:27	18:13	18:45	19:24
52	04:11	04:52	05:26	18:14	18:48	19:29
54	04:05	04:48	05:24	18:16	18:52	19:35
56	03:59	04:45	05:22	18:18	18:56	19:42
58	03:52	04:40	05:20	18:20	19:00	19:49
60	03:43	04:36	05:18	18:22	19:05	19:58

	Orto luna			Ocaso luna		
Lat.	Sa	Dom	Lun	Sa	Dom	Lun
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	–:–	–:–	–:–
68	–:–	–:–	–:–	–:–	–:–	–:–
66	–:–	–:–	–:–	–:–	–:–	–:–
64	–:–	–:–	–:–	–:–	–:–	–:–
62	15:10	16:54	17:27	18:02	18:27	20:04
60	14:29	15:55	16:43	18:43	19:26	20:48
58	14:01	15:21	16:14	19:12	20:00	21:17
56	13:40	14:57	15:51	19:34	20:25	21:40
54	13:22	14:37	15:33	19:52	20:45	21:58
52	13:07	14:20	15:17	20:07	21:01	22:13
50	12:53	14:06	15:04	20:21	21:16	22:27
45	12:27	13:37	14:36	20:48	21:45	22:54
40	12:05	13:14	14:14	21:10	22:08	23:16
35	11:48	12:55	13:55	21:28	22:27	23:34
30	11:33	12:39	13:40	21:43	22:43	23:49
20	11:07	12:11	13:13	22:10	23:10	–:–
10	10:45	11:48	12:50	22:33	23:34	–:–
0	10:25	11:26	12:28	22:54	23:56	–:–
S 10	10:05	11:04	12:07	23:15	–:–	00:18
20	09:43	10:41	11:44	23:38	–:–	00:41
30	09:18	10:14	11:17	–:–	00:04	01:08
35	09:03	09:58	11:01	–:–	00:20	01:24
40	08:47	09:39	10:43	–:–	00:38	01:43
45	08:26	09:17	10:21	–:–	01:00	02:05
50	08:01	08:49	09:52	00:11	01:28	02:34
52	07:49	08:35	09:38	00:23	01:42	02:48
54	07:35	08:19	09:22	00:36	01:58	03:04
56	07:19	08:00	09:03	00:52	02:17	03:23
58	07:00	07:37	08:40	01:10	02:40	03:47
60	06:37	07:06	08:09	01:33	03:10	04:18

Día	Sol			Luna		
	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
1	10:10	10:20	11:49	16:39	04:09	6(33%)
2	10:29	10:39	11:49	17:40	05:09	7(44%)
3	10:48	10:58	11:49	18:43	06:12	8(56%)

Octubre 04, 05, 06 (Mar, Mie, Jue.)

	Aries	Venus		Martes		Júpiter		Saturno	
Mar	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	12°39.9	186°45.6	-1°02.0	292°20.4	22°35.0	9°30.6	-0°23.8	50°55.1	-16°24.6
1	27°42.4	201°45.2	-1°03.3	307°22.0	22°35.1	24°33.4	-0°24.0	65°57.6	-16°24.6
2	42°44.9	216°44.8	-1°04.5	322°23.7	22°35.2	39°36.1	-0°24.1	81°00.2	-16°24.6
3	57°47.3	231°44.4	-1°05.8	337°25.3	22°35.4	54°38.9	-0°24.2	96°02.7	-16°24.6
4	72°49.8	246°44.0	-1°07.1	352°26.9	22°35.5	69°41.7	-0°24.3	111°05.3	-16°24.7
5	87°52.3	261°43.6	-1°08.3	7°28.5	22°35.6	84°44.4	-0°24.5	126°07.8	-16°24.7
6	102°54.7	276°43.2	-1°09.6	22°30.1	22°35.7	99°47.2	-0°24.6	141°10.4	-16°24.7
7	117°57.2	291°42.8	-1°10.8	37°31.7	22°35.9	114°49.9	-0°24.7	156°12.9	-16°24.7
8	132°59.6	306°42.4	-1°12.1	52°33.4	22°36.0	129°52.7	-0°24.9	171°15.4	-16°24.8
9	148°02.1	321°42.0	-1°13.3	67°35.0	22°36.1	144°55.5	-0°25.0	186°18.0	-16°24.8
10	163°04.6	336°41.6	-1°14.6	82°36.6	22°36.2	159°58.2	-0°25.1	201°20.5	-16°24.8
11	178°07.0	351°41.2	-1°15.8	97°38.2	22°36.4	175°01.0	-0°25.2	216°23.1	-16°24.8
12	193°09.5	6°40.9	-1°17.1	112°39.9	22°36.5	190°03.8	-0°25.4	231°25.6	-16°24.9
13	208°12.0	21°40.5	-1°18.4	127°41.5	22°36.6	205°06.5	-0°25.5	246°28.1	-16°24.9
14	223°14.4	36°40.1	-1°19.6	142°43.1	22°36.8	220°09.3	-0°25.6	261°30.7	-16°24.9
15	238°16.9	51°39.7	-1°20.9	157°44.7	22°36.9	235°12.1	-0°25.8	276°33.2	-16°24.9
16	253°19.4	66°39.3	-1°22.1	172°46.4	22°37.0	250°14.8	-0°25.9	291°35.8	-16°24.9
17	268°21.8	81°38.9	-1°23.4	187°48.0	22°37.1	265°17.6	-0°26.0	306°38.3	-16°25.0
18	283°24.3	96°38.5	-1°24.6	202°49.6	22°37.3	280°20.4	-0°26.1	321°40.8	-16°25.0
19	298°26.8	111°38.1	-1°25.9	217°51.3	22°37.4	295°23.1	-0°26.3	336°43.4	-16°25.0
20	313°29.2	126°37.7	-1°27.1	232°52.9	22°37.5	310°25.9	-0°26.4	351°45.9	-16°25.0
21	328°31.7	141°37.3	-1°28.4	247°54.5	22°37.6	325°28.7	-0°26.5	6°48.5	-16°25.1
22	343°34.1	156°36.9	-1°29.6	262°56.2	22°37.8	340°31.4	-0°26.6	21°51.0	-16°25.1
23	358°36.6	171°36.5	-1°30.9	277°57.8	22°37.9	355°34.2	-0°26.8	36°53.5	-16°25.1
Mer.pass.:23:05		v-0.4 d-1.3 m-3.8		v1.6 d0.1 m-0.6		v2.8 d-0.1 m-2.8		v2.5 d-0.0 m0.5	

Mie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	13°39.1	186°36.1	-1°32.2	292°59.4	22°38.0	10°36.9	-0°26.9	51°56.1	-16°25.1
1	28°41.5	201°35.7	-1°33.4	308°01.1	22°38.1	25°39.7	-0°27.0	66°58.6	-16°25.1
2	43°44.0	216°35.3	-1°34.7	323°02.7	22°38.3	40°42.5	-0°27.2	82°01.2	-16°25.2
3	58°46.5	231°35.0	-1°35.9	338°04.3	22°38.4	55°45.2	-0°27.3	97°03.7	-16°25.2
4	73°48.9	246°34.6	-1°37.2	353°06.0	22°38.5	70°48.0	-0°27.4	112°06.2	-16°25.2
5	88°51.4	261°34.2	-1°38.4	8°07.6	22°38.7	85°50.8	-0°27.5	127°08.8	-16°25.2
6	103°53.9	276°33.8	-1°39.7	23°09.3	22°38.8	100°53.5	-0°27.7	142°11.3	-16°25.2
7	118°56.3	291°33.4	-1°40.9	38°10.9	22°38.9	115°56.3	-0°27.8	157°13.8	-16°25.3
8	133°58.8	306°33.0	-1°42.2	53°12.6	22°39.0	130°59.1	-0°27.9	172°16.4	-16°25.3
9	149°01.3	321°32.6	-1°43.4	68°14.2	22°39.2	146°01.8	-0°28.1	187°18.9	-16°25.3
10	164°03.7	336°32.2	-1°44.7	83°15.9	22°39.3	161°04.6	-0°28.2	202°21.4	-16°25.3
11	179°06.2	351°31.8	-1°46.0	98°17.5	22°39.4	176°07.3	-0°28.3	217°24.0	-16°25.4
12	194°08.6	6°31.4	-1°47.2	113°19.1	22°39.5	191°10.1	-0°28.4	232°26.5	-16°25.4
13	209°11.1	21°31.0	-1°48.5	128°20.8	22°39.7	206°12.9	-0°28.6	247°29.1	-16°25.4
14	224°13.6	36°30.6	-1°49.7	143°22.5	22°39.8	221°15.6	-0°28.7	262°31.6	-16°25.4
15	239°16.0	51°30.2	-1°51.0	158°24.1	22°39.9	236°18.4	-0°28.8	277°34.1	-16°25.4
16	254°18.5	66°29.8	-1°52.2	173°25.8	22°40.0	251°21.2	-0°28.9	292°36.7	-16°25.5
17	269°21.0	81°29.4	-1°53.5	188°27.4	22°40.2	266°23.9	-0°29.1	307°39.2	-16°25.5
18	284°23.4	96°29.0	-1°54.7	203°29.1	22°40.3	281°26.7	-0°29.2	322°41.7	-16°25.5
19	299°25.9	111°28.6	-1°56.0	218°30.7	22°40.4	296°29.4	-0°29.3	337°44.3	-16°25.5
20	314°28.4	126°28.2	-1°57.2	233°32.4	22°40.5	311°32.2	-0°29.4	352°46.8	-16°25.5
21	329°30.8	141°27.9	-1°58.5	248°34.0	22°40.7	326°35.0	-0°29.6	7°49.3	-16°25.6
22	344°33.3	156°27.5	-1°59.8	263°35.7	22°40.8	341°37.7	-0°29.7	22°51.9	-16°25.6
23	359°35.7	171°27.1	-2°01.0	278°37.4	22°40.9	356°40.5	-0°29.8	37°54.4	-16°25.6
Mer.pass.:23:01		v-0.4 d-1.3 m-3.8		v1.6 d0.1 m-0.7		v2.8 d-0.1 m-2.8		v2.5 d-0.0 m0.5	

Jue	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	14°38.2	186°26.7	-2°02.3	293°39.0	22°41.0	11°43.3	-0°30.0	52°56.9	-16°25.6
1	29°40.7	201°26.3	-2°03.5	308°40.7	22°41.1	26°46.0	-0°30.1	67°59.5	-16°25.6
2	44°43.1	216°25.9	-2°04.8	323°42.3	22°41.3	41°48.8	-0°30.2	83°02.0	-16°25.7
3	59°45.6	231°25.5	-2°06.0	338°44.0	22°41.4	56°51.5	-0°30.3	98°04.6	-16°25.7
4	74°48.1	246°25.1	-2°07.3	353°45.7	22°41.5	71°54.3	-0°30.5	113°07.1	-16°25.7
5	89°50.5	261°24.7	-2°08.5	8°47.3	22°41.6	86°57.1	-0°30.6	128°09.6	-16°25.7
6	104°53.0	276°24.3	-2°09.8	23°49.0	22°41.8	101°59.8	-0°30.7	143°12.2	-16°25.7
7	119°55.5	291°23.9	-2°11.0	38°50.7	22°41.9	117°02.6	-0°30.8	158°14.7	-16°25.8
8	134°57.9	306°23.5	-2°12.3	53°52.4	22°42.0	132°05.4	-0°31.0	173°17.2	-16°25.8
9	150°00.4	321°23.1	-2°13.5	68°54.0	22°42.1	147°08.1	-0°31.1	188°19.8	-16°25.8
10	165°02.9	336°22.7	-2°14.8	83°55.7	22°42.3	162°10.9	-0°31.2	203°22.3	-16°25.8
11	180°05.3	351°22.3	-2°16.1	98°57.4	22°42.4	177°13.6	-0°31.3	218°24.8	-16°25.8
12	195°07.8	6°21.9	-2°17.3	113°59.0	22°42.5	192°16.4	-0°31.5	233°27.4	-16°25.9
13	210°10.2	21°21.5	-2°18.6	129°00.7	22°42.6	207°19.2	-0°31.6	248°29.9	-16°25.9
14	225°12.7	36°21.1	-2°19.8	144°02.4	22°42.8	222°21.9	-0°31.7	263°32.4	-16°25.9
15	240°15.2	51°20.7	-2°21.1	159°04.1	22°42.9	237°24.7	-0°31.8	278°35.0	-16°25.9
16	255°17.6	66°20.3	-2°22.3	174°05.8	22°43.0	252°27.4	-0°32.0	293°37.5	-16°25.9
17	270°20.1	81°19.9	-2°23.6	189°07.4	22°43.1	267°30.2	-0°32.1	308°40.0	-16°26.0
18	285°22.6	96°19.5	-2°24.8	204°09.1	22°43.2	282°33.0	-0°32.2	323°42.5	-16°26.0
19	300°25.0	111°19.1	-2°26.1	219°10.8	22°43.4	297°35.7	-0°32.3	338°45.1	-16°26.0
20	315°27.5	126°18.7	-2°27.3	234°12.5	22°43.5	312°38.5	-0°32.5	353°47.6	-16°26.0
21	330°30.0	141°18.3	-2°28.6	249°14.2	22°43.6	327°41.2	-0°32.6	8°50.1	-16°26.0
22	345°32.4	156°17.9	-2°29.8	264°15.8	22°43.7	342°44.0	-0°32.7	23°52.7	-16°26.1
23	0°34.9	171°17.6	-2°31.1	279°17.5	22°43.9	357°46.8	-0°32.8	38°55.2	-16°26.1
Mer.pass.:22:57		v-0.4 d-1.3 m-3.8		v1.7 d0.1 m-0.7		v2.8 d-0.1 m-2.8		v2.5 d-0.0 m0.5	

Estrellas

	AHS	Dec
Alpheratz	357°36.4	29°13.1
Ankaa	353°08.6	-42°10.9
Schedar	349°32.6	56°39.8
Diphda	348°48.7	-17°51.7
Achernar	335°21.0	-57°07.2
Hamal	327°53.0	23°34.2
Polaris	314°32.4	89°21.4
Akamar	315°12.8	-40°12.6
Menkar	314°07.8	4°10.8
Mirfak	308°30.6	49°56.4
Aldebaran	290°41.6	16°33.4
Rigel	281°05.5	-8°10.4
Capella	280°24.5	46°01.2
Bellatrix	278°24.8	6°22.3
Elnath	278°04.1	28°37.6
Alnilam	275°39.5	-1°11.1
Betelgeuse	270°54.0	7°24.8
Canopus	263°53.2	-52°42.1
Sirius	258°27.8	-16°44.4
Adara	255°07.3	-28°59.9
Procyon	244°52.8	5°10.3
Pollux	243°19.6	27°58.3
Avior	234°15.7	-59°34.5
Suhail	222°47.9	-43°31.1
Miaplacidus	221°39.2	-69°48.2
Alphard	217°49.8	-8°45.2
Regulus	207°36.6	11°51.5
Dubhe	193°43.9	61°37.7
Denebola	182°27.1	14°26.9
Gienah	175°45.8	-17°39.9
Acrux	173°02.9	-63°13.3
Gacrux	171°54.3	-57°14.3
Alioth	166°15.2	55°50.3
Spica	158°24.6	-11°16.6
Alcaid	152°54.0	49°12.2
Hadar	148°39.3	-60°28.9
Menkent	148°00.2	-36°28.8
Arcturus	145°49.8	19°04.3
Rigil Kent.	139°43.5	-60°55.7
Zubenelg.	136°58.4	-16°08.0
Kochab	137°20.8	74°03.9
Alphecca	126°05.6	26°38.5
Antares	112°18.3	-26°28.9
Atria	107°14.5	-69°04.3
Sabik	102°05.1	-15°45.1
Shaula	96°13.1	-37°07.3
Rasalhague	96°00.4	12°32.8
Etamin	90°43.2	51°29.4
Kaus Aust.	83°35.0	-34°22.5
Vega	80°34.6	38°48.5
Nunki	75°50.1	-26°16.1
Altair	62°01.8	8°55.8
Peacock	53°08.5	-56°39.9
Deneb	49°26.9	45°21.9
Enif	33°40.4	9°58.9
Alnair	27°35.0	-46°51.2
Fomalhaut	15°16.3	-29°30.1
Scheat	13°46.8	28°12.5
Markab	13°31.5	15°19.7

Oct 04 Mar	AHS	Paso Merid
Venus	174°05.6	11:33
Mars	279°40.5	04:30
Jupiter	356°50.7	23:18
Saturn	38°15.2	20:33

Oct 05 Mie	AHS	Paso Merid
Venus	172°57.1	11:34
Mars	279°20.4	04:28
Jupiter	356°57.9	23:13
Saturn	38°17.0	20:29

Oct 06 Jue	AHS	Paso Merid
Venus	171°48.5	11:35
Mars	279°00.8	04:25
Jupiter	357°05.0	23:09
Saturn	38°18.7	20:25

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.2

h	Sol		Luna				
Ma	AHG	Dec	AHG	v	Dec	d	HP
0	182°46.8	-4°15.4	75°59.5	4.3	-26°08.7	5.3	59.3
1	197°47.0	-4°16.4	90°22.9	4.4	-26°03.4	5.5	59.3
2	212°47.2	-4°17.3	104°46.3	4.5	-25°57.8	5.6	59.4
3	227°47.3	-4°18.3	119°09.8	4.5	-25°52.1	5.8	59.4
4	242°47.5	-4°19.3	133°33.4	4.6	-25°46.2	6.0	59.4
5	257°47.7	-4°20.2	147°57.0	4.6	-25°40.2	6.2	59.4
6	272°47.9	-4°21.2	162°20.6	4.7	-25°33.9	6.3	59.4
7	287°48.1	-4°22.2	176°44.4	4.8	-25°27.5	6.5	59.4
8	302°48.3	-4°23.1	191°08.2	4.8	-25°20.9	6.7	59.4
9	317°48.5	-4°24.1	205°32.0	4.9	-25°14.2	6.8	59.4
10	332°48.7	-4°25.1	219°56.0	5.0	-25°07.3	7.0	59.4
11	347°48.9	-4°26.0	234°20.0	5.0	-25°00.2	7.2	59.4
12	2°49.1	-4°27.0	248°44.0	5.1	-24°53.0	7.3	59.4
13	17°49.3	-4°27.9	263°08.2	5.2	-24°45.5	7.5	59.4
14	32°49.5	-4°28.9	277°32.4	5.3	-24°38.0	7.7	59.4
15	47°49.7	-4°29.9	291°56.7	5.3	-24°30.2	7.8	59.4
16	62°49.8	-4°30.8	306°21.1	5.4	-24°22.3	8.0	59.4
17	77°50.0	-4°31.8	320°45.5	5.5	-24°14.3	8.1	59.4
18	92°50.2	-4°32.8	335°10.1	5.6	-24°06.1	8.3	59.4
19	107°50.4	-4°33.7	349°34.7	5.7	-23°57.7	8.4	59.4
20	122°50.6	-4°34.7	3°59.4	5.7	-23°49.2	8.6	59.4
21	137°50.8	-4°35.7	18°24.2	5.8	-23°40.5	8.7	59.4
22	152°51.0	-4°36.6	32°49.0	5.9	-23°31.7	8.9	59.4
23	167°51.2	-4°37.6	47°14.0	6.0	-23°22.7	9.1	59.4
	SD.=16.0	d=-1.0	S.D.=16.2				

Mie	AHG	Dec	AHG	v	Dec	d	HP
0	182°51.4	-4°38.5	61°39.0	6.1	-23°13.6	9.2	59.4
1	197°51.6	-4°39.5	76°04.1	6.2	-23°04.3	9.3	59.4
2	212°51.8	-4°40.5	90°29.3	6.2	-22°54.9	9.5	59.4
3	227°51.9	-4°41.4	104°54.6	6.3	-22°45.3	9.6	59.4
4	242°52.1	-4°42.4	119°20.0	6.4	-22°35.6	9.8	59.4
5	257°52.3	-4°43.3	133°45.4	6.5	-22°25.8	9.9	59.4
6	272°52.5	-4°44.3	148°11.0	6.6	-22°15.8	10.1	59.4
7	287°52.7	-4°45.3	162°36.6	6.7	-22°05.7	10.2	59.4
8	302°52.9	-4°46.2	177°02.3	6.8	-21°55.4	10.3	59.3
9	317°53.1	-4°47.2	191°28.1	6.9	-21°45.0	10.5	59.3
10	332°53.3	-4°48.2	205°54.1	7.0	-21°34.5	10.6	59.3
11	347°53.5	-4°49.1	220°20.0	7.0	-21°23.8	10.7	59.3
12	2°53.6	-4°50.1	234°46.1	7.1	-21°13.0	10.9	59.3
13	17°53.8	-4°51.0	249°12.3	7.2	-21°02.1	11.0	59.3
14	32°54.0	-4°52.0	263°38.6	7.3	-20°51.0	11.1	59.3
15	47°54.2	-4°53.0	278°05.0	7.4	-20°39.9	11.2	59.3
16	62°54.4	-4°53.9	292°31.4	7.5	-20°28.6	11.4	59.3
17	77°54.6	-4°54.9	306°58.0	7.6	-20°17.1	11.5	59.3
18	92°54.8	-4°55.8	321°24.6	7.7	-20°05.6	11.6	59.3
19	107°55.0	-4°56.8	335°51.3	7.8	-19°53.9	11.7	59.3
20	122°55.1	-4°57.8	350°18.1	7.9	-19°42.1	11.8	59.3
21	137°55.3	-4°58.7	4°45.1	8.0	-19°30.2	12.0	59.3
22	152°55.5	-4°59.7	19°12.1	8.1	-19°18.2	12.1	59.3
23	167°55.7	-5°00.6	33°39.2	8.1	-19°06.1	12.2	59.3
	SD.=16.0	d=-1.0	S.D.=16.2				

Jue	AHG	Dec	AHG	v	Dec	d	HP
0	182°55.9	-5°01.6	48°06.3	8.2	-18°53.9	12.3	59.3
1	197°56.1	-5°02.6	62°33.6	8.3	-18°41.5	12.4	59.3
2	212°56.3	-5°03.5	77°01.0	8.4	-18°29.1	12.5	59.3
3	227°56.4	-5°04.5	91°28.4	8.5	-18°16.5	12.6	59.3
4	242°56.6	-5°05.4	105°56.0	8.6	-18°03.9	12.7	59.3
5	257°56.8	-5°06.4	120°23.6	8.7	-17°51.1	12.8	59.2
6	272°57.0	-5°07.4	134°51.4	8.8	-17°38.2	12.9	59.2
7	287°57.2	-5°08.3	149°19.2	8.9	-17°25.3	13.0	59.2
8	302°57.4	-5°09.3	163°47.1	9.0	-17°12.2	13.1	59.2
9	317°57.6	-5°10.2	178°15.1	9.0	-16°59.0	13.2	59.2
10	332°57.7	-5°11.2	192°43.2	9.1	-16°45.8	13.3	59.2
11	347°57.9	-5°12.1	207°11.3	9.2	-16°32.4	13.4	59.2
12	2°58.1	-5°13.1	221°39.6	9.3	-16°19.0	13.5	59.2
13	17°58.3	-5°14.1	236°07.9	9.4	-16°05.5	13.6	59.2
14	32°58.5	-5°15.0	250°36.4	9.5	-15°51.9	13.7	59.2
15	47°58.7	-5°16.0	265°04.9	9.6	-15°38.2	13.7	59.2
16	62°58.9	-5°16.9	279°33.5	9.6	-15°24.4	13.8	59.2
17	77°59.0	-5°17.9	294°02.1	9.7	-15°10.5	13.9	59.1
18	92°59.2	-5°18.8	308°30.9	9.8	-14°56.6	14.0	59.1
19	107°59.4	-5°19.8	322°59.7	9.9	-14°42.6	14.1	59.1
20	122°59.6	-5°20.8	337°28.7	10.0	-14°28.5	14.1	59.1
21	137°59.8	-5°21.7	351°57.7	10.0	-14°14.3	14.2	59.1
22	153°00.0	-5°22.7	6°26.8	10.1	-14°00.1	14.3	59.1
23	168°00.1	-5°23.6	20°55.9	10.2	-13°45.7	14.4	59.1
	SD.=16.0	d=-1.0	S.D.=16.2				

Lat.	Crepúsculo Naut.	Crepúsculo Civil	Orto Sol	Crepúsculo Civil	Crepúsculo Naut.	Ocaso Sol
N	72	04:09	05:29	06:37	16:58	18:05	19:25
	70	04:18	05:30	06:31	17:04	18:04	19:16
	68	04:26	05:31	06:27	17:08	18:04	19:08
	66	04:32	05:32	06:23	17:12	18:03	19:03
	64	04:37	05:33	06:20	17:15	18:03	18:58
	62	04:41	05:33	06:17	17:18	18:02	18:54
	60	04:45	05:33	06:15	17:21	18:02	18:50
	58	04:48	05:34	06:13	17:23	18:02	18:48
	56	04:50	05:34	06:11	17:25	18:02	18:45
	54	04:53	05:34	06:09	17:27	18:02	18:43
	52	04:55	05:34	06:07	17:28	18:02	18:41
	50	04:56	05:34	06:06	17:30	18:02	18:40
	45	04:59	05:33	06:03	17:33	18:03	18:37
	40	05:02	05:33	06:00	17:36	18:03	18:34
	35	05:03	05:32	05:58	17:39	18:04	18:33
	30	05:04	05:32	05:56	17:41	18:05	18:32
	20	05:04	05:30	05:52	17:45	18:07	18:32
	10	05:03	05:27	05:48	17:48	18:09	18:34
	0	05:00	05:24	05:45	17:52	18:12	18:37
S	10	04:56	05:21	05:42	17:55	18:16	18:41
	20	04:50	05:16	05:38	17:59	18:21	18:47
	30	04:41	05:10	05:34	18:04	18:28	18:56
	35	04:36	05:06	05:31	18:06	18:32	19:02
	40	04:29	05:01	05:28	18:09	18:37	19:09
	45	04:20	04:55	05:25	18:13	18:43	19:18
	50	04:09	04:48	05:21	18:17	18:50	19:30
	52	04:03	04:44	05:19	18:19	18:54	19:35
	54	03:57	04:41	05:17	18:21	18:58	19:42
	56	03:50	04:36	05:14	18:24	19:02	19:49
	58	03:42	04:31	05:12	18:26	19:07	19:57
	60	03:32	04:26	05:09	18:30	19:13	20:07

Lat.	Orto luna Mar	Orto luna Mie	Orto luna Jue	Ocaso luna Mar	Ocaso luna Mie	Ocaso luna Jue
N	72	–:–	–:–	19:07	–:–	–:–	–:–
	70	–:–	20:08	18:36	–:–	21:33	–:–
	68	–:–	18:55	18:13	–:–	22:44	–:–
	66	–:–	18:18	17:55	–:–	23:21	–:–
	64	18:09	17:51	17:40	21:30	23:46	–:–
	62	17:31	17:30	17:28	22:07	–:–	00:06
	60	17:04	17:13	17:17	22:33	–:–	00:22
	58	16:43	16:59	17:08	22:54	–:–	00:36
	56	16:25	16:46	17:00	23:11	–:–	00:47
	54	16:11	16:35	16:53	23:25	–:–	00:57
	52	15:58	16:26	16:46	23:38	–:–	01:06
	50	15:46	16:17	16:40	23:49	–:–	01:14
	45	15:22	15:59	16:27	–:–	00:11	01:31
	40	15:03	15:43	16:16	–:–	00:30	01:45
	35	14:47	15:31	16:07	–:–	00:45	01:57
	30	14:33	15:19	15:59	–:–	00:58	02:07
	20	14:09	15:00	15:45	00:15	01:20	02:24
	10	13:49	14:43	15:33	00:37	01:39	02:39
	0	13:29	14:27	15:21	00:58	01:57	02:53
S	10	13:10	14:11	15:09	01:18	02:15	03:07
	20	12:49	13:54	14:57	01:40	02:34	03:22
	30	12:25	13:34	14:42	02:06	02:55	03:38
	35	12:11	13:23	14:34	02:20	03:08	03:48
	40	11:54	13:09	14:24	02:38	03:22	03:59
	45	11:34	12:53	14:13	02:58	03:40	04:12
	50	11:09	12:34	13:59	03:24	04:00	04:27
	52	10:57	12:24	13:53	03:36	04:10	04:34
	54	10:43	12:14	13:46	03:51	04:21	04:42
	56	10:27	12:02	13:38	04:07	04:34	04:51
	58	10:08	11:48	13:29	04:27	04:49	05:01
	60	09:44	11:32	13:18	04:51	05:06	05:13

Día	Sol Ec. tiempo 00:00 h	Sol Ec. tiempo 12:00 h	Sol Paso Merid	Luna Paso Meridiano Superior	Luna Paso Meridiano Inferior	Luna Edad
4	11:07	11:16	11:48	19:43	07:13	9(67%)
5	11:25	11:34	11:48	20:40	08:12	10(77%)
6	11:43	11:52	11:48	21:33	09:07	11(86%)

Octubre 07, 08, 09 (Vie, Sa, Dom.)

	Aries	Venus		Martes		Júpiter		Saturno	
Vie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	15°37.4	186°17.2	-2°32.4	294°19.2	22°44.0	12°49.5	-0°33.0	53°57.7	-16°26.1
1	30°39.8	201°16.8	-2°33.6	309°20.9	22°44.1	27°52.3	-0°33.1	69°00.3	-16°26.1
2	45°42.3	216°16.4	-2°34.9	324°22.6	22°44.2	42°55.0	-0°33.2	84°02.8	-16°26.1
3	60°44.7	231°16.0	-2°36.1	339°24.3	22°44.4	57°57.8	-0°33.3	99°05.3	-16°26.2
4	75°47.2	246°15.6	-2°37.4	354°26.0	22°44.5	73°00.6	-0°33.5	114°07.9	-16°26.2
5	90°49.7	261°15.2	-2°38.6	9°27.7	22°44.6	88°03.3	-0°33.6	129°10.4	-16°26.2
6	105°52.1	276°14.8	-2°39.9	24°29.4	22°44.7	103°06.1	-0°33.7	144°12.9	-16°26.2
7	120°54.6	291°14.4	-2°41.1	39°31.1	22°44.8	118°08.8	-0°33.8	159°15.4	-16°26.2
8	135°57.1	306°14.0	-2°42.4	54°32.8	22°45.0	133°11.6	-0°34.0	174°18.0	-16°26.3
9	150°59.5	321°13.6	-2°43.6	69°34.5	22°45.1	148°14.4	-0°34.1	189°20.5	-16°26.3
10	166°02.0	336°13.2	-2°44.9	84°36.2	22°45.2	163°17.1	-0°34.2	204°23.0	-16°26.3
11	181°04.5	351°12.8	-2°46.1	99°37.9	22°45.3	178°19.9	-0°34.3	219°25.6	-16°26.3
12	196°06.9	6°12.4	-2°47.4	114°39.6	22°45.4	193°22.6	-0°34.5	234°28.1	-16°26.3
13	211°09.4	21°12.0	-2°48.6	129°41.3	22°45.6	208°25.4	-0°34.6	249°30.6	-16°26.3
14	226°11.8	36°11.6	-2°49.9	144°43.0	22°45.7	223°28.1	-0°34.7	264°33.1	-16°26.4
15	241°14.3	51°11.2	-2°51.1	159°44.7	22°45.8	238°30.9	-0°34.8	279°35.7	-16°26.4
16	256°16.8	66°10.8	-2°52.4	174°46.4	22°45.9	253°33.7	-0°35.0	294°38.2	-16°26.4
17	271°19.2	81°10.4	-2°53.6	189°48.1	22°46.1	268°36.4	-0°35.1	309°40.7	-16°26.4
18	286°21.7	96°10.0	-2°54.9	204°49.8	22°46.2	283°39.2	-0°35.2	324°43.3	-16°26.4
19	301°24.2	111°09.6	-2°56.1	219°51.5	22°46.3	298°41.9	-0°35.3	339°45.8	-16°26.5
20	316°26.6	126°09.2	-2°57.4	234°53.2	22°46.4	313°44.7	-0°35.5	354°48.3	-16°26.5
21	331°29.1	141°08.8	-2°58.6	249°54.9	22°46.5	328°47.5	-0°35.6	9°50.8	-16°26.5
22	346°31.6	156°08.4	-2°59.9	264°56.6	22°46.7	343°50.2	-0°35.7	24°53.4	-16°26.5
23	1°34.0	171°08.0	-3°01.2	279°58.3	22°46.8	358°53.0	-0°35.8	39°55.9	-16°26.5
Mer.pass.:22:53		v-0.4 d-1.3 m-3.8		v1.7 d0.1 m-0.7		v2.8 d-0.1 m-2.8		v2.5 d-0.0 m0.5	

Sa	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	16°36.5	186°07.6	-3°02.4	295°00.0	22°46.9	13°55.7	-0°36.0	54°58.4	-16°26.5
1	31°39.0	201°07.2	-3°03.7	310°01.8	22°47.0	28°58.5	-0°36.1	70°01.0	-16°26.6
2	46°41.4	216°06.8	-3°04.9	325°03.5	22°47.1	44°01.2	-0°36.2	85°03.5	-16°26.6
3	61°43.9	231°06.4	-3°06.2	340°05.2	22°47.3	59°04.0	-0°36.3	100°06.0	-16°26.6
4	76°46.3	246°06.0	-3°07.4	355°06.9	22°47.4	74°06.8	-0°36.5	115°08.5	-16°26.6
5	91°48.8	261°05.6	-3°08.7	10°08.6	22°47.5	89°09.5	-0°36.6	130°11.1	-16°26.6
6	106°51.3	276°05.2	-3°09.9	25°10.3	22°47.6	104°12.3	-0°36.7	145°13.6	-16°26.7
7	121°53.7	291°04.8	-3°11.2	40°12.1	22°47.8	119°15.0	-0°36.8	160°16.1	-16°26.7
8	136°56.2	306°04.4	-3°12.4	55°13.8	22°47.9	134°17.8	-0°36.9	175°18.6	-16°26.7
9	151°58.7	321°04.0	-3°13.7	70°15.5	22°48.0	149°20.5	-0°37.1	190°21.2	-16°26.7
10	167°01.1	336°03.6	-3°14.9	85°17.2	22°48.1	164°23.3	-0°37.2	205°23.7	-16°26.7
11	182°03.6	351°03.2	-3°16.2	100°19.0	22°48.2	179°26.1	-0°37.3	220°26.2	-16°26.7
12	197°06.1	6°02.8	-3°17.4	115°20.7	22°48.4	194°28.8	-0°37.4	235°28.7	-16°26.8
13	212°08.5	21°02.4	-3°18.7	130°22.4	22°48.5	209°31.6	-0°37.6	250°31.3	-16°26.8
14	227°11.0	36°02.0	-3°19.9	145°24.1	22°48.6	224°34.3	-0°37.7	265°33.8	-16°26.8
15	242°13.4	51°01.6	-3°21.2	160°25.9	22°48.7	239°37.1	-0°37.8	280°36.3	-16°26.8
16	257°15.9	66°01.2	-3°22.4	175°27.6	22°48.8	254°39.8	-0°37.9	295°38.8	-16°26.8
17	272°18.4	81°00.8	-3°23.7	190°29.3	22°49.0	269°42.6	-0°38.1	310°41.4	-16°26.8
18	287°20.8	96°00.4	-3°24.9	205°31.1	22°49.1	284°45.3	-0°38.2	325°43.9	-16°26.9
19	302°23.3	111°00.0	-3°26.2	220°32.8	22°49.2	299°48.1	-0°38.3	340°46.4	-16°26.9
20	317°25.8	125°59.6	-3°27.4	235°34.5	22°49.3	314°50.9	-0°38.4	355°48.9	-16°26.9
21	332°28.2	140°59.1	-3°28.7	250°36.3	22°49.4	329°53.6	-0°38.5	10°51.5	-16°26.9
22	347°30.7	155°58.7	-3°29.9	265°38.0	22°49.6	344°56.4	-0°38.7	25°54.0	-16°26.9
23	2°33.2	170°58.3	-3°31.2	280°39.7	22°49.7	359°59.1	-0°38.8	40°56.5	-16°26.9
Mer.pass.:22:49		v-0.4 d-1.3 m-3.8		v1.7 d0.1 m-0.7		v2.8 d-0.1 m-2.8		v2.5 d-0.0 m0.5	

Dom	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	17°35.6	185°57.9	-3°32.4	295°41.5	22°49.8	15°01.9	-0°38.9	55°59.0	-16°27.0
1	32°38.1	200°57.5	-3°33.7	310°43.2	22°49.9	30°04.6	-0°39.0	71°01.5	-16°27.0
2	47°40.6	215°57.1	-3°34.9	325°45.0	22°50.0	45°07.4	-0°39.2	86°04.1	-16°27.0
3	62°43.0	230°56.7	-3°36.2	340°46.7	22°50.1	60°10.1	-0°39.3	101°06.6	-16°27.0
4	77°45.5	245°56.3	-3°37.4	355°48.5	22°50.3	75°12.9	-0°39.4	116°09.1	-16°27.0
5	92°47.9	260°55.9	-3°38.7	10°50.2	22°50.4	90°15.6	-0°39.5	131°11.6	-16°27.0
6	107°50.4	275°55.5	-3°39.9	25°52.0	22°50.5	105°18.4	-0°39.6	146°14.2	-16°27.1
7	122°52.9	290°55.1	-3°41.2	40°53.7	22°50.6	120°21.2	-0°39.8	161°16.7	-16°27.1
8	137°55.3	305°54.7	-3°42.4	55°55.4	22°50.7	135°23.9	-0°39.9	176°19.2	-16°27.1
9	152°57.8	320°54.3	-3°43.6	70°57.2	22°50.9	150°26.7	-0°40.0	191°21.7	-16°27.1
10	168°00.3	335°53.9	-3°44.9	85°58.9	22°51.0	165°29.4	-0°40.1	206°24.2	-16°27.1
11	183°02.7	350°53.5	-3°46.1	101°00.7	22°51.1	180°32.2	-0°40.3	221°26.8	-16°27.1
12	198°05.2	5°53.1	-3°47.4	116°02.5	22°51.2	195°34.9	-0°40.4	236°29.3	-16°27.2
13	213°07.7	20°52.7	-3°48.6	131°04.2	22°51.3	210°37.7	-0°40.5	251°31.8	-16°27.2
14	228°10.1	35°52.3	-3°49.9	146°06.0	22°51.5	225°40.4	-0°40.6	266°34.3	-16°27.2
15	243°12.6	50°51.9	-3°51.1	161°07.7	22°51.6	240°43.2	-0°40.7	281°36.8	-16°27.2
16	258°15.0	65°51.5	-3°52.4	176°09.5	22°51.7	255°45.9	-0°40.9	296°39.4	-16°27.2
17	273°17.5	80°51.1	-3°53.6	191°11.2	22°51.8	270°48.7	-0°41.0	311°41.9	-16°27.2
18	288°20.0	95°50.7	-3°54.9	206°13.0	22°51.9	285°51.4	-0°41.1	326°44.4	-16°27.2
19	303°22.4	110°50.3	-3°56.1	221°14.8	22°52.1	300°54.2	-0°41.2	341°46.9	-16°27.3
20	318°24.9	125°49.8	-3°57.4	236°16.5	22°52.2	315°56.9	-0°41.3	356°49.4	-16°27.3
21	333°27.4	140°49.4	-3°58.6	251°18.3	22°52.3	330°59.7	-0°41.5	11°52.0	-16°27.3
22	348°29.8	155°49.0	-3°59.9	266°20.1	22°52.4	346°02.5	-0°41.6	26°54.5	-16°27.3
23	3°32.3	170°48.6	-4°01.1	281°21.8	22°52.5	1°05.2	-0°41.7	41°57.0	-16°27.3
Mer.pass.:22:45		v-0.4 d-1.2 m-3.8		v1.7 d0.1 m-0.7		v2.8 d-0.1 m-2.8		v2.5 d-0.0 m0.5	

Estrellas

	AHS	Dec
Alpheratz	357°36.4	29°13.1
Ankaa	353°08.6	-42°11.0
Schedar	349°32.6	56°39.8
Diphda	348°48.7	-17°51.7
Achernar	335°21.0	-57°07.2
Hamal	327°53.0	23°34.2
Polaris	314°31.7	89°21.4
Akamar	315°12.8	-40°12.7
Menkar	314°07.8	4°10.8
Mirfak	308°30.5	49°56.4
Aldebaran	290°41.6	16°33.4
Rigel	281°05.5	-8°10.4
Capella	280°24.5	46°01.2
Bellatrix	278°24.7	6°22.3
Elnath	278°04.1	28°37.6
Alnilam	275°39.5	-1°11.1
Betelgeuse	270°54.0	7°24.8
Canopus	263°53.1	-52°42.1
Sirius	258°27.8	-16°44.4
Adara	255°07.3	-28°59.9
Procyon	244°52.8	5°10.3
Pollux	243°19.6	27°58.3
Avior	234°15.7	-59°34.5
Suhail	222°47.9	-43°31.1
Miaplacidus	221°39.2	-69°48.2
Alphard	217°49.8	-8°45.2
Regulus	207°36.6	11°51.5
Dubhe	193°43.8	61°37.7
Denebola	182°27.1	14°26.9
Gienah	175°45.8	-17°39.9
Acrux	173°02.9	-63°13.3
Gacrux	171°54.3	-57°14.2
Alioth	166°15.2	55°50.3
Spica	158°24.6	-11°16.6
Alcaid	152°54.0	49°12.2
Hadar	148°39.3	-60°28.9
Menkent	148°00.2	-36°28.8
Arcturus	145°49.8	19°04.3
Rigil Kent.	139°43.5	-60°55.7
Zubenelg.	136°58.4	-16°08.0
Kochab	137°20.8	74°03.9
Alphecca	126°05.6	26°38.5
Antares	112°18.4	-26°28.9
Atria	107°14.6	-69°04.2
Sabik	102°05.1	-15°45.1
Shaula	96°13.1	-37°07.3
Rasalhague	96°00.4	12°32.8
Etamin	90°43.2	51°29.4
Kaus Aust.	83°35.1	-34°22.5
Vega	80°34.6	38°48.5
Nunki	75°50.1	-26°16.1
Altair	62°01.8	8°55.8
Peacock	53°08.5	-56°39.9
Deneb	49°26.9	45°21.9
Enif	33°40.5	9°58.9
Alnair	27°35.0	-46°51.2
Fomalhaut	15°16.3	-29°30.1
Scheat	13°46.8	28°12.5
Markab	13°31.5	15°19.8

Oct 07 Vie	AHS	Paso Merid
Venus	170°39.8	11:35
Mars	278°41.9	04:22
Jupiter	357°12.2	23:04
Saturn	38°20.4	20:21

Oct 08 Sa	AHS	Paso Merid
Venus	169°31.1	11:36
Mars	278°23.6	04:20
Jupiter	357°19.2	23:00
Saturn	38°21.9	20:17

Oct 09 Dom	AHS	Paso Merid
Venus	168°22.3	11:36
Mars	278°05.9	04:17
Jupiter	357°26.3	22:56
Saturn	38°23.4	20:13

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.2

h	Sol		Luna				
Vie	AHG	Dec	AHG	v	Dec	d	HP
0	183°00.3	-5°24.6	35°25.2	10.3	-13°31.4	14.4	59.1
1	198°00.5	-5°25.5	49°54.5	10.4	-13°16.9	14.5	59.1
2	213°00.7	-5°26.5	64°23.9	10.4	-13°02.4	14.6	59.0
3	228°00.9	-5°27.5	78°53.4	10.5	-12°47.8	14.6	59.0
4	243°01.0	-5°28.4	93°22.9	10.6	-12°33.1	14.7	59.0
5	258°01.2	-5°29.4	107°52.5	10.7	-12°18.4	14.7	59.0
6	273°01.4	-5°30.3	122°22.2	10.7	-12°03.7	14.8	59.0
7	288°01.6	-5°31.3	136°52.0	10.8	-11°48.8	14.9	59.0
8	303°01.8	-5°32.2	151°21.8	10.9	-11°33.9	14.9	59.0
9	318°02.0	-5°33.2	165°51.7	10.9	-11°19.0	15.0	59.0
10	333°02.1	-5°34.2	180°21.7	11.0	-11°04.0	15.0	58.9
11	348°02.3	-5°35.1	194°51.8	11.1	-10°48.9	15.1	58.9
12	3°02.5	-5°36.1	209°21.9	11.1	-10°33.8	15.1	58.9
13	18°02.7	-5°37.0	223°52.1	11.2	-10°18.7	15.2	58.9
14	33°02.9	-5°38.0	238°22.3	11.3	-10°03.5	15.2	58.9
15	48°03.0	-5°38.9	252°52.6	11.3	-9°48.3	15.3	58.9
16	63°03.2	-5°39.9	267°23.0	11.4	-9°33.0	15.3	58.9
17	78°03.4	-5°40.8	281°53.4	11.5	-9°17.6	15.3	58.8
18	93°03.6	-5°41.8	296°23.9	11.5	-9°02.3	15.4	58.8
19	108°03.8	-5°42.7	310°54.5	11.6	-8°46.9	15.4	58.8
20	123°03.9	-5°43.7	325°25.1	11.6	-8°31.4	15.5	58.8
21	138°04.1	-5°44.7	339°55.8	11.7	-8°15.9	15.5	58.8
22	153°04.3	-5°45.6	354°26.5	11.8	-8°00.4	15.5	58.8
23	168°04.5	-5°46.6	8°57.3	11.8	-7°44.9	15.6	58.7
	SD.=16.0	d=-1.0	S.D.=16.1				

Sa	AHG	Dec	AHG	v	Dec	d	HP
0	183°04.6	-5°47.5	23°28.1	11.9	-7°29.3	15.6	58.7
1	198°04.8	-5°48.5	37°59.0	11.9	-7°13.7	15.6	58.7
2	213°05.0	-5°49.4	52°30.0	12.0	-6°58.1	15.7	58.7
3	228°05.2	-5°50.4	67°01.0	12.0	-6°42.4	15.7	58.7
4	243°05.4	-5°51.3	81°32.0	12.1	-6°26.7	15.7	58.7
5	258°05.5	-5°52.3	96°03.1	12.1	-6°11.0	15.7	58.6
6	273°05.7	-5°53.2	110°34.3	12.2	-5°55.3	15.7	58.6
7	288°05.9	-5°54.2	125°05.5	12.2	-5°39.5	15.8	58.6
8	303°06.1	-5°55.1	139°36.7	12.3	-5°23.7	15.8	58.6
9	318°06.2	-5°56.1	154°08.0	12.3	-5°07.9	15.8	58.6
10	333°06.4	-5°57.0	168°39.3	12.4	-4°52.1	15.8	58.6
11	348°06.6	-5°58.0	183°10.7	12.4	-4°36.3	15.8	58.5
12	3°06.8	-5°58.9	197°42.1	12.4	-4°20.5	15.8	58.5
13	18°06.9	-5°59.9	212°13.6	12.5	-4°04.6	15.9	58.5
14	33°07.1	-6°00.9	226°45.1	12.5	-3°48.8	15.9	58.5
15	48°07.3	-6°01.8	241°16.6	12.6	-3°32.9	15.9	58.5
16	63°07.5	-6°02.8	255°48.2	12.6	-3°17.0	15.9	58.4
17	78°07.6	-6°03.7	270°19.8	12.6	-3°01.2	15.9	58.4
18	93°07.8	-6°04.7	284°51.5	12.7	-2°45.3	15.9	58.4
19	108°08.0	-6°05.6	299°23.2	12.7	-2°29.4	15.9	58.4
20	123°08.2	-6°06.6	313°54.9	12.7	-2°13.5	15.9	58.4
21	138°08.3	-6°07.5	328°26.6	12.8	-1°57.6	15.9	58.3
22	153°08.5	-6°08.5	342°58.4	12.8	-1°41.7	15.9	58.3
23	168°08.7	-6°09.4	357°30.2	12.8	-1°25.8	15.9	58.3
	SD.=16.0	d=-1.0	S.D.=16.0				

Dom	AHG	Dec	AHG	v	Dec	d	HP
0	183°08.9	-6°10.4	12°02.1	12.9	-1°10.0	15.9	58.3
1	198°09.0	-6°11.3	26°33.9	12.9	-0°54.1	15.9	58.2
2	213°09.2	-6°12.3	41°05.8	12.9	-0°38.2	15.9	58.2
3	228°09.4	-6°13.2	55°37.7	12.9	-0°22.4	15.9	58.2
4	243°09.6	-6°14.2	70°09.7	13.0	-0°06.5	15.8	58.2
5	258°09.7	-6°15.1	84°41.6	13.0	0°09.3	15.8	58.2
6	273°09.9	-6°16.1	99°13.6	13.0	0°25.1	15.8	58.1
7	288°10.1	-6°17.0	113°45.6	13.0	0°40.9	15.8	58.1
8	303°10.3	-6°18.0	128°17.7	13.0	0°56.7	15.8	58.1
9	318°10.4	-6°18.9	142°49.7	13.1	1°12.5	15.8	58.1
10	333°10.6	-6°19.9	157°21.8	13.1	1°28.3	15.8	58.0
11	348°10.8	-6°20.8	171°53.8	13.1	1°44.0	15.7	58.0
12	3°10.9	-6°21.8	186°25.9	13.1	1°59.7	15.7	58.0
13	18°11.1	-6°22.7	200°58.1	13.1	2°15.4	15.7	58.0
14	33°11.3	-6°23.7	215°30.2	13.1	2°31.1	15.7	57.9
15	48°11.5	-6°24.6	230°02.3	13.1	2°46.8	15.6	57.9
16	63°11.6	-6°25.6	244°34.5	13.2	3°02.4	15.6	57.9
17	78°11.8	-6°26.5	259°06.6	13.2	3°18.0	15.6	57.9
18	93°12.0	-6°27.4	273°38.8	13.2	3°33.6	15.6	57.9
19	108°12.1	-6°28.4	288°11.0	13.2	3°49.1	15.5	57.8
20	123°12.3	-6°29.3	302°43.2	13.2	4°04.6	15.5	57.8
21	138°12.5	-6°30.3	317°15.4	13.2	4°20.1	15.5	57.8
22	153°12.6	-6°31.2	331°47.6	13.2	4°35.6	15.4	57.8
23	168°12.8	-6°32.2	346°19.8	13.2	4°51.0	15.4	57.7
	SD.=16.0	d=-1.0	S.D.=15.9				

Lat.	Crepúsculo Naut.	Crepúsculo Civil	Orto Sol	Crepúsculo Civil	Crepúsculo Naut.	Ocaso Sol
N 72	04:23	05:42	06:50	16:43	17:50	19:09
70	04:31	05:42	06:43	16:50	17:51	19:02
68	04:37	05:42	06:38	16:56	17:51	18:56
66	04:42	05:41	06:33	17:01	17:52	18:51
64	04:46	05:41	06:29	17:05	17:52	18:47
62	04:49	05:41	06:25	17:09	17:53	18:44
60	04:52	05:40	06:22	17:12	17:53	18:41
58	04:54	05:40	06:19	17:15	17:54	18:39
56	04:56	05:40	06:17	17:17	17:54	18:37
54	04:58	05:39	06:15	17:20	17:55	18:36
52	05:00	05:39	06:13	17:22	17:55	18:34
50	05:01	05:38	06:11	17:24	17:56	18:33
45	05:03	05:37	06:07	17:28	17:57	18:31
40	05:05	05:36	06:03	17:31	17:58	18:30
35	05:05	05:35	06:00	17:34	18:00	18:29
30	05:06	05:33	05:57	17:37	18:01	18:29
20	05:05	05:31	05:53	17:42	18:04	18:30
10	05:03	05:27	05:48	17:47	18:08	18:32
0	04:59	05:24	05:44	17:51	18:12	18:36
S 10	04:54	05:19	05:40	17:55	18:16	18:41
20	04:47	05:13	05:35	18:00	18:22	18:48
30	04:38	05:06	05:30	18:05	18:30	18:58
35	04:31	05:01	05:27	18:09	18:34	19:05
40	04:24	04:56	05:23	18:12	18:40	19:12
45	04:14	04:49	05:19	18:17	18:47	19:22
50	04:01	04:41	05:14	18:22	18:55	19:35
52	03:55	04:37	05:12	18:24	18:59	19:41
54	03:49	04:33	05:09	18:27	19:04	19:48
56	03:41	04:28	05:06	18:30	19:08	19:56
58	03:32	04:23	05:03	18:33	19:14	20:05
60	03:22	04:16	05:00	18:37	19:21	20:16

Lat.	Orto luna Vie	Orto luna Sa	Orto luna Dom	Ocaso luna Vie	Ocaso luna Sa	Ocaso luna Dom
N 72	18:13	17:37	17:04	00:28	03:06	05:23
70	18:00	17:33	17:09	00:56	03:16	05:23
68	17:49	17:30	17:12	01:17	03:25	05:23
66	17:40	17:27	17:15	01:33	03:32	05:23
64	17:32	17:25	17:18	01:46	03:37	05:23
62	17:25	17:23	17:20	01:58	03:42	05:23
60	17:20	17:21	17:22	02:07	03:47	05:23
58	17:14	17:19	17:23	02:15	03:51	05:23
56	17:10	17:18	17:25	02:22	03:54	05:22
54	17:06	17:16	17:26	02:29	03:57	05:22
52	17:02	17:15	17:28	02:34	04:00	05:22
50	16:58	17:14	17:29	02:40	04:02	05:22
45	16:51	17:12	17:32	02:51	04:07	05:22
40	16:45	17:10	17:34	03:00	04:12	05:22
35	16:39	17:08	17:36	03:07	04:16	05:22
30	16:34	17:06	17:37	03:14	04:19	05:22
20	16:26	17:04	17:40	03:26	04:25	05:22
10	16:18	17:01	17:43	03:36	04:30	05:22
0	16:11	16:59	17:46	03:45	04:34	05:21
S 10	16:04	16:57	17:48	03:55	04:39	05:21
20	15:57	16:55	17:51	04:05	04:44	05:21
30	15:48	16:52	17:54	04:16	04:49	05:21
35	15:43	16:50	17:56	04:22	04:52	05:21
40	15:38	16:49	17:58	04:29	04:56	05:20
45	15:31	16:47	18:00	04:38	05:00	05:20
50	15:23	16:44	18:03	04:48	05:05	05:20
52	15:19	16:43	18:05	04:52	05:07	05:20
54	15:15	16:42	18:06	04:57	05:09	05:20
56	15:11	16:41	18:08	05:03	05:12	05:19
58	15:06	16:39	18:10	05:09	05:15	05:19
60	15:00	16:37	18:12	05:16	05:18	05:19

Día	Sol Ec. tiempo 00:00 h	Sol Ec. tiempo 12:00 h	Sol Paso Merid	Luna Paso Meridiano Superior	Luna Paso Meridiano Inferior	Luna Edad
7	12:01	12:10	11:47	22:22	09:58	12(93%)
8	12:18	12:27	11:47	23:10	10:46	13(98%)
9	12:35	12:44	11:47	23:56	11:33	14(100%)

Octubre 10, 11, 12 (Lun, Mar, Mie.)

	Aries	Venus		Martes		Júpiter		Saturno	
Lun	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	18°34.8	185°48.2	-4°02.4	296°23.6	22°52.6	16°08.0	-0°41.8	56°59.5	-16°27.3
1	33°37.2	200°47.8	-4°03.6	311°25.4	22°52.8	31°10.7	-0°41.9	72°02.0	-16°27.4
2	48°39.7	215°47.4	-4°04.8	326°27.1	22°52.9	46°13.5	-0°42.1	87°04.6	-16°27.4
3	63°42.2	230°47.0	-4°06.1	341°28.9	22°53.0	61°16.2	-0°42.2	102°07.1	-16°27.4
4	78°44.6	245°46.6	-4°07.3	356°30.7	22°53.1	76°19.0	-0°42.3	117°09.6	-16°27.4
5	93°47.1	260°46.2	-4°08.6	11°32.4	22°53.2	91°21.7	-0°42.4	132°12.1	-16°27.4
6	108°49.5	275°45.8	-4°09.8	26°34.2	22°53.4	106°24.5	-0°42.5	147°14.6	-16°27.4
7	123°52.0	290°45.4	-4°11.1	41°36.0	22°53.5	121°27.2	-0°42.7	162°17.2	-16°27.4
8	138°54.5	305°45.0	-4°12.3	56°37.8	22°53.6	136°30.0	-0°42.8	177°19.7	-16°27.5
9	153°56.9	320°44.5	-4°13.6	71°39.5	22°53.7	151°32.7	-0°42.9	192°22.2	-16°27.5
10	168°59.4	335°44.1	-4°14.8	86°41.3	22°53.8	166°35.5	-0°43.0	207°24.7	-16°27.5
11	184°01.9	350°43.7	-4°16.1	101°43.1	22°53.9	181°38.2	-0°43.1	222°27.2	-16°27.5
12	199°04.3	5°43.3	-4°17.3	116°44.9	22°54.1	196°41.0	-0°43.3	237°29.7	-16°27.5
13	214°06.8	20°42.9	-4°18.6	131°46.7	22°54.2	211°43.7	-0°43.4	252°32.3	-16°27.5
14	229°09.3	35°42.5	-4°19.8	146°48.4	22°54.3	226°46.5	-0°43.5	267°34.8	-16°27.5
15	244°11.7	50°42.1	-4°21.0	161°50.2	22°54.4	241°49.2	-0°43.6	282°37.3	-16°27.6
16	259°14.2	65°41.7	-4°22.3	176°52.0	22°54.5	256°52.0	-0°43.7	297°39.8	-16°27.6
17	274°16.6	80°41.3	-4°23.5	191°53.8	22°54.6	271°54.7	-0°43.9	312°42.3	-16°27.6
18	289°19.1	95°40.9	-4°24.8	206°55.6	22°54.8	286°57.5	-0°44.0	327°44.8	-16°27.6
19	304°21.6	110°40.5	-4°26.0	221°57.4	22°54.9	302°00.2	-0°44.1	342°47.4	-16°27.6
20	319°24.0	125°40.0	-4°27.3	236°59.2	22°55.0	317°03.0	-0°44.2	357°49.9	-16°27.6
21	334°26.5	140°39.6	-4°28.5	252°01.0	22°55.1	332°05.7	-0°44.3	12°52.4	-16°27.6
22	349°29.0	155°39.2	-4°29.7	267°02.8	22°55.2	347°08.5	-0°44.5	27°54.9	-16°27.7
23	4°31.4	170°38.8	-4°31.0	282°04.5	22°55.3	2°11.2	-0°44.6	42°57.4	-16°27.7
Mer.pass.:22:41		v-0.4 d-1.2 m-3.8		v1.8 d0.1 m-0.8		v2.8 d-0.1 m-2.8		v2.5 d-0.0 m0.6	

Mar	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	19°33.9	185°38.4	-4°32.2	297°06.3	22°55.5	17°14.0	-0°44.7	57°59.9	-16°27.7
1	34°36.4	200°38.0	-4°33.5	312°08.1	22°55.6	32°16.7	-0°44.8	73°02.4	-16°27.7
2	49°38.8	215°37.6	-4°34.7	327°09.9	22°55.7	47°19.5	-0°44.9	88°05.0	-16°27.7
3	64°41.3	230°37.2	-4°36.0	342°11.7	22°55.8	62°22.2	-0°45.1	103°07.5	-16°27.7
4	79°43.8	245°36.8	-4°37.2	357°13.5	22°55.9	77°25.0	-0°45.2	118°10.0	-16°27.7
5	94°46.2	260°36.3	-4°38.4	12°15.3	22°56.1	92°27.7	-0°45.3	133°12.5	-16°27.8
6	109°48.7	275°35.9	-4°39.7	27°17.1	22°56.2	107°30.5	-0°45.4	148°15.0	-16°27.8
7	124°51.1	290°35.5	-4°40.9	42°18.9	22°56.3	122°33.2	-0°45.5	163°17.5	-16°27.8
8	139°53.6	305°35.1	-4°42.2	57°20.7	22°56.4	137°36.0	-0°45.7	178°20.0	-16°27.8
9	154°56.1	320°34.7	-4°43.4	72°22.5	22°56.5	152°38.7	-0°45.8	193°22.6	-16°27.8
10	169°58.5	335°34.3	-4°44.7	87°24.4	22°56.6	167°41.4	-0°45.9	208°25.1	-16°27.8
11	185°01.0	350°33.9	-4°45.9	102°26.2	22°56.8	182°44.2	-0°46.0	223°27.6	-16°27.8
12	200°03.5	5°33.5	-4°47.1	117°28.0	22°56.9	197°46.9	-0°46.1	238°30.1	-16°27.9
13	215°05.9	20°33.0	-4°48.4	132°29.8	22°57.0	212°49.7	-0°46.2	253°32.6	-16°27.9
14	230°08.4	35°32.6	-4°49.6	147°31.6	22°57.1	227°52.4	-0°46.4	268°35.1	-16°27.9
15	245°10.9	50°32.2	-4°50.9	162°33.4	22°57.2	242°55.2	-0°46.5	283°37.6	-16°27.9
16	260°13.3	65°31.8	-4°52.1	177°35.2	22°57.3	257°57.9	-0°46.6	298°40.2	-16°27.9
17	275°15.8	80°31.4	-4°53.3	192°37.0	22°57.4	273°00.7	-0°46.7	313°42.7	-16°27.9
18	290°18.3	95°31.0	-4°54.6	207°38.9	22°57.6	288°03.4	-0°46.8	328°45.2	-16°27.9
19	305°20.7	110°30.6	-4°55.8	222°40.7	22°57.7	303°06.2	-0°47.0	343°47.7	-16°27.9
20	320°23.2	125°30.2	-4°57.1	237°42.5	22°57.8	318°08.9	-0°47.1	358°50.2	-16°28.0
21	335°25.6	140°29.7	-4°58.3	252°44.3	22°57.9	333°11.7	-0°47.2	13°52.7	-16°28.0
22	350°28.1	155°29.3	-4°59.6	267°46.1	22°58.0	348°14.4	-0°47.3	28°55.2	-16°28.0
23	5°30.6	170°28.9	-5°00.8	282°48.0	22°58.1	3°17.2	-0°47.4	43°57.7	-16°28.0
Mer.pass.:22:38		v-0.4 d-1.2 m-3.8		v1.8 d0.1 m-0.8		v2.7 d-0.1 m-2.8		v2.5 d-0.0 m0.6	

Mie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	20°33.0	185°28.5	-5°02.0	297°49.8	22°58.3	18°19.9	-0°47.5	59°00.2	-16°28.0
1	35°35.5	200°28.1	-5°03.3	312°51.6	22°58.4	33°22.6	-0°47.7	74°02.8	-16°28.0
2	50°38.0	215°27.7	-5°04.5	327°53.4	22°58.5	48°25.4	-0°47.8	89°05.3	-16°28.0
3	65°40.4	230°27.2	-5°05.7	342°55.3	22°58.6	63°28.1	-0°47.9	104°07.8	-16°28.0
4	80°42.9	245°26.8	-5°07.0	357°57.1	22°58.7	78°30.9	-0°48.0	119°10.3	-16°28.1
5	95°45.4	260°26.4	-5°08.2	12°58.9	22°58.8	93°33.6	-0°48.1	134°12.8	-16°28.1
6	110°47.8	275°26.0	-5°09.5	28°00.7	22°59.0	108°36.4	-0°48.2	149°15.3	-16°28.1
7	125°50.3	290°25.6	-5°10.7	43°02.6	22°59.1	123°39.1	-0°48.4	164°17.8	-16°28.1
8	140°52.7	305°25.2	-5°11.9	58°04.4	22°59.2	138°41.9	-0°48.5	179°20.3	-16°28.1
9	155°55.2	320°24.7	-5°13.2	73°06.2	22°59.3	153°44.6	-0°48.6	194°22.8	-16°28.1
10	170°57.7	335°24.3	-5°14.4	88°08.1	22°59.4	168°47.3	-0°48.7	209°25.3	-16°28.1
11	186°00.1	350°23.9	-5°15.7	103°09.9	22°59.5	183°50.1	-0°48.8	224°27.9	-16°28.1
12	201°02.6	5°23.5	-5°16.9	118°11.8	22°59.7	198°52.8	-0°48.9	239°30.4	-16°28.2
13	216°05.1	20°23.1	-5°18.1	133°13.6	22°59.8	213°55.6	-0°49.1	254°32.9	-16°28.2
14	231°07.5	35°22.7	-5°19.4	148°15.4	22°59.9	228°58.3	-0°49.2	269°35.4	-16°28.2
15	246°10.0	50°22.2	-5°20.6	163°17.3	23°00.0	244°01.1	-0°49.3	284°37.9	-16°28.2
16	261°12.5	65°21.8	-5°21.8	178°19.1	23°00.1	259°03.8	-0°49.4	299°40.4	-16°28.2
17	276°14.9	80°21.4	-5°23.1	193°21.0	23°00.2	274°06.6	-0°49.5	314°42.9	-16°28.2
18	291°17.4	95°21.0	-5°24.3	208°22.8	23°00.3	289°09.3	-0°49.6	329°45.4	-16°28.2
19	306°19.9	110°20.6	-5°25.6	223°24.7	23°00.5	304°12.0	-0°49.8	344°47.9	-16°28.2
20	321°22.3	125°20.1	-5°26.8	238°26.5	23°00.6	319°14.8	-0°49.9	359°50.4	-16°28.3
21	336°24.8	140°19.7	-5°28.0	253°28.3	23°00.7	334°17.5	-0°50.0	14°52.9	-16°28.3
22	351°27.2	155°19.3	-5°29.3	268°30.2	23°00.8	349°20.3	-0°50.1	29°55.4	-16°28.3
23	6°29.7	170°18.9	-5°30.5	283°32.0	23°00.9	4°23.0	-0°50.2	44°58.0	-16°28.3
Mer.pass.:22:34		v-0.4 d-1.2 m-3.8		v1.8 d0.1 m-0.8		v2.7 d-0.1 m-2.8		v2.5 d-0.0 m0.6	

Estrellas

	AHS	Dec
Alpheratz	357°36.4	29°13.1
Ankaa	353°08.6	-42°11.0
Schedar	349°32.6	56°39.8
Diphda	348°48.7	-17°51.7
Achernar	335°21.0	-57°07.2
Hamal	327°53.0	23°34.2
Polaris	314°30.9	89°21.4
Akamar	315°12.8	-40°12.7
Menkar	314°07.8	4°10.8
Mirfak	308°30.5	49°56.4
Aldebaran	290°41.6	16°33.4
Rigel	281°05.5	-8°10.4
Capella	280°24.4	46°01.2
Bellatrix	278°24.7	6°22.3
Elnath	278°04.1	28°37.6
Alnilam	275°39.5	-1°11.1
Betelgeuse	270°54.0	7°24.8
Canopus	263°53.1	-52°42.1
Sirius	258°27.7	-16°44.4
Adara	255°07.3	-28°59.9
Procyon	244°52.7	5°10.3
Pollux	243°19.5	27°58.3
Avior	234°15.7	-59°34.5
Suhail	222°47.9	-43°31.1
Miaplacidus	221°39.1	-69°48.2
Alphard	217°49.8	-8°45.2
Regulus	207°36.6	11°51.5
Dubhe	193°43.8	61°37.7
Denebola	182°27.1	14°26.9
Gienah	175°45.8	-17°39.9
Acrux	173°02.9	-63°13.3
Gacrux	171°54.3	-57°14.2
Alioth	166°15.2	55°50.3
Spica	158°24.6	-11°16.6
Alcaid	152°54.0	49°12.1
Hadar	148°39.3	-60°28.9
Menkent	148°00.2	-36°28.8
Arcturus	145°49.8	19°04.3
Rigil Kent.	139°43.5	-60°55.7
Zubenelg.	136°58.4	-16°08.0
Kochab	137°20.8	74°03.9
Alphecca	126°05.6	26°38.5
Antares	112°18.4	-26°28.9
Atria	107°14.6	-69°04.2
Sabik	102°05.1	-15°45.1
Shaula	96°13.1	-37°07.3
Rasalhague	96°00.5	12°32.8
Etamin	90°43.2	51°29.4
Kaus Aust.	83°35.1	-34°22.5
Vega	80°34.6	38°48.5
Nunki	75°50.1	-26°16.1
Altair	62°01.8	8°55.8
Peacock	53°08.5	-56°39.9
Deneb	49°26.9	45°21.9
Enif	33°40.5	9°58.9
Alnair	27°35.0	-46°51.2
Fomalhaut	15°16.4	-29°30.1
Scheat	13°46.8	28°12.5
Markab	13°31.5	15°19.8

Oct 10 Lun	AHS	Paso Merid
Venus	167°13.5	11:37
Mars	277°48.8	04:14
Jupiter	357°33.2	22:51
Saturn	38°24.8	20:09

Oct 11 Mar	AHS	Paso Merid
Venus	166°04.5	11:38
Mars	277°32.4	04:11
Jupiter	357°40.1	22:47
Saturn	38°26.0	20:05

Oct 12 Mie	AHS	Paso Merid
Venus	164°55.5	11:38
Mars	277°16.7	04:08
Jupiter	357°46.9	22:43
Saturn	38°27.2	20:01

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.2

h	Sol		Luna				
Lun	AHG	Dec	AHG	v	Dec	d	HP
0	183°13.0	-6°33.1	0°52.0	13.2	5°06.3	15.4	57.7
1	198°13.2	-6°34.1	15°24.2	13.2	5°21.7	15.3	57.7
2	213°13.3	-6°35.0	29°56.4	13.2	5°37.0	15.3	57.7
3	228°13.5	-6°36.0	44°28.6	13.2	5°52.2	15.2	57.6
4	243°13.7	-6°36.9	59°00.8	13.2	6°07.5	15.2	57.6
5	258°13.8	-6°37.9	73°33.0	13.2	6°22.6	15.2	57.6
6	273°14.0	-6°38.8	88°05.2	13.2	6°37.8	15.1	57.5
7	288°14.2	-6°39.8	102°37.5	13.2	6°52.9	15.1	57.5
8	303°14.3	-6°40.7	117°09.7	13.2	7°07.9	15.0	57.5
9	318°14.5	-6°41.6	131°41.9	13.2	7°22.9	15.0	57.5
10	333°14.7	-6°42.6	146°14.0	13.2	7°37.9	14.9	57.4
11	348°14.8	-6°43.5	160°46.2	13.2	7°52.8	14.9	57.4
12	3°15.0	-6°44.5	175°18.4	13.2	8°07.6	14.8	57.4
13	18°15.2	-6°45.4	189°50.6	13.2	8°22.4	14.8	57.4
14	33°15.3	-6°46.4	204°22.7	13.2	8°37.2	14.7	57.3
15	48°15.5	-6°47.3	218°54.9	13.1	8°51.9	14.7	57.3
16	63°15.7	-6°48.3	233°27.0	13.1	9°06.5	14.6	57.3
17	78°15.8	-6°49.2	247°59.1	13.1	9°21.1	14.6	57.3
18	93°16.0	-6°50.1	262°31.3	13.1	9°35.6	14.5	57.2
19	108°16.2	-6°51.1	277°03.4	13.1	9°50.1	14.4	57.2
20	123°16.3	-6°52.0	291°35.4	13.1	10°04.5	14.4	57.2
21	138°16.5	-6°53.0	306°07.5	13.1	10°18.9	14.3	57.1
22	153°16.7	-6°53.9	320°39.6	13.0	10°33.2	14.3	57.1
23	168°16.8	-6°54.9	335°11.6	13.0	10°47.4	14.2	57.1
	SD.=16.0	d=-0.9	S.D.=15.7				

Ma	AHG	Dec	AHG	v	Dec	d	HP
0	183°17.0	-6°55.8	349°43.6	13.0	11°01.6	14.1	57.1
1	198°17.1	-6°56.8	4°15.6	13.0	11°15.7	14.1	57.0
2	213°17.3	-6°57.7	18°47.6	13.0	11°29.7	14.0	57.0
3	228°17.5	-6°58.6	33°19.6	13.0	11°43.7	13.9	57.0
4	243°17.6	-6°59.6	47°51.5	12.9	11°57.6	13.9	57.0
5	258°17.8	-7°00.5	62°23.4	12.9	12°11.4	13.8	56.9
6	273°18.0	-7°01.5	76°55.3	12.9	12°25.1	13.7	56.9
7	288°18.1	-7°02.4	91°27.2	12.9	12°38.8	13.7	56.9
8	303°18.3	-7°03.3	105°59.0	12.8	12°52.5	13.6	56.8
9	318°18.5	-7°04.3	120°30.9	12.8	13°06.0	13.5	56.8
10	333°18.6	-7°05.2	135°02.7	12.8	13°19.5	13.4	56.8
11	348°18.8	-7°06.2	149°34.4	12.8	13°32.9	13.4	56.8
12	3°18.9	-7°07.1	164°06.2	12.7	13°46.2	13.3	56.7
13	18°19.1	-7°08.1	178°37.9	12.7	13°59.4	13.2	56.7
14	33°19.3	-7°09.0	193°09.6	12.7	14°12.6	13.1	56.7
15	48°19.4	-7°09.9	207°41.3	12.7	14°25.7	13.0	56.7
16	63°19.6	-7°10.9	222°12.9	12.6	14°38.7	13.0	56.6
17	78°19.7	-7°11.8	236°44.5	12.6	14°51.6	12.9	56.6
18	93°19.9	-7°12.8	251°16.1	12.6	15°04.5	12.8	56.6
19	108°20.1	-7°13.7	265°47.7	12.5	15°17.2	12.7	56.5
20	123°20.2	-7°14.6	280°19.2	12.5	15°29.9	12.6	56.5
21	138°20.4	-7°15.6	294°50.7	12.5	15°42.5	12.6	56.5
22	153°20.5	-7°16.5	309°22.2	12.4	15°55.0	12.5	56.5
23	168°20.7	-7°17.5	323°53.6	12.4	16°07.4	12.4	56.4
	SD.=16.0	d=-0.9	S.D.=15.6				

Mie	AHG	Dec	AHG	v	Dec	d	HP
0	183°20.9	-7°18.4	338°25.0	12.4	16°19.8	12.3	56.4
1	198°21.0	-7°19.3	352°56.3	12.3	16°32.0	12.2	56.4
2	213°21.2	-7°20.3	7°27.7	12.3	16°44.2	12.1	56.3
3	228°21.3	-7°21.2	21°59.0	12.3	16°56.2	12.0	56.3
4	243°21.5	-7°22.1	36°30.2	12.2	17°08.2	11.9	56.3
5	258°21.7	-7°23.1	51°01.5	12.2	17°20.1	11.8	56.3
6	273°21.8	-7°24.0	65°32.7	12.2	17°31.9	11.7	56.2
7	288°22.0	-7°25.0	80°03.8	12.1	17°43.6	11.6	56.2
8	303°22.1	-7°25.9	94°34.9	12.1	17°55.2	11.6	56.2
9	318°22.3	-7°26.8	109°06.0	12.1	18°06.7	11.5	56.2
10	333°22.4	-7°27.8	123°37.1	12.0	18°18.1	11.4	56.1
11	348°22.6	-7°28.7	138°08.1	12.0	18°29.4	11.3	56.1
12	3°22.8	-7°29.7	152°39.1	12.0	18°40.6	11.2	56.1
13	18°22.9	-7°30.6	167°10.0	11.9	18°51.7	11.1	56.1
14	33°23.1	-7°31.5	181°40.9	11.9	19°02.7	11.0	56.0
15	48°23.2	-7°32.5	196°11.8	11.8	19°13.7	10.9	56.0
16	63°23.4	-7°33.4	210°42.6	11.8	19°24.5	10.8	56.0
17	78°23.5	-7°34.3	225°13.4	11.8	19°35.2	10.7	55.9
18	93°23.7	-7°35.3	239°44.2	11.7	19°45.8	10.6	55.9
19	108°23.8	-7°36.2	254°14.9	11.7	19°56.3	10.5	55.9
20	123°24.0	-7°37.1	268°45.6	11.7	20°06.7	10.3	55.9
21	138°24.1	-7°38.1	283°16.2	11.6	20°17.0	10.2	55.8
22	153°24.3	-7°39.0	297°46.8	11.6	20°27.2	10.1	55.8
23	168°24.5	-7°39.9	312°17.4	11.5	20°37.3	10.0	55.8
	SD.=16.0	d=-0.9	S.D.=15.4				

Lat.	Crepúsculo Naut.	Crepúsculo Civil	Orto Sol	Crepúsculo Civil	Crepúsculo Naut.	Ocaso Sol
N 72	04:37	05:56	07:05	16:27	17:36	18:54
70	04:43	05:54	06:56	16:36	17:38	18:48
68	04:48	05:52	06:49	16:43	17:39	18:44
66	04:52	05:51	06:43	16:49	17:41	18:40
64	04:55	05:50	06:38	16:55	17:42	18:37
62	04:57	05:48	06:33	16:59	17:44	18:35
60	04:59	05:47	06:29	17:03	17:45	18:33
58	05:01	05:46	06:26	17:06	17:46	18:31
56	05:02	05:46	06:23	17:10	17:47	18:30
54	05:04	05:45	06:20	17:12	17:48	18:29
52	05:05	05:44	06:18	17:15	17:49	18:28
50	05:06	05:43	06:15	17:17	17:50	18:27
45	05:07	05:41	06:10	17:22	17:52	18:26
40	05:08	05:39	06:06	17:27	17:54	18:25
35	05:08	05:37	06:02	17:30	17:56	18:25
30	05:07	05:35	05:59	17:34	17:58	18:26
20	05:06	05:31	05:54	17:40	18:02	18:27
10	05:03	05:27	05:48	17:45	18:06	18:31
0	04:58	05:23	05:43	17:50	18:11	18:35
S 10	04:53	05:17	05:38	17:55	18:16	18:41
20	04:45	05:11	05:33	18:01	18:23	18:49
30	04:34	05:02	05:27	18:07	18:32	19:00
35	04:27	04:57	05:23	18:11	18:37	19:07
40	04:18	04:51	05:19	18:15	18:43	19:16
45	04:08	04:44	05:14	18:21	18:51	19:27
50	03:54	04:35	05:08	18:27	19:00	19:41
52	03:48	04:30	05:05	18:30	19:05	19:47
54	03:40	04:25	05:02	18:33	19:10	19:55
56	03:32	04:20	04:59	18:36	19:15	20:04
58	03:22	04:14	04:55	18:40	19:21	20:14
60	03:10	04:07	04:51	18:44	19:29	20:26

Lat.	Orto luna Lun	Orto luna Ma	Orto luna Mie	Ocaso luna Lun	Ocaso luna Ma	Ocaso luna Mie
N 72	16:29	15:41	–:–	07:38	10:05	–:–
70	16:42	16:09	15:06	07:28	09:38	12:22
68	16:53	16:31	15:57	07:19	09:18	11:32
66	17:03	16:48	16:29	07:12	09:03	11:01
64	17:10	17:02	16:53	07:06	08:50	10:38
62	17:17	17:14	17:12	07:01	08:39	10:19
60	17:23	17:25	17:28	06:56	08:30	10:04
58	17:28	17:34	17:42	06:53	08:22	09:52
56	17:33	17:42	17:53	06:49	08:15	09:41
54	17:37	17:49	18:03	06:46	08:09	09:31
52	17:41	17:55	18:13	06:43	08:03	09:23
50	17:44	18:01	18:21	06:41	07:58	09:15
45	17:52	18:13	18:38	06:35	07:48	08:59
40	17:58	18:24	18:53	06:31	07:39	08:46
35	18:03	18:33	19:05	06:27	07:31	08:35
30	18:08	18:41	19:16	06:23	07:24	08:25
20	18:17	18:54	19:34	06:17	07:13	08:09
10	18:24	19:06	19:50	06:12	07:03	07:54
0	18:31	19:18	20:06	06:07	06:53	07:41
S 10	18:39	19:29	20:21	06:02	06:44	07:27
20	18:46	19:42	20:38	05:57	06:34	07:13
30	18:55	19:56	20:57	05:51	06:23	06:57
35	19:00	20:04	21:08	05:48	06:17	06:47
40	19:06	20:14	21:21	05:44	06:09	06:36
45	19:13	20:25	21:36	05:40	06:01	06:24
50	19:21	20:39	21:55	05:35	05:51	06:09
52	19:25	20:45	22:04	05:32	05:46	06:02
54	19:29	20:52	22:14	05:30	05:41	05:54
56	19:34	21:00	22:26	05:27	05:35	05:45
58	19:40	21:09	22:39	05:24	05:29	05:35
60	19:46	21:20	22:54	05:20	05:22	05:24

Día	Sol Ec. tiempo 00:00 h	Sol Ec. tiempo 12:00 h	Sol Paso Merid	Luna Paso Meridiano Superior	Luna Paso Meridiano Inferior	Luna Edad
10	12:52	13:00	11:47	00:42	12:19	15(100%)
11	13:08	13:16	11:46	00:42	13:05	16(97%)
12	13:23	13:31	11:46	01:29	13:53	17(92%)

Octubre 13, 14, 15 (Jue, Vie, Sa.)

	Aries	Venus		Martes		Júpiter		Saturno	
Jue	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	21°32.2	185°18.5	-5°31.7	298°33.9	23°01.0	19°25.8	-0°50.3	60°00.5	-16°28.3
1	36°34.6	200°18.0	-5°33.0	313°35.8	23°01.2	34°28.5	-0°50.5	75°03.0	-16°28.3
2	51°37.1	215°17.6	-5°34.2	328°37.6	23°01.3	49°31.2	-0°50.6	90°05.5	-16°28.3
3	66°39.6	230°17.2	-5°35.4	343°39.5	23°01.4	64°34.0	-0°50.7	105°08.0	-16°28.3
4	81°42.0	245°16.8	-5°36.7	358°41.3	23°01.5	79°36.7	-0°50.8	120°10.5	-16°28.3
5	96°44.5	260°16.4	-5°37.9	13°43.2	23°01.6	94°39.5	-0°50.9	135°13.0	-16°28.4
6	111°47.0	275°15.9	-5°39.1	28°45.0	23°01.7	109°42.2	-0°51.0	150°15.5	-16°28.4
7	126°49.4	290°15.5	-5°40.4	43°46.9	23°01.8	124°44.9	-0°51.1	165°18.0	-16°28.4
8	141°51.9	305°15.1	-5°41.6	58°48.8	23°02.0	139°47.7	-0°51.3	180°20.5	-16°28.4
9	156°54.4	320°14.7	-5°42.8	73°50.6	23°02.1	154°50.4	-0°51.4	195°23.0	-16°28.4
10	171°56.8	335°14.3	-5°44.1	88°52.5	23°02.2	169°53.2	-0°51.5	210°25.5	-16°28.4
11	186°59.3	350°13.8	-5°45.3	103°54.4	23°02.3	184°55.9	-0°51.6	225°28.0	-16°28.4
12	202°01.7	5°13.4	-5°46.5	118°56.2	23°02.4	199°58.7	-0°51.7	240°30.5	-16°28.4
13	217°04.2	20°13.0	-5°47.8	133°58.1	23°02.5	215°01.4	-0°51.8	255°33.0	-16°28.4
14	232°06.7	35°12.6	-5°49.0	149°00.0	23°02.6	230°04.1	-0°51.9	270°35.5	-16°28.4
15	247°09.1	50°12.1	-5°50.2	164°01.8	23°02.8	245°06.9	-0°52.1	285°38.0	-16°28.5
16	262°11.6	65°11.7	-5°51.5	179°03.7	23°02.9	260°09.6	-0°52.2	300°40.6	-16°28.5
17	277°14.1	80°11.3	-5°52.7	194°05.6	23°03.0	275°12.4	-0°52.3	315°43.1	-16°28.5
18	292°16.5	95°10.9	-5°53.9	209°07.5	23°03.1	290°15.1	-0°52.4	330°45.6	-16°28.5
19	307°19.0	110°10.4	-5°55.2	224°09.3	23°03.2	305°17.8	-0°52.5	345°48.1	-16°28.5
20	322°21.5	125°10.0	-5°56.4	239°11.2	23°03.3	320°20.6	-0°52.6	0°50.6	-16°28.5
21	337°23.9	140°09.6	-5°57.6	254°13.1	23°03.4	335°23.3	-0°52.7	15°53.1	-16°28.5
22	352°26.4	155°09.2	-5°58.9	269°15.0	23°03.6	350°26.0	-0°52.9	30°55.6	-16°28.5
23	7°28.8	170°08.7	-6°00.1	284°16.9	23°03.7	5°28.8	-0°53.0	45°58.1	-16°28.5
Mer.pass.:22:30		v-0.4 d-1.2 m-3.8		v1.9 d0.1 m-0.8		v2.7 d-0.1 m-2.8		v2.5 d-0.0 m0.6	

Vie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	22°31.3	185°08.3	-6°01.3	299°18.7	23°03.8	20°31.5	-0°53.1	61°00.6	-16°28.6
1	37°33.8	200°07.9	-6°02.6	314°20.6	23°03.9	35°34.3	-0°53.2	76°03.1	-16°28.6
2	52°36.2	215°07.5	-6°03.8	329°22.5	23°04.0	50°37.0	-0°53.3	91°05.6	-16°28.6
3	67°38.7	230°07.0	-6°05.0	344°24.4	23°04.1	65°39.7	-0°53.4	106°08.1	-16°28.6
4	82°41.2	245°06.6	-6°06.2	359°26.3	23°04.2	80°42.5	-0°53.5	121°10.6	-16°28.6
5	97°43.6	260°06.2	-6°07.5	14°28.2	23°04.4	95°45.2	-0°53.7	136°13.1	-16°28.6
6	112°46.1	275°05.8	-6°08.7	29°30.1	23°04.5	110°48.0	-0°53.8	151°15.6	-16°28.6
7	127°48.6	290°05.3	-6°09.9	44°31.9	23°04.6	125°50.7	-0°53.9	166°18.1	-16°28.6
8	142°51.0	305°04.9	-6°11.2	59°33.8	23°04.7	140°53.4	-0°54.0	181°20.6	-16°28.6
9	157°53.5	320°04.5	-6°12.4	74°35.7	23°04.8	155°56.2	-0°54.1	196°23.1	-16°28.6
10	172°56.0	335°04.1	-6°13.6	89°37.6	23°04.9	170°58.9	-0°54.2	211°25.6	-16°28.6
11	187°58.4	350°03.6	-6°14.8	104°39.5	23°05.0	186°01.6	-0°54.3	226°28.1	-16°28.7
12	203°00.9	5°03.2	-6°16.1	119°41.4	23°05.2	201°04.4	-0°54.4	241°30.6	-16°28.7
13	218°03.3	20°02.8	-6°17.3	134°43.3	23°05.3	216°07.1	-0°54.6	256°33.1	-16°28.7
14	233°05.8	35°02.3	-6°18.5	149°45.2	23°05.4	231°09.8	-0°54.7	271°35.6	-16°28.7
15	248°08.3	50°01.9	-6°19.8	164°47.1	23°05.5	246°12.6	-0°54.8	286°38.1	-16°28.7
16	263°10.7	65°01.5	-6°21.0	179°49.0	23°05.6	261°15.3	-0°54.9	301°40.6	-16°28.7
17	278°13.2	80°01.1	-6°22.2	194°50.9	23°05.7	276°18.1	-0°55.0	316°43.1	-16°28.7
18	293°15.7	95°00.6	-6°23.4	209°52.8	23°05.8	291°20.8	-0°55.1	331°45.6	-16°28.7
19	308°18.1	110°00.2	-6°24.7	224°54.7	23°06.0	306°23.5	-0°55.2	346°48.1	-16°28.7
20	323°20.6	124°59.8	-6°25.9	239°56.7	23°06.1	321°26.3	-0°55.3	1°50.6	-16°28.7
21	338°23.1	139°59.3	-6°27.1	254°58.6	23°06.2	336°29.0	-0°55.5	16°53.1	-16°28.7
22	353°25.5	154°58.9	-6°28.3	270°00.5	23°06.3	351°31.7	-0°55.6	31°55.6	-16°28.8
23	8°28.0	169°58.5	-6°29.6	285°02.4	23°06.4	6°34.5	-0°55.7	46°58.1	-16°28.8
Mer.pass.:22:26		v-0.4 d-1.2 m-3.8		v1.9 d0.1 m-0.8		v2.7 d-0.1 m-2.7		v2.5 d-0.0 m0.6	

Sa	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	23°30.5	184°58.0	-6°30.8	300°04.3	23°06.5	21°37.2	-0°55.8	62°00.6	-16°28.8
1	38°32.9	199°57.6	-6°32.0	315°06.2	23°06.6	36°39.9	-0°55.9	77°03.1	-16°28.8
2	53°35.4	214°57.2	-6°33.2	330°08.1	23°06.8	51°42.7	-0°56.0	92°05.6	-16°28.8
3	68°37.8	229°56.7	-6°34.5	345°10.0	23°06.9	66°45.4	-0°56.1	107°08.1	-16°28.8
4	83°40.3	244°56.3	-6°35.7	0°12.0	23°07.0	81°48.1	-0°56.2	122°10.6	-16°28.8
5	98°42.8	259°55.9	-6°36.9	15°13.9	23°07.1	96°50.9	-0°56.4	137°13.1	-16°28.8
6	113°45.2	274°55.4	-6°38.1	30°15.8	23°07.2	111°53.6	-0°56.5	152°15.6	-16°28.8
7	128°47.7	289°55.0	-6°39.4	45°17.7	23°07.3	126°56.3	-0°56.6	167°18.1	-16°28.8
8	143°50.2	304°54.6	-6°40.6	60°19.6	23°07.4	141°59.1	-0°56.7	182°20.6	-16°28.8
9	158°52.6	319°54.1	-6°41.8	75°21.6	23°07.5	157°01.8	-0°56.8	197°23.1	-16°28.9
10	173°55.1	334°53.7	-6°43.0	90°23.5	23°07.7	172°04.5	-0°56.9	212°25.6	-16°28.9
11	188°57.6	349°53.3	-6°44.3	105°25.4	23°07.8	187°07.3	-0°57.0	227°28.1	-16°28.9
12	204°00.0	4°52.8	-6°45.5	120°27.4	23°07.9	202°10.0	-0°57.1	242°30.6	-16°28.9
13	219°02.5	19°52.4	-6°46.7	135°29.3	23°08.0	217°12.7	-0°57.2	257°33.1	-16°28.9
14	234°05.0	34°52.0	-6°47.9	150°31.2	23°08.1	232°15.5	-0°57.4	272°35.6	-16°28.9
15	249°07.4	49°51.5	-6°49.2	165°33.1	23°08.2	247°18.2	-0°57.5	287°38.1	-16°28.9
16	264°09.9	64°51.1	-6°50.4	180°35.1	23°08.3	262°20.9	-0°57.6	302°40.6	-16°28.9
17	279°12.3	79°50.7	-6°51.6	195°37.0	23°08.5	277°23.7	-0°57.7	317°43.1	-16°28.9
18	294°14.8	94°50.2	-6°52.8	210°39.0	23°08.6	292°26.4	-0°57.8	332°45.6	-16°28.9
19	309°17.3	109°49.8	-6°54.0	225°40.9	23°08.7	307°29.1	-0°57.9	347°48.1	-16°28.9
20	324°19.7	124°49.4	-6°55.3	240°42.8	23°08.8	322°31.9	-0°58.0	2°50.5	-16°28.9
21	339°22.2	139°48.9	-6°56.5	255°44.8	23°08.9	337°34.6	-0°58.1	17°53.0	-16°28.9
22	354°24.7	154°48.5	-6°57.7	270°46.7	23°09.0	352°37.3	-0°58.2	32°55.5	-16°29.0
23	9°27.1	169°48.1	-6°58.9	285°48.7	23°09.1	7°40.1	-0°58.3	47°58.0	-16°29.0
Mer.pass.:22:22		v-0.4 d-1.2 m-3.8		v1.9 d0.1 m-0.8		v2.7 d-0.1 m-2.7		v2.5 d-0.0 m0.6	

Estrellas

	AHS	Dec
Alpheratz	357°36.4	29°13.1
Ankaa	353°08.6	-42°11.0
Schedar	349°32.6	56°39.8
Diphda	348°48.7	-17°51.7
Achernar	335°21.0	-57°07.3
Hamal	327°53.0	23°34.3
Polaris	314°29.9	89°21.5
Akamar	315°12.8	-40°12.7
Menkar	314°07.8	4°10.8
Mirfak	308°30.5	49°56.4
Aldebaran	290°41.5	16°33.4
Rigel	281°05.5	-8°10.4
Capella	280°24.4	46°01.2
Bellatrix	278°24.7	6°22.3
Elnath	278°04.0	28°37.6
Alnilam	275°39.5	-1°11.1
Betelgeuse	270°54.0	7°24.8
Canopus	263°53.1	-52°42.1
Sirius	258°27.7	-16°44.4
Adara	255°07.3	-28°59.9
Procyon	244°52.7	5°10.3
Pollux	243°19.5	27°58.3
Avior	234°15.6	-59°34.5
Suhail	222°47.9	-43°31.1
Miaplacidus	221°39.1	-69°48.2
Alphard	217°49.7	-8°45.2
Regulus	207°36.6	11°51.5
Dubhe	193°43.8	61°37.7
Denebola	182°27.1	14°26.9
Gienah	175°45.8	-17°39.9
Acrux	173°02.9	-63°13.3
Gacrux	171°54.3	-57°14.2
Alioth	166°15.2	55°50.3
Spica	158°24.6	-11°16.6
Alcaid	152°54.0	49°12.1
Hadar	148°39.3	-60°28.9
Menkent	148°00.2	-36°28.8
Arcturus	145°49.8	19°04.3
Rigil Kent.	139°43.5	-60°55.7
Zubenelg.	136°58.4	-16°08.0
Kochab	137°20.8	74°03.9
Alphecca	126°05.7	26°38.5
Antares	112°18.4	-26°28.9
Atria	107°14.6	-69°04.2
Sabik	102°05.1	-15°45.1
Shaula	96°13.1	-37°07.2
Rasalhague	96°00.5	12°32.8
Etamin	90°43.3	51°29.4
Kaus Aust.	83°35.1	-34°22.5
Vega	80°34.6	38°48.5
Nunki	75°50.1	-26°16.1
Altair	62°01.8	8°55.8
Peacock	53°08.5	-56°39.9
Deneb	49°26.9	45°21.9
Enif	33°40.5	9°58.9
Alnair	27°35.0	-46°51.2
Fomalhaut	15°16.4	-29°30.1
Scheat	13°46.8	28°12.5
Markab	13°31.5	15°19.8

Oct 13 Jue	AHS	Paso Merid
Venus	163°46.3	11:39
Mars	277°01.7	04:05
Jupiter	357°53.6	22:38
Saturn	38°28.3	19:57

Oct 14 Vie	AHS	Paso Merid
Venus	162°37.0	11:40
Mars	276°47.4	04:02
Jupiter	358°00.2	22:34
Saturn	38°29.3	19:53

Oct 15 Sa	AHS	Paso Merid
Venus	161°27.6	11:40
Mars	276°33.8	03:59
Jupiter	358°06.8	22:29
Saturn	38°30.2	19:49

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.2

h	Sol		Luna				
Jue	AHG	Dec	AHG	v	Dec	d	HP
0	183°24.6	-7°40.9	326°47.9	11.5	20°47.2	9.9	55.8
1	198°24.8	-7°41.8	341°18.4	11.5	20°57.1	9.8	55.7
2	213°24.9	-7°42.8	355°48.9	11.4	21°06.9	9.7	55.7
3	228°25.1	-7°43.7	10°19.3	11.4	21°16.5	9.6	55.7
4	243°25.2	-7°44.6	24°49.7	11.4	21°26.0	9.5	55.7
5	258°25.4	-7°45.6	39°20.0	11.3	21°35.5	9.4	55.6
6	273°25.5	-7°46.5	53°50.3	11.3	21°44.8	9.3	55.6
7	288°25.7	-7°47.4	68°20.6	11.2	21°54.0	9.1	55.6
8	303°25.8	-7°48.4	82°50.8	11.2	22°03.1	9.0	55.6
9	318°26.0	-7°49.3	97°21.0	11.2	22°12.0	8.9	55.5
10	333°26.1	-7°50.2	111°51.1	11.1	22°20.9	8.8	55.5
11	348°26.3	-7°51.2	126°21.2	11.1	22°29.6	8.7	55.5
12	3°26.4	-7°52.1	140°51.3	11.1	22°38.3	8.6	55.5
13	18°26.6	-7°53.0	155°21.3	11.0	22°46.8	8.5	55.4
14	33°26.7	-7°54.0	169°51.4	11.0	22°55.2	8.3	55.4
15	48°26.9	-7°54.9	184°21.3	10.9	23°03.5	8.2	55.4
16	63°27.0	-7°55.8	198°51.2	10.9	23°11.6	8.1	55.4
17	78°27.2	-7°56.7	213°21.1	10.9	23°19.7	8.0	55.4
18	93°27.3	-7°57.7	227°51.0	10.8	23°27.6	7.9	55.3
19	108°27.5	-7°58.6	242°20.8	10.8	23°35.4	7.7	55.3
20	123°27.6	-7°59.5	256°50.6	10.8	23°43.1	7.6	55.3
21	138°27.8	-8°00.5	271°20.4	10.7	23°50.6	7.5	55.3
22	153°27.9	-8°01.4	285°50.1	10.7	23°58.0	7.4	55.2
23	168°28.1	-8°02.3	300°19.8	10.7	24°05.4	7.3	55.2
	SD.=16.0	d=-0.9			S.D.=15.2		

Vie	AHG	Dec	AHG	v	Dec	d	HP
0	183°28.2	-8°03.3	314°49.4	10.6	24°12.6	7.1	55.2
1	198°28.4	-8°04.2	329°19.1	10.6	24°19.6	7.0	55.2
2	213°28.5	-8°05.1	343°48.7	10.6	24°26.6	6.9	55.1
3	228°28.7	-8°06.1	358°18.2	10.5	24°33.4	6.8	55.1
4	243°28.8	-8°07.0	12°47.8	10.5	24°40.1	6.6	55.1
5	258°29.0	-8°07.9	27°17.3	10.5	24°46.6	6.5	55.1
6	273°29.1	-8°08.8	41°46.7	10.5	24°53.1	6.4	55.1
7	288°29.3	-8°09.8	56°16.2	10.4	24°59.4	6.3	55.0
8	303°29.4	-8°10.7	70°45.6	10.4	25°05.6	6.1	55.0
9	318°29.6	-8°11.6	85°15.0	10.4	25°11.7	6.0	55.0
10	333°29.7	-8°12.6	99°44.3	10.3	25°17.6	5.9	55.0
11	348°29.8	-8°13.5	114°13.6	10.3	25°23.4	5.7	55.0
12	3°30.0	-8°14.4	128°43.0	10.3	25°29.1	5.6	54.9
13	18°30.1	-8°15.3	143°12.2	10.3	25°34.6	5.5	54.9
14	33°30.3	-8°16.3	157°41.5	10.2	25°40.1	5.4	54.9
15	48°30.4	-8°17.2	172°10.7	10.2	25°45.4	5.2	54.9
16	63°30.6	-8°18.1	186°39.9	10.2	25°50.5	5.1	54.9
17	78°30.7	-8°19.1	201°09.1	10.2	25°55.6	5.0	54.9
18	93°30.9	-8°20.0	215°38.3	10.1	26°00.5	4.8	54.8
19	108°31.0	-8°20.9	230°07.4	10.1	26°05.2	4.7	54.8
20	123°31.1	-8°21.8	244°36.5	10.1	26°09.9	4.6	54.8
21	138°31.3	-8°22.8	259°05.6	10.1	26°14.4	4.4	54.8
22	153°31.4	-8°23.7	273°34.7	10.1	26°18.8	4.3	54.8
23	168°31.6	-8°24.6	288°03.8	10.1	26°23.0	4.2	54.7
	SD.=16.0	d=-0.9			S.D.=15.1		

Sa	AHG	Dec	AHG	v	Dec	d	HP
0	183°31.7	-8°25.5	302°32.8	10.0	26°27.1	4.0	54.7
1	198°31.9	-8°26.5	317°01.8	10.0	26°31.1	3.9	54.7
2	213°32.0	-8°27.4	331°30.8	10.0	26°35.0	3.8	54.7
3	228°32.1	-8°28.3	345°59.8	10.0	26°38.7	3.7	54.7
4	243°32.3	-8°29.2	0°28.8	10.0	26°42.3	3.5	54.7
5	258°32.4	-8°30.2	14°57.8	10.0	26°45.7	3.4	54.7
6	273°32.6	-8°31.1	29°26.8	10.0	26°49.0	3.3	54.6
7	288°32.7	-8°32.0	43°55.7	9.9	26°52.2	3.1	54.6
8	303°32.8	-8°32.9	58°24.6	9.9	26°55.3	3.0	54.6
9	318°33.0	-8°33.9	72°53.6	9.9	26°58.2	2.9	54.6
10	333°33.1	-8°34.8	87°22.5	9.9	27°01.0	2.7	54.6
11	348°33.3	-8°35.7	101°51.4	9.9	27°03.6	2.6	54.6
12	3°33.4	-8°36.6	116°20.3	9.9	27°06.1	2.4	54.5
13	18°33.5	-8°37.6	130°49.2	9.9	27°08.5	2.3	54.5
14	33°33.7	-8°38.5	145°18.1	9.9	27°10.8	2.2	54.5
15	48°33.8	-8°39.4	159°47.0	9.9	27°12.9	2.0	54.5
16	63°34.0	-8°40.3	174°15.9	9.9	27°14.8	1.9	54.5
17	78°34.1	-8°41.2	188°44.8	9.9	27°16.7	1.8	54.5
18	93°34.2	-8°42.2	203°13.7	9.9	27°18.4	1.6	54.5
19	108°34.4	-8°43.1	217°42.6	9.9	27°20.0	1.5	54.5
20	123°34.5	-8°44.0	232°11.4	9.9	27°21.4	1.4	54.5
21	138°34.6	-8°44.9	246°40.3	9.9	27°22.7	1.2	54.4
22	153°34.8	-8°45.9	261°09.2	9.9	27°23.9	1.1	54.4
23	168°34.9	-8°46.8	275°38.1	9.9	27°24.9	1.0	54.4
	SD.=16.0	d=-0.9			S.D.=14.9		

Lat.	Crepúsculo Naut.	Civil	Orto Sol	Crepúsculo Civil	Naut.	Ocaso Sol
N 72	04:51	06:09	07:19	16:11	17:21	18:39
70	04:55	06:06	07:08	16:22	17:25	18:35
68	04:58	06:03	07:00	16:31	17:28	18:32
66	05:01	06:00	06:53	16:38	17:30	18:29
64	05:03	05:58	06:46	16:44	17:32	18:27
62	05:05	05:56	06:41	16:50	17:34	18:26
60	05:06	05:55	06:37	16:54	17:36	18:24
58	05:07	05:53	06:33	16:58	17:38	18:23
56	05:08	05:51	06:29	17:02	17:39	18:22
54	05:09	05:50	06:26	17:05	17:41	18:22
52	05:10	05:49	06:23	17:08	17:42	18:21
50	05:10	05:48	06:20	17:11	17:44	18:21
45	05:11	05:45	06:14	17:17	17:47	18:21
40	05:11	05:42	06:09	17:22	17:49	18:21
35	05:10	05:39	06:05	17:27	17:52	18:21
30	05:09	05:37	06:01	17:30	17:55	18:22
20	05:07	05:32	05:54	17:37	17:59	18:25
10	05:03	05:27	05:48	17:43	18:05	18:29
0	04:58	05:22	05:43	17:49	18:10	18:34
S 10	04:51	05:16	05:37	17:55	18:17	18:41
20	04:42	05:08	05:31	18:02	18:24	18:50
30	04:30	04:59	05:23	18:09	18:34	19:02
35	04:23	04:53	05:19	18:14	18:40	19:10
40	04:13	04:46	05:14	18:19	18:46	19:20
45	04:02	04:38	05:08	18:24	18:55	19:31
50	03:47	04:28	05:02	18:32	19:05	19:46
52	03:40	04:23	04:58	18:35	19:10	19:54
54	03:32	04:18	04:55	18:38	19:16	20:02
56	03:22	04:12	04:51	18:42	19:22	20:12
58	03:12	04:05	04:47	18:47	19:29	20:23
60	02:59	03:57	04:42	18:52	19:37	20:36

Lat.	Orto luna Jue	Vie	Sa	Ocaso luna Jue	Vie	Sa
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	–:–	–:–	–:–
68	–:–	–:–	–:–	–:–	–:–	–:–
66	15:52	–:–	–:–	13:20	–:–	–:–
64	16:40	16:07	–:–	12:32	14:50	–:–
62	17:11	17:13	17:25	12:02	13:45	15:20
60	17:35	17:48	18:16	11:39	13:10	14:30
58	17:54	18:14	18:47	11:21	12:45	13:58
56	18:10	18:34	19:11	11:05	12:25	13:35
54	18:23	18:51	19:30	10:52	12:09	13:16
52	18:35	19:05	19:46	10:41	11:54	13:00
50	18:46	19:18	20:00	10:31	11:42	12:46
45	19:08	19:44	20:28	10:09	11:16	12:18
40	19:26	20:05	20:51	09:52	10:56	11:56
35	19:41	20:22	21:09	09:38	10:39	11:37
30	19:54	20:37	21:25	09:26	10:25	11:21
20	20:17	21:03	21:52	09:04	10:00	10:55
10	20:36	21:25	22:15	08:46	09:39	10:32
0	20:55	21:46	22:37	08:29	09:19	10:10
S 10	21:13	22:06	22:59	08:12	09:00	09:49
20	21:33	22:29	23:22	07:54	08:38	09:26
30	21:57	22:55	23:49	07:33	08:14	09:00
35	22:10	23:10	–:–	07:21	08:00	08:44
40	22:26	23:28	–:–	07:07	07:43	08:26
45	22:45	23:49	–:–	06:51	07:24	08:04
50	23:09	–:–	00:17	06:31	06:59	07:36
52	23:20	–:–	00:30	06:21	06:47	07:22
54	23:33	–:–	00:46	06:11	06:34	07:07
56	23:48	–:–	01:04	05:59	06:18	06:48
58	–:–	00:06	01:26	05:45	06:00	06:25
60	–:–	00:28	01:56	05:28	05:37	05:56

Día	Sol Ec. tiempo 00:00 h	12:00 h	Paso Merid	Luna Paso Meridiano Superior	Inferior	Edad
13	13:38	13:46	11:46	02:17	14:41	18(86%)
14	13:53	14:00	11:46	03:07	15:32	19(79%)
15	14:07	14:13	11:45	03:58	16:23	20(71%)

Octubre 16, 17, 18 (Dom, Lun, Mar.)

	Aries	Venus		Martes		Júpiter		Saturno	
Dom	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	24°29.6	184°47.6	-7°00.1	300°50.6	23°09.2	22°42.8	-0°58.5	63°00.5	-16°29.0
1	39°32.1	199°47.2	-7°01.4	315°52.5	23°09.4	37°45.5	-0°58.6	78°03.0	-16°29.0
2	54°34.5	214°46.7	-7°02.6	330°54.5	23°09.5	52°48.3	-0°58.7	93°05.5	-16°29.0
3	69°37.0	229°46.3	-7°03.8	345°56.4	23°09.6	67°51.0	-0°58.8	108°08.0	-16°29.0
4	84°39.4	244°45.9	-7°05.0	0°58.4	23°09.7	82°53.7	-0°58.9	123°10.5	-16°29.0
5	99°41.9	259°45.4	-7°06.2	16°00.3	23°09.8	97°56.4	-0°59.0	138°13.0	-16°29.0
6	114°44.4	274°45.0	-7°07.4	31°02.3	23°09.9	112°59.2	-0°59.1	153°15.5	-16°29.0
7	129°46.8	289°44.5	-7°08.7	46°04.2	23°10.0	128°01.9	-0°59.2	168°18.0	-16°29.0
8	144°49.3	304°44.1	-7°09.9	61°06.2	23°10.1	143°04.6	-0°59.3	183°20.5	-16°29.0
9	159°51.8	319°43.7	-7°11.1	76°08.2	23°10.3	158°07.4	-0°59.4	198°23.0	-16°29.0
10	174°54.2	334°43.2	-7°12.3	91°10.1	23°10.4	173°10.1	-0°59.5	213°25.5	-16°29.0
11	189°56.7	349°42.8	-7°13.5	106°12.1	23°10.5	188°12.8	-0°59.7	228°28.0	-16°29.0
12	204°59.2	4°42.3	-7°14.8	121°14.0	23°10.6	203°15.5	-0°59.8	243°30.5	-16°29.1
13	220°01.6	19°41.9	-7°16.0	136°16.0	23°10.7	218°18.3	-0°59.9	258°32.9	-16°29.1
14	235°04.1	34°41.5	-7°17.2	151°18.0	23°10.8	233°21.0	-1°00.0	273°35.4	-16°29.1
15	250°06.6	49°41.0	-7°18.4	166°19.9	23°10.9	248°23.7	-1°00.1	288°37.9	-16°29.1
16	265°09.0	64°40.6	-7°19.6	181°21.9	23°11.1	263°26.5	-1°00.2	303°40.4	-16°29.1
17	280°11.5	79°40.1	-7°20.8	196°23.8	23°11.2	278°29.2	-1°00.3	318°42.9	-16°29.1
18	295°13.9	94°39.7	-7°22.0	211°25.8	23°11.3	293°31.9	-1°00.4	333°45.4	-16°29.1
19	310°16.4	109°39.3	-7°23.3	226°27.8	23°11.4	308°34.6	-1°00.5	348°47.9	-16°29.1
20	325°18.9	124°38.8	-7°24.5	241°29.8	23°11.5	323°37.4	-1°00.6	3°50.4	-16°29.1
21	340°21.3	139°38.4	-7°25.7	256°31.7	23°11.6	338°40.1	-1°00.7	18°52.9	-16°29.1
22	355°23.8	154°37.9	-7°26.9	271°33.7	23°11.7	353°42.8	-1°00.8	33°55.4	-16°29.1
23	10°26.3	169°37.5	-7°28.1	286°35.7	23°11.8	8°45.5	-1°01.0	48°57.9	-16°29.1
Mer.pass.:22:18		v-0.4 d-1.2 m-3.8		v1.9 d0.1 m-0.9		v2.7 d-0.1 m-2.7		v2.5 d-0.0 m0.6	

Lun	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	25°28.7	184°37.0	-7°29.3	301°37.7	23°12.0	23°48.3	-1°01.1	64°00.4	-16°29.1
1	40°31.2	199°36.6	-7°30.5	316°39.6	23°12.1	38°51.0	-1°01.2	79°02.8	-16°29.1
2	55°33.7	214°36.2	-7°31.8	331°41.6	23°12.2	53°53.7	-1°01.3	94°05.3	-16°29.1
3	70°36.1	229°35.7	-7°33.0	346°43.6	23°12.3	68°56.5	-1°01.4	109°07.8	-16°29.1
4	85°38.6	244°35.3	-7°34.2	1°45.6	23°12.4	83°59.2	-1°01.5	124°10.3	-16°29.1
5	100°41.1	259°34.8	-7°35.4	16°47.6	23°12.5	99°01.9	-1°01.6	139°12.8	-16°29.2
6	115°43.5	274°34.4	-7°36.6	31°49.5	23°12.6	114°04.6	-1°01.7	154°15.3	-16°29.2
7	130°46.0	289°33.9	-7°37.8	46°51.5	23°12.7	129°07.4	-1°01.8	169°17.8	-16°29.2
8	145°48.4	304°33.5	-7°39.0	61°53.5	23°12.9	144°10.1	-1°01.9	184°20.3	-16°29.2
9	160°50.9	319°33.0	-7°40.2	76°55.5	23°13.0	159°12.8	-1°02.0	199°22.8	-16°29.2
10	175°53.4	334°32.6	-7°41.5	91°57.5	23°13.1	174°15.5	-1°02.1	214°25.3	-16°29.2
11	190°55.8	349°32.1	-7°42.7	106°59.5	23°13.2	189°18.3	-1°02.2	229°27.7	-16°29.2
12	205°58.3	4°31.7	-7°43.9	122°01.5	23°13.3	204°21.0	-1°02.3	244°30.2	-16°29.2
13	221°00.8	19°31.2	-7°45.1	137°03.5	23°13.4	219°23.7	-1°02.4	259°32.7	-16°29.2
14	236°03.2	34°30.8	-7°46.3	152°05.5	23°13.5	234°26.4	-1°02.6	274°35.2	-16°29.2
15	251°05.7	49°30.3	-7°47.5	167°07.5	23°13.6	249°29.2	-1°02.7	289°37.7	-16°29.2
16	266°08.2	64°29.9	-7°48.7	182°09.5	23°13.8	264°31.9	-1°02.8	304°40.2	-16°29.2
17	281°10.6	79°29.5	-7°49.9	197°11.5	23°13.9	279°34.6	-1°02.9	319°42.7	-16°29.2
18	296°13.1	94°29.0	-7°51.1	212°13.5	23°14.0	294°37.3	-1°03.0	334°45.2	-16°29.2
19	311°15.6	109°28.6	-7°52.3	227°15.5	23°14.1	309°40.0	-1°03.1	349°47.6	-16°29.2
20	326°18.0	124°28.1	-7°53.5	242°17.5	23°14.2	324°42.8	-1°03.2	4°50.1	-16°29.2
21	341°20.5	139°27.7	-7°54.7	257°19.5	23°14.3	339°45.5	-1°03.3	19°52.6	-16°29.2
22	356°22.9	154°27.2	-7°56.0	272°21.5	23°14.4	354°48.2	-1°03.4	34°55.1	-16°29.2
23	11°25.4	169°26.8	-7°57.2	287°23.5	23°14.5	9°50.9	-1°03.5	49°57.6	-16°29.2
Mer.pass.:22:14		v-0.4 d-1.2 m-3.8		v2.0 d0.1 m-0.9		v2.7 d-0.1 m-2.7		v2.5 d-0.0 m0.6	

Mar	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	26°27.9	184°26.3	-7°58.4	302°25.5	23°14.7	24°53.7	-1°03.6	65°00.1	-16°29.3
1	41°30.3	199°25.9	-7°59.6	317°27.5	23°14.8	39°56.4	-1°03.7	80°02.6	-16°29.3
2	56°32.8	214°25.4	-8°00.8	332°29.5	23°14.9	54°59.1	-1°03.8	95°05.1	-16°29.3
3	71°35.3	229°24.9	-8°02.0	347°31.5	23°15.0	70°01.8	-1°03.9	110°07.5	-16°29.3
4	86°37.7	244°24.5	-8°03.2	2°33.5	23°15.1	85°04.5	-1°04.0	125°10.0	-16°29.3
5	101°40.2	259°24.0	-8°04.4	17°35.5	23°15.2	100°07.3	-1°04.1	140°12.5	-16°29.3
6	116°42.7	274°23.6	-8°05.6	32°37.6	23°15.3	115°10.0	-1°04.2	155°15.0	-16°29.3
7	131°45.1	289°23.1	-8°06.8	47°39.6	23°15.4	130°12.7	-1°04.3	170°17.5	-16°29.3
8	146°47.6	304°22.7	-8°08.0	62°41.6	23°15.6	145°15.4	-1°04.5	185°20.0	-16°29.3
9	161°50.0	319°22.2	-8°09.2	77°43.6	23°15.7	160°18.1	-1°04.6	200°22.5	-16°29.3
10	176°52.5	334°21.8	-8°10.4	92°45.6	23°15.8	175°20.9	-1°04.7	215°24.9	-16°29.3
11	191°55.0	349°21.3	-8°11.6	107°47.7	23°15.9	190°23.6	-1°04.8	230°27.4	-16°29.3
12	206°57.4	4°20.9	-8°12.8	122°49.7	23°16.0	205°26.3	-1°04.9	245°29.9	-16°29.3
13	221°59.9	19°20.4	-8°14.0	137°51.7	23°16.1	220°29.0	-1°05.0	260°32.4	-16°29.3
14	237°02.4	34°20.0	-8°15.2	152°53.8	23°16.2	235°31.7	-1°05.1	275°34.9	-16°29.3
15	252°04.8	49°19.5	-8°16.4	167°55.8	23°16.3	250°34.5	-1°05.2	290°37.4	-16°29.3
16	267°07.3	64°19.0	-8°17.6	182°57.8	23°16.4	265°37.2	-1°05.3	305°39.8	-16°29.3
17	282°09.8	79°18.6	-8°18.8	197°59.8	23°16.6	280°39.9	-1°05.4	320°42.3	-16°29.3
18	297°12.2	94°18.1	-8°20.0	213°01.9	23°16.7	295°42.6	-1°05.5	335°44.8	-16°29.3
19	312°14.7	109°17.7	-8°21.2	228°03.9	23°16.8	310°45.3	-1°05.6	350°47.3	-16°29.3
20	327°17.2	124°17.2	-8°22.4	243°05.9	23°16.9	325°48.1	-1°05.7	5°49.8	-16°29.3
21	342°19.6	139°16.8	-8°23.6	258°08.0	23°17.0	340°50.8	-1°05.8	20°52.3	-16°29.3
22	357°22.1	154°16.3	-8°24.8	273°10.0	23°17.1	355°53.5	-1°05.9	35°54.7	-16°29.3
23	12°24.5	169°15.9	-8°26.0	288°12.1	23°17.2	10°56.2	-1°06.0	50°57.2	-16°29.3
Mer.pass.:22:10		v-0.5 d-1.2 m-3.8		v2.0 d0.1 m-0.9		v2.7 d-0.1 m-2.7		v2.5 d-0.0 m0.6	

Estrellas

	AHS	Dec
Alpheratz	357°36.4	29°13.1
Ankaa	353°08.6	-42°11.0
Schedar	349°32.6	56°39.8
Diphda	348°48.7	-17°51.7
Achernar	335°21.0	-57°07.3
Hamal	327°53.0	23°34.3
Polaris	314°28.9	89°21.5
Akamar	315°12.8	-40°12.7
Menkar	314°07.8	4°10.8
Mirfak	308°30.5	49°56.4
Aldebaran	290°41.5	16°33.4
Rigel	281°05.5	-8°10.4
Capella	280°24.4	46°01.2
Bellatrix	278°24.7	6°22.3
Elnath	278°04.0	28°37.6
Alnilam	275°39.5	-1°11.1
Betelgeuse	270°54.0	7°24.8
Canopus	263°53.0	-52°42.1
Sirius	258°27.7	-16°44.4
Adara	255°07.2	-28°59.9
Procyon	244°52.7	5°10.3
Pollux	243°19.5	27°58.3
Avior	234°15.6	-59°34.5
Suhail	222°47.8	-43°31.1
Miaplacidus	221°39.0	-69°48.2
Alphard	217°49.7	-8°45.2
Regulus	207°36.6	11°51.5
Dubhe	193°43.8	61°37.6
Denebola	182°27.1	14°26.9
Gienah	175°45.8	-17°39.9
Acrux	173°02.9	-63°13.3
Gacrux	171°54.3	-57°14.2
Alioth	166°15.2	55°50.2
Spica	158°24.6	-11°16.6
Alcaid	152°54.0	49°12.1
Hadar	148°39.3	-60°28.9
Menkent	148°00.2	-36°28.8
Arcturus	145°49.8	19°04.3
Rigil Kent.	139°43.5	-60°55.7
Zubenelg.	136°58.4	-16°08.0
Kochab	137°20.9	74°03.8
Alphecca	126°05.7	26°38.5
Antares	112°18.4	-26°28.9
Atria	107°14.6	-69°04.2
Sabik	102°05.1	-15°45.1
Shaula	96°13.1	-37°07.2
Rasalhague	96°00.5	12°32.8
Etamin	90°43.3	51°29.4
Kaus Aust.	83°35.1	-34°22.5
Vega	80°34.6	38°48.5
Nunki	75°50.2	-26°16.1
Altair	62°01.8	8°55.8
Peacock	53°08.5	-56°39.9
Deneb	49°27.0	45°21.9
Enif	33°40.5	9°58.9
Alnair	27°35.0	-46°51.2
Fomalhaut	15°16.4	-29°30.2
Scheat	13°46.8	28°12.5
Markab	13°31.5	15°19.8

Oct 16 Dom	AHS	Paso Merid
Venus	160°18.0	11:41
Mars	276°21.0	03:56
Jupiter	358°13.2	22:25
Saturn	38°30.9	19:45

Oct 17 Lun	AHS	Paso Merid
Venus	159°08.3	11:42
Mars	276°08.9	03:53
Jupiter	358°19.5	22:21
Saturn	38°31.6	19:41

Oct 18 Mar	AHS	Paso Merid
Venus	157°58.4	11:43
Mars	275°57.6	03:50
Jupiter	358°25.8	22:16
Saturn	38°32.2	19:37

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.2

h	Sol		Luna				
Dom	AHG	Dec	AHG	v	Dec	d	HP
0	183°35.1	-8°47.7	290°07.0	9.9	27°25.8	0.8	54.4
1	198°35.2	-8°48.6	304°35.9	9.9	27°26.6	0.7	54.4
2	213°35.3	-8°49.5	319°04.8	9.9	27°27.2	0.6	54.4
3	228°35.5	-8°50.5	333°33.8	9.9	27°27.7	0.4	54.4
4	243°35.6	-8°51.4	348°02.7	9.9	27°28.1	0.3	54.4
5	258°35.7	-8°52.3	2°31.6	9.9	27°28.3	0.2	54.4
6	273°35.9	-8°53.2	17°00.6	10.0	27°28.4	0.0	54.4
7	288°36.0	-8°54.1	31°29.6	10.0	27°28.4	-0.1	54.3
8	303°36.1	-8°55.1	45°58.5	10.0	27°28.2	-0.2	54.3
9	318°36.3	-8°56.0	60°27.5	10.0	27°27.9	-0.4	54.3
10	333°36.4	-8°56.9	74°56.5	10.0	27°27.5	-0.5	54.3
11	348°36.5	-8°57.8	89°25.5	10.0	27°26.9	-0.6	54.3
12	3°36.7	-8°58.7	103°54.6	10.0	27°26.2	-0.8	54.3
13	18°36.8	-8°59.6	118°23.6	10.1	27°25.4	-0.9	54.3
14	33°36.9	-9°00.6	132°52.7	10.1	27°24.4	-1.0	54.3
15	48°37.1	-9°01.5	147°21.8	10.1	27°23.3	-1.2	54.3
16	63°37.2	-9°02.4	161°50.9	10.1	27°22.1	-1.3	54.3
17	78°37.3	-9°03.3	176°20.0	10.1	27°20.7	-1.4	54.3
18	93°37.5	-9°04.2	190°49.2	10.2	27°19.2	-1.6	54.3
19	108°37.6	-9°05.2	205°18.4	10.2	27°17.6	-1.7	54.3
20	123°37.7	-9°06.1	219°47.6	10.2	27°15.9	-1.8	54.3
21	138°37.9	-9°07.0	234°16.8	10.2	27°14.0	-2.0	54.3
22	153°38.0	-9°07.9	248°46.1	10.3	27°12.0	-2.1	54.3
23	168°38.1	-9°08.8	263°15.3	10.3	27°09.8	-2.2	54.2
	SD.=16.0	d=-0.9	S.D.=14.8				

Lun	AHG	Dec	AHG	v	Dec	d	HP
0	183°38.2	-9°09.7	277°44.6	10.3	27°07.5	-2.3	54.2
1	198°38.4	-9°10.6	292°14.0	10.3	27°05.1	-2.5	54.2
2	213°38.5	-9°11.6	306°43.3	10.4	27°02.6	-2.6	54.2
3	228°38.6	-9°12.5	321°12.7	10.4	26°59.9	-2.7	54.2
4	243°38.8	-9°13.4	335°42.1	10.4	26°57.2	-2.9	54.2
5	258°38.9	-9°14.3	350°11.6	10.5	26°54.2	-3.0	54.2
6	273°39.0	-9°15.2	4°41.1	10.5	26°51.2	-3.1	54.2
7	288°39.1	-9°16.1	19°10.6	10.5	26°48.0	-3.2	54.2
8	303°39.3	-9°17.0	33°40.1	10.6	26°44.7	-3.4	54.2
9	318°39.4	-9°18.0	48°09.7	10.6	26°41.3	-3.5	54.2
10	333°39.5	-9°18.9	62°39.3	10.6	26°37.7	-3.6	54.2
11	348°39.7	-9°19.8	77°09.0	10.7	26°34.1	-3.7	54.2
12	3°39.8	-9°20.7	91°38.7	10.7	26°30.3	-3.9	54.2
13	18°39.9	-9°21.6	106°08.4	10.7	26°26.3	-4.0	54.2
14	33°40.0	-9°22.5	120°38.2	10.8	26°22.3	-4.1	54.2
15	48°40.2	-9°23.4	135°08.0	10.8	26°18.1	-4.2	54.2
16	63°40.3	-9°24.3	149°37.8	10.9	26°13.8	-4.4	54.2
17	78°40.4	-9°25.3	164°07.7	10.9	26°09.4	-4.5	54.2
18	93°40.5	-9°26.2	178°37.6	10.9	26°04.8	-4.6	54.2
19	108°40.7	-9°27.1	193°07.5	11.0	26°00.2	-4.7	54.2
20	123°40.8	-9°28.0	207°37.5	11.0	25°55.4	-4.8	54.2
21	138°40.9	-9°28.9	222°07.6	11.1	25°50.5	-5.0	54.2
22	153°41.0	-9°29.8	236°37.6	11.1	25°45.4	-5.1	54.3
23	168°41.2	-9°30.7	251°07.8	11.1	25°40.3	-5.2	54.3
	SD.=16.0	d=-0.9	S.D.=14.8				

Mar	AHG	Dec	AHG	v	Dec	d	HP
0	183°41.3	-9°31.6	265°37.9	11.2	25°35.0	-5.3	54.3
1	198°41.4	-9°32.5	280°08.1	11.2	25°29.6	-5.4	54.3
2	213°41.5	-9°33.5	294°38.4	11.3	25°24.1	-5.6	54.3
3	228°41.7	-9°34.4	309°08.7	11.3	25°18.5	-5.7	54.3
4	243°41.8	-9°35.3	323°39.0	11.4	25°12.8	-5.8	54.3
5	258°41.9	-9°36.2	338°09.4	11.4	25°06.9	-5.9	54.3
6	273°42.0	-9°37.1	352°39.8	11.4	25°00.9	-6.0	54.3
7	288°42.1	-9°38.0	7°10.3	11.5	24°54.8	-6.1	54.3
8	303°42.3	-9°38.9	21°40.8	11.5	24°48.6	-6.3	54.3
9	318°42.4	-9°39.8	36°11.3	11.6	24°42.3	-6.4	54.3
10	333°42.5	-9°40.7	50°41.9	11.6	24°35.9	-6.5	54.3
11	348°42.6	-9°41.6	65°12.6	11.7	24°29.3	-6.6	54.3
12	3°42.8	-9°42.5	79°43.3	11.7	24°22.7	-6.7	54.3
13	18°42.9	-9°43.4	94°14.0	11.8	24°15.9	-6.8	54.3
14	33°43.0	-9°44.4	108°44.8	11.8	24°09.0	-6.9	54.3
15	48°43.1	-9°45.3	123°15.6	11.9	24°02.0	-7.1	54.4
16	63°43.2	-9°46.2	137°46.5	11.9	23°54.9	-7.2	54.4
17	78°43.3	-9°47.1	152°17.4	12.0	23°47.7	-7.3	54.4
18	93°43.5	-9°48.0	166°48.4	12.0	23°40.4	-7.4	54.4
19	108°43.6	-9°48.9	181°19.4	12.0	23°32.9	-7.5	54.4
20	123°43.7	-9°49.8	195°50.5	12.1	23°25.4	-7.6	54.4
21	138°43.8	-9°50.7	210°21.6	12.1	23°17.7	-7.7	54.4
22	153°43.9	-9°51.6	224°52.8	12.2	23°10.0	-7.8	54.4
23	168°44.1	-9°52.5	239°24.0	12.2	23°02.1	-7.9	54.4
	SD.=16.1	d=-0.9	S.D.=14.8				

Lat.	Crepúsculo Naut.	Crepúsculo Civil	Orto Sol	Crepúsculo Civil	Crepúsculo Naut.	Ocaso Sol
N 72	05:04	06:22	07:34	15:55	17:07	18:24
70	05:07	06:17	07:21	16:08	17:12	18:22
68	05:09	06:13	07:11	16:18	17:16	18:20
66	05:10	06:10	07:03	16:27	17:19	18:19
64	05:12	06:07	06:55	16:34	17:23	18:17
62	05:13	06:04	06:49	16:40	17:25	18:17
60	05:13	06:02	06:44	16:46	17:28	18:16
58	05:14	05:59	06:39	16:50	17:30	18:16
56	05:14	05:57	06:35	16:55	17:32	18:15
54	05:15	05:56	06:31	16:58	17:34	18:15
52	05:15	05:54	06:28	17:02	17:36	18:15
50	05:15	05:52	06:25	17:05	17:38	18:15
45	05:14	05:48	06:18	17:12	17:42	18:16
40	05:14	05:45	06:12	17:18	17:45	18:16
35	05:12	05:42	06:07	17:23	17:48	18:18
30	05:11	05:39	06:03	17:27	17:51	18:19
20	05:07	05:33	05:55	17:35	17:57	18:23
10	05:03	05:27	05:49	17:42	18:03	18:28
0	04:57	05:21	05:42	17:49	18:10	18:34
S 10	04:49	05:14	05:35	17:55	18:17	18:42
20	04:40	05:06	05:28	18:03	18:25	18:51
30	04:27	04:55	05:20	18:11	18:36	19:05
35	04:18	04:49	05:15	18:16	18:42	19:13
40	04:08	04:42	05:10	18:22	18:50	19:23
45	03:56	04:33	05:03	18:28	18:59	19:36
50	03:40	04:21	04:55	18:36	19:10	19:52
52	03:32	04:16	04:52	18:40	19:16	20:00
54	03:23	04:10	04:48	18:44	19:22	20:09
56	03:13	04:04	04:43	18:49	19:29	20:20
58	03:01	03:56	04:38	18:54	19:37	20:32
60	02:47	03:47	04:33	18:59	19:45	20:46

Lat.	Orto luna Dom	Orto luna Lun	Orto luna Mar	Ocaso luna Dom	Ocaso luna Lun	Ocaso luna Mar
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	–:–	–:–	–:–
68	–:–	–:–	–:–	–:–	–:–	–:–
66	–:–	–:–	19:53	–:–	–:–	18:07
64	–:–	18:18	20:52	–:–	18:00	17:07
62	18:16	19:46	21:25	16:17	16:31	16:33
60	19:07	20:23	21:50	15:25	15:54	16:08
58	19:39	20:49	22:09	14:53	15:28	15:49
56	20:03	21:09	22:25	14:29	15:07	15:32
54	20:22	21:26	22:39	14:10	14:50	15:18
52	20:38	21:41	22:51	13:54	14:35	15:05
50	20:52	21:54	23:01	13:40	14:22	14:55
45	21:20	22:20	23:23	13:11	13:56	14:32
40	21:43	22:40	23:41	12:49	13:34	14:13
35	22:01	22:57	23:56	12:30	13:17	13:58
30	22:17	23:12	–:–	12:14	13:02	13:44
20	22:44	23:37	–:–	11:47	12:36	13:21
10	23:07	23:58	–:–	11:24	12:14	13:01
0	23:28	–:–	00:18	11:02	11:53	12:42
S 10	23:50	–:–	00:38	10:40	11:32	12:23
20	–:–	00:13	01:00	10:17	11:09	12:03
30	–:–	00:40	01:25	09:50	10:43	11:39
35	00:06	00:55	01:39	09:33	10:28	11:25
40	00:24	01:14	01:56	09:15	10:10	11:09
45	00:47	01:36	02:16	08:52	09:48	10:50
50	01:16	02:04	02:41	08:23	09:20	10:25
52	01:30	02:18	02:53	08:09	09:07	10:14
54	01:47	02:34	03:07	07:52	08:51	10:00
56	02:07	02:52	03:23	07:32	08:32	09:44
58	02:31	03:15	03:42	07:08	08:09	09:26
60	03:05	03:46	04:05	06:34	07:39	09:03

Día	Sol Ec. tiempo 00:00 h	Sol Ec. tiempo 12:00 h	Sol Paso Merid	Luna Paso Meridiano Superior	Luna Paso Meridiano Inferior	Luna Edad
16	14:20	14:27	11:45	04:49	17:15	21(62%)
17	14:33	14:39	11:45	05:40	18:05	22(52%)
18	14:45	14:51	11:45	06:30	18:54	23(43%)

Octubre 19, 20, 21 (Mie, Jue, Vie.)

	Aries	Venus		Martes		Júpiter		Saturno	
Mie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	27°27.0	184°15.4	-8°27.2	303°14.1	23°17.3	25°58.9	-1°06.1	65°59.7	-16°29.4
1	42°29.5	199°14.9	-8°28.4	318°16.2	23°17.5	41°01.6	-1°06.2	81°02.2	-16°29.4
2	57°31.9	214°14.5	-8°29.6	333°18.2	23°17.6	56°04.4	-1°06.3	96°04.7	-16°29.4
3	72°34.4	229°14.0	-8°30.8	348°20.2	23°17.7	71°07.1	-1°06.4	111°07.2	-16°29.4
4	87°36.9	244°13.6	-8°32.0	3°22.3	23°17.8	86°09.8	-1°06.5	126°09.6	-16°29.4
5	102°39.3	259°13.1	-8°33.2	18°24.3	23°17.9	101°12.5	-1°06.6	141°12.1	-16°29.4
6	117°41.8	274°12.6	-8°34.4	33°26.4	23°18.0	116°15.2	-1°06.7	156°14.6	-16°29.4
7	132°44.3	289°12.2	-8°35.6	48°28.4	23°18.1	131°17.9	-1°06.8	171°17.1	-16°29.4
8	147°46.7	304°11.7	-8°36.8	63°30.5	23°18.2	146°20.7	-1°06.9	186°19.6	-16°29.4
9	162°49.2	319°11.3	-8°38.0	78°32.5	23°18.4	161°23.4	-1°07.0	201°22.0	-16°29.4
10	177°51.7	334°10.8	-8°39.2	93°34.6	23°18.5	176°26.1	-1°07.1	216°24.5	-16°29.4
11	192°54.1	349°10.3	-8°40.4	108°36.7	23°18.6	191°28.8	-1°07.2	231°27.0	-16°29.4
12	207°56.6	4°09.9	-8°41.6	123°38.7	23°18.7	206°31.5	-1°07.3	246°29.5	-16°29.4
13	222°59.0	19°09.4	-8°42.8	138°40.8	23°18.8	221°34.2	-1°07.4	261°32.0	-16°29.4
14	238°01.5	34°08.9	-8°44.0	153°42.8	23°18.9	236°37.0	-1°07.5	276°34.4	-16°29.4
15	253°04.0	49°08.5	-8°45.2	168°44.9	23°19.0	251°39.7	-1°07.7	291°36.9	-16°29.4
16	268°06.4	64°08.0	-8°46.4	183°47.0	23°19.1	266°42.4	-1°07.8	306°39.4	-16°29.4
17	283°08.9	79°07.6	-8°47.6	198°49.0	23°19.2	281°45.1	-1°07.9	321°41.9	-16°29.4
18	298°11.4	94°07.1	-8°48.8	213°51.1	23°19.4	296°47.8	-1°08.0	336°44.4	-16°29.4
19	313°13.8	109°06.6	-8°50.0	228°53.2	23°19.5	311°50.5	-1°08.1	351°46.8	-16°29.4
20	328°16.3	124°06.2	-8°51.1	243°55.2	23°19.6	326°53.2	-1°08.2	6°49.3	-16°29.4
21	343°18.8	139°05.7	-8°52.3	258°57.3	23°19.7	341°56.0	-1°08.3	21°51.8	-16°29.4
22	358°21.2	154°05.2	-8°53.5	273°59.4	23°19.8	356°58.7	-1°08.4	36°54.3	-16°29.4
23	13°23.7	169°04.8	-8°54.7	289°01.5	23°19.9	12°01.4	-1°08.5	51°56.8	-16°29.4
Mer.pass.:22:06		v-0.5 d-1.2 m-3.8		v2.0 d0.1 m-0.9		v2.7 d-0.1 m-2.7		v2.5 d-0.0 m0.6	

Jue	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	28°26.1	184°04.3	-8°55.9	304°03.5	23°20.0	27°04.1	-1°08.6	66°59.2	-16°29.4
1	43°28.6	199°03.8	-8°57.1	319°05.6	23°20.1	42°06.8	-1°08.7	82°01.7	-16°29.4
2	58°31.1	214°03.4	-8°58.3	334°07.7	23°20.3	57°09.5	-1°08.8	97°04.2	-16°29.4
3	73°33.5	229°02.9	-8°59.5	349°09.8	23°20.4	72°12.2	-1°08.9	112°06.7	-16°29.4
4	88°36.0	244°02.4	-9°00.7	4°11.9	23°20.5	87°14.9	-1°09.0	127°09.1	-16°29.4
5	103°38.5	259°02.0	-9°01.9	19°13.9	23°20.6	102°17.7	-1°09.1	142°11.6	-16°29.4
6	118°40.9	274°01.5	-9°03.1	34°16.0	23°20.7	117°20.4	-1°09.2	157°14.1	-16°29.4
7	133°43.4	289°01.0	-9°04.2	49°18.1	23°20.8	132°23.1	-1°09.3	172°16.6	-16°29.4
8	148°45.9	304°00.6	-9°05.4	64°20.2	23°20.9	147°25.8	-1°09.4	187°19.1	-16°29.4
9	163°48.3	319°00.1	-9°06.6	79°22.3	23°21.0	162°28.5	-1°09.5	202°21.5	-16°29.4
10	178°50.8	333°59.6	-9°07.8	94°24.4	23°21.1	177°31.2	-1°09.6	217°24.0	-16°29.4
11	193°53.3	348°59.2	-9°09.0	109°26.5	23°21.3	192°33.9	-1°09.7	232°26.5	-16°29.4
12	208°55.7	3°58.7	-9°10.2	124°28.6	23°21.4	207°36.6	-1°09.8	247°29.0	-16°29.4
13	223°58.2	18°58.2	-9°11.4	139°30.7	23°21.5	222°39.3	-1°09.9	262°31.4	-16°29.4
14	239°00.6	33°57.7	-9°12.6	154°32.7	23°21.6	237°42.0	-1°10.0	277°33.9	-16°29.4
15	254°03.1	48°57.3	-9°13.7	169°34.8	23°21.7	252°44.8	-1°10.1	292°36.4	-16°29.4
16	269°05.6	63°56.8	-9°14.9	184°36.9	23°21.8	267°47.5	-1°10.2	307°38.9	-16°29.4
17	284°08.0	78°56.3	-9°16.1	199°39.0	23°21.9	282°50.2	-1°10.3	322°41.3	-16°29.4
18	299°10.5	93°55.9	-9°17.3	214°41.1	23°22.0	297°52.9	-1°10.4	337°43.8	-16°29.4
19	314°13.0	108°55.4	-9°18.5	229°43.2	23°22.2	312°55.6	-1°10.5	352°46.3	-16°29.4
20	329°15.4	123°54.9	-9°19.7	244°45.4	23°22.3	327°58.3	-1°10.6	7°48.8	-16°29.4
21	344°17.9	138°54.4	-9°20.8	259°47.5	23°22.4	343°01.0	-1°10.7	22°51.2	-16°29.4
22	359°20.4	153°54.0	-9°22.0	274°49.6	23°22.5	358°03.7	-1°10.8	37°53.7	-16°29.4
23	14°22.8	168°53.5	-9°23.2	289°51.7	23°22.6	13°06.4	-1°10.9	52°56.2	-16°29.4
Mer.pass.:22:02		v-0.5 d-1.2 m-3.8		v2.1 d0.1 m-1.0		v2.7 d-0.1 m-2.7		v2.5 d-0.0 m0.6	

Vie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	29°25.3	183°53.0	-9°24.4	304°53.8	23°22.7	28°09.1	-1°11.0	67°58.7	-16°29.4
1	44°27.8	198°52.6	-9°25.6	319°55.9	23°22.8	43°11.8	-1°11.0	83°01.1	-16°29.4
2	59°30.2	213°52.1	-9°26.8	334°58.0	23°22.9	58°14.5	-1°11.1	98°03.6	-16°29.4
3	74°32.7	228°51.6	-9°27.9	350°00.1	23°23.0	73°17.3	-1°11.2	113°06.1	-16°29.4
4	89°35.1	243°51.1	-9°29.1	5°02.2	23°23.2	88°20.0	-1°11.3	128°08.6	-16°29.4
5	104°37.6	258°50.6	-9°30.3	20°04.4	23°23.3	103°22.7	-1°11.4	143°11.0	-16°29.4
6	119°40.1	273°50.2	-9°31.5	35°06.5	23°23.4	118°25.4	-1°11.5	158°13.5	-16°29.4
7	134°42.5	288°49.7	-9°32.7	50°08.6	23°23.5	133°28.1	-1°11.6	173°16.0	-16°29.5
8	149°45.0	303°49.2	-9°33.8	65°10.7	23°23.6	148°30.8	-1°11.7	188°18.4	-16°29.5
9	164°47.5	318°48.7	-9°35.0	80°12.8	23°23.7	163°33.5	-1°11.8	203°20.9	-16°29.5
10	179°49.9	333°48.3	-9°36.2	95°15.0	23°23.8	178°36.2	-1°11.9	218°23.4	-16°29.5
11	194°52.4	348°47.8	-9°37.4	110°17.1	23°23.9	193°38.9	-1°12.0	233°25.9	-16°29.5
12	209°54.9	3°47.3	-9°38.6	125°19.2	23°24.1	208°41.6	-1°12.1	248°28.3	-16°29.5
13	224°57.3	18°46.8	-9°39.7	140°21.4	23°24.2	223°44.3	-1°12.2	263°30.8	-16°29.5
14	239°59.8	33°46.4	-9°40.9	155°23.5	23°24.3	238°47.0	-1°12.3	278°33.3	-16°29.5
15	255°02.2	48°45.9	-9°42.1	170°25.6	23°24.4	253°49.7	-1°12.4	293°35.7	-16°29.5
16	270°04.7	63°45.4	-9°43.3	185°27.7	23°24.5	268°52.4	-1°12.5	308°38.2	-16°29.5
17	285°07.2	78°44.9	-9°44.4	200°29.9	23°24.6	283°55.1	-1°12.6	323°40.7	-16°29.5
18	300°09.6	93°44.4	-9°45.6	215°32.0	23°24.7	298°57.8	-1°12.7	338°43.2	-16°29.4
19	315°12.1	108°44.0	-9°46.8	230°34.2	23°24.8	314°00.5	-1°12.8	353°45.6	-16°29.4
20	330°14.6	123°43.5	-9°48.0	245°36.3	23°24.9	329°03.2	-1°12.9	8°48.1	-16°29.4
21	345°17.0	138°43.0	-9°49.1	260°38.4	23°25.1	344°05.9	-1°13.0	23°50.6	-16°29.4
22	0°19.5	153°42.5	-9°50.3	275°40.6	23°25.2	359°08.6	-1°13.1	38°53.0	-16°29.4
23	15°22.0	168°42.0	-9°51.5	290°42.7	23°25.3	14°11.4	-1°13.2	53°55.5	-16°29.4
Mer.pass.:21:58		v-0.5 d-1.2 m-3.8		v2.1 d0.1 m-1.0		v2.7 d-0.1 m-2.7		v2.5 d-0.0 m0.6	

Estrellas

	AHS	Dec
Alpheratz	357°36.4	29°13.1
Ankaa	353°08.6	-42°11.0
Schedar	349°32.6	56°39.8
Diphda	348°48.7	-17°51.7
Achernar	335°21.0	-57°07.3
Hamal	327°53.0	23°34.3
Polaris	314°28.3	89°21.5
Akamar	315°12.8	-40°12.7
Menkar	314°07.8	4°10.8
Mirfak	308°30.5	49°56.5
Aldebaran	290°41.5	16°33.4
Rigel	281°05.4	-8°10.4
Capella	280°24.4	46°01.2
Bellatrix	278°24.7	6°22.3
Elnath	278°04.0	28°37.6
Alnilam	275°39.4	-1°11.1
Betelgeuse	270°53.9	7°24.8
Canopus	263°53.0	-52°42.1
Sirius	258°27.7	-16°44.4
Adara	255°07.2	-28°59.9
Procyon	244°52.7	5°10.3
Pollux	243°19.5	27°58.3
Avior	234°15.6	-59°34.5
Suhail	222°47.8	-43°31.1
Miaplacidus	221°39.0	-69°48.2
Alphard	217°49.7	-8°45.2
Regulus	207°36.5	11°51.5
Dubhe	193°43.7	61°37.6
Denebola	182°27.0	14°26.8
Gienah	175°45.8	-17°39.9
Acrux	173°02.8	-63°13.3
Gacrux	171°54.3	-57°14.2
Alioth	166°15.2	55°50.2
Spica	158°24.6	-11°16.6
Alcaid	152°54.0	49°12.1
Hadar	148°39.3	-60°28.8
Menkent	148°00.2	-36°28.8
Arcturus	145°49.8	19°04.3
Rigil Kent.	139°43.5	-60°55.7
Zubenelg.	136°58.4	-16°08.0
Kochab	137°20.9	74°03.8
Alphecca	126°05.7	26°38.5
Antares	112°18.4	-26°28.9
Atria	107°14.7	-69°04.2
Sabik	102°05.1	-15°45.1
Shaula	96°13.1	-37°07.2
Rasalhague	96°00.5	12°32.8
Etamin	90°43.3	51°29.4
Kaus Aust.	83°35.1	-34°22.5
Vega	80°34.7	38°48.5
Nunki	75°50.2	-26°16.1
Altair	62°01.9	8°55.8
Peacock	53°08.6	-56°39.9
Deneb	49°27.0	45°21.9
Enif	33°40.5	9°58.9
Alnair	27°35.0	-46°51.2
Fomalhaut	15°16.4	-29°30.2
Scheat	13°46.8	28°12.5
Markab	13°31.5	15°19.8

Oct 19 Mie	AHS	Paso Merid
Venus	156°48.4	11:43
Mars	275°47.1	03:47
Jupiter	358°31.9	22:12
Saturn	38°32.7	19:33

Oct 20 Jue	AHS	Paso Merid
Venus	155°38.2	11:44
Mars	275°37.4	03:43
Jupiter	358°37.9	22:08
Saturn	38°33.1	19:29

Oct 21 Vie	AHS	Paso Merid
Venus	154°27.7	11:45
Mars	275°28.5	03:40
Jupiter	358°43.8	22:03
Saturn	38°33.4	19:25

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.2

h	Sol		Luna				
Mie	AHG	Dec	AHG	v	Dec	d	HP
0	183°44.2	-9°53.4	253°55.3	12.3	22°54.1	-8.0	54.4
1	198°44.3	-9°54.3	268°26.6	12.3	22°46.1	-8.1	54.5
2	213°44.4	-9°55.2	282°57.9	12.4	22°37.9	-8.2	54.5
3	228°44.5	-9°56.1	297°29.3	12.4	22°29.6	-8.3	54.5
4	243°44.6	-9°57.0	312°00.8	12.5	22°21.2	-8.4	54.5
5	258°44.8	-9°57.9	326°32.2	12.5	22°12.7	-8.5	54.5
6	273°44.9	-9°58.8	341°03.8	12.6	22°04.1	-8.6	54.5
7	288°45.0	-9°59.7	355°35.4	12.6	21°55.5	-8.7	54.5
8	303°45.1	-10°00.6	10°07.0	12.7	21°46.7	-8.8	54.5
9	318°45.2	-10°01.5	24°38.7	12.7	21°37.8	-8.9	54.6
10	333°45.3	-10°02.4	39°10.4	12.7	21°28.8	-9.0	54.6
11	348°45.4	-10°03.3	53°42.2	12.8	21°19.7	-9.1	54.6
12	3°45.6	-10°04.2	68°14.0	12.8	21°10.5	-9.2	54.6
13	18°45.7	-10°05.1	82°45.9	12.9	21°01.2	-9.3	54.6
14	33°45.8	-10°06.0	97°17.8	12.9	20°51.8	-9.4	54.6
15	48°45.9	-10°06.9	111°49.7	13.0	20°42.3	-9.5	54.6
16	63°46.0	-10°07.8	126°21.7	13.0	20°32.8	-9.6	54.7
17	78°46.1	-10°08.7	140°53.8	13.1	20°23.1	-9.7	54.7
18	93°46.2	-10°09.6	155°25.8	13.1	20°13.3	-9.8	54.7
19	108°46.3	-10°10.5	169°58.0	13.2	20°03.5	-9.9	54.7
20	123°46.5	-10°11.4	184°30.1	13.2	19°53.5	-10.0	54.7
21	138°46.6	-10°12.3	199°02.4	13.2	19°43.5	-10.1	54.7
22	153°46.7	-10°13.2	213°34.6	13.3	19°33.3	-10.2	54.8
23	168°46.8	-10°14.1	228°06.9	13.3	19°23.1	-10.3	54.8
	SD.=16.1	d=-0.9	S.D.=14.9				

Jue	AHG	Dec	AHG	v	Dec	d	HP
0	183°46.9	-10°15.0	242°39.3	13.4	19°12.8	-10.4	54.8
1	198°47.0	-10°15.9	257°11.7	13.4	19°02.4	-10.4	54.8
2	213°47.1	-10°16.8	271°44.1	13.4	18°51.9	-10.5	54.8
3	228°47.2	-10°17.7	286°16.5	13.5	18°41.3	-10.6	54.9
4	243°47.3	-10°18.6	300°49.1	13.5	18°30.7	-10.7	54.9
5	258°47.5	-10°19.5	315°21.6	13.6	18°19.9	-10.8	54.9
6	273°47.6	-10°20.4	329°54.2	13.6	18°09.1	-10.9	54.9
7	288°47.7	-10°21.3	344°26.8	13.6	17°58.1	-11.0	54.9
8	303°47.8	-10°22.2	358°59.5	13.7	17°47.1	-11.1	54.9
9	318°47.9	-10°23.1	13°32.2	13.7	17°36.0	-11.1	55.0
10	333°48.0	-10°24.0	28°04.9	13.8	17°24.9	-11.2	55.0
11	348°48.1	-10°24.9	42°37.7	13.8	17°13.6	-11.3	55.0
12	3°48.2	-10°25.8	57°10.5	13.8	17°02.3	-11.4	55.0
13	18°48.3	-10°26.7	71°43.3	13.9	16°50.8	-11.5	55.1
14	33°48.4	-10°27.6	86°16.2	13.9	16°39.3	-11.5	55.1
15	48°48.5	-10°28.5	100°49.1	13.9	16°27.7	-11.6	55.1
16	63°48.6	-10°29.4	115°22.1	14.0	16°16.1	-11.7	55.1
17	78°48.7	-10°30.3	129°55.1	14.0	16°04.3	-11.8	55.1
18	93°48.8	-10°31.2	144°28.1	14.0	15°52.5	-11.9	55.2
19	108°48.9	-10°32.1	159°01.1	14.1	15°40.6	-11.9	55.2
20	123°49.1	-10°32.9	173°34.2	14.1	15°28.7	-12.0	55.2
21	138°49.2	-10°33.8	188°07.3	14.1	15°16.6	-12.1	55.2
22	153°49.3	-10°34.7	202°40.4	14.2	15°04.5	-12.2	55.3
23	168°49.4	-10°35.6	217°13.6	14.2	14°52.3	-12.2	55.3
	SD.=16.1	d=-0.9	S.D.=14.9				

Vie	AHG	Dec	AHG	v	Dec	d	HP
0	183°49.5	-10°36.5	231°46.8	14.2	14°40.0	-12.3	55.3
1	198°49.6	-10°37.4	246°20.0	14.2	14°27.7	-12.4	55.3
2	213°49.7	-10°38.3	260°53.3	14.3	14°15.3	-12.4	55.3
3	228°49.8	-10°39.2	275°26.6	14.3	14°02.8	-12.5	55.4
4	243°49.9	-10°40.1	289°59.9	14.3	13°50.2	-12.6	55.4
5	258°50.0	-10°41.0	304°33.2	14.3	13°37.6	-12.7	55.4
6	273°50.1	-10°41.9	319°06.5	14.4	13°24.9	-12.7	55.4
7	288°50.2	-10°42.7	333°39.9	14.4	13°12.1	-12.8	55.5
8	303°50.3	-10°43.6	348°13.3	14.4	12°59.3	-12.9	55.5
9	318°50.4	-10°44.5	2°46.7	14.4	12°46.4	-12.9	55.5
10	333°50.5	-10°45.4	17°20.1	14.4	12°33.5	-13.0	55.5
11	348°50.6	-10°46.3	31°53.6	14.5	12°20.4	-13.1	55.6
12	3°50.7	-10°47.2	46°27.1	14.5	12°07.3	-13.1	55.6
13	18°50.8	-10°48.1	61°00.6	14.5	11°54.2	-13.2	55.6
14	33°50.9	-10°49.0	75°34.1	14.5	11°41.0	-13.2	55.6
15	48°51.0	-10°49.9	90°07.6	14.5	11°27.7	-13.3	55.7
16	63°51.1	-10°50.7	104°41.2	14.6	11°14.4	-13.4	55.7
17	78°51.2	-10°51.6	119°14.7	14.6	11°01.0	-13.4	55.7
18	93°51.3	-10°52.5	133°48.3	14.6	10°47.5	-13.5	55.7
19	108°51.4	-10°53.4	148°21.9	14.6	10°34.0	-13.5	55.8
20	123°51.5	-10°54.3	162°55.5	14.6	10°20.4	-13.6	55.8
21	138°51.6	-10°55.2	177°29.1	14.6	10°06.8	-13.7	55.8
22	153°51.7	-10°56.1	192°02.7	14.6	9°53.1	-13.7	55.9
23	168°51.8	-10°57.0	206°36.3	14.6	9°39.3	-13.8	55.9
	SD.=16.1	d=-0.9	S.D.=15.1				

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	05:17	06:35	07:49	15:39	16:52	18:11
70	05:18	06:29	07:34	15:54	16:59	18:10
68	05:19	06:24	07:22	16:06	17:04	18:09
66	05:20	06:19	07:13	16:15	17:09	18:08
64	05:20	06:15	07:05	16:24	17:13	18:08
62	05:20	06:12	06:58	16:31	17:17	18:08
60	05:20	06:09	06:52	16:37	17:20	18:08
58	05:20	06:06	06:46	16:42	17:23	18:08
56	05:20	06:03	06:41	16:47	17:25	18:08
54	05:20	06:01	06:37	16:52	17:28	18:09
52	05:20	05:59	06:33	16:55	17:30	18:09
50	05:19	05:57	06:30	16:59	17:32	18:09
45	05:18	05:52	06:22	17:07	17:37	18:11
40	05:17	05:48	06:16	17:13	17:41	18:12
35	05:15	05:44	06:10	17:19	17:45	18:14
30	05:13	05:41	06:05	17:24	17:48	18:16
20	05:08	05:34	05:56	17:33	17:55	18:21
10	05:03	05:27	05:49	17:41	18:02	18:27
0	04:56	05:20	05:41	17:48	18:09	18:34
S 10	04:48	05:13	05:34	17:56	18:17	18:42
20	04:37	05:04	05:26	18:04	18:26	18:53
30	04:23	04:52	05:17	18:13	18:38	19:07
35	04:14	04:45	05:11	18:19	18:45	19:16
40	04:03	04:37	05:05	18:25	18:53	19:27
45	03:50	04:27	04:58	18:32	19:03	19:41
50	03:33	04:15	04:49	18:41	19:16	19:58
52	03:24	04:09	04:45	18:45	19:22	20:07
54	03:15	04:03	04:41	18:50	19:28	20:17
56	03:04	03:55	04:36	18:55	19:36	20:28
58	02:51	03:47	04:30	19:01	19:44	20:42
60	02:35	03:38	04:24	19:07	19:54	20:58

	Orto luna			Ocaso luna		
Lat.	Mie	Jue	Vie	Mie	Jue	Vie
N 72	–:–	22:53	–:–	–:–	18:22	17:28
70	20:21	23:28	–:–	19:18	17:46	17:11
68	21:40	23:52	–:–	17:59	17:20	16:57
66	22:17	–:–	00:11	17:21	17:00	16:46
64	22:43	–:–	00:26	16:54	16:44	16:36
62	23:03	–:–	00:38	16:33	16:31	16:28
60	23:19	–:–	00:49	16:15	16:19	16:21
58	23:33	–:–	00:58	16:01	16:09	16:15
56	23:45	–:–	01:06	15:49	16:00	16:09
54	23:55	–:–	01:13	15:38	15:52	16:04
52	–:–	00:04	01:19	15:28	15:45	15:59
50	–:–	00:13	01:25	15:19	15:39	15:55
45	–:–	00:30	01:37	15:01	15:25	15:46
40	–:–	00:44	01:47	14:46	15:14	15:39
35	–:–	00:56	01:56	14:33	15:04	15:32
30	00:09	01:06	02:03	14:22	14:55	15:26
20	00:30	01:24	02:16	14:02	14:40	15:16
10	00:49	01:39	02:28	13:45	14:27	15:07
0	01:07	01:53	02:38	13:29	14:15	14:59
S 10	01:24	02:08	02:48	13:13	14:02	14:51
20	01:43	02:23	03:00	12:56	13:49	14:41
30	02:04	02:40	03:12	12:36	13:34	14:31
35	02:17	02:50	03:19	12:25	13:25	14:25
40	02:31	03:01	03:28	12:11	13:14	14:18
45	02:48	03:15	03:37	11:55	13:02	14:10
50	03:09	03:31	03:49	11:35	12:47	14:00
52	03:19	03:39	03:54	11:26	12:40	13:55
54	03:30	03:47	04:00	11:15	12:32	13:50
56	03:43	03:57	04:07	11:03	12:24	13:45
58	03:58	04:07	04:14	10:49	12:14	13:38
60	04:15	04:20	04:22	10:32	12:02	13:31

	Sol			Luna		
Día	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
19	14:57	15:02	11:44	07:18	19:41	24(33%)
20	15:07	15:13	11:44	08:04	20:26	25(25%)
21	15:18	15:23	11:44	08:48	21:10	26(17%)

Octubre 22, 23, 24 (Sa, Dom, Lun.)

	Aries	Venus		Martes		Júpiter		Saturno	
Sa	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	30°24.4	183°41.5	-9°52.7	305°44.9	23°25.4	29°14.1	-1°13.3	68°58.0	-16°29.4
1	45°26.9	198°41.1	-9°53.8	320°47.0	23°25.5	44°16.8	-1°13.4	84°00.5	-16°29.4
2	60°29.4	213°40.6	-9°55.0	335°49.2	23°25.6	59°19.5	-1°13.5	99°02.9	-16°29.4
3	75°31.8	228°40.1	-9°56.2	350°51.3	23°25.7	74°22.2	-1°13.6	114°05.4	-16°29.4
4	90°34.3	243°39.6	-9°57.4	5°53.5	23°25.8	89°24.9	-1°13.7	129°07.9	-16°29.4
5	105°36.7	258°39.1	-9°58.5	20°55.6	23°26.0	104°27.6	-1°13.8	144°10.3	-16°29.4
6	120°39.2	273°38.6	-9°59.7	35°57.8	23°26.1	119°30.3	-1°13.9	159°12.8	-16°29.4
7	135°41.7	288°38.2	-10°00.9	50°59.9	23°26.2	134°33.0	-1°13.9	174°15.3	-16°29.4
8	150°44.1	303°37.7	-10°02.0	66°02.1	23°26.3	149°35.7	-1°14.0	189°17.7	-16°29.4
9	165°46.6	318°37.2	-10°03.2	81°04.2	23°26.4	164°38.4	-1°14.1	204°20.2	-16°29.4
10	180°49.1	333°36.7	-10°04.4	96°06.4	23°26.5	179°41.1	-1°14.2	219°22.7	-16°29.4
11	195°51.5	348°36.2	-10°05.5	111°08.6	23°26.6	194°43.8	-1°14.3	234°25.1	-16°29.4
12	210°54.0	3°35.7	-10°06.7	126°10.7	23°26.7	209°46.5	-1°14.4	249°27.6	-16°29.4
13	225°56.5	18°35.2	-10°07.9	141°12.9	23°26.8	224°49.2	-1°14.5	264°30.1	-16°29.4
14	240°58.9	33°34.8	-10°09.1	156°15.1	23°27.0	239°51.9	-1°14.6	279°32.5	-16°29.4
15	256°01.4	48°34.3	-10°10.2	171°17.2	23°27.1	254°54.6	-1°14.7	294°35.0	-16°29.4
16	271°03.8	63°33.8	-10°11.4	186°19.4	23°27.2	269°57.3	-1°14.8	309°37.5	-16°29.4
17	286°06.3	78°33.3	-10°12.6	201°21.6	23°27.3	285°00.0	-1°14.9	324°39.9	-16°29.4
18	301°08.8	93°32.8	-10°13.7	216°23.7	23°27.4	300°02.7	-1°15.0	339°42.4	-16°29.4
19	316°11.2	108°32.3	-10°14.9	231°25.9	23°27.5	315°05.4	-1°15.1	354°44.9	-16°29.4
20	331°13.7	123°31.8	-10°16.1	246°28.1	23°27.6	330°08.1	-1°15.2	9°47.3	-16°29.4
21	346°16.2	138°31.3	-10°17.2	261°30.3	23°27.7	345°10.8	-1°15.3	24°49.8	-16°29.4
22	1°18.6	153°30.8	-10°18.4	276°32.4	23°27.9	0°13.5	-1°15.4	39°52.3	-16°29.4
23	16°21.1	168°30.4	-10°19.5	291°34.6	23°28.0	15°16.1	-1°15.5	54°54.7	-16°29.4
Mer.pass.:21:54		v-0.5 d-1.2 m-3.8		v2.1 d0.1 m-1.0		v2.7 d-0.1 m-2.7		v2.5 d0.0 m0.6	

Dom	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	31°23.6	183°29.9	-10°20.7	306°36.8	23°28.1	30°18.8	-1°15.5	69°57.2	-16°29.4
1	46°26.0	198°29.4	-10°21.9	321°39.0	23°28.2	45°21.5	-1°15.6	84°59.7	-16°29.4
2	61°28.5	213°28.9	-10°23.0	336°41.2	23°28.3	60°24.2	-1°15.7	100°02.1	-16°29.4
3	76°31.0	228°28.4	-10°24.2	351°43.4	23°28.4	75°26.9	-1°15.8	115°04.6	-16°29.4
4	91°33.4	243°27.9	-10°25.4	6°45.5	23°28.5	90°29.6	-1°15.9	130°07.1	-16°29.4
5	106°35.9	258°27.4	-10°26.5	21°47.7	23°28.6	105°32.3	-1°16.0	145°09.5	-16°29.4
6	121°38.3	273°26.9	-10°27.7	36°49.9	23°28.7	120°35.0	-1°16.1	160°12.0	-16°29.4
7	136°40.8	288°26.4	-10°28.8	51°52.1	23°28.9	135°37.7	-1°16.2	175°14.5	-16°29.4
8	151°43.3	303°25.9	-10°30.0	66°54.3	23°29.0	150°40.4	-1°16.3	190°16.9	-16°29.4
9	166°45.7	318°25.4	-10°31.2	81°56.5	23°29.1	165°43.1	-1°16.4	205°19.4	-16°29.4
10	181°48.2	333°24.9	-10°32.3	96°58.7	23°29.2	180°45.8	-1°16.5	220°21.9	-16°29.4
11	196°50.7	348°24.4	-10°33.5	112°00.9	23°29.3	195°48.5	-1°16.6	235°24.3	-16°29.4
12	211°53.1	3°23.9	-10°34.6	127°03.1	23°29.4	210°51.2	-1°16.7	250°26.8	-16°29.4
13	226°55.6	18°23.4	-10°35.8	142°05.3	23°29.5	225°53.9	-1°16.8	265°29.2	-16°29.4
14	241°58.1	33°22.9	-10°37.0	157°07.5	23°29.6	240°56.6	-1°16.8	280°31.7	-16°29.4
15	257°00.5	48°22.4	-10°38.1	172°09.7	23°29.8	255°59.3	-1°16.9	295°34.2	-16°29.4
16	272°03.0	63°22.0	-10°39.3	187°11.9	23°29.9	271°02.0	-1°17.0	310°36.6	-16°29.4
17	287°05.5	78°21.5	-10°40.4	202°14.1	23°30.0	286°04.7	-1°17.1	325°39.1	-16°29.4
18	302°07.9	93°21.0	-10°41.6	217°16.3	23°30.1	301°07.4	-1°17.2	340°41.6	-16°29.4
19	317°10.4	108°20.5	-10°42.7	232°18.5	23°30.2	316°10.0	-1°17.3	355°44.0	-16°29.4
20	332°12.8	123°20.0	-10°43.9	247°20.8	23°30.3	331°12.7	-1°17.4	10°46.5	-16°29.4
21	347°15.3	138°19.5	-10°45.1	262°23.0	23°30.4	346°15.4	-1°17.5	25°48.9	-16°29.4
22	2°17.8	153°19.0	-10°46.2	277°25.2	23°30.5	1°18.1	-1°17.6	40°51.4	-16°29.4
23	17°20.2	168°18.5	-10°47.4	292°27.4	23°30.7	16°20.8	-1°17.7	55°53.9	-16°29.4
Mer.pass.:21:50		v-0.5 d-1.2 m-3.8		v2.2 d0.1 m-1.0		v2.7 d-0.1 m-2.7		v2.5 d0.0 m0.6	

Lun	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	32°22.7	183°18.0	-10°48.5	307°29.6	23°30.8	31°23.5	-1°17.8	70°56.3	-16°29.3
1	47°25.2	198°17.5	-10°49.7	322°31.8	23°30.9	46°26.2	-1°17.8	85°58.8	-16°29.3
2	62°27.6	213°17.0	-10°50.8	337°34.1	23°31.0	61°28.9	-1°17.9	101°01.3	-16°29.3
3	77°30.1	228°16.5	-10°52.0	352°36.3	23°31.1	76°31.6	-1°18.0	116°03.7	-16°29.3
4	92°32.6	243°16.0	-10°53.1	7°38.5	23°31.2	91°34.3	-1°18.1	131°06.2	-16°29.3
5	107°35.0	258°15.5	-10°54.3	22°40.7	23°31.3	106°37.0	-1°18.2	146°08.6	-16°29.3
6	122°37.5	273°15.0	-10°55.4	37°43.0	23°31.4	121°39.7	-1°18.3	161°11.1	-16°29.3
7	137°39.9	288°14.4	-10°56.6	52°45.2	23°31.5	136°42.3	-1°18.4	176°13.6	-16°29.3
8	152°42.4	303°13.9	-10°57.7	67°47.4	23°31.7	151°45.0	-1°18.5	191°16.0	-16°29.3
9	167°44.9	318°13.4	-10°58.9	82°49.6	23°31.8	166°47.7	-1°18.6	206°18.5	-16°29.3
10	182°47.3	333°12.9	-11°00.0	97°51.9	23°31.9	181°50.4	-1°18.7	221°20.9	-16°29.3
11	197°49.8	348°12.4	-11°01.2	112°54.1	23°32.0	196°53.1	-1°18.7	236°23.4	-16°29.3
12	212°52.3	3°11.9	-11°02.3	127°56.3	23°32.1	211°55.8	-1°18.8	251°25.9	-16°29.3
13	227°54.7	18°11.4	-11°03.5	142°58.6	23°32.2	226°58.5	-1°18.9	266°28.3	-16°29.3
14	242°57.2	33°10.9	-11°04.6	158°00.8	23°32.3	242°01.2	-1°19.0	281°30.8	-16°29.3
15	257°59.7	48°10.4	-11°05.8	173°03.1	23°32.4	257°03.9	-1°19.1	296°33.2	-16°29.3
16	273°02.1	63°09.9	-11°06.9	188°05.3	23°32.6	272°06.5	-1°19.2	311°35.7	-16°29.3
17	288°04.6	78°09.4	-11°08.1	203°07.5	23°32.7	287°09.2	-1°19.3	326°38.1	-16°29.3
18	303°07.1	93°08.9	-11°09.2	218°09.8	23°32.8	302°11.9	-1°19.4	341°40.6	-16°29.3
19	318°09.5	108°08.4	-11°10.4	233°12.0	23°32.9	317°14.6	-1°19.5	356°43.1	-16°29.3
20	333°12.0	123°07.9	-11°11.5	248°14.3	23°33.0	332°17.3	-1°19.5	11°45.5	-16°29.3
21	348°14.4	138°07.4	-11°12.6	263°16.5	23°33.1	347°20.0	-1°19.6	26°48.0	-16°29.3
22	3°16.9	153°06.9	-11°13.8	278°18.8	23°33.2	2°22.7	-1°19.7	41°50.4	-16°29.3
23	18°19.4	168°06.3	-11°14.9	293°21.0	23°33.3	17°25.4	-1°19.8	56°52.9	-16°29.3
Mer.pass.:21:46		v-0.5 d-1.2 m-3.8		v2.2 d0.1 m-1.0		v2.7 d-0.1 m-2.7		v2.5 d0.0 m0.6	

Estrellas

	AHS	Dec
Alpheratz	357°36.4	29°13.1
Ankaa	353°08.6	-42°11.0
Schedar	349°32.6	56°39.8
Diphda	348°48.7	-17°51.7
Achernar	335°21.0	-57°07.3
Hamal	327°53.0	23°34.3
Polaris	314°27.8	89°21.5
Akamar	315°12.8	-40°12.7
Menkar	314°07.8	4°10.8
Mirfak	308°30.4	49°56.5
Aldebaran	290°41.5	16°33.4
Rigel	281°05.4	-8°10.4
Capella	280°24.3	46°01.2
Bellatrix	278°24.6	6°22.3
Elnath	278°04.0	28°37.6
Alnilam	275°39.4	-1°11.1
Betelgeuse	270°53.9	7°24.8
Canopus	263°53.0	-52°42.1
Sirius	258°27.7	-16°44.4
Adara	255°07.2	-28°59.9
Procyon	244°52.6	5°10.3
Pollux	243°19.4	27°58.3
Avior	234°15.5	-59°34.5
Suhail	222°47.8	-43°31.1
Miaplacidus	221°38.9	-69°48.2
Alphard	217°49.7	-8°45.2
Regulus	207°36.5	11°51.5
Dubhe	193°43.7	61°37.6
Denebola	182°27.0	14°26.8
Gienah	175°45.8	-17°39.9
Acrux	173°02.8	-63°13.3
Gacrux	171°54.3	-57°14.2
Alioth	166°15.2	55°50.2
Spica	158°24.6	-11°16.6
Alcaid	152°53.9	49°12.1
Hadar	148°39.3	-60°28.8
Menkent	148°00.2	-36°28.8
Arcturus	145°49.8	19°04.3
Rigil Kent.	139°43.5	-60°55.7
Zubenelg.	136°58.4	-16°08.0
Kochab	137°20.9	74°03.8
Alphecca	126°05.7	26°38.5
Antares	112°18.4	-26°28.9
Atria	107°14.7	-69°04.2
Sabik	102°05.1	-15°45.1
Shaula	96°13.1	-37°07.2
Rasalhague	96°00.5	12°32.8
Etamin	90°43.3	51°29.4
Kaus Aust.	83°35.1	-34°22.5
Vega	80°34.7	38°48.5
Nunki	75°50.2	-26°16.1
Altair	62°01.9	8°55.8
Peacock	53°08.6	-56°39.9
Deneb	49°27.0	45°21.9
Enif	33°40.5	9°58.9
Alnair	27°35.0	-46°51.2
Fomalhaut	15°16.4	-29°30.2
Scheat	13°46.8	28°12.5
Markab	13°31.5	15°19.8

Oct 22 Sa	AHS	Paso Merid
Venus	153°17.1	11:46
Mars	275°20.4	03:36
Jupiter	358°49.6	21:59
Saturn	38°33.6	19:21

Oct 23 Dom	AHS	Paso Merid
Venus	152°06.3	11:46
Mars	275°13.2	03:33
Jupiter	358°55.3	21:55
Saturn	38°33.6	19:17

Oct 24 Lun	AHS	Paso Merid
Venus	150°55.3	11:47
Mars	275°06.9	03:30
Jupiter	359°00.8	21:51
Saturn	38°33.6	19:13

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.2

h	Sol		Luna				
Sa	AHG	Dec	AHG	v	Dec	d	HP
0	183°51.9	-10°57.8	221°10.0	14.6	9°25.5	-13.8	55.9
1	198°52.0	-10°58.7	235°43.6	14.7	9°11.7	-13.9	55.9
2	213°52.1	-10°59.6	250°17.3	14.7	8°57.8	-13.9	56.0
3	228°52.2	-11°00.5	264°50.9	14.7	8°43.8	-14.0	56.0
4	243°52.2	-11°01.4	279°24.6	14.7	8°29.8	-14.0	56.0
5	258°52.3	-11°02.3	293°58.3	14.7	8°15.8	-14.1	56.0
6	273°52.4	-11°03.1	308°32.0	14.7	8°01.7	-14.1	56.1
7	288°52.5	-11°04.0	323°05.6	14.7	7°47.5	-14.2	56.1
8	303°52.6	-11°04.9	337°39.3	14.7	7°33.3	-14.2	56.1
9	318°52.7	-11°05.8	352°13.0	14.7	7°19.0	-14.3	56.2
10	333°52.8	-11°06.7	6°46.7	14.7	7°04.7	-14.3	56.2
11	348°52.9	-11°07.6	21°20.3	14.7	6°50.4	-14.4	56.2
12	3°53.0	-11°08.4	35°54.0	14.7	6°36.0	-14.4	56.2
13	18°53.1	-11°09.3	50°27.7	14.7	6°21.6	-14.5	56.3
14	33°53.2	-11°10.2	65°01.3	14.7	6°07.1	-14.5	56.3
15	48°53.3	-11°11.1	79°35.0	14.7	5°52.6	-14.5	56.3
16	63°53.4	-11°12.0	94°08.6	14.6	5°38.0	-14.6	56.4
17	78°53.5	-11°12.8	108°42.3	14.6	5°23.4	-14.6	56.4
18	93°53.5	-11°13.7	123°15.9	14.6	5°08.8	-14.7	56.4
19	108°53.6	-11°14.6	137°49.5	14.6	4°54.1	-14.7	56.4
20	123°53.7	-11°15.5	152°23.2	14.6	4°39.4	-14.7	56.5
21	138°53.8	-11°16.4	166°56.8	14.6	4°24.7	-14.8	56.5
22	153°53.9	-11°17.2	181°30.4	14.6	4°09.9	-14.8	56.5
23	168°54.0	-11°18.1	196°03.9	14.6	3°55.1	-14.8	56.6
	SD.=16.1	d=-0.9	S.D.=15.3				

Dom	AHG	Dec	AHG	v	Dec	d	HP
0	183°54.1	-11°19.0	210°37.5	14.6	3°40.2	-14.9	56.6
1	198°54.2	-11°19.9	225°11.0	14.5	3°25.3	-14.9	56.6
2	213°54.3	-11°20.8	239°44.6	14.5	3°10.4	-14.9	56.7
3	228°54.4	-11°21.6	254°18.1	14.5	2°55.5	-15.0	56.7
4	243°54.4	-11°22.5	268°51.6	14.5	2°40.5	-15.0	56.7
5	258°54.5	-11°23.4	283°25.0	14.5	2°25.5	-15.0	56.7
6	273°54.6	-11°24.3	297°58.5	14.4	2°10.5	-15.0	56.8
7	288°54.7	-11°25.1	312°31.9	14.4	1°55.4	-15.1	56.8
8	303°54.8	-11°26.0	327°05.3	14.4	1°40.3	-15.1	56.8
9	318°54.9	-11°26.9	341°38.7	14.4	1°25.2	-15.1	56.9
10	333°55.0	-11°27.8	356°12.0	14.3	1°10.1	-15.1	56.9
11	348°55.1	-11°28.6	10°45.4	14.3	0°55.0	-15.2	56.9
12	3°55.1	-11°29.5	25°18.7	14.3	0°39.8	-15.2	57.0
13	18°55.2	-11°30.4	39°51.9	14.3	0°24.6	-15.2	57.0
14	33°55.3	-11°31.3	54°25.2	14.2	0°09.4	-15.2	57.0
15	48°55.4	-11°32.1	68°58.4	14.2	-0°05.8	-15.2	57.0
16	63°55.5	-11°33.0	83°31.5	14.2	-0°21.1	-15.2	57.1
17	78°55.6	-11°33.9	98°04.7	14.1	-0°36.3	-15.3	57.1
18	93°55.6	-11°34.8	112°37.8	14.1	-0°51.6	-15.3	57.1
19	108°55.7	-11°35.6	127°10.8	14.1	-1°06.9	-15.3	57.2
20	123°55.8	-11°36.5	141°43.9	14.0	-1°22.2	-15.3	57.2
21	138°55.9	-11°37.4	156°16.9	14.0	-1°37.5	-15.3	57.2
22	153°56.0	-11°38.2	170°49.8	13.9	-1°52.8	-15.3	57.2
23	168°56.1	-11°39.1	185°22.7	13.9	-2°08.1	-15.3	57.3
	SD.=16.1	d=-0.9	S.D.=15.4				

Lun	AHG	Dec	AHG	v	Dec	d	HP
0	183°56.1	-11°40.0	199°55.6	13.9	-2°23.4	-15.3	57.3
1	198°56.2	-11°40.9	214°28.4	13.8	-2°38.8	-15.3	57.3
2	213°56.3	-11°41.7	229°01.2	13.8	-2°54.1	-15.3	57.4
3	228°56.4	-11°42.6	243°34.0	13.7	-3°09.4	-15.3	57.4
4	243°56.5	-11°43.5	258°06.7	13.7	-3°24.8	-15.3	57.4
5	258°56.5	-11°44.3	272°39.3	13.6	-3°40.1	-15.3	57.4
6	273°56.6	-11°45.2	287°11.9	13.6	-3°55.5	-15.3	57.5
7	288°56.7	-11°46.1	301°44.5	13.5	-4°10.8	-15.3	57.5
8	303°56.8	-11°46.9	316°17.0	13.5	-4°26.2	-15.3	57.5
9	318°56.9	-11°47.8	330°49.4	13.4	-4°41.5	-15.3	57.6
10	333°56.9	-11°48.7	345°21.8	13.4	-4°56.8	-15.3	57.6
11	348°57.0	-11°49.6	359°54.2	13.3	-5°12.2	-15.3	57.6
12	3°57.1	-11°50.4	14°26.5	13.3	-5°27.5	-15.3	57.6
13	18°57.2	-11°51.3	28°58.7	13.2	-5°42.8	-15.3	57.7
14	33°57.3	-11°52.2	43°30.9	13.1	-5°58.1	-15.3	57.7
15	48°57.3	-11°53.0	58°03.0	13.1	-6°13.4	-15.3	57.7
16	63°57.4	-11°53.9	72°35.0	13.0	-6°28.6	-15.3	57.8
17	78°57.5	-11°54.8	87°07.0	13.0	-6°43.9	-15.2	57.8
18	93°57.6	-11°55.6	101°39.0	12.9	-6°59.1	-15.2	57.8
19	108°57.6	-11°56.5	116°10.8	12.8	-7°14.3	-15.2	57.8
20	123°57.7	-11°57.3	130°42.6	12.8	-7°29.5	-15.2	57.9
21	138°57.8	-11°58.2	145°14.4	12.7	-7°44.7	-15.2	57.9
22	153°57.9	-11°59.1	159°46.0	12.6	-7°59.9	-15.1	57.9
23	168°57.9	-11°59.9	174°17.7	12.6	-8°15.0	-15.1	58.0
	SD.=16.1	d=-0.9	S.D.=15.6				

Lat.	Crepúsculo Naut.	Crepúsculo Civil	Orto Sol	Crepúsculo Civil	Crepúsculo Naut.	Ocaso Sol
N 72	05:29	06:49	08:05	15:22	16:38	17:57
70	05:29	06:41	07:48	15:40	16:46	17:57
68	05:29	06:34	07:34	15:53	16:53	17:58
66	05:29	06:28	07:23	16:04	16:59	17:58
64	05:28	06:24	07:14	16:14	17:04	17:59
62	05:28	06:19	07:06	16:22	17:08	18:00
60	05:27	06:16	06:59	16:29	17:12	18:00
58	05:27	06:12	06:53	16:35	17:15	18:01
56	05:26	06:09	06:48	16:40	17:18	18:02
54	05:25	06:06	06:43	16:45	17:21	18:02
52	05:25	06:04	06:39	16:49	17:24	18:03
50	05:24	06:01	06:35	16:53	17:26	18:04
45	05:22	05:56	06:26	17:02	17:32	18:06
40	05:20	05:51	06:19	17:09	17:37	18:08
35	05:17	05:47	06:13	17:16	17:41	18:11
30	05:15	05:43	06:07	17:21	17:45	18:13
20	05:09	05:35	05:58	17:31	17:53	18:19
10	05:03	05:28	05:49	17:39	18:01	18:26
0	04:55	05:20	05:41	17:48	18:09	18:33
S 10	04:46	05:11	05:33	17:56	18:18	18:43
20	04:35	05:01	05:24	18:05	18:28	18:54
30	04:20	04:49	05:14	18:15	18:40	19:10
35	04:10	04:41	05:08	18:21	18:48	19:19
40	03:59	04:33	05:01	18:28	18:57	19:31
45	03:44	04:22	04:53	18:37	19:08	19:46
50	03:26	04:09	04:43	18:46	19:21	20:05
52	03:16	04:02	04:39	18:51	19:28	20:14
54	03:06	03:55	04:34	18:56	19:35	20:25
56	02:54	03:47	04:29	19:02	19:43	20:37
58	02:40	03:38	04:22	19:08	19:52	20:52
60	02:22	03:28	04:15	19:15	20:03	21:10

Lat.	Orto luna Sa	Orto luna Dom	Orto luna Lun	Ocaso luna Sa	Ocaso luna Dom	Ocaso luna Lun
N 72	01:21	03:31	05:40	16:51	16:20	15:46
70	01:36	03:35	05:34	16:44	16:20	15:55
68	01:47	03:38	05:29	16:38	16:21	16:03
66	01:57	03:40	05:26	16:33	16:21	16:09
64	02:05	03:43	05:22	16:29	16:22	16:15
62	02:12	03:44	05:19	16:25	16:22	16:19
60	02:17	03:46	05:17	16:22	16:22	16:23
58	02:22	03:48	05:15	16:19	16:23	16:27
56	02:27	03:49	05:13	16:16	16:23	16:30
54	02:31	03:50	05:11	16:14	16:23	16:33
52	02:35	03:51	05:10	16:12	16:23	16:36
50	02:38	03:52	05:08	16:10	16:24	16:38
45	02:45	03:54	05:05	16:05	16:24	16:43
40	02:51	03:56	05:02	16:02	16:24	16:48
35	02:56	03:58	05:00	15:59	16:25	16:52
30	03:01	03:59	04:58	15:56	16:25	16:55
20	03:09	04:01	04:55	15:51	16:25	17:01
10	03:15	04:03	04:52	15:47	16:26	17:06
0	03:22	04:05	04:50	15:42	16:26	17:11
S 10	03:28	04:07	04:47	15:38	16:27	17:16
20	03:35	04:09	04:44	15:34	16:27	17:22
30	03:42	04:12	04:41	15:29	16:27	17:28
35	03:47	04:13	04:39	15:26	16:27	17:31
40	03:52	04:14	04:37	15:22	16:28	17:35
45	03:57	04:16	04:35	15:18	16:28	17:40
50	04:04	04:18	04:32	15:13	16:28	17:45
52	04:07	04:19	04:31	15:11	16:28	17:48
54	04:11	04:20	04:30	15:09	16:29	17:51
56	04:14	04:21	04:28	15:06	16:29	17:54
58	04:19	04:23	04:27	15:03	16:29	17:57
60	04:23	04:24	04:25	15:00	16:29	18:01

Día	Sol Ec. tiempo 00:00 h	Sol Ec. tiempo 12:00 h	Sol Paso Merid	Luna Paso Meridiano Superior	Luna Paso Meridiano Inferior	Luna Edad
22	15:27	15:32	11:44	09:32	21:53	27(10%)
23	15:36	15:40	11:44	10:15	22:37	28(5%)
24	15:44	15:48	11:44	11:00	23:23	29(1%)

Octubre 25, 26, 27 (Mar, Mie, Jue.)

	Aries	Venus		Martes		Júpiter		Saturno	
Mar	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	33°21.8	183°05.8	-11°16.1	308°23.3	23°33.4	32°28.0	-1°19.9	71°55.3	-16°29.3
1	48°24.3	198°05.3	-11°17.2	323°25.6	23°33.6	47°30.7	-1°20.0	86°57.8	-16°29.2
2	63°26.8	213°04.8	-11°18.4	338°27.8	23°33.7	62°33.4	-1°20.1	102°00.3	-16°29.2
3	78°29.2	228°04.3	-11°19.5	353°30.1	23°33.8	77°36.1	-1°20.2	117°02.7	-16°29.2
4	93°31.7	243°03.8	-11°20.6	8°32.3	23°33.9	92°38.8	-1°20.2	132°05.2	-16°29.2
5	108°34.2	258°03.3	-11°21.8	23°34.6	23°34.0	107°41.5	-1°20.3	147°07.6	-16°29.2
6	123°36.6	273°02.8	-11°22.9	38°36.9	23°34.1	122°44.1	-1°20.4	162°10.1	-16°29.2
7	138°39.1	288°02.3	-11°24.1	53°39.1	23°34.2	137°46.8	-1°20.5	177°12.5	-16°29.2
8	153°41.5	303°01.7	-11°25.2	68°41.4	23°34.3	152°49.5	-1°20.6	192°15.0	-16°29.2
9	168°44.0	318°01.2	-11°26.3	83°43.7	23°34.5	167°52.2	-1°20.7	207°17.5	-16°29.2
10	183°46.5	333°00.7	-11°27.5	98°45.9	23°34.6	182°54.9	-1°20.8	222°19.9	-16°29.2
11	198°48.9	348°00.2	-11°28.6	113°48.2	23°34.7	197°57.6	-1°20.9	237°22.4	-16°29.2
12	213°51.4	2°59.7	-11°29.8	128°50.5	23°34.8	213°00.2	-1°20.9	252°24.8	-16°29.2
13	228°53.9	17°59.2	-11°30.9	143°52.7	23°34.9	228°02.9	-1°21.0	267°27.3	-16°29.2
14	243°56.3	32°58.7	-11°32.0	158°55.0	23°35.0	243°05.6	-1°21.1	282°29.7	-16°29.2
15	258°58.8	47°58.1	-11°33.2	173°57.3	23°35.1	258°08.3	-1°21.2	297°32.2	-16°29.2
16	274°01.3	62°57.6	-11°34.3	188°59.6	23°35.2	273°11.0	-1°21.3	312°34.6	-16°29.2
17	289°03.7	77°57.1	-11°35.4	204°01.9	23°35.4	288°13.7	-1°21.4	327°37.1	-16°29.2
18	304°06.2	92°56.6	-11°36.6	219°04.1	23°35.5	303°16.3	-1°21.5	342°39.5	-16°29.2
19	319°08.7	107°56.1	-11°37.7	234°06.4	23°35.6	318°19.0	-1°21.5	357°42.0	-16°29.1
20	334°11.1	122°55.6	-11°38.8	249°08.7	23°35.7	333°21.7	-1°21.6	12°44.5	-16°29.1
21	349°13.6	137°55.0	-11°40.0	264°11.0	23°35.8	348°24.4	-1°21.7	27°46.9	-16°29.1
22	4°16.0	152°54.5	-11°41.1	279°13.3	23°35.9	3°27.1	-1°21.8	42°49.4	-16°29.1
23	19°18.5	167°54.0	-11°42.2	294°15.6	23°36.0	18°29.7	-1°21.9	57°51.8	-16°29.1
Mer.pass.:21:42		v-0.5 d-1.1 m-3.8		v2.3 d0.1 m-1.1		v2.7 d-0.1 m-2.7		v2.5 d0.0 m0.6	

Mie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	34°21.0	182°53.5	-11°43.4	309°17.9	23°36.1	33°32.4	-1°22.0	72°54.3	-16°29.1
1	49°23.4	197°53.0	-11°44.5	324°20.2	23°36.3	48°35.1	-1°22.1	87°56.7	-16°29.1
2	64°25.9	212°52.4	-11°45.6	339°22.5	23°36.4	63°37.8	-1°22.1	102°59.2	-16°29.1
3	79°28.4	227°51.9	-11°46.8	354°24.8	23°36.5	78°40.5	-1°22.2	118°01.6	-16°29.1
4	94°30.8	242°51.4	-11°47.9	9°27.1	23°36.6	93°43.1	-1°22.3	133°04.1	-16°29.1
5	109°33.3	257°50.9	-11°49.0	24°29.4	23°36.7	108°45.8	-1°22.4	148°06.5	-16°29.1
6	124°35.8	272°50.4	-11°50.2	39°31.7	23°36.8	123°48.5	-1°22.5	163°09.0	-16°29.1
7	139°38.2	287°49.8	-11°51.3	54°34.0	23°36.9	138°51.2	-1°22.6	178°11.4	-16°29.1
8	154°40.7	302°49.3	-11°52.4	69°36.3	23°37.0	153°53.9	-1°22.6	193°13.9	-16°29.1
9	169°43.2	317°48.8	-11°53.5	84°38.6	23°37.2	168°56.5	-1°22.7	208°16.3	-16°29.1
10	184°45.6	332°48.3	-11°54.7	99°40.9	23°37.3	183°59.2	-1°22.8	223°18.8	-16°29.1
11	199°48.1	347°47.7	-11°55.8	114°43.2	23°37.4	199°01.9	-1°22.9	238°21.2	-16°29.0
12	214°50.5	2°47.2	-11°56.9	129°45.5	23°37.5	214°04.6	-1°23.0	253°23.7	-16°29.0
13	229°53.0	17°46.7	-11°58.0	144°47.8	23°37.6	229°07.2	-1°23.1	268°26.1	-16°29.0
14	244°55.5	32°46.2	-11°59.2	159°50.1	23°37.7	244°09.9	-1°23.2	283°28.6	-16°29.0
15	259°57.9	47°45.6	-12°00.3	174°52.4	23°37.8	259°12.6	-1°23.2	298°31.0	-16°29.0
16	275°00.4	62°45.1	-12°01.4	189°54.8	23°37.9	274°15.3	-1°23.3	313°33.5	-16°29.0
17	290°02.9	77°44.6	-12°02.5	204°57.1	23°38.1	289°17.9	-1°23.4	328°35.9	-16°29.0
18	305°05.3	92°44.1	-12°03.7	219°59.4	23°38.2	304°20.6	-1°23.5	343°38.4	-16°29.0
19	320°07.8	107°43.5	-12°04.8	235°01.7	23°38.3	319°23.3	-1°23.6	358°40.8	-16°29.0
20	335°10.3	122°43.0	-12°05.9	250°04.0	23°38.4	334°26.0	-1°23.6	13°43.3	-16°29.0
21	350°12.7	137°42.5	-12°07.0	265°06.4	23°38.5	349°28.6	-1°23.7	28°45.7	-16°29.0
22	5°15.2	152°41.9	-12°08.2	280°08.7	23°38.6	4°31.3	-1°23.8	43°48.2	-16°29.0
23	20°17.6	167°41.4	-12°09.3	295°11.0	23°38.7	19°34.0	-1°23.9	58°50.6	-16°29.0
Mer.pass.:21:39		v-0.5 d-1.1 m-3.8		v2.3 d0.1 m-1.1		v2.7 d-0.1 m-2.7		v2.5 d0.0 m0.6	

Jue	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	35°20.1	182°40.9	-12°10.4	310°13.3	23°38.8	34°36.7	-1°24.0	73°53.1	-16°29.0
1	50°22.6	197°40.4	-12°11.5	325°15.7	23°39.0	49°39.3	-1°24.1	88°55.5	-16°28.9
2	65°25.0	212°39.8	-12°12.6	340°18.0	23°39.1	64°42.0	-1°24.1	103°58.0	-16°28.9
3	80°27.5	227°39.3	-12°13.7	355°20.3	23°39.2	79°44.7	-1°24.2	119°00.4	-16°28.9
4	95°30.0	242°38.8	-12°14.9	10°22.7	23°39.3	94°47.4	-1°24.3	134°02.9	-16°28.9
5	110°32.4	257°38.2	-12°16.0	25°25.0	23°39.4	109°50.0	-1°24.4	149°05.3	-16°28.9
6	125°34.9	272°37.7	-12°17.1	40°27.4	23°39.5	124°52.7	-1°24.5	164°07.8	-16°28.9
7	140°37.4	287°37.2	-12°18.2	55°29.7	23°39.6	139°55.4	-1°24.6	179°10.2	-16°28.9
8	155°39.8	302°36.6	-12°19.3	70°32.0	23°39.7	154°58.1	-1°24.6	194°12.7	-16°28.9
9	170°42.3	317°36.1	-12°20.4	85°34.4	23°39.9	170°00.7	-1°24.7	209°15.1	-16°28.9
10	185°44.8	332°35.6	-12°21.6	100°36.7	23°40.0	185°03.4	-1°24.8	224°17.6	-16°28.9
11	200°47.2	347°35.0	-12°22.7	115°39.1	23°40.1	200°06.1	-1°24.9	239°20.0	-16°28.9
12	215°49.7	2°34.5	-12°23.8	130°41.4	23°40.2	215°08.7	-1°25.0	254°22.5	-16°28.9
13	230°52.1	17°34.0	-12°24.9	145°43.8	23°40.3	230°11.4	-1°25.0	269°24.9	-16°28.9
14	245°54.6	32°33.4	-12°26.0	160°46.1	23°40.4	245°14.1	-1°25.1	284°27.3	-16°28.8
15	260°57.1	47°32.9	-12°27.1	175°48.5	23°40.5	260°16.8	-1°25.2	299°29.8	-16°28.8
16	275°59.5	62°32.4	-12°28.2	190°50.8	23°40.6	275°19.4	-1°25.3	314°32.2	-16°28.8
17	291°02.0	77°31.8	-12°29.4	205°53.2	23°40.8	290°22.1	-1°25.4	329°34.7	-16°28.8
18	306°04.5	92°31.3	-12°30.5	220°55.6	23°40.9	305°24.8	-1°25.4	344°37.1	-16°28.8
19	321°06.9	107°30.7	-12°31.6	235°57.9	23°41.0	320°27.4	-1°25.5	359°39.6	-16°28.8
20	336°09.4	122°30.2	-12°32.7	251°00.3	23°41.1	335°30.1	-1°25.6	14°42.0	-16°28.8
21	351°11.9	137°29.7	-12°33.8	266°02.6	23°41.2	350°32.8	-1°25.7	29°44.5	-16°28.8
22	6°14.3	152°29.1	-12°34.9	281°05.0	23°41.3	5°35.4	-1°25.8	44°46.9	-16°28.8
23	21°16.8	167°28.6	-12°36.0	296°07.4	23°41.4	20°38.1	-1°25.8	59°49.4	-16°28.8
Mer.pass.:21:35		v-0.5 d-1.1 m-3.8		v2.3 d0.1 m-1.1		v2.7 d-0.1 m-2.7		v2.4 d0.0 m0.6	

Estrellas

	AHS	Dec
Alpheratz	357°36.4	29°13.1
Ankaa	353°08.6	-42°11.0
Schedar	349°32.6	56°39.9
Diphda	348°48.7	-17°51.7
Achernar	335°21.0	-57°07.3
Hamal	327°53.0	23°34.3
Polaris	314°27.3	89°21.5
Akamar	315°12.8	-40°12.7
Menkar	314°07.8	4°10.8
Mirfak	308°30.4	49°56.5
Aldebaran	290°41.5	16°33.4
Rigel	281°05.4	-8°10.4
Capella	280°24.3	46°01.2
Bellatrix	278°24.6	6°22.3
Elnath	278°04.0	28°37.6
Alnilam	275°39.4	-1°11.1
Betelgeuse	270°53.9	7°24.8
Canopus	263°53.0	-52°42.1
Sirius	258°27.6	-16°44.4
Adara	255°07.2	-28°59.9
Procyon	244°52.6	5°10.3
Pollux	243°19.4	27°58.3
Avior	234°15.5	-59°34.5
Suhail	222°47.7	-43°31.1
Miaplacidus	221°38.9	-69°48.2
Alphard	217°49.7	-8°45.2
Regulus	207°36.5	11°51.5
Dubhe	193°43.7	61°37.6
Denebola	182°27.0	14°26.8
Gienah	175°45.8	-17°39.9
Acrux	173°02.8	-63°13.2
Gacrux	171°54.2	-57°14.2
Alioth	166°15.2	55°50.2
Spica	158°24.6	-11°16.6
Alcaid	152°53.9	49°12.1
Hadar	148°39.3	-60°28.8
Menkent	148°00.2	-36°28.7
Arcturus	145°49.8	19°04.3
Rigil Kent.	139°43.5	-60°55.7
Zubenelg.	136°58.4	-16°08.0
Kochab	137°20.9	74°03.8
Alphecca	126°05.7	26°38.5
Antares	112°18.4	-26°28.9
Atria	107°14.7	-69°04.2
Sabik	102°05.2	-15°45.1
Shaula	96°13.2	-37°07.2
Rasalhague	96°00.5	12°32.8
Etamin	90°43.3	51°29.4
Kaus Aust.	83°35.1	-34°22.5
Vega	80°34.7	38°48.5
Nunki	75°50.2	-26°16.1
Altair	62°01.9	8°55.8
Peacock	53°08.6	-56°39.9
Deneb	49°27.0	45°21.9
Enif	33°40.5	9°58.9
Alnair	27°35.1	-46°51.2
Fomalhaut	15°16.4	-29°30.2
Scheat	13°46.8	28°12.5
Markab	13°31.5	15°19.8

Oct 25 Mar	AHS	Paso Merid
Venus	149°44.0	11:48
Mars	275°01.5	03:26
Jupiter	359°06.2	21:46
Saturn	38°33.5	19:09

Oct 26 Mie	AHS	Paso Merid
Venus	148°32.5	11:49
Mars	274°56.9	03:22
Jupiter	359°11.5	21:42
Saturn	38°33.3	19:05

Oct 27 Jue	AHS	Paso Merid
Venus	147°20.8	11:50
Mars	274°53.2	03:19
Jupiter	359°16.6	21:38
Saturn	38°33.0	19:01

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.2

h	Sol		Luna				
Mar	AHG	Dec	AHG	v	Dec	d	HP
0	183°58.0	-12°00.8	188°49.2	12.5	-8°30.1	-15.1	58.0
1	198°58.1	-12°01.7	203°20.7	12.4	-8°45.2	-15.1	58.0
2	213°58.2	-12°02.5	217°52.1	12.4	-9°00.3	-15.0	58.0
3	228°58.2	-12°03.4	232°23.4	12.3	-9°15.3	-15.0	58.1
4	243°58.3	-12°04.3	246°54.6	12.2	-9°30.3	-15.0	58.1
5	258°58.4	-12°05.1	261°25.8	12.1	-9°45.2	-14.9	58.1
6	273°58.5	-12°06.0	275°56.9	12.1	-10°00.2	-14.9	58.1
7	288°58.5	-12°06.8	290°27.9	12.0	-10°15.1	-14.9	58.2
8	303°58.6	-12°07.7	304°58.9	11.9	-10°29.9	-14.8	58.2
9	318°58.7	-12°08.6	319°29.8	11.8	-10°44.7	-14.8	58.2
10	333°58.7	-12°09.4	334°00.6	11.8	-10°59.5	-14.8	58.2
11	348°58.8	-12°10.3	348°31.3	11.7	-11°14.2	-14.7	58.3
12	3°58.9	-12°11.1	3°01.9	11.6	-11°28.9	-14.7	58.3
13	18°59.0	-12°12.0	17°32.5	11.5	-11°43.6	-14.6	58.3
14	33°59.0	-12°12.9	32°02.9	11.4	-11°58.2	-14.6	58.3
15	48°59.1	-12°13.7	46°33.3	11.3	-12°12.7	-14.5	58.4
16	63°59.2	-12°14.6	61°03.6	11.3	-12°27.2	-14.5	58.4
17	78°59.2	-12°15.4	75°33.8	11.2	-12°41.7	-14.4	58.4
18	93°59.3	-12°16.3	90°03.9	11.1	-12°56.1	-14.4	58.4
19	108°59.4	-12°17.2	104°34.0	11.0	-13°10.4	-14.3	58.5
20	123°59.4	-12°18.0	119°03.9	10.9	-13°24.7	-14.3	58.5
21	138°59.5	-12°18.9	133°33.8	10.8	-13°38.9	-14.2	58.5
22	153°59.6	-12°19.7	148°03.6	10.7	-13°53.1	-14.1	58.5
23	168°59.6	-12°20.6	162°33.2	10.6	-14°07.2	-14.1	58.5
	SD.=16.1	d=-0.9			S.D.=15.8		

Mie	AHG	Dec	AHG	v	Dec	d	HP
0	183°59.7	-12°21.4	177°02.8	10.5	-14°21.2	-14.0	58.6
1	198°59.8	-12°22.3	191°32.3	10.4	-14°35.2	-13.9	58.6
2	213°59.8	-12°23.1	206°01.7	10.4	-14°49.1	-13.9	58.6
3	228°59.9	-12°24.0	220°31.0	10.3	-15°02.9	-13.8	58.6
4	244°00.0	-12°24.9	235°00.2	10.2	-15°16.7	-13.7	58.7
5	259°00.0	-12°25.7	249°29.3	10.1	-15°30.4	-13.7	58.7
6	274°00.1	-12°26.6	263°58.3	10.0	-15°44.0	-13.6	58.7
7	289°00.2	-12°27.4	278°27.3	9.9	-15°57.6	-13.5	58.7
8	304°00.2	-12°28.3	292°56.1	9.8	-16°11.0	-13.4	58.7
9	319°00.3	-12°29.1	307°24.8	9.7	-16°24.4	-13.3	58.8
10	334°00.4	-12°30.0	321°53.4	9.6	-16°37.7	-13.3	58.8
11	349°00.4	-12°30.8	336°21.9	9.5	-16°51.0	-13.2	58.8
12	4°00.5	-12°31.7	350°50.4	9.4	-17°04.1	-13.1	58.8
13	19°00.6	-12°32.5	5°18.7	9.3	-17°17.2	-13.0	58.8
14	34°00.6	-12°33.4	19°46.9	9.2	-17°30.1	-12.9	58.9
15	49°00.7	-12°34.2	34°15.0	9.1	-17°43.0	-12.8	58.9
16	64°00.7	-12°35.1	48°43.0	9.0	-17°55.8	-12.7	58.9
17	79°00.8	-12°35.9	63°10.9	8.9	-18°08.5	-12.6	58.9
18	94°00.9	-12°36.8	77°38.7	8.8	-18°21.1	-12.5	58.9
19	109°00.9	-12°37.6	92°06.4	8.7	-18°33.6	-12.4	59.0
20	124°01.0	-12°38.5	106°34.0	8.5	-18°46.0	-12.3	59.0
21	139°01.1	-12°39.3	121°01.5	8.4	-18°58.3	-12.2	59.0
22	154°01.1	-12°40.2	135°28.9	8.3	-19°10.4	-12.1	59.0
23	169°01.2	-12°41.0	149°56.2	8.2	-19°22.5	-12.0	59.0
	SD.=16.1	d=-0.9			S.D.=16.0		

Jue	AHG	Dec	AHG	v	Dec	d	HP
0	184°01.2	-12°41.9	164°23.4	8.1	-19°34.5	-11.9	59.0
1	199°01.3	-12°42.7	178°50.5	8.0	-19°46.4	-11.8	59.1
2	214°01.3	-12°43.6	193°17.4	7.9	-19°58.1	-11.7	59.1
3	229°01.4	-12°44.4	207°44.3	7.8	-20°09.8	-11.6	59.1
4	244°01.5	-12°45.3	222°11.1	7.7	-20°21.3	-11.5	59.1
5	259°01.5	-12°46.1	236°37.7	7.6	-20°32.7	-11.4	59.1
6	274°01.6	-12°47.0	251°04.3	7.5	-20°44.0	-11.2	59.1
7	289°01.6	-12°47.8	265°30.7	7.4	-20°55.2	-11.1	59.1
8	304°01.7	-12°48.7	279°57.0	7.3	-21°06.3	-11.0	59.2
9	319°01.8	-12°49.5	294°23.3	7.2	-21°17.2	-10.9	59.2
10	334°01.8	-12°50.3	308°49.4	7.1	-21°28.0	-10.7	59.2
11	349°01.9	-12°51.2	323°15.4	7.0	-21°38.7	-10.6	59.2
12	4°01.9	-12°52.0	337°41.4	6.9	-21°49.3	-10.5	59.2
13	19°02.0	-12°52.9	352°07.2	6.8	-21°59.7	-10.4	59.2
14	34°02.0	-12°53.7	6°32.9	6.7	-22°10.0	-10.2	59.2
15	49°02.1	-12°54.6	20°58.5	6.6	-22°20.2	-10.1	59.3
16	64°02.1	-12°55.4	35°24.0	6.5	-22°30.2	-10.0	59.3
17	79°02.2	-12°56.2	49°49.4	6.4	-22°40.1	-9.8	59.3
18	94°02.2	-12°57.1	64°14.7	6.3	-22°49.8	-9.7	59.3
19	109°02.3	-12°57.9	78°40.0	6.2	-22°59.4	-9.5	59.3
20	124°02.4	-12°58.8	93°05.1	6.1	-23°08.9	-9.4	59.3
21	139°02.4	-12°59.6	107°30.1	6.0	-23°18.2	-9.2	59.3
22	154°02.5	-13°00.4	121°55.0	5.9	-23°27.4	-9.1	59.3
23	169°02.5	-13°01.3	136°19.8	5.8	-23°36.4	-9.0	59.3
	SD.=16.1	d=-0.8			S.D.=16.1		

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	05:42	07:02	08:21	15:05	16:24	17:44
70	05:40	06:52	08:01	15:25	16:34	17:46
68	05:39	06:44	07:46	15:41	16:42	17:47
66	05:38	06:38	07:34	15:53	16:49	17:49
64	05:36	06:32	07:23	16:04	16:55	17:50
62	05:35	06:27	07:14	16:13	17:00	17:51
60	05:34	06:23	07:07	16:20	17:04	17:53
58	05:33	06:19	07:00	16:27	17:08	17:54
56	05:32	06:15	06:54	16:33	17:12	17:55
54	05:31	06:12	06:49	16:38	17:15	17:56
52	05:29	06:09	06:44	16:43	17:18	17:58
50	05:28	06:06	06:40	16:48	17:21	17:59
45	05:26	06:00	06:30	16:57	17:27	18:02
40	05:23	05:54	06:22	17:05	17:33	18:05
35	05:20	05:49	06:15	17:12	17:38	18:08
30	05:17	05:45	06:09	17:18	17:43	18:11
20	05:10	05:36	05:59	17:29	17:51	18:17
10	05:03	05:28	05:49	17:38	18:00	18:25
0	04:55	05:19	05:41	17:47	18:09	18:33
S 10	04:45	05:10	05:32	17:56	18:18	18:43
20	04:33	04:59	05:22	18:06	18:29	18:56
30	04:16	04:46	05:11	18:18	18:43	19:12
35	04:06	04:38	05:04	18:24	18:51	19:23
40	03:54	04:28	04:57	18:32	19:00	19:35
45	03:38	04:17	04:48	18:41	19:12	19:51
50	03:18	04:02	04:38	18:51	19:27	20:11
52	03:09	03:56	04:33	18:56	19:34	20:21
54	02:57	03:48	04:27	19:02	19:42	20:33
56	02:44	03:39	04:21	19:08	19:50	20:46
58	02:29	03:29	04:15	19:15	20:00	21:02
60	02:09	03:18	04:07	19:23	20:12	21:22

	Orto luna			Ocaso luna		
Lat.	Mar	Mie	Jue	Mar	Mie	Jue
N 72	08:01	11:18	–:–	15:04	13:33	–:–
70	07:43	10:18	–:–	15:25	14:35	–:–
68	07:28	09:44	–:–	15:42	15:11	–:–
66	07:17	09:20	11:48	15:55	15:37	15:02
64	07:07	09:01	11:08	16:07	15:57	15:43
62	06:59	08:45	10:41	16:16	16:14	16:11
60	06:52	08:33	10:20	16:25	16:27	16:33
58	06:46	08:22	10:02	16:32	16:39	16:51
56	06:40	08:12	09:48	16:38	16:50	17:06
54	06:35	08:04	09:36	16:44	16:59	17:19
52	06:31	07:56	09:25	16:50	17:07	17:31
50	06:27	07:50	09:15	16:54	17:15	17:41
45	06:19	07:35	08:55	17:05	17:30	18:02
40	06:12	07:24	08:39	17:14	17:44	18:20
35	06:06	07:14	08:25	17:21	17:55	18:35
30	06:00	07:05	08:13	17:28	18:05	18:47
20	05:51	06:50	07:53	17:39	18:22	19:09
10	05:43	06:38	07:35	17:50	18:37	19:29
0	05:36	06:26	07:19	17:59	18:51	19:46
S 10	05:29	06:14	07:03	18:09	19:05	20:04
20	05:21	06:01	06:46	18:19	19:20	20:24
30	05:12	05:47	06:27	18:31	19:37	20:46
35	05:07	05:39	06:15	18:38	19:47	20:59
40	05:02	05:30	06:03	18:46	19:59	21:15
45	04:55	05:19	05:47	18:55	20:13	21:33
50	04:48	05:06	05:29	19:06	20:30	21:55
52	04:44	05:00	05:20	19:11	20:38	22:06
54	04:40	04:53	05:11	19:17	20:47	22:19
56	04:36	04:46	05:00	19:23	20:57	22:33
58	04:31	04:38	04:47	19:30	21:09	22:50
60	04:26	04:28	04:33	19:39	21:22	23:10

Día	Sol			Luna		
	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
25	15:52	15:55	11:44	11:47	00:12	0(0%)
26	15:59	16:02	11:43	12:37	00:12	1(1%)
27	16:05	16:08	11:43	13:32	01:04	2(5%)

Octubre 28, 29, 30 (Vie, Sa, Dom.)

Vie	Aries AHG	Venus AHG	Venus Dec	Martes AHG	Martes Dec	Júpiter AHG	Júpiter Dec	Saturno AHG	Saturno Dec
0	36°19.3	182°28.1	-12°37.1	311°09.7	23°41.5	35°40.8	-1°25.9	74°51.8	-16°28.8
1	51°21.7	197°27.5	-12°38.2	326°12.1	23°41.7	50°43.4	-1°26.0	89°54.2	-16°28.7
2	66°24.2	212°27.0	-12°39.3	341°14.5	23°41.8	65°46.1	-1°26.1	104°56.7	-16°28.7
3	81°26.6	227°26.4	-12°40.4	356°16.9	23°41.9	80°48.8	-1°26.2	119°59.1	-16°28.7
4	96°29.1	242°25.9	-12°41.5	11°19.2	23°42.0	95°51.4	-1°26.2	135°01.6	-16°28.7
5	111°31.6	257°25.3	-12°42.6	26°21.6	23°42.1	110°54.1	-1°26.3	150°04.0	-16°28.7
6	126°34.0	272°24.8	-12°43.8	41°24.0	23°42.2	125°56.8	-1°26.4	165°06.5	-16°28.7
7	141°36.5	287°24.3	-12°44.9	56°26.4	23°42.3	140°59.4	-1°26.5	180°08.9	-16°28.7
8	156°39.0	302°23.7	-12°46.0	71°28.7	23°42.4	156°02.1	-1°26.5	195°11.3	-16°28.7
9	171°41.4	317°23.2	-12°47.1	86°31.1	23°42.6	171°04.8	-1°26.6	210°13.8	-16°28.7
10	186°43.9	332°22.6	-12°48.2	101°33.5	23°42.7	186°07.4	-1°26.7	225°16.2	-16°28.7
11	201°46.4	347°22.1	-12°49.3	116°35.9	23°42.8	201°10.1	-1°26.8	240°18.7	-16°28.7
12	216°48.8	2°21.5	-12°50.4	131°38.3	23°42.9	216°12.8	-1°26.9	255°21.1	-16°28.6
13	231°51.3	17°21.0	-12°51.5	146°40.7	23°43.0	231°15.4	-1°26.9	270°23.6	-16°28.6
14	246°53.8	32°20.4	-12°52.6	161°43.1	23°43.1	246°18.1	-1°27.0	285°26.0	-16°28.6
15	261°56.2	47°19.9	-12°53.7	176°45.5	23°43.2	261°20.8	-1°27.1	300°28.4	-16°28.6
16	276°58.7	62°19.4	-12°54.8	191°47.8	23°43.3	276°23.4	-1°27.2	315°30.9	-16°28.6
17	292°01.1	77°18.8	-12°55.9	206°50.2	23°43.5	291°26.1	-1°27.2	330°33.3	-16°28.6
18	307°03.6	92°18.3	-12°57.0	221°52.6	23°43.6	306°28.7	-1°27.3	345°35.8	-16°28.6
19	322°06.1	107°17.7	-12°58.1	236°55.0	23°43.7	321°31.4	-1°27.4	0°38.2	-16°28.6
20	337°08.5	122°17.2	-12°59.2	251°57.4	23°43.8	336°34.1	-1°27.5	15°40.6	-16°28.6
21	352°11.0	137°16.6	-13°00.3	266°59.8	23°43.9	351°36.7	-1°27.6	30°43.1	-16°28.6
22	7°13.5	152°16.1	-13°01.3	282°02.2	23°44.0	6°39.4	-1°27.6	45°45.5	-16°28.5
23	22°15.9	167°15.5	-13°02.4	297°04.7	23°44.1	21°42.1	-1°27.7	60°48.0	-16°28.5
Mer.pass.:21:31		v-0.5 d-1.1 m-3.8		v2.4 d0.1 m-1.1		v2.7 d-0.1 m-2.7		v2.4 d0.0 m0.6	

Sa	AHG	Venus AHG	Venus Dec	Martes AHG	Martes Dec	Júpiter AHG	Júpiter Dec	Saturno AHG	Saturno Dec
0	37°18.4	182°15.0	-13°03.5	312°07.1	23°44.3	36°44.7	-1°27.8	75°50.4	-16°28.5
1	52°20.9	197°14.4	-13°04.6	327°09.5	23°44.4	51°47.4	-1°27.9	90°52.8	-16°28.5
2	67°23.3	212°13.9	-13°05.7	342°11.9	23°44.5	66°50.0	-1°27.9	105°55.3	-16°28.5
3	82°25.8	227°13.3	-13°06.8	357°14.3	23°44.6	81°52.7	-1°28.0	120°57.7	-16°28.5
4	97°28.2	242°12.8	-13°07.9	12°16.7	23°44.7	96°55.4	-1°28.1	136°00.2	-16°28.5
5	112°30.7	257°12.2	-13°09.0	27°19.1	23°44.8	111°58.0	-1°28.2	151°02.6	-16°28.5
6	127°33.2	272°11.7	-13°10.1	42°21.5	23°44.9	127°00.7	-1°28.2	166°05.0	-16°28.5
7	142°35.6	287°11.1	-13°11.2	57°23.9	23°45.0	142°03.3	-1°28.3	181°07.5	-16°28.5
8	157°38.1	302°10.5	-13°12.3	72°26.4	23°45.2	157°06.0	-1°28.4	196°09.9	-16°28.4
9	172°40.6	317°10.0	-13°13.4	87°28.8	23°45.3	172°08.7	-1°28.5	211°12.4	-16°28.4
10	187°43.0	332°09.4	-13°14.5	102°31.2	23°45.4	187°11.3	-1°28.5	226°14.8	-16°28.4
11	202°45.5	347°08.9	-13°15.5	117°33.6	23°45.5	202°14.0	-1°28.6	241°17.2	-16°28.4
12	217°48.0	2°08.3	-13°16.6	132°36.1	23°45.6	217°16.6	-1°28.7	256°19.7	-16°28.4
13	232°50.4	17°07.8	-13°17.7	147°38.5	23°45.7	232°19.3	-1°28.8	271°22.1	-16°28.4
14	247°52.9	32°07.2	-13°18.8	162°40.9	23°45.8	247°22.0	-1°28.8	286°24.6	-16°28.4
15	262°55.4	47°06.7	-13°19.9	177°43.4	23°45.9	262°24.6	-1°28.9	301°27.0	-16°28.4
16	277°57.8	62°06.1	-13°21.0	192°45.8	23°46.1	277°27.3	-1°29.0	316°29.4	-16°28.4
17	293°00.3	77°05.5	-13°22.1	207°48.2	23°46.2	292°29.9	-1°29.1	331°31.9	-16°28.3
18	308°02.7	92°05.0	-13°23.1	222°50.7	23°46.3	307°32.6	-1°29.1	346°34.3	-16°28.3
19	323°05.2	107°04.4	-13°24.2	237°53.1	23°46.4	322°35.2	-1°29.2	1°36.7	-16°28.3
20	338°07.7	122°03.9	-13°25.3	252°55.5	23°46.5	337°37.9	-1°29.3	16°39.2	-16°28.3
21	353°10.1	137°03.3	-13°26.4	267°58.0	23°46.6	352°40.6	-1°29.4	31°41.6	-16°28.3
22	8°12.6	152°02.7	-13°27.5	283°00.4	23°46.7	7°43.2	-1°29.4	46°44.0	-16°28.3
23	23°15.1	167°02.2	-13°28.6	298°02.9	23°46.9	22°45.9	-1°29.5	61°46.5	-16°28.3
Mer.pass.:21:27		v-0.6 d-1.1 m-3.8		v2.4 d0.1 m-1.1		v2.7 d-0.1 m-2.7		v2.4 d0.0 m0.7	

Dom	AHG	Venus AHG	Venus Dec	Martes AHG	Martes Dec	Júpiter AHG	Júpiter Dec	Saturno AHG	Saturno Dec
0	38°17.5	182°01.6	-13°29.6	313°05.3	23°47.0	37°48.5	-1°29.6	76°48.9	-16°28.3
1	53°20.0	197°01.1	-13°30.7	328°07.8	23°47.1	52°51.2	-1°29.7	91°51.4	-16°28.3
2	68°22.5	212°00.5	-13°31.8	343°10.2	23°47.2	67°53.8	-1°29.7	106°53.8	-16°28.2
3	83°24.9	226°59.9	-13°32.9	358°12.6	23°47.3	82°56.5	-1°29.8	121°56.2	-16°28.2
4	98°27.4	241°59.4	-13°34.0	13°15.1	23°47.4	97°59.1	-1°29.9	136°58.7	-16°28.2
5	113°29.9	256°58.8	-13°35.0	28°17.6	23°47.5	113°01.8	-1°29.9	152°01.1	-16°28.2
6	128°32.3	271°58.2	-13°36.1	43°20.0	23°47.6	128°04.4	-1°30.0	167°03.5	-16°28.2
7	143°34.8	286°57.7	-13°37.2	58°22.5	23°47.8	143°07.1	-1°30.1	182°06.0	-16°28.2
8	158°37.2	301°57.1	-13°38.3	73°24.9	23°47.9	158°09.7	-1°30.2	197°08.4	-16°28.2
9	173°39.7	316°56.5	-13°39.3	88°27.4	23°48.0	173°12.4	-1°30.2	212°10.8	-16°28.2
10	188°42.2	331°56.0	-13°40.4	103°29.8	23°48.1	188°15.1	-1°30.3	227°13.3	-16°28.1
11	203°44.6	346°55.4	-13°41.5	118°32.3	23°48.2	203°17.7	-1°30.4	242°15.7	-16°28.1
12	218°47.1	1°54.8	-13°42.6	133°34.8	23°48.3	218°20.4	-1°30.4	257°18.1	-16°28.1
13	233°49.6	16°54.3	-13°43.6	148°37.2	23°48.4	233°23.0	-1°30.5	272°20.6	-16°28.1
14	248°52.0	31°53.7	-13°44.7	163°39.7	23°48.6	248°25.7	-1°30.6	287°23.0	-16°28.1
15	263°54.5	46°53.1	-13°45.8	178°42.2	23°48.7	263°28.3	-1°30.7	302°25.4	-16°28.1
16	278°57.0	61°52.6	-13°46.9	193°44.7	23°48.8	278°31.0	-1°30.7	317°27.9	-16°28.1
17	293°59.4	76°52.0	-13°47.9	208°47.1	23°48.9	293°33.6	-1°30.8	332°30.3	-16°28.1
18	309°01.9	91°51.4	-13°49.0	223°49.6	23°49.0	308°36.3	-1°30.9	347°32.7	-16°28.0
19	324°04.4	106°50.9	-13°50.1	238°52.1	23°49.1	323°38.9	-1°30.9	2°35.2	-16°28.0
20	339°06.8	121°50.3	-13°51.1	253°54.6	23°49.2	338°41.6	-1°31.0	17°37.6	-16°28.0
21	354°09.3	136°49.7	-13°52.2	268°57.0	23°49.4	353°44.2	-1°31.1	32°40.0	-16°28.0
22	9°11.7	151°49.2	-13°53.3	283°59.5	23°49.5	8°46.9	-1°31.2	47°42.5	-16°28.0
23	24°14.2	166°48.6	-13°54.3	299°02.0	23°49.6	23°49.5	-1°31.2	62°44.9	-16°28.0
Mer.pass.:21:23		v-0.6 d-1.1 m-3.8		v2.4 d0.1 m-1.2		v2.7 d-0.1 m-2.7		v2.4 d0.0 m0.7	

Estrellas

	AHS	Dec
Alpheratz	357°36.4	29°13.1
Ankaa	353°08.6	-42°11.0
Schedar	349°32.6	56°39.9
Diphda	348°48.7	-17°51.7
Achernar	335°21.0	-57°07.3
Hamal	327°53.0	23°34.3
Polaris	314°26.5	89°21.5
Akamar	315°12.7	-40°12.7
Menkar	314°07.8	4°10.8
Mirfak	308°30.4	49°56.5
Aldebaran	290°41.5	16°33.4
Rigel	281°05.4	-8°10.4
Capella	280°24.3	46°01.2
Bellatrix	278°24.6	6°22.3
Elnath	278°03.9	28°37.6
Alnilam	275°39.4	-1°11.1
Betelgeuse	270°53.9	7°24.7
Canopus	263°52.9	-52°42.1
Sirius	258°27.6	-16°44.4
Adara	255°07.2	-28°59.9
Procyon	244°52.6	5°10.3
Pollux	243°19.4	27°58.3
Avior	234°15.5	-59°34.5
Suhail	222°47.7	-43°31.1
Miaplacidus	221°38.8	-69°48.2
Alphard	217°49.6	-8°45.2
Regulus	207°36.5	11°51.5
Dubhe	193°43.7	61°37.6
Denebola	182°27.0	14°26.8
Gienah	175°45.7	-17°39.9
Acrux	173°02.8	-63°13.2
Gacrux	171°54.2	-57°14.2
Alioth	166°15.2	55°50.2
Spica	158°24.6	-11°16.6
Alcaid	152°53.9	49°12.0
Hadar	148°39.3	-60°28.8
Menkent	148°00.2	-36°28.7
Arcturus	145°49.8	19°04.3
Rigil Kent.	139°43.5	-60°55.6
Zubenelg.	136°58.4	-16°08.0
Kochab	137°20.9	74°03.8
Alphecca	126°05.7	26°38.5
Antares	112°18.4	-26°28.9
Atria	107°14.7	-69°04.2
Sabik	102°05.2	-15°45.1
Shaula	96°13.2	-37°07.2
Rasalhague	96°00.5	12°32.8
Etamin	90°43.4	51°29.4
Kaus Aust.	83°35.2	-34°22.5
Vega	80°34.7	38°48.5
Nunki	75°50.2	-26°16.1
Altair	62°01.9	8°55.8
Peacock	53°08.6	-56°39.9
Deneb	49°27.0	45°21.9
Enif	33°40.5	9°58.9
Alnair	27°35.1	-46°51.2
Fomalhaut	15°16.4	-29°30.2
Scheat	13°46.8	28°12.5
Markab	13°31.5	15°19.8

Oct 28 Vie	AHS	Paso Merid
Venus	146°08.8	11:51
Mars	274°50.5	03:15
Jupiter	359°21.5	21:33
Saturn	38°32.5	18:57

Oct 29 Sa	AHS	Paso Merid
Venus	144°56.6	11:51
Mars	274°48.7	03:11
Jupiter	359°26.3	21:29
Saturn	38°32.0	18:54

Oct 30 Dom	AHS	Paso Merid
Venus	143°44.1	11:52
Mars	274°47.8	03:07
Jupiter	359°31.0	21:25
Saturn	38°31.4	18:50

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.2

h	Sol		Luna				
Vie	AHG	Dec	AHG	v	Dec	d	HP
0	184°02.6	-13°02.1	150°44.5	5.7	-23°45.3	-8.8	59.4
1	199°02.6	-13°03.0	165°09.2	5.6	-23°54.0	-8.7	59.4
2	214°02.7	-13°03.8	179°33.7	5.5	-24°02.6	-8.5	59.4
3	229°02.7	-13°04.6	193°58.1	5.4	-24°11.0	-8.3	59.4
4	244°02.8	-13°05.5	208°22.5	5.3	-24°19.3	-8.2	59.4
5	259°02.8	-13°06.3	222°46.7	5.2	-24°27.4	-8.0	59.4
6	274°02.9	-13°07.2	237°10.9	5.1	-24°35.4	-7.9	59.4
7	289°02.9	-13°08.0	251°35.0	5.0	-24°43.1	-7.7	59.4
8	304°03.0	-13°08.8	265°59.0	4.9	-24°50.8	-7.5	59.4
9	319°03.0	-13°09.7	280°22.9	4.9	-24°58.2	-7.4	59.4
10	334°03.1	-13°10.5	294°46.7	4.8	-25°05.5	-7.2	59.4
11	349°03.1	-13°11.3	309°10.4	4.7	-25°12.7	-7.1	59.4
12	4°03.2	-13°12.2	323°34.1	4.6	-25°19.6	-6.9	59.5
13	19°03.2	-13°13.0	337°57.7	4.5	-25°26.4	-6.7	59.5
14	34°03.3	-13°13.8	352°21.2	4.5	-25°33.1	-6.5	59.5
15	49°03.3	-13°14.7	6°44.6	4.4	-25°39.5	-6.4	59.5
16	64°03.3	-13°15.5	21°07.9	4.3	-25°45.8	-6.2	59.5
17	79°03.4	-13°16.3	35°31.2	4.2	-25°51.9	-6.0	59.5
18	94°03.4	-13°17.2	49°54.4	4.2	-25°57.9	-5.8	59.5
19	109°03.5	-13°18.0	64°17.6	4.1	-26°03.6	-5.7	59.5
20	124°03.5	-13°18.8	78°40.6	4.0	-26°09.2	-5.5	59.5
21	139°03.6	-13°19.7	93°03.6	4.0	-26°14.6	-5.3	59.5
22	154°03.6	-13°20.5	107°26.6	3.9	-26°19.8	-5.1	59.5
23	169°03.7	-13°21.3	121°49.5	3.9	-26°24.9	-5.0	59.5
	SD.=16.1	d=-0.8	S.D.=16.2				

Sa	AHG	Dec	AHG	v	Dec	d	HP
0	184°03.7	-13°22.2	136°12.3	3.8	-26°29.7	-4.8	59.5
1	199°03.8	-13°23.0	150°35.1	3.7	-26°34.4	-4.6	59.5
2	214°03.8	-13°23.8	164°57.8	3.7	-26°38.9	-4.4	59.5
3	229°03.8	-13°24.7	179°20.4	3.6	-26°43.2	-4.2	59.5
4	244°03.9	-13°25.5	193°43.1	3.6	-26°47.4	-4.0	59.5
5	259°03.9	-13°26.3	208°05.6	3.5	-26°51.3	-3.8	59.5
6	274°04.0	-13°27.1	222°28.1	3.5	-26°55.1	-3.7	59.5
7	289°04.0	-13°28.0	236°50.6	3.5	-26°58.6	-3.5	59.5
8	304°04.0	-13°28.8	251°13.1	3.4	-27°02.0	-3.3	59.5
9	319°04.1	-13°29.6	265°35.4	3.4	-27°05.2	-3.1	59.5
10	334°04.1	-13°30.5	279°57.8	3.3	-27°08.2	-2.9	59.5
11	349°04.2	-13°31.3	294°20.1	3.3	-27°11.0	-2.7	59.5
12	4°04.2	-13°32.1	308°42.4	3.3	-27°13.6	-2.5	59.5
13	19°04.3	-13°32.9	323°04.7	3.3	-27°16.1	-2.3	59.5
14	34°04.3	-13°33.8	337°26.9	3.2	-27°18.3	-2.1	59.5
15	49°04.3	-13°34.6	351°49.2	3.2	-27°20.3	-1.9	59.5
16	64°04.4	-13°35.4	6°11.4	3.2	-27°22.2	-1.8	59.5
17	79°04.4	-13°36.2	20°33.5	3.2	-27°23.9	-1.6	59.5
18	94°04.4	-13°37.1	34°55.7	3.2	-27°25.3	-1.4	59.5
19	109°04.5	-13°37.9	49°17.9	3.1	-27°26.6	-1.2	59.5
20	124°04.5	-13°38.7	63°40.0	3.1	-27°27.7	-1.0	59.5
21	139°04.6	-13°39.5	78°02.1	3.1	-27°28.6	-0.8	59.5
22	154°04.6	-13°40.4	92°24.3	3.1	-27°29.3	-0.6	59.5
23	169°04.6	-13°41.2	106°46.4	3.1	-27°29.8	-0.4	59.5
	SD.=16.1	d=-0.8	S.D.=16.2				

Dom	AHG	Dec	AHG	v	Dec	d	HP
0	184°04.7	-13°42.0	121°08.5	3.1	-27°30.1	-0.2	59.5
1	199°04.7	-13°42.8	135°30.7	3.1	-27°30.2	-0.0	59.5
2	214°04.7	-13°43.6	149°52.8	3.1	-27°30.1	0.2	59.5
3	229°04.8	-13°44.5	164°14.9	3.2	-27°29.8	0.4	59.5
4	244°04.8	-13°45.3	178°37.1	3.2	-27°29.3	0.6	59.5
5	259°04.8	-13°46.1	192°59.3	3.2	-27°28.7	0.8	59.5
6	274°04.9	-13°46.9	207°21.5	3.2	-27°27.8	1.0	59.5
7	289°04.9	-13°47.7	221°43.7	3.2	-27°26.8	1.1	59.5
8	304°04.9	-13°48.6	236°05.9	3.2	-27°25.5	1.3	59.5
9	319°05.0	-13°49.4	250°28.1	3.3	-27°24.1	1.5	59.5
10	334°05.0	-13°50.2	264°50.4	3.3	-27°22.5	1.7	59.5
11	349°05.0	-13°51.0	279°12.7	3.3	-27°20.7	1.9	59.5
12	4°05.1	-13°51.8	293°35.0	3.4	-27°18.6	2.1	59.5
13	19°05.1	-13°52.6	307°57.4	3.4	-27°16.5	2.3	59.5
14	34°05.1	-13°53.5	322°19.8	3.4	-27°14.1	2.5	59.5
15	49°05.2	-13°54.3	336°42.3	3.5	-27°11.5	2.7	59.5
16	64°05.2	-13°55.1	351°04.7	3.5	-27°08.7	2.9	59.5
17	79°05.2	-13°55.9	5°27.3	3.5	-27°05.8	3.0	59.5
18	94°05.3	-13°56.7	19°49.8	3.6	-27°02.6	3.2	59.5
19	109°05.3	-13°57.5	34°12.5	3.6	-26°59.3	3.4	59.5
20	124°05.3	-13°58.4	48°35.1	3.7	-26°55.8	3.6	59.4
21	139°05.4	-13°59.2	62°57.8	3.7	-26°52.1	3.8	59.4
22	154°05.4	-14°00.0	77°20.6	3.8	-26°48.2	4.0	59.4
23	169°05.4	-14°00.8	91°43.5	3.9	-26°44.1	4.2	59.4
	SD.=16.1	d=-0.8	S.D.=16.2				

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	05:54	07:15	08:38	14:48	16:10	17:32
70	05:51	07:04	08:16	15:10	16:22	17:35
68	05:49	06:55	07:58	15:28	16:31	17:37
66	05:46	06:47	07:44	15:42	16:39	17:40
64	05:44	06:41	07:33	15:54	16:46	17:42
62	05:42	06:35	07:23	16:04	16:51	17:44
60	05:41	06:30	07:14	16:12	16:57	17:46
58	05:39	06:25	07:07	16:20	17:01	17:47
56	05:37	06:21	07:00	16:26	17:05	17:49
54	05:36	06:17	06:55	16:32	17:09	17:51
52	05:34	06:14	06:49	16:37	17:13	17:52
50	05:33	06:11	06:45	16:42	17:16	17:54
45	05:29	06:04	06:34	16:53	17:23	17:58
40	05:26	05:58	06:26	17:01	17:29	18:01
35	05:22	05:52	06:18	17:09	17:35	18:05
30	05:19	05:47	06:12	17:16	17:40	18:08
20	05:11	05:37	06:00	17:27	17:50	18:16
10	05:03	05:28	05:50	17:37	17:59	18:24
0	04:54	05:19	05:40	17:47	18:08	18:33
S 10	04:44	05:09	05:31	17:57	18:19	18:44
20	04:30	04:57	05:20	18:08	18:30	18:57
30	04:13	04:43	05:08	18:20	18:45	19:15
35	04:02	04:34	05:01	18:27	18:54	19:26
40	03:49	04:24	04:53	18:35	19:04	19:39
45	03:33	04:12	04:43	18:45	19:17	19:56
50	03:11	03:56	04:32	18:56	19:32	20:18
52	03:01	03:49	04:27	19:02	19:40	20:28
54	02:49	03:41	04:21	19:08	19:48	20:41
56	02:34	03:31	04:14	19:15	19:58	20:56
58	02:17	03:21	04:07	19:22	20:09	21:13
60	01:55	03:08	03:58	19:31	20:22	21:36

	Orto luna			Ocaso luna		
Lat.	Vie	Sa	Dom	Vie	Sa	Dom
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	–:–	–:–	–:–
68	–:–	–:–	–:–	–:–	–:–	–:–
66	–:–	–:–	–:–	–:–	–:–	–:–
64	13:52	–:–	–:–	15:02	–:–	–:–
62	12:44	14:44	15:40	16:11	16:22	17:39
60	12:09	13:46	14:47	16:47	17:20	18:31
58	11:44	13:13	14:15	17:13	17:53	19:03
56	11:23	12:48	13:51	17:33	18:18	19:27
54	11:07	12:29	13:32	17:50	18:38	19:46
52	10:52	12:12	13:15	18:05	18:54	20:02
50	10:40	11:58	13:01	18:18	19:09	20:16
45	10:14	11:29	12:32	18:44	19:38	20:45
40	09:54	11:06	12:10	19:05	20:01	21:07
35	09:37	10:47	11:51	19:23	20:20	21:25
30	09:23	10:31	11:35	19:38	20:36	21:41
20	08:58	10:04	11:08	20:03	21:04	22:08
10	08:37	09:41	10:44	20:26	21:27	22:31
0	08:17	09:19	10:22	20:47	21:49	22:52
S 10	07:58	08:58	10:00	21:07	22:11	23:13
20	07:37	08:34	09:37	21:30	22:35	23:36
30	07:13	08:08	09:10	21:56	23:02	–:–
35	06:59	07:52	08:54	22:11	23:18	–:–
40	06:43	07:34	08:35	22:29	23:37	–:–
45	06:24	07:12	08:12	22:50	00:00	–:–
50	06:00	06:44	07:43	23:17	–:–	00:29
52	05:49	06:30	07:29	23:31	–:–	00:43
54	05:36	06:15	07:13	23:46	–:–	00:59
56	05:21	05:57	06:53	–:–	00:04	01:19
58	05:04	05:34	06:29	–:–	00:26	01:43
60	04:43	05:05	05:57	–:–	00:55	02:16

Día	Sol			Luna		
	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
28	16:10	16:13	11:43	14:31	02:01	3(12%)
29	16:15	16:17	11:43	15:34	03:02	4(20%)
30	16:19	16:20	11:43	16:37	04:05	5(30%)

Octubre 31, 01, 02 (Lun, Mar, Mie.)

	Aries	Venus		Martes		Júpiter		Saturno	
Lun	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	39°16.7	181°48.0	-13°55.4	314°04.5	23°49.7	38°52.2	-1°31.3	77°47.3	-16°28.0
1	54°19.1	196°47.4	-13°56.5	329°07.0	23°49.8	53°54.8	-1°31.4	92°49.8	-16°28.0
2	69°21.6	211°46.9	-13°57.5	344°09.5	23°49.9	68°57.5	-1°31.4	107°52.2	-16°27.9
3	84°24.1	226°46.3	-13°58.6	359°12.0	23°50.0	84°00.1	-1°31.5	122°54.6	-16°27.9
4	99°26.5	241°45.7	-13°59.7	14°14.4	23°50.1	99°02.8	-1°31.6	137°57.0	-16°27.9
5	114°29.0	256°45.1	-14°00.7	29°16.9	23°50.3	114°05.4	-1°31.6	152°59.5	-16°27.9
6	129°31.5	271°44.6	-14°01.8	44°19.4	23°50.4	129°08.0	-1°31.7	168°01.9	-16°27.9
7	144°33.9	286°44.0	-14°02.9	59°21.9	23°50.5	144°10.7	-1°31.8	183°04.3	-16°27.9
8	159°36.4	301°43.4	-14°03.9	74°24.4	23°50.6	159°13.3	-1°31.9	198°06.8	-16°27.9
9	174°38.9	316°42.8	-14°05.0	89°26.9	23°50.7	174°16.0	-1°31.9	213°09.2	-16°27.9
10	189°41.3	331°42.3	-14°06.0	104°29.4	23°50.8	189°18.6	-1°32.0	228°11.6	-16°27.8
11	204°43.8	346°41.7	-14°07.1	119°31.9	23°50.9	204°21.3	-1°32.1	243°14.1	-16°27.8
12	219°46.2	1°41.1	-14°08.2	134°34.4	23°51.1	219°23.9	-1°32.1	258°16.5	-16°27.8
13	234°48.7	16°40.5	-14°09.2	149°36.9	23°51.2	234°26.6	-1°32.2	273°18.9	-16°27.8
14	249°51.2	31°39.9	-14°10.3	164°39.4	23°51.3	249°29.2	-1°32.3	288°21.3	-16°27.8
15	264°53.6	46°39.4	-14°11.3	179°42.0	23°51.4	264°31.9	-1°32.3	303°23.8	-16°27.8
16	279°56.1	61°38.8	-14°12.4	194°44.5	23°51.5	279°34.5	-1°32.4	318°26.2	-16°27.8
17	294°58.6	76°38.2	-14°13.5	209°47.0	23°51.6	294°37.1	-1°32.5	333°28.6	-16°27.7
18	310°01.0	91°37.6	-14°14.5	224°49.5	23°51.7	309°39.8	-1°32.5	348°31.1	-16°27.7
19	325°03.5	106°37.0	-14°15.6	239°52.0	23°51.9	324°42.4	-1°32.6	3°33.5	-16°27.7
20	340°06.0	121°36.5	-14°16.6	254°54.5	23°52.0	339°45.1	-1°32.7	18°35.9	-16°27.7
21	355°08.4	136°35.9	-14°17.7	269°57.0	23°52.1	354°47.7	-1°32.7	33°38.3	-16°27.7
22	10°10.9	151°35.3	-14°18.7	284°59.6	23°52.2	9°50.4	-1°32.8	48°40.8	-16°27.7
23	25°13.4	166°34.7	-14°19.8	300°02.1	23°52.3	24°53.0	-1°32.9	63°43.2	-16°27.7
Mer.pass.:21:19		v-0.6 d-1.1 m-3.8		v2.5 d0.1 m-1.2		v2.6 d-0.1 m-2.7		v2.4 d0.0 m0.7	

Mar	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	40°15.8	181°34.1	-14°20.8	315°04.6	23°52.4	39°55.6	-1°32.9	78°45.6	-16°27.6
1	55°18.3	196°33.5	-14°21.9	330°07.1	23°52.5	54°58.3	-1°33.0	93°48.1	-16°27.6
2	70°20.7	211°33.0	-14°22.9	345°09.7	23°52.6	70°00.9	-1°33.1	108°50.5	-16°27.6
3	85°23.2	226°32.4	-14°24.0	0°12.2	23°52.8	85°03.6	-1°33.1	123°52.9	-16°27.6
4	100°25.7	241°31.8	-14°25.0	15°14.7	23°52.9	100°06.2	-1°33.2	138°55.3	-16°27.6
5	115°28.1	256°31.2	-14°26.1	30°17.3	23°53.0	115°08.8	-1°33.3	153°57.8	-16°27.6
6	130°30.6	271°30.6	-14°27.1	45°19.8	23°53.1	130°11.5	-1°33.3	169°00.2	-16°27.6
7	145°33.1	286°30.0	-14°28.2	60°22.3	23°53.2	145°14.1	-1°33.4	184°02.6	-16°27.5
8	160°35.5	301°29.4	-14°29.2	75°24.9	23°53.3	160°16.8	-1°33.5	199°05.0	-16°27.5
9	175°38.0	316°28.9	-14°30.3	90°27.4	23°53.4	175°19.4	-1°33.5	214°07.5	-16°27.5
10	190°40.5	331°28.3	-14°31.3	105°30.0	23°53.6	190°22.0	-1°33.6	229°09.9	-16°27.5
11	205°42.9	346°27.7	-14°32.4	120°32.5	23°53.7	205°24.7	-1°33.7	244°12.3	-16°27.5
12	220°45.4	1°27.1	-14°33.4	135°35.0	23°53.8	220°27.3	-1°33.7	259°14.7	-16°27.5
13	235°47.8	16°26.5	-14°34.5	150°37.6	23°53.9	235°30.0	-1°33.8	274°17.2	-16°27.5
14	250°50.3	31°25.9	-14°35.5	165°40.1	23°54.0	250°32.6	-1°33.9	289°19.6	-16°27.4
15	265°52.8	46°25.3	-14°36.5	180°42.7	23°54.1	265°35.2	-1°33.9	304°22.0	-16°27.4
16	280°55.2	61°24.7	-14°37.6	195°45.2	23°54.2	280°37.9	-1°34.0	319°24.4	-16°27.4
17	295°57.7	76°24.1	-14°38.6	210°47.8	23°54.4	295°40.5	-1°34.1	334°26.9	-16°27.4
18	311°00.2	91°23.5	-14°39.7	225°50.3	23°54.5	310°43.1	-1°34.1	349°29.3	-16°27.4
19	326°02.6	106°22.9	-14°40.7	240°52.9	23°54.6	325°45.8	-1°34.2	4°31.7	-16°27.4
20	341°05.1	121°22.4	-14°41.7	255°55.5	23°54.7	340°48.4	-1°34.3	19°34.1	-16°27.3
21	356°07.6	136°21.8	-14°42.8	270°58.0	23°54.8	355°51.1	-1°34.3	34°36.6	-16°27.3
22	11°10.0	151°21.2	-14°43.8	286°00.6	23°54.9	10°53.7	-1°34.4	49°39.0	-16°27.3
23	26°12.5	166°20.6	-14°44.9	301°03.1	23°55.0	25°56.3	-1°34.5	64°41.4	-16°27.3
Mer.pass.:21:15		v-0.6 d-1.1 m-3.8		v2.5 d0.1 m-1.2		v2.6 d-0.1 m-2.6		v2.4 d0.0 m0.7	

Mie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	41°15.0	181°20.0	-14°45.9	316°05.7	23°55.2	40°59.0	-1°34.5	79°43.8	-16°27.3
1	56°17.4	196°19.4	-14°46.9	331°08.3	23°55.3	56°01.6	-1°34.6	94°46.3	-16°27.3
2	71°19.9	211°18.8	-14°48.0	346°10.8	23°55.4	71°04.2	-1°34.6	109°48.7	-16°27.3
3	86°22.3	226°18.2	-14°49.0	1°13.4	23°55.5	86°06.9	-1°34.7	124°51.1	-16°27.2
4	101°24.8	241°17.6	-14°50.0	16°16.0	23°55.6	101°09.5	-1°34.8	139°53.5	-16°27.2
5	116°27.3	256°17.0	-14°51.1	31°18.5	23°55.7	116°12.1	-1°34.8	154°55.9	-16°27.2
6	131°29.7	271°16.4	-14°52.1	46°21.1	23°55.8	131°14.8	-1°34.9	169°58.4	-16°27.2
7	146°32.2	286°15.8	-14°53.1	61°23.7	23°56.0	146°17.4	-1°35.0	185°00.8	-16°27.2
8	161°34.7	301°15.2	-14°54.2	76°26.3	23°56.1	161°20.0	-1°35.0	200°03.2	-16°27.2
9	176°37.1	316°14.6	-14°55.2	91°28.8	23°56.2	176°22.7	-1°35.1	215°05.6	-16°27.1
10	191°39.6	331°14.0	-14°56.2	106°31.4	23°56.3	191°25.3	-1°35.2	230°08.1	-16°27.1
11	206°42.1	346°13.4	-14°57.3	121°34.0	23°56.4	206°27.9	-1°35.2	245°10.5	-16°27.1
12	221°44.5	1°12.8	-14°58.3	136°36.6	23°56.5	221°30.6	-1°35.3	260°12.9	-16°27.1
13	236°47.0	16°12.2	-14°59.3	151°39.2	23°56.6	236°33.2	-1°35.3	275°15.3	-16°27.1
14	251°49.5	31°11.6	-15°00.3	166°41.8	23°56.8	251°35.8	-1°35.4	290°17.7	-16°27.1
15	266°51.9	46°11.0	-15°01.4	181°44.4	23°56.9	266°38.4	-1°35.5	305°20.2	-16°27.0
16	281°54.4	61°10.4	-15°02.4	196°46.9	23°57.0	281°41.1	-1°35.5	320°22.6	-16°27.0
17	296°56.8	76°09.8	-15°03.4	211°49.5	23°57.1	296°43.7	-1°35.6	335°25.0	-16°27.0
18	311°59.3	91°09.2	-15°04.5	226°52.1	23°57.2	311°46.3	-1°35.7	350°27.4	-16°27.0
19	327°01.8	106°08.6	-15°05.5	241°54.7	23°57.3	326°49.0	-1°35.7	5°29.8	-16°27.0
20	342°04.2	121°08.0	-15°06.5	256°57.3	23°57.4	341°51.6	-1°35.8	20°32.3	-16°27.0
21	357°06.7	136°07.4	-15°07.5	271°59.9	23°57.5	356°54.2	-1°35.8	35°34.7	-16°26.9
22	12°09.2	151°06.8	-15°08.5	287°02.5	23°57.7	11°56.9	-1°35.9	50°37.1	-16°26.9
23	27°11.6	166°06.1	-15°09.6	302°05.1	23°57.8	26°59.5	-1°36.0	65°39.5	-16°26.9
Mer.pass.:21:11		v-0.6 d-1.0 m-3.8		v2.6 d0.1 m-1.2		v2.6 d-0.1 m-2.6		v2.4 d0.0 m0.7	

Estrellas

	AHS	Dec
Alpheratz	357°36.4	29°13.1
Ankaa	353°08.6	-42°11.0
Schedar	349°32.6	56°39.9
Diphda	348°48.7	-17°51.7
Achernar	335°21.0	-57°07.3
Hamal	327°52.9	23°34.3
Polaris	314°25.9	89°21.6
Akamar	315°12.7	-40°12.7
Menkar	314°07.7	4°10.8
Mirfak	308°30.4	49°56.5
Aldebaran	290°41.4	16°33.4
Rigel	281°05.4	-8°10.4
Capella	280°24.2	46°01.2
Bellatrix	278°24.6	6°22.3
Elnath	278°03.9	28°37.6
Alnilam	275°39.4	-1°11.1
Betelgeuse	270°53.8	7°24.7
Canopus	263°52.9	-52°42.2
Sirius	258°27.6	-16°44.5
Adara	255°07.1	-28°59.9
Procyon	244°52.6	5°10.2
Pollux	243°19.3	27°58.2
Avior	234°15.4	-59°34.5
Suhail	222°47.7	-43°31.1
Miaplacidus	221°38.8	-69°48.2
Alphard	217°49.6	-8°45.2
Regulus	207°36.5	11°51.5
Dubhe	193°43.6	61°37.6
Denebola	182°27.0	14°26.8
Gienah	175°45.7	-17°39.9
Acrux	173°02.7	-63°13.2
Gacrux	171°54.2	-57°14.2
Alioth	166°15.1	55°50.2
Spica	158°24.5	-11°16.6
Alcaid	152°53.9	49°12.0
Hadar	148°39.3	-60°28.8
Menkent	148°00.2	-36°28.7
Arcturus	145°49.8	19°04.2
Rigil Kent.	139°43.5	-60°55.6
Zubenelg.	136°58.4	-16°08.0
Kochab	137°20.9	74°03.7
Alphecca	126°05.7	26°38.4
Antares	112°18.4	-26°28.9
Atria	107°14.7	-69°04.2
Sabik	102°05.2	-15°45.1
Shaula	96°13.2	-37°07.2
Rasalhague	96°00.5	12°32.8
Etamin	90°43.4	51°29.4
Kaus Aust.	83°35.2	-34°22.5
Vega	80°34.7	38°48.5
Nunki	75°50.2	-26°16.1
Altair	62°01.9	8°55.8
Peacock	53°08.7	-56°39.9
Deneb	49°27.1	45°21.9
Enif	33°40.5	9°58.9
Alnair	27°35.1	-46°51.2
Fomalhaut	15°16.4	-29°30.2
Scheat	13°46.8	28°12.5
Markab	13°31.5	15°19.8

Oct 31 Lun	AHS	Paso Merid
Venus	142°31.3	11:53
Mars	274°47.8	03:03
Jupiter	359°35.5	21:21
Saturn	38°30.6	18:46

Nov 01 Mar	AHS	Paso Merid
Venus	141°18.3	11:54
Mars	274°48.8	02:59
Jupiter	359°39.8	21:17
Saturn	38°29.8	18:42

Nov 02 Mie	AHS	Paso Merid
Venus	140°05.0	11:55
Mars	274°50.7	02:55
Jupiter	359°44.0	21:12
Saturn	38°28.9	18:38

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.2

h	Sol		Luna				
Lun	AHG	Dec	AHG	v	Dec	d	HP
0	184°05.4	-14°01.6	106°06.3	3.9	-26°39.9	4.3	59.4
1	199°05.5	-14°02.4	120°29.3	4.0	-26°35.5	4.5	59.4
2	214°05.5	-14°03.2	134°52.3	4.0	-26°30.9	4.7	59.4
3	229°05.5	-14°04.0	149°15.4	4.1	-26°26.1	4.9	59.4
4	244°05.5	-14°04.9	163°38.5	4.2	-26°21.1	5.1	59.4
5	259°05.6	-14°05.7	178°01.7	4.2	-26°16.0	5.2	59.4
6	274°05.6	-14°06.5	192°25.0	4.3	-26°10.6	5.4	59.4
7	289°05.6	-14°07.3	206°48.4	4.4	-26°05.1	5.6	59.4
8	304°05.7	-14°08.1	221°11.8	4.5	-25°59.5	5.8	59.4
9	319°05.7	-14°08.9	235°35.3	4.5	-25°53.6	5.9	59.4
10	334°05.7	-14°09.7	249°58.9	4.6	-25°47.6	6.1	59.3
11	349°05.7	-14°10.5	264°22.5	4.7	-25°41.4	6.3	59.3
12	4°05.8	-14°11.3	278°46.3	4.8	-25°35.1	6.4	59.3
13	19°05.8	-14°12.1	293°10.1	4.9	-25°28.6	6.6	59.3
14	34°05.8	-14°12.9	307°34.0	4.9	-25°21.9	6.8	59.3
15	49°05.8	-14°13.8	321°58.0	5.0	-25°15.0	6.9	59.3
16	64°05.8	-14°14.6	336°22.1	5.1	-25°08.0	7.1	59.3
17	79°05.9	-14°15.4	350°46.2	5.2	-25°00.9	7.3	59.3
18	94°05.9	-14°16.2	5°10.5	5.3	-24°53.5	7.4	59.3
19	109°05.9	-14°17.0	19°34.8	5.4	-24°46.0	7.6	59.3
20	124°05.9	-14°17.8	33°59.2	5.5	-24°38.4	7.7	59.3
21	139°06.0	-14°18.6	48°23.7	5.6	-24°30.6	7.9	59.2
22	154°06.0	-14°19.4	62°48.4	5.7	-24°22.6	8.0	59.2
23	169°06.0	-14°20.2	77°13.1	5.7	-24°14.5	8.2	59.2
	SD.=16.1	d=-0.8	S.D.=16.2				

Mar	AHG	Dec	AHG	v	Dec	d	HP
0	184°06.0	-14°21.0	91°37.9	5.8	-24°06.2	8.3	59.2
1	199°06.0	-14°21.8	106°02.7	5.9	-23°57.8	8.5	59.2
2	214°06.1	-14°22.6	120°27.7	6.0	-23°49.2	8.6	59.2
3	229°06.1	-14°23.4	134°52.8	6.1	-23°40.5	8.8	59.2
4	244°06.1	-14°24.2	149°18.0	6.2	-23°31.6	8.9	59.2
5	259°06.1	-14°25.0	163°43.3	6.3	-23°22.6	9.1	59.2
6	274°06.1	-14°25.8	178°08.6	6.4	-23°13.5	9.2	59.2
7	289°06.1	-14°26.6	192°34.1	6.5	-23°04.2	9.4	59.1
8	304°06.2	-14°27.4	206°59.7	6.6	-22°54.7	9.5	59.1
9	319°06.2	-14°28.2	221°25.4	6.7	-22°45.2	9.6	59.1
10	334°06.2	-14°29.0	235°51.1	6.8	-22°35.5	9.8	59.1
11	349°06.2	-14°29.8	250°17.0	6.9	-22°25.6	9.9	59.1
12	4°06.2	-14°30.6	264°43.0	7.0	-22°15.7	10.0	59.1
13	19°06.2	-14°31.4	279°09.1	7.1	-22°05.5	10.2	59.1
14	34°06.3	-14°32.2	293°35.2	7.2	-21°55.3	10.3	59.1
15	49°06.3	-14°33.0	308°01.5	7.3	-21°44.9	10.4	59.1
16	64°06.3	-14°33.8	322°27.9	7.4	-21°34.5	10.6	59.0
17	79°06.3	-14°34.6	336°54.4	7.5	-21°23.8	10.7	59.0
18	94°06.3	-14°35.4	351°20.9	7.6	-21°13.1	10.8	59.0
19	109°06.3	-14°36.2	5°47.6	7.7	-21°02.2	10.9	59.0
20	124°06.3	-14°37.0	20°14.4	7.8	-20°51.3	11.0	59.0
21	139°06.4	-14°37.8	34°41.3	7.9	-20°40.2	11.2	59.0
22	154°06.4	-14°38.6	49°08.3	8.0	-20°28.9	11.3	59.0
23	169°06.4	-14°39.4	63°35.4	8.1	-20°17.6	11.4	59.0
	SD.=16.1	d=-0.8	S.D.=16.2				

Mie	AHG	Dec	AHG	v	Dec	d	HP
0	184°06.4	-14°40.1	78°02.6	8.2	-20°06.2	11.5	58.9
1	199°06.4	-14°40.9	92°29.8	8.3	-19°54.6	11.6	58.9
2	214°06.4	-14°41.7	106°57.2	8.4	-19°42.9	11.7	58.9
3	229°06.4	-14°42.5	121°24.7	8.5	-19°31.2	11.8	58.9
4	244°06.4	-14°43.3	135°52.3	8.6	-19°19.3	11.9	58.9
5	259°06.5	-14°44.1	150°20.0	8.7	-19°07.3	12.0	58.9
6	274°06.5	-14°44.9	164°47.8	8.8	-18°55.2	12.1	58.9
7	289°06.5	-14°45.7	179°15.7	8.9	-18°43.0	12.2	58.9
8	304°06.5	-14°46.5	193°43.6	9.0	-18°30.7	12.3	58.8
9	319°06.5	-14°47.3	208°11.7	9.1	-18°18.3	12.4	58.8
10	334°06.5	-14°48.1	222°39.9	9.2	-18°05.8	12.5	58.8
11	349°06.5	-14°48.8	237°08.2	9.3	-17°53.2	12.6	58.8
12	4°06.5	-14°49.6	251°36.5	9.4	-17°40.5	12.7	58.8
13	19°06.5	-14°50.4	266°05.0	9.5	-17°27.8	12.8	58.8
14	34°06.5	-14°51.2	280°33.5	9.6	-17°14.9	12.9	58.8
15	49°06.5	-14°52.0	295°02.2	9.7	-17°02.0	13.0	58.7
16	64°06.5	-14°52.8	309°30.9	9.8	-16°48.9	13.1	58.7
17	79°06.6	-14°53.6	323°59.8	9.9	-16°35.8	13.2	58.7
18	94°06.6	-14°54.4	338°28.7	10.0	-16°22.6	13.3	58.7
19	109°06.6	-14°55.1	352°57.7	10.1	-16°09.3	13.3	58.7
20	124°06.6	-14°55.9	7°26.8	10.1	-15°55.9	13.4	58.7
21	139°06.6	-14°56.7	21°56.0	10.2	-15°42.5	13.5	58.7
22	154°06.6	-14°57.5	36°25.3	10.3	-15°28.9	13.6	58.6
23	169°06.6	-14°58.3	50°54.7	10.4	-15°15.3	13.6	58.6
	SD.=16.1	d=-0.8	S.D.=16.1				

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	06:06	07:29	08:56	14:29	15:57	17:19
70	06:02	07:16	08:30	14:56	16:10	17:24
68	05:58	07:05	08:11	15:15	16:20	17:27
66	05:55	06:57	07:55	15:31	16:29	17:31
64	05:52	06:49	07:42	15:44	16:37	17:34
62	05:50	06:43	07:31	15:55	16:44	17:36
60	05:47	06:37	07:22	16:04	16:49	17:39
58	05:45	06:32	07:14	16:12	16:55	17:41
56	05:43	06:27	07:07	16:20	16:59	17:43
54	05:41	06:23	07:00	16:26	17:03	17:45
52	05:39	06:19	06:55	16:32	17:07	17:47
50	05:37	06:16	06:49	16:37	17:11	17:49
45	05:33	06:08	06:38	16:48	17:19	17:54
40	05:29	06:01	06:29	16:58	17:26	17:58
35	05:25	05:55	06:21	17:06	17:32	18:02
30	05:21	05:49	06:14	17:13	17:38	18:06
20	05:13	05:39	06:01	17:26	17:48	18:14
10	05:04	05:29	05:50	17:37	17:58	18:23
0	04:54	05:19	05:40	17:47	18:08	18:33
S 10	04:43	05:08	05:30	17:58	18:19	18:45
20	04:28	04:55	05:18	18:09	18:32	18:59
30	04:10	04:40	05:05	18:22	18:47	19:18
35	03:59	04:31	04:58	18:30	18:57	19:29
40	03:45	04:20	04:49	18:39	19:08	19:43
45	03:27	04:07	04:39	18:49	19:21	20:01
50	03:05	03:50	04:27	19:02	19:38	20:24
52	02:53	03:43	04:21	19:07	19:46	20:36
54	02:40	03:34	04:14	19:14	19:55	20:49
56	02:24	03:24	04:07	19:21	20:05	21:05
58	02:05	03:12	03:59	19:29	20:17	21:25
60	01:40	02:58	03:50	19:39	20:31	21:51

	Orto luna			Ocaso luna		
Lat.	Lun	Mar	Mie	Lun	Mar	Mie
N 72	–:–	–:–	17:50	–:–	–:–	21:33
70	–:–	–:–	17:07	–:–	–:–	22:15
68	–:–	17:39	16:37	–:–	19:50	22:43
66	–:–	16:43	16:15	–:–	20:45	23:04
64	16:35	16:09	15:57	18:52	21:18	23:20
62	15:45	15:44	15:42	19:41	21:42	23:34
60	15:14	15:25	15:30	20:12	22:01	23:45
58	14:50	15:08	15:19	20:36	22:16	23:55
56	14:31	14:54	15:09	20:54	22:29	–:–
54	14:14	14:42	15:01	21:10	22:41	–:–
52	14:01	14:31	14:53	21:24	22:51	–:–
50	13:48	14:22	14:46	21:35	23:00	–:–
45	13:23	14:02	14:32	22:00	23:19	–:–
40	13:03	13:45	14:19	22:19	23:34	–:–
35	12:46	13:31	14:09	22:36	23:47	–:–
30	12:31	13:19	14:00	22:50	23:58	–:–
20	12:06	12:58	13:44	23:13	–:–	00:17
10	11:44	12:40	13:30	23:34	–:–	00:34
0	11:24	12:23	13:17	23:53	–:–	00:49
S 10	11:04	12:05	13:04	–:–	00:11	01:04
20	10:42	11:47	12:50	–:–	00:31	01:20
30	10:17	11:26	12:33	00:02	00:54	01:39
35	10:02	11:13	12:24	00:18	01:08	01:49
40	09:45	10:59	12:13	00:36	01:23	02:01
45	09:24	10:41	12:00	00:57	01:41	02:16
50	08:57	10:20	11:44	01:24	02:04	02:33
52	08:45	10:10	11:37	01:37	02:15	02:41
54	08:30	09:58	11:29	01:52	02:27	02:50
56	08:13	09:45	11:20	02:10	02:41	03:00
58	07:52	09:29	11:09	02:31	02:57	03:11
60	07:25	09:11	10:57	02:58	03:16	03:24

	Sol			Luna		
Día	Ec. tiempo 00:00 h	Ec. tiempo 12:00 h	Paso Merid	Paso Meridiano Superior	Paso Meridiano Inferior	Edad
31	16:22	16:23	11:43	17:38	05:08	6(41%)
1	16:24	16:25	11:43	18:35	06:07	7(53%)
2	16:26	16:26	11:43	19:29	07:03	8(64%)

Noviembre 03, 04, 05 (Jue, Vie, Sa.)

	Aries	Venus		Martes		Júpiter		Saturno	
Jue	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	42°14.1	181°05.5	-15°10.6	317°07.7	23°57.9	42°02.1	-1°36.0	80°41.9	-16°26.9
1	57°16.6	196°04.9	-15°11.6	332°10.3	23°58.0	57°04.7	-1°36.1	95°44.4	-16°26.9
2	72°19.0	211°04.3	-15°12.6	347°12.9	23°58.1	72°07.4	-1°36.1	110°46.8	-16°26.9
3	87°21.5	226°03.7	-15°13.7	2°15.6	23°58.2	87°10.0	-1°36.2	125°49.2	-16°26.8
4	102°23.9	241°03.1	-15°14.7	17°18.2	23°58.3	102°12.6	-1°36.3	140°51.6	-16°26.8
5	117°26.4	256°02.5	-15°15.7	32°20.8	23°58.5	117°15.2	-1°36.3	155°54.0	-16°26.8
6	132°28.9	271°01.9	-15°16.7	47°23.4	23°58.6	132°17.9	-1°36.4	170°56.4	-16°26.8
7	147°31.3	286°01.3	-15°17.7	62°26.0	23°58.7	147°20.5	-1°36.4	185°58.9	-16°26.8
8	162°33.8	301°00.7	-15°18.7	77°28.6	23°58.8	162°23.1	-1°36.5	201°01.3	-16°26.8
9	177°36.3	316°00.1	-15°19.8	92°31.2	23°58.9	177°25.8	-1°36.6	216°03.7	-16°26.7
10	192°38.7	330°59.4	-15°20.8	107°33.9	23°59.0	192°28.4	-1°36.6	231°06.1	-16°26.7
11	207°41.2	345°58.8	-15°21.8	122°36.5	23°59.1	207°31.0	-1°36.7	246°08.5	-16°26.7
12	222°43.7	0°58.2	-15°22.8	137°39.1	23°59.3	222°33.6	-1°36.7	261°11.0	-16°26.7
13	237°46.1	15°57.6	-15°23.8	152°41.7	23°59.4	237°36.3	-1°36.8	276°13.4	-16°26.7
14	252°48.6	30°57.0	-15°24.8	167°44.4	23°59.5	252°38.9	-1°36.9	291°15.8	-16°26.7
15	267°51.1	45°56.4	-15°25.8	182°47.0	23°59.6	267°41.5	-1°36.9	306°18.2	-16°26.6
16	282°53.5	60°55.8	-15°26.8	197°49.6	23°59.7	282°44.1	-1°37.0	321°20.6	-16°26.6
17	297°56.0	75°55.1	-15°27.8	212°52.3	23°59.8	297°46.7	-1°37.0	336°23.0	-16°26.6
18	312°58.4	90°54.5	-15°28.9	227°54.9	23°59.9	312°49.4	-1°37.1	351°25.4	-16°26.6
19	328°00.9	105°53.9	-15°29.9	242°57.5	24°00.1	327°52.0	-1°37.1	6°27.9	-16°26.6
20	343°03.4	120°53.3	-15°30.9	258°00.2	24°00.2	342°54.6	-1°37.2	21°30.3	-16°26.5
21	358°05.8	135°52.7	-15°31.9	273°02.8	24°00.3	357°57.2	-1°37.3	36°32.7	-16°26.5
22	13°08.3	150°52.1	-15°32.9	288°05.4	24°00.4	12°59.9	-1°37.3	51°35.1	-16°26.5
23	28°10.8	165°51.4	-15°33.9	303°08.1	24°00.5	28°02.5	-1°37.4	66°37.5	-16°26.5
Mer.pass.:21:07		v-0.6 d-1.0 m-3.8		v2.6 d0.1 m-1.3		v2.6 d-0.1 m-2.6		v2.4 d0.0 m0.7	

Vie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	43°13.2	180°50.8	-15°34.9	318°10.7	24°00.6	43°05.1	-1°37.4	81°39.9	-16°26.5
1	58°15.7	195°50.2	-15°35.9	333°13.4	24°00.7	58°07.7	-1°37.5	96°42.4	-16°26.5
2	73°18.2	210°49.6	-15°36.9	348°16.0	24°00.9	73°10.3	-1°37.6	111°44.8	-16°26.4
3	88°20.6	225°49.0	-15°37.9	3°18.7	24°01.0	88°13.0	-1°37.6	126°47.2	-16°26.4
4	103°23.1	240°48.3	-15°38.9	18°21.3	24°01.1	103°15.6	-1°37.7	141°49.6	-16°26.4
5	118°25.6	255°47.7	-15°39.9	33°24.0	24°01.2	118°18.2	-1°37.7	156°52.0	-16°26.4
6	133°28.0	270°47.1	-15°40.9	48°26.6	24°01.3	133°20.8	-1°37.8	171°54.4	-16°26.4
7	148°30.5	285°46.5	-15°41.9	63°29.3	24°01.4	148°23.4	-1°37.8	186°56.8	-16°26.3
8	163°32.9	300°45.9	-15°42.9	78°31.9	24°01.5	163°26.1	-1°37.9	201°59.3	-16°26.3
9	178°35.4	315°45.2	-15°43.9	93°34.6	24°01.7	178°28.7	-1°38.0	217°01.7	-16°26.3
10	193°37.9	330°44.6	-15°44.9	108°37.3	24°01.8	193°31.3	-1°38.0	232°04.1	-16°26.3
11	208°40.3	345°44.0	-15°45.9	123°39.9	24°01.9	208°33.9	-1°38.1	247°06.5	-16°26.3
12	223°42.8	0°43.4	-15°46.9	138°42.6	24°02.0	223°36.5	-1°38.1	262°08.9	-16°26.3
13	238°45.3	15°42.7	-15°47.9	153°45.2	24°02.1	238°39.2	-1°38.2	277°11.3	-16°26.2
14	253°47.7	30°42.1	-15°48.9	168°47.9	24°02.2	253°41.8	-1°38.2	292°13.7	-16°26.2
15	268°50.2	45°41.5	-15°49.9	183°50.6	24°02.3	268°44.4	-1°38.3	307°16.1	-16°26.2
16	283°52.7	60°40.9	-15°50.9	198°53.3	24°02.4	283°47.0	-1°38.3	322°18.6	-16°26.2
17	298°55.1	75°40.2	-15°51.9	213°55.9	24°02.6	298°49.6	-1°38.4	337°21.0	-16°26.2
18	313°57.6	90°39.6	-15°52.9	228°58.6	24°02.7	313°52.2	-1°38.5	352°23.4	-16°26.1
19	329°00.0	105°39.0	-15°53.9	244°01.3	24°02.8	328°54.8	-1°38.5	7°25.8	-16°26.1
20	344°02.5	120°38.3	-15°54.8	259°04.0	24°02.9	343°57.5	-1°38.6	22°28.2	-16°26.1
21	359°05.0	135°37.7	-15°55.8	274°06.6	24°03.0	359°00.1	-1°38.6	37°30.6	-16°26.1
22	14°07.4	150°37.1	-15°56.8	289°09.3	24°03.1	14°02.7	-1°38.7	52°33.0	-16°26.1
23	29°09.9	165°36.4	-15°57.8	304°12.0	24°03.2	29°05.3	-1°38.7	67°35.4	-16°26.0
Mer.pass.:21:03		v-0.6 d-1.0 m-3.8		v2.6 d0.1 m-1.3		v2.6 d-0.1 m-2.6		v2.4 d0.0 m0.7	

Sa	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	44°12.4	180°35.8	-15°58.8	319°14.7	24°03.4	44°07.9	-1°38.8	82°37.8	-16°26.0
1	59°14.8	195°35.2	-15°59.8	334°17.4	24°03.5	59°10.5	-1°38.8	97°40.3	-16°26.0
2	74°17.3	210°34.6	-16°00.8	349°20.1	24°03.6	74°13.1	-1°38.9	112°42.7	-16°26.0
3	89°19.8	225°33.9	-16°01.8	4°22.7	24°03.7	89°15.8	-1°38.9	127°45.1	-16°26.0
4	104°22.2	240°33.3	-16°02.7	19°25.4	24°03.8	104°18.4	-1°39.0	142°47.5	-16°25.9
5	119°24.7	255°32.7	-16°03.7	34°28.1	24°03.9	119°21.0	-1°39.1	157°49.9	-16°25.9
6	134°27.2	270°32.0	-16°04.7	49°30.8	24°04.0	134°23.6	-1°39.1	172°52.3	-16°25.9
7	149°29.6	285°31.4	-16°05.7	64°33.5	24°04.2	149°26.2	-1°39.2	187°54.7	-16°25.9
8	164°32.1	300°30.7	-16°06.7	79°36.2	24°04.3	164°28.8	-1°39.2	202°57.1	-16°25.9
9	179°34.5	315°30.1	-16°07.7	94°38.9	24°04.4	179°31.4	-1°39.3	217°59.5	-16°25.8
10	194°37.0	330°29.5	-16°08.6	109°41.6	24°04.5	194°34.0	-1°39.3	233°01.9	-16°25.8
11	209°39.5	345°28.8	-16°09.6	124°44.3	24°04.6	209°36.7	-1°39.4	248°04.3	-16°25.8
12	224°41.9	0°28.2	-16°10.6	139°47.0	24°04.7	224°39.3	-1°39.4	263°06.8	-16°25.8
13	239°44.4	15°27.6	-16°11.6	154°49.7	24°04.8	239°41.9	-1°39.5	278°09.2	-16°25.8
14	254°46.9	30°26.9	-16°12.6	169°52.4	24°05.0	254°44.5	-1°39.5	293°11.6	-16°25.7
15	269°49.3	45°26.3	-16°13.5	184°55.1	24°05.1	269°47.1	-1°39.6	308°14.0	-16°25.7
16	284°51.8	60°25.6	-16°14.5	199°57.9	24°05.2	284°49.7	-1°39.6	323°16.4	-16°25.7
17	299°54.3	75°25.0	-16°15.5	215°00.6	24°05.3	299°52.3	-1°39.7	338°18.8	-16°25.7
18	314°56.7	90°24.4	-16°16.5	230°03.3	24°05.4	314°54.9	-1°39.7	353°21.2	-16°25.7
19	329°59.2	105°23.7	-16°17.4	245°06.0	24°05.5	329°57.5	-1°39.8	8°23.6	-16°25.6
20	345°01.6	120°23.1	-16°18.4	260°08.7	24°05.6	345°00.1	-1°39.8	23°26.0	-16°25.6
21	0°04.1	135°22.4	-16°19.4	275°11.4	24°05.7	0°02.7	-1°39.9	38°28.4	-16°25.6
22	15°06.6	150°21.8	-16°20.4	290°14.2	24°05.9	15°05.4	-1°39.9	53°30.8	-16°25.6
23	30°09.0	165°21.2	-16°21.3	305°16.9	24°06.0	30°08.0	-1°40.0	68°33.2	-16°25.6
Mer.pass.:20:59		v-0.6 d-1.0 m-3.8		v2.7 d0.1 m-1.3		v2.6 d-0.1 m-2.6		v2.4 d0.0 m0.7	

Estrellas	AHS	Dec
Alpheratz	357°36.4	29°13.1
Ankaa	353°08.6	-42°11.1
Schedar	349°32.6	56°39.9
Diphda	348°48.7	-17°51.7
Achernar	335°21.0	-57°07.3
Hamal	327°52.9	23°34.3
Polaris	314°25.7	89°21.6
Akamar	315°12.7	-40°12.8
Menkar	314°07.7	4°10.8
Mirfak	308°30.4	49°56.5
Aldebaran	290°41.4	16°33.4
Rigel	281°05.3	-8°10.4
Capella	280°24.2	46°01.2
Bellatrix	278°24.6	6°22.3
Elnath	278°03.9	28°37.6
Alnilam	275°39.3	-1°11.1
Betelgeuse	270°53.8	7°24.7
Canopus	263°52.9	-52°42.2
Sirius	258°27.6	-16°44.5
Adara	255°07.1	-28°59.9
Procyon	244°52.5	5°10.2
Pollux	243°19.3	27°58.2
Avior	234°15.4	-59°34.5
Suhail	222°47.7	-43°31.1
Miaplacidus	221°38.7	-69°48.2
Alphard	217°49.6	-8°45.2
Regulus	207°36.4	11°51.4
Dubhe	193°43.6	61°37.6
Denebola	182°27.0	14°26.8
Gienah	175°45.7	-17°39.9
Acrux	173°02.7	-63°13.2
Gacrux	171°54.2	-57°14.2
Alioth	166°15.1	55°50.1
Spica	158°24.5	-11°16.6
Alcaid	152°53.9	49°12.0
Hadar	148°39.2	-60°28.8
Menkent	148°00.2	-36°28.7
Arcturus	145°49.8	19°04.2
Rigil Kent.	139°43.5	-60°55.6
Zubenelg.	136°58.4	-16°08.0
Kochab	137°20.9	74°03.7
Alphecca	126°05.7	26°38.4
Antares	112°18.4	-26°28.9
Atria	107°14.8	-69°04.2
Sabik	102°05.2	-15°45.1
Shaula	96°13.2	-37°07.2
Rasalhague	96°00.5	12°32.8
Etamin	90°43.4	51°29.3
Kaus Aust.	83°35.2	-34°22.5
Vega	80°34.7	38°48.4
Nunki	75°50.2	-26°16.1
Altair	62°01.9	8°55.8
Peacock	53°08.7	-56°39.9
Deneb	49°27.1	45°21.9
Enif	33°40.5	9°58.9
Alnair	27°35.1	-46°51.2
Fomalhaut	15°16.4	-29°30.2
Scheat	13°46.8	28°12.5
Markab	13°31.6	15°19.8

Nov 03 Jue	AHS	Paso Merid
Venus	138°51.4	11:56
Mars	274°53.6	02:51
Jupiter	359°48.0	21:08
Saturn	38°27.8	18:34

Nov 04 Vie	AHS	Paso Merid
Venus	137°37.6	11:57
Mars	274°57.5	02:47
Jupiter	359°51.9	21:04
Saturn	38°26.7	18:30

Nov 05 Sa	AHS	Paso Merid
Venus	136°23.4	11:58
Mars	275°02.3	02:43
Jupiter	359°55.6	21:00
Saturn	38°25.5	18:27

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.2

h	Sol		Luna				
Jue	AHG	Dec	AHG	v	Dec	d	HP
0	184°06.6	-14°59.1	65°24.1	10.5	-15°01.7	13.7	58.6
1	199°06.6	-14°59.8	79°53.6	10.6	-14°47.9	13.8	58.6
2	214°06.6	-15°00.6	94°23.3	10.7	-14°34.1	13.9	58.6
3	229°06.6	-15°01.4	108°53.0	10.7	-14°20.2	13.9	58.6
4	244°06.6	-15°02.2	123°22.8	10.8	-14°06.2	14.0	58.6
5	259°06.6	-15°03.0	137°52.6	10.9	-13°52.2	14.1	58.5
6	274°06.6	-15°03.8	152°22.6	11.0	-13°38.1	14.1	58.5
7	289°06.6	-15°04.5	166°52.6	11.1	-13°23.9	14.2	58.5
8	304°06.6	-15°05.3	181°22.7	11.1	-13°09.7	14.3	58.5
9	319°06.6	-15°06.1	195°52.9	11.2	-12°55.4	14.3	58.5
10	334°06.6	-15°06.9	210°23.2	11.3	-12°41.1	14.4	58.5
11	349°06.6	-15°07.6	224°53.5	11.4	-12°26.7	14.4	58.5
12	4°06.6	-15°08.4	239°23.9	11.5	-12°12.2	14.5	58.4
13	19°06.6	-15°09.2	253°54.4	11.5	-11°57.7	14.5	58.4
14	34°06.6	-15°10.0	268°25.0	11.6	-11°43.2	14.6	58.4
15	49°06.6	-15°10.8	282°55.6	11.7	-11°28.5	14.6	58.4
16	64°06.6	-15°11.5	297°26.3	11.7	-11°13.9	14.7	58.4
17	79°06.6	-15°12.3	311°57.1	11.8	-10°59.2	14.7	58.4
18	94°06.6	-15°13.1	326°27.9	11.9	-10°44.4	14.8	58.3
19	109°06.6	-15°13.9	340°58.8	11.9	-10°29.6	14.8	58.3
20	124°06.6	-15°14.6	355°29.8	12.0	-10°14.7	14.9	58.3
21	139°06.6	-15°15.4	10°00.8	12.1	-9°59.8	14.9	58.3
22	154°06.6	-15°16.2	24°31.9	12.1	-9°44.9	15.0	58.3
23	169°06.6	-15°17.0	39°03.1	12.2	-9°29.9	15.0	58.3
	SD.=16.1	d=-0.8	S.D.=16.0				

Vie	AHG	Dec	AHG	v	Dec	d	HP
0	184°06.6	-15°17.7	53°34.3	12.3	-9°14.9	15.0	58.2
1	199°06.6	-15°18.5	68°05.6	12.3	-8°59.9	15.1	58.2
2	214°06.6	-15°19.3	82°36.9	12.4	-8°44.8	15.1	58.2
3	229°06.6	-15°20.0	97°08.3	12.4	-8°29.6	15.1	58.2
4	244°06.6	-15°20.8	111°39.8	12.5	-8°14.5	15.2	58.2
5	259°06.5	-15°21.6	126°11.3	12.5	-7°59.3	15.2	58.2
6	274°06.5	-15°22.4	140°42.9	12.6	-7°44.1	15.2	58.1
7	289°06.5	-15°23.1	155°14.5	12.6	-7°28.8	15.3	58.1
8	304°06.5	-15°23.9	169°46.1	12.7	-7°13.5	15.3	58.1
9	319°06.5	-15°24.7	184°17.9	12.7	-6°58.2	15.3	58.1
10	334°06.5	-15°25.4	198°49.6	12.8	-6°42.9	15.3	58.1
11	349°06.5	-15°26.2	213°21.4	12.8	-6°27.5	15.4	58.1
12	4°06.5	-15°27.0	227°53.3	12.9	-6°12.2	15.4	58.0
13	19°06.5	-15°27.7	242°25.2	12.9	-5°56.8	15.4	58.0
14	34°06.5	-15°28.5	256°57.2	13.0	-5°41.3	15.4	58.0
15	49°06.5	-15°29.3	271°29.1	13.0	-5°25.9	15.4	58.0
16	64°06.5	-15°30.0	286°01.2	13.1	-5°10.4	15.5	58.0
17	79°06.4	-15°30.8	300°33.3	13.1	-4°55.0	15.5	58.0
18	94°06.4	-15°31.6	315°05.4	13.1	-4°39.5	15.5	57.9
19	109°06.4	-15°32.3	329°37.5	13.2	-4°24.0	15.5	57.9
20	124°06.4	-15°33.1	344°09.7	13.2	-4°08.5	15.5	57.9
21	139°06.4	-15°33.9	358°42.0	13.2	-3°53.0	15.5	57.9
22	154°06.4	-15°34.6	13°14.2	13.3	-3°37.4	15.5	57.9
23	169°06.4	-15°35.4	27°46.5	13.3	-3°21.9	15.5	57.8
	SD.=16.1	d=-0.8	S.D.=15.9				

Sa	AHG	Dec	AHG	v	Dec	d	HP
0	184°06.4	-15°36.1	42°18.8	13.3	-3°06.3	15.5	57.8
1	199°06.4	-15°36.9	56°51.2	13.4	-2°50.8	15.6	57.8
2	214°06.3	-15°37.7	71°23.6	13.4	-2°35.2	15.6	57.8
3	229°06.3	-15°38.4	85°56.0	13.4	-2°19.7	15.6	57.8
4	244°06.3	-15°39.2	100°28.5	13.5	-2°04.1	15.6	57.8
5	259°06.3	-15°39.9	115°00.9	13.5	-1°48.5	15.6	57.7
6	274°06.3	-15°40.7	129°33.4	13.5	-1°33.0	15.6	57.7
7	289°06.3	-15°41.5	144°06.0	13.5	-1°17.4	15.6	57.7
8	304°06.2	-15°42.2	158°38.5	13.6	-1°01.9	15.6	57.7
9	319°06.2	-15°43.0	173°11.1	13.6	-0°46.3	15.6	57.7
10	334°06.2	-15°43.7	187°43.7	13.6	-0°30.8	15.5	57.6
11	349°06.2	-15°44.5	202°16.3	13.6	-0°15.2	15.5	57.6
12	4°06.2	-15°45.3	216°48.9	13.6	0°00.3	15.5	57.6
13	19°06.2	-15°46.0	231°21.6	13.7	0°15.8	15.5	57.6
14	34°06.1	-15°46.8	245°54.2	13.7	0°31.3	15.5	57.6
15	49°06.1	-15°47.5	260°26.9	13.7	0°46.8	15.5	57.5
16	64°06.1	-15°48.3	274°59.6	13.7	1°02.3	15.5	57.5
17	79°06.1	-15°49.0	289°32.3	13.7	1°17.8	15.5	57.5
18	94°06.1	-15°49.8	304°05.0	13.7	1°33.3	15.5	57.5
19	109°06.1	-15°50.5	318°37.8	13.7	1°48.7	15.4	57.5
20	124°06.0	-15°51.3	333°10.5	13.7	2°04.1	15.4	57.4
21	139°06.0	-15°52.0	347°43.2	13.7	2°19.6	15.4	57.4
22	154°06.0	-15°52.8	2°16.0	13.8	2°34.9	15.4	57.4
23	169°06.0	-15°53.5	16°48.7	13.8	2°50.3	15.4	57.4
	SD.=16.1	d=-0.8	S.D.=15.8				

Lat.	Crepúsculo Naut.	Crepúsculo Civil	Orto Sol	Crepúsculo Civil	Crepúsculo Naut.	Ocaso Sol
N 72	06:18	07:43	09:16	14:10	15:43	17:08
70	06:12	07:28	08:46	14:40	15:58	17:13
68	06:08	07:16	08:23	15:03	16:10	17:18
66	06:04	07:06	08:06	15:20	16:20	17:22
64	06:00	06:57	07:52	15:34	16:29	17:26
62	05:57	06:50	07:40	15:46	16:36	17:29
60	05:54	06:44	07:30	15:57	16:42	17:32
58	05:51	06:38	07:21	16:05	16:48	17:35
56	05:49	06:33	07:13	16:13	16:53	17:38
54	05:46	06:28	07:06	16:20	16:58	17:40
52	05:44	06:24	07:00	16:26	17:02	17:42
50	05:42	06:20	06:54	16:32	17:06	17:45
45	05:37	06:12	06:42	16:44	17:15	17:50
40	05:32	06:04	06:32	16:54	17:23	17:55
35	05:27	05:57	06:24	17:03	17:29	17:59
30	05:23	05:51	06:16	17:11	17:36	18:04
20	05:14	05:40	06:03	17:24	17:47	18:13
10	05:04	05:29	05:51	17:36	17:58	18:23
0	04:54	05:19	05:40	17:47	18:08	18:33
S 10	04:42	05:07	05:29	17:58	18:20	18:46
20	04:27	04:54	05:17	18:10	18:34	19:01
30	04:07	04:38	05:03	18:25	18:50	19:20
35	03:55	04:28	04:55	18:33	19:00	19:33
40	03:40	04:16	04:46	18:42	19:12	19:48
45	03:22	04:02	04:35	18:53	19:26	20:06
50	02:58	03:45	04:21	19:07	19:44	20:31
52	02:46	03:36	04:15	19:13	19:52	20:44
54	02:31	03:27	04:08	19:20	20:02	20:58
56	02:14	03:16	04:01	19:28	20:13	21:16
58	01:53	03:03	03:52	19:37	20:26	21:38
60	01:24	02:49	03:42	19:47	20:41	22:08

Lat.	Orto luna Jue	Orto luna Vie	Orto luna Sa	Ocaso luna Jue	Ocaso luna Vie	Ocaso luna Sa
N 72	16:42	16:02	15:30	–:–	00:26	02:45
70	16:24	15:55	15:31	–:–	00:41	02:48
68	16:10	15:49	15:31	–:–	00:53	02:51
66	15:58	15:44	15:32	–:–	01:03	02:54
64	15:48	15:40	15:33	–:–	01:11	02:56
62	15:39	15:36	15:33	–:–	01:18	02:57
60	15:32	15:33	15:34	–:–	01:24	02:59
58	15:25	15:30	15:34	–:–	01:30	03:00
56	15:20	15:28	15:35	00:04	01:34	03:02
54	15:14	15:25	15:35	00:11	01:38	03:03
52	15:10	15:23	15:35	00:18	01:42	03:04
50	15:05	15:21	15:36	00:24	01:46	03:05
45	14:56	15:17	15:36	00:37	01:53	03:07
40	14:48	15:13	15:37	00:48	01:59	03:08
35	14:41	15:10	15:37	00:57	02:04	03:09
30	14:35	15:07	15:38	01:05	02:09	03:11
20	14:25	15:03	15:39	01:18	02:17	03:13
10	14:16	14:58	15:39	01:30	02:24	03:15
0	14:07	14:54	15:40	01:41	02:30	03:16
S 10	13:58	14:50	15:41	01:52	02:36	03:18
20	13:49	14:46	15:41	02:04	02:43	03:20
30	13:39	14:41	15:42	02:17	02:50	03:21
35	13:32	14:39	15:43	02:24	02:55	03:23
40	13:25	14:35	15:43	02:33	03:00	03:24
45	13:17	14:32	15:44	02:43	03:05	03:25
50	13:07	14:27	15:45	02:54	03:12	03:27
52	13:03	14:25	15:45	03:00	03:15	03:28
54	12:57	14:23	15:46	03:06	03:18	03:28
56	12:52	14:20	15:46	03:12	03:22	03:29
58	12:45	14:18	15:47	03:20	03:26	03:30
60	12:38	14:14	15:48	03:28	03:30	03:31

Día	Sol Ec. tiempo 00:00 h	Sol Ec. tiempo 12:00 h	Sol Paso Merid	Luna Paso Meridiano Superior	Luna Paso Meridiano Inferior	Luna Edad
3	16:26	16:26	11:43	20:18	07:54	9(74%)
4	16:26	16:26	11:43	21:05	08:42	10(83%)
5	16:25	16:25	11:43	21:50	09:28	11(91%)

Noviembre 06, 07, 08 (Dom, Lun, Mar.)

	Aries	Venus		Martes		Júpiter		Saturno	
Dom	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	45°11.5	180°20.5	-16°22.3	320°19.6	24°06.1	45°10.6	-1°40.0	83°35.6	-16°25.5
1	60°14.0	195°19.9	-16°23.3	335°22.3	24°06.2	60°13.2	-1°40.1	98°38.1	-16°25.5
2	75°16.4	210°19.2	-16°24.2	350°25.1	24°06.3	75°15.8	-1°40.2	113°40.5	-16°25.5
3	90°18.9	225°18.6	-16°25.2	5°27.8	24°06.4	90°18.4	-1°40.2	128°42.9	-16°25.5
4	105°21.4	240°17.9	-16°26.2	20°30.5	24°06.5	105°21.0	-1°40.3	143°45.3	-16°25.5
5	120°23.8	255°17.3	-16°27.1	35°33.3	24°06.7	120°23.6	-1°40.3	158°47.7	-16°25.4
6	135°26.3	270°16.6	-16°28.1	50°36.0	24°06.8	135°26.2	-1°40.4	173°50.1	-16°25.4
7	150°28.8	285°16.0	-16°29.1	65°38.7	24°06.9	150°28.8	-1°40.4	188°52.5	-16°25.4
8	165°31.2	300°15.3	-16°30.0	80°41.5	24°07.0	165°31.4	-1°40.5	203°54.9	-16°25.4
9	180°33.7	315°14.7	-16°31.0	95°44.2	24°07.1	180°34.0	-1°40.5	218°57.3	-16°25.3
10	195°36.1	330°14.1	-16°32.0	110°46.9	24°07.2	195°36.6	-1°40.6	233°59.7	-16°25.3
11	210°38.6	345°13.4	-16°32.9	125°49.7	24°07.3	210°39.2	-1°40.6	249°02.1	-16°25.3
12	225°41.1	0°12.8	-16°33.9	140°52.4	24°07.4	225°41.8	-1°40.7	264°04.5	-16°25.3
13	240°43.5	15°12.1	-16°34.8	155°55.2	24°07.6	240°44.4	-1°40.7	279°06.9	-16°25.3
14	255°46.0	30°11.5	-16°35.8	170°57.9	24°07.7	255°47.0	-1°40.8	294°09.3	-16°25.2
15	270°48.5	45°10.8	-16°36.8	186°00.7	24°07.8	270°49.6	-1°40.8	309°11.7	-16°25.2
16	285°50.9	60°10.1	-16°37.7	201°03.4	24°07.9	285°52.2	-1°40.9	324°14.1	-16°25.2
17	300°53.4	75°09.5	-16°38.7	216°06.2	24°08.0	300°54.8	-1°40.9	339°16.5	-16°25.2
18	315°55.9	90°08.8	-16°39.6	231°08.9	24°08.1	315°57.4	-1°40.9	354°18.9	-16°25.2
19	330°58.3	105°08.2	-16°40.6	246°11.7	24°08.2	331°00.0	-1°41.0	9°21.3	-16°25.1
20	346°00.8	120°07.5	-16°41.6	261°14.4	24°08.4	346°02.6	-1°41.0	24°23.7	-16°25.1
21	1°03.3	135°06.9	-16°42.5	276°17.2	24°08.5	1°05.2	-1°41.1	39°26.1	-16°25.1
22	16°05.7	150°06.2	-16°43.5	291°20.0	24°08.6	16°07.8	-1°41.1	54°28.5	-16°25.1
23	31°08.2	165°05.6	-16°44.4	306°22.7	24°08.7	31°10.4	-1°41.2	69°30.9	-16°25.0
Mer.pass.:20:55		v-0.6 d-1.0 m-3.8		v2.7 d0.1 m-1.3		v2.6 d-0.1 m-2.6		v2.4 d0.0 m0.7	

Lun	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	46°10.6	180°04.9	-16°45.4	321°25.5	24°08.8	46°13.0	-1°41.2	84°33.3	-16°25.0
1	61°13.1	195°04.3	-16°46.3	336°28.3	24°08.9	61°15.6	-1°41.3	99°35.7	-16°25.0
2	76°15.6	210°03.6	-16°47.3	351°31.0	24°09.0	76°18.2	-1°41.3	114°38.2	-16°25.0
3	91°18.0	225°02.9	-16°48.2	6°33.8	24°09.1	91°20.8	-1°41.4	129°40.6	-16°25.0
4	106°20.5	240°02.3	-16°49.2	21°36.6	24°09.3	106°23.4	-1°41.4	144°43.0	-16°24.9
5	121°23.0	255°01.6	-16°50.1	36°39.3	24°09.4	121°26.0	-1°41.5	159°45.4	-16°24.9
6	136°25.4	270°01.0	-16°51.1	51°42.1	24°09.5	136°28.6	-1°41.5	174°47.8	-16°24.9
7	151°27.9	285°00.3	-16°52.0	66°44.9	24°09.6	151°31.2	-1°41.6	189°50.2	-16°24.9
8	166°30.4	299°59.6	-16°53.0	81°47.7	24°09.7	166°33.8	-1°41.6	204°52.6	-16°24.8
9	181°32.8	314°59.0	-16°53.9	96°50.4	24°09.8	181°36.4	-1°41.7	219°55.0	-16°24.8
10	196°35.3	329°58.3	-16°54.9	111°53.2	24°09.9	196°39.0	-1°41.7	234°57.4	-16°24.8
11	211°37.7	344°57.7	-16°55.8	126°56.0	24°10.0	211°41.6	-1°41.8	249°59.8	-16°24.8
12	226°40.2	359°57.0	-16°56.7	141°58.8	24°10.2	226°44.2	-1°41.8	265°02.2	-16°24.7
13	241°42.7	14°56.3	-16°57.7	157°01.6	24°10.3	241°46.8	-1°41.8	280°04.6	-16°24.7
14	256°45.1	29°55.7	-16°58.6	172°04.4	24°10.4	256°49.4	-1°41.9	295°07.0	-16°24.7
15	271°47.6	44°55.0	-16°59.6	187°07.2	24°10.5	271°52.0	-1°41.9	310°09.4	-16°24.7
16	286°50.1	59°54.3	-17°00.5	202°10.0	24°10.6	286°54.6	-1°42.0	325°11.8	-16°24.7
17	301°52.5	74°53.7	-17°01.4	217°12.7	24°10.7	301°57.2	-1°42.0	340°14.2	-16°24.6
18	316°55.0	89°53.0	-17°02.4	232°15.5	24°10.8	316°59.8	-1°42.1	355°16.6	-16°24.6
19	331°57.5	104°52.4	-17°03.3	247°18.3	24°11.0	332°02.4	-1°42.1	10°19.0	-16°24.6
20	346°59.9	119°51.7	-17°04.3	262°21.1	24°11.1	347°05.0	-1°42.2	25°21.4	-16°24.6
21	2°02.4	134°51.0	-17°05.2	277°23.9	24°11.2	2°07.6	-1°42.2	40°23.8	-16°24.5
22	17°04.9	149°50.3	-17°06.1	292°26.7	24°11.3	17°10.2	-1°42.3	55°26.2	-16°24.5
23	32°07.3	164°49.7	-17°07.1	307°29.5	24°11.4	32°12.8	-1°42.3	70°28.6	-16°24.5
Mer.pass.:20:51		v-0.7 d-1.0 m-3.8		v2.8 d0.1 m-1.4		v2.6 d-0.0 m-2.6		v2.4 d0.0 m0.7	

Mar	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	47°09.8	179°49.0	-17°08.0	322°32.3	24°11.5	47°15.3	-1°42.3	85°31.0	-16°24.5
1	62°12.2	194°48.3	-17°08.9	337°35.2	24°11.6	62°17.9	-1°42.4	100°33.3	-16°24.4
2	77°14.7	209°47.7	-17°09.9	352°38.0	24°11.7	77°20.5	-1°42.4	115°35.7	-16°24.4
3	92°17.2	224°47.0	-17°10.8	7°40.8	24°11.9	92°23.1	-1°42.5	130°38.1	-16°24.4
4	107°19.6	239°46.3	-17°11.7	22°43.6	24°12.0	107°25.7	-1°42.5	145°40.5	-16°24.4
5	122°22.1	254°45.7	-17°12.7	37°46.4	24°12.1	122°28.3	-1°42.6	160°42.9	-16°24.4
6	137°24.6	269°45.0	-17°13.6	52°49.2	24°12.2	137°30.9	-1°42.6	175°45.3	-16°24.3
7	152°27.0	284°44.3	-17°14.5	67°52.0	24°12.3	152°33.5	-1°42.7	190°47.7	-16°24.3
8	167°29.5	299°43.6	-17°15.4	82°54.8	24°12.4	167°36.1	-1°42.7	205°50.1	-16°24.3
9	182°32.0	314°43.0	-17°16.4	97°57.7	24°12.5	182°38.7	-1°42.7	220°52.5	-16°24.3
10	197°34.4	329°42.3	-17°17.3	113°00.5	24°12.6	197°41.3	-1°42.8	235°54.9	-16°24.2
11	212°36.9	344°41.6	-17°18.2	128°03.3	24°12.7	212°43.8	-1°42.8	250°57.3	-16°24.2
12	227°39.4	359°40.9	-17°19.1	143°06.1	24°12.9	227°46.4	-1°42.9	265°59.7	-16°24.2
13	242°41.8	14°40.3	-17°20.1	158°09.0	24°13.0	242°49.0	-1°42.9	281°02.1	-16°24.2
14	257°44.3	29°39.6	-17°21.0	173°11.8	24°13.1	257°51.6	-1°43.0	296°04.5	-16°24.1
15	272°46.7	44°38.9	-17°21.9	188°14.6	24°13.2	272°54.2	-1°43.0	311°06.9	-16°24.1
16	287°49.2	59°38.2	-17°22.8	203°17.5	24°13.3	287°56.8	-1°43.0	326°09.3	-16°24.1
17	302°51.7	74°37.6	-17°23.8	218°20.3	24°13.4	302°59.4	-1°43.1	341°11.7	-16°24.1
18	317°54.1	89°36.9	-17°24.7	233°23.1	24°13.5	318°02.0	-1°43.1	356°14.1	-16°24.0
19	332°56.6	104°36.2	-17°25.6	248°26.0	24°13.6	333°04.5	-1°43.2	11°16.5	-16°24.0
20	347°59.1	119°35.5	-17°26.5	263°28.8	24°13.8	348°07.1	-1°43.2	26°18.9	-16°24.0
21	3°01.5	134°34.8	-17°27.4	278°31.6	24°13.9	3°09.7	-1°43.2	41°21.3	-16°24.0
22	18°04.0	149°34.2	-17°28.3	293°34.5	24°14.0	18°12.3	-1°43.3	56°23.7	-16°23.9
23	33°06.5	164°33.5	-17°29.3	308°37.3	24°14.1	33°14.9	-1°43.3	71°26.1	-16°23.9
Mer.pass.:20:47		v-0.7 d-0.9 m-3.8		v2.8 d0.1 m-1.4		v2.6 d-0.0 m-2.6		v2.4 d0.0 m0.7	

Estrellas

	AHS	Dec
Alpheratz	357°36.4	29°13.1
Ankaa	353°08.6	-42°11.1
Schedar	349°32.7	56°39.9
Diphda	348°48.7	-17°51.7
Achernar	335°21.0	-57°07.4
Hamal	327°52.9	23°34.3
Polaris	314°25.5	89°21.6
Akamar	315°12.7	-40°12.8
Menkar	314°07.7	4°10.8
Mirfak	308°30.4	49°56.5
Aldebaran	290°41.4	16°33.4
Rigel	281°05.3	-8°10.4
Capella	280°24.2	46°01.2
Bellatrix	278°24.6	6°22.3
Elnath	278°03.9	28°37.6
Alnilam	275°39.3	-1°11.1
Betelgeuse	270°53.8	7°24.7
Canopus	263°52.8	-52°42.2
Sirius	258°27.6	-16°44.5
Adara	255°07.1	-28°59.9
Procyon	244°52.5	5°10.2
Pollux	243°19.3	27°58.2
Avior	234°15.3	-59°34.5
Suhail	222°47.6	-43°31.1
Miaplacidus	221°38.7	-69°48.2
Alphard	217°49.6	-8°45.2
Regulus	207°36.4	11°51.4
Dubhe	193°43.5	61°37.5
Denebola	182°27.0	14°26.8
Gienah	175°45.7	-17°39.9
Acrux	173°02.7	-63°13.2
Gacrux	171°54.1	-57°14.2
Alioth	166°15.1	55°50.1
Spica	158°24.5	-11°16.6
Alcaid	152°53.9	49°12.0
Hadar	148°39.2	-60°28.8
Menkent	148°00.2	-36°28.7
Arcturus	145°49.8	19°04.2
Rigil Kent.	139°43.5	-60°55.6
Zubenelg.	136°58.4	-16°08.0
Kochab	137°20.9	74°03.7
Alphecca	126°05.7	26°38.4
Antares	112°18.4	-26°28.9
Atria	107°14.8	-69°04.1
Sabik	102°05.2	-15°45.1
Shaula	96°13.2	-37°07.2
Rasalhague	96°00.5	12°32.8
Etamin	90°43.4	51°29.3
Kaus Aust.	83°35.2	-34°22.5
Vega	80°34.8	38°48.4
Nunki	75°50.2	-26°16.1
Altair	62°01.9	8°55.8
Peacock	53°08.7	-56°39.9
Deneb	49°27.1	45°21.9
Enif	33°40.6	9°58.9
Alnair	27°35.1	-46°51.2
Fomalhaut	15°16.4	-29°30.2
Scheat	13°46.8	28°12.5
Markab	13°31.6	15°19.8

Nov 06 Dom	AHS	Paso Merid
Venus	135°09.0	11:59
Mars	275°08.1	02:38
Jupiter	359°59.1	20:56
Saturn	38°24.1	18:23

Nov 07 Lun	AHS	Paso Merid
Venus	133°54.3	12:00
Mars	275°14.8	02:34
Jupiter	0°02.4	20:52
Saturn	38°22.7	18:19

Nov 08 Mar	AHS	Paso Merid
Venus	132°39.2	12:01
Mars	275°22.6	02:29
Jupiter	0°05.6	20:47
Saturn	38°21.2	18:15

Paralelaje Horizontal

Venus:	0.1
Mars:	0.2

h	Sol		Luna				
Dom	AHG	Dec	AHG	v	Dec	d	HP
0	184°05.9	-15°54.3	31°21.5	13.8	3°05.7	15.3	57.4
1	199°05.9	-15°55.1	45°54.3	13.8	3°21.0	15.3	57.4
2	214°05.9	-15°55.8	60°27.0	13.8	3°36.3	15.3	57.3
3	229°05.9	-15°56.6	74°59.8	13.8	3°51.5	15.3	57.3
4	244°05.9	-15°57.3	89°32.6	13.8	4°06.8	15.2	57.3
5	259°05.8	-15°58.0	104°05.4	13.8	4°22.0	15.2	57.3
6	274°05.8	-15°58.8	118°38.1	13.8	4°37.2	15.2	57.3
7	289°05.8	-15°59.5	133°10.9	13.8	4°52.4	15.1	57.2
8	304°05.8	-16°00.3	147°43.7	13.8	5°07.5	15.1	57.2
9	319°05.7	-16°01.0	162°16.4	13.8	5°22.6	15.1	57.2
10	334°05.7	-16°01.8	176°49.2	13.8	5°37.6	15.0	57.2
11	349°05.7	-16°02.5	191°22.0	13.7	5°52.7	15.0	57.2
12	4°05.7	-16°03.3	205°54.7	13.7	6°07.6	15.0	57.1
13	19°05.6	-16°04.0	220°27.4	13.7	6°22.6	14.9	57.1
14	34°05.6	-16°04.8	235°00.2	13.7	6°37.5	14.9	57.1
15	49°05.6	-16°05.5	249°32.9	13.7	6°52.4	14.9	57.1
16	64°05.6	-16°06.3	264°05.6	13.7	7°07.2	14.8	57.0
17	79°05.5	-16°07.0	278°38.3	13.7	7°22.0	14.8	57.0
18	94°05.5	-16°07.7	293°11.0	13.7	7°36.8	14.7	57.0
19	109°05.5	-16°08.5	307°43.6	13.7	7°51.5	14.7	57.0
20	124°05.4	-16°09.2	322°16.3	13.6	8°06.1	14.6	57.0
21	139°05.4	-16°10.0	336°48.9	13.6	8°20.7	14.6	56.9
22	154°05.4	-16°10.7	351°21.5	13.6	8°35.3	14.5	56.9
23	169°05.4	-16°11.5	5°54.1	13.6	8°49.8	14.5	56.9
	SD.=16.1	d=-0.8	S.D.=15.7				

Lun	AHG	Dec	AHG	v	Dec	d	HP
0	184°05.3	-16°12.2	20°26.7	13.6	9°04.3	14.4	56.9
1	199°05.3	-16°12.9	34°59.3	13.6	9°18.7	14.4	56.9
2	214°05.3	-16°13.7	49°31.8	13.5	9°33.1	14.3	56.8
3	229°05.2	-16°14.4	64°04.3	13.5	9°47.4	14.3	56.8
4	244°05.2	-16°15.1	78°36.8	13.5	10°01.7	14.2	56.8
5	259°05.2	-16°15.9	93°09.3	13.5	10°15.9	14.2	56.8
6	274°05.1	-16°16.6	107°41.8	13.4	10°30.0	14.1	56.8
7	289°05.1	-16°17.4	122°14.2	13.4	10°44.1	14.1	56.7
8	304°05.1	-16°18.1	136°46.6	13.4	10°58.1	14.0	56.7
9	319°05.0	-16°18.8	151°19.0	13.4	11°12.1	13.9	56.7
10	334°05.0	-16°19.6	165°51.3	13.3	11°26.0	13.9	56.7
11	349°05.0	-16°20.3	180°23.6	13.3	11°39.9	13.8	56.6
12	4°04.9	-16°21.0	194°55.9	13.3	11°53.7	13.8	56.6
13	19°04.9	-16°21.8	209°28.2	13.3	12°07.4	13.7	56.6
14	34°04.9	-16°22.5	224°00.4	13.2	12°21.1	13.6	56.6
15	49°04.8	-16°23.2	238°32.6	13.2	12°34.7	13.6	56.6
16	64°04.8	-16°24.0	253°04.8	13.2	12°48.2	13.5	56.5
17	79°04.8	-16°24.7	267°37.0	13.1	13°01.7	13.4	56.5
18	94°04.7	-16°25.4	282°09.1	13.1	13°15.1	13.4	56.5
19	109°04.7	-16°26.2	296°41.2	13.1	13°28.4	13.3	56.5
20	124°04.7	-16°26.9	311°13.2	13.0	13°41.7	13.2	56.5
21	139°04.6	-16°27.6	325°45.2	13.0	13°54.8	13.1	56.4
22	154°04.6	-16°28.4	340°17.2	13.0	14°07.9	13.1	56.4
23	169°04.5	-16°29.1	354°49.1	12.9	14°21.0	13.0	56.4
	SD.=16.1	d=-0.7	S.D.=15.5				

Mar	AHG	Dec	AHG	v	Dec	d	HP
0	184°04.5	-16°29.8	9°21.0	12.9	14°33.9	12.9	56.4
1	199°04.5	-16°30.5	23°52.9	12.8	14°46.8	12.8	56.3
2	214°04.4	-16°31.3	38°24.7	12.8	14°59.6	12.8	56.3
3	229°04.4	-16°32.0	52°56.5	12.8	15°12.4	12.7	56.3
4	244°04.3	-16°32.7	67°28.3	12.7	15°25.0	12.6	56.3
5	259°04.3	-16°33.4	82°00.0	12.7	15°37.6	12.5	56.3
6	274°04.3	-16°34.2	96°31.6	12.7	15°50.1	12.4	56.2
7	289°04.2	-16°34.9	111°03.3	12.6	16°02.5	12.4	56.2
8	304°04.2	-16°35.6	125°34.9	12.6	16°14.8	12.3	56.2
9	319°04.1	-16°36.3	140°06.4	12.5	16°27.1	12.2	56.2
10	334°04.1	-16°37.1	154°37.9	12.5	16°39.2	12.1	56.1
11	349°04.0	-16°37.8	169°09.4	12.5	16°51.3	12.0	56.1
12	4°04.0	-16°38.5	183°40.8	12.4	17°03.3	11.9	56.1
13	19°04.0	-16°39.2	198°12.2	12.4	17°15.2	11.9	56.1
14	34°03.9	-16°40.0	212°43.6	12.3	17°27.0	11.8	56.1
15	49°03.9	-16°40.7	227°14.9	12.3	17°38.7	11.7	56.0
16	64°03.8	-16°41.4	241°46.1	12.2	17°50.3	11.6	56.0
17	79°03.8	-16°42.1	256°17.3	12.2	18°01.8	11.5	56.0
18	94°03.7	-16°42.8	270°48.5	12.1	18°13.3	11.4	56.0
19	109°03.7	-16°43.6	285°19.6	12.1	18°24.6	11.3	56.0
20	124°03.6	-16°44.3	299°50.7	12.1	18°35.9	11.2	55.9
21	139°03.6	-16°45.0	314°21.8	12.0	18°47.0	11.1	55.9
22	154°03.6	-16°45.7	328°52.8	12.0	18°58.1	11.0	55.9
23	169°03.5	-16°46.4	343°23.7	11.9	19°09.1	10.9	55.9
	SD.=16.1	d=-0.7	S.D.=15.4				

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	06:29	07:57	09:37	13:49	15:29	16:56
70	06:23	07:40	09:01	14:25	15:46	17:03
68	06:17	07:26	08:36	14:50	16:00	17:09
66	06:12	07:15	08:17	15:09	16:11	17:14
64	06:08	07:06	08:01	15:25	16:20	17:18
62	06:04	06:58	07:48	15:38	16:29	17:22
60	06:00	06:51	07:37	15:49	16:36	17:26
58	05:57	06:44	07:28	15:59	16:42	17:29
56	05:54	06:39	07:20	16:07	16:48	17:32
54	05:51	06:34	07:12	16:15	16:53	17:35
52	05:49	06:29	07:05	16:21	16:58	17:38
50	05:46	06:25	06:59	16:27	17:02	17:40
45	05:40	06:15	06:46	16:40	17:11	17:46
40	05:35	06:07	06:36	16:51	17:20	17:52
35	05:30	06:00	06:27	17:00	17:27	17:57
30	05:25	05:53	06:18	17:09	17:34	18:02
20	05:15	05:41	06:04	17:23	17:46	18:12
10	05:05	05:30	05:52	17:35	17:57	18:22
0	04:54	05:19	05:40	17:47	18:09	18:34
S 10	04:41	05:06	05:28	17:59	18:21	18:47
20	04:25	04:52	05:16	18:12	18:35	19:03
30	04:05	04:35	05:01	18:27	18:53	19:23
35	03:52	04:25	04:52	18:36	19:03	19:36
40	03:36	04:13	04:42	18:46	19:15	19:52
45	03:17	03:58	04:31	18:57	19:30	20:12
50	02:51	03:39	04:17	19:12	19:49	20:38
52	02:38	03:30	04:10	19:19	19:58	20:51
54	02:23	03:20	04:03	19:26	20:09	21:07
56	02:04	03:08	03:54	19:34	20:21	21:26
58	01:40	02:55	03:45	19:44	20:35	21:51
60	01:06	02:39	03:34	19:55	20:51	22:28

	Orto luna			Ocaso luna		
Lat.	Dom	Lun	Mar	Dom	Lun	Mar
N 72	14:57	14:16	13:00	04:56	07:13	10:07
70	15:06	14:37	13:53	04:50	06:55	09:16
68	15:14	14:53	14:26	04:45	06:40	08:44
66	15:20	15:07	14:50	04:41	06:28	08:21
64	15:26	15:18	15:10	04:37	06:19	08:03
62	15:30	15:28	15:25	04:34	06:10	07:49
60	15:35	15:36	15:38	04:31	06:03	07:36
58	15:38	15:43	15:50	04:29	05:57	07:26
56	15:42	15:50	16:00	04:27	05:52	07:17
54	15:45	15:56	16:09	04:25	05:47	07:09
52	15:48	16:01	16:17	04:23	05:42	07:01
50	15:50	16:06	16:24	04:22	05:38	06:55
45	15:56	16:16	16:39	04:18	05:30	06:41
40	16:00	16:25	16:52	04:16	05:23	06:30
35	16:04	16:32	17:03	04:13	05:17	06:20
30	16:08	16:39	17:12	04:11	05:11	06:11
20	16:14	16:50	17:29	04:08	05:02	05:57
10	16:20	17:01	17:43	04:04	04:54	05:44
0	16:25	17:10	17:57	04:01	04:46	05:33
S 10	16:30	17:20	18:11	03:58	04:39	05:21
20	16:36	17:30	18:26	03:55	04:31	05:08
30	16:42	17:43	18:43	03:52	04:22	04:54
35	16:46	17:50	18:53	03:49	04:17	04:46
40	16:51	17:58	19:04	03:47	04:11	04:37
45	16:56	18:07	19:18	03:44	04:04	04:26
50	17:02	18:18	19:35	03:41	03:56	04:13
52	17:05	18:24	19:43	03:40	03:52	04:07
54	17:08	18:29	19:51	03:38	03:48	04:00
56	17:11	18:36	20:01	03:36	03:44	03:53
58	17:15	18:43	20:13	03:34	03:39	03:44
60	17:19	18:52	20:26	03:32	03:33	03:35

	Sol			Luna		
Día	Ec. tiempo 00:00 h	Ec. tiempo 12:00 h	Paso Merid	Paso Meridiano Superior	Paso Meridiano Inferior	Edad
6	16:24	16:23	11:43	22:35	10:13	12(96%)
7	16:21	16:20	11:43	23:21	10:58	13(99%)
8	16:18	16:16	11:43	00:08	11:44	14(100%)

Noviembre 09, 10, 11 (Mie, Jue, Vie.)

	Aries	Venus		Martes		Júpiter		Saturno	
Mie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	48°08.9	179°32.8	-17°30.2	323°40.2	24°14.2	48°17.5	-1°43.4	86°28.5	-16°23.9
1	63°11.4	194°32.1	-17°31.1	338°43.0	24°14.3	63°20.1	-1°43.4	101°30.8	-16°23.9
2	78°13.8	209°31.4	-17°32.0	353°45.9	24°14.4	78°22.6	-1°43.5	116°33.2	-16°23.8
3	93°16.3	224°30.8	-17°32.9	8°48.7	24°14.5	93°25.2	-1°43.5	131°35.6	-16°23.8
4	108°18.8	239°30.1	-17°33.8	23°51.6	24°14.6	108°27.8	-1°43.5	146°38.0	-16°23.8
5	123°21.2	254°29.4	-17°34.7	38°54.4	24°14.8	123°30.4	-1°43.6	161°40.4	-16°23.8
6	138°23.7	269°28.7	-17°35.7	53°57.3	24°14.9	138°33.0	-1°43.6	176°42.8	-16°23.7
7	153°26.2	284°28.0	-17°36.6	69°00.1	24°15.0	153°35.6	-1°43.7	191°45.2	-16°23.7
8	168°28.6	299°27.3	-17°37.5	84°03.0	24°15.1	168°38.1	-1°43.7	206°47.6	-16°23.7
9	183°31.1	314°26.7	-17°38.4	99°05.9	24°15.2	183°40.7	-1°43.7	221°50.0	-16°23.7
10	198°33.6	329°26.0	-17°39.3	114°08.7	24°15.3	198°43.3	-1°43.8	236°52.4	-16°23.6
11	213°36.0	344°25.3	-17°40.2	129°11.6	24°15.4	213°45.9	-1°43.8	251°54.8	-16°23.6
12	228°38.5	359°24.6	-17°41.1	144°14.4	24°15.5	228°48.5	-1°43.9	266°57.2	-16°23.6
13	243°41.0	14°23.9	-17°42.0	159°17.3	24°15.7	243°51.1	-1°43.9	281°59.6	-16°23.6
14	258°43.4	29°23.2	-17°42.9	174°20.2	24°15.8	258°53.6	-1°43.9	297°02.0	-16°23.5
15	273°45.9	44°22.5	-17°43.8	189°23.1	24°15.9	273°56.2	-1°44.0	312°04.3	-16°23.5
16	288°48.3	59°21.8	-17°44.7	204°25.9	24°16.0	288°58.8	-1°44.0	327°06.7	-16°23.5
17	303°50.8	74°21.1	-17°45.6	219°28.8	24°16.1	304°01.4	-1°44.1	342°09.1	-16°23.5
18	318°53.3	89°20.5	-17°46.5	234°31.7	24°16.2	319°04.0	-1°44.1	357°11.5	-16°23.4
19	333°55.7	104°19.8	-17°47.4	249°34.5	24°16.3	334°06.5	-1°44.1	12°13.9	-16°23.4
20	348°58.2	119°19.1	-17°48.3	264°37.4	24°16.4	349°09.1	-1°44.2	27°16.3	-16°23.4
21	4°00.7	134°18.4	-17°49.2	279°40.3	24°16.5	4°11.7	-1°44.2	42°18.7	-16°23.4
22	19°03.1	149°17.7	-17°50.1	294°43.2	24°16.7	19°14.3	-1°44.2	57°21.1	-16°23.3
23	34°05.6	164°17.0	-17°51.0	309°46.1	24°16.8	34°16.8	-1°44.3	72°23.5	-16°23.3
Mer.pass.:20:43		v-0.7 d-0.9 m-3.8		v2.8 d0.1 m-1.4		v2.6 d-0.0 m-2.6		v2.4 d0.0 m0.7	

Jue	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	49°08.1	179°16.3	-17°51.9	324°49.0	24°16.9	49°19.4	-1°44.3	87°25.9	-16°23.3
1	64°10.5	194°15.6	-17°52.8	339°51.8	24°17.0	64°22.0	-1°44.4	102°28.3	-16°23.2
2	79°13.0	209°14.9	-17°53.7	354°54.7	24°17.1	79°24.6	-1°44.4	117°30.6	-16°23.2
3	94°15.5	224°14.2	-17°54.6	9°57.6	24°17.2	94°27.2	-1°44.4	132°33.0	-16°23.2
4	109°17.9	239°13.5	-17°55.5	25°00.5	24°17.3	109°29.7	-1°44.5	147°35.4	-16°23.2
5	124°20.4	254°12.8	-17°56.4	40°03.4	24°17.4	124°32.3	-1°44.5	162°37.8	-16°23.1
6	139°22.8	269°12.1	-17°57.2	55°06.3	24°17.5	139°34.9	-1°44.5	177°40.2	-16°23.1
7	154°25.3	284°11.4	-17°58.1	70°09.2	24°17.6	154°37.5	-1°44.6	192°42.6	-16°23.1
8	169°27.8	299°10.7	-17°59.0	85°12.1	24°17.8	169°40.0	-1°44.6	207°45.0	-16°23.1
9	184°30.2	314°10.0	-17°59.9	100°15.0	24°17.9	184°42.6	-1°44.7	222°47.4	-16°23.0
10	199°32.7	329°09.3	-18°00.8	115°17.9	24°18.0	199°45.2	-1°44.7	237°49.8	-16°23.0
11	214°35.2	344°08.6	-18°01.7	130°20.8	24°18.1	214°47.8	-1°44.7	252°52.1	-16°23.0
12	229°37.6	359°07.9	-18°02.6	145°23.7	24°18.2	229°50.3	-1°44.8	267°54.5	-16°23.0
13	244°40.1	14°07.2	-18°03.5	160°26.6	24°18.3	244°52.9	-1°44.8	282°56.9	-16°22.9
14	259°42.6	29°06.5	-18°04.3	175°29.5	24°18.4	259°55.5	-1°44.8	297°59.3	-16°22.9
15	274°45.0	44°05.8	-18°05.2	190°32.4	24°18.5	274°58.1	-1°44.9	313°01.7	-16°22.9
16	289°47.5	59°05.1	-18°06.1	205°35.4	24°18.6	290°00.6	-1°44.9	328°04.1	-16°22.9
17	304°50.0	74°04.4	-18°07.0	220°38.3	24°18.7	305°03.2	-1°44.9	343°06.5	-16°22.8
18	319°52.4	89°03.7	-18°07.9	235°41.2	24°18.9	320°05.8	-1°45.0	358°08.9	-16°22.8
19	334°54.9	104°03.0	-18°08.7	250°44.1	24°19.0	335°08.3	-1°45.0	13°11.2	-16°22.8
20	349°57.3	119°02.3	-18°09.6	265°47.0	24°19.1	350°10.9	-1°45.0	28°13.6	-16°22.7
21	4°59.8	134°01.6	-18°10.5	280°49.9	24°19.2	5°13.5	-1°45.1	43°16.0	-16°22.7
22	20°02.3	149°00.9	-18°11.4	295°52.9	24°19.3	20°16.1	-1°45.1	58°18.4	-16°22.7
23	35°04.7	164°00.2	-18°12.3	310°55.8	24°19.4	35°18.6	-1°45.2	73°20.8	-16°22.7
Mer.pass.:20:40		v-0.7 d-0.9 m-3.8		v2.9 d0.1 m-1.4		v2.6 d-0.0 m-2.6		v2.4 d0.0 m0.7	

Vie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	50°07.2	178°59.5	-18°13.1	325°58.7	24°19.5	50°21.2	-1°45.2	88°23.2	-16°22.6
1	65°09.7	193°58.8	-18°14.0	341°01.6	24°19.6	65°23.8	-1°45.2	103°25.6	-16°22.6
2	80°12.1	208°58.1	-18°14.9	356°04.6	24°19.7	80°26.3	-1°45.3	118°27.9	-16°22.6
3	95°14.6	223°57.4	-18°15.8	11°07.5	24°19.8	95°28.9	-1°45.3	133°30.3	-16°22.5
4	110°17.1	238°56.6	-18°16.6	26°10.4	24°20.0	110°31.5	-1°45.3	148°32.7	-16°22.5
5	125°19.5	253°55.9	-18°17.5	41°13.4	24°20.1	125°34.0	-1°45.4	163°35.1	-16°22.5
6	140°22.0	268°55.2	-18°18.4	56°16.3	24°20.2	140°36.6	-1°45.4	178°37.5	-16°22.5
7	155°24.4	283°54.5	-18°19.2	71°19.2	24°20.3	155°39.2	-1°45.4	193°39.9	-16°22.4
8	170°26.9	298°53.8	-18°20.1	86°22.2	24°20.4	170°41.7	-1°45.5	208°42.3	-16°22.4
9	185°29.4	313°53.1	-18°21.0	101°25.1	24°20.5	185°44.3	-1°45.5	223°44.6	-16°22.4
10	200°31.8	328°52.4	-18°21.8	116°28.1	24°20.6	200°46.9	-1°45.5	238°47.0	-16°22.4
11	215°34.3	343°51.7	-18°22.7	131°31.0	24°20.7	215°49.4	-1°45.6	253°49.4	-16°22.3
12	230°36.8	358°51.0	-18°23.6	146°33.9	24°20.8	230°52.0	-1°45.6	268°51.8	-16°22.3
13	245°39.2	13°50.2	-18°24.4	161°36.9	24°20.9	245°54.6	-1°45.6	283°54.2	-16°22.3
14	260°41.7	28°49.5	-18°25.3	176°39.8	24°21.0	260°57.1	-1°45.7	298°56.6	-16°22.2
15	275°44.2	43°48.8	-18°26.2	191°42.8	24°21.2	275°59.7	-1°45.7	313°58.9	-16°22.2
16	290°46.6	58°48.1	-18°27.0	206°45.7	24°21.3	291°02.3	-1°45.7	329°01.3	-16°22.2
17	305°49.1	73°47.4	-18°27.9	221°48.7	24°21.4	306°04.8	-1°45.8	344°03.7	-16°22.2
18	320°51.6	88°46.7	-18°28.7	236°51.6	24°21.5	321°07.4	-1°45.8	359°06.1	-16°22.1
19	335°54.0	103°45.9	-18°29.6	251°54.6	24°21.6	336°10.0	-1°45.8	14°08.5	-16°22.1
20	350°56.5	118°45.2	-18°30.5	266°57.6	24°21.7	351°12.5	-1°45.8	29°10.9	-16°22.1
21	5°58.9	133°44.5	-18°31.3	282°00.5	24°21.8	6°15.1	-1°45.9	44°13.2	-16°22.0
22	21°01.4	148°43.8	-18°32.2	297°03.5	24°21.9	21°17.7	-1°45.9	59°15.6	-16°22.0
23	36°03.9	163°43.1	-18°33.0	312°06.4	24°22.0	36°20.2	-1°45.9	74°18.0	-16°22.0
Mer.pass.:20:36		v-0.7 d-0.9 m-3.8		v2.9 d0.1 m-1.4		v2.6 d-0.0 m-2.6		v2.4 d0.0 m0.7	

Estrellas

	AHS	Dec
Alpheratz	357°36.4	29°13.1
Ankaa	353°08.6	-42°11.1
Schedar	349°32.7	56°39.9
Diphda	348°48.8	-17°51.7
Achernar	335°21.0	-57°07.4
Hamal	327°52.9	23°34.3
Polaris	314°25.1	89°21.6
Akamar	315°12.7	-40°12.8
Menkar	314°07.7	4°10.8
Mirfak	308°30.3	49°56.5
Aldebaran	290°41.4	16°33.4
Rigel	281°05.3	-8°10.4
Capella	280°24.2	46°01.2
Bellatrix	278°24.5	6°22.3
Elnath	278°03.9	28°37.6
Alnilam	275°39.3	-1°11.2
Betelgeuse	270°53.8	7°24.7
Canopus	263°52.8	-52°42.2
Sirius	258°27.5	-16°44.5
Adara	255°07.1	-28°59.9
Procyon	244°52.5	5°10.2
Pollux	243°19.3	27°58.2
Avior	234°15.3	-59°34.6
Suhail	222°47.6	-43°31.1
Miaplacidus	221°38.6	-69°48.2
Alphard	217°49.5	-8°45.2
Regulus	207°36.4	11°51.4
Dubhe	193°43.5	61°37.5
Denebola	182°26.9	14°26.8
Gienah	175°45.7	-17°39.9
Acrux	173°02.7	-63°13.2
Gacrux	171°54.1	-57°14.1
Alioth	166°15.1	55°50.1
Spica	158°24.5	-11°16.6
Alcaid	152°53.9	49°12.0
Hadar	148°39.2	-60°28.8
Menkent	148°00.2	-36°28.7
Arcturus	145°49.8	19°04.2
Rigil Kent.	139°43.5	-60°55.6
Zubenelg.	136°58.4	-16°08.0
Kochab	137°20.9	74°03.7
Alphecca	126°05.7	26°38.4
Antares	112°18.4	-26°28.9
Atria	107°14.8	-69°04.1
Sabik	102°05.2	-15°45.1
Shaula	96°13.2	-37°07.2
Rasalhague	96°00.5	12°32.8
Etamin	90°43.4	51°29.3
Kaus Aust.	83°35.2	-34°22.5
Vega	80°34.8	38°48.4
Nunki	75°50.2	-26°16.1
Altair	62°01.9	8°55.8
Peacock	53°08.7	-56°39.9
Deneb	49°27.1	45°21.9
Enif	33°40.6	9°58.9
Alnair	27°35.1	-46°51.2
Fomalhaut	15°16.4	-29°30.2
Scheat	13°46.8	28°12.5
Markab	13°31.6	15°19.8

Nov 09 Mie	AHS	Paso Merid
Venus	131°23.9	12:02
Mars	275°31.3	02:25
Jupiter	0°08.6	20:43
Saturn	38°19.5	18:11

Nov 10 Jue	AHS	Paso Merid
Venus	130°08.2	12:03
Mars	275°40.9	02:20
Jupiter	0°11.4	20:39
Saturn	38°17.8	18:07

Nov 11 Vie	AHS	Paso Merid
Venus	128°52.3	12:05
Mars	275°51.5	02:16
Jupiter	0°14.0	20:35
Saturn	38°16.0	18:04

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.3

h	Sol		Luna				
Mie	AHG	Dec	AHG	v	Dec	d	HP
0	184°03.5	-16°47.2	357°54.6	11.9	19°19.9	10.8	55.8
1	199°03.4	-16°47.9	12°25.5	11.8	19°30.7	10.7	55.8
2	214°03.4	-16°48.6	26°56.3	11.8	19°41.4	10.6	55.8
3	229°03.3	-16°49.3	41°27.1	11.7	19°51.9	10.5	55.8
4	244°03.3	-16°50.0	55°57.8	11.7	20°02.4	10.4	55.8
5	259°03.2	-16°50.7	70°28.5	11.7	20°12.8	10.3	55.7
6	274°03.2	-16°51.4	84°59.1	11.6	20°23.0	10.2	55.7
7	289°03.1	-16°52.2	99°29.7	11.6	20°33.2	10.1	55.7
8	304°03.1	-16°52.9	114°00.2	11.5	20°43.2	10.0	55.7
9	319°03.0	-16°53.6	128°30.7	11.5	20°53.2	9.9	55.7
10	334°03.0	-16°54.3	143°01.2	11.4	21°03.0	9.8	55.6
11	349°02.9	-16°55.0	157°31.6	11.4	21°12.7	9.7	55.6
12	4°02.9	-16°55.7	172°02.0	11.3	21°22.3	9.6	55.6
13	19°02.8	-16°56.4	186°32.3	11.3	21°31.9	9.5	55.6
14	34°02.8	-16°57.1	201°02.6	11.3	21°41.3	9.3	55.6
15	49°02.7	-16°57.9	215°32.8	11.2	21°50.5	9.2	55.5
16	64°02.6	-16°58.6	230°03.0	11.2	21°59.7	9.1	55.5
17	79°02.6	-16°59.3	244°33.1	11.1	22°08.8	9.0	55.5
18	94°02.5	-17°00.0	259°03.2	11.1	22°17.7	8.9	55.5
19	109°02.5	-17°00.7	273°33.3	11.0	22°26.6	8.8	55.5
20	124°02.4	-17°01.4	288°03.3	11.0	22°35.3	8.7	55.4
21	139°02.4	-17°02.1	302°33.2	10.9	22°43.9	8.5	55.4
22	154°02.3	-17°02.8	317°03.2	10.9	22°52.4	8.4	55.4
23	169°02.3	-17°03.5	331°33.0	10.9	23°00.8	8.3	55.4
	SD.=16.1	d=-0.7	S.D.=15.2				

Jue	AHG	Dec	AHG	v	Dec	d	HP
0	184°02.2	-17°04.2	346°02.9	10.8	23°09.0	8.2	55.3
1	199°02.2	-17°04.9	0°32.7	10.8	23°17.2	8.1	55.3
2	214°02.1	-17°05.6	15°02.4	10.7	23°25.2	8.0	55.3
3	229°02.0	-17°06.3	29°32.2	10.7	23°33.1	7.8	55.3
4	244°02.0	-17°07.0	44°01.8	10.7	23°40.8	7.7	55.3
5	259°01.9	-17°07.7	58°31.5	10.6	23°48.5	7.6	55.3
6	274°01.9	-17°08.4	73°01.1	10.6	23°56.0	7.5	55.2
7	289°01.8	-17°09.1	87°30.6	10.5	24°03.5	7.4	55.2
8	304°01.7	-17°09.8	102°00.2	10.5	24°10.7	7.2	55.2
9	319°01.7	-17°10.5	116°29.7	10.5	24°17.9	7.1	55.2
10	334°01.6	-17°11.2	130°59.1	10.4	24°24.9	7.0	55.2
11	349°01.6	-17°11.9	145°28.5	10.4	24°31.9	6.9	55.1
12	4°01.5	-17°12.6	159°57.9	10.4	24°38.7	6.7	55.1
13	19°01.4	-17°13.3	174°27.2	10.3	24°45.3	6.6	55.1
14	34°01.4	-17°14.0	188°56.6	10.3	24°51.9	6.5	55.1
15	49°01.3	-17°14.7	203°25.8	10.3	24°58.3	6.3	55.1
16	64°01.3	-17°15.4	217°55.1	10.2	25°04.6	6.2	55.0
17	79°01.2	-17°16.1	232°24.3	10.2	25°10.7	6.1	55.0
18	94°01.1	-17°16.8	246°53.5	10.2	25°16.7	6.0	55.0
19	109°01.1	-17°17.5	261°22.6	10.1	25°22.6	5.8	55.0
20	124°01.0	-17°18.2	275°51.7	10.1	25°28.4	5.7	55.0
21	139°00.9	-17°18.9	290°20.8	10.1	25°34.1	5.6	55.0
22	154°00.9	-17°19.6	304°49.9	10.0	25°39.6	5.4	54.9
23	169°00.8	-17°20.3	319°18.9	10.0	25°44.9	5.3	54.9
	SD.=16.1	d=-0.7	S.D.=15.1				

Vie	AHG	Dec	AHG	v	Dec	d	HP
0	184°00.7	-17°21.0	333°47.9	10.0	25°50.2	5.2	54.9
1	199°00.7	-17°21.7	348°16.9	10.0	25°55.3	5.1	54.9
2	214°00.6	-17°22.4	2°45.9	9.9	26°00.3	4.9	54.9
3	229°00.5	-17°23.1	17°14.8	9.9	26°05.1	4.8	54.8
4	244°00.5	-17°23.8	31°43.7	9.9	26°09.9	4.7	54.8
5	259°00.4	-17°24.4	46°12.6	9.9	26°14.5	4.5	54.8
6	274°00.3	-17°25.1	60°41.5	9.9	26°18.9	4.4	54.8
7	289°00.3	-17°25.8	75°10.3	9.8	26°23.2	4.3	54.8
8	304°00.2	-17°26.5	89°39.2	9.8	26°27.4	4.1	54.8
9	319°00.1	-17°27.2	104°08.0	9.8	26°31.5	4.0	54.8
10	334°00.1	-17°27.9	118°36.8	9.8	26°35.4	3.9	54.7
11	349°00.0	-17°28.6	133°05.6	9.8	26°39.2	3.7	54.7
12	3°59.9	-17°29.3	147°34.3	9.8	26°42.8	3.6	54.7
13	18°59.9	-17°29.9	162°03.1	9.7	26°46.3	3.4	54.7
14	33°59.8	-17°30.6	176°31.8	9.7	26°49.7	3.3	54.7
15	48°59.7	-17°31.3	191°00.6	9.7	26°53.0	3.2	54.7
16	63°59.6	-17°32.0	205°29.3	9.7	26°56.1	3.0	54.6
17	78°59.6	-17°32.7	219°58.0	9.7	26°59.0	2.9	54.6
18	93°59.5	-17°33.4	234°26.7	9.7	27°01.9	2.8	54.6
19	108°59.4	-17°34.1	248°55.4	9.7	27°04.6	2.6	54.6
20	123°59.4	-17°34.7	263°24.1	9.7	27°07.1	2.5	54.6
21	138°59.3	-17°35.4	277°52.8	9.7	27°09.6	2.4	54.6
22	153°59.2	-17°36.1	292°21.5	9.7	27°11.9	2.2	54.6
23	168°59.1	-17°36.8	306°50.1	9.7	27°14.0	2.1	54.5
	SD.=16.2	d=-0.7	S.D.=15.0				

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	06:41	08:10	10:02	13:25	15:16	16:45
70	06:33	07:52	09:18	14:08	15:35	16:54
68	06:26	07:37	08:50	14:37	15:50	17:00
66	06:20	07:24	08:28	14:59	16:02	17:06
64	06:15	07:14	08:11	15:16	16:13	17:12
62	06:11	07:05	07:57	15:30	16:22	17:16
60	06:07	06:58	07:45	15:42	16:29	17:20
58	06:03	06:51	07:35	15:52	16:36	17:24
56	06:00	06:45	07:26	16:01	16:42	17:27
54	05:56	06:39	07:18	16:09	16:48	17:31
52	05:53	06:34	07:11	16:16	16:53	17:34
50	05:51	06:29	07:04	16:23	16:58	17:37
45	05:44	06:19	06:51	16:37	17:08	17:43
40	05:38	06:11	06:39	16:48	17:17	17:49
35	05:32	06:03	06:29	16:58	17:25	17:55
30	05:27	05:56	06:21	17:07	17:32	18:00
20	05:16	05:43	06:06	17:22	17:45	18:11
10	05:06	05:31	05:53	17:35	17:57	18:22
0	04:54	05:19	05:40	17:47	18:09	18:34
S 10	04:40	05:06	05:28	18:00	18:22	18:48
20	04:23	04:51	05:14	18:14	18:37	19:05
30	04:02	04:33	04:59	18:29	18:55	19:26
35	03:49	04:22	04:50	18:39	19:06	19:40
40	03:33	04:09	04:39	18:49	19:19	19:56
45	03:12	03:54	04:27	19:02	19:35	20:17
50	02:45	03:34	04:12	19:17	19:55	20:45
52	02:31	03:24	04:05	19:24	20:05	20:59
54	02:14	03:14	03:57	19:32	20:16	21:16
56	01:53	03:01	03:48	19:41	20:28	21:38
58	01:26	02:47	03:38	19:51	20:43	22:06
60	00:43	02:29	03:27	20:03	21:01	22:54

	Orto luna			Ocaso luna		
Lat.	Mie	Jue	Vie	Mie	Jue	Vie
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	–:–	–:–	–:–
68	13:26	–:–	–:–	11:25	–:–	–:–
66	14:24	–:–	–:–	10:27	–:–	–:–
64	14:59	14:39	–:–	09:54	11:58	–:–
62	15:24	15:24	15:29	09:30	11:14	12:55
60	15:43	15:53	16:13	09:11	10:45	12:11
58	16:00	16:16	16:43	08:55	10:22	11:42
56	16:14	16:34	17:05	08:42	10:04	11:20
54	16:26	16:50	17:24	08:30	09:49	11:01
52	16:37	17:03	17:39	08:20	09:36	10:46
50	16:46	17:15	17:53	08:11	09:25	10:33
45	17:07	17:40	18:21	07:52	09:01	10:05
40	17:23	18:00	18:43	07:36	08:42	09:44
35	17:37	18:16	19:01	07:23	08:26	09:26
30	17:49	18:31	19:17	07:12	08:12	09:10
20	18:10	18:55	19:43	06:53	07:49	08:44
10	18:29	19:16	20:06	06:36	07:29	08:22
0	18:46	19:36	20:28	06:20	07:10	08:01
S 10	19:03	19:56	20:49	06:05	06:51	07:40
20	19:22	20:18	21:12	05:48	06:31	07:18
30	19:43	20:43	21:39	05:29	06:08	06:52
35	19:56	20:57	21:55	05:18	05:55	06:37
40	20:11	21:15	22:14	05:06	05:39	06:19
45	20:28	21:35	22:36	04:51	05:21	05:58
50	20:50	22:01	23:05	04:33	04:58	05:31
52	21:00	22:14	23:19	04:24	04:47	05:18
54	21:12	22:29	23:36	04:15	04:35	05:03
56	21:26	22:46	23:55	04:04	04:21	04:46
58	21:42	23:06	–:–	03:52	04:04	04:25
60	22:01	23:33	–:–	03:38	03:45	03:58

	Sol			Luna		
Día	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
9	16:14	16:12	11:43	00:08	12:32	15(99%)
10	16:09	16:06	11:43	00:57	13:22	16(96%)
11	16:03	16:00	11:44	01:48	14:14	17(91%)

Noviembre 12, 13, 14 (Sa, Dom, Lun.)

	Aries	Venus		Martes		Júpiter		Saturno	
Sa	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	51°06.3	178°42.3	-18°33.9	327°09.4	24°22.1	51°22.8	-1°46.0	89°20.4	-16°22.0
1	66°08.8	193°41.6	-18°34.7	342°12.4	24°22.2	66°25.3	-1°46.0	104°22.8	-16°21.9
2	81°11.3	208°40.9	-18°35.6	357°15.3	24°22.3	81°27.9	-1°46.0	119°25.1	-16°21.9
3	96°13.7	223°40.2	-18°36.4	12°18.3	24°22.4	96°30.5	-1°46.1	134°27.5	-16°21.9
4	111°16.2	238°39.5	-18°37.3	27°21.3	24°22.6	111°33.0	-1°46.1	149°29.9	-16°21.8
5	126°18.7	253°38.7	-18°38.1	42°24.3	24°22.7	126°35.6	-1°46.1	164°32.3	-16°21.8
6	141°21.1	268°38.0	-18°39.0	57°27.2	24°22.8	141°38.2	-1°46.2	179°34.7	-16°21.8
7	156°23.6	283°37.3	-18°39.8	72°30.2	24°22.9	156°40.7	-1°46.2	194°37.0	-16°21.8
8	171°26.1	298°36.6	-18°40.7	87°33.2	24°23.0	171°43.3	-1°46.2	209°39.4	-16°21.7
9	186°28.5	313°35.8	-18°41.5	102°36.2	24°23.1	186°45.8	-1°46.2	224°41.8	-16°21.7
10	201°31.0	328°35.1	-18°42.4	117°39.2	24°23.2	201°48.4	-1°46.3	239°44.2	-16°21.7
11	216°33.4	343°34.4	-18°43.2	132°42.1	24°23.3	216°51.0	-1°46.3	254°46.6	-16°21.6
12	231°35.9	358°33.7	-18°44.1	147°45.1	24°23.4	231°53.5	-1°46.3	269°48.9	-16°21.6
13	246°38.4	13°32.9	-18°44.9	162°48.1	24°23.5	246°56.1	-1°46.4	284°51.3	-16°21.6
14	261°40.8	28°32.2	-18°45.8	177°51.1	24°23.6	261°58.6	-1°46.4	299°53.7	-16°21.6
15	276°43.3	43°31.5	-18°46.6	192°54.1	24°23.7	277°01.2	-1°46.4	314°56.1	-16°21.5
16	291°45.8	58°30.8	-18°47.4	207°57.1	24°23.8	292°03.7	-1°46.4	329°58.5	-16°21.5
17	306°48.2	73°30.0	-18°48.3	223°00.1	24°24.0	307°06.3	-1°46.5	345°00.8	-16°21.5
18	321°50.7	88°29.3	-18°49.1	238°03.1	24°24.1	322°08.9	-1°46.5	0°03.2	-16°21.4
19	336°53.2	103°28.6	-18°50.0	253°06.1	24°24.2	337°11.4	-1°46.5	15°05.6	-16°21.4
20	351°55.6	118°27.8	-18°50.8	268°09.1	24°24.3	352°14.0	-1°46.6	30°08.0	-16°21.4
21	6°58.1	133°27.1	-18°51.6	283°12.1	24°24.4	7°16.5	-1°46.6	45°10.4	-16°21.3
22	22°00.6	148°26.4	-18°52.5	298°15.1	24°24.5	22°19.1	-1°46.6	60°12.7	-16°21.3
23	37°03.0	163°25.6	-18°53.3	313°18.1	24°24.6	37°21.6	-1°46.6	75°15.1	-16°21.3
Mer.pass.:20:32		v-0.7 d-0.9 m-3.8		v3.0 d0.1 m-1.4		v2.6 d-0.0 m-2.6		v2.4 d0.0 m0.7	

Dom	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	52°05.5	178°24.9	-18°54.1	328°21.1	24°24.7	52°24.2	-1°46.7	90°17.5	-16°21.3
1	67°07.9	193°24.2	-18°55.0	343°24.1	24°24.8	67°26.7	-1°46.7	105°19.9	-16°21.2
2	82°10.4	208°23.4	-18°55.8	358°27.1	24°24.9	82°29.3	-1°46.7	120°22.2	-16°21.2
3	97°12.9	223°22.7	-18°56.6	13°30.1	24°25.0	97°31.9	-1°46.8	135°24.6	-16°21.2
4	112°15.3	238°22.0	-18°57.5	28°33.1	24°25.1	112°34.4	-1°46.8	150°27.0	-16°21.1
5	127°17.8	253°21.2	-18°58.3	43°36.1	24°25.2	127°37.0	-1°46.8	165°29.4	-16°21.1
6	142°20.3	268°20.5	-18°59.1	58°39.1	24°25.3	142°39.5	-1°46.8	180°31.8	-16°21.1
7	157°22.7	283°19.8	-18°59.9	73°42.1	24°25.4	157°42.1	-1°46.9	195°34.1	-16°21.0
8	172°25.2	298°19.0	-19°00.8	88°45.2	24°25.5	172°44.6	-1°46.9	210°36.5	-16°21.0
9	187°27.7	313°18.3	-19°01.6	103°48.2	24°25.7	187°47.2	-1°46.9	225°38.9	-16°21.0
10	202°30.1	328°17.6	-19°02.4	118°51.2	24°25.8	202°49.7	-1°46.9	240°41.3	-16°21.0
11	217°32.6	343°16.8	-19°03.2	133°54.2	24°25.9	217°52.3	-1°47.0	255°43.6	-16°20.9
12	232°35.1	358°16.1	-19°04.1	148°57.2	24°26.0	232°54.8	-1°47.0	270°46.0	-16°20.9
13	247°37.5	13°15.3	-19°04.9	164°00.3	24°26.1	247°57.4	-1°47.0	285°48.4	-16°20.9
14	262°40.0	28°14.6	-19°05.7	179°03.3	24°26.2	262°59.9	-1°47.0	300°50.8	-16°20.8
15	277°42.4	43°13.9	-19°06.5	194°06.3	24°26.3	278°02.5	-1°47.1	315°53.1	-16°20.8
16	292°44.9	58°13.1	-19°07.3	209°09.4	24°26.4	293°05.0	-1°47.1	330°55.5	-16°20.8
17	307°47.4	73°12.4	-19°08.2	224°12.4	24°26.5	308°07.6	-1°47.1	345°57.9	-16°20.7
18	322°49.8	88°11.6	-19°09.0	239°15.4	24°26.6	323°10.1	-1°47.1	1°00.3	-16°20.7
19	337°52.3	103°10.9	-19°09.8	254°18.5	24°26.7	338°12.7	-1°47.2	16°02.6	-16°20.7
20	352°54.8	118°10.1	-19°10.6	269°21.5	24°26.8	353°15.2	-1°47.2	31°05.0	-16°20.6
21	7°57.2	133°09.4	-19°11.4	284°24.5	24°26.9	8°17.8	-1°47.2	46°07.4	-16°20.6
22	22°59.7	148°08.7	-19°12.2	299°27.6	24°27.0	23°20.3	-1°47.2	61°09.8	-16°20.6
23	38°02.2	163°07.9	-19°13.0	314°30.6	24°27.1	38°22.9	-1°47.3	76°12.1	-16°20.5
Mer.pass.:20:28		v-0.7 d-0.8 m-3.8		v3.0 d0.1 m-1.5		v2.6 d-0.0 m-2.6		v2.4 d0.0 m0.7	

Lun	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	53°04.6	178°07.2	-19°13.9	329°33.6	24°27.2	53°25.4	-1°47.3	91°14.5	-16°20.5
1	68°07.1	193°06.4	-19°14.7	344°36.7	24°27.3	68°28.0	-1°47.3	106°16.9	-16°20.5
2	83°09.5	208°05.7	-19°15.5	359°39.7	24°27.4	83°30.5	-1°47.3	121°19.3	-16°20.5
3	98°12.0	223°04.9	-19°16.3	14°42.8	24°27.5	98°33.1	-1°47.4	136°21.6	-16°20.4
4	113°14.5	238°04.2	-19°17.1	29°45.8	24°27.6	113°35.6	-1°47.4	151°24.0	-16°20.4
5	128°16.9	253°03.4	-19°17.9	44°48.9	24°27.8	128°38.1	-1°47.4	166°26.4	-16°20.4
6	143°19.4	268°02.7	-19°18.7	59°51.9	24°27.9	143°40.7	-1°47.4	181°28.7	-16°20.3
7	158°21.9	283°01.9	-19°19.5	74°55.0	24°28.0	158°43.2	-1°47.5	196°31.1	-16°20.3
8	173°24.3	298°01.2	-19°20.3	89°58.1	24°28.1	173°45.8	-1°47.5	211°33.5	-16°20.3
9	188°26.8	313°00.4	-19°21.1	105°01.1	24°28.2	188°48.3	-1°47.5	226°35.9	-16°20.2
10	203°29.3	327°59.7	-19°21.9	120°04.2	24°28.3	203°50.9	-1°47.5	241°38.2	-16°20.2
11	218°31.7	342°58.9	-19°22.7	135°07.2	24°28.4	218°53.4	-1°47.6	256°40.6	-16°20.2
12	233°34.2	357°58.2	-19°23.5	150°10.3	24°28.5	233°56.0	-1°47.6	271°43.0	-16°20.1
13	248°36.7	12°57.4	-19°24.3	165°13.4	24°28.6	248°58.5	-1°47.6	286°45.4	-16°20.1
14	263°39.1	27°56.7	-19°25.1	180°16.4	24°28.7	264°01.0	-1°47.6	301°47.7	-16°20.1
15	278°41.6	42°55.9	-19°25.9	195°19.5	24°28.8	279°03.6	-1°47.6	316°50.1	-16°20.0
16	293°44.0	57°55.2	-19°26.7	210°22.6	24°28.9	294°06.1	-1°47.7	331°52.5	-16°20.0
17	308°46.5	72°54.4	-19°27.5	225°25.6	24°29.0	309°08.7	-1°47.7	346°54.8	-16°20.0
18	323°49.0	87°53.6	-19°28.3	240°28.7	24°29.1	324°11.2	-1°47.7	1°57.2	-16°19.9
19	338°51.4	102°52.9	-19°29.1	255°31.8	24°29.2	339°13.8	-1°47.7	16°59.6	-16°19.9
20	353°53.9	117°52.1	-19°29.9	270°34.8	24°29.3	354°16.3	-1°47.7	32°01.9	-16°19.9
21	8°56.4	132°51.4	-19°30.7	285°37.9	24°29.4	9°18.8	-1°47.8	47°04.3	-16°19.8
22	23°58.8	147°50.6	-19°31.5	300°41.0	24°29.5	24°21.4	-1°47.8	62°06.7	-16°19.8
23	39°01.3	162°49.9	-19°32.3	315°44.1	24°29.6	39°23.9	-1°47.8	77°09.1	-16°19.8
Mer.pass.:20:24		v-0.7 d-0.8 m-3.8		v3.0 d0.1 m-1.5		v2.5 d-0.0 m-2.6		v2.4 d0.0 m0.7	

Estrellas

	AHS	Dec
Alpheratz	357°36.4	29°13.1
Ankaa	353°08.6	-42°11.1
Schedar	349°32.7	56°39.9
Diphda	348°48.8	-17°51.7
Achernar	335°21.0	-57°07.4
Hamal	327°52.9	23°34.3
Polaris	314°24.8	89°21.6
Akamar	315°12.7	-40°12.8
Menkar	314°07.7	4°10.8
Mirfak	308°30.3	49°56.5
Aldebaran	290°41.4	16°33.4
Rigel	281°05.3	-8°10.4
Capella	280°24.1	46°01.2
Bellatrix	278°24.5	6°22.3
Elnath	278°03.8	28°37.6
Alnilam	275°39.3	-1°11.2
Betelgeuse	270°53.8	7°24.7
Canopus	263°52.8	-52°42.2
Sirius	258°27.5	-16°44.5
Adara	255°07.0	-29°00.0
Procyon	244°52.5	5°10.2
Pollux	243°19.2	27°58.2
Avior	234°15.3	-59°34.6
Suhail	222°47.6	-43°31.1
Miaplacidus	221°38.6	-69°48.2
Alphard	217°49.5	-8°45.3
Regulus	207°36.4	11°51.4
Dubhe	193°43.5	61°37.5
Denebola	182°26.9	14°26.8
Gienah	175°45.6	-17°39.9
Acrux	173°02.6	-63°13.2
Gacrux	171°54.1	-57°14.1
Alioth	166°15.1	55°50.1
Spica	158°24.5	-11°16.6
Alcaid	152°53.9	49°12.0
Hadar	148°39.2	-60°28.8
Menkent	148°00.1	-36°28.7
Arcturus	145°49.7	19°04.2
Rigil Kent.	139°43.5	-60°55.6
Zubenelg.	136°58.4	-16°08.0
Kochab	137°20.9	74°03.7
Alphecca	126°05.7	26°38.4
Antares	112°18.4	-26°28.9
Atria	107°14.8	-69°04.1
Sabik	102°05.2	-15°45.1
Shaula	96°13.2	-37°07.2
Rasalhague	96°00.5	12°32.7
Etamin	90°43.4	51°29.3
Kaus Aust.	83°35.2	-34°22.5
Vega	80°34.8	38°48.4
Nunki	75°50.2	-26°16.1
Altair	62°01.9	8°55.8
Peacock	53°08.7	-56°39.9
Deneb	49°27.1	45°21.9
Enif	33°40.6	9°58.9
Alnair	27°35.1	-46°51.2
Fomalhaut	15°16.4	-29°30.2
Scheat	13°46.9	28°12.5
Markab	13°31.6	15°19.8

Nov 12 Sa	AHS	Paso Merid
Venus	127°36.0	12:06
Mars	276°03.1	02:11
Jupiter	0°16.4	20:31
Saturn	38°14.0	18:00

Nov 13 Dom	AHS	Paso Merid
Venus	126°19.4	12:07
Mars	276°15.6	02:06
Jupiter	0°18.7	20:27
Saturn	38°12.0	17:56

Nov 14 Lun	AHS	Paso Merid
Venus	125°02.5	12:08
Mars	276°29.0	02:01
Jupiter	0°20.8	20:23
Saturn	38°09.9	17:52

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.3

h	Sol		Luna				
Sa	AHG	Dec	AHG	v	Dec	d	HP
0	183°59.1	-17°37.5	321°18.8	9.7	27°16.0	2.0	54.5
1	198°59.0	-17°38.1	335°47.5	9.7	27°17.9	1.8	54.5
2	213°58.9	-17°38.8	350°16.2	9.7	27°19.7	1.7	54.5
3	228°58.8	-17°39.5	4°44.9	9.7	27°21.3	1.5	54.5
4	243°58.8	-17°40.2	19°13.5	9.7	27°22.7	1.4	54.5
5	258°58.7	-17°40.9	33°42.2	9.7	27°24.1	1.3	54.5
6	273°58.6	-17°41.5	48°10.9	9.7	27°25.3	1.1	54.5
7	288°58.5	-17°42.2	62°39.6	9.7	27°26.3	1.0	54.4
8	303°58.5	-17°42.9	77°08.3	9.7	27°27.3	0.9	54.4
9	318°58.4	-17°43.6	91°37.0	9.7	27°28.1	0.7	54.4
10	333°58.3	-17°44.2	106°05.8	9.7	27°28.7	0.6	54.4
11	348°58.2	-17°44.9	120°34.5	9.7	27°29.2	0.5	54.4
12	3°58.1	-17°45.6	135°03.2	9.8	27°29.6	0.3	54.4
13	18°58.1	-17°46.3	149°32.0	9.8	27°29.9	0.2	54.4
14	33°58.0	-17°46.9	164°00.8	9.8	27°30.0	0.0	54.4
15	48°57.9	-17°47.6	178°29.6	9.8	27°30.0	-0.1	54.4
16	63°57.8	-17°48.3	192°58.4	9.8	27°29.8	-0.2	54.3
17	78°57.7	-17°48.9	207°27.2	9.8	27°29.5	-0.4	54.3
18	93°57.7	-17°49.6	221°56.0	9.9	27°29.1	-0.5	54.3
19	108°57.6	-17°50.3	236°24.9	9.9	27°28.5	-0.6	54.3
20	123°57.5	-17°51.0	250°53.8	9.9	27°27.8	-0.8	54.3
21	138°57.4	-17°51.6	265°22.7	9.9	27°27.0	-0.9	54.3
22	153°57.3	-17°52.3	279°51.6	9.9	27°26.1	-1.0	54.3
23	168°57.3	-17°53.0	294°20.6	10.0	27°25.0	-1.2	54.3
	SD.=16.2	d=-0.7	S.D.=14.9				

Dom	AHG	Dec	AHG	v	Dec	d	HP
0	183°57.2	-17°53.6	308°49.6	10.0	27°23.7	-1.3	54.3
1	198°57.1	-17°54.3	323°18.6	10.0	27°22.4	-1.4	54.3
2	213°57.0	-17°55.0	337°47.6	10.0	27°20.9	-1.6	54.3
3	228°56.9	-17°55.6	352°16.6	10.1	27°19.3	-1.7	54.3
4	243°56.8	-17°56.3	6°45.7	10.1	27°17.5	-1.8	54.2
5	258°56.8	-17°57.0	21°14.8	10.1	27°15.6	-2.0	54.2
6	273°56.7	-17°57.6	35°44.0	10.2	27°13.6	-2.1	54.2
7	288°56.6	-17°58.3	50°13.2	10.2	27°11.4	-2.2	54.2
8	303°56.5	-17°59.0	64°42.4	10.2	27°09.2	-2.3	54.2
9	318°56.4	-17°59.6	79°11.6	10.3	27°06.8	-2.5	54.2
10	333°56.3	-18°00.3	93°40.9	10.3	27°04.2	-2.6	54.2
11	348°56.2	-18°00.9	108°10.2	10.3	27°01.5	-2.7	54.2
12	3°56.1	-18°01.6	122°39.6	10.4	26°58.7	-2.9	54.2
13	18°56.1	-18°02.3	137°09.0	10.4	26°55.8	-3.0	54.2
14	33°56.0	-18°02.9	151°38.4	10.4	26°52.8	-3.1	54.2
15	48°55.9	-18°03.6	166°07.9	10.5	26°49.6	-3.2	54.2
16	63°55.8	-18°04.2	180°37.4	10.5	26°46.3	-3.4	54.2
17	78°55.7	-18°04.9	195°06.9	10.6	26°42.9	-3.5	54.2
18	93°55.6	-18°05.6	209°36.5	10.6	26°39.3	-3.6	54.2
19	108°55.5	-18°06.2	224°06.1	10.6	26°35.6	-3.7	54.2
20	123°55.4	-18°06.9	238°35.8	10.7	26°31.8	-3.9	54.2
21	138°55.3	-18°07.5	253°05.5	10.7	26°27.9	-4.0	54.2
22	153°55.2	-18°08.2	267°35.3	10.8	26°23.8	-4.1	54.2
23	168°55.2	-18°08.8	282°05.1	10.8	26°19.6	-4.2	54.2
	SD.=16.2	d=-0.7	S.D.=14.8				

Lun	AHG	Dec	AHG	v	Dec	d	HP
0	183°55.1	-18°09.5	296°34.9	10.9	26°15.3	-4.4	54.2
1	198°55.0	-18°10.1	311°04.8	10.9	26°10.9	-4.5	54.2
2	213°54.9	-18°10.8	325°34.7	11.0	26°06.4	-4.6	54.2
3	228°54.8	-18°11.5	340°04.7	11.0	26°01.7	-4.7	54.2
4	243°54.7	-18°12.1	354°34.7	11.1	25°56.9	-4.8	54.2
5	258°54.6	-18°12.8	9°04.8	11.1	25°52.0	-5.0	54.2
6	273°54.5	-18°13.4	23°34.9	11.2	25°47.0	-5.1	54.2
7	288°54.4	-18°14.1	38°05.1	11.2	25°41.8	-5.2	54.2
8	303°54.3	-18°14.7	52°35.3	11.2	25°36.6	-5.3	54.2
9	318°54.2	-18°15.4	67°05.6	11.3	25°31.2	-5.4	54.2
10	333°54.1	-18°16.0	81°35.9	11.3	25°25.7	-5.6	54.2
11	348°54.0	-18°16.7	96°06.3	11.4	25°20.1	-5.7	54.2
12	3°53.9	-18°17.3	110°36.7	11.5	25°14.4	-5.8	54.2
13	18°53.8	-18°18.0	125°07.2	11.5	25°08.5	-5.9	54.2
14	33°53.7	-18°18.6	139°37.7	11.6	25°02.6	-6.0	54.2
15	48°53.6	-18°19.2	154°08.3	11.6	24°56.5	-6.1	54.2
16	63°53.5	-18°19.9	168°39.0	11.7	24°50.3	-6.2	54.2
17	78°53.4	-18°20.5	183°09.6	11.7	24°44.0	-6.4	54.2
18	93°53.3	-18°21.2	197°40.4	11.8	24°37.6	-6.5	54.2
19	108°53.2	-18°21.8	212°11.2	11.8	24°31.1	-6.6	54.2
20	123°53.1	-18°22.5	226°42.0	11.9	24°24.5	-6.7	54.2
21	138°53.0	-18°23.1	241°12.9	11.9	24°17.7	-6.8	54.2
22	153°52.9	-18°23.8	255°43.8	12.0	24°10.9	-6.9	54.2
23	168°52.8	-18°24.4	270°14.8	12.0	24°03.9	-7.0	54.2
	SD.=16.2	d=-0.7	S.D.=14.8				

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	06:52	08:25	10:32	12:55	15:03	16:35
70	06:43	08:03	09:36	13:51	15:24	16:45
68	06:35	07:47	09:03	14:24	15:41	16:52
66	06:28	07:33	08:39	14:48	15:54	16:59
64	06:23	07:22	08:21	15:07	16:05	17:05
62	06:17	07:13	08:05	15:22	16:15	17:10
60	06:13	07:04	07:53	15:35	16:23	17:15
58	06:09	06:57	07:42	15:46	16:31	17:19
56	06:05	06:50	07:32	15:56	16:37	17:23
54	06:01	06:44	07:24	16:04	16:43	17:27
52	05:58	06:39	07:16	16:12	16:49	17:30
50	05:55	06:34	07:09	16:19	16:54	17:33
45	05:48	06:23	06:55	16:33	17:05	17:40
40	05:41	06:14	06:43	16:45	17:14	17:47
35	05:35	06:06	06:32	16:56	17:23	17:53
30	05:29	05:58	06:23	17:05	17:30	17:59
20	05:18	05:44	06:08	17:21	17:44	18:10
10	05:06	05:32	05:54	17:35	17:57	18:22
0	04:54	05:19	05:41	17:48	18:10	18:35
S 10	04:39	05:05	05:28	18:01	18:23	18:49
20	04:22	04:50	05:13	18:15	18:39	19:07
30	04:00	04:31	04:57	18:32	18:58	19:29
35	03:46	04:20	04:47	18:42	19:09	19:43
40	03:29	04:06	04:36	18:53	19:23	20:01
45	03:07	03:50	04:23	19:06	19:40	20:22
50	02:38	03:29	04:07	19:22	20:01	20:52
52	02:23	03:19	04:00	19:30	20:11	21:07
54	02:05	03:07	03:52	19:38	20:23	21:26
56	01:42	02:54	03:42	19:48	20:36	21:49
58	01:11	02:38	03:32	19:58	20:52	22:23
60	00:04	02:19	03:19	20:11	21:12	–:–

	Orto luna			Ocaso luna		
Lat.	Sa	Dom	Lun	Sa	Dom	Lun
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	–:–	–:–	–:–
68	–:–	–:–	–:–	–:–	–:–	–:–
66	–:–	–:–	–:–	–:–	–:–	–:–
64	–:–	–:–	18:13	–:–	–:–	15:30
62	15:59	17:19	18:56	14:13	14:41	14:46
60	16:54	18:02	19:25	13:18	13:57	14:16
58	17:27	18:30	19:47	12:46	13:28	13:54
56	17:51	18:53	20:05	12:21	13:06	13:36
54	18:11	19:11	20:20	12:02	12:48	13:20
52	18:27	19:26	20:33	11:45	12:32	13:07
50	18:41	19:39	20:45	11:31	12:19	12:55
45	19:10	20:07	21:09	11:03	11:51	12:30
40	19:33	20:28	21:28	10:40	11:29	12:10
35	19:51	20:46	21:44	10:21	11:11	11:54
30	20:07	21:01	21:57	10:05	10:55	11:40
20	20:34	21:27	22:21	09:38	10:29	11:15
10	20:58	21:50	22:41	09:15	10:06	10:54
0	21:20	22:10	22:59	08:53	09:44	10:34
S 10	21:41	22:31	23:18	08:31	09:23	10:14
20	22:05	22:53	23:38	08:08	09:00	09:53
30	22:32	23:19	–:–	07:40	08:33	09:28
35	22:48	23:34	–:–	07:24	08:17	09:14
40	23:07	23:52	–:–	07:06	07:59	08:56
45	23:29	–:–	00:13	06:43	07:36	08:36
50	23:58	–:–	00:39	06:14	07:08	08:10
52	–:–	00:12	00:52	06:00	06:54	07:57
54	–:–	00:29	01:07	05:43	06:37	07:43
56	–:–	00:48	01:24	05:24	06:18	07:26
58	00:19	01:12	01:45	05:00	05:54	07:05
60	00:52	01:45	02:12	04:27	05:21	06:39

	Sol			Luna		
Día	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
12	15:56	15:53	11:44	02:40	15:06	18(85%)
13	15:49	15:45	11:44	03:31	15:57	19(77%)
14	15:40	15:36	11:44	04:22	16:46	20(69%)

Noviembre 15, 16, 17 (Mar, Mie, Jue.)

	Aries	Venus		Martes		Júpiter		Saturno	
Mar	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	54°03.8	177°49.1	-19°33.1	330°47.2	24°29.7	54°26.5	-1°47.8	92°11.4	-16°19.8
1	69°06.2	192°48.3	-19°33.9	345°50.2	24°29.8	69°29.0	-1°47.9	107°13.8	-16°19.7
2	84°08.7	207°47.6	-19°34.6	0°53.3	24°29.9	84°31.5	-1°47.9	122°16.2	-16°19.7
3	99°11.2	222°46.8	-19°35.4	15°56.4	24°30.0	99°34.1	-1°47.9	137°18.5	-16°19.7
4	114°13.6	237°46.1	-19°36.2	30°59.5	24°30.1	114°36.6	-1°47.9	152°20.9	-16°19.6
5	129°16.1	252°45.3	-19°37.0	46°02.6	24°30.2	129°39.1	-1°47.9	167°23.3	-16°19.6
6	144°18.5	267°44.5	-19°37.8	61°05.7	24°30.3	144°41.7	-1°48.0	182°25.6	-16°19.6
7	159°21.0	282°43.8	-19°38.6	76°08.8	24°30.4	159°44.2	-1°48.0	197°28.0	-16°19.5
8	174°23.5	297°43.0	-19°39.3	91°11.9	24°30.5	174°46.8	-1°48.0	212°30.4	-16°19.5
9	189°25.9	312°42.3	-19°40.1	106°15.0	24°30.6	189°49.3	-1°48.0	227°32.7	-16°19.5
10	204°28.4	327°41.5	-19°40.9	121°18.1	24°30.7	204°51.8	-1°48.0	242°35.1	-16°19.4
11	219°30.9	342°40.7	-19°41.7	136°21.2	24°30.8	219°54.4	-1°48.1	257°37.5	-16°19.4
12	234°33.3	357°40.0	-19°42.5	151°24.3	24°30.9	234°56.9	-1°48.1	272°39.8	-16°19.4
13	249°35.8	12°39.2	-19°43.2	166°27.4	24°31.0	249°59.4	-1°48.1	287°42.2	-16°19.3
14	264°38.3	27°38.4	-19°44.0	181°30.5	24°31.1	265°02.0	-1°48.1	302°44.6	-16°19.3
15	279°40.7	42°37.7	-19°44.8	196°33.6	24°31.2	280°04.5	-1°48.1	317°47.0	-16°19.3
16	294°43.2	57°36.9	-19°45.6	211°36.7	24°31.3	295°07.0	-1°48.1	332°49.3	-16°19.2
17	309°45.7	72°36.1	-19°46.3	226°39.8	24°31.4	310°09.6	-1°48.2	347°51.7	-16°19.2
18	324°48.1	87°35.4	-19°47.1	241°42.9	24°31.5	325°12.1	-1°48.2	2°54.1	-16°19.2
19	339°50.6	102°34.6	-19°47.9	256°46.0	24°31.6	340°14.6	-1°48.2	17°56.4	-16°19.1
20	354°53.0	117°33.8	-19°48.7	271°49.1	24°31.7	355°17.2	-1°48.2	32°58.8	-16°19.1
21	9°55.5	132°33.1	-19°49.4	286°52.2	24°31.8	10°19.7	-1°48.2	48°01.2	-16°19.1
22	24°58.0	147°32.3	-19°50.2	301°55.3	24°31.9	25°22.2	-1°48.3	63°03.5	-16°19.0
23	40°00.4	162°31.5	-19°51.0	316°58.5	24°32.0	40°24.8	-1°48.3	78°05.9	-16°19.0
Mer.pass.:20:20		v-0.8 d-0.8 m-3.8		v3.1 d0.1 m-1.5		v2.5 d-0.0 m-2.6		v2.4 d0.0 m0.7	

Mie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	55°02.9	177°30.7	-19°51.7	332°01.6	24°32.1	55°27.3	-1°48.3	93°08.2	-16°19.0
1	70°05.4	192°30.0	-19°52.5	347°04.7	24°32.2	70°29.8	-1°48.3	108°10.6	-16°18.9
2	85°07.8	207°29.2	-19°53.3	2°07.8	24°32.3	85°32.4	-1°48.3	123°13.0	-16°18.9
3	100°10.3	222°28.4	-19°54.0	17°10.9	24°32.4	100°34.9	-1°48.3	138°15.3	-16°18.9
4	115°12.8	237°27.7	-19°54.8	32°14.1	24°32.5	115°37.4	-1°48.4	153°17.7	-16°18.8
5	130°15.2	252°26.9	-19°55.6	47°17.2	24°32.6	130°40.0	-1°48.4	168°20.1	-16°18.8
6	145°17.7	267°26.1	-19°56.3	62°20.3	24°32.7	145°42.5	-1°48.4	183°22.4	-16°18.8
7	160°20.1	282°25.3	-19°57.1	77°23.4	24°32.8	160°45.0	-1°48.4	198°24.8	-16°18.7
8	175°22.6	297°24.6	-19°57.8	92°26.6	24°32.9	175°47.6	-1°48.4	213°27.2	-16°18.7
9	190°25.1	312°23.8	-19°58.6	107°29.7	24°33.0	190°50.1	-1°48.4	228°29.5	-16°18.6
10	205°27.5	327°23.0	-19°59.3	122°32.8	24°33.1	205°52.6	-1°48.5	243°31.9	-16°18.6
11	220°30.0	342°22.2	-20°00.1	137°36.0	24°33.2	220°55.1	-1°48.5	258°34.3	-16°18.6
12	235°32.5	357°21.5	-20°00.9	152°39.1	24°33.3	235°57.7	-1°48.5	273°36.6	-16°18.5
13	250°34.9	12°20.7	-20°01.6	167°42.3	24°33.4	251°00.2	-1°48.5	288°39.0	-16°18.5
14	265°37.4	27°19.9	-20°02.4	182°45.4	24°33.5	266°02.7	-1°48.5	303°41.4	-16°18.5
15	280°39.9	42°19.1	-20°03.1	197°48.5	24°33.6	281°05.2	-1°48.5	318°43.7	-16°18.4
16	295°42.3	57°18.3	-20°03.9	212°51.7	24°33.7	296°07.8	-1°48.5	333°46.1	-16°18.4
17	310°44.8	72°17.6	-20°04.6	227°54.8	24°33.8	311°10.3	-1°48.6	348°48.4	-16°18.4
18	325°47.3	87°16.8	-20°05.4	242°58.0	24°33.9	326°12.8	-1°48.6	3°50.8	-16°18.3
19	340°49.7	102°16.0	-20°06.1	258°01.1	24°34.0	341°15.4	-1°48.6	18°53.2	-16°18.3
20	355°52.2	117°15.2	-20°06.9	273°04.3	24°34.1	356°17.9	-1°48.6	33°55.5	-16°18.3
21	10°54.6	132°14.4	-20°07.6	288°07.4	24°34.2	11°20.4	-1°48.6	48°57.9	-16°18.2
22	25°57.1	147°13.6	-20°08.4	303°10.6	24°34.3	26°22.9	-1°48.6	64°00.3	-16°18.2
23	40°59.6	162°12.9	-20°09.1	318°13.7	24°34.4	41°25.5	-1°48.6	79°02.6	-16°18.2
Mer.pass.:20:16		v-0.8 d-0.8 m-3.8		v3.1 d0.1 m-1.5		v2.5 d-0.0 m-2.5		v2.4 d0.0 m0.7	

Jue	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	56°02.0	177°12.1	-20°09.8	333°16.9	24°34.5	56°28.0	-1°48.7	94°05.0	-16°18.1
1	71°04.5	192°11.3	-20°10.6	348°20.0	24°34.6	71°30.5	-1°48.7	109°07.3	-16°18.1
2	86°07.0	207°10.5	-20°11.3	3°23.2	24°34.7	86°33.0	-1°48.7	124°09.7	-16°18.1
3	101°09.4	222°09.7	-20°12.1	18°26.4	24°34.8	101°35.5	-1°48.7	139°12.1	-16°18.0
4	116°11.9	237°08.9	-20°12.8	33°29.5	24°34.9	116°38.1	-1°48.7	154°14.4	-16°18.0
5	131°14.4	252°08.2	-20°13.5	48°32.7	24°35.0	131°40.6	-1°48.7	169°16.8	-16°18.0
6	146°16.8	267°07.4	-20°14.3	63°35.8	24°35.1	146°43.1	-1°48.7	184°19.1	-16°17.9
7	161°19.3	282°06.6	-20°15.0	78°39.0	24°35.2	161°45.6	-1°48.8	199°21.5	-16°17.9
8	176°21.8	297°05.8	-20°15.8	93°42.2	24°35.3	176°48.2	-1°48.8	214°23.9	-16°17.8
9	191°24.2	312°05.0	-20°16.5	108°45.3	24°35.4	191°50.7	-1°48.8	229°26.2	-16°17.8
10	206°26.7	327°04.2	-20°17.2	123°48.5	24°35.5	206°53.2	-1°48.8	244°28.6	-16°17.8
11	221°29.1	342°03.4	-20°18.0	138°51.7	24°35.6	221°55.7	-1°48.8	259°30.9	-16°17.7
12	236°31.6	357°02.6	-20°18.7	153°54.9	24°35.7	236°58.2	-1°48.8	274°33.3	-16°17.7
13	251°34.1	12°01.8	-20°19.4	168°58.0	24°35.8	252°00.8	-1°48.8	289°35.7	-16°17.7
14	266°36.5	27°01.1	-20°20.1	184°01.2	24°35.8	267°03.3	-1°48.8	304°38.0	-16°17.6
15	281°39.0	42°00.3	-20°20.9	199°04.4	24°35.9	282°05.8	-1°48.9	319°40.4	-16°17.6
16	296°41.5	56°59.5	-20°21.6	214°07.6	24°36.0	297°08.3	-1°48.9	334°42.7	-16°17.6
17	311°43.9	71°58.7	-20°22.3	229°10.8	24°36.1	312°10.8	-1°48.9	349°45.1	-16°17.5
18	326°46.4	86°57.9	-20°23.1	244°13.9	24°36.2	327°13.4	-1°48.9	4°47.5	-16°17.5
19	341°48.9	101°57.1	-20°23.8	259°17.1	24°36.3	342°15.9	-1°48.9	19°49.8	-16°17.5
20	356°51.3	116°56.3	-20°24.5	274°20.3	24°36.4	357°18.4	-1°48.9	34°52.2	-16°17.4
21	11°53.8	131°55.5	-20°25.2	289°23.5	24°36.5	12°20.9	-1°48.9	49°54.5	-16°17.4
22	26°56.2	146°54.7	-20°25.9	304°26.7	24°36.6	27°23.4	-1°48.9	64°56.9	-16°17.3
23	41°58.7	161°53.9	-20°26.7	319°29.9	24°36.7	42°25.9	-1°48.9	79°59.3	-16°17.3
Mer.pass.:20:12		v-0.8 d-0.7 m-3.8		v3.2 d0.1 m-1.6		v2.5 d-0.0 m-2.5		v2.4 d0.0 m0.7	

Estrellas

	AHS	Dec
Alpheratz	357°36.4	29°13.1
Ankaa	353°08.6	-42°11.1
Schedar	349°32.7	56°39.9
Diphda	348°48.8	-17°51.7
Achernar	335°21.0	-57°07.4
Hamal	327°52.9	23°34.3
Polaris	314°24.7	89°21.7
Akamar	315°12.7	-40°12.8
Menkar	314°07.7	4°10.8
Mirfak	308°30.3	49°56.5
Aldebaran	290°41.4	16°33.4
Rigel	281°05.3	-8°10.4
Capella	280°24.1	46°01.3
Bellatrix	278°24.5	6°22.3
Elnath	278°03.8	28°37.6
Alnilam	275°39.3	-1°11.2
Betelgeuse	270°53.8	7°24.7
Canopus	263°52.8	-52°42.2
Sirius	258°27.5	-16°44.5
Adara	255°07.0	-29°00.0
Procyon	244°52.5	5°10.2
Pollux	243°19.2	27°58.2
Avior	234°15.2	-59°34.6
Suhail	222°47.5	-43°31.1
Miaplacidus	221°38.5	-69°48.2
Alphard	217°49.5	-8°45.3
Regulus	207°36.3	11°51.4
Dubhe	193°43.4	61°37.5
Denebola	182°26.9	14°26.7
Gienah	175°45.6	-17°39.9
Acrux	173°02.6	-63°13.2
Gacrux	171°54.1	-57°14.1
Alioth	166°15.0	55°50.1
Spica	158°24.5	-11°16.6
Alcaid	152°53.9	49°11.9
Hadar	148°39.2	-60°28.8
Menkent	148°00.1	-36°28.7
Arcturus	145°49.7	19°04.2
Rigil Kent.	139°43.4	-60°55.6
Zubenelg.	136°58.4	-16°08.0
Kochab	137°20.9	74°03.6
Alphecca	126°05.7	26°38.4
Antares	112°18.4	-26°28.9
Atria	107°14.8	-69°04.1
Sabik	102°05.2	-15°45.1
Shaula	96°13.2	-37°07.2
Rasalhague	96°00.5	12°32.7
Etamin	90°43.5	51°29.3
Kaus Aust.	83°35.2	-34°22.5
Vega	80°34.8	38°48.4
Nunki	75°50.2	-26°16.1
Altair	62°01.9	8°55.8
Peacock	53°08.8	-56°39.9
Deneb	49°27.2	45°21.9
Enif	33°40.6	9°58.9
Alnair	27°35.2	-46°51.2
Fomalhaut	15°16.4	-29°30.2
Scheat	13°46.9	28°12.5
Markab	13°31.6	15°19.8

Nov 15 Mar	AHS	Paso Merid
Venus	123°45.3	12:09
Mars	276°43.4	01:56
Jupiter	0°22.7	20:19
Saturn	38°07.7	17:48

Nov 16 Mie	AHS	Paso Merid
Venus	122°27.8	12:11
Mars	276°58.7	01:52
Jupiter	0°24.4	20:15
Saturn	38°05.3	17:45

Nov 17 Jue	AHS	Paso Merid
Venus	121°10.0	12:12
Mars	277°14.8	01:47
Jupiter	0°25.9	20:11
Saturn	38°02.9	17:41

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.3

h	Sol		Luna				
Mar	AHG	Dec	AHG	v	Dec	d	HP
0	183°52.7	-18°25.0	284°45.9	12.1	23°56.8	-7.1	54.2
1	198°52.6	-18°25.7	299°17.0	12.1	23°49.7	-7.2	54.2
2	213°52.5	-18°26.3	313°48.2	12.2	23°42.4	-7.3	54.2
3	228°52.4	-18°27.0	328°19.4	12.2	23°35.0	-7.4	54.2
4	243°52.3	-18°27.6	342°50.7	12.3	23°27.5	-7.5	54.2
5	258°52.2	-18°28.2	357°22.0	12.3	23°19.9	-7.6	54.2
6	273°52.1	-18°28.9	11°53.4	12.4	23°12.2	-7.8	54.2
7	288°52.0	-18°29.5	26°24.8	12.5	23°04.4	-7.9	54.2
8	303°51.9	-18°30.1	40°56.3	12.5	22°56.5	-8.0	54.2
9	318°51.8	-18°30.8	55°27.8	12.6	22°48.5	-8.1	54.3
10	333°51.7	-18°31.4	69°59.4	12.6	22°40.4	-8.2	54.3
11	348°51.6	-18°32.1	84°31.0	12.7	22°32.2	-8.3	54.3
12	3°51.5	-18°32.7	99°02.7	12.7	22°23.9	-8.4	54.3
13	18°51.4	-18°33.3	113°34.5	12.8	22°15.5	-8.5	54.3
14	33°51.3	-18°34.0	128°06.3	12.8	22°07.0	-8.6	54.3
15	48°51.2	-18°34.6	142°38.1	12.9	21°58.4	-8.7	54.3
16	63°51.1	-18°35.2	157°10.0	12.9	21°49.7	-8.7	54.3
17	78°51.0	-18°35.9	171°42.0	13.0	21°40.9	-8.8	54.3
18	93°50.9	-18°36.5	186°14.0	13.0	21°32.0	-8.9	54.3
19	108°50.7	-18°37.1	200°46.1	13.1	21°23.0	-9.0	54.3
20	123°50.6	-18°37.7	215°18.2	13.1	21°13.9	-9.1	54.4
21	138°50.5	-18°38.4	229°50.4	13.2	21°04.7	-9.2	54.4
22	153°50.4	-18°39.0	244°22.6	13.2	20°55.5	-9.3	54.4
23	168°50.3	-18°39.6	258°54.8	13.3	20°46.1	-9.4	54.4
	SD.=16.2	d=-0.6	S.D.=14.8				

Mie	AHG	Dec	AHG	v	Dec	d	HP
0	183°50.2	-18°40.3	273°27.2	13.3	20°36.6	-9.5	54.4
1	198°50.1	-18°40.9	287°59.5	13.4	20°27.1	-9.6	54.4
2	213°50.0	-18°41.5	302°31.9	13.4	20°17.5	-9.7	54.4
3	228°49.9	-18°42.1	317°04.4	13.5	20°07.7	-9.8	54.4
4	243°49.8	-18°42.8	331°36.9	13.5	19°57.9	-9.9	54.5
5	258°49.6	-18°43.4	346°09.5	13.6	19°48.0	-9.9	54.5
6	273°49.5	-18°44.0	0°42.1	13.6	19°38.0	-10.0	54.5
7	288°49.4	-18°44.6	15°14.7	13.7	19°28.0	-10.1	54.5
8	303°49.3	-18°45.3	29°47.4	13.7	19°17.8	-10.2	54.5
9	318°49.2	-18°45.9	44°20.2	13.8	19°07.5	-10.3	54.5
10	333°49.1	-18°46.5	58°53.0	13.8	18°57.2	-10.4	54.5
11	348°49.0	-18°47.1	73°25.8	13.9	18°46.8	-10.5	54.6
12	3°48.8	-18°47.8	87°58.7	13.9	18°36.3	-10.5	54.6
13	18°48.7	-18°48.4	102°31.6	13.9	18°25.7	-10.6	54.6
14	33°48.6	-18°49.0	117°04.6	14.0	18°15.0	-10.7	54.6
15	48°48.5	-18°49.6	131°37.6	14.0	18°04.3	-10.8	54.6
16	63°48.4	-18°50.2	146°10.7	14.1	17°53.5	-10.9	54.6
17	78°48.3	-18°50.8	160°43.8	14.1	17°42.6	-10.9	54.7
18	93°48.2	-18°51.5	175°16.9	14.2	17°31.6	-11.0	54.7
19	108°48.0	-18°52.1	189°50.1	14.2	17°20.5	-11.1	54.7
20	123°47.9	-18°52.7	204°23.3	14.2	17°09.3	-11.2	54.7
21	138°47.8	-18°53.3	218°56.6	14.3	16°58.1	-11.3	54.7
22	153°47.7	-18°53.9	233°29.9	14.3	16°46.8	-11.3	54.7
23	168°47.6	-18°54.5	248°03.2	14.4	16°35.4	-11.4	54.8
	SD.=16.2	d=-0.6	S.D.=14.8				

Jue	AHG	Dec	AHG	v	Dec	d	HP
0	183°47.4	-18°55.2	262°36.6	14.4	16°24.0	-11.5	54.8
1	198°47.3	-18°55.8	277°10.0	14.4	16°12.5	-11.6	54.8
2	213°47.2	-18°56.4	291°43.4	14.5	16°00.9	-11.6	54.8
3	228°47.1	-18°57.0	306°16.9	14.5	15°49.2	-11.7	54.8
4	243°47.0	-18°57.6	320°50.4	14.5	15°37.4	-11.8	54.9
5	258°46.8	-18°58.2	335°23.9	14.6	15°25.6	-11.9	54.9
6	273°46.7	-18°58.8	349°57.5	14.6	15°13.7	-11.9	54.9
7	288°46.6	-18°59.4	4°31.1	14.6	15°01.8	-12.0	54.9
8	303°46.5	-19°00.0	19°04.7	14.7	14°49.7	-12.1	54.9
9	318°46.4	-19°00.7	33°38.4	14.7	14°37.6	-12.1	55.0
10	333°46.2	-19°01.3	48°12.1	14.7	14°25.4	-12.2	55.0
11	348°46.1	-19°01.9	62°45.8	14.7	14°13.2	-12.3	55.0
12	3°46.0	-19°02.5	77°19.6	14.8	14°00.9	-12.3	55.0
13	18°45.9	-19°03.1	91°53.4	14.8	13°48.5	-12.4	55.1
14	33°45.7	-19°03.7	106°27.2	14.8	13°36.1	-12.5	55.1
15	48°45.6	-19°04.3	121°01.0	14.8	13°23.6	-12.5	55.1
16	63°45.5	-19°04.9	135°34.9	14.9	13°11.0	-12.6	55.1
17	78°45.4	-19°05.5	150°08.7	14.9	12°58.4	-12.7	55.2
18	93°45.2	-19°06.1	164°42.6	14.9	12°45.7	-12.7	55.2
19	108°45.1	-19°06.7	179°16.6	14.9	12°32.9	-12.8	55.2
20	123°45.0	-19°07.3	193°50.5	15.0	12°20.1	-12.9	55.2
21	138°44.9	-19°07.9	208°24.5	15.0	12°07.2	-12.9	55.3
22	153°44.7	-19°08.5	222°58.4	15.0	11°54.2	-13.0	55.3
23	168°44.6	-19°09.1	237°32.4	15.0	11°41.2	-13.0	55.3
	SD.=16.2	d=-0.6	S.D.=14.9				

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	07:03	08:39	11:28	12:00	14:50	16:25
70	06:52	08:15	09:56	13:33	15:13	16:36
68	06:44	07:57	09:17	14:11	15:31	16:45
66	06:36	07:42	08:51	14:38	15:46	16:52
64	06:30	07:30	08:30	14:58	15:58	16:59
62	06:24	07:20	08:14	15:15	16:09	17:05
60	06:19	07:11	08:00	15:29	16:18	17:10
58	06:14	07:03	07:49	15:40	16:26	17:14
56	06:10	06:56	07:38	15:50	16:33	17:19
54	06:06	06:50	07:29	15:59	16:39	17:23
52	06:02	06:44	07:21	16:08	16:45	17:26
50	05:59	06:39	07:14	16:15	16:50	17:30
45	05:51	06:27	06:59	16:30	17:02	17:38
40	05:44	06:17	06:46	16:43	17:12	17:45
35	05:38	06:08	06:35	16:54	17:21	17:51
30	05:31	06:00	06:26	17:03	17:29	17:58
20	05:19	05:46	06:09	17:20	17:43	18:10
10	05:07	05:33	05:55	17:35	17:57	18:22
0	04:54	05:19	05:41	17:48	18:10	18:36
S 10	04:39	05:05	05:27	18:02	18:24	18:51
20	04:21	04:49	05:13	18:17	18:41	19:09
30	03:58	04:29	04:55	18:34	19:01	19:32
35	03:43	04:17	04:45	18:45	19:13	19:47
40	03:26	04:03	04:34	18:56	19:27	20:05
45	03:03	03:46	04:20	19:10	19:44	20:28
50	02:32	03:24	04:03	19:27	20:06	20:59
52	02:16	03:14	03:56	19:35	20:17	21:15
54	01:57	03:01	03:47	19:44	20:30	21:35
56	01:31	02:47	03:37	19:54	20:44	22:02
58	00:54	02:30	03:25	20:06	21:01	22:42
60	–:–	02:10	03:12	20:19	21:23	–:–

	Orto luna			Ocaso luna		
Lat.	Mar	Mie	Jue	Mar	Mie	Jue
N 72	–:–	19:35	22:31	–:–	17:24	16:00
70	–:–	20:36	22:52	–:–	16:22	15:37
68	18:34	21:10	23:09	16:48	15:46	15:19
66	19:36	21:35	23:22	15:46	15:20	15:04
64	20:10	21:54	23:33	15:11	15:00	14:52
62	20:34	22:09	23:42	14:46	14:44	14:41
60	20:54	22:22	23:50	14:26	14:30	14:32
58	21:10	22:33	23:56	14:09	14:18	14:25
56	21:23	22:43	–:–	13:55	14:08	14:18
54	21:35	22:51	–:–	13:43	13:59	14:11
52	21:45	22:59	–:–	13:32	13:51	14:06
50	21:54	23:06	–:–	13:22	13:43	14:01
45	22:14	23:20	–:–	13:02	13:28	13:49
40	22:29	23:32	–:–	12:45	13:15	13:40
35	22:43	23:42	–:–	12:31	13:03	13:32
30	22:54	23:51	–:–	12:19	12:54	13:25
20	23:14	–:–	00:06	11:58	12:37	13:13
10	23:30	–:–	00:19	11:39	12:22	13:02
0	23:46	–:–	00:31	11:22	12:08	12:52
S 10	–:–	00:02	00:43	11:05	11:54	12:41
20	–:–	00:19	00:56	10:46	11:39	12:30
30	00:01	00:38	01:11	10:25	11:21	12:18
35	00:14	00:49	01:19	10:12	11:11	12:10
40	00:30	01:02	01:29	09:57	10:59	12:02
45	00:48	01:16	01:40	09:40	10:46	11:52
50	01:11	01:35	01:54	09:18	10:29	11:40
52	01:22	01:43	02:00	09:07	10:20	11:34
54	01:34	01:53	02:07	08:56	10:11	11:28
56	01:48	02:04	02:15	08:42	10:01	11:21
58	02:04	02:16	02:23	08:26	09:50	11:13
60	02:24	02:30	02:33	08:07	09:36	11:04

	Sol			Luna		
Día	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
15	15:31	15:26	11:44	05:10	17:34	21(60%)
16	15:21	15:16	11:44	05:57	18:19	22(51%)
17	15:10	15:04	11:44	06:41	19:02	23(41%)

Noviembre 18, 19, 20 (Vie, Sa, Dom.)

	Aries	Venus		Martes		Júpiter		Saturno	
Vie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	57°01.2	176°53.1	-20°27.4	334°33.1	24°36.8	57°28.5	-1°49.0	95°01.6	-16°17.3
1	72°03.6	191°52.3	-20°28.1	349°36.2	24°36.9	72°31.0	-1°49.0	110°04.0	-16°17.2
2	87°06.1	206°51.5	-20°28.8	4°39.4	24°37.0	87°33.5	-1°49.0	125°06.3	-16°17.2
3	102°08.6	221°50.7	-20°29.5	19°42.6	24°37.1	102°36.0	-1°49.0	140°08.7	-16°17.2
4	117°11.0	236°49.9	-20°30.3	34°45.8	24°37.2	117°38.5	-1°49.0	155°11.0	-16°17.1
5	132°13.5	251°49.1	-20°31.0	49°49.0	24°37.3	132°41.0	-1°49.0	170°13.4	-16°17.1
6	147°16.0	266°48.3	-20°31.7	64°52.2	24°37.4	147°43.5	-1°49.0	185°15.8	-16°17.1
7	162°18.4	281°47.5	-20°32.4	79°55.4	24°37.5	162°46.1	-1°49.0	200°18.1	-16°17.0
8	177°20.9	296°46.7	-20°33.1	94°58.6	24°37.5	177°48.6	-1°49.0	215°20.5	-16°17.0
9	192°23.4	311°45.9	-20°33.8	110°01.8	24°37.6	192°51.1	-1°49.0	230°22.8	-16°16.9
10	207°25.8	326°45.1	-20°34.5	125°05.0	24°37.7	207°53.6	-1°49.1	245°25.2	-16°16.9
11	222°28.3	341°44.3	-20°35.2	140°08.3	24°37.8	222°56.1	-1°49.1	260°27.5	-16°16.9
12	237°30.7	356°43.5	-20°35.9	155°11.5	24°37.9	237°58.6	-1°49.1	275°29.9	-16°16.8
13	252°33.2	11°42.7	-20°36.7	170°14.7	24°38.0	253°01.1	-1°49.1	290°32.2	-16°16.8
14	267°35.7	26°41.9	-20°37.4	185°17.9	24°38.1	268°03.7	-1°49.1	305°34.6	-16°16.8
15	282°38.1	41°41.1	-20°38.1	200°21.1	24°38.2	283°06.2	-1°49.1	320°37.0	-16°16.7
16	297°40.6	56°40.3	-20°38.8	215°24.3	24°38.3	298°08.7	-1°49.1	335°39.3	-16°16.7
17	312°43.1	71°39.5	-20°39.5	230°27.5	24°38.4	313°11.2	-1°49.1	350°41.7	-16°16.6
18	327°45.5	86°38.7	-20°40.2	245°30.7	24°38.5	328°13.7	-1°49.1	5°44.0	-16°16.6
19	342°48.0	101°37.9	-20°40.9	260°34.0	24°38.6	343°16.2	-1°49.1	20°46.4	-16°16.6
20	357°50.5	116°37.1	-20°41.6	275°37.2	24°38.6	358°18.7	-1°49.1	35°48.7	-16°16.5
21	12°52.9	131°36.3	-20°42.3	290°40.4	24°38.7	13°21.2	-1°49.1	50°51.1	-16°16.5
22	27°55.4	146°35.5	-20°43.0	305°43.6	24°38.8	28°23.7	-1°49.1	65°53.4	-16°16.5
23	42°57.9	161°34.7	-20°43.7	320°46.8	24°38.9	43°26.2	-1°49.2	80°55.8	-16°16.4
Mer.pass.:20:08		v-0.8 d-0.7 m-3.8		v3.2 d0.1 m-1.6		v2.5 d-0.0 m-2.5		v2.4 d0.0 m0.7	

Sa	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	58°00.3	176°33.9	-20°44.4	335°50.1	24°39.0	58°28.7	-1°49.2	95°58.1	-16°16.4
1	73°02.8	191°33.0	-20°45.1	350°53.3	24°39.1	73°31.3	-1°49.2	111°00.5	-16°16.3
2	88°05.2	206°32.2	-20°45.7	5°56.5	24°39.2	88°33.8	-1°49.2	126°02.9	-16°16.3
3	103°07.7	221°31.4	-20°46.4	20°59.8	24°39.3	103°36.3	-1°49.2	141°05.2	-16°16.3
4	118°10.2	236°30.6	-20°47.1	36°03.0	24°39.4	118°38.8	-1°49.2	156°07.6	-16°16.2
5	133°12.6	251°29.8	-20°47.8	51°06.2	24°39.5	133°41.3	-1°49.2	171°09.9	-16°16.2
6	148°15.1	266°29.0	-20°48.5	66°09.5	24°39.6	148°43.8	-1°49.2	186°12.3	-16°16.2
7	163°17.6	281°28.2	-20°49.2	81°12.7	24°39.6	163°46.3	-1°49.2	201°14.6	-16°16.1
8	178°20.0	296°27.4	-20°49.9	96°15.9	24°39.7	178°48.8	-1°49.2	216°17.0	-16°16.1
9	193°22.5	311°26.6	-20°50.6	111°19.2	24°39.8	193°51.3	-1°49.2	231°19.3	-16°16.0
10	208°25.0	326°25.7	-20°51.3	126°22.4	24°39.9	208°53.8	-1°49.2	246°21.7	-16°16.0
11	223°27.4	341°24.9	-20°51.9	141°25.6	24°40.0	223°56.3	-1°49.2	261°24.0	-16°16.0
12	238°29.9	356°24.1	-20°52.6	156°28.9	24°40.1	238°58.8	-1°49.2	276°26.4	-16°15.9
13	253°32.3	11°23.3	-20°53.3	171°32.1	24°40.2	254°01.3	-1°49.2	291°28.7	-16°15.9
14	268°34.8	26°22.5	-20°54.0	186°35.4	24°40.3	269°03.8	-1°49.2	306°31.1	-16°15.9
15	283°37.3	41°21.7	-20°54.7	201°38.6	24°40.4	284°06.3	-1°49.2	321°33.4	-16°15.8
16	298°39.7	56°20.8	-20°55.3	216°41.9	24°40.4	299°08.8	-1°49.3	336°35.8	-16°15.8
17	313°42.2	71°20.0	-20°56.0	231°45.1	24°40.5	314°11.3	-1°49.3	351°38.1	-16°15.7
18	328°44.7	86°19.2	-20°56.7	246°48.4	24°40.6	329°13.8	-1°49.3	6°40.5	-16°15.7
19	343°47.1	101°18.4	-20°57.4	261°51.6	24°40.7	344°16.3	-1°49.3	21°42.8	-16°15.7
20	358°49.6	116°17.6	-20°58.1	276°54.9	24°40.8	359°18.8	-1°49.3	36°45.2	-16°15.6
21	13°52.1	131°16.8	-20°58.7	291°58.1	24°40.9	14°21.3	-1°49.3	51°47.5	-16°15.6
22	28°54.5	146°15.9	-20°59.4	307°01.4	24°41.0	29°23.8	-1°49.3	66°49.9	-16°15.5
23	43°57.0	161°15.1	-21°00.1	322°04.6	24°41.1	44°26.4	-1°49.3	81°52.2	-16°15.5
Mer.pass.:20:04		v-0.8 d-0.7 m-3.8		v3.2 d0.1 m-1.6		v2.5 d-0.0 m-2.5		v2.4 d0.0 m0.7	

Dom	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	58°59.5	176°14.3	-21°00.7	337°07.9	24°41.1	59°28.9	-1°49.3	96°54.6	-16°15.5
1	74°01.9	191°13.5	-21°01.4	352°11.2	24°41.2	74°31.4	-1°49.3	111°56.9	-16°15.4
2	89°04.4	206°12.7	-21°02.1	7°14.4	24°41.3	89°33.9	-1°49.3	126°59.3	-16°15.4
3	104°06.8	221°11.8	-21°02.7	22°17.7	24°41.4	104°36.4	-1°49.3	142°01.6	-16°15.4
4	119°09.3	236°11.0	-21°03.4	37°21.0	24°41.5	119°38.8	-1°49.3	157°04.0	-16°15.3
5	134°11.8	251°10.2	-21°04.1	52°24.2	24°41.6	134°41.3	-1°49.3	172°06.3	-16°15.3
6	149°14.2	266°09.4	-21°04.7	67°27.5	24°41.7	149°43.8	-1°49.3	187°08.7	-16°15.2
7	164°16.7	281°08.5	-21°05.4	82°30.8	24°41.8	164°46.3	-1°49.3	202°11.0	-16°15.2
8	179°19.2	296°07.7	-21°06.1	97°34.0	24°41.8	179°48.8	-1°49.3	217°13.4	-16°15.2
9	194°21.6	311°06.9	-21°06.7	112°37.3	24°41.9	194°51.3	-1°49.3	232°15.7	-16°15.1
10	209°24.1	326°06.1	-21°07.4	127°40.6	24°42.0	209°53.8	-1°49.3	247°18.1	-16°15.1
11	224°26.6	341°05.2	-21°08.1	142°43.8	24°42.1	224°56.3	-1°49.3	262°20.4	-16°15.0
12	239°29.0	356°04.4	-21°08.7	157°47.1	24°42.2	239°58.8	-1°49.3	277°22.8	-16°15.0
13	254°31.5	11°03.6	-21°09.4	172°50.4	24°42.3	255°01.3	-1°49.3	292°25.1	-16°15.0
14	269°33.9	26°02.8	-21°10.0	187°53.7	24°42.4	270°03.8	-1°49.3	307°27.5	-16°14.9
15	284°36.4	41°01.9	-21°10.7	202°57.0	24°42.4	285°06.3	-1°49.3	322°29.8	-16°14.9
16	299°38.9	56°01.1	-21°11.3	218°00.2	24°42.5	300°08.8	-1°49.3	337°32.2	-16°14.8
17	314°41.3	71°00.3	-21°12.0	233°03.5	24°42.6	315°11.3	-1°49.3	352°34.5	-16°14.8
18	329°43.8	85°59.4	-21°12.6	248°06.8	24°42.7	330°13.8	-1°49.3	7°36.9	-16°14.8
19	344°46.3	100°58.6	-21°13.3	263°10.1	24°42.8	345°16.3	-1°49.3	22°39.2	-16°14.7
20	359°48.7	115°57.8	-21°13.9	278°13.4	24°42.9	0°18.8	-1°49.3	37°41.6	-16°14.7
21	14°51.2	130°56.9	-21°14.6	293°16.7	24°42.9	15°21.3	-1°49.3	52°43.9	-16°14.6
22	29°53.7	145°56.1	-21°15.2	308°19.9	24°43.0	30°23.8	-1°49.3	67°46.2	-16°14.6
23	44°56.1	160°55.3	-21°15.9	323°23.2	24°43.1	45°26.3	-1°49.3	82°48.6	-16°14.6
Mer.pass.:20:00		v-0.8 d-0.7 m-3.8		v3.3 d0.1 m-1.6		v2.5 d-0.0 m-2.5		v2.3 d0.0 m0.7	

Estrellas

	AHS	Dec
Alpheratz	357°36.4	29°13.1
Ankaa	353°08.6	-42°11.1
Schedar	349°32.7	56°39.9
Diphda	348°48.8	-17°51.8
Achernar	335°21.1	-57°07.4
Hamal	327°52.9	23°34.3
Polaris	314°24.9	89°21.7
Akamar	315°12.7	-40°12.8
Menkar	314°07.7	4°10.8
Mirfak	308°30.3	49°56.6
Aldebaran	290°41.3	16°33.4
Rigel	281°05.3	-8°10.4
Capella	280°24.1	46°01.3
Bellatrix	278°24.5	6°22.3
Elnath	278°03.8	28°37.6
Alnilam	275°39.3	-1°11.2
Betelgeuse	270°53.7	7°24.7
Canopus	263°52.8	-52°42.2
Sirius	258°27.5	-16°44.5
Adara	255°07.0	-29°00.0
Procyon	244°52.4	5°10.2
Pollux	243°19.2	27°58.2
Avior	234°15.2	-59°34.6
Suhail	222°47.5	-43°31.1
Miaplacidus	221°38.5	-69°48.2
Alphard	217°49.5	-8°45.3
Regulus	207°36.3	11°51.4
Dubhe	193°43.4	61°37.5
Denebola	182°26.9	14°26.7
Gienah	175°45.6	-17°39.9
Acrux	173°02.5	-63°13.2
Gacrux	171°54.0	-57°14.1
Alioth	166°15.0	55°50.0
Spica	158°24.5	-11°16.6
Alcaid	152°53.8	49°11.9
Hadar	148°39.1	-60°28.7
Menkent	148°00.1	-36°28.7
Arcturus	145°49.7	19°04.2
Rigil Kent.	139°43.4	-60°55.6
Zubenelg.	136°58.3	-16°08.1
Kochab	137°20.9	74°03.6
Alphecca	126°05.7	26°38.4
Antares	112°18.4	-26°28.9
Atria	107°14.8	-69°04.1
Sabik	102°05.2	-15°45.1
Shaula	96°13.2	-37°07.2
Rasalhague	96°00.5	12°32.7
Etamin	90°43.5	51°29.3
Kaus Aust.	83°35.2	-34°22.5
Vega	80°34.8	38°48.4
Nunki	75°50.3	-26°16.1
Altair	62°02.0	8°55.7
Peacock	53°08.8	-56°39.9
Deneb	49°27.2	45°21.9
Enif	33°40.6	9°58.8
Alnair	27°35.2	-46°51.2
Fomalhaut	15°16.5	-29°30.2
Scheat	13°46.9	28°12.5
Markab	13°31.6	15°19.8

Nov 18 Vie	AHS	Paso Merid
Venus	119°51.9	12:13
Mars	277°31.9	01:41
Jupiter	0°27.3	20:07
Saturn	38°00.4	17:37

Nov 19 Sa	AHS	Paso Merid
Venus	118°33.5	12:14
Mars	277°49.8	01:36
Jupiter	0°28.4	20:03
Saturn	37°57.8	17:33

Nov 20 Dom	AHS	Paso Merid
Venus	117°14.8	12:16
Mars	278°08.5	01:31
Jupiter	0°29.4	19:59
Saturn	37°55.1	17:30

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.3

h	Sol		Luna				
Vie	AHG	Dec	AHG	v	Dec	d	HP
0	183°44.5	-19°09.7	252°06.4	15.0	11°28.2	-13.1	55.3
1	198°44.3	-19°10.3	266°40.5	15.0	11°15.0	-13.2	55.4
2	213°44.2	-19°10.9	281°14.5	15.1	11°01.9	-13.2	55.4
3	228°44.1	-19°11.5	295°48.6	15.1	10°48.6	-13.3	55.4
4	243°44.0	-19°12.1	310°22.7	15.1	10°35.3	-13.3	55.4
5	258°43.8	-19°12.7	324°56.7	15.1	10°22.0	-13.4	55.5
6	273°43.7	-19°13.3	339°30.8	15.1	10°08.6	-13.4	55.5
7	288°43.6	-19°13.9	354°04.9	15.1	9°55.1	-13.5	55.5
8	303°43.4	-19°14.5	8°39.1	15.1	9°41.6	-13.5	55.5
9	318°43.3	-19°15.1	23°13.2	15.1	9°28.0	-13.6	55.6
10	333°43.2	-19°15.7	37°47.3	15.1	9°14.4	-13.6	55.6
11	348°43.0	-19°16.3	52°21.4	15.1	9°00.7	-13.7	55.6
12	3°42.9	-19°16.9	66°55.6	15.1	8°47.0	-13.8	55.7
13	18°42.8	-19°17.5	81°29.7	15.1	8°33.2	-13.8	55.7
14	33°42.6	-19°18.1	96°03.9	15.1	8°19.4	-13.9	55.7
15	48°42.5	-19°18.6	110°38.0	15.1	8°05.5	-13.9	55.7
16	63°42.4	-19°19.2	125°12.2	15.1	7°51.6	-13.9	55.8
17	78°42.2	-19°19.8	139°46.3	15.1	7°37.6	-14.0	55.8
18	93°42.1	-19°20.4	154°20.5	15.1	7°23.6	-14.0	55.8
19	108°42.0	-19°21.0	168°54.6	15.1	7°09.5	-14.1	55.9
20	123°41.8	-19°21.6	183°28.7	15.1	6°55.4	-14.1	55.9
21	138°41.7	-19°22.2	198°02.9	15.1	6°41.3	-14.2	55.9
22	153°41.6	-19°22.8	212°37.0	15.1	6°27.1	-14.2	56.0
23	168°41.4	-19°23.4	227°11.1	15.1	6°12.8	-14.3	56.0
	SD.=16.2	d=-0.6			S.D.=15.1		

Sa	AHG	Dec	AHG	v	Dec	d	HP
0	183°41.3	-19°23.9	241°45.2	15.1	5°58.6	-14.3	56.0
1	198°41.2	-19°24.5	256°19.3	15.1	5°44.2	-14.3	56.1
2	213°41.0	-19°25.1	270°53.4	15.1	5°29.9	-14.4	56.1
3	228°40.9	-19°25.7	285°27.5	15.1	5°15.5	-14.4	56.1
4	243°40.7	-19°26.3	300°01.6	15.1	5°01.0	-14.5	56.1
5	258°40.6	-19°26.9	314°35.6	15.0	4°46.6	-14.5	56.2
6	273°40.5	-19°27.4	329°09.7	15.0	4°32.0	-14.5	56.2
7	288°40.3	-19°28.0	343°43.7	15.0	4°17.5	-14.6	56.2
8	303°40.2	-19°28.6	358°17.7	15.0	4°02.9	-14.6	56.3
9	318°40.1	-19°29.2	12°51.7	15.0	3°48.3	-14.6	56.3
10	333°39.9	-19°29.8	27°25.7	15.0	3°33.6	-14.7	56.3
11	348°39.8	-19°30.3	41°59.6	14.9	3°18.9	-14.7	56.4
12	3°39.6	-19°30.9	56°33.6	14.9	3°04.2	-14.7	56.4
13	18°39.5	-19°31.5	71°07.5	14.9	2°49.4	-14.8	56.4
14	33°39.3	-19°32.1	85°41.3	14.9	2°34.7	-14.8	56.5
15	48°39.2	-19°32.6	100°15.2	14.8	2°19.9	-14.8	56.5
16	63°39.1	-19°33.2	114°49.0	14.8	2°05.0	-14.9	56.5
17	78°38.9	-19°33.8	129°22.8	14.8	1°50.1	-14.9	56.6
18	93°38.8	-19°34.4	143°56.6	14.8	1°35.2	-14.9	56.6
19	108°38.6	-19°34.9	158°30.3	14.7	1°20.3	-14.9	56.7
20	123°38.5	-19°35.5	173°04.1	14.7	1°05.4	-15.0	56.7
21	138°38.3	-19°36.1	187°37.7	14.7	0°50.4	-15.0	56.7
22	153°38.2	-19°36.7	202°11.4	14.6	0°35.4	-15.0	56.8
23	168°38.1	-19°37.2	216°45.0	14.6	0°20.4	-15.0	56.8
	SD.=16.2	d=-0.6			S.D.=15.3		

Dom	AHG	Dec	AHG	v	Dec	d	HP
0	183°37.9	-19°37.8	231°18.6	14.6	0°05.4	-15.0	56.8
1	198°37.8	-19°38.4	245°52.1	14.5	-0°09.7	-15.1	56.9
2	213°37.6	-19°38.9	260°25.6	14.5	-0°24.8	-15.1	56.9
3	228°37.5	-19°39.5	274°59.0	14.4	-0°39.9	-15.1	56.9
4	243°37.3	-19°40.1	289°32.4	14.4	-0°55.0	-15.1	57.0
5	258°37.2	-19°40.7	304°05.8	14.3	-1°10.1	-15.1	57.0
6	273°37.0	-19°41.2	318°39.1	14.3	-1°25.3	-15.2	57.0
7	288°36.9	-19°41.8	333°12.4	14.3	-1°40.4	-15.2	57.1
8	303°36.7	-19°42.4	347°45.7	14.2	-1°55.6	-15.2	57.1
9	318°36.6	-19°42.9	2°18.8	14.2	-2°10.8	-15.2	57.1
10	333°36.4	-19°43.5	16°52.0	14.1	-2°26.0	-15.2	57.2
11	348°36.3	-19°44.0	31°25.1	14.1	-2°41.2	-15.2	57.2
12	3°36.1	-19°44.6	45°58.1	14.0	-2°56.4	-15.2	57.3
13	18°36.0	-19°45.2	60°31.1	14.0	-3°11.6	-15.2	57.3
14	33°35.8	-19°45.7	75°04.0	13.9	-3°26.8	-15.2	57.3
15	48°35.7	-19°46.3	89°36.9	13.8	-3°42.0	-15.2	57.4
16	63°35.5	-19°46.9	104°09.7	13.8	-3°57.3	-15.2	57.4
17	78°35.4	-19°47.4	118°42.5	13.7	-4°12.5	-15.2	57.4
18	93°35.2	-19°48.0	133°15.2	13.7	-4°27.8	-15.2	57.5
19	108°35.1	-19°48.5	147°47.8	13.6	-4°43.0	-15.2	57.5
20	123°34.9	-19°49.1	162°20.4	13.5	-4°58.2	-15.2	57.5
21	138°34.8	-19°49.7	176°52.9	13.5	-5°13.5	-15.2	57.6
22	153°34.6	-19°50.2	191°25.3	13.4	-5°28.7	-15.2	57.6
23	168°34.5	-19°50.8	205°57.7	13.3	-5°43.9	-15.2	57.6
	SD.=16.2	d=-0.6			S.D.=15.5		

Lat.	Crepúsculo Naut.	Civil	Orto Sol	Crepúsculo Civil	Naut.	Ocaso Sol
N 72	07:13	08:53	–:–	–:–	14:37	16:16
70	07:02	08:27	10:18	13:12	15:03	16:28
68	06:52	08:07	09:32	13:58	15:23	16:38
66	06:44	07:51	09:02	14:28	15:39	16:46
64	06:37	07:38	08:40	14:50	15:52	16:53
62	06:30	07:27	08:22	15:08	16:03	17:00
60	06:25	07:17	08:08	15:22	16:13	17:05
58	06:20	07:09	07:55	15:35	16:21	17:10
56	06:15	07:01	07:44	15:46	16:29	17:15
54	06:11	06:55	07:35	15:55	16:35	17:19
52	06:07	06:49	07:27	16:04	16:42	17:23
50	06:03	06:43	07:19	16:11	16:47	17:27
45	05:55	06:31	07:03	16:27	17:00	17:35
40	05:47	06:20	06:49	16:41	17:10	17:43
35	05:40	06:11	06:38	16:52	17:19	17:50
30	05:34	06:03	06:28	17:02	17:28	17:57
20	05:21	05:48	06:11	17:19	17:43	18:10
10	05:08	05:34	05:56	17:35	17:57	18:23
0	04:54	05:20	05:42	17:49	18:11	18:36
S 10	04:39	05:05	05:27	18:03	18:26	18:52
20	04:20	04:48	05:12	18:19	18:43	19:11
30	03:56	04:28	04:54	18:37	19:03	19:35
35	03:41	04:15	04:44	18:48	19:16	19:50
40	03:22	04:01	04:32	19:00	19:31	20:09
45	02:59	03:43	04:17	19:14	19:49	20:33
50	02:26	03:20	04:00	19:32	20:12	21:06
52	02:09	03:09	03:51	19:40	20:23	21:24
54	01:48	02:56	03:42	19:50	20:36	21:45
56	01:20	02:41	03:32	20:00	20:52	22:15
58	00:32	02:23	03:20	20:13	21:10	23:08
60	–:–	02:00	03:06	20:27	21:34	–:–

Lat.	Orto luna Vie	Sa	Dom	Ocaso luna Vie	Sa	Dom
N 72	–:–	00:43	02:49	15:19	14:47	14:15
70	–:–	00:51	02:48	15:08	14:44	14:20
68	–:–	00:58	02:47	14:59	14:41	14:24
66	–:–	01:04	02:46	14:51	14:39	14:27
64	–:–	01:09	02:46	14:44	14:37	14:30
62	–:–	01:13	02:45	14:39	14:36	14:33
60	–:–	01:16	02:45	14:34	14:34	14:35
58	–:–	01:20	02:44	14:29	14:33	14:37
56	00:02	01:22	02:44	14:25	14:32	14:39
54	00:08	01:25	02:44	14:22	14:31	14:40
52	00:13	01:27	02:43	14:18	14:30	14:42
50	00:17	01:29	02:43	14:15	14:29	14:43
45	00:27	01:34	02:43	14:09	14:27	14:46
40	00:34	01:38	02:42	14:03	14:26	14:48
35	00:41	01:41	02:42	13:59	14:24	14:50
30	00:47	01:44	02:41	13:55	14:23	14:52
20	00:57	01:48	02:41	13:47	14:21	14:55
10	01:06	01:53	02:40	13:41	14:19	14:58
0	01:14	01:57	02:40	13:35	14:17	15:01
S 10	01:22	02:01	02:40	13:28	14:15	15:04
20	01:31	02:05	02:39	13:22	14:13	15:07
30	01:41	02:10	02:39	13:14	14:11	15:10
35	01:47	02:13	02:38	13:10	14:10	15:12
40	01:53	02:16	02:38	13:05	14:08	15:14
45	02:01	02:19	02:38	12:59	14:07	15:16
50	02:10	02:24	02:37	12:52	14:04	15:19
52	02:14	02:26	02:37	12:48	14:03	15:21
54	02:18	02:28	02:37	12:45	14:02	15:22
56	02:23	02:30	02:37	12:41	14:01	15:24
58	02:29	02:33	02:37	12:36	14:00	15:26
60	02:35	02:36	02:36	12:31	13:58	15:28

Día	Sol Ec. tiempo 00:00 h	12:00 h	Paso Merid	Luna Paso Superior	Meridiano Inferior	Edad
18	14:58	14:52	11:45	07:24	19:45	24(32%)
19	14:45	14:39	11:45	08:07	20:28	25(23%)
20	14:32	14:25	11:45	08:50	21:12	26(14%)

Noviembre 21, 22, 23 (Lun, Mar, Mie.)

	Aries	Venus		Martes		Júpiter		Saturno	
Lun	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	59°58.6	175°54.5	-21°16.5	338°26.5	24°43.2	60°28.8	-1°49.3	97°50.9	-16°14.5
1	75°01.1	190°53.6	-21°17.2	353°29.8	24°43.3	75°31.3	-1°49.3	112°53.3	-16°14.5
2	90°03.5	205°52.8	-21°17.8	8°33.1	24°43.4	90°33.7	-1°49.3	127°55.6	-16°14.4
3	105°06.0	220°52.0	-21°18.5	23°36.4	24°43.4	105°36.2	-1°49.3	142°58.0	-16°14.4
4	120°08.4	235°51.1	-21°19.1	38°39.7	24°43.5	120°38.7	-1°49.3	158°00.3	-16°14.4
5	135°10.9	250°50.3	-21°19.7	53°43.0	24°43.6	135°41.2	-1°49.3	173°02.7	-16°14.3
6	150°13.4	265°49.4	-21°20.4	68°46.3	24°43.7	150°43.7	-1°49.3	188°05.0	-16°14.3
7	165°15.8	280°48.6	-21°21.0	83°49.6	24°43.8	165°46.2	-1°49.3	203°07.4	-16°14.2
8	180°18.3	295°47.8	-21°21.7	98°52.9	24°43.9	180°48.7	-1°49.3	218°09.7	-16°14.2
9	195°20.8	310°46.9	-21°22.3	113°56.2	24°43.9	195°51.2	-1°49.3	233°12.0	-16°14.2
10	210°23.2	325°46.1	-21°22.9	128°59.5	24°44.0	210°53.7	-1°49.3	248°14.4	-16°14.1
11	225°25.7	340°45.3	-21°23.6	144°02.8	24°44.1	225°56.2	-1°49.3	263°16.7	-16°14.1
12	240°28.2	355°44.4	-21°24.2	159°06.1	24°44.2	240°58.6	-1°49.3	278°19.1	-16°14.0
13	255°30.6	10°43.6	-21°24.8	174°09.4	24°44.3	256°01.1	-1°49.3	293°21.4	-16°14.0
14	270°33.1	25°42.7	-21°25.5	189°12.7	24°44.3	271°03.6	-1°49.3	308°23.8	-16°14.0
15	285°35.6	40°41.9	-21°26.1	204°16.0	24°44.4	286°06.1	-1°49.3	323°26.1	-16°13.9
16	300°38.0	55°41.1	-21°26.7	219°19.4	24°44.5	301°08.6	-1°49.3	338°28.5	-16°13.9
17	315°40.5	70°40.2	-21°27.3	234°22.7	24°44.6	316°11.1	-1°49.3	353°30.8	-16°13.8
18	330°42.9	85°39.4	-21°28.0	249°26.0	24°44.7	331°13.6	-1°49.3	8°33.1	-16°13.8
19	345°45.4	100°38.5	-21°28.6	264°29.3	24°44.7	346°16.1	-1°49.3	23°35.5	-16°13.8
20	0°47.9	115°37.7	-21°29.2	279°32.6	24°44.8	1°18.5	-1°49.3	38°37.8	-16°13.7
21	15°50.3	130°36.9	-21°29.8	294°35.9	24°44.9	16°21.0	-1°49.3	53°40.2	-16°13.7
22	30°52.8	145°36.0	-21°30.5	309°39.3	24°45.0	31°23.5	-1°49.3	68°42.5	-16°13.6
23	45°55.3	160°35.2	-21°31.1	324°42.6	24°45.1	46°26.0	-1°49.3	83°44.9	-16°13.6
Mer.pass.:19:56		v-0.8 d-0.6 m-3.8		v3.3 d0.1 m-1.6		v2.5 d0.0 m-2.5		v2.3 d0.0 m0.7	

Mar	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	60°57.7	175°34.3	-21°31.7	339°45.9	24°45.1	61°28.5	-1°49.3	98°47.2	-16°13.5
1	76°00.2	190°33.5	-21°32.3	354°49.2	24°45.2	76°31.0	-1°49.3	113°49.5	-16°13.5
2	91°02.7	205°32.6	-21°32.9	9°52.5	24°45.3	91°33.5	-1°49.3	128°51.9	-16°13.5
3	106°05.1	220°31.8	-21°33.6	24°55.9	24°45.4	106°35.9	-1°49.3	143°54.2	-16°13.4
4	121°07.6	235°31.0	-21°34.2	39°59.2	24°45.5	121°38.4	-1°49.3	158°56.6	-16°13.4
5	136°10.0	250°30.1	-21°34.8	55°02.5	24°45.5	136°40.9	-1°49.3	173°58.9	-16°13.3
6	151°12.5	265°29.3	-21°35.4	70°05.8	24°45.6	151°43.4	-1°49.3	189°01.2	-16°13.3
7	166°15.0	280°28.4	-21°36.0	85°09.2	24°45.7	166°45.9	-1°49.3	204°03.6	-16°13.3
8	181°17.4	295°27.6	-21°36.6	100°12.5	24°45.8	181°48.3	-1°49.2	219°05.9	-16°13.2
9	196°19.9	310°26.7	-21°37.2	115°15.8	24°45.8	196°50.8	-1°49.2	234°08.3	-16°13.2
10	211°22.4	325°25.9	-21°37.8	130°19.2	24°45.9	211°53.3	-1°49.2	249°10.6	-16°13.1
11	226°24.8	340°25.0	-21°38.4	145°22.5	24°46.0	226°55.8	-1°49.2	264°13.0	-16°13.1
12	241°27.3	355°24.2	-21°39.1	160°25.8	24°46.1	241°58.3	-1°49.2	279°15.3	-16°13.0
13	256°29.8	10°23.3	-21°39.7	175°29.2	24°46.2	257°00.8	-1°49.2	294°17.6	-16°13.0
14	271°32.2	25°22.5	-21°40.3	190°32.5	24°46.2	272°03.2	-1°49.2	309°20.0	-16°13.0
15	286°34.7	40°21.6	-21°40.9	205°35.9	24°46.3	287°05.7	-1°49.2	324°22.3	-16°12.9
16	301°37.2	55°20.8	-21°41.5	220°39.2	24°46.4	302°08.2	-1°49.2	339°24.7	-16°12.9
17	316°39.6	70°19.9	-21°42.1	235°42.5	24°46.5	317°10.7	-1°49.2	354°27.0	-16°12.8
18	331°42.1	85°19.1	-21°42.7	250°45.9	24°46.5	332°13.1	-1°49.2	9°29.3	-16°12.8
19	346°44.5	100°18.2	-21°43.3	265°49.2	24°46.6	347°15.6	-1°49.2	24°31.7	-16°12.8
20	1°47.0	115°17.4	-21°43.9	280°52.6	24°46.7	2°18.1	-1°49.2	39°34.0	-16°12.7
21	16°49.5	130°16.5	-21°44.5	295°55.9	24°46.8	17°20.6	-1°49.2	54°36.3	-16°12.7
22	31°51.9	145°15.6	-21°45.1	310°59.3	24°46.8	32°23.1	-1°49.2	69°38.7	-16°12.6
23	46°54.4	160°14.8	-21°45.7	326°02.6	24°46.9	47°25.5	-1°49.2	84°41.0	-16°12.6
Mer.pass.:19:52		v-0.8 d-0.6 m-3.8		v3.3 d0.1 m-1.6		v2.5 d0.0 m-2.5		v2.3 d0.0 m0.8	

Mie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	61°56.9	175°13.9	-21°46.2	341°06.0	24°47.0	62°28.0	-1°49.2	99°43.4	-16°12.5
1	76°59.3	190°13.1	-21°46.8	356°09.3	24°47.1	77°30.5	-1°49.1	114°45.7	-16°12.5
2	92°01.8	205°12.2	-21°47.4	11°12.7	24°47.1	92°33.0	-1°49.1	129°48.0	-16°12.5
3	107°04.3	220°11.4	-21°48.0	26°16.0	24°47.2	107°35.4	-1°49.1	144°50.4	-16°12.4
4	122°06.7	235°10.5	-21°48.6	41°19.4	24°47.3	122°37.9	-1°49.1	159°52.7	-16°12.4
5	137°09.2	250°09.7	-21°49.2	56°22.7	24°47.4	137°40.4	-1°49.1	174°55.1	-16°12.3
6	152°11.7	265°08.8	-21°49.8	71°26.1	24°47.4	152°42.9	-1°49.1	189°57.4	-16°12.3
7	167°14.1	280°07.9	-21°50.4	86°29.5	24°47.5	167°45.3	-1°49.1	204°59.7	-16°12.2
8	182°16.6	295°07.1	-21°51.0	101°32.8	24°47.6	182°47.8	-1°49.1	220°02.1	-16°12.2
9	197°19.0	310°06.2	-21°51.5	116°36.2	24°47.7	197°50.3	-1°49.1	235°04.4	-16°12.2
10	212°21.5	325°05.4	-21°52.1	131°39.5	24°47.7	212°52.8	-1°49.1	250°06.7	-16°12.1
11	227°24.0	340°04.5	-21°52.7	146°42.9	24°47.8	227°55.2	-1°49.1	265°09.1	-16°12.1
12	242°26.4	355°03.6	-21°53.3	161°46.3	24°47.9	242°57.7	-1°49.1	280°11.4	-16°12.0
13	257°28.9	10°02.8	-21°53.9	176°49.6	24°47.9	258°00.2	-1°49.0	295°13.7	-16°12.0
14	272°31.4	25°01.9	-21°54.4	191°53.0	24°48.0	273°02.7	-1°49.0	310°16.1	-16°11.9
15	287°33.8	40°01.1	-21°55.0	206°56.4	24°48.1	288°05.1	-1°49.0	325°18.4	-16°11.9
16	302°36.3	55°00.2	-21°55.6	221°59.7	24°48.2	303°07.6	-1°49.0	340°20.8	-16°11.9
17	317°38.8	69°59.3	-21°56.2	237°03.1	24°48.2	318°10.1	-1°49.0	355°23.1	-16°11.8
18	332°41.2	84°58.5	-21°56.7	252°06.5	24°48.3	333°12.5	-1°49.0	10°25.4	-16°11.8
19	347°43.7	99°57.6	-21°57.3	267°09.9	24°48.4	348°15.0	-1°49.0	25°27.8	-16°11.7
20	2°46.2	114°56.7	-21°57.9	282°13.2	24°48.5	3°17.5	-1°49.0	40°30.1	-16°11.7
21	17°48.6	129°55.9	-21°58.5	297°16.6	24°48.5	18°19.9	-1°49.0	55°32.4	-16°11.6
22	32°51.1	144°55.0	-21°59.0	312°20.0	24°48.6	33°22.4	-1°49.0	70°34.8	-16°11.6
23	47°53.5	159°54.1	-21°59.6	327°23.4	24°48.7	48°24.9	-1°48.9	85°37.1	-16°11.5
Mer.pass.:19:48		v-0.9 d-0.6 m-3.8		v3.4 d0.1 m-1.6		v2.5 d0.0 m-2.5		v2.3 d0.0 m0.8	

Estrellas

	AHS	Dec
Alpheratz	357°36.4	29°13.1
Ankaa	353°08.7	-42°11.1
Schedar	349°32.7	56°40.0
Diphda	348°48.8	-17°51.8
Achernar	335°21.1	-57°07.4
Hamal	327°52.9	23°34.3
Polaris	314°25.0	89°21.7
Akamar	315°12.7	-40°12.8
Menkar	314°07.7	4°10.8
Mirfak	308°30.3	49°56.6
Aldebaran	290°41.3	16°33.4
Rigel	281°05.3	-8°10.4
Capella	280°24.1	46°01.3
Bellatrix	278°24.5	6°22.3
Elnath	278°03.8	28°37.6
Alnilam	275°39.2	-1°11.2
Betelgeuse	270°53.7	7°24.7
Canopus	263°52.7	-52°42.2
Sirius	258°27.5	-16°44.5
Adara	255°07.0	-29°00.0
Procyon	244°52.4	5°10.2
Pollux	243°19.2	27°58.2
Avior	234°15.2	-59°34.6
Suhail	222°47.5	-43°31.1
Miaplacidus	221°38.4	-69°48.2
Alphard	217°49.4	-8°45.3
Regulus	207°36.3	11°51.4
Dubhe	193°43.4	61°37.5
Denebola	182°26.8	14°26.7
Gienah	175°45.6	-17°39.9
Acrux	173°02.5	-63°13.2
Gacrux	171°54.0	-57°14.1
Alioth	166°15.0	55°50.0
Spica	158°24.4	-11°16.6
Alcaid	152°53.8	49°11.9
Hadar	148°39.1	-60°28.7
Menkent	148°00.1	-36°28.7
Arcturus	145°49.7	19°04.2
Rigil Kent.	139°43.4	-60°55.6
Zubenelg.	136°58.3	-16°08.1
Kochab	137°20.9	74°03.6
Alphecca	126°05.7	26°38.3
Antares	112°18.4	-26°28.9
Atria	107°14.8	-69°04.1
Sabik	102°05.2	-15°45.1
Shaula	96°13.2	-37°07.2
Rasalhague	96°00.5	12°32.7
Etamin	90°43.5	51°29.3
Kaus Aust.	83°35.2	-34°22.5
Vega	80°34.8	38°48.4
Nunki	75°50.3	-26°16.1
Altair	62°02.0	8°55.7
Peacock	53°08.8	-56°39.9
Deneb	49°27.2	45°21.9
Enif	33°40.6	9°58.8
Alnair	27°35.2	-46°51.3
Fomalhaut	15°16.5	-29°30.2
Scheat	13°46.9	28°12.5
Markab	13°31.6	15°19.8

Nov 21 Lun	AHS	Paso Merid
Venus	115°55.9	12:17
Mars	278°27.9	01:26
Jupiter	0°30.2	19:55
Saturn	37°52.4	17:26

Nov 22 Mar	AHS	Paso Merid
Venus	114°36.6	12:18
Mars	278°48.2	01:21
Jupiter	0°30.8	19:51
Saturn	37°49.5	17:22

Nov 23 Mie	AHS	Paso Merid
Venus	113°17.1	12:20
Mars	279°09.1	01:15
Jupiter	0°31.1	19:47
Saturn	37°46.5	17:18

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.3

h	Sol		Luna				
Lun	AHG	Dec	AHG	v	Dec	d	HP
0	183°34.3	-19°51.3	220°30.0	13.3	-5°59.1	-15.2	57.7
1	198°34.2	-19°51.9	235°02.3	13.2	-6°14.4	-15.2	57.7
2	213°34.0	-19°52.4	249°34.5	13.1	-6°29.6	-15.2	57.8
3	228°33.8	-19°53.0	264°06.6	13.1	-6°44.8	-15.2	57.8
4	243°33.7	-19°53.5	278°38.6	13.0	-6°59.9	-15.2	57.8
5	258°33.5	-19°54.1	293°10.6	12.9	-7°15.1	-15.2	57.9
6	273°33.4	-19°54.6	307°42.4	12.8	-7°30.3	-15.1	57.9
7	288°33.2	-19°55.2	322°14.3	12.8	-7°45.4	-15.1	57.9
8	303°33.1	-19°55.7	336°46.0	12.7	-8°00.5	-15.1	58.0
9	318°32.9	-19°56.3	351°17.6	12.6	-8°15.6	-15.1	58.0
10	333°32.7	-19°56.8	5°49.2	12.5	-8°30.7	-15.1	58.0
11	348°32.6	-19°57.4	20°20.7	12.5	-8°45.8	-15.1	58.1
12	3°32.4	-19°57.9	34°52.1	12.4	-9°00.8	-15.0	58.1
13	18°32.3	-19°58.5	49°23.5	12.3	-9°15.9	-15.0	58.2
14	33°32.1	-19°59.0	63°54.7	12.2	-9°30.8	-15.0	58.2
15	48°32.0	-19°59.6	78°25.9	12.1	-9°45.8	-15.0	58.2
16	63°31.8	-20°00.1	92°56.9	12.0	-10°00.8	-14.9	58.3
17	78°31.6	-20°00.7	107°27.9	11.9	-10°15.7	-14.9	58.3
18	93°31.5	-20°01.2	121°58.8	11.8	-10°30.5	-14.9	58.3
19	108°31.3	-20°01.8	136°29.6	11.8	-10°45.4	-14.8	58.4
20	123°31.2	-20°02.3	151°00.3	11.7	-11°00.2	-14.8	58.4
21	138°31.0	-20°02.9	165°30.9	11.6	-11°15.0	-14.8	58.4
22	153°30.8	-20°03.4	180°01.5	11.5	-11°29.7	-14.7	58.5
23	168°30.7	-20°03.9	194°31.9	11.4	-11°44.4	-14.7	58.5
	SD.=16.2	d=-0.6	S.D.=15.7				

Mar	AHG	Dec	AHG	v	Dec	d	HP
0	183°30.5	-20°04.5	209°02.2	11.3	-11°59.0	-14.6	58.5
1	198°30.3	-20°05.0	223°32.4	11.2	-12°13.6	-14.6	58.6
2	213°30.2	-20°05.6	238°02.6	11.1	-12°28.2	-14.5	58.6
3	228°30.0	-20°06.1	252°32.6	11.0	-12°42.7	-14.5	58.6
4	243°29.9	-20°06.6	267°02.5	10.9	-12°57.2	-14.4	58.7
5	258°29.7	-20°07.2	281°32.4	10.8	-13°11.6	-14.4	58.7
6	273°29.5	-20°07.7	296°02.1	10.7	-13°26.0	-14.3	58.7
7	288°29.4	-20°08.2	310°31.7	10.6	-13°40.3	-14.3	58.8
8	303°29.2	-20°08.8	325°01.2	10.5	-13°54.5	-14.2	58.8
9	318°29.0	-20°09.3	339°30.7	10.4	-14°08.7	-14.2	58.8
10	333°28.9	-20°09.9	354°00.0	10.2	-14°22.9	-14.1	58.9
11	348°28.7	-20°10.4	8°29.2	10.1	-14°36.9	-14.0	58.9
12	3°28.5	-20°10.9	22°58.2	10.0	-14°50.9	-14.0	58.9
13	18°28.4	-20°11.5	37°27.2	9.9	-15°04.9	-13.9	59.0
14	33°28.2	-20°12.0	51°56.1	9.8	-15°18.8	-13.8	59.0
15	48°28.0	-20°12.5	66°24.8	9.7	-15°32.6	-13.8	59.0
16	63°27.9	-20°13.0	80°53.5	9.6	-15°46.3	-13.7	59.1
17	78°27.7	-20°13.6	95°22.0	9.5	-16°00.0	-13.6	59.1
18	93°27.5	-20°14.1	109°50.4	9.4	-16°13.6	-13.6	59.1
19	108°27.4	-20°14.6	124°18.7	9.2	-16°27.1	-13.5	59.2
20	123°27.2	-20°15.2	138°46.9	9.1	-16°40.6	-13.4	59.2
21	138°27.0	-20°15.7	153°15.0	9.0	-16°53.9	-13.3	59.2
22	153°26.8	-20°16.2	167°42.9	8.9	-17°07.2	-13.2	59.2
23	168°26.7	-20°16.7	182°10.7	8.8	-17°20.4	-13.2	59.3
	SD.=16.2	d=-0.5	S.D.=16.0				

Mie	AHG	Dec	AHG	v	Dec	d	HP
0	183°26.5	-20°17.3	196°38.5	8.7	-17°33.5	-13.1	59.3
1	198°26.3	-20°17.8	211°06.1	8.5	-17°46.5	-13.0	59.3
2	213°26.2	-20°18.3	225°33.5	8.4	-17°59.5	-12.9	59.4
3	228°26.0	-20°18.8	240°00.9	8.3	-18°12.3	-12.8	59.4
4	243°25.8	-20°19.4	254°28.1	8.2	-18°25.0	-12.7	59.4
5	258°25.6	-20°19.9	268°55.2	8.1	-18°37.7	-12.6	59.4
6	273°25.5	-20°20.4	283°22.2	7.9	-18°50.2	-12.5	59.5
7	288°25.3	-20°20.9	297°49.1	7.8	-19°02.7	-12.4	59.5
8	303°25.1	-20°21.4	312°15.8	7.7	-19°15.0	-12.3	59.5
9	318°24.9	-20°22.0	326°42.5	7.6	-19°27.3	-12.2	59.5
10	333°24.8	-20°22.5	341°09.0	7.4	-19°39.4	-12.1	59.6
11	348°24.6	-20°23.0	355°35.3	7.3	-19°51.4	-12.0	59.6
12	3°24.4	-20°23.5	10°01.6	7.2	-20°03.3	-11.9	59.6
13	18°24.2	-20°24.0	24°27.7	7.1	-20°15.1	-11.7	59.7
14	33°24.1	-20°24.6	38°53.7	7.0	-20°26.8	-11.6	59.7
15	48°23.9	-20°25.1	53°19.6	6.8	-20°38.4	-11.5	59.7
16	63°23.7	-20°25.6	67°45.4	6.7	-20°49.9	-11.4	59.7
17	78°23.5	-20°26.1	82°11.1	6.6	-21°01.2	-11.3	59.7
18	93°23.4	-20°26.6	96°36.6	6.5	-21°12.4	-11.1	59.8
19	108°23.2	-20°27.1	111°02.0	6.3	-21°23.5	-11.0	59.8
20	123°23.0	-20°27.6	125°27.3	6.2	-21°34.4	-10.9	59.8
21	138°22.8	-20°28.2	139°52.4	6.1	-21°45.2	-10.8	59.8
22	153°22.7	-20°28.7	154°17.4	6.0	-21°55.9	-10.6	59.9
23	168°22.5	-20°29.2	168°42.4	5.9	-22°06.5	-10.5	59.9
	SD.=16.2	d=-0.5	S.D.=16.2				

Lat.	Crepúsculo Naut.	Crepúsculo Civil	Orto Sol	Crepúsculo Civil	Crepúsculo Naut.	Ocaso Sol
N 72	07:23	09:07	–:–	–:–	14:24	16:08
70	07:10	08:38	10:44	12:47	14:53	16:21
68	07:00	08:17	09:47	13:45	15:15	16:31
66	06:51	08:00	09:13	14:18	15:32	16:40
64	06:43	07:46	08:49	14:42	15:46	16:48
62	06:36	07:34	08:30	15:01	15:58	16:55
60	06:30	07:24	08:15	15:17	16:08	17:01
58	06:25	07:15	08:02	15:30	16:17	17:07
56	06:20	07:07	07:50	15:41	16:25	17:12
54	06:15	07:00	07:40	15:51	16:32	17:16
52	06:11	06:53	07:32	16:00	16:39	17:20
50	06:07	06:47	07:24	16:08	16:44	17:24
45	05:58	06:34	07:07	16:25	16:57	17:33
40	05:50	06:23	06:53	16:39	17:08	17:42
35	05:43	06:14	06:41	16:51	17:18	17:49
30	05:36	06:05	06:31	17:01	17:27	17:56
20	05:23	05:49	06:13	17:19	17:43	18:09
10	05:09	05:35	05:57	17:35	17:57	18:23
0	04:55	05:20	05:42	17:50	18:12	18:37
S 10	04:39	05:05	05:28	18:05	18:27	18:54
20	04:19	04:48	05:12	18:21	18:45	19:13
30	03:55	04:27	04:53	18:40	19:06	19:38
35	03:39	04:14	04:42	18:51	19:19	19:54
40	03:20	03:58	04:30	19:03	19:34	20:13
45	02:55	03:40	04:15	19:18	19:53	20:38
50	02:21	03:16	03:56	19:37	20:17	21:13
52	02:03	03:04	03:48	19:46	20:29	21:32
54	01:39	02:51	03:38	19:55	20:43	21:55
56	01:07	02:35	03:27	20:07	20:59	22:29
58	–:–	02:15	03:14	20:19	21:19	–:–
60	–:–	01:50	02:59	20:35	21:45	–:–

Lat.	Orto luna Lun	Orto luna Mar	Orto luna Mie	Ocaso luna Lun	Ocaso luna Mar	Ocaso luna Mie
N 72	05:02	07:39	–:–	13:39	12:44	–:–
70	04:50	07:09	–:–	13:53	13:16	–:–
68	04:41	06:47	09:23	14:05	13:40	12:54
66	04:33	06:30	08:44	14:14	13:59	13:35
64	04:27	06:16	08:17	14:22	14:14	14:03
62	04:21	06:04	07:57	14:30	14:27	14:24
60	04:17	05:55	07:40	14:36	14:38	14:42
58	04:13	05:46	07:26	14:41	14:47	14:57
56	04:09	05:39	07:14	14:46	14:56	15:10
54	04:06	05:32	07:04	14:50	15:03	15:21
52	04:03	05:26	06:54	14:54	15:10	15:31
50	04:00	05:21	06:46	14:58	15:16	15:40
45	03:54	05:09	06:29	15:06	15:29	15:58
40	03:49	05:00	06:15	15:13	15:40	16:14
35	03:45	04:52	06:03	15:18	15:50	16:27
30	03:42	04:45	05:52	15:23	15:58	16:39
20	03:35	04:33	05:35	15:32	16:13	16:58
10	03:30	04:23	05:19	15:40	16:25	17:16
0	03:25	04:13	05:05	15:47	16:37	17:32
S 10	03:20	04:03	04:51	15:55	16:49	17:48
20	03:15	03:53	04:36	16:02	17:02	18:06
30	03:09	03:42	04:19	16:11	17:17	18:26
35	03:05	03:35	04:09	16:17	17:25	18:38
40	03:02	03:27	03:58	16:23	17:35	18:51
45	02:57	03:19	03:45	16:30	17:47	19:07
50	02:52	03:08	03:29	16:38	18:01	19:28
52	02:50	03:04	03:22	16:42	18:07	19:37
54	02:47	02:59	03:14	16:46	18:15	19:48
56	02:44	02:53	03:05	16:51	18:23	20:00
58	02:41	02:46	02:54	16:56	18:32	20:15
60	02:37	02:39	02:43	17:02	18:43	20:31

Día	Sol Ec. tiempo 00:00 h	Sol Ec. tiempo 12:00 h	Sol Paso Merid	Luna Paso Meridiano Superior	Luna Paso Meridiano Inferior	Luna Edad
21	14:17	14:10	11:45	09:35	21:59	27(8%)
22	14:02	13:54	11:46	10:24	22:50	28(3%)
23	13:46	13:38	11:46	11:18	23:47	29(0%)

Noviembre 24, 25, 26 (Jue, Vie, Sa.)

	Aries	Venus		Martes		Júpiter		Saturno	
Jue	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	62°56.0	174°53.3	-22°00.2	342°26.7	24°48.7	63°27.4	-1°48.9	100°39.4	-16°11.5
1	77°58.5	189°52.4	-22°00.7	357°30.1	24°48.8	78°29.8	-1°48.9	115°41.8	-16°11.5
2	93°00.9	204°51.5	-22°01.3	12°33.5	24°48.9	93°32.3	-1°48.9	130°44.1	-16°11.4
3	108°03.4	219°50.7	-22°01.9	27°36.9	24°48.9	108°34.8	-1°48.9	145°46.4	-16°11.4
4	123°05.9	234°49.8	-22°02.4	42°40.3	24°49.0	123°37.2	-1°48.9	160°48.8	-16°11.3
5	138°08.3	249°48.9	-22°03.0	57°43.6	24°49.1	138°39.7	-1°48.9	175°51.1	-16°11.3
6	153°10.8	264°48.1	-22°03.5	72°47.0	24°49.2	153°42.2	-1°48.9	190°53.4	-16°11.2
7	168°13.3	279°47.2	-22°04.1	87°50.4	24°49.2	168°44.6	-1°48.9	205°55.8	-16°11.2
8	183°15.7	294°46.3	-22°04.7	102°53.8	24°49.3	183°47.1	-1°48.8	220°58.1	-16°11.2
9	198°18.2	309°45.5	-22°05.2	117°57.2	24°49.4	198°49.6	-1°48.8	236°00.4	-16°11.1
10	213°20.6	324°44.6	-22°05.8	133°00.6	24°49.4	213°52.0	-1°48.8	251°02.8	-16°11.1
11	228°23.1	339°43.7	-22°06.3	148°04.0	24°49.5	228°54.5	-1°48.8	266°05.1	-16°11.0
12	243°25.6	354°42.8	-22°06.9	163°07.3	24°49.6	243°57.0	-1°48.8	281°07.4	-16°11.0
13	258°28.0	9°42.0	-22°07.4	178°10.7	24°49.6	258°59.4	-1°48.8	296°09.8	-16°10.9
14	273°30.5	24°41.1	-22°08.0	193°14.1	24°49.7	274°01.9	-1°48.8	311°12.1	-16°10.9
15	288°33.0	39°40.2	-22°08.5	208°17.5	24°49.8	289°04.3	-1°48.8	326°14.4	-16°10.8
16	303°35.4	54°39.4	-22°09.1	223°20.9	24°49.8	304°06.8	-1°48.7	341°16.8	-16°10.8
17	318°37.9	69°38.5	-22°09.6	238°24.3	24°49.9	319°09.3	-1°48.7	356°19.1	-16°10.8
18	333°40.4	84°37.6	-22°10.2	253°27.7	24°50.0	334°11.7	-1°48.7	11°21.4	-16°10.7
19	348°42.8	99°36.7	-22°10.7	268°31.1	24°50.0	349°14.2	-1°48.7	26°23.8	-16°10.7
20	3°45.3	114°35.9	-22°11.3	283°34.5	24°50.1	4°16.7	-1°48.7	41°26.1	-16°10.6
21	18°47.8	129°35.0	-22°11.8	298°37.9	24°50.2	19°19.1	-1°48.7	56°28.4	-16°10.6
22	33°50.2	144°34.1	-22°12.4	313°41.3	24°50.2	34°21.6	-1°48.7	71°30.8	-16°10.5
23	48°52.7	159°33.2	-22°12.9	328°44.7	24°50.3	49°24.0	-1°48.7	86°33.1	-16°10.5
Mer.pass.:19:45		v-0.9 d-0.6 m-3.8		v3.4 d0.1 m-1.7		v2.5 d0.0 m-2.5		v2.3 d0.0 m0.8	

Vie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	63°55.1	174°32.4	-22°13.4	343°48.1	24°50.4	64°26.5	-1°48.6	101°35.4	-16°10.4
1	78°57.6	189°31.5	-22°14.0	358°51.5	24°50.4	79°29.0	-1°48.6	116°37.8	-16°10.4
2	94°00.1	204°30.6	-22°14.5	13°54.9	24°50.5	94°31.4	-1°48.6	131°40.1	-16°10.4
3	109°02.5	219°29.7	-22°15.1	28°58.3	24°50.6	109°33.9	-1°48.6	146°42.4	-16°10.3
4	124°05.0	234°28.8	-22°15.6	44°01.7	24°50.6	124°36.3	-1°48.6	161°44.7	-16°10.3
5	139°07.5	249°28.0	-22°16.1	59°05.1	24°50.7	139°38.8	-1°48.6	176°47.1	-16°10.2
6	154°09.9	264°27.1	-22°16.7	74°08.5	24°50.7	154°41.3	-1°48.5	191°49.4	-16°10.2
7	169°12.4	279°26.2	-22°17.2	89°12.0	24°50.8	169°43.7	-1°48.5	206°51.7	-16°10.1
8	184°14.9	294°25.3	-22°17.7	104°15.4	24°50.9	184°46.2	-1°48.5	221°54.1	-16°10.1
9	199°17.3	309°24.4	-22°18.2	119°18.8	24°50.9	199°48.6	-1°48.5	236°56.4	-16°10.0
10	214°19.8	324°23.6	-22°18.8	134°22.2	24°51.0	214°51.1	-1°48.5	251°58.7	-16°10.0
11	229°22.3	339°22.7	-22°19.3	149°25.6	24°51.1	229°53.5	-1°48.5	267°01.0	-16°09.9
12	244°24.7	354°21.8	-22°19.8	164°29.0	24°51.1	244°56.0	-1°48.5	282°03.4	-16°09.9
13	259°27.2	9°20.9	-22°20.4	179°32.4	24°51.2	259°58.5	-1°48.4	297°05.7	-16°09.9
14	274°29.6	24°20.0	-22°20.9	194°35.9	24°51.3	275°00.9	-1°48.4	312°08.0	-16°09.8
15	289°32.1	39°19.2	-22°21.4	209°39.3	24°51.3	290°03.4	-1°48.4	327°10.4	-16°09.8
16	304°34.6	54°18.3	-22°21.9	224°42.7	24°51.4	305°05.8	-1°48.4	342°12.7	-16°09.7
17	319°37.0	69°17.4	-22°22.4	239°46.1	24°51.4	320°08.3	-1°48.4	357°15.0	-16°09.7
18	334°39.5	84°16.5	-22°23.0	254°49.5	24°51.5	335°10.7	-1°48.4	12°17.3	-16°09.6
19	349°42.0	99°15.6	-22°23.5	269°53.0	24°51.6	350°13.2	-1°48.3	27°19.7	-16°09.6
20	4°44.4	114°14.7	-22°24.0	284°56.4	24°51.6	5°15.6	-1°48.3	42°22.0	-16°09.5
21	19°46.9	129°13.8	-22°24.5	299°59.8	24°51.7	20°18.1	-1°48.3	57°24.3	-16°09.5
22	34°49.4	144°13.0	-22°25.0	315°03.2	24°51.7	35°20.5	-1°48.3	72°26.7	-16°09.4
23	49°51.8	159°12.1	-22°25.5	330°06.6	24°51.8	50°23.0	-1°48.3	87°29.0	-16°09.4
Mer.pass.:19:41		v-0.9 d-0.5 m-3.8		v3.4 d0.1 m-1.7		v2.5 d0.0 m-2.5		v2.3 d0.0 m0.8	

Sa	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	64°54.3	174°11.2	-22°26.1	345°10.1	24°51.9	65°25.5	-1°48.3	102°31.3	-16°09.3
1	79°56.8	189°10.3	-22°26.6	0°13.5	24°51.9	80°27.9	-1°48.2	117°33.6	-16°09.3
2	94°59.2	204°09.4	-22°27.1	15°16.9	24°52.0	95°30.4	-1°48.2	132°36.0	-16°09.3
3	110°01.7	219°08.5	-22°27.6	30°20.4	24°52.1	110°32.8	-1°48.2	147°38.3	-16°09.2
4	125°04.1	234°07.6	-22°28.1	45°23.8	24°52.1	125°35.3	-1°48.2	162°40.6	-16°09.2
5	140°06.6	249°06.8	-22°28.6	60°27.2	24°52.2	140°37.7	-1°48.2	177°42.9	-16°09.1
6	155°09.1	264°05.9	-22°29.1	75°30.6	24°52.2	155°40.2	-1°48.1	192°45.3	-16°09.1
7	170°11.5	279°05.0	-22°29.6	90°34.1	24°52.3	170°42.6	-1°48.1	207°47.6	-16°09.0
8	185°14.0	294°04.1	-22°30.1	105°37.5	24°52.3	185°45.1	-1°48.1	222°49.9	-16°09.0
9	200°16.5	309°03.2	-22°30.6	120°40.9	24°52.4	200°47.5	-1°48.1	237°52.3	-16°08.9
10	215°18.9	324°02.3	-22°31.1	135°44.4	24°52.5	215°50.0	-1°48.1	252°54.6	-16°08.9
11	230°21.4	339°01.4	-22°31.6	150°47.8	24°52.5	230°52.4	-1°48.0	267°56.9	-16°08.8
12	245°23.9	354°00.5	-22°32.1	165°51.3	24°52.6	245°54.9	-1°48.0	282°59.2	-16°08.8
13	260°26.3	8°59.6	-22°32.6	180°54.7	24°52.6	260°57.3	-1°48.0	298°01.6	-16°08.7
14	275°28.8	23°58.7	-22°33.1	195°58.1	24°52.7	275°59.8	-1°48.0	313°03.9	-16°08.7
15	290°31.3	38°57.8	-22°33.6	211°01.6	24°52.8	291°02.2	-1°48.0	328°06.2	-16°08.6
16	305°33.7	53°56.9	-22°34.1	226°05.0	24°52.8	306°04.7	-1°48.0	343°08.5	-16°08.6
17	320°36.2	68°56.1	-22°34.6	241°08.5	24°52.9	321°07.1	-1°47.9	358°10.9	-16°08.6
18	335°38.6	83°55.2	-22°35.1	256°11.9	24°52.9	336°09.5	-1°47.9	13°13.2	-16°08.5
19	350°41.1	98°54.3	-22°35.6	271°15.3	24°53.0	351°12.0	-1°47.9	28°15.5	-16°08.5
20	5°43.6	113°53.4	-22°36.1	286°18.8	24°53.0	6°14.4	-1°47.9	43°17.8	-16°08.4
21	20°46.0	128°52.5	-22°36.6	301°22.2	24°53.1	21°16.9	-1°47.8	58°20.1	-16°08.4
22	35°48.5	143°51.6	-22°37.1	316°25.7	24°53.1	36°19.3	-1°47.8	73°22.5	-16°08.3
23	50°51.0	158°50.7	-22°37.5	331°29.1	24°53.2	51°21.8	-1°47.8	88°24.8	-16°08.3
Mer.pass.:19:37		v-0.9 d-0.5 m-3.8		v3.4 d0.1 m-1.7		v2.5 d0.0 m-2.5		v2.3 d0.0 m0.8	

Estrellas

	AHS	Dec
Alpheratz	357°36.5	29°13.2
Ankaa	353°08.7	-42°11.1
Schedar	349°32.7	56°40.0
Diphda	348°48.8	-17°51.8
Achernar	335°21.1	-57°07.4
Hamal	327°52.9	23°34.3
Polaris	314°24.9	89°21.7
Akamar	315°12.7	-40°12.9
Menkar	314°07.7	4°10.8
Mirfak	308°30.3	49°56.6
Aldebaran	290°41.3	16°33.4
Rigel	281°05.2	-8°10.5
Capella	280°24.1	46°01.3
Bellatrix	278°24.5	6°22.3
Elnath	278°03.8	28°37.6
Alnilam	275°39.2	-1°11.2
Betelgeuse	270°53.7	7°24.7
Canopus	263°52.7	-52°42.3
Sirius	258°27.4	-16°44.5
Adara	255°07.0	-29°00.0
Procyon	244°52.4	5°10.2
Pollux	243°19.1	27°58.2
Avior	234°15.1	-59°34.6
Suhail	222°47.5	-43°31.2
Miaplacidus	221°38.4	-69°48.2
Alphard	217°49.4	-8°45.3
Regulus	207°36.3	11°51.4
Dubhe	193°43.3	61°37.5
Denebola	182°26.8	14°26.7
Gienah	175°45.6	-17°39.9
Acrux	173°02.5	-63°13.2
Gacrux	171°54.0	-57°14.1
Alioth	166°15.0	55°50.0
Spica	158°24.4	-11°16.7
Alcaid	152°53.8	49°11.9
Hadar	148°39.1	-60°28.7
Menkent	148°00.1	-36°28.7
Arcturus	145°49.7	19°04.1
Rigil Kent.	139°43.4	-60°55.6
Zubenelg.	136°58.3	-16°08.1
Kochab	137°20.9	74°03.6
Alphecca	126°05.6	26°38.3
Antares	112°18.4	-26°28.9
Atria	107°14.8	-69°04.1
Sabik	102°05.2	-15°45.1
Shaula	96°13.2	-37°07.2
Rasalhague	96°00.5	12°32.7
Etamin	90°43.5	51°29.3
Kaus Aust.	83°35.2	-34°22.4
Vega	80°34.8	38°48.4
Nunki	75°50.3	-26°16.1
Altair	62°02.0	8°55.7
Peacock	53°08.8	-56°39.9
Deneb	49°27.2	45°21.9
Enif	33°40.6	9°58.8
Alnair	27°35.2	-46°51.2
Fomalhaut	15°16.5	-29°30.2
Scheat	13°46.9	28°12.5
Markab	13°31.6	15°19.8

Nov 24 Jue	AHS	Paso Merid
Venus	111°57.3	12:21
Mars	279°30.7	01:10
Jupiter	0°31.3	19:43
Saturn	37°43.4	17:15

Nov 25 Vie	AHS	Paso Merid
Venus	110°37.2	12:23
Mars	279°53.0	01:05
Jupiter	0°31.4	19:39
Saturn	37°40.3	17:11

Nov 26 Sa	AHS	Paso Merid
Venus	109°16.9	12:24
Mars	280°15.8	00:59
Jupiter	0°31.2	19:35
Saturn	37°37.0	17:07

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.3

h	Sol		Luna				
Jue	AHG	Dec	AHG	v	Dec	d	HP
0	183°22.3	-20°29.7	183°07.2	5.7	-22°16.9	-10.3	59.9
1	198°22.1	-20°30.2	197°31.8	5.6	-22°27.2	-10.2	59.9
2	213°21.9	-20°30.7	211°56.4	5.5	-22°37.3	-10.1	59.9
3	228°21.8	-20°31.2	226°20.8	5.4	-22°47.3	-9.9	60.0
4	243°21.6	-20°31.7	240°45.1	5.3	-22°57.2	-9.8	60.0
5	258°21.4	-20°32.2	255°09.4	5.1	-23°06.9	-9.6	60.0
6	273°21.2	-20°32.7	269°33.4	5.0	-23°16.4	-9.5	60.0
7	288°21.0	-20°33.2	283°57.4	4.9	-23°25.8	-9.3	60.0
8	303°20.9	-20°33.7	298°21.3	4.8	-23°35.1	-9.2	60.1
9	318°20.7	-20°34.2	312°45.0	4.7	-23°44.2	-9.0	60.1
10	333°20.5	-20°34.7	327°08.7	4.6	-23°53.1	-8.9	60.1
11	348°20.3	-20°35.2	341°32.2	4.5	-24°01.9	-8.7	60.1
12	3°20.1	-20°35.7	355°55.6	4.4	-24°10.5	-8.5	60.1
13	18°19.9	-20°36.2	10°18.9	4.3	-24°19.0	-8.4	60.1
14	33°19.8	-20°36.7	24°42.1	4.2	-24°27.3	-8.2	60.2
15	48°19.6	-20°37.2	39°05.2	4.0	-24°35.4	-8.1	60.2
16	63°19.4	-20°37.7	53°28.2	3.9	-24°43.4	-7.9	60.2
17	78°19.2	-20°38.2	67°51.1	3.8	-24°51.2	-7.7	60.2
18	93°19.0	-20°38.7	82°13.9	3.7	-24°58.8	-7.5	60.2
19	108°18.8	-20°39.2	96°36.6	3.6	-25°06.3	-7.4	60.2
20	123°18.6	-20°39.7	110°59.2	3.6	-25°13.6	-7.2	60.2
21	138°18.5	-20°40.2	125°21.7	3.5	-25°20.7	-7.0	60.3
22	153°18.3	-20°40.7	139°44.1	3.4	-25°27.6	-6.8	60.3
23	168°18.1	-20°41.2	154°06.4	3.3	-25°34.4	-6.7	60.3
	SD.=16.2	d=-0.5			S.D.=16.3		

Vie	AHG	Dec	AHG	v	Dec	d	HP
0	183°17.9	-20°41.7	168°28.7	3.2	-25°40.9	-6.5	60.3
1	198°17.7	-20°42.2	182°50.8	3.1	-25°47.3	-6.3	60.3
2	213°17.5	-20°42.7	197°12.9	3.0	-25°53.5	-6.1	60.3
3	228°17.3	-20°43.2	211°34.9	2.9	-25°59.5	-5.9	60.3
4	243°17.2	-20°43.7	225°56.8	2.9	-26°05.4	-5.7	60.3
5	258°17.0	-20°44.2	240°18.6	2.8	-26°11.0	-5.5	60.3
6	273°16.8	-20°44.7	254°40.4	2.7	-26°16.4	-5.4	60.4
7	288°16.6	-20°45.2	269°02.0	2.6	-26°21.7	-5.2	60.4
8	303°16.4	-20°45.6	283°23.6	2.6	-26°26.8	-5.0	60.4
9	318°16.2	-20°46.1	297°45.2	2.5	-26°31.7	-4.8	60.4
10	333°16.0	-20°46.6	312°06.7	2.4	-26°36.3	-4.6	60.4
11	348°15.8	-20°47.1	326°28.1	2.4	-26°40.8	-4.4	60.4
12	3°15.6	-20°47.6	340°49.4	2.3	-26°45.1	-4.2	60.4
13	18°15.4	-20°48.1	355°10.7	2.3	-26°49.2	-4.0	60.4
14	33°15.3	-20°48.6	9°32.0	2.2	-26°53.1	-3.8	60.4
15	48°15.1	-20°49.0	23°53.2	2.2	-26°56.8	-3.6	60.4
16	63°14.9	-20°49.5	38°14.3	2.1	-27°00.3	-3.4	60.4
17	78°14.7	-20°50.0	52°35.4	2.1	-27°03.6	-3.2	60.4
18	93°14.5	-20°50.5	66°56.5	2.0	-27°06.7	-3.0	60.4
19	108°14.3	-20°51.0	81°17.5	2.0	-27°09.6	-2.8	60.4
20	123°14.1	-20°51.5	95°38.5	2.0	-27°12.3	-2.6	60.4
21	138°13.9	-20°51.9	109°59.4	1.9	-27°14.7	-2.4	60.4
22	153°13.7	-20°52.4	124°20.3	1.9	-27°17.0	-2.2	60.4
23	168°13.5	-20°52.9	138°41.2	1.9	-27°19.1	-2.0	60.4
	SD.=16.2	d=-0.5			S.D.=16.4		

Sa	AHG	Dec	AHG	v	Dec	d	HP
0	183°13.3	-20°53.4	153°02.1	1.9	-27°21.0	-1.8	60.4
1	198°13.1	-20°53.8	167°23.0	1.8	-27°22.6	-1.6	60.4
2	213°12.9	-20°54.3	181°43.8	1.8	-27°24.1	-1.4	60.4
3	228°12.7	-20°54.8	196°04.6	1.8	-27°25.3	-1.1	60.4
4	243°12.5	-20°55.3	210°25.4	1.8	-27°26.4	-0.9	60.4
5	258°12.3	-20°55.7	224°46.2	1.8	-27°27.2	-0.7	60.4
6	273°12.1	-20°56.2	239°07.0	1.8	-27°27.9	-0.5	60.4
7	288°11.9	-20°56.7	253°27.8	1.8	-27°28.3	-0.3	60.4
8	303°11.7	-20°57.2	267°48.6	1.8	-27°28.5	-0.1	60.4
9	318°11.6	-20°57.6	282°09.4	1.8	-27°28.5	0.1	60.4
10	333°11.4	-20°58.1	296°30.2	1.8	-27°28.3	0.3	60.4
11	348°11.2	-20°58.6	310°51.0	1.8	-27°27.9	0.5	60.4
12	3°11.0	-20°59.0	325°11.9	1.8	-27°27.3	0.7	60.4
13	18°10.8	-20°59.5	339°32.7	1.9	-27°26.5	0.9	60.4
14	33°10.6	-21°00.0	353°53.6	1.9	-27°25.5	1.1	60.4
15	48°10.4	-21°00.5	8°14.5	1.9	-27°24.2	1.3	60.4
16	63°10.2	-21°00.9	22°35.4	1.9	-27°22.8	1.5	60.4
17	78°10.0	-21°01.4	36°56.4	2.0	-27°21.2	1.7	60.4
18	93°09.8	-21°01.9	51°17.4	2.0	-27°19.3	1.9	60.4
19	108°09.6	-21°02.3	65°38.4	2.0	-27°17.3	2.1	60.4
20	123°09.4	-21°02.8	79°59.5	2.1	-27°15.0	2.3	60.4
21	138°09.2	-21°03.2	94°20.6	2.1	-27°12.6	2.5	60.4
22	153°09.0	-21°03.7	108°41.7	2.2	-27°09.9	2.8	60.3
23	168°08.8	-21°04.2	123°02.9	2.2	-27°07.1	3.0	60.3
	SD.=16.2	d=-0.5			S.D.=16.5		

Lat.	Crepúsculo Naut.	Civil	Orto Sol	Crepúsculo Civil	Naut.	Ocaso Sol
N 72	07:33	09:22	–:–	–:–	14:11	16:00
70	07:19	08:50	11:31	12:02	14:44	16:14
68	07:08	08:26	10:02	13:31	15:07	16:26
66	06:58	08:08	09:25	14:08	15:25	16:35
64	06:49	07:53	08:59	14:35	15:40	16:44
62	06:42	07:40	08:38	14:55	15:53	16:51
60	06:36	07:30	08:22	15:12	16:04	16:58
58	06:30	07:20	08:08	15:25	16:13	17:03
56	06:25	07:12	07:56	15:37	16:22	17:09
54	06:20	07:04	07:46	15:48	16:29	17:14
52	06:15	06:58	07:36	15:57	16:36	17:18
50	06:11	06:51	07:28	16:05	16:42	17:22
45	06:02	06:38	07:11	16:23	16:56	17:32
40	05:53	06:27	06:56	16:37	17:07	17:40
35	05:45	06:16	06:44	16:50	17:17	17:48
30	05:38	06:07	06:33	17:00	17:26	17:56
20	05:24	05:51	06:15	17:19	17:43	18:10
10	05:10	05:36	05:59	17:35	17:58	18:24
0	04:55	05:21	05:43	17:51	18:13	18:38
S 10	04:39	05:05	05:28	18:06	18:29	18:55
20	04:19	04:47	05:11	18:23	18:47	19:15
30	03:53	04:26	04:52	18:42	19:09	19:41
35	03:37	04:12	04:41	18:53	19:22	19:57
40	03:17	03:56	04:28	19:07	19:38	20:17
45	02:52	03:37	04:12	19:22	19:58	20:43
50	02:16	03:12	03:53	19:41	20:23	21:20
52	01:56	03:00	03:44	19:51	20:35	21:40
54	01:31	02:46	03:34	20:01	20:50	22:06
56	00:54	02:29	03:23	20:12	21:07	22:45
58	–:–	02:08	03:09	20:26	21:28	–:–
60	–:–	01:41	02:53	20:42	21:56	–:–

Lat.	Orto luna Jue	Vie	Sa	Ocaso luna Jue	Vie	Sa
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	–:–	–:–	–:–
68	–:–	–:–	–:–	–:–	–:–	–:–
66	–:–	–:–	–:–	–:–	–:–	–:–
64	10:40	–:–	–:–	13:42	–:–	–:–
62	10:00	12:08	13:41	14:23	14:27	15:11
60	09:32	11:20	12:41	14:52	15:15	16:12
58	09:10	10:50	12:07	15:14	15:46	16:46
56	08:53	10:27	11:42	15:32	16:09	17:10
54	08:38	10:08	11:22	15:47	16:28	17:30
52	08:25	09:52	11:05	16:00	16:44	17:47
50	08:14	09:38	10:51	16:12	16:58	18:01
45	07:51	09:10	10:21	16:36	17:27	18:31
40	07:32	08:49	09:58	16:56	17:49	18:53
35	07:17	08:30	09:39	17:12	18:08	19:12
30	07:03	08:15	09:23	17:27	18:24	19:29
20	06:40	07:48	08:56	17:51	18:51	19:56
10	06:21	07:26	08:32	18:12	19:14	20:19
0	06:03	07:05	08:10	18:32	19:36	20:41
S 10	05:44	06:44	07:48	18:51	19:57	21:03
20	05:25	06:22	07:24	19:13	20:21	21:26
30	05:03	05:56	06:57	19:37	20:48	21:53
35	04:50	05:41	06:41	19:52	21:04	22:09
40	04:36	05:23	06:22	20:09	21:22	22:27
45	04:18	05:02	05:59	20:29	21:45	22:49
50	03:57	04:36	05:31	20:54	22:14	23:17
52	03:47	04:23	05:16	21:07	22:28	23:31
54	03:35	04:09	05:00	21:21	22:44	23:47
56	03:22	03:52	04:41	21:37	23:03	–:–
58	03:07	03:31	04:17	21:57	23:27	–:–
60	02:50	03:06	03:45	22:22	23:59	–:–

Día	Sol Ec. tiempo 00:00 h	12:00 h	Paso Merid	Luna Paso Meridiano Superior	Inferior	Edad
24	13:29	13:21	11:46	12:16	00:48	1(0%)
25	13:12	13:03	11:46	13:20	00:48	2(3%)
26	12:53	12:44	11:47	14:25	01:52	3(9%)

Noviembre 27, 28, 29 (Dom, Lun, Mar.)

	Aries	Venus		Martes		Júpiter		Saturno	
Dom	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	65°53.4	173°49.8	-22°38.0	346°32.6	24°53.3	66°24.2	-1°47.8	103°27.1	-16°08.2
1	80°55.9	188°48.9	-22°38.5	1°36.0	24°53.3	81°26.7	-1°47.8	118°29.4	-16°08.2
2	95°58.4	203°48.0	-22°39.0	16°39.5	24°53.4	96°29.1	-1°47.7	133°31.8	-16°08.1
3	111°00.8	218°47.1	-22°39.5	31°42.9	24°53.4	111°31.5	-1°47.7	148°34.1	-16°08.1
4	126°03.3	233°46.2	-22°40.0	46°46.4	24°53.5	126°34.0	-1°47.7	163°36.4	-16°08.0
5	141°05.8	248°45.3	-22°40.4	61°49.8	24°53.5	141°36.4	-1°47.7	178°38.7	-16°08.0
6	156°08.2	263°44.4	-22°40.9	76°53.3	24°53.6	156°38.9	-1°47.7	193°41.1	-16°07.9
7	171°10.7	278°43.5	-22°41.4	91°56.7	24°53.6	171°41.3	-1°47.6	208°43.4	-16°07.9
8	186°13.1	293°42.6	-22°41.9	107°00.2	24°53.7	186°43.8	-1°47.6	223°45.7	-16°07.8
9	201°15.6	308°41.7	-22°42.3	122°03.6	24°53.7	201°46.2	-1°47.6	238°48.0	-16°07.8
10	216°18.1	323°40.8	-22°42.8	137°07.1	24°53.8	216°48.6	-1°47.6	253°50.3	-16°07.7
11	231°20.5	338°39.9	-22°43.3	152°10.5	24°53.9	231°51.1	-1°47.5	268°52.7	-16°07.7
12	246°23.0	353°39.0	-22°43.8	167°14.0	24°53.9	246°53.5	-1°47.5	283°55.0	-16°07.7
13	261°25.5	8°38.1	-22°44.2	182°17.5	24°54.0	261°56.0	-1°47.5	298°57.3	-16°07.6
14	276°27.9	23°37.2	-22°44.7	197°20.9	24°54.0	276°58.4	-1°47.5	313°59.6	-16°07.6
15	291°30.4	38°36.3	-22°45.2	212°24.4	24°54.1	292°00.8	-1°47.5	329°01.9	-16°07.5
16	306°32.9	53°35.4	-22°45.6	227°27.8	24°54.1	307°03.3	-1°47.4	344°04.3	-16°07.5
17	321°35.3	68°34.5	-22°46.1	242°31.3	24°54.2	322°05.7	-1°47.4	359°06.6	-16°07.4
18	336°37.8	83°33.6	-22°46.6	257°34.8	24°54.2	337°08.2	-1°47.4	14°08.9	-16°07.4
19	351°40.3	98°32.7	-22°47.0	272°38.2	24°54.3	352°10.6	-1°47.4	29°11.2	-16°07.3
20	6°42.7	113°31.8	-22°47.5	287°41.7	24°54.3	7°13.0	-1°47.3	44°13.6	-16°07.3
21	21°45.2	128°30.9	-22°47.9	302°45.1	24°54.4	22°15.5	-1°47.3	59°15.9	-16°07.2
22	36°47.6	143°30.0	-22°48.4	317°48.6	24°54.4	37°17.9	-1°47.3	74°18.2	-16°07.2
23	51°50.1	158°29.1	-22°48.9	332°52.1	24°54.5	52°20.4	-1°47.3	89°20.5	-16°07.1
Mer.pass.:19:33		v-0.9 d-0.5 m-3.8		v3.4 d0.1 m-1.7		v2.4 d0.0 m-2.5		v2.3 d0.0 m0.8	

Lun	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	66°52.6	173°28.2	-22°49.3	347°55.5	24°54.5	67°22.8	-1°47.2	104°22.8	-16°07.1
1	81°55.0	188°27.3	-22°49.8	2°59.0	24°54.6	82°25.2	-1°47.2	119°25.2	-16°07.0
2	96°57.5	203°26.4	-22°50.2	18°02.5	24°54.6	97°27.7	-1°47.2	134°27.5	-16°07.0
3	112°00.0	218°25.4	-22°50.7	33°05.9	24°54.7	112°30.1	-1°47.2	149°29.8	-16°06.9
4	127°02.4	233°24.5	-22°51.1	48°09.4	24°54.7	127°32.5	-1°47.1	164°32.1	-16°06.9
5	142°04.9	248°23.6	-22°51.6	63°12.9	24°54.8	142°35.0	-1°47.1	179°34.4	-16°06.8
6	157°07.4	263°22.7	-22°52.0	78°16.3	24°54.8	157°37.4	-1°47.1	194°36.7	-16°06.8
7	172°09.8	278°21.8	-22°52.5	93°19.8	24°54.9	172°39.8	-1°47.1	209°39.1	-16°06.7
8	187°12.3	293°20.9	-22°52.9	108°23.3	24°54.9	187°42.3	-1°47.0	224°41.4	-16°06.7
9	202°14.8	308°20.0	-22°53.4	123°26.8	24°55.0	202°44.7	-1°47.0	239°43.7	-16°06.6
10	217°17.2	323°19.1	-22°53.8	138°30.2	24°55.0	217°47.1	-1°47.0	254°46.0	-16°06.6
11	232°19.7	338°18.2	-22°54.3	153°33.7	24°55.1	232°49.6	-1°47.0	269°48.3	-16°06.5
12	247°22.1	353°17.3	-22°54.7	168°37.2	24°55.1	247°52.0	-1°46.9	284°50.7	-16°06.5
13	262°24.6	8°16.4	-22°55.1	183°40.7	24°55.1	262°54.4	-1°46.9	299°53.0	-16°06.4
14	277°27.1	23°15.4	-22°55.6	198°44.1	24°55.2	277°56.9	-1°46.9	314°55.3	-16°06.4
15	292°29.5	38°14.5	-22°56.0	213°47.6	24°55.2	292°59.3	-1°46.8	329°57.6	-16°06.3
16	307°32.0	53°13.6	-22°56.5	228°51.1	24°55.3	308°01.7	-1°46.8	344°59.9	-16°06.3
17	322°34.5	68°12.7	-22°56.9	243°54.6	24°55.3	323°04.2	-1°46.8	0°02.2	-16°06.2
18	337°36.9	83°11.8	-22°57.3	258°58.0	24°55.4	338°06.6	-1°46.8	15°04.6	-16°06.2
19	352°39.4	98°10.9	-22°57.8	274°01.5	24°55.4	353°09.0	-1°46.7	30°06.9	-16°06.1
20	7°41.9	113°10.0	-22°58.2	289°05.0	24°55.5	8°11.5	-1°46.7	45°09.2	-16°06.1
21	22°44.3	128°09.1	-22°58.6	304°08.5	24°55.5	23°13.9	-1°46.7	60°11.5	-16°06.0
22	37°46.8	143°08.2	-22°59.1	319°12.0	24°55.6	38°16.3	-1°46.7	75°13.8	-16°06.0
23	52°49.3	158°07.2	-22°59.5	334°15.5	24°55.6	53°18.7	-1°46.6	90°16.1	-16°05.9
Mer.pass.:19:29		v-0.9 d-0.5 m-3.8		v3.5 d0.0 m-1.7		v2.4 d0.0 m-2.5		v2.3 d0.0 m0.8	

Mar	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	67°51.7	173°06.3	-22°59.9	349°18.9	24°55.7	68°21.2	-1°46.6	105°18.5	-16°05.9
1	82°54.2	188°05.4	-23°00.3	4°22.4	24°55.7	83°23.6	-1°46.6	120°20.8	-16°05.8
2	97°56.6	203°04.5	-23°00.8	19°25.9	24°55.7	98°26.0	-1°46.5	135°23.1	-16°05.8
3	112°59.1	218°03.6	-23°01.2	34°29.4	24°55.8	113°28.5	-1°46.5	150°25.4	-16°05.7
4	128°01.6	233°02.7	-23°01.6	49°32.9	24°55.8	128°30.9	-1°46.5	165°27.7	-16°05.7
5	143°04.0	248°01.7	-23°02.0	64°36.4	24°55.9	143°33.3	-1°46.5	180°30.0	-16°05.6
6	158°06.5	263°00.8	-23°02.5	79°39.8	24°55.9	158°35.7	-1°46.4	195°32.4	-16°05.6
7	173°09.0	277°59.9	-23°02.9	94°43.3	24°56.0	173°38.2	-1°46.4	210°34.7	-16°05.5
8	188°11.4	292°59.0	-23°03.3	109°46.8	24°56.0	188°40.6	-1°46.4	225°37.0	-16°05.5
9	203°13.9	307°58.1	-23°03.7	124°50.3	24°56.0	203°43.0	-1°46.3	240°39.3	-16°05.4
10	218°16.4	322°57.2	-23°04.1	139°53.8	24°56.1	218°45.4	-1°46.3	255°41.6	-16°05.4
11	233°18.8	337°56.2	-23°04.6	154°57.3	24°56.1	233°47.9	-1°46.3	270°43.9	-16°05.3
12	248°21.3	352°55.3	-23°05.0	170°00.8	24°56.2	248°50.3	-1°46.3	285°46.2	-16°05.3
13	263°23.7	7°54.4	-23°05.4	185°04.3	24°56.2	263°52.7	-1°46.2	300°48.6	-16°05.2
14	278°26.2	22°53.5	-23°05.8	200°07.8	24°56.3	278°55.1	-1°46.2	315°50.9	-16°05.2
15	293°28.7	37°52.6	-23°06.2	215°11.3	24°56.3	293°57.6	-1°46.2	330°53.2	-16°05.1
16	308°31.1	52°51.6	-23°06.6	230°14.7	24°56.3	309°00.0	-1°46.1	345°55.5	-16°05.1
17	323°33.6	67°50.7	-23°07.0	245°18.2	24°56.4	324°02.4	-1°46.1	0°57.8	-16°05.0
18	338°36.1	82°49.8	-23°07.4	260°21.7	24°56.4	339°04.8	-1°46.1	16°00.1	-16°05.0
19	353°38.5	97°48.9	-23°07.8	275°25.2	24°56.5	354°07.3	-1°46.0	31°02.4	-16°04.9
20	8°41.0	112°48.0	-23°08.2	290°28.7	24°56.5	9°09.7	-1°46.0	46°04.8	-16°04.9
21	23°43.5	127°47.0	-23°08.6	305°32.2	24°56.5	24°12.1	-1°46.0	61°07.1	-16°04.8
22	38°45.9	142°46.1	-23°09.0	320°35.7	24°56.6	39°14.5	-1°45.9	76°09.4	-16°04.8
23	53°48.4	157°45.2	-23°09.4	335°39.2	24°56.6	54°16.9	-1°45.9	91°11.7	-16°04.7
Mer.pass.:19:25		v-0.9 d-0.4 m-3.8		v3.5 d0.0 m-1.7		v2.4 d0.0 m-2.5		v2.3 d0.0 m0.8	

Estrellas

	AHS	Dec
Alpheratz	357°36.5	29°13.2
Ankaa	353°08.7	-42°11.1
Schedar	349°32.7	56°40.0
Diphda	348°48.8	-17°51.8
Achernar	335°21.1	-57°07.5
Hamal	327°52.9	23°34.3
Polaris	314°24.9	89°21.7
Akamar	315°12.7	-40°12.9
Menkar	314°07.7	4°10.8
Mirfak	308°30.3	49°56.6
Aldebaran	290°41.3	16°33.4
Rigel	281°05.2	-8°10.5
Capella	280°24.0	46°01.3
Bellatrix	278°24.4	6°22.3
Elnath	278°03.7	28°37.6
Alnilam	275°39.2	-1°11.2
Betelgeuse	270°53.7	7°24.7
Canopus	263°52.7	-52°42.3
Sirius	258°27.4	-16°44.5
Adara	255°06.9	-29°00.0
Procyon	244°52.4	5°10.2
Pollux	243°19.1	27°58.2
Avior	234°15.1	-59°34.6
Suhail	222°47.4	-43°31.2
Miaplacidus	221°38.3	-69°48.3
Alphard	217°49.4	-8°45.3
Regulus	207°36.2	11°51.4
Dubhe	193°43.3	61°37.5
Denebola	182°26.8	14°26.7
Gienah	175°45.5	-17°39.9
Acrux	173°02.4	-63°13.2
Gacrux	171°53.9	-57°14.1
Alioth	166°14.9	55°50.0
Spica	158°24.4	-11°16.7
Alcaid	152°53.8	49°11.9
Hadar	148°39.1	-60°28.7
Menkent	148°00.1	-36°28.7
Arcturus	145°49.7	19°04.1
Rigil Kent.	139°43.3	-60°55.6
Zubenelg.	136°58.3	-16°08.1
Kochab	137°20.9	74°03.6
Alphecca	126°05.6	26°38.3
Antares	112°18.4	-26°28.9
Atria	107°14.8	-69°04.1
Sabik	102°05.2	-15°45.1
Shaula	96°13.2	-37°07.2
Rasalhague	96°00.5	12°32.7
Etamin	90°43.5	51°29.2
Kaus Aust.	83°35.2	-34°22.4
Vega	80°34.8	38°48.4
Nunki	75°50.3	-26°16.1
Altair	62°02.0	8°55.7
Peacock	53°08.8	-56°39.9
Deneb	49°27.2	45°21.9
Enif	33°40.6	9°58.8
Alnair	27°35.2	-46°51.2
Fomalhaut	15°16.5	-29°30.2
Scheat	13°46.9	28°12.5
Markab	13°31.6	15°19.8

Nov 27 Dom	AHS	Paso Merid
Venus	107°56.4	12:25
Mars	280°39.1	00:54
Jupiter	0°30.8	19:31
Saturn	37°33.7	17:04

Nov 28 Lun	AHS	Paso Merid
Venus	106°35.6	12:27
Mars	281°03.0	00:48
Jupiter	0°30.2	19:27
Saturn	37°30.3	17:00

Nov 29 Mar	AHS	Paso Merid
Venus	105°14.6	12:28
Mars	281°27.2	00:43
Jupiter	0°29.5	19:23
Saturn	37°26.7	16:56

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.3

h	Sol		Luna				
Dom	AHG	Dec	AHG	v	Dec	d	HP
0	183°08.5	-21°04.6	137°24.2	2.3	-27°04.0	3.2	60.3
1	198°08.3	-21°05.1	151°45.5	2.3	-27°00.8	3.3	60.3
2	213°08.1	-21°05.6	166°06.9	2.4	-26°57.3	3.5	60.3
3	228°07.9	-21°06.0	180°28.3	2.5	-26°53.7	3.7	60.3
4	243°07.7	-21°06.5	194°49.8	2.5	-26°49.8	3.9	60.3
5	258°07.5	-21°06.9	209°11.3	2.6	-26°45.8	4.1	60.3
6	273°07.3	-21°07.4	223°32.9	2.7	-26°41.6	4.3	60.3
7	288°07.1	-21°07.8	237°54.6	2.7	-26°37.2	4.5	60.3
8	303°06.9	-21°08.3	252°16.4	2.8	-26°32.5	4.7	60.2
9	318°06.7	-21°08.8	266°38.2	2.9	-26°27.7	4.9	60.2
10	333°06.5	-21°09.2	281°00.1	2.9	-26°22.7	5.1	60.2
11	348°06.3	-21°09.7	295°22.1	3.0	-26°17.6	5.3	60.2
12	3°06.1	-21°10.1	309°44.2	3.1	-26°12.2	5.5	60.2
13	18°05.9	-21°10.6	324°06.3	3.2	-26°06.7	5.6	60.2
14	33°05.7	-21°11.0	338°28.6	3.3	-26°00.9	5.8	60.2
15	48°05.5	-21°11.5	352°50.9	3.4	-25°55.0	6.0	60.2
16	63°05.3	-21°11.9	7°13.3	3.5	-25°48.9	6.2	60.1
17	78°05.1	-21°12.4	21°35.8	3.6	-25°42.6	6.4	60.1
18	93°04.9	-21°12.8	35°58.4	3.6	-25°36.2	6.5	60.1
19	108°04.6	-21°13.3	50°21.1	3.7	-25°29.5	6.7	60.1
20	123°04.4	-21°13.7	64°43.9	3.8	-25°22.7	6.9	60.1
21	138°04.2	-21°14.2	79°06.8	3.9	-25°15.8	7.1	60.1
22	153°04.0	-21°14.6	93°29.8	4.0	-25°08.6	7.2	60.1
23	168°03.8	-21°15.0	107°52.9	4.1	-25°01.3	7.4	60.0
	SD.=16.2	d=-0.5	S.D.=16.5				

Lun	AHG	Dec	AHG	v	Dec	d	HP
0	183°03.6	-21°15.5	122°16.1	4.2	-24°53.8	7.6	60.0
1	198°03.4	-21°15.9	136°39.4	4.4	-24°46.1	7.7	60.0
2	213°03.2	-21°16.4	151°02.8	4.5	-24°38.3	7.9	60.0
3	228°03.0	-21°16.8	165°26.3	4.6	-24°30.3	8.1	60.0
4	243°02.8	-21°17.3	179°50.0	4.7	-24°22.2	8.2	60.0
5	258°02.6	-21°17.7	194°13.7	4.8	-24°13.9	8.4	59.9
6	273°02.3	-21°18.1	208°37.5	4.9	-24°05.4	8.5	59.9
7	288°02.1	-21°18.6	223°01.5	5.0	-23°56.8	8.7	59.9
8	303°01.9	-21°19.0	237°25.6	5.1	-23°48.1	8.8	59.9
9	318°01.7	-21°19.5	251°49.7	5.2	-23°39.1	9.0	59.9
10	333°01.5	-21°19.9	266°14.0	5.4	-23°30.1	9.1	59.8
11	348°01.3	-21°20.3	280°38.4	5.5	-23°20.9	9.3	59.8
12	3°01.1	-21°20.8	295°03.0	5.6	-23°11.5	9.4	59.8
13	18°00.9	-21°21.2	309°27.6	5.7	-23°02.0	9.6	59.8
14	33°00.6	-21°21.6	323°52.4	5.8	-22°52.3	9.7	59.8
15	48°00.4	-21°22.1	338°17.2	5.9	-22°42.5	9.9	59.7
16	63°00.2	-21°22.5	352°42.2	6.1	-22°32.6	10.0	59.7
17	78°00.0	-21°22.9	7°07.3	6.2	-22°22.5	10.1	59.7
18	92°59.8	-21°23.4	21°32.6	6.3	-22°12.3	10.3	59.7
19	107°59.6	-21°23.8	35°57.9	6.4	-22°02.0	10.4	59.7
20	122°59.3	-21°24.2	50°23.4	6.5	-21°51.5	10.5	59.6
21	137°59.1	-21°24.7	64°49.0	6.6	-21°40.9	10.7	59.6
22	152°58.9	-21°25.1	79°14.7	6.8	-21°30.2	10.8	59.6
23	167°58.7	-21°25.5	93°40.5	6.9	-21°19.4	10.9	59.6
	SD.=16.2	d=-0.4	S.D.=16.4				

Mar	AHG	Dec	AHG	v	Dec	d	HP
0	182°58.5	-21°26.0	108°06.4	7.0	-21°08.4	11.0	59.6
1	197°58.3	-21°26.4	122°32.5	7.1	-20°57.3	11.2	59.5
2	212°58.1	-21°26.8	136°58.7	7.2	-20°46.1	11.3	59.5
3	227°57.8	-21°27.2	151°25.0	7.4	-20°34.8	11.4	59.5
4	242°57.6	-21°27.7	165°51.4	7.5	-20°23.3	11.5	59.5
5	257°57.4	-21°28.1	180°17.9	7.6	-20°11.7	11.6	59.4
6	272°57.2	-21°28.5	194°44.6	7.7	-20°00.1	11.7	59.4
7	287°57.0	-21°28.9	209°11.4	7.8	-19°48.3	11.8	59.4
8	302°56.7	-21°29.4	223°38.3	7.9	-19°36.4	11.9	59.4
9	317°56.5	-21°29.8	238°05.3	8.1	-19°24.4	12.0	59.4
10	332°56.3	-21°30.2	252°32.4	8.2	-19°12.3	12.2	59.3
11	347°56.1	-21°30.6	266°59.6	8.3	-19°00.1	12.3	59.3
12	2°55.9	-21°31.0	281°27.0	8.4	-18°47.8	12.4	59.3
13	17°55.6	-21°31.5	295°54.4	8.5	-18°35.4	12.5	59.3
14	32°55.4	-21°31.9	310°22.0	8.6	-18°22.9	12.5	59.2
15	47°55.2	-21°32.3	324°49.7	8.8	-18°10.3	12.6	59.2
16	62°55.0	-21°32.7	339°17.5	8.9	-17°57.6	12.7	59.2
17	77°54.8	-21°33.1	353°45.5	9.0	-17°44.8	12.8	59.2
18	92°54.5	-21°33.5	8°13.5	9.1	-17°32.0	12.9	59.1
19	107°54.3	-21°33.9	22°41.6	9.2	-17°19.0	13.0	59.1
20	122°54.1	-21°34.4	37°09.9	9.3	-17°06.0	13.1	59.1
21	137°53.9	-21°34.8	51°38.2	9.4	-16°52.8	13.2	59.1
22	152°53.6	-21°35.2	66°06.7	9.5	-16°39.6	13.3	59.0
23	167°53.4	-21°35.6	80°35.3	9.6	-16°26.3	13.3	59.0
	SD.=16.2	d=-0.4	S.D.=16.2				

Lat.	Crepúsculo Naut.	Crepúsculo Civil	Orto Sol	Crepúsculo Civil	Crepúsculo Naut.	Ocaso Sol
N 72	07:42	09:36	–:–	–:–	13:59	15:53
70	07:27	09:00	–:–	–:–	14:35	16:08
68	07:15	08:35	10:19	13:17	15:00	16:20
66	07:04	08:16	09:36	13:59	15:20	16:31
64	06:55	08:00	09:07	14:28	15:35	16:40
62	06:48	07:47	08:46	14:49	15:49	16:48
60	06:41	07:35	08:28	15:07	16:00	16:54
58	06:35	07:25	08:14	15:21	16:10	17:01
56	06:29	07:17	08:02	15:34	16:19	17:06
54	06:24	07:09	07:51	15:45	16:27	17:11
52	06:19	07:02	07:41	15:54	16:34	17:16
50	06:15	06:55	07:32	16:03	16:40	17:21
45	06:05	06:41	07:14	16:21	16:54	17:31
40	05:56	06:30	06:59	16:36	17:06	17:39
35	05:48	06:19	06:47	16:49	17:16	17:48
30	05:40	06:10	06:36	17:00	17:26	17:55
20	05:26	05:53	06:17	17:19	17:43	18:10
10	05:12	05:37	06:00	17:36	17:58	18:24
0	04:56	05:22	05:44	17:52	18:14	18:40
S 10	04:39	05:06	05:28	18:08	18:30	18:57
20	04:19	04:47	05:11	18:25	18:49	19:17
30	03:52	04:25	04:52	18:45	19:11	19:44
35	03:36	04:11	04:40	18:56	19:25	20:01
40	03:15	03:55	04:27	19:10	19:42	20:21
45	02:48	03:35	04:11	19:26	20:02	20:48
50	02:11	03:09	03:51	19:46	20:28	21:26
52	01:50	02:56	03:41	19:55	20:41	21:47
54	01:23	02:41	03:31	20:06	20:56	22:16
56	00:38	02:24	03:19	20:18	21:14	23:03
58	–:–	02:01	03:05	20:32	21:36	–:–
60	–:–	01:32	02:48	20:49	22:07	–:–

Lat.	Orto luna Dom	Orto luna Lun	Orto luna Mar	Ocaso luna Dom	Ocaso luna Lun	Ocaso luna Mar
N 72	–:–	–:–	17:00	–:–	–:–	18:16
70	–:–	–:–	15:40	–:–	–:–	19:34
68	–:–	–:–	15:01	–:–	–:–	20:12
66	–:–	15:11	14:33	–:–	18:04	20:38
64	–:–	14:27	14:12	–:–	18:48	20:58
62	13:56	13:57	13:55	17:11	19:17	21:14
60	13:19	13:34	13:41	17:48	19:39	21:27
58	12:52	13:16	13:28	18:15	19:57	21:38
56	12:31	13:00	13:17	18:35	20:12	21:48
54	12:14	12:47	13:08	18:52	20:25	21:57
52	11:59	12:35	12:59	19:07	20:36	22:05
50	11:46	12:24	12:52	19:20	20:46	22:12
45	11:19	12:02	12:35	19:46	21:06	22:26
40	10:57	11:45	12:22	20:07	21:23	22:38
35	10:40	11:30	12:10	20:24	21:37	22:49
30	10:24	11:17	12:00	20:38	21:49	22:58
20	09:58	10:54	11:43	21:03	22:10	23:13
10	09:36	10:35	11:28	21:25	22:28	23:26
0	09:15	10:16	11:13	21:45	22:44	23:38
S 10	08:54	09:58	10:59	22:04	23:00	23:51
20	08:31	09:38	10:43	22:26	23:18	–:–
30	08:05	09:16	10:25	22:50	23:38	–:–
35	07:49	09:02	10:15	23:04	23:49	–:–
40	07:31	08:47	10:03	23:20	–:–	00:02
45	07:10	08:28	09:49	23:40	–:–	00:18
50	06:42	08:05	09:31	–:–	00:04	00:37
52	06:29	07:54	09:23	–:–	00:16	00:46
54	06:13	07:41	09:14	–:–	00:29	00:56
56	05:55	07:26	09:03	00:06	00:44	01:07
58	05:32	07:09	08:51	00:28	01:02	01:20
60	05:03	06:48	08:37	00:58	01:24	01:34

Día	Sol Ec. tiempo 00:00 h	Sol Ec. tiempo 12:00 h	Sol Paso Merid	Luna Paso Meridiano Superior	Luna Paso Meridiano Inferior	Luna Edad
27	12:34	12:25	11:47	15:29	02:58	4(17%)
28	12:15	12:04	11:47	16:30	04:00	5(27%)
29	11:54	11:44	11:48	17:25	04:58	6(38%)

Noviembre 30, 01, 02 (Mie, Jue, Vie.)

	Aries	Venus		Martes		Júpiter		Saturno	
Mie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	68°50.9	172°44.3	-23°09.8	350°42.7	24°56.7	69°19.4	-1°45.9	106°14.0	-16°04.7
1	83°53.3	187°43.4	-23°10.2	5°46.2	24°56.7	84°21.8	-1°45.9	121°16.3	-16°04.6
2	98°55.8	202°42.4	-23°10.6	20°49.7	24°56.7	99°24.2	-1°45.8	136°18.6	-16°04.6
3	113°58.2	217°41.5	-23°11.0	35°53.2	24°56.8	114°26.6	-1°45.8	151°20.9	-16°04.5
4	129°00.7	232°40.6	-23°11.4	50°56.7	24°56.8	129°29.0	-1°45.8	166°23.3	-16°04.5
5	144°03.2	247°39.7	-23°11.8	66°00.2	24°56.8	144°31.5	-1°45.7	181°25.6	-16°04.4
6	159°05.6	262°38.7	-23°12.2	81°03.7	24°56.9	159°33.9	-1°45.7	196°27.9	-16°04.4
7	174°08.1	277°37.8	-23°12.6	96°07.2	24°56.9	174°36.3	-1°45.7	211°30.2	-16°04.3
8	189°10.6	292°36.9	-23°13.0	111°10.7	24°57.0	189°38.7	-1°45.6	226°32.5	-16°04.3
9	204°13.0	307°36.0	-23°13.4	126°14.2	24°57.0	204°41.1	-1°45.6	241°34.8	-16°04.2
10	219°15.5	322°35.0	-23°13.8	141°17.7	24°57.0	219°43.5	-1°45.6	256°37.1	-16°04.2
11	234°18.0	337°34.1	-23°14.2	156°21.2	24°57.1	234°46.0	-1°45.5	271°39.4	-16°04.1
12	249°20.4	352°33.2	-23°14.5	171°24.7	24°57.1	249°48.4	-1°45.5	286°41.7	-16°04.1
13	264°22.9	7°32.3	-23°14.9	186°28.2	24°57.1	264°50.8	-1°45.5	301°44.1	-16°04.0
14	279°25.4	22°31.3	-23°15.3	201°31.7	24°57.2	279°53.2	-1°45.4	316°46.4	-16°04.0
15	294°27.8	37°30.4	-23°15.7	216°35.2	24°57.2	294°55.6	-1°45.4	331°48.7	-16°03.9
16	309°30.3	52°29.5	-23°16.1	231°38.7	24°57.2	309°58.0	-1°45.4	346°51.0	-16°03.9
17	324°32.7	67°28.6	-23°16.4	246°42.2	24°57.3	325°00.5	-1°45.3	1°53.3	-16°03.8
18	339°35.2	82°27.6	-23°16.8	261°45.7	24°57.3	340°02.9	-1°45.3	16°55.6	-16°03.8
19	354°37.7	97°26.7	-23°17.2	276°49.3	24°57.3	355°05.3	-1°45.3	31°57.9	-16°03.7
20	9°40.1	112°25.8	-23°17.6	291°52.8	24°57.4	10°07.7	-1°45.2	47°00.2	-16°03.7
21	24°42.6	127°24.8	-23°18.0	306°56.3	24°57.4	25°10.1	-1°45.2	62°02.5	-16°03.6
22	39°45.1	142°23.9	-23°18.3	321°59.8	24°57.4	40°12.5	-1°45.2	77°04.8	-16°03.6
23	54°47.5	157°23.0	-23°18.7	337°03.3	24°57.5	55°14.9	-1°45.1	92°07.2	-16°03.5
Mer.pass.:19:21		v-0.9 d-0.4 m-3.8		v3.5 d0.0 m-1.7		v2.4 d0.0 m-2.5		v2.3 d0.1 m0.8	

Jue	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	69°50.0	172°22.0	-23°19.1	352°06.8	24°57.5	70°17.4	-1°45.1	107°09.5	-16°03.5
1	84°52.5	187°21.1	-23°19.4	7°10.3	24°57.5	85°19.8	-1°45.1	122°11.8	-16°03.4
2	99°54.9	202°20.2	-23°19.8	22°13.8	24°57.6	100°22.2	-1°45.0	137°14.1	-16°03.4
3	114°57.4	217°19.3	-23°20.2	37°17.3	24°57.6	115°24.6	-1°45.0	152°16.4	-16°03.3
4	129°59.8	232°18.3	-23°20.5	52°20.8	24°57.6	130°27.0	-1°44.9	167°18.7	-16°03.2
5	145°02.3	247°17.4	-23°20.9	67°24.3	24°57.7	145°29.4	-1°44.9	182°21.0	-16°03.2
6	160°04.8	262°16.5	-23°21.3	82°27.9	24°57.7	160°31.8	-1°44.9	197°23.3	-16°03.1
7	175°07.2	277°15.5	-23°21.6	97°31.4	24°57.7	175°34.2	-1°44.8	212°25.6	-16°03.1
8	190°09.7	292°14.6	-23°22.0	112°34.9	24°57.8	190°36.7	-1°44.8	227°27.9	-16°03.0
9	205°12.2	307°13.7	-23°22.3	127°38.4	24°57.8	205°39.1	-1°44.8	242°30.2	-16°03.0
10	220°14.6	322°12.7	-23°22.7	142°41.9	24°57.8	220°41.5	-1°44.7	257°32.5	-16°02.9
11	235°17.1	337°11.8	-23°23.1	157°45.4	24°57.9	235°43.9	-1°44.7	272°34.9	-16°02.9
12	250°19.6	352°10.9	-23°23.4	172°48.9	24°57.9	250°46.3	-1°44.7	287°37.2	-16°02.8
13	265°22.0	7°09.9	-23°23.8	187°52.5	24°57.9	265°48.7	-1°44.6	302°39.5	-16°02.8
14	280°24.5	22°09.0	-23°24.1	202°56.0	24°58.0	280°51.1	-1°44.6	317°41.8	-16°02.7
15	295°27.0	37°08.1	-23°24.5	217°59.5	24°58.0	295°53.5	-1°44.5	332°44.1	-16°02.7
16	310°29.4	52°07.1	-23°24.8	233°03.0	24°58.0	310°55.9	-1°44.5	347°46.4	-16°02.6
17	325°31.9	67°06.2	-23°25.2	248°06.5	24°58.0	325°58.3	-1°44.5	2°48.7	-16°02.6
18	340°34.3	82°05.3	-23°25.5	263°10.0	24°58.1	341°00.7	-1°44.4	17°51.0	-16°02.5
19	355°36.8	97°04.3	-23°25.9	278°13.6	24°58.1	356°03.1	-1°44.4	32°53.3	-16°02.5
20	10°39.3	112°03.4	-23°26.2	293°17.1	24°58.1	11°05.5	-1°44.4	47°55.6	-16°02.4
21	25°41.7	127°02.5	-23°26.6	308°20.6	24°58.2	26°08.0	-1°44.3	62°57.9	-16°02.4
22	40°44.2	142°01.5	-23°26.9	323°24.1	24°58.2	41°10.4	-1°44.3	78°00.2	-16°02.3
23	55°46.7	157°00.6	-23°27.2	338°27.6	24°58.2	56°12.8	-1°44.2	93°02.5	-16°02.2
Mer.pass.:19:17		v-0.9 d-0.4 m-3.8		v3.5 d0.0 m-1.7		v2.4 d0.0 m-2.4		v2.3 d0.1 m0.8	

Vie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	70°49.1	171°59.6	-23°27.6	353°31.1	24°58.2	71°15.2	-1°44.2	108°04.8	-16°02.2
1	85°51.6	186°58.7	-23°27.9	8°34.7	24°58.3	86°17.6	-1°44.2	123°07.1	-16°02.1
2	100°54.1	201°57.8	-23°28.3	23°38.2	24°58.3	101°20.0	-1°44.1	138°09.4	-16°02.1
3	115°56.5	216°56.8	-23°28.6	38°41.7	24°58.3	116°22.4	-1°44.1	153°11.7	-16°02.0
4	130°59.0	231°55.9	-23°28.9	53°45.2	24°58.3	131°24.8	-1°44.1	168°14.1	-16°02.0
5	146°01.5	246°55.0	-23°29.3	68°48.7	24°58.4	146°27.2	-1°44.0	183°16.4	-16°01.9
6	161°03.9	261°54.0	-23°29.6	83°52.3	24°58.4	161°29.6	-1°44.0	198°18.7	-16°01.9
7	176°06.4	276°53.1	-23°29.9	98°55.8	24°58.4	176°32.0	-1°43.9	213°21.0	-16°01.8
8	191°08.8	291°52.1	-23°30.3	113°59.3	24°58.5	191°34.4	-1°43.9	228°23.3	-16°01.8
9	206°11.3	306°51.2	-23°30.6	129°02.8	24°58.5	206°36.8	-1°43.9	243°25.6	-16°01.7
10	221°13.8	321°50.3	-23°30.9	144°06.4	24°58.5	221°39.2	-1°43.8	258°27.9	-16°01.7
11	236°16.2	336°49.3	-23°31.3	159°09.9	24°58.5	236°41.6	-1°43.8	273°30.2	-16°01.6
12	251°18.7	351°48.4	-23°31.6	174°13.4	24°58.6	251°44.0	-1°43.7	288°32.5	-16°01.6
13	266°21.2	6°47.4	-23°31.9	189°16.9	24°58.6	266°46.4	-1°43.7	303°34.8	-16°01.5
14	281°23.6	21°46.5	-23°32.2	204°20.4	24°58.6	281°48.8	-1°43.7	318°37.1	-16°01.4
15	296°26.1	36°45.6	-23°32.6	219°24.0	24°58.6	296°51.2	-1°43.6	333°39.4	-16°01.4
16	311°28.6	51°44.6	-23°32.9	234°27.5	24°58.6	311°53.6	-1°43.6	348°41.7	-16°01.3
17	326°31.0	66°43.7	-23°33.2	249°31.0	24°58.7	326°56.0	-1°43.5	3°44.0	-16°01.3
18	341°33.5	81°42.7	-23°33.5	264°34.5	24°58.7	341°58.4	-1°43.5	18°46.3	-16°01.2
19	356°35.9	96°41.8	-23°33.8	279°38.1	24°58.7	357°00.8	-1°43.5	33°48.6	-16°01.2
20	11°38.4	111°40.8	-23°34.1	294°41.6	24°58.7	12°03.2	-1°43.4	48°50.9	-16°01.1
21	26°40.9	126°39.9	-23°34.5	309°45.1	24°58.8	27°05.6	-1°43.4	63°53.2	-16°01.1
22	41°43.3	141°39.0	-23°34.8	324°48.6	24°58.8	42°08.0	-1°43.3	78°55.5	-16°01.0
23	56°45.8	156°38.0	-23°35.1	339°52.2	24°58.8	57°10.4	-1°43.3	93°57.8	-16°01.0
Mer.pass.:19:13		v-0.9 d-0.3 m-3.8		v3.5 d0.0 m-1.7		v2.4 d0.0 m-2.4		v2.3 d0.1 m0.8	

Estrellas

	AHS	Dec
Alpheratz	357°36.5	29°13.2
Ankaa	353°08.7	-42°11.1
Schedar	349°32.7	56°40.0
Diphda	348°48.8	-17°51.8
Achernar	335°21.1	-57°07.5
Hamal	327°52.9	23°34.3
Polaris	314°25.3	89°21.7
Akamar	315°12.7	-40°12.9
Menkar	314°07.7	4°10.8
Mirfak	308°30.3	49°56.6
Aldebaran	290°41.3	16°33.4
Rigel	281°05.2	-8°10.5
Capella	280°24.0	46°01.3
Bellatrix	278°24.4	6°22.3
Elnath	278°03.7	28°37.6
Alnilam	275°39.2	-1°11.2
Betelgeuse	270°53.7	7°24.7
Canopus	263°52.7	-52°42.3
Sirius	258°27.4	-16°44.5
Adara	255°06.9	-29°00.0
Procyon	244°52.3	5°10.2
Pollux	243°19.1	27°58.2
Avior	234°15.1	-59°34.6
Suhail	222°47.4	-43°31.2
Miaplacidus	221°38.3	-69°48.3
Alphard	217°49.4	-8°45.3
Regulus	207°36.2	11°51.4
Dubhe	193°43.2	61°37.5
Denebola	182°26.8	14°26.7
Gienah	175°45.5	-17°39.9
Acrux	173°02.4	-63°13.2
Gacrux	171°53.9	-57°14.1
Alioth	166°14.9	55°50.0
Spica	158°24.4	-11°16.7
Alcaid	152°53.8	49°11.8
Hadar	148°39.0	-60°28.7
Menkent	148°00.0	-36°28.7
Arcturus	145°49.7	19°04.1
Rigil Kent.	139°43.3	-60°55.5
Zubenelg.	136°58.3	-16°08.1
Kochab	137°20.8	74°03.6
Alphecca	126°05.6	26°38.3
Antares	112°18.4	-26°28.9
Atria	107°14.7	-69°04.1
Sabik	102°05.1	-15°45.1
Shaula	96°13.2	-37°07.2
Rasalhague	96°00.5	12°32.7
Etamin	90°43.5	51°29.2
Kaus Aust.	83°35.2	-34°22.4
Vega	80°34.8	38°48.4
Nunki	75°50.3	-26°16.1
Altair	62°02.0	8°55.7
Peacock	53°08.8	-56°39.9
Deneb	49°27.2	45°21.9
Enif	33°40.6	9°58.8
Alnair	27°35.2	-46°51.2
Fomalhaut	15°16.5	-29°30.2
Scheat	13°46.9	28°12.5
Markab	13°31.6	15°19.8

Nov 30 Mie	AHS	Paso Merid
Venus	103°53.4	12:30
Mars	281°51.9	00:37
Jupiter	0°28.5	19:20
Saturn	37°23.1	16:52

Dic 01 Jue	AHS	Paso Merid
Venus	102°32.1	12:31
Mars	282°16.8	00:31
Jupiter	0°27.4	19:16
Saturn	37°19.5	16:49

Dic 02 Vie	AHS	Paso Merid
Venus	101°10.5	12:33
Mars	282°42.0	00:26
Jupiter	0°26.0	19:12
Saturn	37°15.7	16:45

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.3

h	Sol		Luna				
Mie	AHG	Dec	AHG	v	Dec	d	HP
0	182°53.2	-21°36.0	95°04.0	9.7	-16°12.9	13.4	59.0
1	197°53.0	-21°36.4	109°32.8	9.8	-15°59.5	13.5	59.0
2	212°52.8	-21°36.8	124°01.7	9.9	-15°46.0	13.6	58.9
3	227°52.5	-21°37.2	138°30.7	10.0	-15°32.4	13.6	58.9
4	242°52.3	-21°37.6	152°59.8	10.1	-15°18.7	13.7	58.9
5	257°52.1	-21°38.1	167°29.0	10.3	-15°05.0	13.8	58.9
6	272°51.9	-21°38.5	181°58.3	10.4	-14°51.2	13.8	58.8
7	287°51.6	-21°38.9	196°27.7	10.4	-14°37.3	13.9	58.8
8	302°51.4	-21°39.3	210°57.2	10.5	-14°23.3	14.0	58.8
9	317°51.2	-21°39.7	225°26.7	10.6	-14°09.3	14.0	58.8
10	332°50.9	-21°40.1	239°56.4	10.7	-13°55.3	14.1	58.7
11	347°50.7	-21°40.5	254°26.2	10.8	-13°41.1	14.2	58.7
12	2°50.5	-21°40.9	268°56.1	10.9	-13°26.9	14.2	58.7
13	17°50.3	-21°41.3	283°26.1	11.0	-13°12.7	14.3	58.7
14	32°50.0	-21°41.7	297°56.1	11.1	-12°58.4	14.3	58.6
15	47°49.8	-21°42.1	312°26.3	11.2	-12°44.0	14.4	58.6
16	62°49.6	-21°42.5	326°56.5	11.3	-12°29.6	14.4	58.6
17	77°49.4	-21°42.9	341°26.9	11.4	-12°15.2	14.5	58.6
18	92°49.1	-21°43.3	355°57.3	11.5	-12°00.7	14.5	58.5
19	107°48.9	-21°43.7	10°27.8	11.5	-11°46.1	14.6	58.5
20	122°48.7	-21°44.1	24°58.4	11.6	-11°31.5	14.6	58.5
21	137°48.4	-21°44.5	39°29.0	11.7	-11°16.9	14.7	58.5
22	152°48.2	-21°44.9	53°59.8	11.8	-11°02.2	14.7	58.4
23	167°48.0	-21°45.3	68°30.6	11.9	-10°47.4	14.8	58.4
	SD.=16.2	d=-0.4	S.D.=16.1				

Jue	AHG	Dec	AHG	v	Dec	d	HP
0	182°47.7	-21°45.7	83°01.5	11.9	-10°32.7	14.8	58.4
1	197°47.5	-21°46.0	97°32.5	12.0	-10°17.9	14.8	58.4
2	212°47.3	-21°46.4	112°03.6	12.1	-10°03.0	14.9	58.3
3	227°47.1	-21°46.8	126°34.7	12.2	-9°48.1	14.9	58.3
4	242°46.8	-21°47.2	141°05.9	12.2	-9°33.2	14.9	58.3
5	257°46.6	-21°47.6	155°37.2	12.3	-9°18.2	15.0	58.3
6	272°46.4	-21°48.0	170°08.5	12.4	-9°03.2	15.0	58.2
7	287°46.1	-21°48.4	184°40.0	12.5	-8°48.2	15.0	58.2
8	302°45.9	-21°48.8	199°11.5	12.5	-8°33.2	15.1	58.2
9	317°45.7	-21°49.2	213°43.0	12.6	-8°18.1	15.1	58.2
10	332°45.4	-21°49.5	228°14.6	12.7	-8°03.0	15.1	58.1
11	347°45.2	-21°49.9	242°46.3	12.7	-7°47.9	15.1	58.1
12	2°45.0	-21°50.3	257°18.1	12.8	-7°32.7	15.2	58.1
13	17°44.7	-21°50.7	271°49.9	12.8	-7°17.5	15.2	58.1
14	32°44.5	-21°51.1	286°21.8	12.9	-7°02.3	15.2	58.0
15	47°44.3	-21°51.5	300°53.7	13.0	-6°47.1	15.2	58.0
16	62°44.0	-21°51.8	315°25.7	13.0	-6°31.9	15.2	58.0
17	77°43.8	-21°52.2	329°57.7	13.1	-6°16.6	15.3	58.0
18	92°43.6	-21°52.6	344°29.8	13.1	-6°01.3	15.3	57.9
19	107°43.3	-21°53.0	359°02.0	13.2	-5°46.1	15.3	57.9
20	122°43.1	-21°53.4	13°34.2	13.2	-5°30.8	15.3	57.9
21	137°42.9	-21°53.7	28°06.5	13.3	-5°15.4	15.3	57.9
22	152°42.6	-21°54.1	42°38.8	13.3	-5°00.1	15.3	57.8
23	167°42.4	-21°54.5	57°11.1	13.4	-4°44.8	15.3	57.8
	SD.=16.2	d=-0.4	S.D.=15.9				

Vie	AHG	Dec	AHG	v	Dec	d	HP
0	182°42.1	-21°54.9	71°43.5	13.4	-4°29.4	15.3	57.8
1	197°41.9	-21°55.3	86°16.0	13.5	-4°14.1	15.4	57.8
2	212°41.7	-21°55.6	100°48.5	13.5	-3°58.7	15.4	57.7
3	227°41.4	-21°56.0	115°21.0	13.6	-3°43.4	15.4	57.7
4	242°41.2	-21°56.4	129°53.6	13.6	-3°28.0	15.4	57.7
5	257°41.0	-21°56.7	144°26.2	13.6	-3°12.6	15.4	57.7
6	272°40.7	-21°57.1	158°58.9	13.7	-2°57.2	15.4	57.6
7	287°40.5	-21°57.5	173°31.6	13.7	-2°41.9	15.4	57.6
8	302°40.2	-21°57.9	188°04.3	13.7	-2°26.5	15.4	57.6
9	317°40.0	-21°58.2	202°37.1	13.8	-2°11.1	15.4	57.6
10	332°39.8	-21°58.6	217°09.9	13.8	-1°55.8	15.4	57.5
11	347°39.5	-21°59.0	231°42.7	13.8	-1°40.4	15.4	57.5
12	2°39.3	-21°59.3	246°15.6	13.9	-1°25.0	15.4	57.5
13	17°39.0	-21°59.7	260°48.4	13.9	-1°09.7	15.4	57.5
14	32°38.8	-22°00.1	275°21.4	13.9	-0°54.3	15.3	57.4
15	47°38.6	-22°00.4	289°54.3	14.0	-0°39.0	15.3	57.4
16	62°38.3	-22°00.8	304°27.3	14.0	-0°23.6	15.3	57.4
17	77°38.1	-22°01.2	319°00.3	14.0	-0°08.3	15.3	57.4
18	92°37.8	-22°01.5	333°33.3	14.0	0°07.0	15.3	57.3
19	107°37.6	-22°01.9	348°06.4	14.1	0°22.3	15.3	57.3
20	122°37.4	-22°02.2	2°39.4	14.1	0°37.6	15.3	57.3
21	137°37.1	-22°02.6	17°12.5	14.1	0°52.8	15.3	57.3
22	152°36.9	-22°03.0	31°45.6	14.1	1°08.1	15.2	57.2
23	167°36.6	-22°03.3	46°18.7	14.1	1°23.3	15.2	57.2
	SD.=16.2	d=-0.4	S.D.=15.8				

Lat.	Crepúsculo Naut.	Crepúsculo Civil	Orto Sol	Crepúsculo Civil	Crepúsculo Naut.	Ocaso Sol
N 72	07:51	09:50	–:–	–:–	13:47	15:46
70	07:35	09:11	–:–	–:–	14:27	16:03
68	07:21	08:44	10:36	13:02	14:54	16:16
66	07:10	08:23	09:47	13:51	15:15	16:27
64	07:01	08:06	09:16	14:22	15:31	16:36
62	06:53	07:52	08:53	14:45	15:45	16:45
60	06:46	07:41	08:35	15:03	15:57	16:52
58	06:39	07:30	08:20	15:18	16:07	16:58
56	06:33	07:21	08:07	15:31	16:16	17:04
54	06:28	07:13	07:55	15:42	16:24	17:10
52	06:23	07:06	07:45	15:52	16:32	17:15
50	06:18	06:59	07:37	16:01	16:38	17:19
45	06:08	06:45	07:18	16:20	16:53	17:30
40	05:59	06:32	07:02	16:35	17:05	17:39
35	05:50	06:22	06:49	16:48	17:16	17:47
30	05:43	06:12	06:38	17:00	17:26	17:55
20	05:28	05:55	06:19	17:19	17:43	18:10
10	05:13	05:39	06:01	17:37	17:59	18:25
0	04:57	05:23	05:45	17:53	18:15	18:41
S 10	04:40	05:06	05:29	18:09	18:32	18:59
20	04:19	04:47	05:12	18:27	18:51	19:20
30	03:52	04:24	04:51	18:47	19:14	19:47
35	03:35	04:10	04:39	18:59	19:28	20:04
40	03:13	03:54	04:25	19:13	19:45	20:25
45	02:46	03:33	04:09	19:29	20:06	20:53
50	02:07	03:06	03:49	19:50	20:33	21:33
52	01:45	02:53	03:39	20:00	20:46	21:55
54	01:15	02:37	03:28	20:11	21:02	22:26
56	00:18	02:19	03:15	20:24	21:21	23:31
58	–:–	01:55	03:01	20:38	21:45	–:–
60	–:–	01:23	02:44	20:56	22:18	–:–

Lat.	Orto luna Mie	Orto luna Jue	Orto luna Vie	Ocaso luna Mie	Ocaso luna Jue	Ocaso luna Vie
N 72	15:09	14:25	13:52	21:54	–:–	00:17
70	14:46	14:15	13:50	22:14	–:–	00:24
68	14:29	14:07	13:49	22:29	–:–	00:29
66	14:14	14:00	13:48	22:42	–:–	00:33
64	14:02	13:55	13:47	22:52	–:–	00:37
62	13:52	13:49	13:46	23:01	–:–	00:41
60	13:44	13:45	13:46	23:08	–:–	00:43
58	13:36	13:41	13:45	23:15	–:–	00:46
56	13:29	13:38	13:45	23:20	–:–	00:48
54	13:23	13:34	13:44	23:26	–:–	00:50
52	13:17	13:32	13:44	23:30	–:–	00:52
50	13:12	13:29	13:44	23:34	–:–	00:54
45	13:01	13:23	13:43	23:43	–:–	00:57
40	12:52	13:18	13:42	23:51	–:–	01:00
35	12:45	13:14	13:41	23:57	–:–	01:03
30	12:38	13:10	13:41	–:–	00:03	01:05
20	12:26	13:04	13:40	–:–	00:12	01:09
10	12:15	12:58	13:39	–:–	00:21	01:12
0	12:05	12:53	13:38	–:–	00:28	01:15
S 10	11:55	12:48	13:38	–:–	00:36	01:18
20	11:44	12:42	13:37	00:03	00:44	01:21
30	11:32	12:35	13:36	00:18	00:53	01:25
35	11:25	12:32	13:36	00:27	00:58	01:27
40	11:17	12:27	13:35	00:36	01:04	01:29
45	11:07	12:22	13:34	00:47	01:11	01:32
50	10:55	12:16	13:34	01:01	01:19	01:35
52	10:50	12:13	13:33	01:07	01:23	01:36
54	10:44	12:10	13:33	01:14	01:27	01:38
56	10:37	12:07	13:33	01:21	01:31	01:39
58	10:30	12:03	13:32	01:30	01:36	01:41
60	10:21	11:59	13:32	01:40	01:42	01:43

Día	Sol Ec. tiempo 00:00 h	Sol Ec. tiempo 12:00 h	Sol Paso Merid	Luna Paso Meridiano Superior	Luna Paso Meridiano Inferior	Luna Edad
30	11:33	11:22	11:48	18:16	05:51	7(49%)
1	11:11	11:00	11:49	19:03	06:40	8(60%)
2	10:49	10:37	11:49	19:49	07:26	9(70%)

Diciembre 03, 04, 05 (Sa, Dom, Lun.)

	Aries	Venus		Martes		Júpiter		Saturno	
Sa	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	71°48.3	171°37.1	-23°35.4	354°55.7	24°58.8	72°12.8	-1°43.2	109°00.1	-16°00.9
1	86°50.7	186°36.1	-23°35.7	9°59.2	24°58.9	87°15.2	-1°43.2	124°02.4	-16°00.9
2	101°53.2	201°35.2	-23°36.0	25°02.8	24°58.9	102°17.6	-1°43.2	139°04.7	-16°00.8
3	116°55.7	216°34.2	-23°36.3	40°06.3	24°58.9	117°20.0	-1°43.1	154°07.0	-16°00.7
4	131°58.1	231°33.3	-23°36.6	55°09.8	24°58.9	132°22.4	-1°43.1	169°09.3	-16°00.7
5	147°00.6	246°32.3	-23°36.9	70°13.3	24°58.9	147°24.8	-1°43.0	184°11.6	-16°00.6
6	162°03.1	261°31.4	-23°37.2	85°16.9	24°59.0	162°27.2	-1°43.0	199°13.9	-16°00.6
7	177°05.5	276°30.5	-23°37.5	100°20.4	24°59.0	177°29.6	-1°42.9	214°16.2	-16°00.5
8	192°08.0	291°29.5	-23°37.8	115°23.9	24°59.0	192°32.0	-1°42.9	229°18.5	-16°00.5
9	207°10.4	306°28.6	-23°38.1	130°27.4	24°59.0	207°34.4	-1°42.9	244°20.8	-16°00.4
10	222°12.9	321°27.6	-23°38.4	145°31.0	24°59.0	222°36.7	-1°42.8	259°23.1	-16°00.4
11	237°15.4	336°26.7	-23°38.7	160°34.5	24°59.1	237°39.1	-1°42.8	274°25.4	-16°00.3
12	252°17.8	351°25.7	-23°39.0	175°38.0	24°59.1	252°41.5	-1°42.7	289°27.7	-16°00.3
13	267°20.3	6°24.8	-23°39.3	190°41.6	24°59.1	267°43.9	-1°42.7	304°30.0	-16°00.2
14	282°22.8	21°23.8	-23°39.6	205°45.1	24°59.1	282°46.3	-1°42.6	319°32.3	-16°00.1
15	297°25.2	36°22.9	-23°39.9	220°48.6	24°59.1	297°48.7	-1°42.6	334°34.6	-16°00.1
16	312°27.7	51°21.9	-23°40.2	235°52.2	24°59.1	312°51.1	-1°42.6	349°36.9	-16°00.0
17	327°30.2	66°21.0	-23°40.5	250°55.7	24°59.2	327°53.5	-1°42.5	4°39.2	-16°00.0
18	342°32.6	81°20.0	-23°40.8	265°59.2	24°59.2	342°55.9	-1°42.5	19°41.5	-15°59.9
19	357°35.1	96°19.1	-23°41.1	281°02.7	24°59.2	357°58.3	-1°42.4	34°43.8	-15°59.9
20	12°37.5	111°18.1	-23°41.4	296°06.3	24°59.2	13°00.7	-1°42.4	49°46.1	-15°59.8
21	27°40.0	126°17.2	-23°41.6	311°09.8	24°59.2	28°03.1	-1°42.3	64°48.4	-15°59.8
22	42°42.5	141°16.2	-23°41.9	326°13.3	24°59.2	43°05.5	-1°42.3	79°50.7	-15°59.7
23	57°44.9	156°15.3	-23°42.2	341°16.9	24°59.3	58°07.8	-1°42.2	94°53.0	-15°59.6
Mer.pass.:19:09		v-0.9 d-0.3 m-3.8		v3.5 d0.0 m-1.7		v2.4 d0.0 m-2.4		v2.3 d0.1 m0.8	

Dom	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	72°47.4	171°14.3	-23°42.5	356°20.4	24°59.3	73°10.2	-1°42.2	109°55.3	-15°59.6
1	87°49.9	186°13.4	-23°42.8	11°23.9	24°59.3	88°12.6	-1°42.2	124°57.6	-15°59.5
2	102°52.3	201°12.4	-23°43.0	26°27.5	24°59.3	103°15.0	-1°42.1	139°59.9	-15°59.5
3	117°54.8	216°11.5	-23°43.3	41°31.0	24°59.3	118°17.4	-1°42.1	155°02.2	-15°59.4
4	132°57.3	231°10.5	-23°43.6	56°34.5	24°59.3	133°19.8	-1°42.0	170°04.5	-15°59.4
5	147°59.7	246°09.6	-23°43.9	71°38.1	24°59.4	148°22.2	-1°42.0	185°06.8	-15°59.3
6	163°02.2	261°08.6	-23°44.2	86°41.6	24°59.4	163°24.6	-1°41.9	200°09.1	-15°59.3
7	178°04.7	276°07.7	-23°44.4	101°45.1	24°59.4	178°26.9	-1°41.9	215°11.4	-15°59.2
8	193°07.1	291°06.7	-23°44.7	116°48.7	24°59.4	193°29.3	-1°41.8	230°13.7	-15°59.1
9	208°09.6	306°05.8	-23°45.0	131°52.2	24°59.4	208°31.7	-1°41.8	245°16.0	-15°59.1
10	223°12.0	321°04.8	-23°45.2	146°55.7	24°59.4	223°34.1	-1°41.7	260°18.3	-15°59.0
11	238°14.5	336°03.9	-23°45.5	161°59.3	24°59.4	238°36.5	-1°41.7	275°20.6	-15°59.0
12	253°17.0	351°02.9	-23°45.8	177°02.8	24°59.5	253°38.9	-1°41.6	290°22.9	-15°58.9
13	268°19.4	6°02.0	-23°46.0	192°06.3	24°59.5	268°41.3	-1°41.6	305°25.2	-15°58.9
14	283°21.9	21°01.0	-23°46.3	207°09.9	24°59.5	283°43.6	-1°41.6	320°27.5	-15°58.8
15	298°24.4	36°00.1	-23°46.6	222°13.4	24°59.5	298°46.0	-1°41.5	335°29.8	-15°58.8
16	313°26.8	50°59.1	-23°46.8	237°16.9	24°59.5	313°48.4	-1°41.5	350°32.1	-15°58.7
17	328°29.3	65°58.2	-23°47.1	252°20.5	24°59.5	328°50.8	-1°41.4	5°34.4	-15°58.6
18	343°31.8	80°57.2	-23°47.3	267°24.0	24°59.5	343°53.2	-1°41.4	20°36.7	-15°58.6
19	358°34.2	95°56.3	-23°47.6	282°27.5	24°59.5	358°55.6	-1°41.3	35°39.0	-15°58.5
20	13°36.7	110°55.3	-23°47.9	297°31.1	24°59.5	13°58.0	-1°41.3	50°41.3	-15°58.5
21	28°39.2	125°54.4	-23°48.1	312°34.6	24°59.6	29°00.3	-1°41.2	65°43.6	-15°58.4
22	43°41.6	140°53.4	-23°48.4	327°38.1	24°59.6	44°02.7	-1°41.2	80°45.9	-15°58.4
23	58°44.1	155°52.4	-23°48.6	342°41.7	24°59.6	59°05.1	-1°41.1	95°48.2	-15°58.3
Mer.pass.:19:05		v-0.9 d-0.3 m-3.8		v3.5 d0.0 m-1.7		v2.4 d0.0 m-2.4		v2.3 d0.1 m0.8	

Lun	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	73°46.5	170°51.5	-23°48.9	357°45.2	24°59.6	74°07.5	-1°41.1	110°50.5	-15°58.2
1	88°49.0	185°50.5	-23°49.1	12°48.7	24°59.6	89°09.9	-1°41.0	125°52.8	-15°58.2
2	103°51.5	200°49.6	-23°49.4	27°52.3	24°59.6	104°12.2	-1°41.0	140°55.0	-15°58.1
3	118°53.9	215°48.6	-23°49.6	42°55.8	24°59.6	119°14.6	-1°40.9	155°57.3	-15°58.1
4	133°56.4	230°47.7	-23°49.9	57°59.3	24°59.6	134°17.0	-1°40.9	170°59.6	-15°58.0
5	148°58.9	245°46.7	-23°50.1	73°02.9	24°59.6	149°19.4	-1°40.8	186°01.9	-15°58.0
6	164°01.3	260°45.8	-23°50.3	88°06.4	24°59.6	164°21.8	-1°40.8	201°04.2	-15°57.9
7	179°03.8	275°44.8	-23°50.6	103°09.9	24°59.7	179°24.1	-1°40.7	216°06.5	-15°57.9
8	194°06.3	290°43.8	-23°50.8	118°13.5	24°59.7	194°26.5	-1°40.7	231°08.8	-15°57.8
9	209°08.7	305°42.9	-23°51.1	133°17.0	24°59.7	209°28.9	-1°40.6	246°11.1	-15°57.7
10	224°11.2	320°41.9	-23°51.3	148°20.5	24°59.7	224°31.3	-1°40.6	261°13.4	-15°57.7
11	239°13.7	335°41.0	-23°51.5	163°24.1	24°59.7	239°33.7	-1°40.5	276°15.7	-15°57.6
12	254°16.1	350°40.0	-23°51.8	178°27.6	24°59.7	254°36.0	-1°40.5	291°18.0	-15°57.6
13	269°18.6	5°39.1	-23°52.0	193°31.2	24°59.7	269°38.4	-1°40.4	306°20.3	-15°57.5
14	284°21.0	20°38.1	-23°52.2	208°34.7	24°59.7	284°40.8	-1°40.4	321°22.6	-15°57.5
15	299°23.5	35°37.1	-23°52.5	223°38.2	24°59.7	299°43.2	-1°40.3	336°24.9	-15°57.4
16	314°26.0	50°36.2	-23°52.7	238°41.8	24°59.7	314°45.5	-1°40.3	351°27.2	-15°57.3
17	329°28.4	65°35.2	-23°52.9	253°45.3	24°59.7	329°47.9	-1°40.2	6°29.5	-15°57.3
18	344°30.9	80°34.3	-23°53.2	268°48.8	24°59.7	344°50.3	-1°40.2	21°31.8	-15°57.2
19	359°33.4	95°33.3	-23°53.4	283°52.4	24°59.7	359°52.7	-1°40.1	36°34.0	-15°57.2
20	14°35.8	110°32.3	-23°53.6	298°55.9	24°59.7	14°55.0	-1°40.1	51°36.3	-15°57.1
21	29°38.3	125°31.4	-23°53.8	313°59.4	24°59.8	29°57.4	-1°40.0	66°38.6	-15°57.1
22	44°40.8	140°30.4	-23°54.1	329°03.0	24°59.8	44°59.8	-1°40.0	81°40.9	-15°57.0
23	59°43.2	155°29.5	-23°54.3	344°06.5	24°59.8	60°02.2	-1°39.9	96°43.2	-15°56.9
Mer.pass.:19:01		v-1.0 d-0.2 m-3.8		v3.5 d0.0 m-1.7		v2.4 d0.0 m-2.4		v2.3 d0.1 m0.8	

Estrellas	AHS	Dec
Alpheratz	357°36.5	29°13.2
Ankaa	353°08.7	-42°11.1
Schedar	349°32.8	56°40.0
Diphda	348°48.8	-17°51.8
Achernar	335°21.1	-57°07.5
Hamal	327°52.9	23°34.3
Polaris	314°25.8	89°21.8
Akamar	315°12.7	-40°12.9
Menkar	314°07.7	4°10.8
Mirfak	308°30.3	49°56.6
Aldebaran	290°41.3	16°33.4
Rigel	281°05.2	-8°10.5
Capella	280°24.0	46°01.3
Bellatrix	278°24.4	6°22.2
Elnath	278°03.7	28°37.6
Alnilam	275°39.2	-1°11.2
Betelgeuse	270°53.7	7°24.7
Canopus	263°52.7	-52°42.3
Sirius	258°27.4	-16°44.6
Adara	255°06.9	-29°00.0
Procyon	244°52.3	5°10.2
Pollux	243°19.1	27°58.2
Avior	234°15.0	-59°34.6
Suhail	222°47.4	-43°31.2
Miaplacidus	221°38.2	-69°48.3
Alphard	217°49.3	-8°45.3
Regulus	207°36.2	11°51.4
Dubhe	193°43.2	61°37.4
Denebola	182°26.7	14°26.7
Gienah	175°45.5	-17°39.9
Acrux	173°02.3	-63°13.2
Gacrux	171°53.9	-57°14.1
Alioth	166°14.9	55°50.0
Spica	158°24.4	-11°16.7
Alcaid	152°53.7	49°11.8
Hadar	148°39.0	-60°28.7
Menkent	148°00.0	-36°28.7
Arcturus	145°49.6	19°04.1
Rigil Kent.	139°43.3	-60°55.5
Zubenelg.	136°58.3	-16°08.1
Kochab	137°20.8	74°03.5
Alphecca	126°05.6	26°38.3
Antares	112°18.4	-26°28.9
Atria	107°14.7	-69°04.0
Sabik	102°05.1	-15°45.1
Shaula	96°13.2	-37°07.2
Rasalhague	96°00.5	12°32.7
Etamin	90°43.5	51°29.2
Kaus Aust.	83°35.2	-34°22.4
Vega	80°34.8	38°48.3
Nunki	75°50.3	-26°16.1
Altair	62°02.0	8°55.7
Peacock	53°08.9	-56°39.9
Deneb	49°27.3	45°21.9
Enif	33°40.6	9°58.8
Alnair	27°35.2	-46°51.3
Fomalhaut	15°16.5	-29°30.2
Scheat	13°46.9	28°12.5
Markab	13°31.6	15°19.8

Dic 03 Sa	AHS	Paso Merid
Venus	99°48.8	12:34
Mars	283°07.4	00:20
Jupiter	0°24.5	19:08
Saturn	37°11.9	16:41

Dic 04 Dom	AHS	Paso Merid
Venus	98°26.9	12:36
Mars	283°33.0	00:15
Jupiter	0°22.8	19:04
Saturn	37°07.9	16:38

Dic 05 Lun	AHS	Paso Merid
Venus	97°04.9	12:37
Mars	283°58.7	00:09
Jupiter	0°20.9	19:00
Saturn	37°03.9	16:34

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.3

h	Sol		Luna				
Sa	AHG	Dec	AHG	v	Dec	d	HP
0	182°36.4	-22°03.7	60°51.9	14.1	1°38.5	15.2	57.2
1	197°36.1	-22°04.0	75°25.0	14.2	1°53.7	15.2	57.2
2	212°35.9	-22°04.4	89°58.2	14.2	2°08.9	15.2	57.2
3	227°35.7	-22°04.7	104°31.4	14.2	2°24.1	15.1	57.1
4	242°35.4	-22°05.1	119°04.6	14.2	2°39.2	15.1	57.1
5	257°35.2	-22°05.5	133°37.8	14.2	2°54.3	15.1	57.1
6	272°34.9	-22°05.8	148°11.0	14.2	3°09.4	15.1	57.1
7	287°34.7	-22°06.2	162°44.2	14.2	3°24.5	15.1	57.0
8	302°34.4	-22°06.5	177°17.4	14.2	3°39.5	15.0	57.0
9	317°34.2	-22°06.9	191°50.6	14.2	3°54.5	15.0	57.0
10	332°33.9	-22°07.2	206°23.9	14.2	4°09.5	15.0	57.0
11	347°33.7	-22°07.6	220°57.1	14.2	4°24.5	14.9	56.9
12	2°33.4	-22°07.9	235°30.4	14.2	4°39.4	14.9	56.9
13	17°33.2	-22°08.3	250°03.6	14.2	4°54.3	14.9	56.9
14	32°33.0	-22°08.6	264°36.8	14.2	5°09.2	14.8	56.9
15	47°32.7	-22°09.0	279°10.1	14.2	5°24.0	14.8	56.8
16	62°32.5	-22°09.3	293°43.3	14.2	5°38.8	14.8	56.8
17	77°32.2	-22°09.7	308°16.5	14.2	5°53.5	14.7	56.8
18	92°32.0	-22°10.0	322°49.7	14.2	6°08.3	14.7	56.8
19	107°31.7	-22°10.3	337°23.0	14.2	6°23.0	14.7	56.8
20	122°31.5	-22°10.7	351°56.2	14.2	6°37.6	14.6	56.7
21	137°31.2	-22°11.0	6°29.4	14.2	6°52.2	14.6	56.7
22	152°31.0	-22°11.4	21°02.6	14.2	7°06.8	14.5	56.7
23	167°30.7	-22°11.7	35°35.8	14.2	7°21.3	14.5	56.7
	SD.=16.2	d=-0.4	S.D.=15.6				

Dom	AHG	Dec	AHG	v	Dec	d	HP
0	182°30.5	-22°12.1	50°08.9	14.2	7°35.8	14.5	56.6
1	197°30.2	-22°12.4	64°42.1	14.2	7°50.2	14.4	56.6
2	212°30.0	-22°12.7	79°15.2	14.1	8°04.6	14.4	56.6
3	227°29.7	-22°13.1	93°48.4	14.1	8°19.0	14.3	56.6
4	242°29.5	-22°13.4	108°21.5	14.1	8°33.3	14.3	56.6
5	257°29.2	-22°13.7	122°54.6	14.1	8°47.6	14.2	56.5
6	272°29.0	-22°14.1	137°27.7	14.1	9°01.8	14.2	56.5
7	287°28.7	-22°14.4	152°00.7	14.1	9°15.9	14.1	56.5
8	302°28.5	-22°14.8	166°33.8	14.0	9°30.1	14.1	56.5
9	317°28.2	-22°15.1	181°06.8	14.0	9°44.1	14.0	56.4
10	332°28.0	-22°15.4	195°39.8	14.0	9°58.1	14.0	56.4
11	347°27.7	-22°15.7	210°12.8	14.0	10°12.1	13.9	56.4
12	2°27.5	-22°16.1	224°45.7	13.9	10°26.0	13.9	56.4
13	17°27.2	-22°16.4	239°18.6	13.9	10°39.9	13.8	56.4
14	32°27.0	-22°16.7	253°51.6	13.9	10°53.7	13.8	56.3
15	47°26.7	-22°17.1	268°24.4	13.9	11°07.4	13.7	56.3
16	62°26.5	-22°17.4	282°57.3	13.8	11°21.1	13.7	56.3
17	77°26.2	-22°17.7	297°30.1	13.8	11°34.7	13.6	56.3
18	92°26.0	-22°18.1	312°02.9	13.8	11°48.3	13.5	56.3
19	107°25.7	-22°18.4	326°35.7	13.8	12°01.8	13.5	56.2
20	122°25.4	-22°18.7	341°08.4	13.7	12°15.2	13.4	56.2
21	137°25.2	-22°19.0	355°41.1	13.7	12°28.6	13.3	56.2
22	152°24.9	-22°19.4	10°13.8	13.7	12°41.9	13.3	56.2
23	167°24.7	-22°19.7	24°46.5	13.6	12°55.2	13.2	56.2
	SD.=16.2	d=-0.3	S.D.=15.5				

Lun	AHG	Dec	AHG	v	Dec	d	HP
0	182°24.4	-22°20.0	39°19.1	13.6	13°08.3	13.2	56.1
1	197°24.2	-22°20.3	53°51.6	13.6	13°21.5	13.1	56.1
2	212°23.9	-22°20.6	68°24.2	13.5	13°34.5	13.0	56.1
3	227°23.7	-22°21.0	82°56.7	13.5	13°47.5	13.0	56.1
4	242°23.4	-22°21.3	97°29.2	13.5	14°00.4	12.9	56.1
5	257°23.1	-22°21.6	112°01.6	13.4	14°13.3	12.8	56.0
6	272°22.9	-22°21.9	126°34.0	13.4	14°26.0	12.7	56.0
7	287°22.6	-22°22.2	141°06.3	13.3	14°38.7	12.7	56.0
8	302°22.4	-22°22.6	155°38.7	13.3	14°51.4	12.6	56.0
9	317°22.1	-22°22.9	170°10.9	13.3	15°03.9	12.5	55.9
10	332°21.9	-22°23.2	184°43.2	13.2	15°16.4	12.4	55.9
11	347°21.6	-22°23.5	199°15.4	13.2	15°28.8	12.4	55.9
12	2°21.4	-22°23.8	213°47.5	13.1	15°41.1	12.3	55.9
13	17°21.1	-22°24.1	228°19.6	13.1	15°53.4	12.2	55.9
14	32°20.8	-22°24.4	242°51.7	13.1	16°05.6	12.1	55.9
15	47°20.6	-22°24.7	257°23.7	13.0	16°17.7	12.1	55.8
16	62°20.3	-22°25.1	271°55.7	13.0	16°29.7	12.0	55.8
17	77°20.1	-22°25.4	286°27.7	12.9	16°41.6	11.9	55.8
18	92°19.8	-22°25.7	300°59.6	12.9	16°53.5	11.8	55.8
19	107°19.5	-22°26.0	315°31.4	12.8	17°05.2	11.7	55.8
20	122°19.3	-22°26.3	330°03.2	12.8	17°16.9	11.6	55.7
21	137°19.0	-22°26.6	344°35.0	12.7	17°28.5	11.6	55.7
22	152°18.8	-22°26.9	359°06.7	12.7	17°40.0	11.5	55.7
23	167°18.5	-22°27.2	13°38.4	12.6	17°51.4	11.4	55.7
	SD.=16.2	d=-0.3	S.D.=15.3				

Lat.	Crepúsculo Naut.	Crepúsculo Civil	Orto Sol	Crepúsculo Civil	Crepúsculo Naut.	Ocaso Sol
N 72	07:59	10:04	–:–	–:–	13:36	15:41
70	07:41	09:20	–:–	–:–	14:19	15:58
68	07:28	08:51	10:55	12:45	14:48	16:12
66	07:16	08:30	09:57	13:43	15:10	16:24
64	07:06	08:12	09:24	14:16	15:28	16:34
62	06:58	07:58	09:00	14:40	15:42	16:42
60	06:50	07:46	08:41	14:59	15:54	16:50
58	06:43	07:35	08:25	15:15	16:05	16:57
56	06:37	07:26	08:11	15:29	16:14	17:03
54	06:32	07:17	08:00	15:40	16:23	17:08
52	06:27	07:10	07:50	15:50	16:30	17:13
50	06:22	07:03	07:40	16:00	16:37	17:18
45	06:11	06:48	07:21	16:19	16:52	17:29
40	06:02	06:35	07:05	16:35	17:05	17:39
35	05:53	06:24	06:52	16:48	17:16	17:47
30	05:45	06:14	06:40	17:00	17:26	17:55
20	05:29	05:57	06:20	17:20	17:44	18:11
10	05:14	05:40	06:03	17:37	18:00	18:26
0	04:58	05:24	05:46	17:54	18:16	18:42
S 10	04:40	05:07	05:30	18:11	18:33	19:00
20	04:19	04:48	05:12	18:29	18:53	19:22
30	03:51	04:24	04:51	18:49	19:16	19:49
35	03:34	04:10	04:39	19:02	19:31	20:07
40	03:12	03:53	04:25	19:16	19:48	20:29
45	02:44	03:32	04:08	19:33	20:09	20:57
50	02:03	03:04	03:47	19:54	20:37	21:38
52	01:40	02:50	03:37	20:04	20:51	22:02
54	01:07	02:34	03:26	20:15	21:07	22:36
56	–:–	02:15	03:13	20:28	21:27	–:–
58	–:–	01:50	02:58	20:44	21:52	–:–
60	–:–	01:14	02:39	21:02	22:29	–:–

Lat.	Orto luna Sa	Orto luna Dom	Orto luna Lun	Ocaso luna Sa	Ocaso luna Dom	Ocaso luna Lun
N 72	13:20	12:43	11:49	02:27	04:38	07:08
70	13:26	13:00	12:24	02:24	04:25	06:35
68	13:32	13:13	12:49	02:22	04:14	06:11
66	13:36	13:24	13:09	02:20	04:05	05:53
64	13:40	13:33	13:25	02:18	03:57	05:38
62	13:44	13:41	13:38	02:16	03:51	05:26
60	13:47	13:48	13:50	02:15	03:45	05:16
58	13:49	13:54	14:00	02:14	03:40	05:07
56	13:52	13:59	14:08	02:13	03:36	04:59
54	13:54	14:04	14:16	02:12	03:32	04:52
52	13:56	14:08	14:23	02:11	03:29	04:46
50	13:58	14:12	14:29	02:10	03:25	04:41
45	14:02	14:21	14:43	02:08	03:19	04:28
40	14:05	14:28	14:54	02:07	03:13	04:19
35	14:08	14:35	15:04	02:06	03:08	04:10
30	14:10	14:40	15:12	02:05	03:04	04:03
20	14:15	14:50	15:27	02:03	02:56	03:50
10	14:19	14:59	15:40	02:01	02:50	03:39
0	14:23	15:07	15:53	02:00	02:44	03:29
S 10	14:27	15:15	16:05	01:58	02:38	03:18
20	14:31	15:24	16:18	01:56	02:31	03:07
30	14:35	15:34	16:34	01:54	02:24	02:55
35	14:38	15:40	16:42	01:53	02:20	02:48
40	14:41	15:47	16:53	01:52	02:15	02:40
45	14:45	15:55	17:05	01:51	02:10	02:30
50	14:49	16:05	17:20	01:49	02:03	02:19
52	14:51	16:09	17:27	01:48	02:00	02:14
54	14:54	16:14	17:34	01:47	01:57	02:08
56	14:56	16:19	17:43	01:46	01:54	02:02
58	14:59	16:26	17:53	01:45	01:50	01:55
60	15:02	16:32	18:04	01:44	01:45	01:46

Día	Sol Ec. tiempo 00:00 h	Sol Ec. tiempo 12:00 h	Sol Paso Merid	Luna Paso Meridiano Superior	Luna Paso Meridiano Inferior	Luna Edad
3	10:26	10:14	11:49	20:33	08:11	10(79%)
4	10:02	09:50	11:50	21:17	08:55	11(87%)
5	09:38	09:26	11:50	22:03	09:40	12(93%)

Diciembre 06, 07, 08 (Mar, Mie, Jue.)

	Aries	Venus		Martes		Júpiter		Saturno	
Mar	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	74°45.7	170°28.5	-23°54.5	359°10.0	24°59.8	75°04.5	-1°39.9	111°45.5	-15°56.9
1	89°48.1	185°27.5	-23°54.7	14°13.6	24°59.8	90°06.9	-1°39.8	126°47.8	-15°56.8
2	104°50.6	200°26.6	-23°54.9	29°17.1	24°59.8	105°09.3	-1°39.8	141°50.1	-15°56.8
3	119°53.1	215°25.6	-23°55.2	44°20.6	24°59.8	120°11.7	-1°39.7	156°52.4	-15°56.7
4	134°55.5	230°24.7	-23°55.4	59°24.2	24°59.8	135°14.0	-1°39.7	171°54.7	-15°56.6
5	149°58.0	245°23.7	-23°55.6	74°27.7	24°59.8	150°16.4	-1°39.6	186°57.0	-15°56.6
6	165°00.5	260°22.7	-23°55.8	89°31.2	24°59.8	165°18.8	-1°39.6	201°59.3	-15°56.5
7	180°02.9	275°21.8	-23°56.0	104°34.8	24°59.8	180°21.2	-1°39.5	217°01.5	-15°56.5
8	195°05.4	290°20.8	-23°56.2	119°38.3	24°59.8	195°23.5	-1°39.5	232°03.8	-15°56.4
9	210°07.9	305°19.9	-23°56.4	134°41.8	24°59.8	210°25.9	-1°39.4	247°06.1	-15°56.4
10	225°10.3	320°18.9	-23°56.6	149°45.4	24°59.8	225°28.3	-1°39.3	262°08.4	-15°56.3
11	240°12.8	335°17.9	-23°56.8	164°48.9	24°59.8	240°30.6	-1°39.3	277°10.7	-15°56.2
12	255°15.3	350°17.0	-23°57.1	179°52.4	24°59.8	255°33.0	-1°39.2	292°13.0	-15°56.2
13	270°17.7	5°16.0	-23°57.3	194°56.0	24°59.8	270°35.4	-1°39.2	307°15.3	-15°56.1
14	285°20.2	20°15.0	-23°57.5	209°59.5	24°59.8	285°37.7	-1°39.1	322°17.6	-15°56.1
15	300°22.6	35°14.1	-23°57.7	225°03.1	24°59.8	300°40.1	-1°39.1	337°19.9	-15°56.0
16	315°25.1	50°13.1	-23°57.9	240°06.6	24°59.8	315°42.5	-1°39.0	352°22.2	-15°56.0
17	330°27.6	65°12.2	-23°58.1	255°10.1	24°59.8	330°44.9	-1°39.0	7°24.4	-15°55.9
18	345°30.0	80°11.2	-23°58.3	270°13.7	24°59.8	345°47.2	-1°38.9	22°26.7	-15°55.8
19	0°32.5	95°10.2	-23°58.5	285°17.2	24°59.8	0°49.6	-1°38.9	37°29.0	-15°55.8
20	15°35.0	110°09.3	-23°58.7	300°20.7	24°59.8	15°52.0	-1°38.8	52°31.3	-15°55.7
21	30°37.4	125°08.3	-23°58.8	315°24.3	24°59.8	30°54.3	-1°38.8	67°33.6	-15°55.7
22	45°39.9	140°07.3	-23°59.0	330°27.8	24°59.8	45°56.7	-1°38.7	82°35.9	-15°55.6
23	60°42.4	155°06.4	-23°59.2	345°31.3	24°59.8	60°59.1	-1°38.6	97°38.2	-15°55.5
Mer.pass.:18:57		v-1.0 d-0.2 m-3.8		v3.5 d0.0 m-1.7		v2.4 d0.1 m-2.4		v2.3 d0.1 m0.8	

Mie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	75°44.8	170°05.4	-23°59.4	0°34.9	24°59.8	76°01.4	-1°38.6	112°40.5	-15°55.5
1	90°47.3	185°04.5	-23°59.6	15°38.4	24°59.8	91°03.8	-1°38.5	127°42.8	-15°55.4
2	105°49.8	200°03.5	-23°59.8	30°41.9	24°59.8	106°06.2	-1°38.5	142°45.1	-15°55.4
3	120°52.2	215°02.5	-24°00.0	45°45.5	24°59.8	121°08.5	-1°38.4	157°47.3	-15°55.3
4	135°54.7	230°01.6	-24°00.2	60°49.0	24°59.8	136°10.9	-1°38.4	172°49.6	-15°55.2
5	150°57.1	245°00.6	-24°00.4	75°52.5	24°59.8	151°13.3	-1°38.3	187°51.9	-15°55.2
6	165°59.6	259°59.6	-24°00.5	90°56.0	24°59.8	166°15.6	-1°38.3	202°54.2	-15°55.1
7	181°02.1	274°58.7	-24°00.7	105°59.6	24°59.8	181°18.0	-1°38.2	217°56.5	-15°55.1
8	196°04.5	289°57.7	-24°00.9	121°03.1	24°59.8	196°20.3	-1°38.1	232°58.8	-15°55.0
9	211°07.0	304°56.7	-24°01.1	136°06.6	24°59.8	211°22.7	-1°38.1	248°01.1	-15°55.0
10	226°09.5	319°55.8	-24°01.2	151°10.2	24°59.8	226°25.1	-1°38.0	263°03.4	-15°54.9
11	241°11.9	334°54.8	-24°01.4	166°13.7	24°59.8	241°27.4	-1°38.0	278°05.6	-15°54.8
12	256°14.4	349°53.8	-24°01.6	181°17.2	24°59.8	256°29.8	-1°37.9	293°07.9	-15°54.8
13	271°16.9	4°52.9	-24°01.8	196°20.8	24°59.8	271°32.2	-1°37.9	308°10.2	-15°54.7
14	286°19.3	19°51.9	-24°01.9	211°24.3	24°59.8	286°34.5	-1°37.8	323°12.5	-15°54.7
15	301°21.8	34°50.9	-24°02.1	226°27.8	24°59.8	301°36.9	-1°37.7	338°14.8	-15°54.6
16	316°24.3	49°50.0	-24°02.3	241°31.4	24°59.8	316°39.2	-1°37.7	353°17.1	-15°54.5
17	331°26.7	64°49.0	-24°02.5	256°34.9	24°59.8	331°41.6	-1°37.6	8°19.4	-15°54.5
18	346°29.2	79°48.0	-24°02.6	271°38.4	24°59.8	346°44.0	-1°37.6	23°21.6	-15°54.4
19	1°31.6	94°47.1	-24°02.8	286°41.9	24°59.7	1°46.3	-1°37.5	38°23.9	-15°54.4
20	16°34.1	109°46.1	-24°03.0	301°45.5	24°59.7	16°48.7	-1°37.5	53°26.2	-15°54.3
21	31°36.6	124°45.1	-24°03.1	316°49.0	24°59.7	31°51.0	-1°37.4	68°28.5	-15°54.2
22	46°39.0	139°44.2	-24°03.3	331°52.5	24°59.7	46°53.4	-1°37.3	83°30.8	-15°54.2
23	61°41.5	154°43.2	-24°03.4	346°56.1	24°59.7	61°55.8	-1°37.3	98°33.1	-15°54.1
Mer.pass.:18:53		v-1.0 d-0.2 m-3.8		v3.5 d-0.0 m-1.7		v2.4 d0.1 m-2.4		v2.3 d0.1 m0.8	

Jue	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	76°44.0	169°42.2	-24°03.6	1°59.6	24°59.7	76°58.1	-1°37.2	113°35.4	-15°54.1
1	91°46.4	184°41.3	-24°03.8	17°03.1	24°59.7	92°00.5	-1°37.2	128°37.6	-15°54.0
2	106°48.9	199°40.3	-24°03.9	32°06.7	24°59.7	107°02.8	-1°37.1	143°39.9	-15°53.9
3	121°51.4	214°39.3	-24°04.1	47°10.2	24°59.7	122°05.2	-1°37.0	158°42.2	-15°53.9
4	136°53.8	229°38.4	-24°04.2	62°13.7	24°59.7	137°07.6	-1°37.0	173°44.5	-15°53.8
5	151°56.3	244°37.4	-24°04.4	77°17.2	24°59.7	152°09.9	-1°36.9	188°46.8	-15°53.8
6	166°58.7	259°36.4	-24°04.5	92°20.8	24°59.7	167°12.3	-1°36.9	203°49.1	-15°53.7
7	182°01.2	274°35.5	-24°04.7	107°24.3	24°59.7	182°14.6	-1°36.8	218°51.4	-15°53.6
8	197°03.7	289°34.5	-24°04.8	122°27.8	24°59.7	197°17.0	-1°36.8	233°53.6	-15°53.6
9	212°06.1	304°33.5	-24°05.0	137°31.3	24°59.6	212°19.3	-1°36.7	248°55.9	-15°53.5
10	227°08.6	319°32.5	-24°05.1	152°34.9	24°59.6	227°21.7	-1°36.6	263°58.2	-15°53.5
11	242°11.1	334°31.6	-24°05.3	167°38.4	24°59.6	242°24.0	-1°36.6	279°00.5	-15°53.4
12	257°13.5	349°30.6	-24°05.4	182°41.9	24°59.6	257°26.4	-1°36.5	294°02.8	-15°53.3
13	272°16.0	4°29.6	-24°05.6	197°45.4	24°59.6	272°28.8	-1°36.5	309°05.1	-15°53.3
14	287°18.5	19°28.7	-24°05.7	212°49.0	24°59.6	287°31.1	-1°36.4	324°07.3	-15°53.2
15	302°20.9	34°27.7	-24°05.8	227°52.5	24°59.6	302°33.5	-1°36.3	339°09.6	-15°53.2
16	317°23.4	49°26.7	-24°06.0	242°56.0	24°59.6	317°35.8	-1°36.3	354°11.9	-15°53.1
17	332°25.9	64°25.8	-24°06.1	257°59.5	24°59.6	332°38.2	-1°36.2	9°14.2	-15°53.0
18	347°28.3	79°24.8	-24°06.2	273°03.1	24°59.6	347°40.5	-1°36.2	24°16.5	-15°53.0
19	2°30.8	94°23.8	-24°06.4	288°06.6	24°59.6	2°42.9	-1°36.1	39°18.8	-15°52.9
20	17°33.2	109°22.9	-24°06.5	303°10.1	24°59.5	17°45.2	-1°36.0	54°21.0	-15°52.9
21	32°35.7	124°21.9	-24°06.6	318°13.6	24°59.5	32°47.6	-1°36.0	69°23.3	-15°52.8
22	47°38.2	139°20.9	-24°06.8	333°17.2	24°59.5	47°49.9	-1°35.9	84°25.6	-15°52.7
23	62°40.6	154°19.9	-24°06.9	348°20.7	24°59.5	62°52.3	-1°35.8	99°27.9	-15°52.7
Mer.pass.:18:49		v-1.0 d-0.2 m-3.8		v3.5 d-0.0 m-1.7		v2.4 d0.1 m-2.4		v2.3 d0.1 m0.8	

Estrellas

	AHS	Dec
Alpheratz	357°36.5	29°13.2
Ankaa	353°08.7	-42°11.1
Schedar	349°32.8	56°40.0
Diphda	348°48.8	-17°51.8
Achernar	335°21.1	-57°07.5
Hamal	327°52.9	23°34.3
Polaris	314°26.1	89°21.8
Akamar	315°12.7	-40°12.9
Menkar	314°07.7	4°10.8
Mirfak	308°30.3	49°56.6
Aldebaran	290°41.3	16°33.4
Rigel	281°05.2	-8°10.5
Capella	280°24.0	46°01.3
Bellatrix	278°24.4	6°22.2
Elnath	278°03.7	28°37.6
Alnilam	275°39.2	-1°11.2
Betelgeuse	270°53.6	7°24.7
Canopus	263°52.6	-52°42.3
Sirius	258°27.4	-16°44.6
Adara	255°06.9	-29°00.1
Procyon	244°52.3	5°10.2
Pollux	243°19.0	27°58.2
Avior	234°15.0	-59°34.7
Suhail	222°47.4	-43°31.2
Miaplacidus	221°38.2	-69°48.3
Alphard	217°49.3	-8°45.3
Regulus	207°36.2	11°51.3
Dubhe	193°43.1	61°37.4
Denebola	182°26.7	14°26.7
Gienah	175°45.5	-17°39.9
Acrux	173°02.3	-63°13.2
Gacrux	171°53.8	-57°14.1
Alioth	166°14.8	55°50.0
Spica	158°24.3	-11°16.7
Alcaid	152°53.7	49°11.8
Hadar	148°39.0	-60°28.7
Menkent	148°00.0	-36°28.7
Arcturus	145°49.6	19°04.1
Rigil Kent.	139°43.3	-60°55.5
Zubenelg.	136°58.3	-16°08.1
Kochab	137°20.8	74°03.5
Alphecca	126°05.6	26°38.3
Antares	112°18.3	-26°28.9
Atria	107°14.7	-69°04.0
Sabik	102°05.1	-15°45.1
Shaula	96°13.2	-37°07.2
Rasalhague	96°00.5	12°32.7
Etamin	90°43.5	51°29.2
Kaus Aust.	83°35.2	-34°22.4
Vega	80°34.8	38°48.3
Nunki	75°50.3	-26°16.1
Altair	62°02.0	8°55.7
Peacock	53°08.9	-56°39.9
Deneb	49°27.3	45°21.9
Enif	33°40.6	9°58.8
Alnair	27°35.3	-46°51.2
Fomalhaut	15°16.5	-29°30.2
Scheat	13°46.9	28°12.5
Markab	13°31.7	15°19.8

Dic 06 Mar	AHS	Paso Merid
Venus	95°42.8	12:39
Mars	284°24.4	00:03
Jupiter	0°18.9	18:57
Saturn	36°59.8	16:30

Dic 07 Mie	AHS	Paso Merid
Venus	94°20.6	12:40
Mars	284°50.0	23:52
Jupiter	0°16.6	18:53
Saturn	36°55.6	16:27

Dic 08 Jue	AHS	Paso Merid
Venus	92°58.3	12:42
Mars	285°15.6	23:46
Jupiter	0°14.2	18:49
Saturn	36°51.4	16:23

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.3

h	Sol		Luna				
Mar	AHG	Dec	AHG	v	Dec	d	HP
0	182°18.2	-22°27.5	28°10.0	12.6	18°02.8	11.3	55.7
1	197°18.0	-22°27.8	42°41.6	12.6	18°14.0	11.2	55.6
2	212°17.7	-22°28.1	57°13.1	12.5	18°25.2	11.1	55.6
3	227°17.5	-22°28.4	71°44.6	12.5	18°36.3	11.0	55.6
4	242°17.2	-22°28.7	86°16.0	12.4	18°47.2	10.9	55.6
5	257°16.9	-22°29.0	100°47.4	12.4	18°58.1	10.8	55.6
6	272°16.7	-22°29.3	115°18.7	12.3	19°08.9	10.7	55.5
7	287°16.4	-22°29.6	129°50.0	12.3	19°19.6	10.6	55.5
8	302°16.2	-22°29.9	144°21.2	12.2	19°30.2	10.6	55.5
9	317°15.9	-22°30.2	158°52.4	12.2	19°40.7	10.5	55.5
10	332°15.6	-22°30.5	173°23.6	12.1	19°51.1	10.4	55.5
11	347°15.4	-22°30.8	187°54.6	12.1	20°01.4	10.3	55.5
12	2°15.1	-22°31.1	202°25.7	12.0	20°11.6	10.2	55.4
13	17°14.8	-22°31.4	216°56.7	12.0	20°21.8	10.1	55.4
14	32°14.6	-22°31.7	231°27.6	11.9	20°31.8	10.0	55.4
15	47°14.3	-22°32.0	245°58.5	11.9	20°41.7	9.9	55.4
16	62°14.0	-22°32.3	260°29.3	11.8	20°51.5	9.8	55.4
17	77°13.8	-22°32.6	275°00.1	11.8	21°01.2	9.7	55.3
18	92°13.5	-22°32.9	289°30.9	11.7	21°10.8	9.6	55.3
19	107°13.3	-22°33.2	304°01.5	11.7	21°20.3	9.4	55.3
20	122°13.0	-22°33.4	318°32.2	11.6	21°29.7	9.3	55.3
21	137°12.7	-22°33.7	333°02.8	11.6	21°39.0	9.2	55.3
22	152°12.5	-22°34.0	347°33.3	11.5	21°48.2	9.1	55.3
23	167°12.2	-22°34.3	2°03.8	11.5	21°57.2	9.0	55.2
	SD.=16.2	d=-0.3	S.D.=15.2				

Mie	AHG	Dec	AHG	v	Dec	d	HP
0	182°11.9	-22°34.6	16°34.2	11.4	22°06.2	8.9	55.2
1	197°11.7	-22°34.9	31°04.6	11.4	22°15.0	8.8	55.2
2	212°11.4	-22°35.2	45°35.0	11.3	22°23.8	8.7	55.2
3	227°11.1	-22°35.4	60°05.3	11.3	22°32.4	8.6	55.2
4	242°10.9	-22°35.7	74°35.5	11.2	22°40.9	8.5	55.2
5	257°10.6	-22°36.0	89°05.7	11.2	22°49.3	8.4	55.1
6	272°10.3	-22°36.3	103°35.9	11.1	22°57.6	8.2	55.1
7	287°10.1	-22°36.6	118°06.0	11.1	23°05.8	8.1	55.1
8	302°09.8	-22°36.8	132°36.0	11.0	23°13.9	8.0	55.1
9	317°09.5	-22°37.1	147°06.0	11.0	23°21.8	7.9	55.1
10	332°09.3	-22°37.4	161°36.0	10.9	23°29.7	7.8	55.1
11	347°09.0	-22°37.7	176°05.9	10.9	23°37.4	7.7	55.0
12	2°08.7	-22°38.0	190°35.8	10.8	23°45.0	7.5	55.0
13	17°08.4	-22°38.2	205°05.6	10.8	23°52.5	7.4	55.0
14	32°08.2	-22°38.5	219°35.4	10.8	23°59.8	7.3	55.0
15	47°07.9	-22°38.8	234°05.1	10.7	24°07.0	7.2	55.0
16	62°07.6	-22°39.1	248°34.8	10.7	24°14.2	7.1	55.0
17	77°07.4	-22°39.3	263°04.5	10.6	24°21.2	6.9	55.0
18	92°07.1	-22°39.6	277°34.1	10.6	24°28.0	6.8	54.9
19	107°06.8	-22°39.9	292°03.7	10.5	24°34.8	6.7	54.9
20	122°06.6	-22°40.1	306°33.2	10.5	24°41.4	6.6	54.9
21	137°06.3	-22°40.4	321°02.7	10.5	24°47.9	6.4	54.9
22	152°06.0	-22°40.7	335°32.1	10.4	24°54.3	6.3	54.9
23	167°05.8	-22°41.0	350°01.5	10.4	25°00.6	6.2	54.9
	SD.=16.2	d=-0.3	S.D.=15.1				

Jue	AHG	Dec	AHG	v	Dec	d	HP
0	182°05.5	-22°41.2	4°30.9	10.4	25°06.7	6.1	54.8
1	197°05.2	-22°41.5	19°00.2	10.3	25°12.7	5.9	54.8
2	212°04.9	-22°41.8	33°29.6	10.3	25°18.6	5.8	54.8
3	227°04.7	-22°42.0	47°58.8	10.2	25°24.3	5.7	54.8
4	242°04.4	-22°42.3	62°28.0	10.2	25°30.0	5.6	54.8
5	257°04.1	-22°42.6	76°57.2	10.2	25°35.5	5.4	54.8
6	272°03.9	-22°42.8	91°26.4	10.1	25°40.8	5.3	54.8
7	287°03.6	-22°43.1	105°55.5	10.1	25°46.1	5.2	54.7
8	302°03.3	-22°43.3	120°24.6	10.1	25°51.2	5.0	54.7
9	317°03.0	-22°43.6	134°53.7	10.1	25°56.2	4.9	54.7
10	332°02.8	-22°43.9	149°22.8	10.0	26°01.0	4.8	54.7
11	347°02.5	-22°44.1	163°51.8	10.0	26°05.7	4.7	54.7
12	2°02.2	-22°44.4	178°20.8	10.0	26°10.3	4.5	54.7
13	17°01.9	-22°44.6	192°49.7	9.9	26°14.8	4.4	54.7
14	32°01.7	-22°44.9	207°18.7	9.9	26°19.1	4.3	54.6
15	47°01.4	-22°45.1	221°47.6	9.9	26°23.3	4.1	54.6
16	62°01.1	-22°45.4	236°16.5	9.9	26°27.3	4.0	54.6
17	77°00.8	-22°45.7	250°45.3	9.9	26°31.2	3.9	54.6
18	92°00.6	-22°45.9	265°14.2	9.8	26°35.0	3.7	54.6
19	107°00.3	-22°46.2	279°43.0	9.8	26°38.7	3.6	54.6
20	122°00.0	-22°46.4	294°11.8	9.8	26°42.2	3.5	54.6
21	136°59.7	-22°46.7	308°40.6	9.8	26°45.6	3.3	54.6
22	151°59.5	-22°46.9	323°09.4	9.8	26°48.9	3.2	54.5
23	166°59.2	-22°47.2	337°38.1	9.8	26°52.0	3.1	54.5
	SD.=16.2	d=-0.3	S.D.=15.0				

Lat.	Crepúsculo Naut.	Crepúsculo Civil	Orto Sol	Crepúsculo Civil	Crepúsculo Naut.	Ocaso Sol
N 72	08:06	10:17	–:–	–:–	13:25	15:37
70	07:48	09:29	–:–	–:–	14:13	15:55
68	07:33	08:59	11:18	12:24	14:44	16:09
66	07:21	08:36	10:07	13:36	15:07	16:21
64	07:11	08:18	09:31	14:11	15:25	16:32
62	07:02	08:03	09:06	14:37	15:40	16:40
60	06:54	07:50	08:46	14:57	15:52	16:48
58	06:47	07:39	08:30	15:13	16:03	16:55
56	06:41	07:29	08:16	15:27	16:13	17:02
54	06:35	07:21	08:04	15:39	16:22	17:07
52	06:30	07:13	07:53	15:49	16:29	17:13
50	06:25	07:06	07:44	15:59	16:37	17:18
45	06:14	06:51	07:24	16:18	16:52	17:29
40	06:04	06:38	07:08	16:35	17:05	17:39
35	05:55	06:27	06:55	16:48	17:16	17:48
30	05:47	06:17	06:43	17:00	17:26	17:56
20	05:31	05:58	06:22	17:20	17:44	18:12
10	05:16	05:42	06:04	17:38	18:01	18:27
0	04:59	05:25	05:48	17:55	18:18	18:44
S 10	04:41	05:08	05:31	18:12	18:35	19:02
20	04:19	04:48	05:13	18:30	18:55	19:24
30	03:51	04:24	04:51	18:52	19:19	19:52
35	03:33	04:10	04:39	19:04	19:34	20:10
40	03:11	03:52	04:24	19:19	19:51	20:32
45	02:42	03:31	04:07	19:36	20:13	21:01
50	02:00	03:02	03:46	19:58	20:41	21:44
52	01:36	02:48	03:36	20:08	20:55	22:09
54	01:00	02:32	03:24	20:20	21:12	22:45
56	–:–	02:11	03:11	20:33	21:33	–:–
58	–:–	01:45	02:55	20:49	21:59	–:–
60	–:–	01:06	02:36	21:08	22:39	–:–

Lat.	Orto luna Mar	Orto luna Mie	Orto luna Jue	Ocaso luna Mar	Ocaso luna Mie	Ocaso luna Jue
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	10:52	–:–	–:–	09:45	–:–	–:–
68	12:10	–:–	–:–	08:28	–:–	–:–
66	12:48	11:59	–:–	07:51	10:22	–:–
64	13:15	13:01	–:–	07:25	09:20	–:–
62	13:36	13:36	13:39	07:05	08:46	10:29
60	13:54	14:01	14:17	06:48	08:22	09:51
58	14:08	14:21	14:44	06:35	08:02	09:25
56	14:20	14:38	15:05	06:23	07:46	09:04
54	14:31	14:52	15:22	06:13	07:32	08:47
52	14:41	15:05	15:37	06:04	07:20	08:32
50	14:50	15:16	15:50	05:56	07:09	08:20
45	15:08	15:39	16:17	05:38	06:47	07:53
40	15:23	15:57	16:38	05:24	06:30	07:33
35	15:36	16:13	16:56	05:13	06:15	07:15
30	15:47	16:27	17:11	05:02	06:02	07:01
20	16:07	16:50	17:37	04:45	05:40	06:35
10	16:24	17:10	17:59	04:29	05:21	06:14
0	16:40	17:29	18:20	04:15	05:03	05:54
S 10	16:56	17:48	18:41	04:01	04:46	05:33
20	17:13	18:09	19:04	03:46	04:27	05:12
30	17:33	18:32	19:30	03:28	04:05	04:47
35	17:45	18:46	19:46	03:18	03:53	04:32
40	17:58	19:03	20:04	03:07	03:38	04:16
45	18:14	19:22	20:26	02:54	03:21	03:55
50	18:34	19:47	20:54	02:37	03:00	03:30
52	18:44	19:59	21:07	02:30	02:50	03:18
54	18:55	20:12	21:23	02:21	02:39	03:04
56	19:07	20:28	21:42	02:12	02:26	02:48
58	19:21	20:47	22:05	02:01	02:12	02:28
60	19:38	21:10	22:35	01:49	01:54	02:05

Día	Sol Ec. tiempo 00:00 h	Sol Ec. tiempo 12:00 h	Sol Paso Merid	Luna Paso Meridiano Superior	Luna Paso Meridiano Inferior	Luna Edad
6	09:13	09:01	11:50	22:51	10:27	13(97%)
7	08:48	08:35	11:51	23:41	11:16	14(100%)
8	08:22	08:09	11:51	00:32	12:06	15(100%)

Diciembre 09, 10, 11 (Vie, Sa, Dom.)

	Aries	Venus		Martes		Júpiter		Saturno	
Vie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	77°43.1	169°19.0	-24°07.0	3°24.2	24°59.5	77°54.6	-1°35.8	114°30.2	-15°52.6
1	92°45.6	184°18.0	-24°07.2	18°27.7	24°59.5	92°57.0	-1°35.7	129°32.5	-15°52.6
2	107°48.0	199°17.0	-24°07.3	33°31.3	24°59.5	107°59.3	-1°35.7	144°34.7	-15°52.5
3	122°50.5	214°16.1	-24°07.4	48°34.8	24°59.5	123°01.7	-1°35.6	159°37.0	-15°52.4
4	137°53.0	229°15.1	-24°07.5	63°38.3	24°59.4	138°04.0	-1°35.5	174°39.3	-15°52.4
5	152°55.4	244°14.1	-24°07.7	78°41.8	24°59.4	153°06.4	-1°35.5	189°41.6	-15°52.3
6	167°57.9	259°13.1	-24°07.8	93°45.3	24°59.4	168°08.7	-1°35.4	204°43.9	-15°52.3
7	183°00.4	274°12.2	-24°07.9	108°48.9	24°59.4	183°11.1	-1°35.3	219°46.1	-15°52.2
8	198°02.8	289°11.2	-24°08.0	123°52.4	24°59.4	198°13.4	-1°35.3	234°48.4	-15°52.1
9	213°05.3	304°10.2	-24°08.1	138°55.9	24°59.4	213°15.8	-1°35.2	249°50.7	-15°52.1
10	228°07.7	319°09.3	-24°08.2	153°59.4	24°59.4	228°18.1	-1°35.2	264°53.0	-15°52.0
11	243°10.2	334°08.3	-24°08.4	169°02.9	24°59.4	243°20.5	-1°35.1	279°55.3	-15°51.9
12	258°12.7	349°07.3	-24°08.5	184°06.5	24°59.3	258°22.8	-1°35.0	294°57.6	-15°51.9
13	273°15.1	4°06.3	-24°08.6	199°10.0	24°59.3	273°25.2	-1°35.0	309°59.8	-15°51.8
14	288°17.6	19°05.4	-24°08.7	214°13.5	24°59.3	288°27.5	-1°34.9	325°02.1	-15°51.8
15	303°20.1	34°04.4	-24°08.8	229°17.0	24°59.3	303°29.9	-1°34.8	340°04.4	-15°51.7
16	318°22.5	49°03.4	-24°08.9	244°20.5	24°59.3	318°32.2	-1°34.8	355°06.7	-15°51.6
17	333°25.0	64°02.5	-24°09.0	259°24.0	24°59.3	333°34.6	-1°34.7	10°09.0	-15°51.6
18	348°27.5	79°01.5	-24°09.1	274°27.6	24°59.3	348°36.9	-1°34.7	25°11.2	-15°51.5
19	3°29.9	94°00.5	-24°09.2	289°31.1	24°59.2	3°39.3	-1°34.6	40°13.5	-15°51.5
20	18°32.4	108°59.5	-24°09.3	304°34.6	24°59.2	18°41.6	-1°34.5	55°15.8	-15°51.4
21	33°34.9	123°58.6	-24°09.4	319°38.1	24°59.2	33°43.9	-1°34.5	70°18.1	-15°51.3
22	48°37.3	138°57.6	-24°09.5	334°41.6	24°59.2	48°46.3	-1°34.4	85°20.4	-15°51.3
23	63°39.8	153°56.6	-24°09.6	349°45.1	24°59.2	63°48.6	-1°34.3	100°22.6	-15°51.2
Mer.pass.:18:46		v-1.0 d-0.1 m-3.8		v3.5 d-0.0 m-1.7		v2.4 d0.1 m-2.4		v2.3 d0.1 m0.8	

Sa	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	78°42.2	168°55.7	-24°09.7	4°48.6	24°59.2	78°51.0	-1°34.3	115°24.9	-15°51.1
1	93°44.7	183°54.7	-24°09.8	19°52.2	24°59.1	93°53.3	-1°34.2	130°27.2	-15°51.1
2	108°47.2	198°53.7	-24°09.9	34°55.7	24°59.1	108°55.7	-1°34.1	145°29.5	-15°51.0
3	123°49.6	213°52.7	-24°10.0	49°59.2	24°59.1	123°58.0	-1°34.1	160°31.7	-15°51.0
4	138°52.1	228°51.8	-24°10.1	65°02.7	24°59.1	139°00.3	-1°34.0	175°34.0	-15°50.9
5	153°54.6	243°50.8	-24°10.2	80°06.2	24°59.1	154°02.7	-1°33.9	190°36.3	-15°50.8
6	168°57.0	258°49.8	-24°10.3	95°09.7	24°59.0	169°05.0	-1°33.9	205°38.6	-15°50.8
7	183°59.5	273°48.8	-24°10.4	110°13.2	24°59.0	184°07.4	-1°33.8	220°40.9	-15°50.7
8	199°02.0	288°47.9	-24°10.5	125°16.7	24°59.0	199°09.7	-1°33.7	235°43.1	-15°50.6
9	214°04.4	303°46.9	-24°10.5	140°20.3	24°59.0	214°12.1	-1°33.7	250°45.4	-15°50.6
10	229°06.9	318°45.9	-24°10.6	155°23.8	24°59.0	229°14.4	-1°33.6	265°47.7	-15°50.5
11	244°09.4	333°44.9	-24°10.7	170°27.3	24°59.0	244°16.7	-1°33.5	280°50.0	-15°50.5
12	259°11.8	348°44.0	-24°10.8	185°30.8	24°58.9	259°19.1	-1°33.5	295°52.2	-15°50.4
13	274°14.3	3°43.0	-24°10.9	200°34.3	24°58.9	274°21.4	-1°33.4	310°54.5	-15°50.3
14	289°16.7	18°42.0	-24°11.0	215°37.8	24°58.9	289°23.8	-1°33.3	325°56.8	-15°50.3
15	304°19.2	33°41.1	-24°11.0	230°41.3	24°58.9	304°26.1	-1°33.3	340°59.1	-15°50.2
16	319°21.7	48°40.1	-24°11.1	245°44.8	24°58.9	319°28.4	-1°33.2	356°01.4	-15°50.1
17	334°24.1	63°39.1	-24°11.2	260°48.3	24°58.8	334°30.8	-1°33.1	11°03.6	-15°50.1
18	349°26.6	78°38.1	-24°11.3	275°51.8	24°58.8	349°33.1	-1°33.1	26°05.9	-15°50.0
19	4°29.1	93°37.2	-24°11.3	290°55.3	24°58.8	4°35.4	-1°33.0	41°08.2	-15°50.0
20	19°31.5	108°36.2	-24°11.4	305°58.8	24°58.8	19°37.8	-1°32.9	56°10.5	-15°49.9
21	34°34.0	123°35.2	-24°11.5	321°02.3	24°58.8	34°40.1	-1°32.9	71°12.7	-15°49.8
22	49°36.5	138°34.2	-24°11.5	336°05.8	24°58.7	49°42.5	-1°32.8	86°15.0	-15°49.8
23	64°38.9	153°33.3	-24°11.6	351°09.3	24°58.7	64°44.8	-1°32.7	101°17.3	-15°49.7
Mer.pass.:18:42		v-1.0 d-0.1 m-3.8		v3.5 d-0.0 m-1.7		v2.3 d0.1 m-2.4		v2.3 d0.1 m0.8	

Dom	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	79°41.4	168°32.3	-24°11.7	6°12.8	24°58.7	79°47.1	-1°32.7	116°19.6	-15°49.6
1	94°43.9	183°31.3	-24°11.7	21°16.3	24°58.7	94°49.5	-1°32.6	131°21.8	-15°49.6
2	109°46.3	198°30.3	-24°11.8	36°19.8	24°58.6	109°51.8	-1°32.5	146°24.1	-15°49.5
3	124°48.8	213°29.4	-24°11.9	51°23.4	24°58.6	124°54.1	-1°32.5	161°26.4	-15°49.5
4	139°51.2	228°28.4	-24°11.9	66°26.9	24°58.6	139°56.5	-1°32.4	176°28.7	-15°49.4
5	154°53.7	243°27.4	-24°12.0	81°30.4	24°58.6	154°58.8	-1°32.3	191°30.9	-15°49.3
6	169°56.2	258°26.4	-24°12.1	96°33.9	24°58.6	170°01.1	-1°32.3	206°33.2	-15°49.3
7	184°58.6	273°25.5	-24°12.1	111°37.4	24°58.5	185°03.5	-1°32.2	221°35.5	-15°49.2
8	200°01.1	288°24.5	-24°12.2	126°40.8	24°58.5	200°05.8	-1°32.1	236°37.8	-15°49.1
9	215°03.6	303°23.5	-24°12.2	141°44.3	24°58.5	215°08.1	-1°32.0	251°40.0	-15°49.1
10	230°06.0	318°22.5	-24°12.3	156°47.8	24°58.5	230°10.5	-1°32.0	266°42.3	-15°49.0
11	245°08.5	333°21.6	-24°12.3	171°51.3	24°58.4	245°12.8	-1°31.9	281°44.6	-15°49.0
12	260°11.0	348°20.6	-24°12.4	186°54.8	24°58.4	260°15.1	-1°31.8	296°46.9	-15°48.9
13	275°13.4	3°19.6	-24°12.4	201°58.3	24°58.4	275°17.5	-1°31.8	311°49.1	-15°48.8
14	290°15.9	18°18.6	-24°12.5	217°01.8	24°58.4	290°19.8	-1°31.7	326°51.4	-15°48.8
15	305°18.4	33°17.7	-24°12.5	232°05.3	24°58.3	305°22.1	-1°31.6	341°53.7	-15°48.7
16	320°20.8	48°16.7	-24°12.6	247°08.8	24°58.3	320°24.5	-1°31.6	356°56.0	-15°48.6
17	335°23.3	63°15.7	-24°12.6	262°12.3	24°58.3	335°26.8	-1°31.5	11°58.2	-15°48.6
18	350°25.7	78°14.7	-24°12.7	277°15.8	24°58.3	350°29.1	-1°31.4	27°00.5	-15°48.5
19	5°28.2	93°13.8	-24°12.7	292°19.3	24°58.2	5°31.5	-1°31.3	42°02.8	-15°48.4
20	20°30.7	108°12.8	-24°12.7	307°22.8	24°58.2	20°33.8	-1°31.3	57°05.1	-15°48.4
21	35°33.1	123°11.8	-24°12.8	322°26.3	24°58.2	35°36.1	-1°31.2	72°07.3	-15°48.3
22	50°35.6	138°10.8	-24°12.8	337°29.8	24°58.2	50°38.4	-1°31.1	87°09.6	-15°48.3
23	65°38.1	153°09.9	-24°12.9	352°33.3	24°58.1	65°40.8	-1°31.1	102°11.9	-15°48.2
Mer.pass.:18:38		v-1.0 d-0.1 m-3.8		v3.5 d-0.0 m-1.7		v2.3 d0.1 m-2.4		v2.3 d0.1 m0.8	

Estrellas

	AHS	Dec
Alpheratz	357°36.5	29°13.2
Ankaa	353°08.7	-42°11.1
Schedar	349°32.8	56°40.0
Diphda	348°48.8	-17°51.8
Achernar	335°21.2	-57°07.5
Hamal	327°52.9	23°34.3
Polaris	314°26.4	89°21.8
Akamar	315°12.7	-40°12.9
Menkar	314°07.7	4°10.8
Mirfak	308°30.3	49°56.6
Aldebaran	290°41.3	16°33.4
Rigel	281°05.2	-8°10.5
Capella	280°24.0	46°01.3
Bellatrix	278°24.4	6°22.2
Elnath	278°03.7	28°37.6
Alnilam	275°39.2	-1°11.2
Betelgeuse	270°53.6	7°24.7
Canopus	263°52.6	-52°42.3
Sirius	258°27.3	-16°44.6
Adara	255°06.9	-29°00.1
Procyon	244°52.3	5°10.2
Pollux	243°19.0	27°58.2
Avior	234°15.0	-59°34.7
Suhail	222°47.3	-43°31.2
Miaplacidus	221°38.1	-69°48.3
Alphard	217°49.3	-8°45.3
Regulus	207°36.1	11°51.3
Dubhe	193°43.1	61°37.4
Denebola	182°26.7	14°26.7
Gienah	175°45.4	-17°40.0
Acrux	173°02.3	-63°13.2
Gacrux	171°53.8	-57°14.1
Alioth	166°14.8	55°49.9
Spica	158°24.3	-11°16.7
Alcaid	152°53.7	49°11.8
Hadar	148°38.9	-60°28.7
Menkent	148°00.0	-36°28.7
Arcturus	145°49.6	19°04.1
Rigil Kent.	139°43.2	-60°55.5
Zubenelg.	136°58.2	-16°08.1
Kochab	137°20.8	74°03.5
Alphecca	126°05.6	26°38.3
Antares	112°18.3	-26°28.9
Atria	107°14.7	-69°04.0
Sabik	102°05.1	-15°45.1
Shaula	96°13.2	-37°07.2
Rasalhague	96°00.5	12°32.7
Etamin	90°43.5	51°29.2
Kaus Aust.	83°35.2	-34°22.4
Vega	80°34.8	38°48.3
Nunki	75°50.3	-26°16.1
Altair	62°02.0	8°55.7
Peacock	53°08.9	-56°39.9
Deneb	49°27.3	45°21.9
Enif	33°40.6	9°58.8
Alnair	27°35.3	-46°51.2
Fomalhaut	15°16.5	-29°30.2
Scheat	13°46.9	28°12.5
Markab	13°31.7	15°19.8

Dic 09 Vie	AHS	Paso Merid
Venus	91°35.9	12:44
Mars	285°41.1	23:41
Jupiter	0°11.5	18:45
Saturn	36°47.1	16:20

Dic 11 Sa	AHS	Paso Merid
Venus	90°13.4	12:45
Mars	286°06.4	23:35
Jupiter	0°08.7	18:42
Saturn	36°42.7	16:16

Dic 12 Dom	AHS	Paso Merid
Venus	88°50.9	12:47
Mars	286°31.5	23:30
Jupiter	0°05.7	18:38
Saturn	36°38.2	16:12

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.3

h	Sol		Luna				
Vie	AHG	Dec	AHG	v	Dec	d	HP
0	181°58.9	-22°47.4	352°06.9	9.7	26°55.0	2.9	54.5
1	196°58.6	-22°47.7	6°35.6	9.7	26°57.8	2.8	54.5
2	211°58.4	-22°47.9	21°04.3	9.7	27°00.5	2.6	54.5
3	226°58.1	-22°48.2	35°33.0	9.7	27°03.1	2.5	54.5
4	241°57.8	-22°48.4	50°01.7	9.7	27°05.5	2.4	54.5
5	256°57.5	-22°48.6	64°30.4	9.7	27°07.8	2.2	54.5
6	271°57.3	-22°48.9	78°59.1	9.7	27°10.0	2.1	54.4
7	286°57.0	-22°49.1	93°27.8	9.7	27°12.0	2.0	54.4
8	301°56.7	-22°49.4	107°56.5	9.7	27°13.9	1.8	54.4
9	316°56.4	-22°49.6	122°25.1	9.7	27°15.7	1.7	54.4
10	331°56.1	-22°49.9	136°53.8	9.7	27°17.3	1.6	54.4
11	346°55.9	-22°50.1	151°22.5	9.7	27°18.8	1.4	54.4
12	1°55.6	-22°50.3	165°51.1	9.7	27°20.2	1.3	54.4
13	16°55.3	-22°50.6	180°19.8	9.7	27°21.4	1.1	54.4
14	31°55.0	-22°50.8	194°48.5	9.7	27°22.5	1.0	54.4
15	46°54.8	-22°51.1	209°17.2	9.7	27°23.4	0.9	54.3
16	61°54.5	-22°51.3	223°45.9	9.7	27°24.2	0.7	54.3
17	76°54.2	-22°51.5	238°14.6	9.7	27°24.9	0.6	54.3
18	91°53.9	-22°51.8	252°43.3	9.7	27°25.4	0.5	54.3
19	106°53.6	-22°52.0	267°12.0	9.7	27°25.8	0.3	54.3
20	121°53.4	-22°52.2	281°40.7	9.7	27°26.1	0.2	54.3
21	136°53.1	-22°52.5	296°09.4	9.7	27°26.2	0.1	54.3
22	151°52.8	-22°52.7	310°38.2	9.8	27°26.2	-0.1	54.3
23	166°52.5	-22°52.9	325°06.9	9.8	27°26.1	-0.2	54.3
	SD.=16.2	d=-0.2			S.D.=14.9		

Sa	AHG	Dec	AHG	v	Dec	d	HP
0	181°52.2	-22°53.2	339°35.7	9.8	27°25.8	-0.3	54.3
1	196°52.0	-22°53.4	354°04.5	9.8	27°25.4	-0.5	54.2
2	211°51.7	-22°53.6	8°33.3	9.8	27°24.8	-0.6	54.2
3	226°51.4	-22°53.8	23°02.1	9.8	27°24.1	-0.8	54.2
4	241°51.1	-22°54.1	37°31.0	9.9	27°23.3	-0.9	54.2
5	256°50.8	-22°54.3	51°59.9	9.9	27°22.4	-1.0	54.2
6	271°50.6	-22°54.5	66°28.8	9.9	27°21.3	-1.2	54.2
7	286°50.3	-22°54.8	80°57.7	9.9	27°20.0	-1.3	54.2
8	301°50.0	-22°55.0	95°26.6	10.0	27°18.7	-1.4	54.2
9	316°49.7	-22°55.2	109°55.6	10.0	27°17.2	-1.6	54.2
10	331°49.4	-22°55.4	124°24.6	10.0	27°15.6	-1.7	54.2
11	346°49.1	-22°55.6	138°53.6	10.0	27°13.8	-1.8	54.2
12	1°48.9	-22°55.9	153°22.7	10.1	27°12.0	-1.9	54.2
13	16°48.6	-22°56.1	167°51.8	10.1	27°09.9	-2.1	54.2
14	31°48.3	-22°56.3	182°20.9	10.1	27°07.8	-2.2	54.1
15	46°48.0	-22°56.5	196°50.0	10.2	27°05.5	-2.3	54.1
16	61°47.7	-22°56.7	211°19.2	10.2	27°03.1	-2.5	54.1
17	76°47.4	-22°57.0	225°48.4	10.2	27°00.6	-2.6	54.1
18	91°47.2	-22°57.2	240°17.7	10.3	26°57.9	-2.7	54.1
19	106°46.9	-22°57.4	254°47.0	10.3	26°55.1	-2.9	54.1
20	121°46.6	-22°57.6	269°16.3	10.4	26°52.2	-3.0	54.1
21	136°46.3	-22°57.8	283°45.7	10.4	26°49.2	-3.1	54.1
22	151°46.0	-22°58.0	298°15.1	10.4	26°46.0	-3.2	54.1
23	166°45.7	-22°58.2	312°44.5	10.5	26°42.7	-3.4	54.1
	SD.=16.2	d=-0.2			S.D.=14.8		

Dom	AHG	Dec	AHG	v	Dec	d	HP
0	181°45.5	-22°58.5	327°14.0	10.5	26°39.2	-3.5	54.1
1	196°45.2	-22°58.7	341°43.6	10.6	26°35.7	-3.6	54.1
2	211°44.9	-22°58.9	356°13.1	10.6	26°32.0	-3.7	54.1
3	226°44.6	-22°59.1	10°42.8	10.6	26°28.2	-3.9	54.1
4	241°44.3	-22°59.3	25°12.4	10.7	26°24.3	-4.0	54.1
5	256°44.0	-22°59.5	39°42.1	10.7	26°20.2	-4.1	54.1
6	271°43.7	-22°59.7	54°11.9	10.8	26°16.0	-4.2	54.1
7	286°43.5	-22°59.9	68°41.7	10.8	26°11.7	-4.4	54.1
8	301°43.2	-23°00.1	83°11.6	10.9	26°07.3	-4.5	54.1
9	316°42.9	-23°00.3	97°41.5	10.9	26°02.8	-4.6	54.0
10	331°42.6	-23°00.5	112°11.4	11.0	25°58.1	-4.7	54.0
11	346°42.3	-23°00.7	126°41.4	11.0	25°53.3	-4.8	54.0
12	1°42.0	-23°00.9	141°11.5	11.1	25°48.4	-5.0	54.0
13	16°41.7	-23°01.1	155°41.6	11.1	25°43.4	-5.1	54.0
14	31°41.5	-23°01.3	170°11.7	11.2	25°38.2	-5.2	54.0
15	46°41.2	-23°01.5	184°42.0	11.2	25°33.0	-5.3	54.0
16	61°40.9	-23°01.7	199°12.2	11.3	25°27.6	-5.4	54.0
17	76°40.6	-23°01.9	213°42.5	11.3	25°22.1	-5.6	54.0
18	91°40.3	-23°02.1	228°12.9	11.4	25°16.5	-5.7	54.0
19	106°40.0	-23°02.3	242°43.3	11.5	25°10.8	-5.8	54.0
20	121°39.7	-23°02.5	257°13.8	11.5	25°04.9	-5.9	54.0
21	136°39.4	-23°02.7	271°44.3	11.6	24°59.0	-6.0	54.0
22	151°39.1	-23°02.9	286°14.9	11.6	24°52.9	-6.1	54.0
23	166°38.9	-23°03.1	300°45.6	11.7	24°46.7	-6.2	54.0
	SD.=16.2	d=-0.2			S.D.=14.8		

Lat.	Crepúsculo Naut.	Crepúsculo Civil	Orto Sol	Ocaso Sol Civil	Ocaso Sol Naut.	Ocaso Sol
N 72	08:12	10:29	–:–	–:–	13:16	15:33
70	07:53	09:37	–:–	–:–	14:08	15:52
68	07:38	09:05	–:–	–:–	14:40	16:07
66	07:26	08:41	10:15	13:30	15:04	16:20
64	07:15	08:22	09:37	14:08	15:23	16:30
62	07:06	08:07	09:11	14:34	15:38	16:39
60	06:58	07:54	08:51	14:55	15:51	16:47
58	06:51	07:43	08:34	15:11	16:02	16:55
56	06:44	07:33	08:20	15:26	16:12	17:01
54	06:38	07:24	08:08	15:38	16:21	17:07
52	06:33	07:16	07:57	15:49	16:29	17:12
50	06:28	07:09	07:47	15:58	16:36	17:18
45	06:16	06:53	07:27	16:18	16:52	17:29
40	06:06	06:40	07:11	16:35	17:05	17:39
35	05:57	06:29	06:57	16:48	17:16	17:48
30	05:49	06:19	06:45	17:01	17:27	17:57
20	05:33	06:00	06:24	17:21	17:45	18:13
10	05:17	05:43	06:06	17:39	18:02	18:28
0	05:00	05:27	05:49	17:56	18:19	18:45
S 10	04:42	05:09	05:32	18:14	18:37	19:04
20	04:20	04:49	05:13	18:32	18:57	19:26
30	03:51	04:25	04:52	18:54	19:21	19:54
35	03:33	04:10	04:39	19:07	19:36	20:13
40	03:11	03:52	04:24	19:21	19:54	20:35
45	02:41	03:30	04:07	19:39	20:16	21:05
50	01:58	03:01	03:45	20:01	20:45	21:49
52	01:32	02:47	03:35	20:11	20:59	22:15
54	00:53	02:30	03:23	20:23	21:17	22:54
56	–:–	02:09	03:09	20:37	21:38	–:–
58	–:–	01:41	02:53	20:53	22:06	–:–
60	–:–	00:59	02:34	21:13	22:49	–:–

Lat.	Orto luna Vie	Orto luna Sa	Orto luna Dom	Ocaso luna Vie	Ocaso luna Sa	Ocaso luna Dom
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	–:–	–:–	–:–
68	–:–	–:–	–:–	–:–	–:–	–:–
66	–:–	–:–	–:–	–:–	–:–	–:–
64	–:–	–:–	15:35	–:–	–:–	13:54
62	13:57	14:59	16:33	11:59	12:45	12:55
60	14:49	15:47	17:06	11:07	11:56	12:22
58	15:21	16:18	17:30	10:35	11:26	11:57
56	15:45	16:41	17:50	10:11	11:02	11:37
54	16:04	16:59	18:06	09:52	10:43	11:20
52	16:20	17:15	18:20	09:36	10:27	11:06
50	16:34	17:29	18:32	09:22	10:14	10:54
45	17:03	17:57	18:57	08:53	09:45	10:28
40	17:25	18:19	19:17	08:31	09:23	10:07
35	17:44	18:37	19:34	08:13	09:05	09:50
30	18:00	18:53	19:48	07:57	08:49	09:35
20	18:27	19:19	20:13	07:30	08:22	09:10
10	18:50	19:42	20:34	07:07	07:59	08:48
0	19:12	20:03	20:53	06:45	07:37	08:28
S 10	19:34	20:25	21:13	06:24	07:15	08:07
20	19:57	20:47	21:34	06:01	06:52	07:45
30	20:24	21:14	21:58	05:34	06:25	07:19
35	20:40	21:29	22:12	05:18	06:09	07:04
40	20:59	21:47	22:28	04:59	05:50	06:47
45	21:22	22:09	22:47	04:37	05:28	06:25
50	21:51	22:37	23:11	04:09	04:59	05:58
52	22:05	22:50	23:23	03:55	04:45	05:45
54	22:22	23:05	23:36	03:39	04:28	05:30
56	22:41	23:24	23:51	03:20	04:08	05:12
58	23:06	23:46	–:–	02:57	03:44	04:50
60	23:39	–:–	00:14	02:27	03:11	04:22

Día	Sol Ec. tiempo 00:00 h	Sol Ec. tiempo 12:00 h	Sol Paso Merid	Luna Paso Meridiano Superior	Luna Paso Meridiano Inferior	Luna Edad
9	07:56	07:43	11:52	00:32	12:58	16(98%)
10	07:29	07:16	11:52	01:24	13:50	17(95%)
11	07:02	06:48	11:53	02:15	14:40	18(90%)

Diciembre 12, 13, 14 (Lun, Mar, Mie.)

	Aries	Venus		Martes		Júpiter		Saturno	
Lun	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	80°40.5	168°08.9	-24°12.9	7°36.8	24°58.1	80°43.1	-1°31.0	117°14.2	-15°48.1
1	95°43.0	183°07.9	-24°12.9	22°40.2	24°58.1	95°45.4	-1°30.9	132°16.4	-15°48.1
2	110°45.5	198°06.9	-24°13.0	37°43.7	24°58.1	110°47.8	-1°30.9	147°18.7	-15°48.0
3	125°47.9	213°06.0	-24°13.0	52°47.2	24°58.0	125°50.1	-1°30.8	162°21.0	-15°47.9
4	140°50.4	228°05.0	-24°13.0	67°50.7	24°58.0	140°52.4	-1°30.7	177°23.2	-15°47.9
5	155°52.8	243°04.0	-24°13.0	82°54.2	24°58.0	155°54.7	-1°30.6	192°25.5	-15°47.8
6	170°55.3	258°03.0	-24°13.1	97°57.7	24°58.0	170°57.1	-1°30.6	207°27.8	-15°47.7
7	185°57.8	273°02.1	-24°13.1	113°01.2	24°57.9	185°59.4	-1°30.5	222°30.1	-15°47.7
8	201°00.2	288°01.1	-24°13.1	128°04.7	24°57.9	201°01.7	-1°30.4	237°32.3	-15°47.6
9	216°02.7	303°00.1	-24°13.1	143°08.1	24°57.9	216°04.0	-1°30.3	252°34.6	-15°47.5
10	231°05.2	317°59.1	-24°13.2	158°11.6	24°57.8	231°06.4	-1°30.3	267°36.9	-15°47.5
11	246°07.6	332°58.2	-24°13.2	173°15.1	24°57.8	246°08.7	-1°30.2	282°39.1	-15°47.4
12	261°10.1	347°57.2	-24°13.2	188°18.6	24°57.8	261°11.0	-1°30.1	297°41.4	-15°47.4
13	276°12.6	2°56.2	-24°13.2	203°22.1	24°57.8	276°13.3	-1°30.1	312°43.7	-15°47.3
14	291°15.0	17°55.2	-24°13.2	218°25.6	24°57.7	291°15.7	-1°30.0	327°46.0	-15°47.2
15	306°17.5	32°54.3	-24°13.3	233°29.0	24°57.7	306°18.0	-1°29.9	342°48.2	-15°47.2
16	321°20.0	47°53.3	-24°13.3	248°32.5	24°57.7	321°20.3	-1°29.8	357°50.5	-15°47.1
17	336°22.4	62°52.3	-24°13.3	263°36.0	24°57.6	336°22.6	-1°29.8	12°52.8	-15°47.0
18	351°24.9	77°51.3	-24°13.3	278°39.5	24°57.6	351°25.0	-1°29.7	27°55.0	-15°47.0
19	6°27.3	92°50.3	-24°13.3	293°43.0	24°57.6	6°27.3	-1°29.6	42°57.3	-15°46.9
20	21°29.8	107°49.4	-24°13.3	308°46.4	24°57.6	21°29.6	-1°29.5	57°59.6	-15°46.8
21	36°32.3	122°48.4	-24°13.3	323°49.9	24°57.5	36°31.9	-1°29.5	73°01.9	-15°46.8
22	51°34.7	137°47.4	-24°13.3	338°53.4	24°57.5	51°34.3	-1°29.4	88°04.1	-15°46.7
23	66°37.2	152°46.4	-24°13.3	353°56.9	24°57.5	66°36.6	-1°29.3	103°06.4	-15°46.6
Mer.pass.:18:34		v-1.0 d-0.0 m-3.8		v3.5 d-0.0 m-1.7		v2.3 d0.1 m-2.4		v2.3 d0.1 m0.8	

Mar	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	81°39.7	167°45.5	-24°13.3	9°00.3	24°57.4	81°38.9	-1°29.2	118°08.7	-15°46.6
1	96°42.1	182°44.5	-24°13.3	24°03.8	24°57.4	96°41.2	-1°29.2	133°10.9	-15°46.5
2	111°44.6	197°43.5	-24°13.3	39°07.3	24°57.4	111°43.5	-1°29.1	148°13.2	-15°46.5
3	126°47.1	212°42.5	-24°13.3	54°10.8	24°57.3	126°45.9	-1°29.0	163°15.5	-15°46.4
4	141°49.5	227°41.6	-24°13.3	69°14.2	24°57.3	141°48.2	-1°28.9	178°17.7	-15°46.3
5	156°52.0	242°40.6	-24°13.3	84°17.7	24°57.3	156°50.5	-1°28.9	193°20.0	-15°46.3
6	171°54.5	257°39.6	-24°13.3	99°21.2	24°57.2	171°52.8	-1°28.8	208°22.3	-15°46.2
7	186°56.9	272°38.6	-24°13.3	114°24.6	24°57.2	186°55.1	-1°28.7	223°24.5	-15°46.1
8	201°59.4	287°37.7	-24°13.3	129°28.1	24°57.2	201°57.5	-1°28.6	238°26.8	-15°46.1
9	217°01.8	302°36.7	-24°13.3	144°31.6	24°57.2	216°59.8	-1°28.6	253°29.1	-15°46.0
10	232°04.3	317°35.7	-24°13.3	159°35.0	24°57.1	232°02.1	-1°28.5	268°31.4	-15°45.9
11	247°06.8	332°34.7	-24°13.3	174°38.5	24°57.1	247°04.4	-1°28.4	283°33.6	-15°45.9
12	262°09.2	347°33.8	-24°13.3	189°42.0	24°57.1	262°06.7	-1°28.3	298°35.9	-15°45.8
13	277°11.7	2°32.8	-24°13.3	204°45.4	24°57.0	277°09.1	-1°28.3	313°38.2	-15°45.7
14	292°14.2	17°31.8	-24°13.3	219°48.9	24°57.0	292°11.4	-1°28.2	328°40.4	-15°45.7
15	307°16.6	32°30.8	-24°13.2	234°52.4	24°57.0	307°13.7	-1°28.1	343°42.7	-15°45.6
16	322°19.1	47°29.9	-24°13.2	249°55.8	24°56.9	322°16.0	-1°28.0	358°45.0	-15°45.5
17	337°21.6	62°28.9	-24°13.2	264°59.3	24°56.9	337°18.3	-1°28.0	13°47.2	-15°45.5
18	352°24.0	77°27.9	-24°13.2	280°02.8	24°56.9	352°20.6	-1°27.9	28°49.5	-15°45.4
19	7°26.5	92°26.9	-24°13.2	295°06.2	24°56.8	7°22.9	-1°27.8	43°51.8	-15°45.3
20	22°29.0	107°26.0	-24°13.2	310°09.7	24°56.8	22°25.3	-1°27.7	58°54.0	-15°45.3
21	37°31.4	122°25.0	-24°13.1	325°13.1	24°56.8	37°27.6	-1°27.7	73°56.3	-15°45.2
22	52°33.9	137°24.0	-24°13.1	340°16.6	24°56.7	52°29.9	-1°27.6	88°58.6	-15°45.1
23	67°36.3	152°23.0	-24°13.1	355°20.1	24°56.7	67°32.2	-1°27.5	104°00.8	-15°45.1
Mer.pass.:18:30		v-1.0 d-0.0 m-3.8		v3.5 d-0.0 m-1.7		v2.3 d0.1 m-2.4		v2.3 d0.1 m0.8	

Mie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	82°38.8	167°22.1	-24°13.0	10°23.5	24°56.7	82°34.5	-1°27.4	119°03.1	-15°45.0
1	97°41.3	182°21.1	-24°13.0	25°27.0	24°56.6	97°36.8	-1°27.3	134°05.4	-15°44.9
2	112°43.7	197°20.1	-24°13.0	40°30.4	24°56.6	112°39.1	-1°27.3	149°07.6	-15°44.9
3	127°46.2	212°19.1	-24°13.0	55°33.9	24°56.5	127°41.5	-1°27.2	164°09.9	-15°44.8
4	142°48.7	227°18.2	-24°12.9	70°37.3	24°56.5	142°43.8	-1°27.1	179°12.2	-15°44.7
5	157°51.1	242°17.2	-24°12.9	85°40.8	24°56.5	157°46.1	-1°27.0	194°14.4	-15°44.7
6	172°53.6	257°16.2	-24°12.9	100°44.2	24°56.4	172°48.4	-1°27.0	209°16.7	-15°44.6
7	187°56.1	272°15.2	-24°12.8	115°47.7	24°56.4	187°50.7	-1°26.9	224°19.0	-15°44.5
8	202°58.5	287°14.3	-24°12.8	130°51.2	24°56.4	202°53.0	-1°26.8	239°21.2	-15°44.5
9	218°01.0	302°13.3	-24°12.7	145°54.6	24°56.3	217°55.3	-1°26.7	254°23.5	-15°44.4
10	233°03.4	317°12.3	-24°12.7	160°58.1	24°56.3	232°57.6	-1°26.6	269°25.8	-15°44.4
11	248°05.9	332°11.3	-24°12.7	176°01.5	24°56.3	248°00.0	-1°26.6	284°28.0	-15°44.3
12	263°08.4	347°10.4	-24°12.6	191°05.0	24°56.2	263°02.3	-1°26.5	299°30.3	-15°44.2
13	278°10.8	2°09.4	-24°12.6	206°08.4	24°56.2	278°04.6	-1°26.4	314°32.6	-15°44.2
14	293°13.3	17°08.4	-24°12.5	221°11.8	24°56.2	293°06.9	-1°26.3	329°34.8	-15°44.1
15	308°15.8	32°07.4	-24°12.5	236°15.3	24°56.1	308°09.2	-1°26.2	344°37.1	-15°44.0
16	323°18.2	47°06.5	-24°12.4	251°18.7	24°56.1	323°11.5	-1°26.2	359°39.4	-15°44.0
17	338°20.7	62°05.5	-24°12.4	266°22.2	24°56.0	338°13.8	-1°26.1	14°41.6	-15°43.9
18	353°23.2	77°04.5	-24°12.3	281°25.6	24°56.0	353°16.1	-1°26.0	29°43.9	-15°43.8
19	8°25.6	92°03.5	-24°12.3	296°29.1	24°56.0	8°18.4	-1°25.9	44°46.1	-15°43.8
20	23°28.1	107°02.6	-24°12.2	311°32.5	24°55.9	23°20.7	-1°25.8	59°48.4	-15°43.7
21	38°30.6	122°01.6	-24°12.2	326°36.0	24°55.9	38°23.0	-1°25.8	74°50.7	-15°43.6
22	53°33.0	137°00.6	-24°12.1	341°39.4	24°55.9	53°25.4	-1°25.7	89°52.9	-15°43.6
23	68°35.5	151°59.6	-24°12.1	356°42.8	24°55.8	68°27.7	-1°25.6	104°55.2	-15°43.5
Mer.pass.:18:26		v-1.0 d0.0 m-3.8		v3.5 d-0.0 m-1.6		v2.3 d0.1 m-2.4		v2.3 d0.1 m0.8	

Estrellas

	AHS	Dec
Alpheratz	357°36.5	29°13.2
Ankaa	353°08.7	-42°11.2
Schedar	349°32.8	56°40.0
Diphda	348°48.8	-17°51.8
Achernar	335°21.2	-57°07.5
Hamal	327°52.9	23°34.3
Polaris	314°27.0	89°21.8
Akamar	315°12.7	-40°12.9
Menkar	314°07.7	4°10.8
Mirfak	308°30.3	49°56.6
Aldebaran	290°41.3	16°33.4
Rigel	281°05.2	-8°10.5
Capella	280°24.0	46°01.3
Bellatrix	278°24.4	6°22.2
Elnath	278°03.7	28°37.6
Alnilam	275°39.1	-1°11.2
Betelgeuse	270°53.6	7°24.7
Canopus	263°52.6	-52°42.4
Sirius	258°27.3	-16°44.6
Adara	255°06.9	-29°00.1
Procyon	244°52.3	5°10.1
Pollux	243°19.0	27°58.2
Avior	234°15.0	-59°34.7
Suhail	222°47.3	-43°31.2
Miaplacidus	221°38.1	-69°48.3
Alphard	217°49.3	-8°45.4
Regulus	207°36.1	11°51.3
Dubhe	193°43.0	61°37.4
Denebola	182°26.7	14°26.6
Gienah	175°45.4	-17°40.0
Acrux	173°02.2	-63°13.2
Gacrux	171°53.7	-57°14.1
Alioth	166°14.8	55°49.9
Spica	158°24.3	-11°16.7
Alcaid	152°53.7	49°11.8
Hadar	148°38.9	-60°28.7
Menkent	147°59.9	-36°28.7
Arcturus	145°49.6	19°04.1
Rigil Kent.	139°43.2	-60°55.5
Zubenelg.	136°58.2	-16°08.1
Kochab	137°20.7	74°03.5
Alphecca	126°05.6	26°38.2
Antares	112°18.3	-26°28.9
Atria	107°14.7	-69°04.0
Sabik	102°05.1	-15°45.1
Shaula	96°13.1	-37°07.2
Rasalhague	96°00.5	12°32.7
Etamin	90°43.5	51°29.2
Kaus Aust.	83°35.2	-34°22.4
Vega	80°34.8	38°48.3
Nunki	75°50.3	-26°16.1
Altair	62°02.0	8°55.7
Peacock	53°08.9	-56°39.9
Deneb	49°27.3	45°21.9
Enif	33°40.7	9°58.8
Alnair	27°35.3	-46°51.2
Fomalhaut	15°16.5	-29°30.2
Scheat	13°46.9	28°12.5
Markab	13°31.7	15°19.8

Dic 12 Lun	AHS	Paso Merid
Venus	87°28.4	12:48
Mars	286°56.2	23:24
Jupiter	0°02.6	18:34
Saturn	36°33.6	16:09

Dic 13 Mar	AHS	Paso Merid
Venus	86°05.8	12:50
Mars	287°20.7	23:19
Jupiter	359°59.2	18:31
Saturn	36°29.0	16:05

Dic 14 Mie	AHS	Paso Merid
Venus	84°43.3	12:51
Mars	287°44.7	23:13
Jupiter	359°55.7	18:27
Saturn	36°24.3	16:01

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.3

h	Sol		Luna				
Lun	AHG	Dec	AHG	v	Dec	d	HP
0	181°38.6	-23°03.3	315°16.3	11.7	24°40.5	-6.3	54.0
1	196°38.3	-23°03.5	329°47.0	11.8	24°34.1	-6.5	54.0
2	211°38.0	-23°03.7	344°17.9	11.8	24°27.6	-6.6	54.0
3	226°37.7	-23°03.9	358°48.7	11.9	24°20.9	-6.7	54.0
4	241°37.4	-23°04.1	13°19.7	12.0	24°14.2	-6.8	54.0
5	256°37.1	-23°04.2	27°50.7	12.0	24°07.4	-6.9	54.0
6	271°36.8	-23°04.4	42°21.7	12.1	24°00.4	-7.0	54.0
7	286°36.5	-23°04.6	56°52.8	12.1	23°53.4	-7.1	54.0
8	301°36.3	-23°04.8	71°24.0	12.2	23°46.2	-7.2	54.0
9	316°36.0	-23°05.0	85°55.2	12.3	23°39.0	-7.3	54.0
10	331°35.7	-23°05.2	100°26.5	12.3	23°31.6	-7.4	54.0
11	346°35.4	-23°05.4	114°57.8	12.4	23°24.2	-7.5	54.0
12	1°35.1	-23°05.5	129°29.2	12.4	23°16.6	-7.6	54.0
13	16°34.8	-23°05.7	144°00.7	12.5	23°08.9	-7.7	54.0
14	31°34.5	-23°05.9	158°32.2	12.5	23°01.1	-7.8	54.0
15	46°34.2	-23°06.1	173°03.8	12.6	22°53.3	-7.9	54.0
16	61°33.9	-23°06.3	187°35.4	12.7	22°45.3	-8.0	54.1
17	76°33.6	-23°06.4	202°07.1	12.7	22°37.2	-8.1	54.1
18	91°33.3	-23°06.6	216°38.9	12.8	22°29.1	-8.2	54.1
19	106°33.1	-23°06.8	231°10.7	12.8	22°20.8	-8.3	54.1
20	121°32.8	-23°07.0	245°42.6	12.9	22°12.4	-8.4	54.1
21	136°32.5	-23°07.2	260°14.5	13.0	22°04.0	-8.5	54.1
22	151°32.2	-23°07.3	274°46.5	13.0	21°55.4	-8.6	54.1
23	166°31.9	-23°07.5	289°18.6	13.1	21°46.8	-8.7	54.1
	SD.=16.2	d=-0.2	S.D.=14.7				

Mar	AHG	Dec	AHG	v	Dec	d	HP
0	181°31.6	-23°07.7	303°50.7	13.1	21°38.0	-8.8	54.1
1	196°31.3	-23°07.9	318°22.8	13.2	21°29.2	-8.9	54.1
2	211°31.0	-23°08.0	332°55.1	13.3	21°20.3	-9.0	54.1
3	226°30.7	-23°08.2	347°27.3	13.3	21°11.3	-9.1	54.1
4	241°30.4	-23°08.4	1°59.7	13.4	21°02.1	-9.2	54.1
5	256°30.1	-23°08.5	16°32.1	13.4	20°52.9	-9.2	54.1
6	271°29.8	-23°08.7	31°04.5	13.5	20°43.7	-9.3	54.1
7	286°29.5	-23°08.9	45°37.0	13.5	20°34.3	-9.4	54.1
8	301°29.2	-23°09.0	60°09.6	13.6	20°24.8	-9.5	54.1
9	316°29.0	-23°09.2	74°42.2	13.6	20°15.3	-9.6	54.1
10	331°28.7	-23°09.4	89°14.9	13.7	20°05.6	-9.7	54.2
11	346°28.4	-23°09.5	103°47.6	13.8	19°55.9	-9.8	54.2
12	1°28.1	-23°09.7	118°20.4	13.8	19°46.1	-9.8	54.2
13	16°27.8	-23°09.9	132°53.3	13.9	19°36.2	-9.9	54.2
14	31°27.5	-23°10.0	147°26.1	13.9	19°26.2	-10.0	54.2
15	46°27.2	-23°10.2	161°59.1	14.0	19°16.2	-10.1	54.2
16	61°26.9	-23°10.4	176°32.1	14.0	19°06.0	-10.2	54.2
17	76°26.6	-23°10.5	191°05.1	14.1	18°55.8	-10.3	54.2
18	91°26.3	-23°10.7	205°38.2	14.1	18°45.5	-10.3	54.2
19	106°26.0	-23°10.8	220°11.4	14.2	18°35.2	-10.4	54.2
20	121°25.7	-23°11.0	234°44.6	14.2	18°24.7	-10.5	54.3
21	136°25.4	-23°11.1	249°17.9	14.3	18°14.2	-10.6	54.3
22	151°25.1	-23°11.3	263°51.2	14.3	18°03.5	-10.7	54.3
23	166°24.8	-23°11.5	278°24.5	14.4	17°52.9	-10.7	54.3
	SD.=16.2	d=-0.2	S.D.=14.8				

Mie	AHG	Dec	AHG	v	Dec	d	HP
0	181°24.5	-23°11.6	292°57.9	14.4	17°42.1	-10.8	54.3
1	196°24.2	-23°11.8	307°31.4	14.5	17°31.2	-10.9	54.3
2	211°23.9	-23°11.9	322°04.9	14.5	17°20.3	-11.0	54.3
3	226°23.6	-23°12.1	336°38.4	14.6	17°09.3	-11.0	54.3
4	241°23.3	-23°12.2	351°12.0	14.6	16°58.3	-11.1	54.3
5	256°23.0	-23°12.4	5°45.6	14.7	16°47.2	-11.2	54.4
6	271°22.7	-23°12.5	20°19.3	14.7	16°35.9	-11.2	54.4
7	286°22.4	-23°12.7	34°53.0	14.7	16°24.7	-11.3	54.4
8	301°22.2	-23°12.8	49°26.8	14.8	16°13.3	-11.4	54.4
9	316°21.9	-23°13.0	64°00.6	14.8	16°01.9	-11.5	54.4
10	331°21.6	-23°13.1	78°34.4	14.9	15°50.4	-11.5	54.4
11	346°21.3	-23°13.3	93°08.3	14.9	15°38.9	-11.6	54.4
12	1°21.0	-23°13.4	107°42.2	14.9	15°27.2	-11.7	54.5
13	16°20.7	-23°13.5	122°16.2	15.0	15°15.6	-11.7	54.5
14	31°20.4	-23°13.7	136°50.2	15.0	15°03.8	-11.8	54.5
15	46°20.1	-23°13.8	151°24.2	15.1	14°52.0	-11.9	54.5
16	61°19.8	-23°14.0	165°58.3	15.1	14°40.1	-11.9	54.5
17	76°19.5	-23°14.1	180°32.4	15.1	14°28.2	-12.0	54.5
18	91°19.2	-23°14.3	195°06.6	15.2	14°16.1	-12.0	54.6
19	106°18.9	-23°14.4	209°40.8	15.2	14°04.1	-12.1	54.6
20	121°18.6	-23°14.5	224°15.0	15.2	13°51.9	-12.2	54.6
21	136°18.3	-23°14.7	238°49.2	15.3	13°39.7	-12.2	54.6
22	151°18.0	-23°14.8	253°23.5	15.3	13°27.5	-12.3	54.6
23	166°17.7	-23°14.9	267°57.8	15.3	13°15.2	-12.3	54.6
	SD.=16.2	d=-0.2	S.D.=14.8				

Lat.	Crepúsculo Naut.	Crepúsculo Civil	Orto Sol	Crepúsculo Civil	Crepúsculo Naut.	Ocaso Sol
N 72	08:17	10:40	–:–	–:–	13:08	15:31
70	07:58	09:44	–:–	–:–	14:04	15:50
68	07:42	09:10	–:–	–:–	14:38	16:06
66	07:29	08:46	10:23	13:25	15:02	16:19
64	07:19	08:27	09:43	14:05	15:21	16:29
62	07:09	08:11	09:16	14:32	15:37	16:39
60	07:01	07:58	08:55	14:53	15:50	16:47
58	06:54	07:46	08:38	15:11	16:02	16:54
56	06:47	07:36	08:23	15:25	16:12	17:01
54	06:41	07:27	08:11	15:37	16:21	17:07
52	06:35	07:19	08:00	15:48	16:29	17:13
50	06:30	07:12	07:50	15:58	16:36	17:18
45	06:19	06:56	07:30	16:18	16:52	17:29
40	06:09	06:43	07:13	16:35	17:06	17:40
35	05:59	06:31	06:59	16:49	17:17	17:49
30	05:51	06:21	06:47	17:01	17:28	17:57
20	05:34	06:02	06:26	17:22	17:46	18:14
10	05:19	05:45	06:08	17:41	18:03	18:30
0	05:02	05:28	05:50	17:58	18:20	18:47
S 10	04:43	05:10	05:33	18:15	18:38	19:05
20	04:21	04:50	05:14	18:34	18:59	19:28
30	03:52	04:25	04:53	18:56	19:23	19:57
35	03:34	04:10	04:40	19:09	19:38	20:15
40	03:11	03:52	04:25	19:24	19:56	20:38
45	02:41	03:30	04:07	19:41	20:19	21:08
50	01:56	03:01	03:45	20:04	20:48	21:53
52	01:30	02:46	03:34	20:14	21:03	22:20
54	00:48	02:28	03:22	20:27	21:20	23:02
56	–:–	02:07	03:08	20:41	21:42	–:–
58	–:–	01:38	02:52	20:57	22:11	–:–
60	–:–	00:53	02:32	21:17	22:57	–:–

Lat.	Orto luna Lun	Orto luna Mar	Orto luna Mie	Ocaso luna Lun	Ocaso luna Mar	Ocaso luna Mie
N 72	–:–	–:–	19:46	–:–	–:–	14:33
70	–:–	17:43	20:15	–:–	15:03	14:02
68	–:–	18:33	20:36	–:–	14:11	13:39
66	16:56	19:05	20:53	14:13	13:39	13:21
64	17:41	19:28	21:07	13:27	13:15	13:06
62	18:11	19:46	21:18	12:57	12:56	12:53
60	18:33	20:01	21:28	12:34	12:40	12:43
58	18:51	20:14	21:36	12:15	12:26	12:34
56	19:06	20:25	21:43	12:00	12:15	12:25
54	19:19	20:34	21:50	11:46	12:05	12:18
52	19:30	20:43	21:56	11:35	11:55	12:12
50	19:40	20:51	22:01	11:24	11:47	12:06
45	20:01	21:07	22:12	11:02	11:30	11:53
40	20:18	21:20	22:21	10:44	11:15	11:42
35	20:32	21:31	22:29	10:29	11:03	11:33
30	20:45	21:41	22:36	10:16	10:53	11:25
20	21:06	21:58	22:49	09:54	10:34	11:11
10	21:24	22:12	22:59	09:35	10:18	10:58
0	21:41	22:26	23:09	09:16	10:03	10:47
S 10	21:57	22:39	23:19	08:58	09:47	10:35
20	22:15	22:54	23:29	08:38	09:31	10:22
30	22:36	23:10	23:41	08:16	09:12	10:08
35	22:48	23:19	23:47	08:02	09:01	09:59
40	23:02	23:30	23:55	07:47	08:48	09:50
45	23:18	23:43	–:–	07:28	08:33	09:38
50	23:38	23:58	–:–	07:05	08:14	09:24
52	23:47	–:–	00:05	06:53	08:05	09:18
54	23:58	–:–	00:13	06:40	07:55	09:11
56	–:–	00:10	00:22	06:26	07:44	09:02
58	00:09	00:23	00:32	06:08	07:31	08:53
60	00:31	00:39	00:43	05:47	07:15	08:43

Día	Sol Ec. tiempo 00:00 h	Sol Ec. tiempo 12:00 h	Sol Paso Merid	Luna Paso Meridiano Superior	Luna Paso Meridiano Inferior	Luna Edad
12	06:34	06:20	11:53	03:04	15:28	19(84%)
13	06:06	05:52	11:54	03:51	16:14	20(76%)
14	05:38	05:24	11:54	04:36	16:57	21(68%)

Diciembre 15, 16, 17 (Jue, Vie, Sa.)

	Aries	Venus		Martes		Júpiter		Saturno	
Jue	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	83°37.9	166°58.7	-24°12.0	11°46.3	24°55.8	83°30.0	-1°25.5	119°57.5	-15°43.4
1	98°40.4	181°57.7	-24°11.9	26°49.7	24°55.7	98°32.3	-1°25.4	134°59.7	-15°43.4
2	113°42.9	196°56.7	-24°11.9	41°53.1	24°55.7	113°34.6	-1°25.4	150°02.0	-15°43.3
3	128°45.3	211°55.7	-24°11.8	56°56.6	24°55.7	128°36.9	-1°25.3	165°04.3	-15°43.2
4	143°47.8	226°54.8	-24°11.8	72°00.0	24°55.6	143°39.2	-1°25.2	180°06.5	-15°43.2
5	158°50.3	241°53.8	-24°11.7	87°03.5	24°55.6	158°41.5	-1°25.1	195°08.8	-15°43.1
6	173°52.7	256°52.8	-24°11.6	102°06.9	24°55.5	173°43.8	-1°25.0	210°11.0	-15°43.0
7	188°55.2	271°51.8	-24°11.6	117°10.3	24°55.5	188°46.1	-1°25.0	225°13.3	-15°42.9
8	203°57.7	286°50.9	-24°11.5	132°13.7	24°55.5	203°48.4	-1°24.9	240°15.6	-15°42.9
9	219°00.1	301°49.9	-24°11.4	147°17.2	24°55.4	218°50.7	-1°24.8	255°17.8	-15°42.8
10	234°02.6	316°48.9	-24°11.4	162°20.6	24°55.4	233°53.0	-1°24.7	270°20.1	-15°42.7
11	249°05.1	331°48.0	-24°11.3	177°24.0	24°55.3	248°55.3	-1°24.6	285°22.4	-15°42.7
12	264°07.5	346°47.0	-24°11.2	192°27.5	24°55.3	263°57.6	-1°24.5	300°24.6	-15°42.6
13	279°10.0	1°46.0	-24°11.1	207°30.9	24°55.3	278°59.9	-1°24.5	315°26.9	-15°42.5
14	294°12.4	16°45.0	-24°11.1	222°34.3	24°55.2	294°02.2	-1°24.4	330°29.1	-15°42.5
15	309°14.9	31°44.1	-24°11.0	237°37.7	24°55.2	309°04.5	-1°24.3	345°31.4	-15°42.4
16	324°17.4	46°43.1	-24°10.9	252°41.2	24°55.1	324°06.8	-1°24.2	0°33.7	-15°42.3
17	339°19.8	61°42.1	-24°10.8	267°44.6	24°55.1	339°09.1	-1°24.1	15°35.9	-15°42.3
18	354°22.3	76°41.1	-24°10.7	282°48.0	24°55.1	354°11.4	-1°24.0	30°38.2	-15°42.2
19	9°24.8	91°40.2	-24°10.7	297°51.4	24°55.0	9°13.7	-1°24.0	45°40.5	-15°42.1
20	24°27.2	106°39.2	-24°10.6	312°54.9	24°55.0	24°16.0	-1°23.9	60°42.7	-15°42.1
21	39°29.7	121°38.2	-24°10.5	327°58.3	24°54.9	39°18.3	-1°23.8	75°45.0	-15°42.0
22	54°32.2	136°37.3	-24°10.4	343°01.7	24°54.9	54°20.6	-1°23.7	90°47.2	-15°41.9
23	69°34.6	151°36.3	-24°10.3	358°05.1	24°54.9	69°22.9	-1°23.6	105°49.5	-15°41.9
Mer.pass.:18:22		v-1.0 d0.1 m-3.8		v3.4 d-0.0 m-1.6		v2.3 d0.1 m-2.3		v2.3 d0.1 m0.8	

Vie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	84°37.1	166°35.3	-24°10.2	13°08.5	24°54.8	84°25.2	-1°23.5	120°51.8	-15°41.8
1	99°39.5	181°34.3	-24°10.1	28°12.0	24°54.8	99°27.5	-1°23.5	135°54.0	-15°41.7
2	114°42.0	196°33.4	-24°10.0	43°15.4	24°54.7	114°29.8	-1°23.4	150°56.3	-15°41.7
3	129°44.5	211°32.4	-24°09.9	58°18.8	24°54.7	129°32.1	-1°23.3	165°58.5	-15°41.6
4	144°46.9	226°31.4	-24°09.8	73°22.2	24°54.6	144°34.4	-1°23.2	181°00.8	-15°41.5
5	159°49.4	241°30.4	-24°09.8	88°25.6	24°54.6	159°36.7	-1°23.1	196°03.1	-15°41.5
6	174°51.9	256°29.5	-24°09.7	103°29.0	24°54.6	174°39.0	-1°23.0	211°05.3	-15°41.4
7	189°54.3	271°28.5	-24°09.6	118°32.4	24°54.5	189°41.3	-1°23.0	226°07.6	-15°41.3
8	204°56.8	286°27.5	-24°09.5	133°35.8	24°54.5	204°43.6	-1°22.9	241°09.8	-15°41.3
9	219°59.3	301°26.6	-24°09.4	148°39.3	24°54.4	219°45.9	-1°22.8	256°12.1	-15°41.2
10	235°01.7	316°25.6	-24°09.3	163°42.7	24°54.4	234°48.2	-1°22.7	271°14.4	-15°41.1
11	250°04.2	331°24.6	-24°09.1	178°46.1	24°54.3	249°50.5	-1°22.6	286°16.6	-15°41.1
12	265°06.7	346°23.6	-24°09.0	193°49.5	24°54.3	264°52.8	-1°22.5	301°18.9	-15°41.0
13	280°09.1	1°22.7	-24°08.9	208°52.9	24°54.3	279°55.1	-1°22.4	316°21.1	-15°40.9
14	295°11.6	16°21.7	-24°08.8	223°56.3	24°54.2	294°57.4	-1°22.4	331°23.4	-15°40.8
15	310°14.0	31°20.7	-24°08.7	238°59.7	24°54.2	309°59.7	-1°22.3	346°25.7	-15°40.8
16	325°16.5	46°19.8	-24°08.6	254°03.1	24°54.1	325°02.0	-1°22.2	1°27.9	-15°40.7
17	340°19.0	61°18.8	-24°08.5	269°06.5	24°54.1	340°04.3	-1°22.1	16°30.2	-15°40.6
18	355°21.4	76°17.8	-24°08.4	284°09.9	24°54.0	355°06.6	-1°22.0	31°32.4	-15°40.6
19	10°23.9	91°16.8	-24°08.3	299°13.3	24°54.0	10°08.9	-1°21.9	46°34.7	-15°40.5
20	25°26.4	106°15.9	-24°08.2	314°16.7	24°54.0	25°11.2	-1°21.8	61°37.0	-15°40.4
21	40°28.8	121°14.9	-24°08.0	329°20.1	24°53.9	40°13.5	-1°21.8	76°39.2	-15°40.4
22	55°31.3	136°13.9	-24°07.9	344°23.5	24°53.9	55°15.7	-1°21.7	91°41.5	-15°40.3
23	70°33.8	151°13.0	-24°07.8	359°26.9	24°53.8	70°18.0	-1°21.6	106°43.7	-15°40.2
Mer.pass.:18:18		v-1.0 d0.1 m-3.8		v3.4 d-0.0 m-1.6		v2.3 d0.1 m-2.3		v2.3 d0.1 m0.8	

Sa	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	85°36.2	166°12.0	-24°07.7	14°30.3	24°53.8	85°20.3	-1°21.5	121°46.0	-15°40.2
1	100°38.7	181°11.0	-24°07.6	29°33.7	24°53.7	100°22.6	-1°21.4	136°48.2	-15°40.1
2	115°41.2	196°10.1	-24°07.4	44°37.1	24°53.7	115°24.9	-1°21.3	151°50.5	-15°40.0
3	130°43.6	211°09.1	-24°07.3	59°40.5	24°53.6	130°27.2	-1°21.2	166°52.8	-15°40.0
4	145°46.1	226°08.1	-24°07.2	74°43.9	24°53.6	145°29.5	-1°21.2	181°55.0	-15°39.9
5	160°48.5	241°07.2	-24°07.1	89°47.2	24°53.6	160°31.8	-1°21.1	196°57.3	-15°39.8
6	175°51.0	256°06.2	-24°06.9	104°50.6	24°53.5	175°34.1	-1°21.0	211°59.5	-15°39.7
7	190°53.5	271°05.2	-24°06.8	119°54.0	24°53.5	190°36.4	-1°20.9	227°01.8	-15°39.7
8	205°55.9	286°04.2	-24°06.7	134°57.4	24°53.4	205°38.7	-1°20.8	242°04.0	-15°39.6
9	220°58.4	301°03.3	-24°06.5	150°00.8	24°53.4	220°41.0	-1°20.7	257°06.3	-15°39.5
10	236°00.9	316°02.3	-24°06.4	165°04.2	24°53.3	235°43.2	-1°20.6	272°08.6	-15°39.5
11	251°03.3	331°01.3	-24°06.3	180°07.6	24°53.3	250°45.5	-1°20.5	287°10.8	-15°39.4
12	266°05.8	346°00.4	-24°06.1	195°10.9	24°53.2	265°47.8	-1°20.5	302°13.1	-15°39.3
13	281°08.3	0°59.4	-24°06.0	210°14.3	24°53.2	280°50.1	-1°20.4	317°15.3	-15°39.3
14	296°10.7	15°58.4	-24°05.9	225°17.7	24°53.1	295°52.4	-1°20.3	332°17.6	-15°39.2
15	311°13.2	30°57.5	-24°05.7	240°21.1	24°53.1	310°54.7	-1°20.2	347°19.8	-15°39.1
16	326°15.6	45°56.5	-24°05.6	255°24.5	24°53.0	325°57.0	-1°20.1	2°22.1	-15°39.1
17	341°18.1	60°55.5	-24°05.4	270°27.8	24°53.0	340°59.3	-1°20.0	17°24.4	-15°39.0
18	356°20.6	75°54.6	-24°05.3	285°31.2	24°53.0	356°01.5	-1°19.9	32°26.6	-15°38.9
19	11°23.0	90°53.6	-24°05.1	300°34.6	24°52.9	11°03.8	-1°19.8	47°28.9	-15°38.8
20	26°25.5	105°52.6	-24°05.0	315°38.0	24°52.9	26°06.1	-1°19.7	62°31.1	-15°38.8
21	41°28.0	120°51.7	-24°04.8	330°41.3	24°52.8	41°08.4	-1°19.7	77°33.4	-15°38.7
22	56°30.4	135°50.7	-24°04.7	345°44.7	24°52.8	56°10.7	-1°19.6	92°35.6	-15°38.6
23	71°32.9	150°49.7	-24°04.5	0°48.1	24°52.7	71°13.0	-1°19.5	107°37.9	-15°38.6
Mer.pass.:18:14		v-1.0 d0.1 m-3.8		v3.4 d-0.0 m-1.6		v2.3 d0.1 m-2.3		v2.3 d0.1 m0.8	

Estrellas

	AHS	Dec
Alpheratz	357°36.5	29°13.2
Ankaa	353°08.7	-42°11.2
Schedar	349°32.8	56°40.0
Diphda	348°48.8	-17°51.8
Achernar	335°21.2	-57°07.5
Hamal	327°52.9	23°34.3
Polaris	314°27.8	89°21.8
Akamar	315°12.7	-40°12.9
Menkar	314°07.7	4°10.8
Mirfak	308°30.3	49°56.6
Aldebaran	290°41.3	16°33.4
Rigel	281°05.2	-8°10.5
Capella	280°24.0	46°01.3
Bellatrix	278°24.4	6°22.2
Elnath	278°03.7	28°37.6
Alnilam	275°39.1	-1°11.2
Betelgeuse	270°53.6	7°24.7
Canopus	263°52.6	-52°42.4
Sirius	258°27.3	-16°44.6
Adara	255°06.8	-29°00.1
Procyon	244°52.2	5°10.1
Pollux	243°19.0	27°58.2
Avior	234°14.9	-59°34.7
Suhail	222°47.3	-43°31.2
Miaplacidus	221°38.0	-69°48.3
Alphard	217°49.2	-8°45.4
Regulus	207°36.1	11°51.3
Dubhe	193°43.0	61°37.4
Denebola	182°26.6	14°26.6
Gienah	175°45.4	-17°40.0
Acrux	173°02.2	-63°13.2
Gacrux	171°53.7	-57°14.1
Alioth	166°14.7	55°49.9
Spica	158°24.3	-11°16.7
Alcaid	152°53.6	49°11.8
Hadar	148°38.9	-60°28.7
Menkent	147°59.9	-36°28.7
Arcturus	145°49.6	19°04.0
Rigil Kent.	139°43.2	-60°55.5
Zubenelg.	136°58.2	-16°08.1
Kochab	137°20.7	74°03.5
Alphecca	126°05.5	26°38.2
Antares	112°18.3	-26°28.9
Atria	107°14.6	-69°04.0
Sabik	102°05.1	-15°45.1
Shaula	96°13.1	-37°07.2
Rasalhague	96°00.5	12°32.6
Etamin	90°43.5	51°29.1
Kaus Aust.	83°35.2	-34°22.4
Vega	80°34.8	38°48.3
Nunki	75°50.3	-26°16.1
Altair	62°02.0	8°55.7
Peacock	53°08.9	-56°39.9
Deneb	49°27.3	45°21.8
Enif	33°40.7	9°58.8
Alnair	27°35.3	-46°51.2
Fomalhaut	15°16.5	-29°30.2
Scheat	13°47.0	28°12.5
Markab	13°31.7	15°19.8

Dic 15 Jue	AHS	Paso Merid
Venus	83°20.7	12:53
Mars	288°08.3	23:08
Jupiter	359°52.0	18:23
Saturn	36°19.5	15:58

Dic 16 Vie	AHS	Paso Merid
Venus	81°58.2	12:54
Mars	288°31.5	23:02
Jupiter	359°48.2	18:20
Saturn	36°14.7	15:54

Dic 17 Sa	AHS	Paso Merid
Venus	80°35.8	12:56
Mars	288°54.1	22:57
Jupiter	359°44.1	18:16
Saturn	36°09.8	15:51

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.3

h	Sol		Luna				
Jue	AHG	Dec	AHG	v	Dec	d	HP
0	181°17.4	-23°15.1	282°32.2	15.4	13°02.8	-12.4	54.7
1	196°17.1	-23°15.2	297°06.5	15.4	12°50.4	-12.5	54.7
2	211°16.8	-23°15.3	311°40.9	15.4	12°37.9	-12.5	54.7
3	226°16.5	-23°15.5	326°15.4	15.4	12°25.3	-12.6	54.7
4	241°16.2	-23°15.6	340°49.8	15.5	12°12.7	-12.6	54.7
5	256°15.9	-23°15.7	355°24.3	15.5	12°00.0	-12.7	54.8
6	271°15.6	-23°15.9	9°58.8	15.5	11°47.3	-12.7	54.8
7	286°15.3	-23°16.0	24°33.3	15.5	11°34.6	-12.8	54.8
8	301°15.0	-23°16.1	39°07.9	15.6	11°21.7	-12.9	54.8
9	316°14.7	-23°16.3	53°42.5	15.6	11°08.9	-12.9	54.8
10	331°14.4	-23°16.4	68°17.0	15.6	10°55.9	-13.0	54.9
11	346°14.1	-23°16.5	82°51.7	15.6	10°42.9	-13.0	54.9
12	1°13.8	-23°16.6	97°26.3	15.6	10°29.9	-13.1	54.9
13	16°13.5	-23°16.8	112°00.9	15.7	10°16.8	-13.1	54.9
14	31°13.2	-23°16.9	126°35.6	15.7	10°03.7	-13.2	55.0
15	46°12.9	-23°17.0	141°10.3	15.7	9°50.5	-13.2	55.0
16	61°12.6	-23°17.1	155°45.0	15.7	9°37.3	-13.3	55.0
17	76°12.3	-23°17.3	170°19.7	15.7	9°24.0	-13.3	55.0
18	91°12.0	-23°17.4	184°54.4	15.7	9°10.7	-13.4	55.1
19	106°11.7	-23°17.5	199°29.1	15.7	8°57.3	-13.4	55.1
20	121°11.4	-23°17.6	214°03.9	15.7	8°43.9	-13.4	55.1
21	136°11.1	-23°17.7	228°38.6	15.8	8°30.4	-13.5	55.1
22	151°10.8	-23°17.8	243°13.4	15.8	8°16.9	-13.5	55.2
23	166°10.5	-23°18.0	257°48.1	15.8	8°03.3	-13.6	55.2
	SD.=16.2	d=-0.1			S.D.=14.9		

Vie	AHG	Dec	AHG	v	Dec	d	HP
0	181°10.2	-23°18.1	272°22.9	15.8	7°49.7	-13.6	55.2
1	196°09.9	-23°18.2	286°57.7	15.8	7°36.1	-13.7	55.2
2	211°09.6	-23°18.3	301°32.5	15.8	7°22.4	-13.7	55.3
3	226°09.3	-23°18.4	316°07.2	15.8	7°08.7	-13.7	55.3
4	241°09.0	-23°18.5	330°42.0	15.8	6°54.9	-13.8	55.3
5	256°08.7	-23°18.6	345°16.8	15.8	6°41.1	-13.8	55.3
6	271°08.3	-23°18.8	359°51.6	15.8	6°27.3	-13.9	55.4
7	286°08.0	-23°18.9	14°26.4	15.8	6°13.4	-13.9	55.4
8	301°07.7	-23°19.0	29°01.1	15.8	5°59.5	-13.9	55.4
9	316°07.4	-23°19.1	43°35.9	15.8	5°45.5	-14.0	55.4
10	331°07.1	-23°19.2	58°10.7	15.8	5°31.5	-14.0	55.5
11	346°06.8	-23°19.3	72°45.4	15.8	5°17.5	-14.0	55.5
12	1°06.5	-23°19.4	87°20.2	15.7	5°03.4	-14.1	55.5
13	16°06.2	-23°19.5	101°54.9	15.7	4°49.3	-14.1	55.6
14	31°05.9	-23°19.6	116°29.7	15.7	4°35.2	-14.1	55.6
15	46°05.6	-23°19.7	131°04.4	15.7	4°21.0	-14.2	55.6
16	61°05.3	-23°19.8	145°39.1	15.7	4°06.8	-14.2	55.6
17	76°05.0	-23°19.9	160°13.8	15.7	3°52.6	-14.2	55.7
18	91°04.7	-23°20.0	174°48.5	15.7	3°38.3	-14.3	55.7
19	106°04.4	-23°20.1	189°23.2	15.7	3°24.1	-14.3	55.7
20	121°04.1	-23°20.2	203°57.8	15.6	3°09.7	-14.3	55.8
21	136°03.8	-23°20.3	218°32.4	15.6	2°55.4	-14.4	55.8
22	151°03.5	-23°20.4	233°07.1	15.6	2°41.0	-14.4	55.8
23	166°03.2	-23°20.5	247°41.6	15.6	2°26.6	-14.4	55.9
	SD.=16.2	d=-0.1			S.D.=15.1		

Sa	AHG	Dec	AHG	v	Dec	d	HP
0	181°02.9	-23°20.6	262°16.2	15.6	2°12.2	-14.4	55.9
1	196°02.6	-23°20.7	276°50.8	15.5	1°57.7	-14.5	55.9
2	211°02.3	-23°20.8	291°25.3	15.5	1°43.3	-14.5	56.0
3	226°02.0	-23°20.9	305°59.8	15.5	1°28.8	-14.5	56.0
4	241°01.7	-23°21.0	320°34.2	15.5	1°14.2	-14.5	56.0
5	256°01.4	-23°21.1	335°08.7	15.4	0°59.7	-14.6	56.1
6	271°01.1	-23°21.2	349°43.1	15.4	0°45.1	-14.6	56.1
7	286°00.7	-23°21.3	4°17.5	15.4	0°30.5	-14.6	56.1
8	301°00.4	-23°21.4	18°51.8	15.3	0°15.9	-14.6	56.2
9	316°00.1	-23°21.5	33°26.1	15.3	0°01.3	-14.6	56.2
10	330°59.8	-23°21.5	48°00.4	15.3	-0°13.4	-14.7	56.2
11	345°59.5	-23°21.6	62°34.6	15.2	-0°28.0	-14.7	56.3
12	0°59.2	-23°21.7	77°08.8	15.2	-0°42.7	-14.7	56.3
13	15°58.9	-23°21.8	91°43.0	15.1	-0°57.4	-14.7	56.3
14	30°58.6	-23°21.9	106°17.1	15.1	-1°12.1	-14.7	56.4
15	45°58.3	-23°22.0	120°51.2	15.1	-1°26.8	-14.7	56.4
16	60°58.0	-23°22.1	135°25.2	15.0	-1°41.6	-14.7	56.4
17	75°57.7	-23°22.1	149°59.2	15.0	-1°56.3	-14.8	56.5
18	90°57.4	-23°22.2	164°33.2	14.9	-2°11.1	-14.8	56.5
19	105°57.1	-23°22.3	179°07.1	14.9	-2°25.9	-14.8	56.5
20	120°56.8	-23°22.4	193°40.9	14.8	-2°40.6	-14.8	56.6
21	135°56.5	-23°22.5	208°14.7	14.8	-2°55.4	-14.8	56.6
22	150°56.2	-23°22.5	222°48.5	14.7	-3°10.2	-14.8	56.7
23	165°55.9	-23°22.6	237°22.2	14.7	-3°25.0	-14.8	56.7
	SD.=16.3	d=-0.1			S.D.=15.2		

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	08:21	10:49	–:–	–:–	13:02	15:30
70	08:01	09:49	–:–	–:–	14:02	15:49
68	07:46	09:14	–:–	–:–	14:36	16:05
66	07:33	08:50	10:29	13:22	15:01	16:18
64	07:22	08:30	09:47	14:04	15:21	16:29
62	07:12	08:14	09:19	14:32	15:37	16:39
60	07:04	08:01	08:58	14:53	15:50	16:47
58	06:56	07:49	08:41	15:10	16:02	16:55
56	06:50	07:39	08:26	15:25	16:12	17:01
54	06:43	07:30	08:13	15:38	16:21	17:08
52	06:38	07:22	08:02	15:49	16:29	17:13
50	06:33	07:14	07:53	15:58	16:37	17:18
45	06:21	06:58	07:32	16:19	16:53	17:30
40	06:11	06:45	07:15	16:36	17:06	17:40
35	06:01	06:33	07:01	16:50	17:18	17:50
30	05:53	06:22	06:49	17:02	17:29	17:59
20	05:36	06:04	06:28	17:23	17:47	18:15
10	05:20	05:46	06:09	17:42	18:05	18:31
0	05:03	05:29	05:52	17:59	18:22	18:48
S 10	04:44	05:11	05:34	18:17	18:40	19:07
20	04:22	04:51	05:15	18:36	19:00	19:30
30	03:53	04:26	04:53	18:58	19:25	19:59
35	03:34	04:11	04:41	19:11	19:40	20:17
40	03:11	03:53	04:26	19:26	19:59	20:40
45	02:41	03:30	04:08	19:44	20:21	21:11
50	01:56	03:01	03:45	20:06	20:51	21:56
52	01:28	02:46	03:34	20:17	21:06	22:24
54	00:44	02:28	03:22	20:29	21:24	23:09
56	–:–	02:06	03:08	20:43	21:46	–:–
58	–:–	01:37	02:51	21:00	22:15	–:–
60	–:–	00:48	02:31	21:20	23:04	–:–

	Orto luna			Ocaso luna		
Lat.	Jue	Vie	Sa	Jue	Vie	Sa
N 72	22:02	–:–	00:06	13:45	13:11	12:40
70	22:15	–:–	00:09	13:30	13:05	12:42
68	22:26	–:–	00:11	13:17	12:59	12:43
66	22:34	–:–	00:13	13:07	12:55	12:44
64	22:41	–:–	00:15	12:58	12:51	12:44
62	22:47	–:–	00:16	12:51	12:48	12:45
60	22:52	–:–	00:17	12:44	12:45	12:46
58	22:57	–:–	00:19	12:39	12:43	12:46
56	23:01	–:–	00:20	12:33	12:40	12:47
54	23:05	–:–	00:21	12:29	12:38	12:47
52	23:08	–:–	00:21	12:25	12:36	12:47
50	23:11	–:–	00:22	12:21	12:35	12:48
45	23:18	–:–	00:24	12:13	12:31	12:49
40	23:23	–:–	00:25	12:06	12:28	12:49
35	23:28	–:–	00:26	12:00	12:25	12:50
30	23:32	–:–	00:27	11:54	12:22	12:50
20	23:39	–:–	00:29	11:45	12:18	12:51
10	23:45	–:–	00:31	11:37	12:14	12:52
0	23:51	–:–	00:32	11:29	12:11	12:52
S 10	23:56	–:–	00:34	11:21	12:07	12:53
20	–:–	00:02	00:35	11:13	12:03	12:54
30	–:–	00:09	00:37	11:03	11:58	12:55
35	–:–	00:13	00:38	10:58	11:56	12:55
40	–:–	00:18	00:39	10:51	11:53	12:56
45	00:04	00:23	00:41	10:44	11:49	12:56
50	00:15	00:29	00:42	10:35	11:45	12:57
52	00:20	00:32	00:43	10:30	11:43	12:57
54	00:25	00:35	00:44	10:26	11:41	12:57
56	00:31	00:38	00:45	10:21	11:39	12:58
58	00:38	00:42	00:46	10:15	11:36	12:58
60	00:45	00:46	00:47	10:08	11:33	12:59

	Sol			Luna		
Día	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
15	05:10	04:55	11:55	05:18	17:39	22(59%)
16	04:41	04:26	11:55	06:00	18:21	23(49%)
17	04:12	03:57	11:56	06:42	19:03	24(39%)

Diciembre 18, 19, 20 (Dom, Lun, Mar.)

	Aries	Venus		Martes		Júpiter		Saturno	
Dom	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	86°35.4	165°48.8	-24°04.4	15°51.5	24°52.7	86°15.3	-1°19.4	122°40.1	-15°38.5
1	101°37.8	180°47.8	-24°04.2	30°54.8	24°52.6	101°17.5	-1°19.3	137°42.4	-15°38.4
2	116°40.3	195°46.8	-24°04.1	45°58.2	24°52.6	116°19.8	-1°19.2	152°44.7	-15°38.4
3	131°42.8	210°45.9	-24°03.9	61°01.6	24°52.5	131°22.1	-1°19.1	167°46.9	-15°38.3
4	146°45.2	225°44.9	-24°03.8	76°04.9	24°52.5	146°24.4	-1°19.0	182°49.2	-15°38.2
5	161°47.7	240°43.9	-24°03.6	91°08.3	24°52.4	161°26.7	-1°18.9	197°51.4	-15°38.1
6	176°50.1	255°43.0	-24°03.5	106°11.7	24°52.4	176°29.0	-1°18.8	212°53.7	-15°38.1
7	191°52.6	270°42.0	-24°03.3	121°15.0	24°52.3	191°31.2	-1°18.8	227°55.9	-15°38.0
8	206°55.1	285°41.0	-24°03.1	136°18.4	24°52.3	206°33.5	-1°18.7	242°58.2	-15°37.9
9	221°57.5	300°40.1	-24°03.0	151°21.7	24°52.2	221°35.8	-1°18.6	258°00.4	-15°37.9
10	237°00.0	315°39.1	-24°02.8	166°25.1	24°52.2	236°38.1	-1°18.5	273°02.7	-15°37.8
11	252°02.5	330°38.1	-24°02.6	181°28.5	24°52.1	251°40.4	-1°18.4	288°04.9	-15°37.7
12	267°04.9	345°37.2	-24°02.5	196°31.8	24°52.1	266°42.7	-1°18.3	303°07.2	-15°37.7
13	282°07.4	0°36.2	-24°02.3	211°35.2	24°52.0	281°44.9	-1°18.2	318°09.5	-15°37.6
14	297°09.9	15°35.2	-24°02.1	226°38.5	24°52.0	296°47.2	-1°18.1	333°11.7	-15°37.5
15	312°12.3	30°34.3	-24°02.0	241°41.9	24°51.9	311°49.5	-1°18.0	348°14.0	-15°37.4
16	327°14.8	45°33.3	-24°01.8	256°45.2	24°51.9	326°51.8	-1°17.9	3°16.2	-15°37.4
17	342°17.3	60°32.3	-24°01.6	271°48.6	24°51.9	341°54.1	-1°17.8	18°18.5	-15°37.3
18	357°19.7	75°31.4	-24°01.4	286°51.9	24°51.8	356°56.3	-1°17.7	33°20.7	-15°37.2
19	12°22.2	90°30.4	-24°01.3	301°55.3	24°51.8	11°58.6	-1°17.7	48°23.0	-15°37.2
20	27°24.6	105°29.5	-24°01.1	316°58.6	24°51.7	27°00.9	-1°17.6	63°25.2	-15°37.1
21	42°27.1	120°28.5	-24°00.9	332°02.0	24°51.7	42°03.2	-1°17.5	78°27.5	-15°37.0
22	57°29.6	135°27.5	-24°00.7	347°05.3	24°51.6	57°05.5	-1°17.4	93°29.7	-15°36.9
23	72°32.0	150°26.6	-24°00.5	2°08.7	24°51.6	72°07.7	-1°17.3	108°32.0	-15°36.9
Mer.pass.:18:10		v-1.0 d0.2 m-3.8		v3.4 d-0.0 m-1.6		v2.3 d0.1 m-2.3		v2.3 d0.1 m0.8	

Lun	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	87°34.5	165°25.6	-24°00.4	17°12.0	24°51.5	87°10.0	-1°17.2	123°34.2	-15°36.8
1	102°37.0	180°24.6	-24°00.2	32°15.4	24°51.5	102°12.3	-1°17.1	138°36.5	-15°36.7
2	117°39.4	195°23.7	-24°00.0	47°18.7	24°51.4	117°14.6	-1°17.0	153°38.7	-15°36.7
3	132°41.9	210°22.7	-23°59.8	62°22.1	24°51.4	132°16.8	-1°16.9	168°41.0	-15°36.6
4	147°44.4	225°21.7	-23°59.6	77°25.4	24°51.3	147°19.1	-1°16.8	183°43.2	-15°36.5
5	162°46.8	240°20.8	-23°59.4	92°28.7	24°51.3	162°21.4	-1°16.7	198°45.5	-15°36.5
6	177°49.3	255°19.8	-23°59.2	107°32.1	24°51.2	177°23.7	-1°16.6	213°47.7	-15°36.4
7	192°51.7	270°18.9	-23°59.0	122°35.4	24°51.2	192°26.0	-1°16.5	228°50.0	-15°36.3
8	207°54.2	285°17.9	-23°58.9	137°38.7	24°51.1	207°28.2	-1°16.4	243°52.2	-15°36.2
9	222°56.7	300°16.9	-23°58.7	152°42.1	24°51.1	222°30.5	-1°16.3	258°54.5	-15°36.2
10	237°59.1	315°16.0	-23°58.5	167°45.4	24°51.0	237°32.8	-1°16.3	273°56.8	-15°36.1
11	253°01.6	330°15.0	-23°58.3	182°48.7	24°51.0	252°35.1	-1°16.2	288°59.0	-15°36.0
12	268°04.1	345°14.1	-23°58.1	197°52.1	24°50.9	267°37.3	-1°16.1	304°01.3	-15°36.0
13	283°06.5	0°13.1	-23°57.9	212°55.4	24°50.9	282°39.6	-1°16.0	319°03.5	-15°35.9
14	298°09.0	15°12.1	-23°57.7	227°58.7	24°50.8	297°41.9	-1°15.9	334°05.8	-15°35.8
15	313°11.5	30°11.2	-23°57.5	243°02.1	24°50.8	312°44.2	-1°15.8	349°08.0	-15°35.7
16	328°13.9	45°10.2	-23°57.3	258°05.4	24°50.7	327°46.4	-1°15.7	4°10.3	-15°35.7
17	343°16.4	60°09.3	-23°57.1	273°08.7	24°50.7	342°48.7	-1°15.6	19°12.5	-15°35.6
18	358°18.9	75°08.3	-23°56.9	288°12.0	24°50.6	357°51.0	-1°15.5	34°14.8	-15°35.5
19	13°21.3	90°07.3	-23°56.6	303°15.4	24°50.5	12°53.2	-1°15.4	49°17.0	-15°35.5
20	28°23.8	105°06.4	-23°56.4	318°18.7	24°50.5	27°55.5	-1°15.3	64°19.3	-15°35.4
21	43°26.2	120°05.4	-23°56.2	333°22.0	24°50.4	42°57.8	-1°15.2	79°21.5	-15°35.3
22	58°28.7	135°04.5	-23°56.0	348°25.3	24°50.4	58°00.1	-1°15.1	94°23.8	-15°35.2
23	73°31.2	150°03.5	-23°55.8	3°28.6	24°50.3	73°02.3	-1°15.0	109°26.0	-15°35.2
Mer.pass.:18:06		v-1.0 d0.2 m-3.8		v3.3 d-0.0 m-1.5		v2.3 d0.1 m-2.3		v2.3 d0.1 m0.8	

Mar	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	88°33.6	165°02.5	-23°55.6	18°31.9	24°50.3	88°04.6	-1°14.9	124°28.3	-15°35.1
1	103°36.1	180°01.6	-23°55.4	33°35.3	24°50.2	103°06.9	-1°14.8	139°30.5	-15°35.0
2	118°38.6	195°00.6	-23°55.2	48°38.6	24°50.2	118°09.1	-1°14.7	154°32.8	-15°35.0
3	133°41.0	209°59.7	-23°54.9	63°41.9	24°50.1	133°11.4	-1°14.6	169°35.0	-15°34.9
4	148°43.5	224°58.7	-23°54.7	78°45.2	24°50.1	148°13.7	-1°14.5	184°37.3	-15°34.8
5	163°46.0	239°57.7	-23°54.5	93°48.5	24°50.0	163°16.0	-1°14.4	199°39.5	-15°34.7
6	178°48.4	254°56.8	-23°54.3	108°51.8	24°50.0	178°18.2	-1°14.3	214°41.8	-15°34.7
7	193°50.9	269°55.8	-23°54.1	123°55.1	24°49.9	193°20.5	-1°14.3	229°44.0	-15°34.6
8	208°53.4	284°54.9	-23°53.8	138°58.4	24°49.9	208°22.8	-1°14.2	244°46.2	-15°34.5
9	223°55.8	299°53.9	-23°53.6	154°01.7	24°49.8	223°25.0	-1°14.1	259°48.5	-15°34.4
10	238°58.3	314°53.0	-23°53.4	169°05.0	24°49.8	238°27.3	-1°14.0	274°50.7	-15°34.4
11	254°00.7	329°52.0	-23°53.2	184°08.4	24°49.7	253°29.6	-1°13.9	289°53.0	-15°34.3
12	269°03.2	344°51.0	-23°52.9	199°11.7	24°49.7	268°31.8	-1°13.8	304°55.2	-15°34.2
13	284°05.7	359°50.1	-23°52.7	214°15.0	24°49.6	283°34.1	-1°13.7	319°57.5	-15°34.2
14	299°08.1	14°49.1	-23°52.5	229°18.3	24°49.6	298°36.4	-1°13.6	334°59.7	-15°34.1
15	314°10.6	29°48.2	-23°52.2	244°21.6	24°49.5	313°38.6	-1°13.5	350°02.0	-15°34.0
16	329°13.1	44°47.2	-23°52.0	259°24.8	24°49.5	328°40.9	-1°13.4	5°04.2	-15°33.9
17	344°15.5	59°46.3	-23°51.8	274°28.1	24°49.4	343°43.2	-1°13.3	20°06.5	-15°33.9
18	359°18.0	74°45.3	-23°51.5	289°31.4	24°49.4	358°45.4	-1°13.2	35°08.7	-15°33.8
19	14°20.5	89°44.4	-23°51.3	304°34.7	24°49.3	13°47.7	-1°13.1	50°11.0	-15°33.7
20	29°22.9	104°43.4	-23°51.0	319°38.0	24°49.3	28°50.0	-1°13.0	65°13.2	-15°33.7
21	44°25.4	119°42.5	-23°50.8	334°41.3	24°49.2	43°52.2	-1°12.9	80°15.5	-15°33.6
22	59°27.8	134°41.5	-23°50.6	349°44.6	24°49.1	58°54.5	-1°12.8	95°17.7	-15°33.5
23	74°30.3	149°40.5	-23°50.3	4°47.9	24°49.1	73°56.8	-1°12.7	110°20.0	-15°33.4
Mer.pass.:18:02		v-1.0 d0.2 m-3.8		v3.3 d-0.1 m-1.5		v2.3 d0.1 m-2.3		v2.2 d0.1 m0.8	

Estrellas

	AHS	Dec
Alpheratz	357°36.5	29°13.2
Ankaa	353°08.8	-42°11.2
Schedar	349°32.9	56°40.0
Diphda	348°48.8	-17°51.8
Achernar	335°21.2	-57°07.5
Hamal	327°52.9	23°34.3
Polaris	314°28.6	89°21.8
Akamar	315°12.7	-40°12.9
Menkar	314°07.7	4°10.8
Mirfak	308°30.3	49°56.7
Aldebaran	290°41.3	16°33.4
Rigel	281°05.2	-8°10.5
Capella	280°24.0	46°01.3
Bellatrix	278°24.4	6°22.2
Elnath	278°03.7	28°37.6
Alnilam	275°39.1	-1°11.2
Betelgeuse	270°53.6	7°24.7
Canopus	263°52.6	-52°42.4
Sirius	258°27.3	-16°44.6
Adara	255°06.8	-29°00.1
Procyon	244°52.2	5°10.1
Pollux	243°19.0	27°58.2
Avior	234°14.9	-59°34.7
Suhail	222°47.3	-43°31.3
Miaplacidus	221°38.0	-69°48.3
Alphard	217°49.2	-8°45.4
Regulus	207°36.1	11°51.3
Dubhe	193°43.0	61°37.4
Denebola	182°26.6	14°26.6
Gienah	175°45.4	-17°40.0
Acrux	173°02.1	-63°13.2
Gacrux	171°53.7	-57°14.1
Alioth	166°14.7	55°49.9
Spica	158°24.2	-11°16.7
Alcaid	152°53.6	49°11.8
Hadar	148°38.8	-60°28.7
Menkent	147°59.9	-36°28.7
Arcturus	145°49.5	19°04.0
Rigil Kent.	139°43.1	-60°55.5
Zubenelg.	136°58.2	-16°08.1
Kochab	137°20.6	74°03.5
Alphecca	126°05.5	26°38.2
Antares	112°18.3	-26°28.9
Atria	107°14.6	-69°04.0
Sabik	102°05.1	-15°45.2
Shaula	96°13.1	-37°07.2
Rasalhague	96°00.5	12°32.6
Etamin	90°43.5	51°29.1
Kaus Aust.	83°35.2	-34°22.4
Vega	80°34.8	38°48.3
Nunki	75°50.3	-26°16.1
Altair	62°02.0	8°55.7
Peacock	53°08.9	-56°39.9
Deneb	49°27.3	45°21.8
Enif	33°40.7	9°58.8
Alnair	27°35.3	-46°51.2
Fomalhaut	15°16.6	-29°30.2
Scheat	13°47.0	28°12.5
Markab	13°31.7	15°19.7

Dic 18 Dom	AHS	Paso Merid
Venus	79°13.4	12:58
Mars	289°16.1	22:51
Jupiter	359°39.9	18:12
Saturn	36°04.8	15:47

Dic 19 Lun	AHS	Paso Merid
Venus	77°51.1	12:59
Mars	289°37.5	22:46
Jupiter	359°35.5	18:09
Saturn	35°59.7	15:43

Dic 20 Mar	AHS	Paso Merid
Venus	76°28.9	13:01
Mars	289°58.3	22:41
Jupiter	359°31.0	18:05
Saturn	35°54.6	15:40

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.3

h	Sol		Luna				
Dom	AHG	Dec	AHG	v	Dec	d	HP
0	180°55.5	-23°22.7	251°55.8	14.6	-3°39.8	-14.8	56.7
1	195°55.2	-23°22.8	266°29.4	14.6	-3°54.7	-14.8	56.8
2	210°54.9	-23°22.8	281°03.0	14.5	-4°09.5	-14.8	56.8
3	225°54.6	-23°22.9	295°36.4	14.4	-4°24.3	-14.8	56.8
4	240°54.3	-23°23.0	310°09.9	14.4	-4°39.1	-14.8	56.9
5	255°54.0	-23°23.1	324°43.2	14.3	-4°53.9	-14.8	56.9
6	270°53.7	-23°23.1	339°16.5	14.3	-5°08.8	-14.8	56.9
7	285°53.4	-23°23.2	353°49.7	14.2	-5°23.6	-14.8	57.0
8	300°53.1	-23°23.3	8°22.9	14.1	-5°38.4	-14.8	57.0
9	315°52.8	-23°23.3	22°56.0	14.1	-5°53.2	-14.8	57.1
10	330°52.5	-23°23.4	37°29.0	14.0	-6°08.0	-14.8	57.1
11	345°52.2	-23°23.5	52°02.0	13.9	-6°22.8	-14.8	57.1
12	0°51.9	-23°23.6	66°34.9	13.9	-6°37.6	-14.8	57.2
13	15°51.6	-23°23.6	81°07.7	13.8	-6°52.4	-14.8	57.2
14	30°51.2	-23°23.7	95°40.5	13.7	-7°07.2	-14.8	57.3
15	45°50.9	-23°23.7	110°13.2	13.6	-7°22.0	-14.8	57.3
16	60°50.6	-23°23.8	124°45.7	13.6	-7°36.7	-14.7	57.3
17	75°50.3	-23°23.9	139°18.3	13.5	-7°51.5	-14.7	57.4
18	90°50.0	-23°23.9	153°50.7	13.4	-8°06.2	-14.7	57.4
19	105°49.7	-23°24.0	168°23.1	13.3	-8°20.9	-14.7	57.5
20	120°49.4	-23°24.1	182°55.4	13.2	-8°35.6	-14.7	57.5
21	135°49.1	-23°24.1	197°27.6	13.2	-8°50.3	-14.7	57.5
22	150°48.8	-23°24.2	211°59.7	13.1	-9°04.9	-14.6	57.6
23	165°48.5	-23°24.2	226°31.7	13.0	-9°19.6	-14.6	57.6
	SD.=16.3	d=-0.1	S.D.=15.5				

Lun	AHG	Dec	AHG	v	Dec	d	HP
0	180°48.2	-23°24.3	241°03.6	12.9	-9°34.2	-14.6	57.7
1	195°47.9	-23°24.4	255°35.5	12.8	-9°48.8	-14.6	57.7
2	210°47.5	-23°24.4	270°07.2	12.7	-10°03.3	-14.6	57.7
3	225°47.2	-23°24.5	284°38.9	12.6	-10°17.9	-14.5	57.8
4	240°46.9	-23°24.5	299°10.5	12.5	-10°32.4	-14.5	57.8
5	255°46.6	-23°24.6	313°42.0	12.4	-10°46.9	-14.5	57.9
6	270°46.3	-23°24.6	328°13.4	12.3	-11°01.3	-14.4	57.9
7	285°46.0	-23°24.7	342°44.7	12.2	-11°15.7	-14.4	57.9
8	300°45.7	-23°24.7	357°15.8	12.1	-11°30.1	-14.4	58.0
9	315°45.4	-23°24.8	11°46.9	12.0	-11°44.5	-14.3	58.0
10	330°45.1	-23°24.8	26°17.9	11.9	-11°58.8	-14.3	58.1
11	345°44.8	-23°24.9	40°48.8	11.8	-12°13.1	-14.3	58.1
12	0°44.5	-23°24.9	55°19.6	11.7	-12°27.3	-14.2	58.1
13	15°44.1	-23°25.0	69°50.3	11.6	-12°41.5	-14.2	58.2
14	30°43.8	-23°25.0	84°20.9	11.5	-12°55.7	-14.1	58.2
15	45°43.5	-23°25.1	98°51.3	11.4	-13°09.8	-14.1	58.3
16	60°43.2	-23°25.1	113°21.7	11.3	-13°23.9	-14.0	58.3
17	75°42.9	-23°25.1	127°51.9	11.2	-13°37.9	-14.0	58.3
18	90°42.6	-23°25.2	142°22.1	11.1	-13°51.9	-13.9	58.4
19	105°42.3	-23°25.2	156°52.1	11.0	-14°05.8	-13.9	58.4
20	120°42.0	-23°25.3	171°22.0	10.9	-14°19.6	-13.8	58.5
21	135°41.7	-23°25.3	185°51.8	10.7	-14°33.5	-13.8	58.5
22	150°41.4	-23°25.4	200°21.5	10.6	-14°47.2	-13.7	58.5
23	165°41.0	-23°25.4	214°51.1	10.5	-15°00.9	-13.7	58.6
	SD.=16.3	d=-0.1	S.D.=15.7				

Mar	AHG	Dec	AHG	v	Dec	d	HP
0	180°40.7	-23°25.4	229°20.5	10.4	-15°14.6	-13.6	58.6
1	195°40.4	-23°25.5	243°49.9	10.3	-15°28.1	-13.5	58.7
2	210°40.1	-23°25.5	258°19.1	10.1	-15°41.6	-13.5	58.7
3	225°39.8	-23°25.5	272°48.1	10.0	-15°55.1	-13.4	58.7
4	240°39.5	-23°25.6	287°17.1	9.9	-16°08.5	-13.4	58.8
5	255°39.2	-23°25.6	301°46.0	9.8	-16°21.8	-13.3	58.8
6	270°38.9	-23°25.6	316°14.7	9.7	-16°35.0	-13.2	58.9
7	285°38.6	-23°25.7	330°43.3	9.5	-16°48.2	-13.1	58.9
8	300°38.3	-23°25.7	345°11.7	9.4	-17°01.3	-13.1	58.9
9	315°37.9	-23°25.7	359°40.1	9.3	-17°14.3	-13.0	59.0
10	330°37.6	-23°25.8	14°08.3	9.1	-17°27.3	-12.9	59.0
11	345°37.3	-23°25.8	28°36.3	9.0	-17°40.1	-12.8	59.1
12	0°37.0	-23°25.8	43°04.3	8.9	-17°52.9	-12.7	59.1
13	15°36.7	-23°25.8	57°32.1	8.8	-18°05.6	-12.7	59.1
14	30°36.4	-23°25.9	71°59.8	8.6	-18°18.2	-12.6	59.2
15	45°36.1	-23°25.9	86°27.4	8.5	-18°30.8	-12.5	59.2
16	60°35.8	-23°25.9	100°54.8	8.4	-18°43.2	-12.4	59.2
17	75°35.5	-23°25.9	115°22.1	8.2	-18°55.5	-12.3	59.3
18	90°35.1	-23°26.0	129°49.2	8.1	-19°07.8	-12.2	59.3
19	105°34.8	-23°26.0	144°16.2	8.0	-19°19.9	-12.1	59.4
20	120°34.5	-23°26.0	158°43.1	7.8	-19°32.0	-12.0	59.4
21	135°34.2	-23°26.0	173°09.9	7.7	-19°43.9	-11.9	59.4
22	150°33.9	-23°26.1	187°36.5	7.5	-19°55.8	-11.8	59.5
23	165°33.6	-23°26.1	202°02.9	7.4	-20°07.5	-11.7	59.5
	SD.=16.3	d=-0.0	S.D.=16.0				

Lat.	Crepúsculo Naut.	Crepúsculo Civil	Orto Sol	Ocaso Sol	Crepúsculo Civil	Crepúsculo Naut.
N 72	08:24	10:56	–:–	12:58	–:–	15:30
70	08:04	09:53	–:–	14:01	–:–	15:50
68	07:48	09:18	–:–	14:36	–:–	16:06
66	07:35	08:52	10:33	15:02	13:21	16:19
64	07:24	08:33	09:51	15:21	14:03	16:30
62	07:14	08:16	09:22	15:38	14:32	16:40
60	07:06	08:03	09:01	15:51	14:53	16:48
58	06:59	07:51	08:43	16:03	15:11	16:56
56	06:52	07:41	08:28	16:13	15:26	17:02
54	06:46	07:32	08:16	16:22	15:38	17:08
52	06:40	07:24	08:05	16:30	15:49	17:14
50	06:35	07:16	07:55	16:38	15:59	17:19
45	06:23	07:00	07:34	16:54	16:20	17:31
40	06:12	06:47	07:17	17:08	16:37	17:42
35	06:03	06:35	07:03	17:19	16:51	17:51
30	05:54	06:24	06:51	17:30	17:04	18:00
20	05:38	06:05	06:29	17:49	17:25	18:16
10	05:22	05:48	06:11	18:06	17:43	18:33
0	05:05	05:31	05:53	18:23	18:01	18:50
S 10	04:46	05:13	05:36	18:41	18:18	19:09
20	04:23	04:52	05:17	19:02	18:37	19:31
30	03:54	04:27	04:55	19:27	18:59	20:00
35	03:35	04:12	04:42	19:42	19:12	20:19
40	03:12	03:54	04:27	20:00	19:28	20:42
45	02:41	03:31	04:09	20:23	19:46	21:13
50	01:56	03:01	03:46	20:53	20:08	21:58
52	01:28	02:46	03:35	21:08	20:19	22:26
54	00:41	02:28	03:23	21:26	20:31	23:13
56	–:–	02:06	03:09	21:48	20:46	–:–
58	–:–	01:36	02:52	22:18	21:03	–:–
60	–:–	00:46	02:31	23:09	21:23	–:–

Lat.	Orto luna Dom	Orto luna Lun	Orto luna Mar	Ocaso luna Dom	Ocaso luna Lun	Ocaso luna Mar
N 72	02:10	04:28	07:44	12:08	11:26	09:54
70	02:04	04:09	06:43	12:17	11:48	10:58
68	01:58	03:54	06:08	12:25	12:04	11:34
66	01:54	03:42	05:44	12:32	12:18	12:00
64	01:51	03:32	05:25	12:37	12:29	12:20
62	01:48	03:24	05:09	12:42	12:39	12:37
60	01:45	03:17	04:56	12:46	12:48	12:50
58	01:42	03:11	04:45	12:50	12:55	13:02
56	01:40	03:05	04:36	12:53	13:02	13:13
54	01:38	03:00	04:27	12:56	13:07	13:22
52	01:37	02:56	04:20	12:59	13:13	13:30
50	01:35	02:52	04:13	13:02	13:18	13:38
45	01:32	02:43	03:59	13:07	13:28	13:54
40	01:29	02:36	03:47	13:12	13:37	14:07
35	01:27	02:30	03:37	13:16	13:45	14:18
30	01:25	02:25	03:29	13:19	13:51	14:28
20	01:21	02:15	03:14	13:25	14:03	14:45
10	01:18	02:07	03:01	13:31	14:13	15:00
0	01:15	02:00	02:49	13:36	14:23	15:14
S 10	01:12	01:53	02:37	13:41	14:32	15:28
20	01:09	01:45	02:25	13:47	14:43	15:43
30	01:06	01:36	02:10	13:53	14:55	16:01
35	01:04	01:31	02:02	13:57	15:02	16:11
40	01:02	01:25	01:53	14:01	15:10	16:23
45	00:59	01:19	01:42	14:06	15:19	16:37
50	00:56	01:11	01:29	14:11	15:30	16:54
52	00:55	01:07	01:23	14:14	15:35	17:02
54	00:53	01:04	01:16	14:17	15:41	17:11
56	00:52	00:59	01:09	14:20	15:47	17:21
58	00:50	00:54	01:01	14:24	15:55	17:32
60	00:48	00:49	00:51	14:28	16:03	17:46

Día	Sol Ec. tiempo 00:00 h	Sol Ec. tiempo 12:00 h	Sol Paso Merid	Luna Paso Meridiano Superior	Luna Paso Meridiano Inferior	Luna Edad
18	03:42	03:28	11:56	07:25	19:47	25(29%)
19	03:13	02:58	11:57	08:11	20:35	26(20%)
20	02:43	02:28	11:57	09:01	21:28	27(12%)

Diciembre 21, 22, 23 (Mie, Jue, Vie.)

	Aries	Venus		Martes		Júpiter		Saturno	
Mie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	89°32.8	164°39.6	-23°50.1	19°51.2	24°49.0	88°59.0	-1°12.6	125°22.2	-15°33.4
1	104°35.2	179°38.6	-23°49.8	34°54.5	24°49.0	104°01.3	-1°12.5	140°24.5	-15°33.3
2	119°37.7	194°37.7	-23°49.6	49°57.8	24°48.9	119°03.5	-1°12.4	155°26.7	-15°33.2
3	134°40.2	209°36.7	-23°49.3	65°01.0	24°48.9	134°05.8	-1°12.3	170°29.0	-15°33.1
4	149°42.6	224°35.8	-23°49.1	80°04.3	24°48.8	149°08.1	-1°12.2	185°31.2	-15°33.1
5	164°45.1	239°34.8	-23°48.8	95°07.6	24°48.8	164°10.3	-1°12.1	200°33.4	-15°33.0
6	179°47.6	254°33.9	-23°48.6	110°10.9	24°48.7	179°12.6	-1°12.0	215°35.7	-15°32.9
7	194°50.0	269°32.9	-23°48.3	125°14.2	24°48.7	194°14.9	-1°11.9	230°37.9	-15°32.9
8	209°52.5	284°32.0	-23°48.1	140°17.4	24°48.6	209°17.1	-1°11.8	245°40.2	-15°32.8
9	224°55.0	299°31.0	-23°47.8	155°20.7	24°48.6	224°19.4	-1°11.7	260°42.4	-15°32.7
10	239°57.4	314°30.1	-23°47.6	170°24.0	24°48.5	239°21.6	-1°11.6	275°44.7	-15°32.6
11	254°59.9	329°29.1	-23°47.3	185°27.3	24°48.5	254°23.9	-1°11.5	290°46.9	-15°32.6
12	270°02.3	344°28.2	-23°47.0	200°30.5	24°48.4	269°26.2	-1°11.4	305°49.2	-15°32.5
13	285°04.8	359°27.2	-23°46.8	215°33.8	24°48.3	284°28.4	-1°11.3	320°51.4	-15°32.4
14	300°07.3	14°26.3	-23°46.5	230°37.1	24°48.3	299°30.7	-1°11.2	335°53.7	-15°32.3
15	315°09.7	29°25.3	-23°46.3	245°40.3	24°48.2	314°32.9	-1°11.1	350°55.9	-15°32.3
16	330°12.2	44°24.4	-23°46.0	260°43.6	24°48.2	329°35.2	-1°11.0	5°58.1	-15°32.2
17	345°14.7	59°23.4	-23°45.7	275°46.9	24°48.1	344°37.5	-1°10.9	21°00.4	-15°32.1
18	0°17.1	74°22.5	-23°45.5	290°50.1	24°48.1	359°39.7	-1°10.8	36°02.6	-15°32.0
19	15°19.6	89°21.5	-23°45.2	305°53.4	24°48.0	14°42.0	-1°10.7	51°04.9	-15°32.0
20	30°22.1	104°20.6	-23°44.9	320°56.7	24°48.0	29°44.2	-1°10.6	66°07.1	-15°31.9
21	45°24.5	119°19.6	-23°44.7	335°59.9	24°47.9	44°46.5	-1°10.5	81°09.4	-15°31.8
22	60°27.0	134°18.7	-23°44.4	351°03.2	24°47.9	59°48.8	-1°10.4	96°11.6	-15°31.8
23	75°29.5	149°17.7	-23°44.1	6°06.4	24°47.8	74°51.0	-1°10.3	111°13.9	-15°31.7
Mer.pass.:17:58		v-1.0 d0.2 m-3.8		v3.3 d-0.1 m-1.5		v2.3 d0.1 m-2.3		v2.2 d0.1 m0.8	

Jue	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	90°31.9	164°16.8	-23°43.8	21°09.7	24°47.8	89°53.3	-1°10.2	126°16.1	-15°31.6
1	105°34.4	179°15.8	-23°43.6	36°13.0	24°47.7	104°55.5	-1°10.1	141°18.3	-15°31.5
2	120°36.8	194°14.9	-23°43.3	51°16.2	24°47.6	119°57.8	-1°10.0	156°20.6	-15°31.5
3	135°39.3	209°13.9	-23°43.0	66°19.5	24°47.6	135°00.0	-1°09.9	171°22.8	-15°31.4
4	150°41.8	224°13.0	-23°42.7	81°22.7	24°47.5	150°02.3	-1°09.8	186°25.1	-15°31.3
5	165°44.2	239°12.0	-23°42.4	96°26.0	24°47.5	165°04.5	-1°09.7	201°27.3	-15°31.2
6	180°46.7	254°11.1	-23°42.2	111°29.2	24°47.4	180°06.8	-1°09.6	216°29.6	-15°31.2
7	195°49.2	269°10.1	-23°41.9	126°32.5	24°47.4	195°09.1	-1°09.5	231°31.8	-15°31.1
8	210°51.6	284°09.2	-23°41.6	141°35.7	24°47.3	210°11.3	-1°09.4	246°34.1	-15°31.0
9	225°54.1	299°08.3	-23°41.3	156°38.9	24°47.3	225°13.6	-1°09.3	261°36.3	-15°30.9
10	240°56.6	314°07.3	-23°41.0	171°42.2	24°47.2	240°15.8	-1°09.2	276°38.5	-15°30.9
11	255°59.0	329°06.4	-23°40.7	186°45.4	24°47.2	255°18.1	-1°09.1	291°40.8	-15°30.8
12	271°01.5	344°05.4	-23°40.4	201°48.7	24°47.1	270°20.3	-1°08.9	306°43.0	-15°30.7
13	286°04.0	359°04.5	-23°40.1	216°51.9	24°47.1	285°22.6	-1°08.8	321°45.3	-15°30.6
14	301°06.4	14°03.5	-23°39.9	231°55.2	24°47.0	300°24.8	-1°08.7	336°47.5	-15°30.6
15	316°08.9	29°02.6	-23°39.6	246°58.4	24°46.9	315°27.1	-1°08.6	351°49.8	-15°30.5
16	331°11.3	44°01.6	-23°39.3	262°01.6	24°46.9	330°29.3	-1°08.5	6°52.0	-15°30.4
17	346°13.8	59°00.7	-23°39.0	277°04.9	24°46.8	345°31.6	-1°08.4	21°54.2	-15°30.3
18	1°16.3	73°59.8	-23°38.7	292°08.1	24°46.8	0°33.8	-1°08.3	36°56.5	-15°30.3
19	16°18.7	88°58.8	-23°38.4	307°11.3	24°46.7	15°36.1	-1°08.2	51°58.7	-15°30.2
20	31°21.2	103°57.9	-23°38.1	322°14.6	24°46.7	30°38.3	-1°08.1	67°01.0	-15°30.1
21	46°23.7	118°56.9	-23°37.8	337°17.8	24°46.6	45°40.6	-1°08.0	82°03.2	-15°30.0
22	61°26.1	133°56.0	-23°37.5	352°21.0	24°46.6	60°42.8	-1°07.9	97°05.4	-15°30.0
23	76°28.6	148°55.0	-23°37.2	7°24.2	24°46.5	75°45.1	-1°07.8	112°07.7	-15°29.9
Mer.pass.:17:54		v-0.9 d0.3 m-3.8		v3.3 d-0.1 m-1.5		v2.3 d0.1 m-2.3		v2.2 d0.1 m0.8	

Vie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	91°31.1	163°54.1	-23°36.9	22°27.5	24°46.5	90°47.4	-1°07.7	127°09.9	-15°29.8
1	106°33.5	178°53.2	-23°36.5	37°30.7	24°46.4	105°49.6	-1°07.6	142°12.2	-15°29.7
2	121°36.0	193°52.2	-23°36.2	52°33.9	24°46.3	120°51.8	-1°07.5	157°14.4	-15°29.7
3	136°38.5	208°51.3	-23°35.9	67°37.1	24°46.3	135°54.1	-1°07.4	172°16.7	-15°29.6
4	151°40.9	223°50.3	-23°35.6	82°40.3	24°46.2	150°56.3	-1°07.3	187°18.9	-15°29.5
5	166°43.4	238°49.4	-23°35.3	97°43.6	24°46.2	165°58.6	-1°07.2	202°21.1	-15°29.5
6	181°45.8	253°48.5	-23°35.0	112°46.8	24°46.1	181°00.8	-1°07.1	217°23.4	-15°29.4
7	196°48.3	268°47.5	-23°34.7	127°50.0	24°46.1	196°03.1	-1°07.0	232°25.6	-15°29.3
8	211°50.8	283°46.6	-23°34.4	142°53.2	24°46.0	211°05.3	-1°06.9	247°27.9	-15°29.2
9	226°53.2	298°45.6	-23°34.1	157°56.4	24°46.0	226°07.6	-1°06.8	262°30.1	-15°29.2
10	241°55.7	313°44.7	-23°33.7	172°59.6	24°45.9	241°09.8	-1°06.6	277°32.3	-15°29.1
11	256°58.2	328°43.8	-23°33.4	188°02.8	24°45.9	256°12.1	-1°06.5	292°34.6	-15°29.0
12	272°00.6	343°42.8	-23°33.1	203°06.1	24°45.8	271°14.3	-1°06.4	307°36.8	-15°28.9
13	287°03.1	358°41.9	-23°32.8	218°09.3	24°45.7	286°16.6	-1°06.3	322°39.1	-15°28.9
14	302°05.6	13°41.0	-23°32.5	233°12.5	24°45.7	301°18.8	-1°06.2	337°41.3	-15°28.8
15	317°08.0	28°40.0	-23°32.1	248°15.7	24°45.6	316°21.1	-1°06.1	352°43.5	-15°28.7
16	332°10.5	43°39.1	-23°31.8	263°18.9	24°45.6	331°23.3	-1°06.0	7°45.8	-15°28.6
17	347°13.0	58°38.1	-23°31.5	278°22.1	24°45.5	346°25.6	-1°05.9	22°48.0	-15°28.6
18	2°15.4	73°37.2	-23°31.1	293°25.3	24°45.5	1°27.8	-1°05.8	37°50.3	-15°28.5
19	17°17.9	88°36.3	-23°30.8	308°28.5	24°45.4	16°30.1	-1°05.7	52°52.5	-15°28.4
20	32°20.3	103°35.3	-23°30.5	323°31.7	24°45.4	31°32.3	-1°05.6	67°54.7	-15°28.3
21	47°22.8	118°34.4	-23°30.2	338°34.9	24°45.3	46°34.5	-1°05.5	82°57.0	-15°28.2
22	62°25.3	133°33.5	-23°29.8	353°38.1	24°45.2	61°36.8	-1°05.4	97°59.2	-15°28.2
23	77°27.7	148°32.5	-23°29.5	8°41.3	24°45.2	76°39.0	-1°05.3	113°01.5	-15°28.1
Mer.pass.:17:50		v-0.9 d0.3 m-3.8		v3.2 d-0.1 m-1.4		v2.2 d0.1 m-2.3		v2.2 d0.1 m0.8	

Estrellas

	AHS	Dec
Alpheratz	357°36.5	29°13.2
Ankaa	353°08.8	-42°11.2
Schedar	349°32.9	56°40.0
Diphda	348°48.8	-17°51.8
Achernar	335°21.2	-57°07.5
Hamal	327°53.0	23°34.3
Polaris	314°29.2	89°21.9
Akamar	315°12.8	-40°13.0
Menkar	314°07.7	4°10.8
Mirfak	308°30.3	49°56.7
Aldebaran	290°41.3	16°33.3
Rigel	281°05.2	-8°10.5
Capella	280°23.9	46°01.3
Bellatrix	278°24.4	6°22.2
Elnath	278°03.6	28°37.6
Alnilam	275°39.1	-1°11.2
Betelgeuse	270°53.6	7°24.7
Canopus	263°52.6	-52°42.4
Sirius	258°27.3	-16°44.6
Adara	255°06.8	-29°00.1
Procyon	244°52.2	5°10.1
Pollux	243°18.9	27°58.2
Avior	234°14.9	-59°34.7
Suhail	222°47.2	-43°31.3
Miaplacidus	221°38.0	-69°48.4
Alphard	217°49.2	-8°45.4
Regulus	207°36.1	11°51.3
Dubhe	193°42.9	61°37.4
Denebola	182°26.6	14°26.6
Gienah	175°45.3	-17°40.0
Acrux	173°02.1	-63°13.2
Gacrux	171°53.6	-57°14.2
Alioth	166°14.7	55°49.9
Spica	158°24.2	-11°16.7
Alcaid	152°53.6	49°11.7
Hadar	148°38.8	-60°28.7
Menkent	147°59.9	-36°28.7
Arcturus	145°49.5	19°04.0
Rigil Kent.	139°43.1	-60°55.5
Zubenelg.	136°58.2	-16°08.1
Kochab	137°20.6	74°03.4
Alphecca	126°05.5	26°38.2
Antares	112°18.3	-26°28.9
Atria	107°14.6	-69°04.0
Sabik	102°05.1	-15°45.2
Shaula	96°13.1	-37°07.2
Rasalhague	96°00.5	12°32.6
Etamin	90°43.5	51°29.1
Kaus Aust.	83°35.2	-34°22.4
Vega	80°34.8	38°48.3
Nunki	75°50.2	-26°16.1
Altair	62°02.0	8°55.7
Peacock	53°08.9	-56°39.9
Deneb	49°27.3	45°21.8
Enif	33°40.7	9°58.8
Alnair	27°35.3	-46°51.2
Fomalhaut	15°16.6	-29°30.2
Scheat	13°47.0	28°12.5
Markab	13°31.7	15°19.7

Dic 21 Mie	AHS	Paso Merid
Venus	75°06.8	13:02
Mars	290°18.4	22:36
Jupiter	359°26.2	18:01
Saturn	35°49.4	15:36

Dic 22 Jue	AHS	Paso Merid
Venus	73°44.9	13:04
Mars	290°37.8	22:30
Jupiter	359°21.3	17:58
Saturn	35°44.2	15:33

Dic 23 Vie	AHS	Paso Merid
Venus	72°23.0	13:05
Mars	290°56.4	22:25
Jupiter	359°16.3	17:54
Saturn	35°38.9	15:29

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.2

h	Sol		Luna				
Mie	AHG	Dec	AHG	v	Dec	d	HP
0	180°33.3	-23°26.1	216°29.3	7.3	-20°19.1	-11.6	59.5
1	195°33.0	-23°26.1	230°55.5	7.1	-20°30.7	-11.5	59.6
2	210°32.7	-23°26.1	245°21.5	7.0	-20°42.1	-11.4	59.6
3	225°32.4	-23°26.1	259°47.5	6.9	-20°53.4	-11.2	59.7
4	240°32.0	-23°26.2	274°13.3	6.7	-21°04.6	-11.1	59.7
5	255°31.7	-23°26.2	288°38.9	6.6	-21°15.6	-11.0	59.7
6	270°31.4	-23°26.2	303°04.4	6.4	-21°26.6	-10.9	59.8
7	285°31.1	-23°26.2	317°29.8	6.3	-21°37.4	-10.8	59.8
8	300°30.8	-23°26.2	331°55.0	6.2	-21°48.1	-10.6	59.8
9	315°30.5	-23°26.2	346°20.1	6.0	-21°58.7	-10.5	59.9
10	330°30.2	-23°26.2	0°45.1	5.9	-22°09.1	-10.4	59.9
11	345°29.9	-23°26.2	15°09.9	5.8	-22°19.4	-10.2	59.9
12	0°29.5	-23°26.2	29°34.6	5.6	-22°29.6	-10.1	60.0
13	15°29.2	-23°26.3	43°59.1	5.5	-22°39.6	-10.0	60.0
14	30°28.9	-23°26.3	58°23.5	5.3	-22°49.5	-9.8	60.0
15	45°28.6	-23°26.3	72°47.8	5.2	-22°59.3	-9.7	60.1
16	60°28.3	-23°26.3	87°12.0	5.1	-23°08.9	-9.5	60.1
17	75°28.0	-23°26.3	101°36.0	4.9	-23°18.4	-9.4	60.1
18	90°27.7	-23°26.3	115°59.9	4.8	-23°27.7	-9.3	60.2
19	105°27.4	-23°26.3	130°23.6	4.7	-23°36.9	-9.1	60.2
20	120°27.1	-23°26.3	144°47.2	4.5	-23°45.9	-9.0	60.2
21	135°26.7	-23°26.3	159°10.7	4.4	-23°54.8	-8.8	60.3
22	150°26.4	-23°26.3	173°34.0	4.3	-24°03.5	-8.6	60.3
23	165°26.1	-23°26.3	187°57.3	4.2	-24°12.1	-8.5	60.3
	SD.=16.3	d=-0.0			S.D.=16.2		

Jue	AHG	Dec	AHG	v	Dec	d	HP
0	180°25.8	-23°26.3	202°20.4	4.0	-24°20.5	-8.3	60.3
1	195°25.5	-23°26.3	216°43.3	3.9	-24°28.7	-8.2	60.4
2	210°25.2	-23°26.3	231°06.2	3.8	-24°36.8	-8.0	60.4
3	225°24.9	-23°26.3	245°28.9	3.7	-24°44.7	-7.8	60.4
4	240°24.6	-23°26.3	259°51.5	3.5	-24°52.5	-7.7	60.5
5	255°24.3	-23°26.3	274°14.0	3.4	-25°00.0	-7.5	60.5
6	270°23.9	-23°26.3	288°36.3	3.3	-25°07.4	-7.3	60.5
7	285°23.6	-23°26.3	302°58.6	3.2	-25°14.7	-7.1	60.5
8	300°23.3	-23°26.2	317°20.7	3.1	-25°21.7	-7.0	60.6
9	315°23.0	-23°26.2	331°42.7	3.0	-25°28.6	-6.8	60.6
10	330°22.7	-23°26.2	346°04.6	2.8	-25°35.3	-6.6	60.6
11	345°22.4	-23°26.2	0°26.4	2.7	-25°41.8	-6.4	60.6
12	0°22.1	-23°26.2	14°48.1	2.6	-25°48.1	-6.2	60.7
13	15°21.8	-23°26.2	29°09.7	2.5	-25°54.3	-6.0	60.7
14	30°21.4	-23°26.2	43°31.2	2.4	-26°00.2	-5.9	60.7
15	45°21.1	-23°26.2	57°52.5	2.3	-26°06.0	-5.7	60.7
16	60°20.8	-23°26.2	72°13.8	2.2	-26°11.6	-5.5	60.7
17	75°20.5	-23°26.1	86°35.0	2.1	-26°17.0	-5.3	60.8
18	90°20.2	-23°26.1	100°56.1	2.0	-26°22.1	-5.1	60.8
19	105°19.9	-23°26.1	115°17.1	2.0	-26°27.1	-4.9	60.8
20	120°19.6	-23°26.1	129°38.0	1.9	-26°31.9	-4.7	60.8
21	135°19.3	-23°26.1	143°58.9	1.8	-26°36.5	-4.5	60.9
22	150°19.0	-23°26.1	158°19.6	1.7	-26°40.9	-4.3	60.9
23	165°18.6	-23°26.0	172°40.3	1.6	-26°45.1	-4.1	60.9
	SD.=16.3	d=0.0			S.D.=16.5		

Vie	AHG	Dec	AHG	v	Dec	d	HP
0	180°18.3	-23°26.0	187°00.9	1.6	-26°49.1	-3.9	60.9
1	195°18.0	-23°26.0	201°21.4	1.5	-26°52.9	-3.7	60.9
2	210°17.7	-23°26.0	215°41.8	1.4	-26°56.5	-3.5	60.9
3	225°17.4	-23°25.9	230°02.2	1.3	-26°59.9	-3.3	61.0
4	240°17.1	-23°25.9	244°22.5	1.3	-27°03.1	-3.1	61.0
5	255°16.8	-23°25.9	258°42.8	1.2	-27°06.0	-2.9	61.0
6	270°16.5	-23°25.9	273°03.0	1.2	-27°08.8	-2.7	61.0
7	285°16.1	-23°25.8	287°23.1	1.1	-27°11.3	-2.4	61.0
8	300°15.8	-23°25.8	301°43.2	1.1	-27°13.7	-2.2	61.0
9	315°15.5	-23°25.8	316°03.3	1.0	-27°15.8	-2.0	61.0
10	330°15.2	-23°25.8	330°23.3	1.0	-27°17.7	-1.8	61.1
11	345°14.9	-23°25.7	344°43.2	0.9	-27°19.4	-1.6	61.1
12	0°14.6	-23°25.7	359°03.2	0.9	-27°20.9	-1.4	61.1
13	15°14.3	-23°25.7	13°23.1	0.9	-27°22.2	-1.2	61.1
14	30°14.0	-23°25.6	27°42.9	0.8	-27°23.2	-0.9	61.1
15	45°13.6	-23°25.6	42°02.8	0.8	-27°24.1	-0.7	61.1
16	60°13.3	-23°25.6	56°22.6	0.8	-27°24.7	-0.5	61.1
17	75°13.0	-23°25.5	70°42.4	0.8	-27°25.1	-0.3	61.1
18	90°12.7	-23°25.5	85°02.1	0.8	-27°25.3	-0.1	61.1
19	105°12.4	-23°25.5	99°21.9	0.8	-27°25.2	0.1	61.2
20	120°12.1	-23°25.4	113°41.7	0.8	-27°25.0	0.4	61.2
21	135°11.8	-23°25.4	128°01.4	0.8	-27°24.5	0.6	61.2
22	150°11.5	-23°25.3	142°21.2	0.8	-27°23.8	0.8	61.2
23	165°11.2	-23°25.3	156°40.9	0.8	-27°22.9	1.0	61.2
	SD.=16.3	d=0.0			S.D.=16.6		

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	08:26	10:58	–:–	–:–	12:59	15:31
70	08:06	09:55	–:–	–:–	14:02	15:51
68	07:50	09:20	–:–	–:–	14:38	16:07
66	07:37	08:54	10:35	13:22	15:03	16:20
64	07:26	08:34	09:52	14:05	15:23	16:31
62	07:16	08:18	09:24	14:33	15:39	16:41
60	07:08	08:05	09:02	14:55	15:52	16:49
58	07:00	07:53	08:45	15:12	16:04	16:57
56	06:53	07:43	08:30	15:27	16:14	17:04
54	06:47	07:33	08:17	15:40	16:24	17:10
52	06:42	07:25	08:06	15:51	16:32	17:16
50	06:36	07:18	07:56	16:01	16:39	17:21
45	06:24	07:02	07:36	16:22	16:55	17:33
40	06:14	06:48	07:19	16:38	17:09	17:43
35	06:05	06:36	07:04	16:53	17:21	17:52
30	05:56	06:26	06:52	17:05	17:31	18:01
20	05:39	06:07	06:31	17:26	17:50	18:18
10	05:23	05:49	06:12	17:45	18:08	18:34
0	05:06	05:32	05:55	18:02	18:25	18:51
S 10	04:47	05:14	05:37	18:20	18:43	19:10
20	04:24	04:54	05:18	18:39	19:03	19:33
30	03:55	04:29	04:56	19:01	19:28	20:02
35	03:37	04:13	04:43	19:14	19:44	20:21
40	03:13	03:55	04:28	19:29	20:02	20:44
45	02:43	03:32	04:10	19:47	20:25	21:14
50	01:57	03:03	03:47	20:10	20:54	22:00
52	01:29	02:47	03:36	20:21	21:10	22:28
54	00:42	02:29	03:24	20:33	21:28	23:15
56	–:–	02:07	03:10	20:47	21:50	–:–
58	–:–	01:37	02:53	21:04	22:20	–:–
60	–:–	00:46	02:32	21:25	23:11	–:–

	Orto luna			Ocaso luna		
Lat.	Mie	Jue	Vie	Mie	Jue	Vie
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	–:–	–:–	–:–	–:–
68	–:–	–:–	–:–	–:–	–:–	–:–
66	08:13	–:–	–:–	11:25	–:–	–:–
64	07:33	10:26	–:–	12:06	11:21	–:–
62	07:05	09:12	11:15	12:35	12:35	12:51
60	06:44	08:37	10:16	12:57	13:12	13:50
58	06:27	08:11	09:43	13:15	13:38	14:23
56	06:12	07:50	09:18	13:30	13:59	14:48
54	06:00	07:34	08:58	13:43	14:16	15:08
52	05:49	07:19	08:42	13:55	14:31	15:25
50	05:39	07:07	08:27	14:05	14:44	15:39
45	05:19	06:41	07:58	14:26	15:10	16:09
40	05:03	06:20	07:35	14:44	15:31	16:32
35	04:49	06:03	07:17	14:59	15:49	16:51
30	04:37	05:49	07:00	15:12	16:04	17:07
20	04:17	05:24	06:33	15:34	16:30	17:34
10	03:59	05:03	06:10	15:53	16:53	17:58
0	03:43	04:43	05:48	16:11	17:13	18:20
S 10	03:27	04:23	05:26	16:29	17:34	18:42
20	03:10	04:03	05:03	16:48	17:57	19:05
30	02:50	03:39	04:36	17:11	18:23	19:33
35	02:39	03:25	04:21	17:24	18:38	19:49
40	02:26	03:08	04:02	17:39	18:56	20:08
45	02:11	02:49	03:40	17:58	19:18	20:30
50	01:53	02:25	03:12	18:21	19:45	20:59
52	01:44	02:14	02:59	18:31	19:59	21:13
54	01:34	02:01	02:43	18:44	20:14	21:29
56	01:23	01:46	02:25	18:58	20:32	21:49
58	01:11	01:28	02:02	19:15	20:55	22:13
60	00:56	01:07	01:33	19:36	21:23	22:44

	Sol			Luna		
Día	Ec. tiempo 00:00 h	Ec. tiempo 12:00 h	Paso Merid	Paso Meridiano Superior	Paso Meridiano Inferior	Edad
21	02:13	01:58	11:58	09:56	22:26	28(5%)
22	01:43	01:28	11:58	10:58	23:30	29(1%)
23	01:13	00:58	11:59	12:03	00:37	0(0%)

Diciembre 24, 25, 26 (Sa, Dom, Lun.)

	Aries	Venus		Martes		Júpiter		Saturno	
Sa	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	92°30.2	163°31.6	-23°29.2	23°44.4	24°45.1	91°41.3	-1°05.2	128°03.7	-15°28.0
1	107°32.7	178°30.7	-23°28.8	38°47.6	24°45.1	106°43.5	-1°05.0	143°05.9	-15°27.9
2	122°35.1	193°29.7	-23°28.5	53°50.8	24°45.0	121°45.8	-1°04.9	158°08.2	-15°27.9
3	137°37.6	208°28.8	-23°28.1	68°54.0	24°45.0	136°48.0	-1°04.8	173°10.4	-15°27.8
4	152°40.1	223°27.9	-23°27.8	83°57.2	24°44.9	151°50.2	-1°04.7	188°12.6	-15°27.7
5	167°42.5	238°26.9	-23°27.5	99°00.4	24°44.9	166°52.5	-1°04.6	203°14.9	-15°27.6
6	182°45.0	253°26.0	-23°27.1	114°03.6	24°44.8	181°54.7	-1°04.5	218°17.1	-15°27.6
7	197°47.5	268°25.1	-23°26.8	129°06.8	24°44.8	196°57.0	-1°04.4	233°19.4	-15°27.5
8	212°49.9	283°24.1	-23°26.4	144°09.9	24°44.7	211°59.2	-1°04.3	248°21.6	-15°27.4
9	227°52.4	298°23.2	-23°26.1	159°13.1	24°44.6	227°01.4	-1°04.2	263°23.8	-15°27.3
10	242°54.8	313°22.3	-23°25.7	174°16.3	24°44.6	242°03.7	-1°04.1	278°26.1	-15°27.3
11	257°57.3	328°21.3	-23°25.4	189°19.5	24°44.5	257°05.9	-1°04.0	293°28.3	-15°27.2
12	272°59.8	343°20.4	-23°25.0	204°22.6	24°44.5	272°08.2	-1°03.9	308°30.6	-15°27.1
13	288°02.2	358°19.5	-23°24.7	219°25.8	24°44.4	287°10.4	-1°03.7	323°32.8	-15°27.0
14	303°04.7	13°18.5	-23°24.3	234°29.0	24°44.4	302°12.6	-1°03.6	338°35.0	-15°27.0
15	318°07.2	28°17.6	-23°24.0	249°32.2	24°44.3	317°14.9	-1°03.5	353°37.3	-15°26.9
16	333°09.6	43°16.7	-23°23.6	264°35.3	24°44.3	332°17.1	-1°03.4	8°39.5	-15°26.8
17	348°12.1	58°15.8	-23°23.3	279°38.5	24°44.2	347°19.4	-1°03.3	23°41.7	-15°26.7
18	3°14.6	73°14.8	-23°22.9	294°41.7	24°44.2	2°21.6	-1°03.2	38°44.0	-15°26.7
19	18°17.0	88°13.9	-23°22.5	309°44.8	24°44.1	17°23.8	-1°03.1	53°46.2	-15°26.6
20	33°19.5	103°13.0	-23°22.2	324°48.0	24°44.0	32°26.1	-1°03.0	68°48.4	-15°26.5
21	48°22.0	118°12.0	-23°21.8	339°51.1	24°44.0	47°28.3	-1°02.9	83°50.7	-15°26.4
22	63°24.4	133°11.1	-23°21.5	354°54.3	24°43.9	62°30.6	-1°02.8	98°52.9	-15°26.4
23	78°26.9	148°10.2	-23°21.1	9°57.5	24°43.9	77°32.8	-1°02.6	113°55.2	-15°26.3
Mer.pass.:17:47		v-0.9 d0.3 m-3.8		v3.2 d-0.1 m-1.4		v2.2 d0.1 m-2.3		v2.2 d0.1 m0.8	

Dom	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	93°29.3	163°09.3	-23°20.7	25°00.6	24°43.8	92°35.0	-1°02.5	128°57.4	-15°26.2
1	108°31.8	178°08.3	-23°20.4	40°03.8	24°43.8	107°37.3	-1°02.4	143°59.6	-15°26.1
2	123°34.3	193°07.4	-23°20.0	55°06.9	24°43.7	122°39.5	-1°02.3	159°01.9	-15°26.0
3	138°36.7	208°06.5	-23°19.6	70°10.1	24°43.7	137°41.7	-1°02.2	174°04.1	-15°26.0
4	153°39.2	223°05.6	-23°19.3	85°13.2	24°43.6	152°44.0	-1°02.1	189°06.3	-15°25.9
5	168°41.7	238°04.6	-23°18.9	100°16.4	24°43.6	167°46.2	-1°02.0	204°08.6	-15°25.8
6	183°44.1	253°03.7	-23°18.5	115°19.5	24°43.5	182°48.4	-1°01.9	219°10.8	-15°25.7
7	198°46.6	268°02.8	-23°18.1	130°22.7	24°43.4	197°50.7	-1°01.8	234°13.0	-15°25.7
8	213°49.1	283°01.9	-23°17.8	145°25.8	24°43.4	212°52.9	-1°01.6	249°15.3	-15°25.6
9	228°51.5	298°00.9	-23°17.4	160°29.0	24°43.3	227°55.1	-1°01.5	264°17.5	-15°25.5
10	243°54.0	313°00.0	-23°17.0	175°32.1	24°43.3	242°57.4	-1°01.4	279°19.8	-15°25.4
11	258°56.5	327°59.1	-23°16.6	190°35.3	24°43.2	257°59.6	-1°01.3	294°22.0	-15°25.4
12	273°58.9	342°58.2	-23°16.3	205°38.4	24°43.2	273°01.8	-1°01.2	309°24.2	-15°25.3
13	289°01.4	357°57.2	-23°15.9	220°41.5	24°43.1	288°04.1	-1°01.1	324°26.5	-15°25.2
14	304°03.8	12°56.3	-23°15.5	235°44.7	24°43.1	303°06.3	-1°01.0	339°28.7	-15°25.1
15	319°06.3	27°55.4	-23°15.1	250°47.8	24°43.0	318°08.5	-1°00.9	354°30.9	-15°25.1
16	334°08.8	42°54.5	-23°14.7	265°51.0	24°43.0	333°10.8	-1°00.8	9°33.2	-15°25.0
17	349°11.2	57°53.6	-23°14.3	280°54.1	24°42.9	348°13.0	-1°00.6	24°35.4	-15°24.9
18	4°13.7	72°52.6	-23°14.0	295°57.2	24°42.8	3°15.2	-1°00.5	39°37.6	-15°24.8
19	19°16.2	87°51.7	-23°13.6	311°00.3	24°42.8	18°17.5	-1°00.4	54°39.9	-15°24.7
20	34°18.6	102°50.8	-23°13.2	326°03.5	24°42.7	33°19.7	-1°00.3	69°42.1	-15°24.7
21	49°21.1	117°49.9	-23°12.8	341°06.6	24°42.7	48°21.9	-1°00.2	84°44.3	-15°24.6
22	64°23.6	132°49.0	-23°12.4	356°09.7	24°42.6	63°24.2	-1°00.1	99°46.6	-15°24.5
23	79°26.0	147°48.0	-23°12.0	11°12.9	24°42.6	78°26.4	-1°00.0	114°48.8	-15°24.4
Mer.pass.:17:43		v-0.9 d0.4 m-3.8		v3.2 d-0.1 m-1.4		v2.2 d0.1 m-2.3		v2.2 d0.1 m0.8	

Lun	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	94°28.5	162°47.1	-23°11.6	26°16.0	24°42.5	93°28.6	-0°59.8	129°51.0	-15°24.4
1	109°31.0	177°46.2	-23°11.2	41°19.1	24°42.5	108°30.9	-0°59.7	144°53.3	-15°24.3
2	124°33.4	192°45.3	-23°10.8	56°22.2	24°42.4	123°33.1	-0°59.6	159°55.5	-15°24.2
3	139°35.9	207°44.4	-23°10.4	71°25.3	24°42.4	138°35.3	-0°59.5	174°57.7	-15°24.1
4	154°38.3	222°43.5	-23°10.0	86°28.5	24°42.3	153°37.5	-0°59.4	190°00.0	-15°24.1
5	169°40.8	237°42.5	-23°09.6	101°31.6	24°42.3	168°39.8	-0°59.3	205°02.2	-15°24.0
6	184°43.3	252°41.6	-23°09.2	116°34.7	24°42.2	183°42.0	-0°59.2	220°04.4	-15°23.9
7	199°45.7	267°40.7	-23°08.8	131°37.8	24°42.1	198°44.2	-0°59.1	235°06.7	-15°23.8
8	214°48.2	282°39.8	-23°08.4	146°40.9	24°42.1	213°46.5	-0°58.9	250°08.9	-15°23.7
9	229°50.7	297°38.9	-23°08.0	161°44.0	24°42.0	228°48.7	-0°58.8	265°11.1	-15°23.7
10	244°53.1	312°38.0	-23°07.6	176°47.1	24°42.0	243°50.9	-0°58.7	280°13.4	-15°23.6
11	259°55.6	327°37.0	-23°07.2	191°50.2	24°41.9	258°53.1	-0°58.6	295°15.6	-15°23.5
12	274°58.1	342°36.1	-23°06.8	206°53.3	24°41.9	273°55.4	-0°58.5	310°17.8	-15°23.4
13	290°00.5	357°35.2	-23°06.4	221°56.4	24°41.8	288°57.6	-0°58.4	325°20.1	-15°23.4
14	305°03.0	12°34.3	-23°05.9	236°59.5	24°41.8	303°59.8	-0°58.3	340°22.3	-15°23.3
15	320°05.4	27°33.4	-23°05.5	252°02.6	24°41.7	319°02.0	-0°58.1	355°24.5	-15°23.2
16	335°07.9	42°32.5	-23°05.1	267°05.7	24°41.7	334°04.3	-0°58.0	10°26.8	-15°23.1
17	350°10.4	57°31.6	-23°04.7	282°08.8	24°41.6	349°06.5	-0°57.9	25°29.0	-15°23.0
18	5°12.8	72°30.6	-23°04.3	297°11.9	24°41.6	4°08.7	-0°57.8	40°31.2	-15°23.0
19	20°15.3	87°29.7	-23°03.9	312°15.0	24°41.5	19°10.9	-0°57.7	55°33.5	-15°22.9
20	35°17.8	102°28.8	-23°03.4	327°18.1	24°41.4	34°13.2	-0°57.6	70°35.7	-15°22.8
21	50°20.2	117°27.9	-23°03.0	342°21.2	24°41.4	49°15.4	-0°57.4	85°37.9	-15°22.7
22	65°22.7	132°27.0	-23°02.6	357°24.3	24°41.3	64°17.6	-0°57.3	100°40.2	-15°22.7
23	80°25.2	147°26.1	-23°02.2	12°27.4	24°41.3	79°19.8	-0°57.2	115°42.4	-15°22.6
Mer.pass.:17:39		v-0.9 d0.4 m-3.8		v3.1 d-0.1 m-1.4		v2.2 d0.1 m-2.3		v2.2 d0.1 m0.8	

Estrellas

	AHS	Dec
Alpheratz	357°36.5	29°13.2
Ankaa	353°08.8	-42°11.2
Schedar	349°32.9	56°40.0
Diphda	348°48.8	-17°51.8
Achernar	335°21.3	-57°07.5
Hamal	327°52.9	23°34.3
Polaris	314°29.8	89°21.9
Akamar	315°12.8	-40°13.0
Menkar	314°07.7	4°10.8
Mirfak	308°30.3	49°56.7
Aldebaran	290°41.2	16°33.3
Rigel	281°05.2	-8°10.5
Capella	280°23.9	46°01.3
Bellatrix	278°24.4	6°22.2
Elnath	278°03.6	28°37.6
Alnilam	275°39.1	-1°11.3
Betelgeuse	270°53.6	7°24.7
Canopus	263°52.6	-52°42.4
Sirius	258°27.3	-16°44.6
Adara	255°06.8	-29°00.1
Procyon	244°52.2	5°10.1
Pollux	243°18.9	27°58.2
Avior	234°14.9	-59°34.8
Suhail	222°47.2	-43°31.3
Miaplacidus	221°37.9	-69°48.4
Alphard	217°49.2	-8°45.4
Regulus	207°36.0	11°51.3
Dubhe	193°42.9	61°37.4
Denebola	182°26.6	14°26.6
Gienah	175°45.3	-17°40.0
Acrux	173°02.0	-63°13.2
Gacrux	171°53.6	-57°14.2
Alioth	166°14.6	55°49.9
Spica	158°24.2	-11°16.7
Alcaid	152°53.6	49°11.7
Hadar	148°38.7	-60°28.7
Menkent	147°59.8	-36°28.7
Arcturus	145°49.5	19°04.0
Rigil Kent.	139°43.0	-60°55.5
Zubenelg.	136°58.1	-16°08.1
Kochab	137°20.6	74°03.4
Alphecca	126°05.5	26°38.2
Antares	112°18.2	-26°28.9
Atria	107°14.5	-69°04.0
Sabik	102°05.1	-15°45.2
Shaula	96°13.1	-37°07.2
Rasalhague	96°00.5	12°32.6
Etamin	90°43.5	51°29.1
Kaus Aust.	83°35.1	-34°22.4
Vega	80°34.8	38°48.2
Nunki	75°50.2	-26°16.1
Altair	62°02.0	8°55.7
Peacock	53°08.9	-56°39.8
Deneb	49°27.3	45°21.8
Enif	33°40.7	9°58.8
Alnair	27°35.3	-46°51.2
Fomalhaut	15°16.6	-29°30.2
Scheat	13°47.0	28°12.5
Markab	13°31.7	15°19.7

Dic 24 Sa	AHS	Paso Merid
Venus	71°01.4	13:07
Mars	291°14.2	22:20
Jupiter	359°11.1	17:51
Saturn	35°33.5	15:25

Dic 25 Dom	AHS	Paso Merid
Venus	69°39.9	13:08
Mars	291°31.3	22:15
Jupiter	359°05.7	17:47
Saturn	35°28.1	15:22

Dic 26 Lun	AHS	Paso Merid
Venus	68°18.6	13:10
Mars	291°47.5	22:10
Jupiter	359°00.1	17:43
Saturn	35°22.6	15:18

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.2

h	Sol		Luna				
Sa	AHG	Dec	AHG	v	Dec	d	HP
0	180°10.8	-23°25.3	171°00.7	0.8	-27°21.8	1.2	61.2
1	195°10.5	-23°25.2	185°20.5	0.8	-27°20.5	1.4	61.2
2	210°10.2	-23°25.2	199°40.3	0.8	-27°18.9	1.7	61.2
3	225°09.9	-23°25.1	214°00.1	0.8	-27°17.2	1.9	61.2
4	240°09.6	-23°25.1	228°19.9	0.8	-27°15.2	2.1	61.2
5	255°09.3	-23°25.0	242°39.7	0.9	-27°13.0	2.3	61.2
6	270°09.0	-23°25.0	256°59.6	0.9	-27°10.6	2.5	61.2
7	285°08.7	-23°25.0	271°19.5	0.9	-27°08.0	2.7	61.2
8	300°08.4	-23°24.9	285°39.5	1.0	-27°05.1	2.9	61.2
9	315°08.0	-23°24.9	299°59.4	1.0	-27°02.1	3.2	61.2
10	330°07.7	-23°24.8	314°19.5	1.0	-26°58.8	3.4	61.2
11	345°07.4	-23°24.8	328°39.5	1.1	-26°55.3	3.6	61.2
12	0°07.1	-23°24.7	342°59.7	1.1	-26°51.6	3.8	61.2
13	15°06.8	-23°24.7	357°19.8	1.2	-26°47.7	4.0	61.2
14	30°06.5	-23°24.6	11°40.0	1.3	-26°43.6	4.2	61.2
15	45°06.2	-23°24.6	26°00.3	1.3	-26°39.3	4.4	61.2
16	60°05.9	-23°24.5	40°20.7	1.4	-26°34.8	4.6	61.2
17	75°05.5	-23°24.4	54°41.1	1.4	-26°30.0	4.8	61.2
18	90°05.2	-23°24.4	69°01.5	1.5	-26°25.1	5.0	61.2
19	105°04.9	-23°24.3	83°22.1	1.6	-26°20.0	5.2	61.2
20	120°04.6	-23°24.3	97°42.7	1.7	-26°14.6	5.4	61.2
21	135°04.3	-23°24.2	112°03.4	1.7	-26°09.1	5.6	61.2
22	150°04.0	-23°24.2	126°24.2	1.8	-26°03.3	5.8	61.2
23	165°03.7	-23°24.1	140°45.0	1.9	-25°57.4	6.0	61.1
	SD.=16.3	d=0.0	S.D.=16.7				

Dom	AHG	Dec	AHG	v	Dec	d	HP
0	180°03.4	-23°24.0	155°06.0	2.0	-25°51.3	6.2	61.1
1	195°03.1	-23°24.0	169°27.0	2.1	-25°44.9	6.4	61.1
2	210°02.7	-23°23.9	183°48.1	2.2	-25°38.4	6.6	61.1
3	225°02.4	-23°23.9	198°09.3	2.3	-25°31.7	6.8	61.1
4	240°02.1	-23°23.8	212°30.6	2.3	-25°24.8	7.0	61.1
5	255°01.8	-23°23.7	226°52.0	2.4	-25°17.7	7.2	61.1
6	270°01.5	-23°23.7	241°13.5	2.5	-25°10.4	7.4	61.1
7	285°01.2	-23°23.6	255°35.1	2.6	-25°03.0	7.6	61.1
8	300°00.9	-23°23.5	269°56.8	2.7	-24°55.3	7.7	61.0
9	315°00.6	-23°23.5	284°18.6	2.9	-24°47.5	7.9	61.0
10	330°00.3	-23°23.4	298°40.5	3.0	-24°39.5	8.1	61.0
11	344°59.9	-23°23.3	313°02.5	3.1	-24°31.3	8.3	61.0
12	359°59.6	-23°23.3	327°24.6	3.2	-24°23.0	8.4	61.0
13	14°59.3	-23°23.2	341°46.9	3.3	-24°14.4	8.6	61.0
14	29°59.0	-23°23.1	356°09.2	3.4	-24°05.7	8.8	61.0
15	44°58.7	-23°23.0	10°31.7	3.5	-23°56.9	9.0	60.9
16	59°58.4	-23°23.0	24°54.3	3.6	-23°47.8	9.1	60.9
17	74°58.1	-23°22.9	39°17.0	3.8	-23°38.6	9.3	60.9
18	89°57.8	-23°22.8	53°39.8	3.9	-23°29.2	9.4	60.9
19	104°57.5	-23°22.7	68°02.7	4.0	-23°19.7	9.6	60.9
20	119°57.2	-23°22.7	82°25.8	4.1	-23°10.0	9.8	60.9
21	134°56.8	-23°22.6	96°49.0	4.2	-23°00.2	9.9	60.8
22	149°56.5	-23°22.5	111°12.3	4.4	-22°50.2	10.1	60.8
23	164°56.2	-23°22.4	125°35.7	4.5	-22°40.0	10.2	60.8
	SD.=16.3	d=0.1	S.D.=16.7				

Lun	AHG	Dec	AHG	v	Dec	d	HP
0	179°55.9	-23°22.4	139°59.3	4.6	-22°29.7	10.4	60.8
1	194°55.6	-23°22.3	154°22.9	4.7	-22°19.3	10.5	60.8
2	209°55.3	-23°22.2	168°46.7	4.9	-22°08.7	10.7	60.7
3	224°55.0	-23°22.1	183°10.7	5.0	-21°58.0	10.8	60.7
4	239°54.7	-23°22.0	197°34.7	5.1	-21°47.1	10.9	60.7
5	254°54.4	-23°21.9	211°58.9	5.3	-21°36.1	11.1	60.7
6	269°54.1	-23°21.9	226°23.2	5.4	-21°24.9	11.2	60.7
7	284°53.7	-23°21.8	240°47.7	5.5	-21°13.6	11.4	60.6
8	299°53.4	-23°21.7	255°12.3	5.6	-21°02.2	11.5	60.6
9	314°53.1	-23°21.6	269°37.0	5.8	-20°50.7	11.6	60.6
10	329°52.8	-23°21.5	284°01.8	5.9	-20°39.0	11.7	60.6
11	344°52.5	-23°21.4	298°26.8	6.0	-20°27.2	11.9	60.5
12	359°52.2	-23°21.3	312°51.8	6.2	-20°15.3	12.0	60.5
13	14°51.9	-23°21.2	327°17.1	6.3	-20°03.2	12.1	60.5
14	29°51.6	-23°21.1	341°42.4	6.4	-19°51.0	12.2	60.5
15	44°51.3	-23°21.1	356°07.9	6.5	-19°38.8	12.3	60.4
16	59°51.0	-23°21.0	10°33.5	6.7	-19°26.4	12.5	60.4
17	74°50.7	-23°20.9	24°59.2	6.8	-19°13.8	12.6	60.4
18	89°50.3	-23°20.8	39°25.1	6.9	-19°01.2	12.7	60.4
19	104°50.0	-23°20.7	53°51.1	7.1	-18°48.5	12.8	60.3
20	119°49.7	-23°20.6	68°17.2	7.2	-18°35.7	12.9	60.3
21	134°49.4	-23°20.5	82°43.5	7.3	-18°22.7	13.0	60.3
22	149°49.1	-23°20.4	97°09.8	7.4	-18°09.7	13.1	60.3
23	164°48.8	-23°20.3	111°36.4	7.6	-17°56.6	13.2	60.2
	SD.=16.3	d=0.1	S.D.=16.6				

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	08:27	10:57	–:–	–:–	13:03	15:33
70	08:07	09:55	–:–	–:–	14:05	15:53
68	07:51	09:20	–:–	–:–	14:40	16:09
66	07:38	08:55	10:35	13:25	15:05	16:22
64	07:27	08:35	09:53	14:07	15:25	16:33
62	07:17	08:19	09:25	14:35	15:41	16:43
60	07:09	08:06	09:03	14:57	15:54	16:51
58	07:01	07:54	08:46	15:14	16:06	16:59
56	06:55	07:44	08:31	15:29	16:16	17:06
54	06:48	07:35	08:18	15:42	16:25	17:12
52	06:43	07:26	08:07	15:53	16:34	17:17
50	06:37	07:19	07:58	16:03	16:41	17:23
45	06:26	07:03	07:37	16:23	16:57	17:34
40	06:15	06:49	07:20	16:40	17:11	17:45
35	06:06	06:38	07:06	16:54	17:22	17:54
30	05:57	06:27	06:53	17:07	17:33	18:03
20	05:41	06:08	06:32	17:28	17:52	18:19
10	05:25	05:51	06:14	17:46	18:09	18:36
0	05:08	05:34	05:56	18:04	18:26	18:53
S 10	04:49	05:16	05:39	18:21	18:44	19:11
20	04:26	04:55	05:20	18:40	19:05	19:34
30	03:57	04:30	04:58	19:02	19:30	20:03
35	03:38	04:15	04:45	19:15	19:45	20:22
40	03:15	03:57	04:30	19:30	20:03	20:45
45	02:44	03:34	04:12	19:48	20:26	21:15
50	01:59	03:04	03:49	20:11	20:55	22:01
52	01:31	02:49	03:38	20:22	21:11	22:29
54	00:45	02:31	03:26	20:34	21:28	23:14
56	–:–	02:09	03:12	20:48	21:51	–:–
58	–:–	01:39	02:55	21:05	22:20	–:–
60	–:–	00:49	02:34	21:25	23:10	–:–

	Orto luna			Ocaso luna		
Lat.	Sa	Dom	Lun	Sa	Dom	Lun
N 72	–:–	–:–	–:–	–:–	–:–	–:–
70	–:–	–:–	14:46	–:–	–:–	16:07
68	–:–	–:–	13:32	–:–	–:–	17:20
66	–:–	–:–	12:54	–:–	–:–	17:56
64	–:–	12:47	12:27	–:–	15:57	18:22
62	12:03	12:07	12:06	14:25	16:36	18:42
60	11:15	11:39	11:49	15:12	17:04	18:58
58	10:45	11:18	11:35	15:42	17:25	19:12
56	10:22	11:00	11:22	16:05	17:42	19:23
54	10:03	10:45	11:11	16:24	17:57	19:34
52	09:47	10:32	11:02	16:40	18:09	19:43
50	09:33	10:20	10:53	16:54	18:20	19:51
45	09:04	09:56	10:34	17:21	18:44	20:08
40	08:42	09:36	10:19	17:43	19:02	20:21
35	08:23	09:20	10:06	18:02	19:17	20:33
30	08:07	09:06	09:55	18:17	19:31	20:43
20	07:40	08:42	09:35	18:43	19:53	21:01
10	07:17	08:21	09:18	19:06	20:13	21:16
0	06:55	08:01	09:02	19:27	20:31	21:30
S 10	06:34	07:41	08:46	19:48	20:49	21:43
20	06:10	07:20	08:29	20:10	21:08	21:58
30	05:43	06:56	08:09	20:36	21:30	22:15
35	05:27	06:41	07:57	20:51	21:42	22:24
40	05:09	06:25	07:44	21:08	21:57	22:35
45	04:46	06:04	07:28	21:29	22:14	22:48
50	04:18	05:39	07:08	21:55	22:35	23:03
52	04:04	05:27	06:59	22:08	22:45	23:10
54	03:47	05:13	06:48	22:22	22:56	23:18
56	03:28	04:56	06:36	22:39	23:09	23:27
58	03:04	04:37	06:22	22:59	23:24	23:37
60	02:33	04:12	06:06	23:25	23:41	23:49

	Sol			Luna		
Día	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
24	00:43	00:28	11:59	13:11	00:37	1(2%)
25	00:13	00:01	12:00	14:16	01:44	2(7%)
26	00:16	00:31	12:00	15:16	02:46	3(14%)

Diciembre 27, 28, 29 (Mar, Mie, Jue.)

	Aries	Venus		Martes		Júpiter		Saturno	
Mar	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	95°27.6	162°25.2	-23°01.8	27°30.5	24°41.2	94°22.1	-0°57.1	130°44.6	-15°22.5
1	110°30.1	177°24.3	-23°01.3	42°33.6	24°41.2	109°24.3	-0°57.0	145°46.9	-15°22.4
2	125°32.6	192°23.4	-23°00.9	57°36.6	24°41.1	124°26.5	-0°56.9	160°49.1	-15°22.3
3	140°35.0	207°22.5	-23°00.5	72°39.7	24°41.1	139°28.7	-0°56.7	175°51.3	-15°22.3
4	155°37.5	222°21.5	-23°00.1	87°42.8	24°41.0	154°31.0	-0°56.6	190°53.5	-15°22.2
5	170°39.9	237°20.6	-22°59.6	102°45.9	24°41.0	169°33.2	-0°56.5	205°55.8	-15°22.1
6	185°42.4	252°19.7	-22°59.2	117°49.0	24°40.9	184°35.4	-0°56.4	220°58.0	-15°22.0
7	200°44.9	267°18.8	-22°58.8	132°52.0	24°40.9	199°37.6	-0°56.3	236°00.2	-15°22.0
8	215°47.3	282°17.9	-22°58.3	147°55.1	24°40.8	214°39.8	-0°56.2	251°02.5	-15°21.9
9	230°49.8	297°17.0	-22°57.9	162°58.2	24°40.8	229°42.1	-0°56.0	266°04.7	-15°21.8
10	245°52.3	312°16.1	-22°57.5	178°01.3	24°40.7	244°44.3	-0°55.9	281°06.9	-15°21.7
11	260°54.7	327°15.2	-22°57.0	193°04.3	24°40.6	259°46.5	-0°55.8	296°09.2	-15°21.6
12	275°57.2	342°14.3	-22°56.6	208°07.4	24°40.6	274°48.7	-0°55.7	311°11.4	-15°21.6
13	290°59.7	357°13.4	-22°56.1	223°10.5	24°40.5	289°50.9	-0°55.6	326°13.6	-15°21.5
14	306°02.1	12°12.5	-22°55.7	238°13.5	24°40.5	304°53.2	-0°55.5	341°15.9	-15°21.4
15	321°04.6	27°11.6	-22°55.3	253°16.6	24°40.4	319°55.4	-0°55.3	356°18.1	-15°21.3
16	336°07.1	42°10.7	-22°54.8	268°19.7	24°40.4	334°57.6	-0°55.2	11°20.3	-15°21.2
17	351°09.5	57°09.8	-22°54.4	283°22.7	24°40.3	349°59.8	-0°55.1	26°22.5	-15°21.2
18	6°12.0	72°08.9	-22°53.9	298°25.8	24°40.3	5°02.0	-0°55.0	41°24.8	-15°21.1
19	21°14.4	87°08.0	-22°53.5	313°28.8	24°40.2	20°04.3	-0°54.9	56°27.0	-15°21.0
20	36°16.9	102°07.1	-22°53.0	328°31.9	24°40.2	35°06.5	-0°54.8	71°29.2	-15°20.9
21	51°19.4	117°06.2	-22°52.6	343°35.0	24°40.1	50°08.7	-0°54.6	86°31.5	-15°20.9
22	66°21.8	132°05.3	-22°52.1	358°38.0	24°40.1	65°10.9	-0°54.5	101°33.7	-15°20.8
23	81°24.3	147°04.4	-22°51.7	13°41.1	24°40.0	80°13.1	-0°54.4	116°35.9	-15°20.7
Mer.pass.:17:35		v-0.9 d0.4 m-3.8		v3.1 d-0.1 m-1.3		v2.2 d0.1 m-2.2		v2.2 d0.1 m0.8	

Mie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	96°26.8	162°03.5	-22°51.2	28°44.1	24°40.0	95°15.3	-0°54.3	131°38.1	-15°20.6
1	111°29.2	177°02.6	-22°50.8	43°47.2	24°39.9	110°17.6	-0°54.2	146°40.4	-15°20.5
2	126°31.7	192°01.7	-22°50.3	58°50.2	24°39.9	125°19.8	-0°54.0	161°42.6	-15°20.5
3	141°34.2	207°00.8	-22°49.9	73°53.3	24°39.8	140°22.0	-0°53.9	176°44.8	-15°20.4
4	156°36.6	221°59.9	-22°49.4	88°56.3	24°39.8	155°24.2	-0°53.8	191°47.1	-15°20.3
5	171°39.1	236°59.0	-22°48.9	103°59.3	24°39.7	170°26.4	-0°53.7	206°49.3	-15°20.2
6	186°41.6	251°58.1	-22°48.5	119°02.4	24°39.7	185°28.6	-0°53.6	221°51.5	-15°20.1
7	201°44.0	266°57.2	-22°48.0	134°05.4	24°39.6	200°30.9	-0°53.4	236°53.7	-15°20.1
8	216°46.5	281°56.3	-22°47.6	149°08.5	24°39.6	215°33.1	-0°53.3	251°56.0	-15°20.0
9	231°48.9	296°55.4	-22°47.1	164°11.5	24°39.5	230°35.3	-0°53.2	266°58.2	-15°19.9
10	246°51.4	311°54.5	-22°46.6	179°14.5	24°39.4	245°37.5	-0°53.1	282°00.4	-15°19.8
11	261°53.9	326°53.6	-22°46.2	194°17.6	24°39.4	260°39.7	-0°53.0	297°02.7	-15°19.7
12	276°56.3	341°52.7	-22°45.7	209°20.6	24°39.3	275°41.9	-0°52.8	312°04.9	-15°19.7
13	291°58.8	356°51.8	-22°45.2	224°23.6	24°39.3	290°44.1	-0°52.7	327°07.1	-15°19.6
14	307°01.3	11°50.9	-22°44.8	239°26.7	24°39.2	305°46.4	-0°52.6	342°09.3	-15°19.5
15	322°03.7	26°50.0	-22°44.3	254°29.7	24°39.2	320°48.6	-0°52.5	357°11.6	-15°19.4
16	337°06.2	41°49.1	-22°43.8	269°32.7	24°39.1	335°50.8	-0°52.4	12°13.8	-15°19.3
17	352°08.7	56°48.2	-22°43.3	284°35.7	24°39.1	350°53.0	-0°52.2	27°16.0	-15°19.3
18	7°11.1	71°47.3	-22°42.9	299°38.8	24°39.0	5°55.2	-0°52.1	42°18.3	-15°19.2
19	22°13.6	86°46.4	-22°42.4	314°41.8	24°39.0	20°57.4	-0°52.0	57°20.5	-15°19.1
20	37°16.0	101°45.5	-22°41.9	329°44.8	24°38.9	35°59.6	-0°51.9	72°22.7	-15°19.0
21	52°18.5	116°44.7	-22°41.4	344°47.8	24°38.9	51°01.8	-0°51.8	87°24.9	-15°19.0
22	67°21.0	131°43.8	-22°40.9	359°50.8	24°38.8	66°04.0	-0°51.6	102°27.2	-15°18.9
23	82°23.4	146°42.9	-22°40.5	14°53.8	24°38.8	81°06.3	-0°51.5	117°29.4	-15°18.8
Mer.pass.:17:31		v-0.9 d0.5 m-3.8		v3.0 d-0.1 m-1.3		v2.2 d0.1 m-2.2		v2.2 d0.1 m0.8	

Jue	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	97°25.9	161°42.0	-22°40.0	29°56.9	24°38.7	96°08.5	-0°51.4	132°31.6	-15°18.7
1	112°28.4	176°41.1	-22°39.5	44°59.9	24°38.7	111°10.7	-0°51.3	147°33.8	-15°18.6
2	127°30.8	191°40.2	-22°39.0	60°02.9	24°38.6	126°12.9	-0°51.2	162°36.1	-15°18.6
3	142°33.3	206°39.3	-22°38.5	75°05.9	24°38.6	141°15.1	-0°51.0	177°38.3	-15°18.5
4	157°35.8	221°38.4	-22°38.0	90°08.9	24°38.5	156°17.3	-0°50.9	192°40.5	-15°18.4
5	172°38.2	236°37.5	-22°37.6	105°11.9	24°38.5	171°19.5	-0°50.8	207°42.8	-15°18.3
6	187°40.7	251°36.6	-22°37.1	120°14.9	24°38.4	186°21.7	-0°50.7	222°45.0	-15°18.2
7	202°43.2	266°35.8	-22°36.6	135°17.9	24°38.4	201°23.9	-0°50.5	237°47.2	-15°18.2
8	217°45.6	281°34.9	-22°36.1	150°20.9	24°38.3	216°26.1	-0°50.4	252°49.4	-15°18.1
9	232°48.1	296°34.0	-22°35.6	165°23.9	24°38.3	231°28.4	-0°50.3	267°51.7	-15°18.0
10	247°50.5	311°33.1	-22°35.1	180°26.9	24°38.2	246°30.6	-0°50.2	282°53.9	-15°17.9
11	262°53.0	326°32.2	-22°34.6	195°29.9	24°38.2	261°32.8	-0°50.1	297°56.1	-15°17.8
12	277°55.5	341°31.3	-22°34.1	210°32.9	24°38.1	276°35.0	-0°49.9	312°58.3	-15°17.8
13	292°57.9	356°30.4	-22°33.6	225°35.9	24°38.1	291°37.2	-0°49.8	328°00.6	-15°17.7
14	308°00.4	11°29.6	-22°33.1	240°38.9	24°38.0	306°39.4	-0°49.7	343°02.8	-15°17.6
15	323°02.9	26°28.7	-22°32.6	255°41.9	24°38.0	321°41.6	-0°49.6	358°05.0	-15°17.5
16	338°05.3	41°27.8	-22°32.1	270°44.9	24°37.9	336°43.8	-0°49.4	13°07.2	-15°17.4
17	353°07.8	56°26.9	-22°31.6	285°47.9	24°37.9	351°46.0	-0°49.3	28°09.5	-15°17.4
18	8°10.3	71°26.0	-22°31.1	300°50.8	24°37.8	6°48.2	-0°49.2	43°11.7	-15°17.3
19	23°12.7	86°25.1	-22°30.6	315°53.8	24°37.8	21°50.4	-0°49.1	58°13.9	-15°17.2
20	38°15.2	101°24.3	-22°30.1	330°56.8	24°37.7	36°52.6	-0°48.9	73°16.1	-15°17.1
21	53°17.6	116°23.4	-22°29.6	345°59.8	24°37.7	51°54.8	-0°48.8	88°18.4	-15°17.0
22	68°20.1	131°22.5	-22°29.1	1°02.8	24°37.6	66°57.0	-0°48.7	103°20.6	-15°17.0
23	83°22.6	146°21.6	-22°28.6	16°05.7	24°37.6	81°59.2	-0°48.6	118°22.8	-15°16.9
Mer.pass.:17:27		v-0.9 d0.5 m-3.8		v3.0 d-0.1 m-1.3		v2.2 d0.1 m-2.2		v2.2 d0.1 m0.8	

Estrellas

	AHS	Dec
Alpheratz	357°36.5	29°13.1
Ankaa	353°08.8	-42°11.2
Schedar	349°32.9	56°40.0
Diphda	348°48.8	-17°51.8
Achernar	335°21.3	-57°07.5
Hamal	327°53.0	23°34.3
Polaris	314°30.8	89°21.9
Akamar	315°12.8	-40°13.0
Menkar	314°07.7	4°10.8
Mirfak	308°30.3	49°56.7
Aldebaran	290°41.2	16°33.4
Rigel	281°05.2	-8°10.5
Capella	280°23.9	46°01.4
Bellatrix	278°24.3	6°22.2
Elnath	278°03.6	28°37.6
Alnilam	275°39.1	-1°11.3
Betelgeuse	270°53.6	7°24.7
Canopus	263°52.6	-52°42.4
Sirius	258°27.3	-16°44.7
Adara	255°06.8	-29°00.2
Procyon	244°52.2	5°10.1
Pollux	243°18.9	27°58.2
Avior	234°14.8	-59°34.8
Suhail	222°47.2	-43°31.3
Miaplacidus	221°37.9	-69°48.4
Alphard	217°49.2	-8°45.4
Regulus	207°36.0	11°51.3
Dubhe	193°42.8	61°37.4
Denebola	182°26.5	14°26.6
Gienah	175°45.3	-17°40.0
Acrux	173°02.0	-63°13.2
Gacrux	171°53.5	-57°14.2
Alioth	166°14.6	55°49.9
Spica	158°24.2	-11°16.8
Alcaid	152°53.5	49°11.7
Hadar	148°38.7	-60°28.7
Menkent	147°59.8	-36°28.7
Arcturus	145°49.5	19°04.0
Rigil Kent.	139°43.0	-60°55.5
Zubenelg.	136°58.1	-16°08.1
Kochab	137°20.5	74°03.4
Alphecca	126°05.5	26°38.2
Antares	112°18.2	-26°28.9
Atria	107°14.5	-69°04.0
Sabik	102°05.0	-15°45.2
Shaula	96°13.1	-37°07.2
Rasalhague	96°00.5	12°32.6
Etamin	90°43.5	51°29.1
Kaus Aust.	83°35.1	-34°22.4
Vega	80°34.8	38°48.2
Nunki	75°50.2	-26°16.1
Altair	62°02.0	8°55.7
Peacock	53°08.9	-56°39.8
Deneb	49°27.3	45°21.8
Enif	33°40.7	9°58.8
Alnair	27°35.3	-46°51.2
Fomalhaut	15°16.6	-29°30.2
Scheat	13°47.0	28°12.5
Markab	13°31.7	15°19.7

Dic 27 Mar	AHS	Paso Merid
Venus	66°57.6	13:11
Mars	292°02.8	22:05
Jupiter	358°54.4	17:40
Saturn	35°17.0	15:15

Dic 28 Mie	AHS	Paso Merid
Venus	65°36.7	13:13
Mars	292°17.3	22:01
Jupiter	358°48.6	17:36
Saturn	35°11.4	15:11

Dic 29 Jue	AHS	Paso Merid
Venus	64°16.1	13:14
Mars	292°31.0	21:56
Jupiter	358°42.6	17:33
Saturn	35°05.7	15:08

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.2

h	Sol		Luna				
Mar	AHG	Dec	AHG	v	Dec	d	HP
0	179°48.5	-23°20.2	126°03.0	7.7	-17°43.3	13.3	60.2
1	194°48.2	-23°20.1	140°29.7	7.8	-17°30.0	13.4	60.2
2	209°47.9	-23°20.0	154°56.6	7.9	-17°16.6	13.5	60.1
3	224°47.6	-23°19.9	169°23.6	8.1	-17°03.1	13.6	60.1
4	239°47.3	-23°19.8	183°50.7	8.2	-16°49.5	13.6	60.1
5	254°46.9	-23°19.7	198°18.0	8.3	-16°35.8	13.7	60.0
6	269°46.6	-23°19.6	212°45.3	8.4	-16°22.0	13.8	60.0
7	284°46.3	-23°19.5	227°12.8	8.5	-16°08.2	13.9	60.0
8	299°46.0	-23°19.4	241°40.4	8.7	-15°54.2	14.0	60.0
9	314°45.7	-23°19.3	256°08.2	8.8	-15°40.2	14.0	59.9
10	329°45.4	-23°19.2	270°36.0	8.9	-15°26.1	14.1	59.9
11	344°45.1	-23°19.0	285°04.0	9.0	-15°12.0	14.2	59.9
12	359°44.8	-23°18.9	299°32.0	9.1	-14°57.8	14.3	59.8
13	14°44.5	-23°18.8	314°00.2	9.2	-14°43.5	14.3	59.8
14	29°44.2	-23°18.7	328°28.5	9.4	-14°29.1	14.4	59.8
15	44°43.9	-23°18.6	342°57.0	9.5	-14°14.7	14.5	59.7
16	59°43.6	-23°18.5	357°25.5	9.6	-14°00.2	14.5	59.7
17	74°43.3	-23°18.4	11°54.1	9.7	-13°45.6	14.6	59.7
18	89°42.9	-23°18.3	26°22.9	9.8	-13°31.0	14.6	59.6
19	104°42.6	-23°18.1	40°51.7	9.9	-13°16.3	14.7	59.6
20	119°42.3	-23°18.0	55°20.7	10.0	-13°01.6	14.8	59.6
21	134°42.0	-23°17.9	69°49.8	10.1	-12°46.8	14.8	59.5
22	149°41.7	-23°17.8	84°18.9	10.2	-12°32.0	14.9	59.5
23	164°41.4	-23°17.7	98°48.2	10.3	-12°17.1	14.9	59.5
	SD.=16.3	d=0.1	S.D.=16.4				

Mie	AHG	Dec	AHG	v	Dec	d	HP
0	179°41.1	-23°17.6	113°17.6	10.4	-12°02.1	15.0	59.4
1	194°40.8	-23°17.4	127°47.1	10.5	-11°47.1	15.0	59.4
2	209°40.5	-23°17.3	142°16.7	10.6	-11°32.1	15.1	59.4
3	224°40.2	-23°17.2	156°46.3	10.7	-11°17.0	15.1	59.3
4	239°39.9	-23°17.1	171°16.1	10.8	-11°01.9	15.1	59.3
5	254°39.6	-23°17.0	185°46.0	10.9	-10°46.8	15.2	59.3
6	269°39.3	-23°16.8	200°15.9	11.0	-10°31.6	15.2	59.2
7	284°39.0	-23°16.7	214°46.0	11.1	-10°16.3	15.2	59.2
8	299°38.7	-23°16.6	229°16.1	11.2	-10°01.1	15.3	59.2
9	314°38.3	-23°16.5	243°46.4	11.3	-9°45.8	15.3	59.1
10	329°38.0	-23°16.3	258°16.7	11.4	-9°30.4	15.3	59.1
11	344°37.7	-23°16.2	272°47.1	11.5	-9°15.1	15.4	59.1
12	359°37.4	-23°16.1	287°17.6	11.5	-8°59.7	15.4	59.0
13	14°37.1	-23°15.9	301°48.2	11.6	-8°44.3	15.4	59.0
14	29°36.8	-23°15.8	316°18.9	11.7	-8°28.8	15.5	59.0
15	44°36.5	-23°15.7	330°49.6	11.8	-8°13.3	15.5	58.9
16	59°36.2	-23°15.6	345°20.4	11.9	-7°57.9	15.5	58.9
17	74°35.9	-23°15.4	359°51.3	11.9	-7°42.3	15.5	58.9
18	89°35.6	-23°15.3	14°22.3	12.0	-7°26.8	15.5	58.8
19	104°35.3	-23°15.1	28°53.4	12.1	-7°11.3	15.6	58.8
20	119°35.0	-23°15.0	43°24.5	12.2	-6°55.7	15.6	58.8
21	134°34.7	-23°14.9	57°55.7	12.2	-6°40.1	15.6	58.7
22	149°34.4	-23°14.7	72°27.0	12.3	-6°24.5	15.6	58.7
23	164°34.1	-23°14.6	86°58.4	12.4	-6°08.9	15.6	58.6
	SD.=16.3	d=0.1	S.D.=16.2				

Jue	AHG	Dec	AHG	v	Dec	d	HP
0	179°33.8	-23°14.5	101°29.8	12.5	-5°53.3	15.6	58.6
1	194°33.5	-23°14.3	116°01.3	12.5	-5°37.7	15.6	58.6
2	209°33.2	-23°14.2	130°32.8	12.6	-5°22.0	15.6	58.5
3	224°32.9	-23°14.0	145°04.4	12.6	-5°06.4	15.6	58.5
4	239°32.6	-23°13.9	159°36.1	12.7	-4°50.8	15.6	58.5
5	254°32.2	-23°13.8	174°07.9	12.8	-4°35.1	15.7	58.4
6	269°31.9	-23°13.6	188°39.7	12.8	-4°19.5	15.7	58.4
7	284°31.6	-23°13.5	203°11.5	12.9	-4°03.8	15.7	58.4
8	299°31.3	-23°13.3	217°43.4	12.9	-3°48.2	15.7	58.3
9	314°31.0	-23°13.2	232°15.4	13.0	-3°32.5	15.7	58.3
10	329°30.7	-23°13.0	246°47.4	13.1	-3°16.9	15.6	58.3
11	344°30.4	-23°12.9	261°19.5	13.1	-3°01.2	15.6	58.2
12	359°30.1	-23°12.7	275°51.6	13.2	-2°45.6	15.6	58.2
13	14°29.8	-23°12.6	290°23.8	13.2	-2°29.9	15.6	58.2
14	29°29.5	-23°12.4	304°56.1	13.3	-2°14.3	15.6	58.1
15	44°29.2	-23°12.3	319°28.3	13.3	-1°58.7	15.6	58.1
16	59°28.9	-23°12.1	334°00.7	13.3	-1°43.1	15.6	58.1
17	74°28.6	-23°12.0	348°33.0	13.4	-1°27.5	15.6	58.0
18	89°28.3	-23°11.8	3°05.4	13.4	-1°11.9	15.6	58.0
19	104°28.0	-23°11.7	17°37.9	13.5	-0°56.3	15.6	58.0
20	119°27.7	-23°11.5	32°10.4	13.5	-0°40.8	15.6	57.9
21	134°27.4	-23°11.4	46°42.9	13.6	-0°25.2	15.5	57.9
22	149°27.1	-23°11.2	61°15.5	13.6	-0°09.7	15.5	57.8
23	164°26.8	-23°11.1	75°48.1	13.6	0°05.8	15.5	57.8
	SD.=16.3	d=0.1	S.D.=16.0				

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	08:27	10:53	–:–	–:–	13:10	15:37
70	08:07	09:54	–:–	–:–	14:09	15:56
68	07:51	09:20	–:–	–:–	14:44	16:12
66	07:38	08:55	10:33	13:30	15:08	16:25
64	07:27	08:35	09:52	14:11	15:28	16:36
62	07:18	08:20	09:25	14:38	15:44	16:45
60	07:09	08:06	09:03	15:00	15:57	16:54
58	07:02	07:55	08:46	15:17	16:09	17:01
56	06:55	07:44	08:32	15:32	16:19	17:08
54	06:49	07:35	08:19	15:44	16:28	17:14
52	06:44	07:27	08:08	15:55	16:36	17:20
50	06:38	07:20	07:58	16:05	16:43	17:25
45	06:27	07:04	07:38	16:25	16:59	17:36
40	06:16	06:50	07:21	16:42	17:13	17:47
35	06:07	06:39	07:07	16:56	17:24	17:56
30	05:58	06:28	06:55	17:08	17:35	18:05
20	05:42	06:10	06:34	17:30	17:54	18:21
10	05:26	05:52	06:15	17:48	18:11	18:37
0	05:09	05:35	05:58	18:05	18:28	18:54
S 10	04:50	05:17	05:40	18:23	18:46	19:13
20	04:28	04:57	05:21	18:42	19:06	19:35
30	03:59	04:32	04:59	19:03	19:31	20:04
35	03:40	04:17	04:47	19:16	19:46	20:23
40	03:17	03:59	04:32	19:31	20:04	20:46
45	02:47	03:36	04:14	19:49	20:26	21:16
50	02:02	03:07	03:51	20:12	20:56	22:01
52	01:34	02:52	03:40	20:22	21:11	22:28
54	00:50	02:34	03:28	20:34	21:28	23:11
56	–:–	02:12	03:14	20:48	21:50	–:–
58	–:–	01:43	02:58	21:05	22:19	–:–
60	–:–	00:55	02:37	21:25	23:07	–:–

	Orto luna			Ocaso luna		
Lat.	Mar	Mie	Jue	Mar	Mie	Jue
N 72	13:41	12:48	12:12	19:08	21:46	–:–
70	13:11	12:35	12:08	19:36	21:56	–:–
68	12:49	12:24	12:05	19:57	22:04	–:–
66	12:31	12:16	12:03	20:13	22:11	–:–
64	12:16	12:08	12:00	20:26	22:17	–:–
62	12:04	12:01	11:59	20:37	22:22	–:–
60	11:54	11:56	11:57	20:46	22:26	–:–
58	11:44	11:51	11:55	20:54	22:29	00:00
56	11:36	11:46	11:54	21:01	22:33	00:00
54	11:29	11:42	11:53	21:07	22:36	00:00
52	11:23	11:38	11:52	21:13	22:38	00:00
50	11:17	11:35	11:50	21:18	22:41	23:59
45	11:04	11:28	11:48	21:29	22:46	23:59
40	10:53	11:21	11:46	21:38	22:50	23:59
35	10:44	11:16	11:45	21:45	22:54	23:59
30	10:36	11:11	11:43	21:52	22:57	23:59
20	10:22	11:03	11:41	22:04	23:03	23:59
10	10:10	10:56	11:38	22:14	23:07	23:58
0	09:58	10:49	11:36	22:23	23:12	23:58
S 10	09:47	10:42	11:34	22:32	23:16	23:58
20	09:34	10:35	11:32	22:42	23:21	23:57
30	09:20	10:27	11:30	22:53	23:26	23:57
35	09:12	10:22	11:28	22:59	23:29	23:57
40	09:02	10:16	11:26	23:06	23:33	23:57
45	08:51	10:10	11:25	23:14	23:37	23:56
50	08:37	10:02	11:22	23:24	23:41	23:56
52	08:31	09:58	11:21	23:29	23:43	23:56
54	08:24	09:54	11:20	23:34	23:46	23:56
56	08:16	09:50	11:19	23:39	23:48	23:56
58	08:07	09:45	11:17	23:45	23:51	23:55
60	07:56	09:39	11:16	23:52	23:54	23:55

	Sol			Luna		
Día	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
27	00:46	01:01	12:01	16:10	03:44	4(23%)
28	01:16	01:30	12:01	17:00	04:36	5(33%)
29	01:45	02:00	12:02	17:47	05:24	6(44%)

Diciembre 30, 31, 01 (Vie, Sa, Dom.)

	Aries	Venus		Martes		Júpiter		Saturno	
Vie	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	98°25.0	161°20.7	-22°28.1	31°08.7	24°37.5	97°01.4	-0°48.5	133°25.0	-15°16.8
1	113°27.5	176°19.9	-22°27.6	46°11.7	24°37.5	112°03.6	-0°48.3	148°27.3	-15°16.7
2	128°30.0	191°19.0	-22°27.0	61°14.7	24°37.4	127°05.8	-0°48.2	163°29.5	-15°16.6
3	143°32.4	206°18.1	-22°26.5	76°17.6	24°37.4	142°08.1	-0°48.1	178°31.7	-15°16.5
4	158°34.9	221°17.2	-22°26.0	91°20.6	24°37.3	157°10.3	-0°48.0	193°33.9	-15°16.5
5	173°37.4	236°16.3	-22°25.5	106°23.6	24°37.3	172°12.5	-0°47.8	208°36.2	-15°16.4
6	188°39.8	251°15.5	-22°25.0	121°26.6	24°37.3	187°14.7	-0°47.7	223°38.4	-15°16.3
7	203°42.3	266°14.6	-22°24.5	136°29.5	24°37.2	202°16.9	-0°47.6	238°40.6	-15°16.2
8	218°44.8	281°13.7	-22°23.9	151°32.5	24°37.2	217°19.1	-0°47.5	253°42.8	-15°16.1
9	233°47.2	296°12.8	-22°23.4	166°35.4	24°37.1	232°21.3	-0°47.3	268°45.1	-15°16.1
10	248°49.7	311°12.0	-22°22.9	181°38.4	24°37.1	247°23.5	-0°47.2	283°47.3	-15°16.0
11	263°52.1	326°11.1	-22°22.4	196°41.4	24°37.0	262°25.7	-0°47.1	298°49.5	-15°15.9
12	278°54.6	341°10.2	-22°21.9	211°44.3	24°37.0	277°27.9	-0°47.0	313°51.7	-15°15.8
13	293°57.1	356°09.3	-22°21.3	226°47.3	24°36.9	292°30.1	-0°46.8	328°53.9	-15°15.7
14	308°59.5	11°08.5	-22°20.8	241°50.2	24°36.9	307°32.3	-0°46.7	343°56.2	-15°15.7
15	324°02.0	26°07.6	-22°20.3	256°53.2	24°36.8	322°34.5	-0°46.6	358°58.4	-15°15.6
16	339°04.5	41°06.7	-22°19.7	271°56.1	24°36.8	337°36.7	-0°46.5	14°00.6	-15°15.5
17	354°06.9	56°05.8	-22°19.2	286°59.1	24°36.7	352°38.9	-0°46.3	29°02.8	-15°15.4
18	9°09.4	71°05.0	-22°18.7	302°02.0	24°36.7	7°41.1	-0°46.2	44°05.1	-15°15.3
19	24°11.9	86°04.1	-22°18.2	317°05.0	24°36.6	22°43.3	-0°46.1	59°07.3	-15°15.3
20	39°14.3	101°03.2	-22°17.6	332°07.9	24°36.6	37°45.5	-0°45.9	74°09.5	-15°15.2
21	54°16.8	116°02.4	-22°17.1	347°10.9	24°36.5	52°47.7	-0°45.8	89°11.7	-15°15.1
22	69°19.3	131°01.5	-22°16.6	2°13.8	24°36.5	67°49.9	-0°45.7	104°14.0	-15°15.0
23	84°21.7	146°00.6	-22°16.0	17°16.8	24°36.4	82°52.1	-0°45.6	119°16.2	-15°14.9
Mer.pass.:17:23		v-0.9 d0.5		m-3.8		v3.0 d-0.0		m-1.2	
		v2.2 d0.1		m-2.2		v2.2 d0.1		m0.8	

	Aries	Venus		Martes		Júpiter		Saturno	
Sa	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	99°24.2	160°59.7	-22°15.5	32°19.7	24°36.4	97°54.3	-0°45.4	134°18.4	-15°14.8
1	114°26.6	175°58.9	-22°14.9	47°22.6	24°36.3	112°56.5	-0°45.3	149°20.6	-15°14.8
2	129°29.1	190°58.0	-22°14.4	62°25.6	24°36.3	127°58.7	-0°45.2	164°22.8	-15°14.7
3	144°31.6	205°57.1	-22°13.9	77°28.5	24°36.3	143°00.9	-0°45.1	179°25.1	-15°14.6
4	159°34.0	220°56.3	-22°13.3	92°31.4	24°36.2	158°03.1	-0°44.9	194°27.3	-15°14.5
5	174°36.5	235°55.4	-22°12.8	107°34.4	24°36.2	173°05.2	-0°44.8	209°29.5	-15°14.4
6	189°39.0	250°54.5	-22°12.2	122°37.3	24°36.1	188°07.4	-0°44.7	224°31.7	-15°14.4
7	204°41.4	265°53.7	-22°11.7	137°40.2	24°36.1	203°09.6	-0°44.6	239°33.9	-15°14.3
8	219°43.9	280°52.8	-22°11.1	152°43.1	24°36.0	218°11.8	-0°44.4	254°36.2	-15°14.2
9	234°46.4	295°51.9	-22°10.6	167°46.1	24°36.0	233°14.0	-0°44.3	269°38.4	-15°14.1
10	249°48.8	310°51.1	-22°10.0	182°49.0	24°35.9	248°16.2	-0°44.2	284°40.6	-15°14.0
11	264°51.3	325°50.2	-22°09.5	197°51.9	24°35.9	263°18.4	-0°44.0	299°42.8	-15°14.0
12	279°53.7	340°49.4	-22°08.9	212°54.8	24°35.8	278°20.6	-0°43.9	314°45.1	-15°13.9
13	294°56.2	355°48.5	-22°08.4	227°57.8	24°35.8	293°22.8	-0°43.8	329°47.3	-15°13.8
14	309°58.7	10°47.6	-22°07.8	243°00.7	24°35.7	308°25.0	-0°43.7	344°49.5	-15°13.7
15	325°01.1	25°46.8	-22°07.3	258°03.6	24°35.7	323°27.2	-0°43.5	359°51.7	-15°13.6
16	340°03.6	40°45.9	-22°06.7	273°06.5	24°35.7	338°29.4	-0°43.4	14°53.9	-15°13.5
17	355°06.1	55°45.0	-22°06.2	288°09.4	24°35.6	353°31.6	-0°43.3	29°56.2	-15°13.5
18	10°08.5	70°44.2	-22°05.6	303°12.3	24°35.6	8°33.8	-0°43.1	44°58.4	-15°13.4
19	25°11.0	85°43.3	-22°05.0	318°15.2	24°35.5	23°36.0	-0°43.0	60°00.6	-15°13.3
20	40°13.5	100°42.5	-22°04.5	333°18.1	24°35.5	38°38.2	-0°42.9	75°02.8	-15°13.2
21	55°15.9	115°41.6	-22°03.9	348°21.0	24°35.4	53°40.4	-0°42.8	90°05.0	-15°13.1
22	70°18.4	130°40.7	-22°03.3	3°23.9	24°35.4	68°42.6	-0°42.6	105°07.3	-15°13.1
23	85°20.9	145°39.9	-22°02.8	18°26.9	24°35.3	83°44.7	-0°42.5	120°09.5	-15°13.0
Mer.pass.:17:19		v-0.9 d0.5		m-3.8		v2.9 d-0.0		m-1.2	
		v2.2 d0.1		m-2.2		v2.2 d0.1		m0.8	

	Aries	Venus		Martes		Júpiter		Saturno	
Dom	AHG	AHG	Dec	AHG	Dec	AHG	Dec	AHG	Dec
0	100°23.3	160°39.0	-22°02.2	33°29.8	24°35.3	98°46.9	-0°42.4	135°11.7	-15°12.9
1	115°25.8	175°38.2	-22°01.6	48°32.7	24°35.3	113°49.1	-0°42.2	150°13.9	-15°12.8
2	130°28.2	190°37.3	-22°01.1	63°35.5	24°35.2	128°51.3	-0°42.1	165°16.1	-15°12.7
3	145°30.7	205°36.5	-22°00.5	78°38.4	24°35.2	143°53.5	-0°42.0	180°18.4	-15°12.6
4	160°33.2	220°35.6	-21°59.9	93°41.3	24°35.1	158°55.7	-0°41.9	195°20.6	-15°12.6
5	175°35.6	235°34.7	-21°59.4	108°44.2	24°35.1	173°57.9	-0°41.7	210°22.8	-15°12.5
6	190°38.1	250°33.9	-21°58.8	123°47.1	24°35.0	189°00.1	-0°41.6	225°25.0	-15°12.4
7	205°40.6	265°33.0	-21°58.2	138°50.0	24°35.0	204°02.3	-0°41.5	240°27.2	-15°12.3
8	220°43.0	280°32.2	-21°57.6	153°52.9	24°34.9	219°04.5	-0°41.3	255°29.5	-15°12.2
9	235°45.5	295°31.3	-21°57.1	168°55.8	24°34.9	234°06.6	-0°41.2	270°31.7	-15°12.1
10	250°48.0	310°30.5	-21°56.5	183°58.7	24°34.9	249°08.8	-0°41.1	285°33.9	-15°12.1
11	265°50.4	325°29.6	-21°55.9	199°01.6	24°34.8	264°11.0	-0°40.9	300°36.1	-15°12.0
12	280°52.9	340°28.8	-21°55.3	214°04.4	24°34.8	279°13.2	-0°40.8	315°38.3	-15°11.9
13	295°55.4	355°27.9	-21°54.8	229°07.3	24°34.7	294°15.4	-0°40.7	330°40.6	-15°11.8
14	310°57.8	10°27.1	-21°54.2	244°10.2	24°34.7	309°17.6	-0°40.6	345°42.8	-15°11.7
15	326°00.3	25°26.2	-21°53.6	259°13.1	24°34.6	324°19.8	-0°40.4	0°45.0	-15°11.7
16	341°02.7	40°25.4	-21°53.0	274°16.0	24°34.6	339°22.0	-0°40.3	15°47.2	-15°11.6
17	356°05.2	55°24.5	-21°52.4	289°18.8	24°34.6	354°24.2	-0°40.2	30°49.4	-15°11.5
18	11°07.7	70°23.7	-21°51.8	304°21.7	24°34.5	9°26.3	-0°40.0	45°51.7	-15°11.4
19	26°10.1	85°22.8	-21°51.3	319°24.6	24°34.5	24°28.5	-0°39.9	60°53.9	-15°11.3
20	41°12.6	100°22.0	-21°50.7	334°27.4	24°34.4	39°30.7	-0°39.8	75°56.1	-15°11.2
21	56°15.1	115°21.1	-21°50.1	349°30.3	24°34.4	54°32.9	-0°39.6	90°58.3	-15°11.2
22	71°17.5	130°20.3	-21°49.5	4°33.2	24°34.3	69°35.1	-0°39.5	106°00.5	-15°11.1
23	86°20.0	145°19.4	-21°48.9	19°36.0	24°34.3	84°37.3	-0°39.4	121°02.7	-15°11.0
Mer.pass.:17:15		v-0.9 d0.6		m-3.8		v2.9 d-0.0		m-1.2	
		v2.2 d0.1		m-2.2		v2.2 d0.1		m0.8	

Estrellas

	AHS	Dec
Alpheratz	357°36.6	29°13.1
Ankaa	353°08.8	-42°11.2
Schedar	349°32.9	56°40.0
Diphda	348°48.9	-17°51.8
Achernar	335°21.3	-57°07.5
Hamal	327°53.0	23°34.3
Polaris	314°31.9	89°21.9
Akamar	315°12.8	-40°13.0
Menkar	314°07.7	4°10.8
Mirfak	308°30.3	49°56.7
Aldebaran	290°41.2	16°33.3
Rigel	281°05.2	-8°10.5
Capella	280°23.9	46°01.4
Bellatrix	278°24.3	6°22.2
Elnath	278°03.6	28°37.6
Alnilam	275°39.1	-1°11.3
Betelgeuse	270°53.6	7°24.7
Canopus	263°52.6	-52°42.5
Sirius	258°27.3	-16°44.7
Adara	255°06.8	-29°00.2
Procyon	244°52.2	5°10.1
Pollux	243°18.9	27°58.2
Avior	234°14.8	-59°34.8
Suhail	222°47.2	-43°31.3
Miaplacidus	221°37.9	-69°48.4
Alphard	217°49.1	-8°45.4
Regulus	207°36.0	11°51.3
Dubhe	193°42.8	61°37.4
Denebola	182°26.5	14°26.6
Gienah	175°45.3	-17°40.0
Acrux	173°01.9	-63°13.2
Gacrux	171°53.5	-57°14.2
Alioth	166°14.6	55°49.9
Spica	158°24.1	-11°16.8
Alcaid	152°53.5	49°11.7
Hadar	148°38.6	-60°28.7
Menkent	147°59.8	-36°28.8
Arcturus	145°49.5	19°04.0
Rigil Kent.	139°43.0	-60°55.5
Zubenelg.	136°58.1	-16°08.1
Kochab	137°20.5	74°03.4
Alphecca	126°05.5	26°38.2
Antares	112°18.2	-26°28.9
Atria	107°14.5	-69°03.9
Sabik	102°05.0	-15°45.2
Shaula	96°13.1	-37°07.2
Rasalhague	96°00.5	12°32.6
Etamin	90°43.5	51°29.1
Kaus Aust.	83°35.1	-34°22.4
Vega	80°34.8	38°48.2
Nunki	75°50.2	-26°16.1
Altair	62°02.0	8°55.7
Peacock	53°08.9	-56°39.8
Deneb	49°27.3	45°21.8
Enif	33°40.7	9°58.8
Alnair	27°35.3	-46°51.2
Fomalhaut	15°16.6	-29°30.2
Scheat	13°47.0	28°12.5
Markab	13°31.7	15°19.7

Dic 30 Vie	AHS	Paso Merid
Venus	62°55.7	13:15
Mars	292°43.7	21:51
Jupiter	358°36.4	17:29
Saturn	35°00.0	15:04

Dic 31 Sa	AHS	Paso Merid
Venus	61°35.6	13:17
Mars	292°55.5	21:46
Jupiter	358°30.1	17:26
Saturn	34°54.2	15:01

Ene 01 Dom	AHS	Paso Merid
Venus	60°15.7	13:18
Mars	293°06.4	21:42
Jupiter	358°23.6	17:22
Saturn	34°48.4	14:57

Paralelaje Horizontal	
Venus:	0.1
Mars:	0.2

h	Sol		Luna				
Vie	AHG	Dec	AHG	v	Dec	d	HP
0	179°26.5	-23°10.9	90°20.7	13.7	0°21.3	15.5	57.8
1	194°26.2	-23°10.7	104°53.4	13.7	0°36.8	15.5	57.7
2	209°25.9	-23°10.6	119°26.1	13.7	0°52.2	15.4	57.7
3	224°25.6	-23°10.4	133°58.9	13.8	1°07.7	15.4	57.7
4	239°25.3	-23°10.3	148°31.6	13.8	1°23.1	15.4	57.6
5	254°25.0	-23°10.1	163°04.4	13.8	1°38.5	15.4	57.6
6	269°24.7	-23°09.9	177°37.3	13.8	1°53.8	15.3	57.6
7	284°24.4	-23°09.8	192°10.1	13.9	2°09.1	15.3	57.5
8	299°24.1	-23°09.6	206°43.0	13.9	2°24.4	15.3	57.5
9	314°23.8	-23°09.4	221°15.9	13.9	2°39.7	15.3	57.5
10	329°23.5	-23°09.3	235°48.8	13.9	2°55.0	15.2	57.4
11	344°23.2	-23°09.1	250°21.7	13.9	3°10.2	15.2	57.4
12	359°22.9	-23°08.9	264°54.7	14.0	3°25.4	15.2	57.4
13	14°22.6	-23°08.8	279°27.7	14.0	3°40.5	15.1	57.3
14	29°22.3	-23°08.6	294°00.6	14.0	3°55.6	15.1	57.3
15	44°22.0	-23°08.4	308°33.6	14.0	4°10.7	15.1	57.3
16	59°21.7	-23°08.3	323°06.7	14.0	4°25.8	15.0	57.2
17	74°21.4	-23°08.1	337°39.7	14.0	4°40.8	15.0	57.2
18	89°21.1	-23°07.9	352°12.7	14.0	4°55.7	15.0	57.2
19	104°20.8	-23°07.8	6°45.8	14.1	5°10.7	14.9	57.2
20	119°20.5	-23°07.6	21°18.9	14.1	5°25.6	14.9	57.1
21	134°20.2	-23°07.4	35°51.9	14.1	5°40.4	14.8	57.1
22	149°19.9	-23°07.2	50°25.0	14.1	5°55.3	14.8	57.1
23	164°19.6	-23°07.1	64°58.1	14.1	6°10.0	14.8	57.0
	SD.=16.3	d=0.2	S.D.=15.8				

Sa	AHG	Dec	AHG	v	Dec	d	HP
0	179°19.3	-23°06.9	79°31.2	14.1	6°24.8	14.7	57.0
1	194°19.0	-23°06.7	94°04.3	14.1	6°39.5	14.7	57.0
2	209°18.7	-23°06.5	108°37.4	14.1	6°54.1	14.6	56.9
3	224°18.4	-23°06.3	123°10.4	14.1	7°08.7	14.6	56.9
4	239°18.1	-23°06.2	137°43.5	14.1	7°23.3	14.5	56.9
5	254°17.8	-23°06.0	152°16.6	14.1	7°37.8	14.5	56.8
6	269°17.5	-23°05.8	166°49.7	14.1	7°52.2	14.4	56.8
7	284°17.2	-23°05.6	181°22.8	14.1	8°06.6	14.4	56.8
8	299°16.9	-23°05.4	195°55.9	14.1	8°21.0	14.3	56.7
9	314°16.6	-23°05.2	210°28.9	14.1	8°35.3	14.3	56.7
10	329°16.3	-23°05.1	225°02.0	14.1	8°49.5	14.2	56.7
11	344°16.0	-23°04.9	239°35.1	14.1	9°03.8	14.2	56.7
12	359°15.7	-23°04.7	254°08.1	14.0	9°17.9	14.1	56.6
13	14°15.4	-23°04.5	268°41.1	14.0	9°32.0	14.1	56.6
14	29°15.1	-23°04.3	283°14.2	14.0	9°46.0	14.0	56.6
15	44°14.8	-23°04.1	297°47.2	14.0	10°00.0	14.0	56.5
16	59°14.5	-23°03.9	312°20.2	14.0	10°14.0	13.9	56.5
17	74°14.2	-23°03.7	326°53.2	14.0	10°27.8	13.8	56.5
18	89°13.9	-23°03.5	341°26.1	14.0	10°41.6	13.8	56.5
19	104°13.6	-23°03.4	355°59.1	13.9	10°55.4	13.7	56.4
20	119°13.3	-23°03.2	10°32.0	13.9	11°09.1	13.7	56.4
21	134°13.0	-23°03.0	25°04.9	13.9	11°22.7	13.6	56.4
22	149°12.7	-23°02.8	39°37.8	13.9	11°36.3	13.5	56.3
23	164°12.4	-23°02.6	54°10.7	13.9	11°49.8	13.5	56.3
	SD.=16.3	d=0.2	S.D.=15.5				

Dom	AHG	Dec	AHG	v	Dec	d	HP
0	179°12.1	-23°02.4	68°43.6	13.8	12°03.2	13.4	56.3
1	194°11.8	-23°02.2	83°16.4	13.8	12°16.6	13.3	56.3
2	209°11.5	-23°02.0	97°49.2	13.8	12°29.9	13.3	56.2
3	224°11.2	-23°01.8	112°22.0	13.8	12°43.2	13.2	56.2
4	239°10.9	-23°01.6	126°54.7	13.7	12°56.4	13.1	56.2
5	254°10.7	-23°01.4	141°27.5	13.7	13°09.5	13.1	56.2
6	269°10.4	-23°01.2	156°00.2	13.7	13°22.5	13.0	56.1
7	284°10.1	-23°01.0	170°32.9	13.7	13°35.5	12.9	56.1
8	299°09.8	-23°00.8	185°05.5	13.6	13°48.4	12.9	56.1
9	314°09.5	-23°00.6	199°38.1	13.6	14°01.2	12.8	56.0
10	329°09.2	-23°00.4	214°10.7	13.6	14°14.0	12.7	56.0
11	344°08.9	-23°00.2	228°43.3	13.5	14°26.7	12.7	56.0
12	359°08.6	-23°00.0	243°15.8	13.5	14°39.3	12.6	56.0
13	14°08.3	-22°59.8	257°48.3	13.5	14°51.8	12.5	55.9
14	29°08.0	-22°59.6	272°20.8	13.4	15°04.3	12.4	55.9
15	44°07.7	-22°59.3	286°53.2	13.4	15°16.7	12.3	55.9
16	59°07.4	-22°59.1	301°25.6	13.4	15°29.0	12.3	55.9
17	74°07.1	-22°58.9	315°57.9	13.3	15°41.2	12.2	55.8
18	89°06.8	-22°58.7	330°30.3	13.3	15°53.4	12.1	55.8
19	104°06.5	-22°58.5	345°02.5	13.3	16°05.4	12.0	55.8
20	119°06.2	-22°58.3	359°34.8	13.2	16°17.4	12.0	55.8
21	134°05.9	-22°58.1	14°07.0	13.2	16°29.3	11.9	55.7
22	149°05.7	-22°57.9	28°39.2	13.2	16°41.2	11.8	55.7
23	164°05.4	-22°57.6	43°11.3	13.1	16°52.9	11.7	55.7
	SD.=16.3	d=0.2	S.D.=15.4				

	Crepúsculo			Crepúsculo		
Lat.	Naut.	Civil	Orto Sol	Civil	Naut.	Ocaso Sol
N 72	08:25	10:46	–:–	–:–	13:20	15:41
70	08:06	09:51	–:–	–:–	14:15	16:01
68	07:50	09:18	–:–	–:–	14:48	16:16
66	07:38	08:54	10:30	13:37	15:12	16:29
64	07:27	08:35	09:51	14:16	15:31	16:39
62	07:18	08:19	09:24	14:43	15:47	16:49
60	07:09	08:06	09:03	15:03	16:00	16:57
58	07:02	07:54	08:46	15:20	16:12	17:04
56	06:56	07:44	08:31	15:35	16:22	17:11
54	06:50	07:36	08:19	15:47	16:31	17:17
52	06:44	07:28	08:08	15:58	16:39	17:22
50	06:39	07:20	07:59	16:08	16:46	17:27
45	06:27	07:05	07:38	16:28	17:02	17:39
40	06:17	06:51	07:22	16:44	17:15	17:49
35	06:08	06:40	07:08	16:58	17:26	17:58
30	05:59	06:29	06:56	17:10	17:37	18:07
20	05:43	06:11	06:35	17:31	17:55	18:23
10	05:27	05:54	06:16	17:50	18:12	18:39
0	05:11	05:37	05:59	18:07	18:29	18:55
S 10	04:52	05:19	05:42	18:24	18:47	19:14
20	04:30	04:59	05:23	18:43	19:07	19:36
30	04:01	04:34	05:01	19:04	19:32	20:05
35	03:43	04:19	04:49	19:17	19:47	20:23
40	03:20	04:01	04:34	19:32	20:05	20:46
45	02:50	03:39	04:16	19:50	20:27	21:16
50	02:05	03:10	03:54	20:12	20:56	22:00
52	01:39	02:55	03:43	20:22	21:10	22:26
54	00:57	02:38	03:31	20:34	21:28	23:07
56	–:–	02:16	03:17	20:48	21:49	–:–
58	–:–	01:48	03:01	21:04	22:17	–:–
60	–:–	01:02	02:41	21:24	23:01	–:–

	Orto luna			Ocaso luna		
Lat.	Mar	Mie	Jue	Mar	Mie	Jue
N 72	11:40	11:06	10:19	00:01	02:12	04:34
70	11:44	11:19	10:47	00:01	02:02	04:08
68	11:48	11:30	11:08	00:01	01:53	03:49
66	11:51	11:39	11:25	00:01	01:46	03:33
64	11:53	11:46	11:39	00:00	01:41	03:21
62	11:56	11:53	11:50	00:00	01:36	03:11
60	11:58	11:59	12:00	00:00	01:31	03:02
58	11:59	12:04	12:09	–:–	01:27	02:54
56	12:01	12:08	12:17	–:–	01:24	02:47
54	12:02	12:12	12:24	–:–	01:21	02:41
52	12:04	12:16	12:30	–:–	01:18	02:36
50	12:05	12:19	12:35	–:–	01:16	02:31
45	12:07	12:27	12:48	–:–	01:10	02:20
40	12:10	12:33	12:58	–:–	01:06	02:11
35	12:12	12:38	13:07	–:–	01:02	02:04
30	12:13	12:43	13:14	–:–	00:59	01:57
20	12:16	12:52	13:28	–:–	00:53	01:46
10	12:19	12:59	13:40	–:–	00:48	01:36
0	12:22	13:06	13:51	–:–	00:43	01:27
S 10	12:24	13:13	14:02	–:–	00:38	01:18
20	12:27	13:21	14:14	–:–	00:33	01:08
30	12:30	13:29	14:28	–:–	00:27	00:57
35	12:32	13:34	14:36	–:–	00:24	00:51
40	12:34	13:40	14:45	–:–	00:20	00:44
45	12:37	13:47	14:56	–:–	00:16	00:36
50	12:39	13:55	15:10	–:–	00:10	00:26
52	12:41	13:59	15:16	–:–	00:08	00:21
54	12:42	14:03	15:23	–:–	00:06	00:16
56	12:44	14:07	15:31	–:–	00:03	00:10
58	12:46	14:13	15:39	00:00	–:–	00:04
60	12:48	14:19	15:49	23:56	23:57	23:59

Día	Sol			Luna		
	Ec. tiempo		Paso	Paso Meridiano		Edad
	00:00 h	12:00 h	Merid	Superior	Inferior	
30	02:14	02:29	12:02	18:32	06:09	7(55%)
31	02:43	02:57	12:02	19:16	06:54	8(65%)
1	03:12	03:26	12:03	20:01	07:39	9(74%)

TABLA I

AHL Aries	Corr.	AHL Aries	Corr.	AHL. Aries	Corr.	AHL Aries	Corr.	AHL Aries	Corr.	AHL Aries	Corr.	AHL Aries	Corr.
° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′	° ′	′
182 0	+ 28.9	208 0	+ 37.5	234 0	+ 38.5	260 0	+ 31.7	286 0	+ 18.5	312 0	+ 1.6	338 0	− 15.7
182 30	+ 29.1	208 30	+ 37.6	234 30	+ 38.4	260 30	+ 31.5	286 30	+ 18.2	312 30	+ 1.2	338 30	− 16.0
183 0	+ 29.3	209 0	+ 37.7	235 0	+ 38.4	261 0	+ 31.3	287 0	+ 17.9	313 0	+ 0.9	339 0	− 16.3
183 30	+ 29.5	209 30	+ 37.8	235 30	+ 38.3	261 30	+ 31.1	287 30	+ 17.6	313 30	+ 0.6	339 30	− 16.6
184 0	+ 29.8	210 0	+ 37.8	236 0	+ 38.2	262 0	+ 30.9	288 0	+ 17.3	314 0	+ 0.2	340 0	− 16.9
184 30	+ 30.0	210 30	+ 37.9	236 30	+ 38.2	262 30	+ 30.7	288 30	+ 17.0	314 30	− 0.1	340 30	− 17.2
185 0	+ 30.2	211 0	+ 38.0	237 0	+ 38.1	263 0	+ 30.5	289 0	+ 16.7	315 0	− 0.5	341 0	− 17.5
185 30	+ 30.4	211 30	+ 38.1	237 30	+ 38.0	263 30	+ 30.3	289 30	+ 16.4	315 30	− 0.8	341 30	− 17.8
186 0	+ 30.6	212 0	+ 38.2	238 0	+ 37.9	264 0	+ 30.1	290 0	+ 16.1	316 0	− 1.1	342 0	− 18.1
186 30	+ 30.8	212 30	+ 38.2	238 30	+ 37.9	264 30	+ 29.8	290 30	+ 15.8	316 30	− 1.5	342 30	− 18.4
187 0	+ 31.1	213 0	+ 38.3	239 0	+ 37.8	265 0	+ 29.6	291 0	+ 15.5	317 0	− 1.8	343 0	− 18.7
187 30	+ 31.3	213 30	+ 38.4	239 30	+ 37.7	265 30	+ 29.4	291 30	+ 15.2	317 30	− 2.2	343 30	− 19.0
188 0	+ 31.5	214 0	+ 38.4	240 0	+ 37.6	266 0	+ 29.2	292 0	+ 14.8	318 0	− 2.5	344 0	− 19.3
188 30	+ 31.7	214 30	+ 38.5	240 30	+ 37.5	266 30	+ 28.9	292 30	+ 14.5	318 30	− 2.8	344 30	− 19.6
189 0	+ 31.9	215 0	+ 38.5	241 0	+ 37.4	267 0	+ 28.7	293 0	+ 14.2	319 0	− 3.2	345 0	− 19.9
189 30	+ 32.1	215 30	+ 38.6	241 30	+ 37.3	267 30	+ 28.5	293 30	+ 13.9	319 30	− 3.5	345 30	− 20.2
190 0	+ 32.2	216 0	+ 38.6	242 0	+ 37.2	268 0	+ 28.2	294 0	+ 13.6	320 0	− 3.9	346 0	− 20.5
190 30	+ 32.4	216 30	+ 38.7	242 30	+ 37.1	268 30	+ 28.0	294 30	+ 13.2	320 30	− 4.2	346 30	− 20.8
191 0	+ 32.6	217 0	+ 38.7	243 0	+ 37.0	269 0	+ 27.8	295 0	+ 12.9	321 0	− 4.5	347 0	− 21.1
191 30	+ 32.8	217 30	+ 38.8	243 30	+ 36.9	269 30	+ 27.5	295 30	+ 12.6	321 30	− 4.9	347 30	− 21.4
192 0	+ 33.0	218 0	+ 38.8	244 0	+ 36.8	270 0	+ 27.3	296 0	+ 12.3	322 0	− 5.2	348 0	− 21.6
192 30	+ 33.2	218 30	+ 38.8	244 30	+ 36.7	270 30	+ 27.0	296 30	+ 12.0	322 30	− 5.5	348 30	− 21.9
193 0	+ 33.4	219 0	+ 38.9	245 0	+ 36.5	271 0	+ 26.8	297 0	+ 11.6	323 0	− 5.9	349 0	− 22.2
193 30	+ 33.5	219 30	+ 38.9	245 30	+ 36.4	271 30	+ 26.5	297 30	+ 11.3	323 30	− 6.2	349 30	− 22.5
194 0	+ 33.7	220 0	+ 38.9	246 0	+ 36.3	272 0	+ 26.3	298 0	+ 11.0	324 0	− 6.6	350 0	− 22.8
194 30	+ 33.9	220 30	+ 39.0	246 30	+ 36.2	272 30	+ 26.0	298 30	+ 10.7	324 30	− 6.9	350 30	− 23.0
195 0	+ 34.0	221 0	+ 39.0	247 0	+ 36.0	273 0	+ 25.8	299 0	+ 10.3	325 0	− 7.2	351 0	− 23.3
195 30	+ 34.2	221 30	+ 39.0	247 30	+ 35.9	273 30	+ 25.5	299 30	+ 10.0	325 30	− 7.6	351 30	− 23.6
196 0	+ 34.4	222 0	+ 39.0	248 0	+ 35.8	274 0	+ 25.3	300 0	+ 9.7	326 0	− 7.9	352 0	− 23.9
196 30	+ 34.5	222 30	+ 39.0	248 30	+ 35.6	274 30	+ 25.0	300 30	+ 9.3	326 30	− 8.2	352 30	− 24.1
197 0	+ 34.7	223 0	+ 39.0	249 0	+ 35.5	275 0	+ 24.8	301 0	+ 9.0	327 0	− 8.6	353 0	− 24.4
197 30	+ 34.8	223 30	+ 39.0	249 30	+ 35.3	275 30	+ 24.5	301 30	+ 8.7	327 30	− 8.9	353 30	− 24.7
198 0	+ 35.0	224 0	+ 39.1	250 0	+ 35.2	276 0	+ 24.2	302 0	+ 8.3	328 0	− 9.2	354 0	− 24.9
198 30	+ 35.1	224 30	+ 39.1	250 30	+ 35.0	276 30	+ 24.0	302 30	+ 8.0	328 30	− 9.6	354 30	− 25.2
199 0	+ 35.3	225 0	+ 39.0	251 0	+ 34.9	277 0	+ 23.7	303 0	+ 7.7	329 0	− 9.9	355 0	− 25.4
199 30	+ 35.4	225 30	+ 39.0	251 30	+ 34.7	277 30	+ 23.4	303 30	+ 7.3	329 30	− 10.2	355 30	− 25.7
200 0	+ 35.6	226 0	+ 39.0	252 0	+ 34.6	278 0	+ 23.1	304 0	+ 7.0	330 0	− 10.5	356 0	− 26.0
200 30	+ 35.7	226 30	+ 39.0	252 30	+ 34.4	278 30	+ 22.9	304 30	+ 6.7	330 30	− 10.9	356 30	− 26.2
201 0	+ 35.9	227 0	+ 39.0	253 0	+ 34.3	279 0	+ 22.6	305 0	+ 6.3	331 0	− 11.2	357 0	− 26.5
201 30	+ 36.0	227 30	+ 39.0	253 30	+ 34.1	279 30	+ 22.3	305 30	+ 6.0	331 30	− 11.5	357 30	− 26.7
202 0	+ 36.1	228 0	+ 39.0	254 0	+ 33.9	280 0	+ 22.0	306 0	+ 5.7	332 0	− 11.9	358 0	− 27.0
202 30	+ 36.3	228 30	+ 38.9	254 30	+ 33.8	280 30	+ 21.7	306 30	+ 5.3	332 30	− 12.2	358 30	− 27.2
203 0	+ 36.4	229 0	+ 38.9	255 0	+ 33.6	281 0	+ 21.5	307 0	+ 5.0	333 0	− 12.5	359 0	− 27.5
203 30	+ 36.5	229 30	+ 38.9	255 30	+ 33.4	281 30	+ 21.2	307 30	+ 4.6	333 30	− 12.8	359 30	− 27.7
204 0	+ 36.6	230 0	+ 38.9	256 0	+ 33.2	282 0	+ 20.9	308 0	+ 4.3	334 0	− 13.1	360 0	− 27.9
204 30	+ 36.7	230 30	+ 38.8	256 30	+ 33.1	282 30	+ 20.6	308 30	+ 4.0	334 30	− 13.5	360 30	− 28.2
205 0	+ 36.8	231 0	+ 38.8	257 0	+ 32.9	283 0	+ 20.3	309 0	+ 3.6	335 0	− 13.8	361 0	− 28.4
205 30	+ 37.0	231 30	+ 38.7	257 30	+ 32.7	283 30	+ 20.0	309 30	+ 3.3	335 30	− 14.1	361 30	− 28.6
206 0	+ 37.1	232 0	+ 38.7	258 0	+ 32.5	284 0	+ 19.7	310 0	+ 2.9	336 0	− 14.4	362 0	− 28.9
206 30	+ 37.2	232 30	+ 38.7	258 30	+ 32.3	284 30	+ 19.4	310 30	+ 2.6	336 30	− 14.7	362 30	− 29.1
207 0	+ 37.3	233 0	+ 38.6	259 0	+ 32.1	285 0	+ 19.1	311 0	+ 2.3	337 0	− 15.1	363 0	− 29.3
207 30	+ 37.4	233 30	+ 38.6	259 30	+ 31.9	285 30	+ 18.8	311 30	+ 1.9	337 30	− 15.4	363 30	− 29.5
208 0	+ 37.5	234 0	+ 38.5	260 0	+ 31.7	286 0	+ 18.5	312 0	+ 1.6	338 0	− 15.7	364 0	− 29.8

TABLA II

(SIEMPRE POSITIVA)
(NUNCA NEGATIFFFA)

h.L. Aries	ALTURA											
	10	15	20	25	30	35	40	45	50	55	60	65
°	′	′	′	′	′	′	′	′	′	′	′	′
0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
40	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
60	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2
100	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3
120	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.4	0.4
140	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.4	0.5
160	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.4
180	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2
200	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1
220	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
240	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
260	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2
280	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3
300	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.4	0.4
320	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.4	0.5
340	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.4
360	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2

h.L. Aries	Ene. 1	Feb. 1	Mar. 1	Abr. 1	May. 1	Jun. 1	Jul. 1	Ago. 1	Sep. 1	Oct. 1	Nov. 1	Dic. 1
°	′	′	′	′	′	′	′	′	′	′	′	′
0	+ 0.1	+ 0.1	_ 0.0	_ 0.2	_ 0.3	_ 0.4	_ 0.4	_ 0.2	_ 0.1	+ 0.1	+ 0.3	+ 0.4
20	+ 0.1	+ 0.2	+ 0.1	_ 0.1	_ 0.2	_ 0.3	_ 0.4	_ 0.3	_ 0.2	+ 0.0	+ 0.2	+ 0.4
40	+ 0.1	+ 0.2	+ 0.2	+ 0.1	_ 0.1	_ 0.2	_ 0.3	_ 0.3	_ 0.2	_ 0.1	+ 0.1	+ 0.3
60	+ 0.1	+ 0.2	+ 0.2	+ 0.2	+ 0.0	_ 0.1	_ 0.2	_ 0.3	_ 0.3	_ 0.2	_ 0.0	+ 0.1
80	+ 0.0	+ 0.2	+ 0.3	+ 0.3	+ 0.2	+ 0.0	_ 0.1	_ 0.2	_ 0.3	_ 0.3	_ 0.2	_ 0.0
100	_ 0.0	+ 0.2	+ 0.3	+ 0.3	+ 0.3	+ 0.2	_ 0.0	_ 0.2	_ 0.3	_ 0.3	_ 0.3	_ 0.2
120	_ 0.1	+ 0.1	+ 0.3	+ 0.3	+ 0.4	+ 0.3	+ 0.1	_ 0.0	_ 0.2	_ 0.3	_ 0.3	_ 0.3
140	_ 0.1	+ 0.0	+ 0.2	+ 0.3	+ 0.4	+ 0.3	+ 0.2	+ 0.1	_ 0.1	_ 0.3	_ 0.4	_ 0.4
160	_ 0.1	_ 0.0	+ 0.1	+ 0.3	+ 0.4	+ 0.4	+ 0.3	+ 0.2	_ 0.0	_ 0.2	_ 0.4	_ 0.4
180	– 0.1	_ 0.1	+ 0.0	+ 0.2	+ 0.3	+ 0.4	+ 0.4	+ 0.2	+ 0.1	_ 0.1	_ 0.3	_ 0.4
200	– 0.1	_ 0.2	_ 0.1	+ 0.1	+ 0.2	+ 0.3	+ 0.4	+ 0.3	+ 0.2	_ 0.0	_ 0.2	_ 0.4
220	– 0.1	_ 0.2	_ 0.2	_ 0.1	+ 0.1	+ 0.2	+ 0.3	+ 0.3	+ 0.2	+ 0.1	_ 0.1	_ 0.3
240	– 0.1	_ 0.2	_ 0.2	_ 0.2	_ 0.0	+ 0.1	+ 0.2	+ 0.3	+ 0.3	+ 0.2	+ 0.0	_ 0.1
260	– 0.0	_ 0.2	_ 0.3	_ 0.3	_ 0.2	_ 0.0	+ 0.1	+ 0.2	+ 0.3	+ 0.3	+ 0.2	+ 0.0
280	+ 0.0	_ 0.2	_ 0.3	_ 0.3	_ 0.3	_ 0.2	+ 0.0	+ 0.2	+ 0.3	+ 0.3	+ 0.3	+ 0.2
300	+ 0.1	_ 0.1	_ 0.3	_ 0.3	_ 0.4	_ 0.3	_ 0.1	+ 0.0	+ 0.2	+ 0.3	+ 0.3	+ 0.3
320	+ 0.1	_ 0.0	_ 0.2	_ 0.3	_ 0.4	_ 0.3	_ 0.2	_ 0.1	+ 0.1	+ 0.3	+ 0.4	+ 0.4
340	+ 0.1	+ 0.0	_ 0.1	_ 0.3	_ 0.4	_ 0.4	_ 0.3	_ 0.2	+ 0.0	+ 0.2	+ 0.4	+ 0.4
360	+ 0.1	+ 0.1	_ 0.0	_ 0.2	_ 0.3	_ 0.4	_ 0.4	_ 0.2	_ 0.1	+ 0.1	+ 0.3	+ 0.4

Ejemplo

E l 29 de abril 2020 a las 23h 18m 56s en long 082°25,0´, Lat 23 30,0´ la Alt Ap(corregida por refracción), Ho(hv) a la Polar era de 23°35,7´ . De las páginas diarias

AHG Aries 202° 36,3´

Incremento (18m 56s)

Longitud (082° 25,0´

Longitud (082° 25,0´

AHL Aries 124° 56,3´

Ho 23°35,7´

Corr AHL Aries -6,2´(Tabla I)

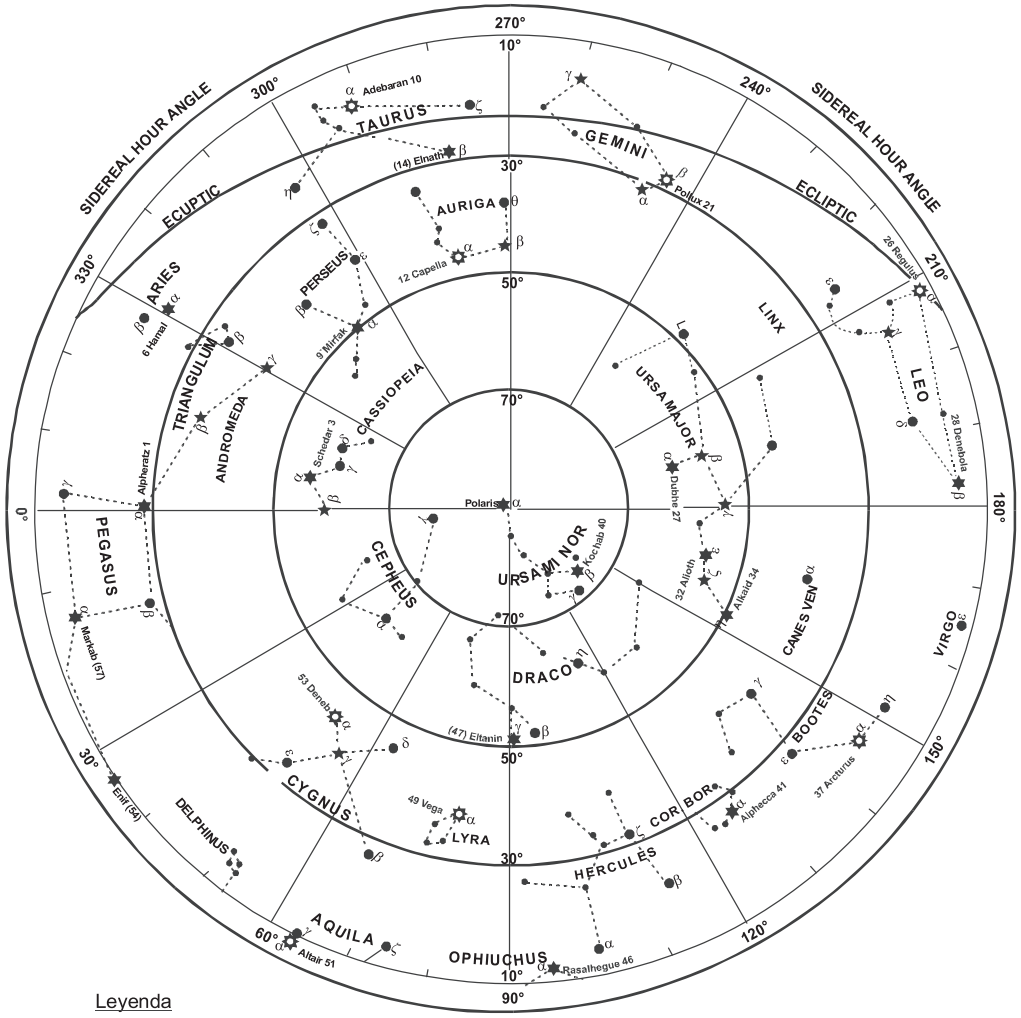
0,1´(Tabla II)

0,3´(Tabla II)

23°29,9´

CARTAS DE ESTRELLAS

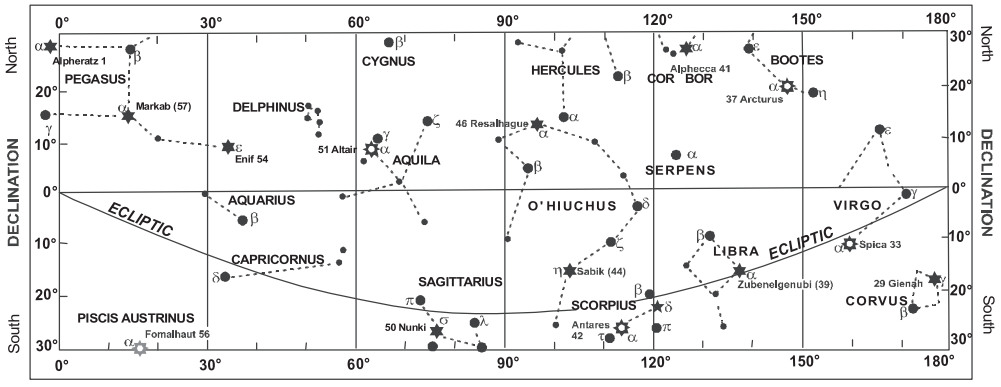
Estrellas del hemisferio Norte



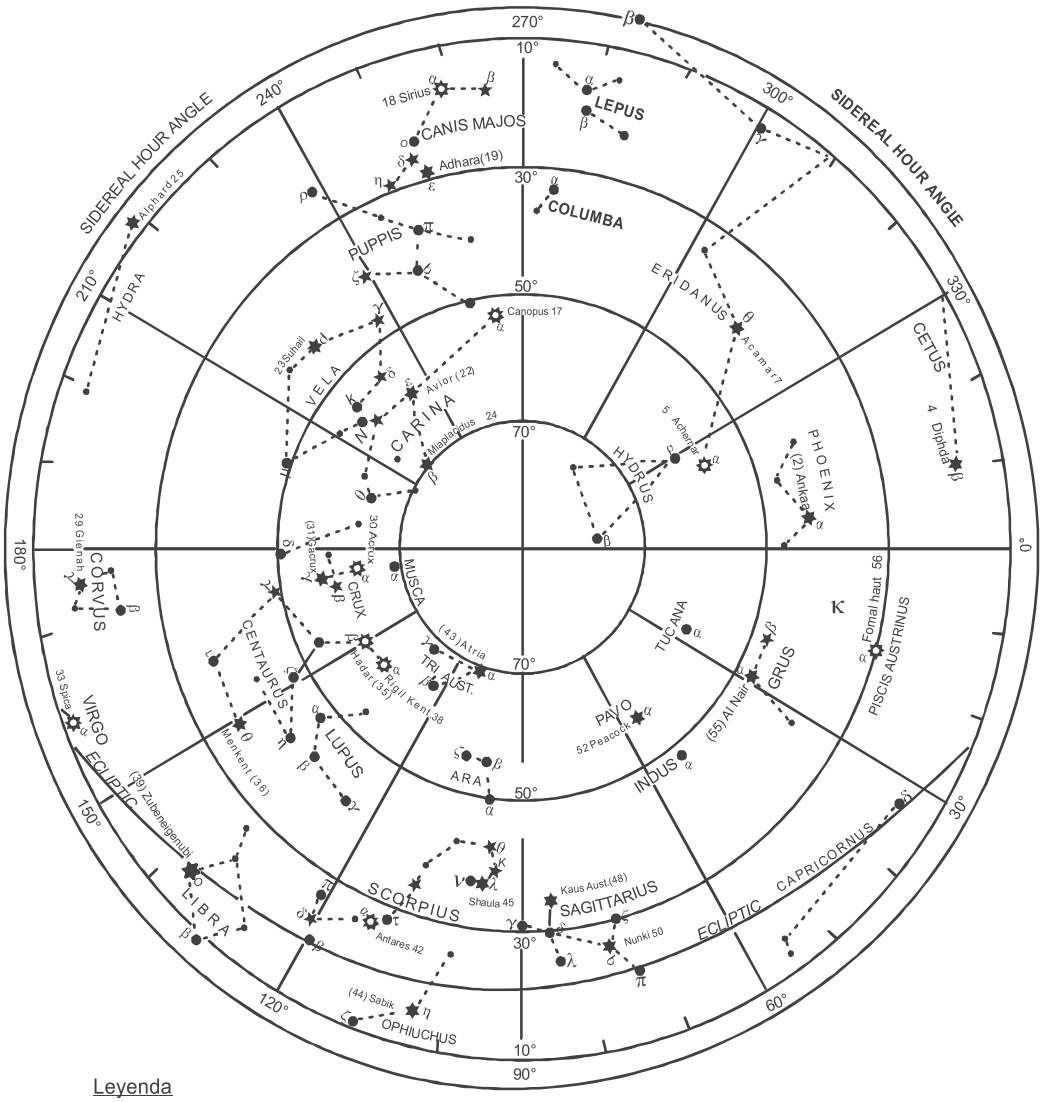
Leyenda

- Estrellas seleccionadas de magnitud 1,5 o mayor
- Estrellas seleccionadas de magnitud 1,6 o más débiles
- Estrellas de magnitud 2,5 o más brillantes
- Estrellas de magnitud 2,6 o más débiles
- Estrellas no tabuladas

ESTRELLAS ECUATORIALES (AHS DE 0°a 180°)



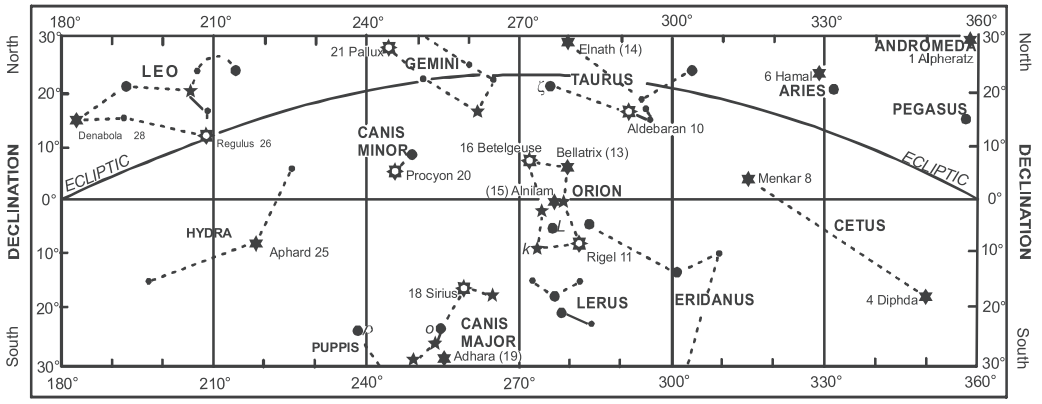
Estrellas del hemisferio Sur



Leyenda

- ✡ Estrellas seleccionadas de magnitud 1,5 o mayor
- ✸ Estrellas seleccionadas de magnitud 1,6 o más débiles
- ★ Estrellas de magnitud 2,5 o más brillantes
- ● Estrellas de magnitud 2,6 o más débiles
- • Estrellas no tabuladas

ESTRELLAS ECUATORIALES (AHS DE 180° a 360°)



PLANISFERIO ESTELAR

INSTRUCCIONES

El **Planisferio Estelar** es una ayuda para la identificación visual de las principales estrellas y en él han sido representadas hasta las de 4ª magnitud.

Cada constelación está delimitada por líneas discontinuas y las estrellas se identifican por sus letras griegas, o por sus nombres, aquellas que lo poseen.

El uso del **Planisferio Estelar** implica determinar la posición que ocupa el meridiano del observador en un momento dado, según la Hora Media Local (LMT) expresada de 0 a 24 horas.

Normalmente la diferencia entre la Hora del Huso (ZT) y la LMT de un lugar, no sobrepasa los 30 minutos, de modo que en la práctica, para soluciones aproximadas puede usarse ZT en sustitución de LMT.

Entrando con la fecha en las páginas diarias (Tabla 1), se obtiene la corrección necesaria para convertir la LMT en Hora Sidérea Local (LST) para lo cual se convertirá en tiempo el Ángulo Horario en Greenwich de Aries correspondiente a las 00 horas de UT y se le adicionará a la LMT. Las escalas de LST aparecen en los bordes superior e inferior del Planisferio, rotuladas de 0 a 24 horas, de derecha a izquierda.

El siguiente ejemplo muestra el uso del **Planisferio Estelar.**

Usted se halla en latitud 30º N el día 9 de junio, siendo las $10^h\ 20^m$ PM ($22^h\ 20^m$).

Determine las estrellas o constelaciones situadas en su meridiano o próximos a él ya sea al Este o al Oeste:

Hora Media Local (LMT)	$22^h\ 20^m$
Tabla 1 (con fecha, UT=00^h AHG Aries en tiempo)	$+\ 17^h\ 08^m$
	$39^h\ 28^m$
	$-\ 24^h$
LST (aproximada)	$15^h\ 28^m$

También se puede calcular la LST:

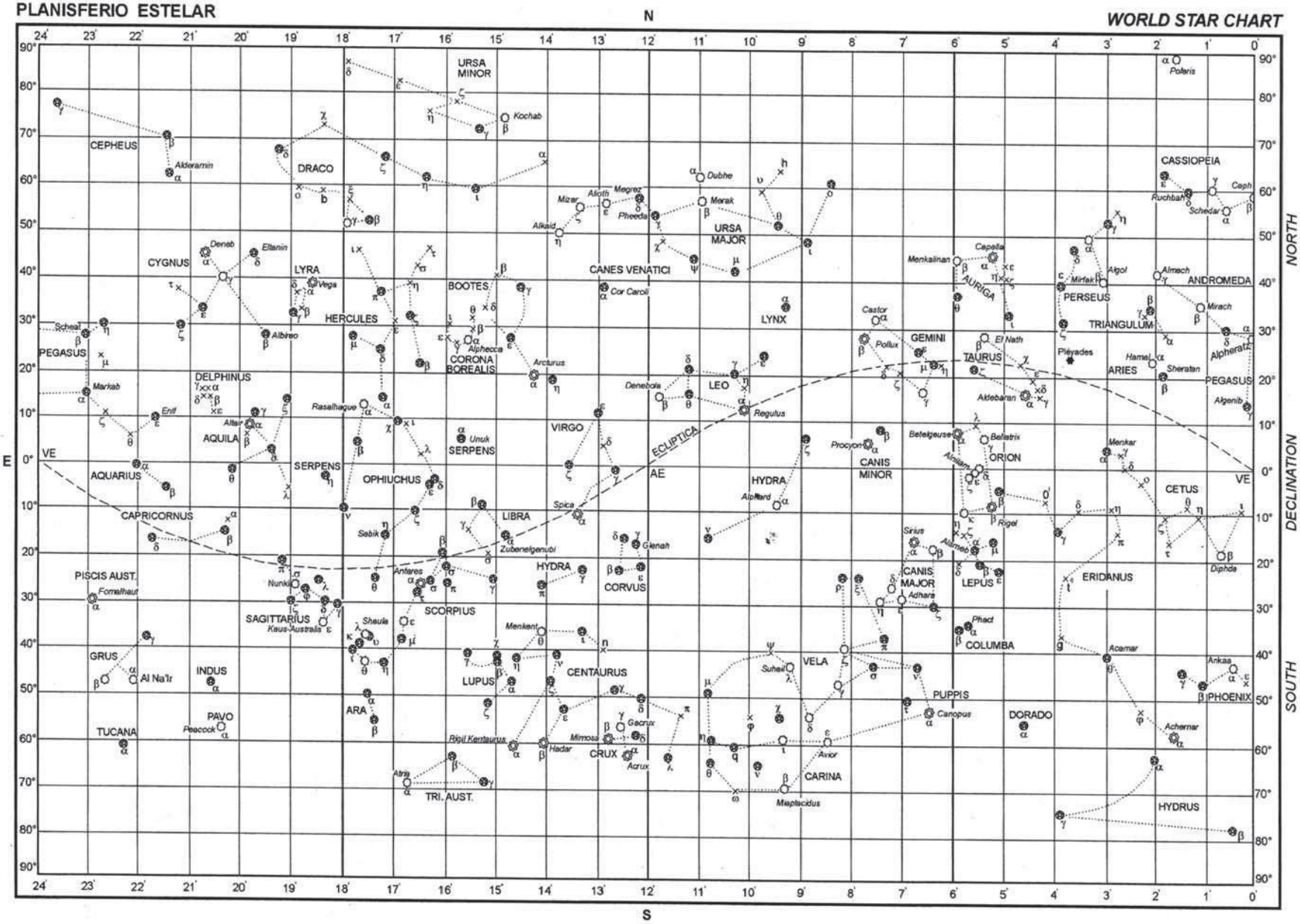
AHG de Aries para (LMT) 22^h	228º 24.0´
Corrección por minutos 20^m	+ 5º
	233º 24.0´
Conversión en tiempo del AHG Aries = LST	$15^h\ 33^m$

Colocando en dirección Norte – Sur una regla u otro objeto con un borde recto, que pase por el valor apropiado de LST en las escalas superior e inferior ($15^h\ 28^m$ en el ejemplo) usted localiza la posición de su meridiano.

Dado que la latitud de un lugar es igual a la declinación del zenit del observador, una mirada a lo largo del paralelo de declinación 30º N, muestra las estrellas y las constelaciones que pasarán por el meridiano del observador próximas al zenit. Así, la constelación predominante en su posición y hora de observación es para Corona Borealis, con su estrella principal (α Corona Borealis) llamada Alphecca.

El Angulo Horario (HA) de cualquier estrella se determina midiendo su distancia horizontal hasta el meridiano del observador al Este o al Oeste y usando la escala de LST, como escala de HA. De este modo usted obtiene que la estrella Vega (α de Lyra) pasará próxima a su zenit 3 horas más tarde, ya que su Angulo Horario es de unos 45º E ó 3h 00m E, medida sobre la escala de LST.

El modo más simple de usar este Planisferio Estelar es sosteniéndolo sobre su cabeza con el borde superior dirigido hacia el Norte y comparando las estrellas visibles con aquellas representadas en la carta.


PLANISFERIO ESTELAR
WORLD STAR CHART
N
S
E
W
NORTH
SOUTH
DECLINATION
ECLIPTICA
URSA MINOR
Kochab
Polaris
CEPHEUS
Alderamin
DRACO
CASSIOPEIA
Caph
Ruchbah
Schedar
Dubhe
Merak
Mizar
Alioth
Megrez
Phecda
Alkaid
URSA MAJOR
CYGNUS
Deneb
Eltanin
LYRA
Vega
CANES VENATICI
Cor Caroli
BOOTES
Arcturus
Alphecca
CORONA BOREALIS
HERCULES
Albireo
LYNX
Menkalinan
Capella
AURIGA
Castor
Pollux
GEMINI
El Nath
TAURUS
Aldebaran
PERSEUS
Algol
Mirfak
ANDROMEDA
Almach
TRIANGULUM
Mirach
Pleyades
Hamal
Sheratan
ARIES
Alpheratz
PEGASUS
Scheat
Markab
Enif
Algenib
DELPHINUS
Rasalhague
Denebola
LEO
Regulus
Unuk
SERPENS
VIRGO
Spica
Procyon
CANIS MINOR
Betelgeuse
Bellatrix
ORION
Alnilam
Mintaka
Rigel
Sirius
Alhena
CANIS MAJOR
Adhara
LEPUS
ERIDANUS
Diphda
CETUS
Menkar
AQUILA
Altair
Alshain
SERPENS
OPHIUCHUS
AE
HYDRA
Alphard
VE
AQUARIUS
CAPRICORNUS
Sabik
LIBRA
Zubenelgenubi
Glenah
CORVUS
HYDRA
Antares
SCORPIUS
PISCIS AUST.
Fomalhaut
Nunki
SAGITTARIUS
Kaus Australis
Shaula
Menkent
CENTAURUS
LUPUS
VELA
Suhail
PUPPIS
Canopus
COLUMBA
Phact
Acamar
GRUS
Al Na'ir
INDUS
PAVO
Peacock
TUCANA
ARA
Rigil Kentaurus
Hadar
Mimosa
Gacrux
CRUX
Acrux
DORADO
Achernar
Ankaa
PHOENIX
CARINA
Avior
Miaplacidus
TRI. AUST.
Atria
HYDRUS

Conversión de arco en tiempo

0°-59°		60°-119°		120°-179°		180°-239°		240°-299°		300°-359°			0.00'	0.25'	0.50'	0.75'
°	h m	°	h m	°	h m	°	h m	°	h m	°	h m	'	m s	m s	m s	m s
0	0 00	60	4 00	120	8 00	180	12 00	240	16 00	300	20 00	0	0 00	0 01	0 02	0 03
1	0 04	61	4 04	121	8 04	181	12 04	241	16 04	301	20 04	1	0 04	0 05	0 06	0 07
2	0 08	62	4 08	122	8 08	182	12 08	242	16 08	302	20 08	2	0 08	0 09	0 10	0 11
3	0 12	63	4 12	123	8 12	183	12 12	243	16 12	303	20 12	3	0 12	0 13	0 14	0 15
4	0 16	64	4 16	124	8 16	184	12 16	244	16 16	304	20 16	4	0 16	0 17	0 18	0 19
5	0 20	65	4 20	125	8 20	185	12 20	245	16 20	305	20 20	5	0 20	0 21	0 22	0 23
6	0 24	66	4 24	126	8 24	186	12 24	246	16 24	306	20 24	6	0 24	0 25	0 26	0 27
7	0 28	67	4 28	127	8 28	187	12 28	247	16 28	307	20 28	7	0 28	0 29	0 30	0 31
8	0 32	68	4 32	128	8 32	188	12 32	248	16 32	308	20 32	8	0 32	0 33	0 34	0 35
9	0 36	69	4 36	129	8 36	189	12 36	249	16 36	309	20 36	9	0 36	0 37	0 38	0 39
10	0 40	70	4 40	130	8 40	190	12 40	250	16 40	310	20 40	10	0 40	0 41	0 42	0 43
11	0 44	71	4 44	131	8 44	191	12 44	251	16 44	311	20 44	11	0 44	0 45	0 46	0 47
12	0 48	72	4 48	132	8 48	192	12 48	252	16 48	312	20 48	12	0 48	0 49	0 50	0 51
13	0 52	73	4 52	133	8 52	193	12 52	253	16 52	313	20 52	13	0 52	0 53	0 54	0 55
14	0 56	74	4 56	134	8 56	194	12 56	254	16 56	314	20 56	14	0 56	0 57	0 58	0 59
15	1 00	75	5 00	135	9 00	195	13 00	255	17 00	315	21 00	15	1 00	1 01	1 02	1 03
16	1 04	76	5 04	136	9 04	196	13 04	256	17 04	316	21 04	16	1 04	1 05	1 06	1 07
17	1 08	77	5 08	137	9 08	197	13 08	257	17 08	317	21 08	17	1 08	1 09	1 10	1 11
18	1 12	78	5 12	138	9 12	198	13 12	258	17 12	318	21 12	18	1 12	1 13	1 14	1 15
19	1 16	79	5 16	139	9 16	199	13 16	259	17 16	319	21 16	19	1 16	1 17	1 18	1 19
20	1 20	80	5 20	140	9 20	200	13 20	260	17 20	320	21 20	20	1 20	1 21	1 22	1 23
21	1 24	81	5 24	141	9 24	201	13 24	261	17 24	321	21 24	21	1 24	1 25	1 26	1 27
22	1 28	82	5 28	142	9 28	202	13 28	262	17 28	322	21 28	22	1 28	1 29	1 30	1 31
23	1 32	83	5 32	143	9 32	203	13 32	263	17 32	323	21 32	23	1 32	1 33	1 34	1 35
24	1 36	84	5 36	144	9 36	204	13 36	264	17 36	324	21 36	24	1 36	1 37	1 38	1 39
25	1 40	85	5 40	145	9 40	205	13 40	265	17 40	325	21 40	25	1 40	1 41	1 42	1 43
26	1 44	86	5 44	146	9 44	206	13 44	266	17 44	326	21 44	26	1 44	1 45	1 46	1 47
27	1 48	87	5 48	147	9 48	207	13 48	267	17 48	327	21 48	27	1 48	1 49	1 50	1 51
28	1 52	88	5 52	148	9 52	208	13 52	268	17 52	328	21 52	28	1 52	1 53	1 54	1 55
29	1 56	89	5 56	149	9 56	209	13 56	269	17 56	329	21 56	29	1 56	1 57	1 58	1 59
30	2 00	90	6 00	150	10 00	210	14 00	270	18 00	330	22 00	30	2 00	2 01	2 02	2 03
31	2 04	91	6 04	151	10 04	211	14 04	271	18 04	331	22 04	31	2 04	2 05	2 06	2 07
32	2 08	92	6 08	152	10 08	212	14 08	272	18 08	332	22 08	32	2 08	2 09	2 10	2 11
33	2 12	93	6 12	153	10 12	213	14 12	273	18 12	333	22 12	33	2 12	2 13	2 14	2 15
34	2 16	94	6 16	154	10 16	214	14 16	274	18 16	334	22 16	34	2 16	2 17	2 18	2 19
35	2 20	95	6 20	155	10 20	215	14 20	275	18 20	335	22 20	35	2 20	2 21	2 22	2 23
36	2 24	96	6 24	156	10 24	216	14 24	276	18 24	336	22 24	36	2 24	2 25	2 26	2 27
37	2 28	97	6 28	157	10 28	217	14 28	277	18 28	337	22 28	37	2 28	2 29	2 30	2 31
38	2 32	98	6 32	158	10 32	218	14 32	278	18 32	338	22 32	38	2 32	2 33	2 34	2 35
39	2 36	99	6 36	159	10 36	219	14 36	279	18 36	339	22 36	39	2 36	2 37	2 38	2 39
40	2 40	100	6 40	160	10 40	220	14 40	280	18 40	340	22 40	40	2 40	2 41	2 42	2 43
41	2 44	101	6 44	161	10 44	221	14 44	281	18 44	341	22 44	41	2 44	2 45	2 46	2 47
42	2 48	102	6 48	162	10 48	222	14 48	282	18 48	342	22 48	42	2 48	2 49	2 50	2 51
43	2 52	103	6 52	163	10 52	223	14 52	283	18 52	343	22 52	43	2 52	2 53	2 54	2 55
44	2 56	104	6 56	164	10 56	224	14 56	284	18 56	344	22 56	44	2 56	2 57	2 58	2 59
45	3 00	105	7 00	165	11 00	225	15 00	285	19 00	345	23 00	45	3 00	3 01	3 02	3 03
46	3 04	106	7 04	166	11 04	226	15 04	286	19 04	346	23 04	46	3 04	3 05	3 06	3 07
47	3 08	107	7 08	167	11 08	227	15 08	287	19 08	347	23 08	47	3 08	3 09	3 10	3 11
48	3 12	108	7 12	168	11 12	228	15 12	288	19 12	348	23 12	48	3 12	3 13	3 14	3 15
49	3 16	109	7 16	169	11 16	229	15 16	289	19 16	349	23 16	49	3 16	3 17	3 18	3 19
50	3 20	110	7 20	170	11 20	230	15 20	290	19 20	350	23 20	50	3 20	3 21	3 22	3 23
51	3 24	111	7 24	171	11 24	231	15 24	291	19 24	351	23 24	51	3 24	3 25	3 26	3 27
52	3 28	112	7 28	172	11 28	232	15 28	292	19 28	352	23 28	52	3 28	3 29	3 30	3 31
53	3 32	113	7 32	173	11 32	233	15 32	293	19 32	353	23 32	53	3 32	3 33	3 34	3 35
54	3 36	114	7 36	174	11 36	234	15 36	294	19 36	354	23 36	54	3 36	3 37	3 38	3 39
55	3 40	115	7 40	175	11 40	235	15 40	295	19 40	355	23 40	55	3 40	3 41	3 42	3 43
56	3 44	116	7 44	176	11 44	236	15 44	296	19 44	356	23 44	56	3 44	3 45	3 46	3 47
57	3 48	117	7 46	177	11 48	237	15 48	297	19 48	357	23 48	57	3 48	3 49	3 50	3 51
58	3 52	118	7 52	178	11 52	238	15 52	298	19 52	358	23 52	58	3 52	3 53	3 54	3 55
59	3 56	119	7 56	179	11 56	239	15 56	299	19 56	359	23 56	59	3 56	3 57	3 58	3 59

La tabla mostrada permite convertir de arco a su equivalente en tiempo.

m 0	SOL PLANETAS	ARIES	LUNA	v d	Corr	v d	Corr	v d	Corr
s	° '	° '	° '	'	'	'	'	'	'
00	0 00,0	0 00,0	0 00,0	0,0	0,0	6,0	0,1	12,0	0,1
01	0 00,3	0 00,3	0 00,2	0,1	0,0	6,1	0,1	12,1	0,1
02	0 00,5	0 00,5	0 00,4	0,2	0,0	6,2	0,1	12,2	0,1
03	0 00,8	0 00,8	0 00,7	0,3	0,0	6,3	0,1	12,3	0,1
04	0 01,0	0 01,0	0 00,9	0,4	0,0	6,4	0,1	12,4	0,1
05	0 01,3	0 01,3	0 01,2	0,5	0,0	6,5	0,1	12,5	0,1
06	0 01,5	0 01,5	0 01,4	0,6	0,0	6,6	0,1	12,6	0,1
07	0 01,8	0 01,8	0 01,7	0,7	0,0	6,7	0,1	12,7	0,1
08	0 02,0	0 02,0	0 01,9	0,8	0,0	6,8	0,1	12,8	0,1
09	0 02,3	0 02,3	0 02,1	0,9	0,0	6,9	0,1	12,9	0,1
10	0 02,5	0 02,5	0 02,3	1,0	0,0	7,0	0,1	13,0	0,1
11	0 02,8	0 02,8	0 02,6	1,1	0,0	7,1	0,1	13,1	0,1
12	0 03,0	0 03,0	0 02,8	1,2	0,0	7,2	0,1	13,2	0,1
13	0 03,3	0 03,3	0 03,1	1,3	0,0	7,3	0,1	13,3	0,1
14	0 03,5	0 03,5	0 03,3	1,4	0,0	7,4	0,1	13,4	0,1
15	0 03,8	0 03,8	0 03,6	1,5	0,0	7,5	0,1	13,5	0,1
16	0 04,0	0 04,0	0 03,8	1,6	0,0	7,6	0,1	13,6	0,1
17	0 04,3	0 04,3	0 04,1	1,7	0,0	7,7	0,1	13,7	0,1
18	0 04,5	0 04,5	0 04,3	1,8	0,0	7,8	0,1	13,8	0,1
19	0 04,8	0 04,8	0 04,6	1,9	0,0	7,9	0,1	13,9	0,1
20	0 05,0	0 05,0	0 04,8	2,0	0,0	8,0	0,1	14,0	0,1
21	0 05,3	0 05,3	0 05,1	2,1	0,0	8,1	0,1	14,1	0,1
22	0 05,5	0 05,5	0 05,3	2,2	0,0	8,2	0,1	14,2	0,1
23	0 05,8	0 05,8	0 05,6	2,3	0,0	8,3	0,1	14,3	0,1
24	0 06,0	0 06,0	0 05,8	2,4	0,0	8,4	0,1	14,4	0,1
25	0 06,3	0 06,3	0 06,1	2,5	0,0	8,5	0,1	14,5	0,1
26	0 06,5	0 06,5	0 06,3	2,6	0,0	8,6	0,1	14,6	0,1
27	0 06,8	0 06,8	0 06,6	2,7	0,0	8,7	0,1	14,7	0,1
28	0 07,0	0 07,0	0 06,8	2,8	0,0	8,8	0,1	14,8	0,1
29	0 07,3	0 07,3	0 07,1	2,9	0,0	8,9	0,1	14,9	0,1
30	0 07,5	0 07,5	0 07,2	3,0	0,0	9,0	0,1	15,0	0,1
31	0 07,8	0 07,8	0 07,5	3,1	0,0	9,1	0,1	15,1	0,1
32	0 08,0	0 08,0	0 07,7	3,2	0,0	9,2	0,1	15,2	0,1
33	0 08,3	0 08,3	0 08,0	3,3	0,0	9,3	0,1	15,3	0,1
34	0 08,5	0 08,5	0 08,2	3,4	0,0	9,4	0,1	15,4	0,1
35	0 08,8	0 08,8	0 08,4	3,5	0,0	9,5	0,1	15,5	0,1
36	0 09,0	0 09,0	0 08,6	3,6	0,0	9,6	0,1	15,6	0,1
37	0 09,3	0 09,3	0 08,9	3,7	0,0	9,7	0,1	15,7	0,1
38	0 09,5	0 09,5	0 09,1	3,8	0,0	9,8	0,1	15,8	0,1
39	0 09,8	0 09,8	0 09,3	3,9	0,0	9,9	0,1	15,9	0,1
40	0 10,0	0 10,0	0 09,5	4,0	0,0	10,0	0,1	16,0	0,1
41	0 10,3	0 10,3	0 09,8	4,1	0,0	10,1	0,1	16,1	0,1
42	0 10,5	0 10,5	0 10,0	4,2	0,0	10,2	0,1	16,2	0,1
43	0 10,8	0 10,8	0 10,3	4,3	0,0	10,3	0,1	16,3	0,1
44	0 11,0	0 11,0	0 10,5	4,4	0,0	10,4	0,1	16,4	0,1
45	0 11,3	0 11,3	0 10,8	4,5	0,0	10,5	0,1	16,5	0,1
46	0 11,5	0 11,5	0 11,0	4,6	0,0	10,6	0,1	16,6	0,1
47	0 11,8	0 11,8	0 11,2	4,7	0,0	10,7	0,1	16,7	0,1
48	0 12,0	0 12,0	0 11,4	4,8	0,0	10,8	0,1	16,8	0,1
49	0 12,3	0 12,3	0 11,7	4,9	0,0	10,9	0,1	16,9	0,1
50	0 12,5	0 12,5	0 11,9	5,0	0,0	11,0	0,1	17,0	0,1
51	0 12,8	0 12,8	0 12,2	5,1	0,0	11,1	0,1	17,1	0,1
52	0 13,0	0 13,0	0 12,4	5,2	0,0	11,2	0,1	17,2	0,1
53	0 13,3	0 13,3	0 12,7	5,3	0,0	11,3	0,1	17,3	0,1
54	0 13,5	0 13,5	0 12,9	5,4	0,0	11,4	0,1	17,4	0,1
55	0 13,8	0 13,8	0 13,1	5,5	0,0	11,5	0,1	17,5	0,1
56	0 14,0	0 14,0	0 13,3	5,6	0,0	11,6	0,1	17,6	0,1
57	0 14,3	0 14,3	0 13,6	5,7	0,0	11,7	0,1	17,7	0,1
58	0 14,5	0 14,5	0 13,8	5,8	0,0	11,8	0,1	17,8	0,1
59	0 14,8	0 14,8	0 14,1	5,9	0,0	11,9	0,1	17,9	0,1
60	0 15,0	0 15,0	0 14,3	6,0	0,1	12,0	0,1	18,0	0,2

m 1	SOL PLANETAS	ARIES	LUNA	v d	Corr	v d	Corr	v d	Corr
s	° '	° '	° '	'	'	'	'	'	'
00	0 15,0	0 15,0	0 14,3	0,0	0,0	6,0	0,2	12,0	0,3
01	0 15,3	0 15,3	0 14,6	0,1	0,0	6,1	0,2	12,1	0,3
02	0 15,5	0 15,5	0 14,8	0,2	0,0	6,2	0,2	12,2	0,3
03	0 15,8	0 15,8	0 15,1	0,3	0,0	6,3	0,2	12,3	0,3
04	0 16,0	0 16,0	0 15,3	0,4	0,0	6,4	0,2	12,4	0,3
05	0 16,3	0 16,3	0 15,6	0,5	0,0	6,5	0,2	12,5	0,3
06	0 16,5	0 16,5	0 15,9	0,6	0,0	6,6	0,2	12,6	0,3
07	0 16,8	0 16,8	0 16,1	0,7	0,0	6,7	0,2	12,7	0,3
08	0 17,0	0 17,0	0 16,4	0,8	0,0	6,8	0,2	12,8	0,3
09	0 17,3	0 17,3	0 16,6	0,9	0,0	6,9	0,2	12,9	0,3
10	0 17,5	0 17,5	0 16,9	1,0	0,0	7,0	0,2	13,0	0,3
11	0 17,8	0 17,8	0 17,2	1,1	0,0	7,1	0,2	13,1	0,3
12	0 18,0	0 18,0	0 17,4	1,2	0,0	7,2	0,2	13,2	0,3
13	0 18,3	0 18,3	0 17,7	1,3	0,0	7,3	0,2	13,3	0,3
14	0 18,5	0 18,5	0 17,9	1,4	0,0	7,4	0,2	13,4	0,3
15	0 18,8	0 18,8	0 18,2	1,5	0,0	7,5	0,2	13,5	0,3
16	0 19,0	0 19,0	0 18,5	1,6	0,0	7,6	0,2	13,6	0,3
17	0 19,3	0 19,3	0 18,7	1,7	0,0	7,7	0,2	13,7	0,3
18	0 19,5	0 19,5	0 19,0	1,8	0,0	7,8	0,2	13,8	0,3
19	0 19,8	0 19,8	0 19,2	1,9	0,0	7,9	0,2	13,9	0,3
20	0 20,0	0 20,0	0 19,5	2,0	0,1	8,0	0,2	14,0	0,4
21	0 20,3	0 20,3	0 19,8	2,1	0,1	8,1	0,2	14,1	0,4
22	0 20,5	0 20,5	0 20,0	2,2	0,1	8,2	0,2	14,2	0,4
23	0 20,8	0 20,8	0 20,3	2,3	0,1	8,3	0,2	14,3	0,4
24	0 21,0	0 21,0	0 20,5	2,4	0,1	8,4	0,2	14,4	0,4
25	0 21,3	0 21,3	0 20,8	2,5	0,1	8,5	0,2	14,5	0,4
26	0 21,5	0 21,5	0 21,1	2,6	0,1	8,6	0,2	14,6	0,4
27	0 21,8	0 21,8	0 21,3	2,7	0,1	8,7	0,2	14,7	0,4
28	0 22,0	0 22,0	0 21,6	2,8	0,1	8,8	0,2	14,8	0,4
29	0 22,3	0 22,3	0 21,8	2,9	0,1	8,9	0,2	14,9	0,4
30	0 22,5	0 22,5	0 22,1	3,0	0,1	9,0	0,2	15,0	0,4
31	0 22,8	0 22,8	0 22,4	3,1	0,1	9,1	0,2	15,1	0,4
32	0 23,0	0 23,0	0 22,6	3,2	0,1	9,2	0,2	15,2	0,4
33	0 23,3	0 23,3	0 22,9	3,3	0,1	9,3	0,2	15,3	0,4
34	0 23,5	0 23,5	0 23,1	3,4	0,1	9,4	0,2	15,4	0,4
35	0 23,8	0 23,8	0 23,4	3,5	0,1	9,5	0,2	15,5	0,4
36	0 24,0	0 24,0	0 23,7	3,6	0,1	9,6	0,2	15,6	0,4
37	0 24,3	0 24,3	0 23,9	3,7	0,1	9,7	0,2	15,7	0,4
38	0 24,5	0 24,5	0 24,2	3,8	0,1	9,8	0,2	15,8	0,4
39	0 24,8	0 24,8	0 24,4	3,9	0,1	9,9	0,2	15,9	0,4
40	0 25,0	0 25,0	0 24,7	4,0	0,1	10,0	0,3	16,0	0,4
41	0 25,3	0 25,3	0 24,9	4,1	0,1	10,1	0,3	16,1	0,4
42	0 25,5	0 25,5	0 25,2	4,2	0,1	10,2	0,3	16,2	0,4
43	0 25,8	0 25,8	0 25,5	4,3	0,1	10,3	0,3	16,3	0,4
44	0 26,0	0 26,0	0 25,7	4,4	0,1	10,4	0,3	16,4	0,4
45	0 26,3	0 26,3	0 26,0	4,5	0,1	10,5	0,3	16,5	0,4
46	0 26,5	0 26,5	0 26,2	4,6	0,1	10,6	0,3	16,6	0,4
47	0 26,8	0 26,8	0 26,5	4,7	0,1	10,7	0,3	16,7	0,4
48	0 27,0	0 27,0	0 26,8	4,8	0,1	10,8	0,3	16,8	0,4
49	0 27,3	0 27,3	0 27,0	4,9	0,1	10,9	0,3	16,9	0,4
50	0 27,5	0 27,5	0 27,3	5,0	0,1	11,0	0,3	17,0	0,4
51	0 27,8	0 27,8	0 27,5	5,1	0,1	11,1	0,3	17,1	0,4
52	0 28,0	0 28,0	0 27,8	5,2	0,1	11,2	0,3	17,2	0,4
53	0 28,3	0 28,3	0 28,1	5,3	0,1	11,3	0,3	17,3	0,4
54	0 28,5	0 28,5	0 28,3	5,4	0,1	11,4	0,3	17,4	0,4
55	0 28,8	0 28,8	0 28,6	5,5	0,1	11,5	0,3	17,5	0,4
56	0 29,0	0 29,0	0 28,8	5,6	0,1	11,6	0,3	17,6	0,4
57	0 29,3	0 29,3	0 29,1	5,7	0,1	11,7	0,3	17,7	0,4
58	0 29,5	0 29,5	0 29,4	5,8	0,1	11,8	0,3	17,8	0,4
59	0 29,8	0 29,8	0 29,6	5,9	0,1	11,9	0,3	17,9	0,4
60	0 30,0	0 30,0	0 29,9	6,0	0,2	12,0	0,3	18,0	0,5

m 2	SOL PLANETAS	ARIES	LUNA	v d	Corr	v d	Corr	v d	Corr
s	° ′	° ′	° ′	′	′	′	′	′	′
00	0 30,0	0 30,1	0 28,6	0,0	0,0	6,0	0,3	12,0	0,5
01	0 30,3	0 30,4	0 28,9	0,1	0,0	6,1	0,3	12,1	0,5
02	0 30,5	0 30,6	0 29,1	0,2	0,0	6,2	0,3	12,2	0,5
03	0 30,8	0 30,9	0 29,4	0,3	0,0	6,3	0,3	12,3	0,5
04	0 31,0	0 31,1	0 29,6	0,4	0,0	6,4	0,3	12,4	0,5
05	0 31,3	0 31,4	0 29,9	0,5	0,0	6,5	0,3	12,5	0,5
06	0 31,5	0 31,6	0 30,1	0,6	0,0	6,6	0,3	12,6	0,5
07	0 31,8	0 31,9	0 30,4	0,7	0,0	6,7	0,3	12,7	0,5
08	0 32,0	0 32,1	0 30,6	0,8	0,0	6,8	0,3	12,8	0,5
09	0 32,3	0 32,4	0 30,9	0,9	0,0	6,9	0,3	12,9	0,5
10	0 32,5	0 32,6	0 31,1	1,0	0,0	7,0	0,3	13,0	0,5
11	0 32,8	0 32,9	0 31,4	1,1	0,0	7,1	0,3	13,1	0,5
12	0 33,0	0 33,1	0 31,6	1,2	0,1	7,2	0,3	13,2	0,5
13	0 33,3	0 33,4	0 31,9	1,3	0,1	7,3	0,3	13,3	0,6
14	0 33,5	0 33,6	0 32,1	1,4	0,1	7,4	0,3	13,4	0,6
15	0 33,8	0 33,9	0 32,4	1,5	0,1	7,5	0,3	13,5	0,6
16	0 34,0	0 34,1	0 32,6	1,6	0,1	7,6	0,3	13,6	0,6
17	0 34,3	0 34,4	0 32,9	1,7	0,1	7,7	0,3	13,7	0,6
18	0 34,5	0 34,6	0 33,0	1,8	0,1	7,8	0,3	13,8	0,6
19	0 34,8	0 34,9	0 33,2	1,9	0,1	7,9	0,3	13,9	0,6
20	0 35,0	0 35,1	0 33,5	2,0	0,1	8,0	0,3	14,0	0,6
21	0 35,3	0 35,4	0 33,7	2,1	0,1	8,1	0,3	14,1	0,6
22	0 35,5	0 35,6	0 34,0	2,2	0,1	8,2	0,3	14,2	0,6
23	0 35,8	0 35,9	0 34,2	2,3	0,1	8,3	0,3	14,3	0,6
24	0 36,0	0 36,1	0 34,5	2,4	0,1	8,4	0,4	14,4	0,6
25	0 36,3	0 36,4	0 34,7	2,5	0,1	8,5	0,4	14,5	0,6
26	0 36,5	0 36,6	0 34,9	2,6	0,1	8,6	0,4	14,6	0,6
27	0 36,8	0 36,9	0 35,2	2,7	0,1	8,7	0,4	14,7	0,6
28	0 37,0	0 37,1	0 35,4	2,8	0,1	8,8	0,4	14,8	0,6
29	0 37,3	0 37,4	0 35,7	2,9	0,1	8,9	0,4	14,9	0,6
30	0 37,5	0 37,6	0 35,9	3,0	0,1	9,0	0,4	15,0	0,6
31	0 37,8	0 37,9	0 36,2	3,1	0,1	9,1	0,4	15,1	0,6
32	0 38,0	0 38,1	0 36,4	3,2	0,1	9,2	0,4	15,2	0,6
33	0 38,3	0 38,4	0 36,6	3,3	0,1	9,3	0,4	15,3	0,6
34	0 38,5	0 38,6	0 36,9	3,4	0,1	9,4	0,4	15,4	0,6
35	0 38,8	0 38,9	0 37,0	3,5	0,1	9,5	0,4	15,5	0,6
36	0 39,0	0 39,1	0 37,3	3,6	0,2	9,6	0,4	15,6	0,7
37	0 39,3	0 39,4	0 37,5	3,7	0,2	9,7	0,4	15,7	0,7
38	0 39,5	0 39,6	0 37,8	3,8	0,2	9,8	0,4	15,8	0,7
39	0 39,8	0 39,9	0 38,0	3,9	0,2	9,9	0,4	15,9	0,7
40	0 40,0	0 40,1	0 38,2	4,0	0,2	10,0	0,4	16,0	0,7
41	0 40,3	0 40,4	0 38,5	4,1	0,2	10,1	0,4	16,1	0,7
42	0 40,5	0 40,6	0 38,7	4,2	0,2	10,2	0,4	16,2	0,7
43	0 40,8	0 40,9	0 39,0	4,3	0,2	10,3	0,4	16,3	0,7
44	0 41,0	0 41,1	0 39,2	4,4	0,2	10,4	0,4	16,4	0,7
45	0 41,3	0 41,4	0 39,4	4,5	0,2	10,5	0,4	16,5	0,7
46	0 41,5	0 41,6	0 39,7	4,6	0,2	10,6	0,4	16,6	0,7
47	0 41,8	0 41,9	0 39,9	4,7	0,2	10,7	0,4	16,7	0,7
48	0 42,0	0 42,1	0 40,2	4,8	0,2	10,8	0,5	16,8	0,7
49	0 42,3	0 42,4	0 40,4	4,9	0,2	10,9	0,5	16,9	0,7
50	0 42,5	0 42,6	0 40,6	5,0	0,2	11,0	0,5	17,0	0,7
51	0 42,8	0 42,9	0 40,9	5,1	0,2	11,1	0,5	17,1	0,7
52	0 43,0	0 43,1	0 41,1	5,2	0,2	11,2	0,5	17,2	0,7
53	0 43,3	0 43,4	0 41,4	5,3	0,2	11,3	0,5	17,3	0,7
54	0 43,5	0 43,6	0 41,6	5,4	0,2	11,4	0,5	17,4	0,7
55	0 43,8	0 43,9	0 41,9	5,5	0,2	11,5	0,5	17,5	0,7
56	0 44,0	0 44,1	0 42,1	5,6	0,2	11,6	0,5	17,6	0,7
57	0 44,3	0 44,4	0 42,3	5,7	0,2	11,7	0,5	17,7	0,7
58	0 44,5	0 44,6	0 42,6	5,8	0,2	11,8	0,5	17,8	0,7
59	0 44,8	0 44,9	0 42,8	5,9	0,2	11,9	0,5	17,9	0,7
60	0 45,0	0 45,1	0 43,0	6,0	0,3	12,0	0,5	18,0	0,8

m 3	SOL PLANETAS	ARIES	LUNA	v d	Corr	v d	Corr	v d	Corr
s	° ′	° ′	° ′	′	′	′	′	′	′
00	0 45,0	0 45,1	0 43,0	0,0	0,0	6,0	0,4	12,0	0,7
01	0 45,3	0 45,4	0 43,2	0,1	0,0	6,1	0,4	12,1	0,7
02	0 45,5	0 45,6	0 43,5	0,2	0,0	6,2	0,4	12,2	0,7
03	0 45,8	0 45,9	0 43,7	0,3	0,0	6,3	0,4	12,3	0,7
04	0 46,0	0 46,1	0 44,0	0,4	0,0	6,4	0,4	12,4	0,7
05	0 46,3	0 46,4	0 44,2	0,5	0,0	6,5	0,4	12,5	0,7
06	0 46,5	0 46,6	0 44,4	0,6	0,0	6,6	0,4	12,6	0,7
07	0 46,8	0 46,9	0 44,7	0,7	0,0	6,7	0,4	12,7	0,7
08	0 47,0	0 47,1	0 44,9	0,8	0,0	6,8	0,4	12,8	0,8
09	0 47,3	0 47,4	0 45,2	0,9	0,1	6,9	0,4	12,9	0,8
10	0 47,5	0 47,6	0 45,4	1,0	0,1	7,0	0,4	13,0	0,8
11	0 47,8	0 47,9	0 45,6	1,1	0,1	7,1	0,4	13,1	0,8
12	0 48,0	0 48,1	0 45,9	1,2	0,1	7,2	0,4	13,2	0,8
13	0 48,3	0 48,4	0 46,1	1,3	0,1	7,3	0,4	13,3	0,8
14	0 48,5	0 48,6	0 46,3	1,4	0,1	7,4	0,4	13,4	0,8
15	0 48,8	0 48,9	0 46,6	1,5	0,1	7,5	0,4	13,5	0,8
16	0 49,0	0 49,1	0 46,8	1,6	0,1	7,6	0,4	13,6	0,8
17	0 49,3	0 49,4	0 47,1	1,7	0,1	7,7	0,4	13,7	0,8
18	0 49,5	0 49,6	0 47,3	1,8	0,1	7,8	0,5	13,8	0,8
19	0 49,8	0 49,9	0 47,5	1,9	0,1	7,9	0,5	13,9	0,8
20	0 50,0	0 50,1	0 47,8	2,0	0,1	8,0	0,5	14,0	0,8
21	0 50,3	0 50,4	0 48,0	2,1	0,1	8,1	0,5	14,1	0,8
22	0 50,5	0 50,6	0 48,3	2,2	0,1	8,2	0,5	14,2	0,8
23	0 50,8	0 50,9	0 48,5	2,3	0,1	8,3	0,5	14,3	0,8
24	0 51,0	0 51,1	0 48,7	2,4	0,1	8,4	0,5	14,4	0,8
25	0 51,3	0 51,4	0 49,0	2,5	0,1	8,5	0,5	14,5	0,8
26	0 51,5	0 51,6	0 49,2	2,6	0,2	8,6	0,5	14,6	0,9
27	0 51,8	0 51,9	0 49,5	2,7	0,2	8,7	0,5	14,7	0,9
28	0 52,0	0 52,1	0 49,7	2,8	0,2	8,8	0,5	14,8	0,9
29	0 52,3	0 52,4	0 49,9	2,9	0,2	8,9	0,5	14,9	0,9
30	0 52,5	0 52,6	0 50,2	3,0	0,2	9,0	0,5	15,0	0,9
31	0 52,8	0 52,9	0 50,4	3,1	0,2	9,1	0,5	15,1	0,9
32	0 53,0	0 53,1	0 50,7	3,2	0,2	9,2	0,5	15,2	0,9
33	0 53,3	0 53,4	0 50,9	3,3	0,2	9,3	0,5	15,3	0,9
34	0 53,5	0 53,6	0 51,1	3,4	0,2	9,4	0,5	15,4	0,9
35	0 53,8	0 53,9	0 51,4	3,5	0,2	9,5	0,6	15,5	0,9
36	0 54,0	0 54,1	0 51,6	3,6	0,2	9,6	0,6	15,6	0,9
37	0 54,3	0 54,4	0 51,9	3,7	0,2	9,7	0,6	15,7	0,9
38	0 54,5	0 54,6	0 52,1	3,8	0,2	9,8	0,6	15,8	0,9
39	0 54,8	0 54,9	0 52,3	3,9	0,2	9,9	0,6	15,9	0,9
40	0 55,0	0 55,1	0 52,6	4,0	0,2	10,0	0,6	16,0	0,9
41	0 55,3	0 55,4	0 52,8	4,1	0,2	10,1	0,6	16,1	0,9
42	0 55,5	0 55,6	0 53,0	4,2	0,2	10,2	0,6	16,2	0,9
43	0 55,8	0 55,9	0 53,3	4,3	0,3	10,3	0,6	16,3	1,0
44	0 56,0	0 56,1	0 53,5	4,4	0,3	10,4	0,6	16,4	1,0
45	0 56,3	0 56,4	0 53,8	4,5	0,3	10,5	0,6	16,5	1,0
46	0 56,5	0 56,6	0 54,0	4,6	0,3	10,6	0,6	16,6	1,0
47	0 56,8	0 56,9	0 54,2	4,7	0,3	10,7	0,6	16,7	1,0
48	0 57,0	0 57,1	0 54,5	4,8	0,3	10,8	0,6	16,8	1,0
49	0 57,3	0 57,4	0 54,7	4,9	0,3	10,9	0,6	16,9	1,0
50	0 57,5	0 57,6	0 55,0	5,0	0,3	11,0	0,6	17,0	1,0
51	0 57,8	0 57,9	0 55,2	5,1	0,3	11,1	0,6	17,1	1,0
52	0 58,0	0 58,1	0 55,4	5,2	0,3	11,2	0,7	17,2	1,0
53	0 58,3	0 58,4	0 55,7	5,3	0,3	11,3	0,7	17,3	1,0
54	0 58,5	0 58,6	0 55,9	5,4	0,3	11,4	0,7	17,4	1,0
55	0 58,8	0 58,9	0 56,2	5,5	0,3	11,5	0,7	17,5	1,0
56	0 59,0	0 59,1	0 56,4	5,6	0,3	11,6	0,7	17,6	1,0
57	0 59,3	0 59,4	0 56,6	5,7	0,3	11,7	0,7	17,7	1,0
58	0 59,5	0 59,6	0 56,9	5,8	0,3	11,8	0,7	17,8	1,0
59	0 59,8	0 59,9	0 57,1	5,9	0,3	11,9	0,7	17,9	1,0
60	1 00,0	1 00,2	0 57,4	6,0	0,4	12,0	0,7	18,0	1,1

m 4	SOL PLANETAS	ARIES	LUNA	v d	Corr	v d	Corr	v d	Corr
s	° ′	° ′	° ′	′	′	′	′	′	′
00	1 00,0	1 00,2	0 57,4	0,0	0,0	6,0	0,5	12,0	0,9
01	1 00,3	1 00,5	0 57,6	0,1	0,0	6,1	0,5	12,1	0,9
02	1 00,5	1 00,7	0 57,9	0,2	0,0	6,2	0,5	12,2	0,9
03	1 00,8	1 01,0	0 58,1	0,3	0,0	6,3	0,5	12,3	0,9
04	1 01,0	1 01,2	0 58,4	0,4	0,0	6,4	0,5	12,4	0,9
05	1 01,3	1 01,5	0 58,6	0,5	0,0	6,5	0,5	12,5	0,9
06	1 01,5	1 01,7	0 58,8	0,6	0,0	6,6	0,5	12,6	0,9
07	1 01,8	1 02,0	0 59,1	0,7	0,1	6,7	0,5	12,7	1,0
08	1 02,0	1 02,2	0 59,3	0,8	0,1	6,8	0,5	12,8	1,0
09	1 02,3	1 02,5	0 59,6	0,9	0,1	6,9	0,5	12,9	1,0
10	1 02,5	1 02,7	0 59,8	1,0	0,1	7,0	0,5	13,0	1,0
11	1 02,8	1 03,0	1 00,0	1,1	0,1	7,1	0,5	13,1	1,0
12	1 03,0	1 03,2	1 00,3	1,2	0,1	7,2	0,5	13,2	1,0
13	1 03,3	1 03,5	1 00,5	1,3	0,1	7,3	0,5	13,3	1,0
14	1 03,5	1 03,7	1 00,7	1,4	0,1	7,4	0,6	13,4	1,0
15	1 03,8	1 04,0	1 01,0	1,5	0,1	7,5	0,6	13,5	1,0
16	1 04,0	1 04,2	1 01,2	1,6	0,1	7,6	0,6	13,6	1,0
17	1 04,3	1 04,5	1 01,5	1,7	0,1	7,7	0,6	13,7	1,0
18	1 04,5	1 04,7	1 01,7	1,8	0,1	7,8	0,6	13,8	1,0
19	1 04,8	1 05,0	1 01,9	1,9	0,1	7,9	0,6	13,9	1,0
20	1 05,0	1 05,2	1 02,2	2,0	0,2	8,0	0,6	14,0	1,1
21	1 05,3	1 05,5	1 02,4	2,1	0,2	8,1	0,6	14,1	1,1
22	1 05,5	1 05,7	1 02,7	2,2	0,2	8,2	0,6	14,2	1,1
23	1 05,8	1 06,0	1 02,9	2,3	0,2	8,3	0,6	14,3	1,1
24	1 06,0	1 06,2	1 03,1	2,4	0,2	8,4	0,6	14,4	1,1
25	1 06,3	1 06,5	1 03,4	2,5	0,2	8,5	0,6	14,5	1,1
26	1 06,5	1 06,7	1 03,6	2,6	0,2	8,6	0,6	14,6	1,1
27	1 06,8	1 07,0	1 03,9	2,7	0,2	8,7	0,7	14,7	1,1
28	1 07,0	1 07,2	1 04,1	2,8	0,2	8,8	0,7	14,8	1,1
29	1 07,3	1 07,5	1 04,3	2,9	0,2	8,9	0,7	14,9	1,1
30	1 07,5	1 07,7	1 04,6	3,0	0,2	9,0	0,7	15,0	1,1
31	1 07,8	1 08,0	1 04,8	3,1	0,2	9,1	0,7	15,1	1,1
32	1 08,0	1 08,2	1 05,1	3,2	0,2	9,2	0,7	15,2	1,1
33	1 08,3	1 08,5	1 05,3	3,3	0,2	9,3	0,7	15,3	1,1
34	1 08,5	1 08,7	1 05,5	3,4	0,3	9,4	0,7	15,4	1,1
35	1 08,8	1 09,0	1 05,8	3,5	0,3	9,5	0,7	15,5	1,2
36	1 09,0	1 09,2	1 06,0	3,6	0,3	9,6	0,7	15,6	1,2
37	1 09,3	1 09,5	1 06,3	3,7	0,3	9,7	0,7	15,7	1,2
38	1 09,5	1 09,7	1 06,5	3,8	0,3	9,8	0,7	15,8	1,2
39	1 09,8	1 10,0	1 06,7	3,9	0,3	9,9	0,7	15,9	1,2
40	1 10,0	1 10,2	1 07,0	4,0	0,3	10,0	0,8	16,0	1,2
41	1 10,3	1 10,5	1 07,2	4,1	0,3	10,1	0,8	16,1	1,2
42	1 10,5	1 10,7	1 07,4	4,2	0,3	10,2	0,8	16,2	1,2
43	1 10,8	1 11,0	1 07,7	4,3	0,3	10,3	0,8	16,3	1,2
44	1 11,0	1 11,2	1 07,9	4,4	0,3	10,4	0,8	16,4	1,2
45	1 11,3	1 11,5	1 08,2	4,5	0,3	10,5	0,8	16,5	1,2
46	1 11,5	1 11,7	1 08,4	4,6	0,3	10,6	0,8	16,6	1,3
47	1 11,8	1 12,0	1 08,6	4,7	0,4	10,7	0,8	16,7	1,3
48	1 12,0	1 12,2	1 08,9	4,8	0,4	10,8	0,8	16,8	1,3
49	1 12,3	1 12,5	1 09,1	4,9	0,4	10,9	0,8	16,9	1,3
50	1 12,5	1 12,7	1 09,4	5,0	0,4	11,0	0,8	17,0	1,3
51	1 12,8	1 13,0	1 09,6	5,1	0,4	11,1	0,8	17,1	1,3
52	1 13,0	1 13,2	1 09,8	5,2	0,4	11,2	0,8	17,2	1,3
53	1 13,3	1 13,5	1 10,1	5,3	0,4	11,3	0,8	17,3	1,3
54	1 13,5	1 13,7	1 10,3	5,4	0,4	11,4	0,9	17,4	1,3
55	1 13,8	1 14,0	1 10,6	5,5	0,4	11,5	0,9	17,5	1,3
56	1 14,0	1 14,2	1 10,8	5,6	0,4	11,6	0,9	17,6	1,3
57	1 14,3	1 14,5	1 11,0	5,7	0,4	11,7	0,9	17,7	1,3
58	1 14,5	1 14,7	1 11,3	5,8	0,4	11,8	0,9	17,8	1,3
59	1 14,8	1 15,0	1 11,5	5,9	0,4	11,9	0,9	17,9	1,3
60	1 15,0	1 15,2	1 11,8	6,0	0,5	12,0	0,9	18,0	1,4

m 5	SOL PLANETAS	ARIES	LUNA	v d	Corr	v d	Corr	v d	Corr
s	° ′	° ′	° ′	′	′	′	′	′	′
00	1 15,0	1 15,2	1 11,6	0,0	0,0	6,0	0,6	12,0	1,1
01	1 15,3	1 15,5	1 11,8	0,1	0,0	6,1	0,6	12,1	1,1
02	1 15,5	1 15,7	1 12,1	0,2	0,0	6,2	0,6	12,2	1,1
03	1 15,8	1 16,0	1 12,3	0,3	0,0	6,3	0,6	12,3	1,1
04	1 16,0	1 16,2	1 12,6	0,4	0,0	6,4	0,6	12,4	1,1
05	1 16,3	1 16,5	1 12,8	0,5	0,0	6,5	0,6	12,5	1,1
06	1 16,5	1 16,7	1 13,0	0,6	0,1	6,6	0,6	12,6	1,2
07	1 16,8	1 17,0	1 13,3	0,7	0,1	6,7	0,6	12,7	1,2
08	1 17,0	1 17,2	1 13,5	0,8	0,1	6,8	0,6	12,8	1,2
09	1 17,3	1 17,5	1 13,8	0,9	0,1	6,9	0,6	12,9	1,2
10	1 17,5	1 17,7	1 14,0	1,0	0,1	7,0	0,6	13,0	1,2
11	1 17,8	1 18,0	1 14,2	1,1	0,1	7,1	0,6	13,1	1,2
12	1 18,0	1 18,2	1 14,5	1,2	0,1	7,2	0,7	13,2	1,2
13	1 18,3	1 18,5	1 14,7	1,3	0,1	7,3	0,7	13,3	1,2
14	1 18,5	1 18,7	1 14,9	1,4	0,1	7,4	0,7	13,4	1,2
15	1 18,8	1 19,0	1 15,2	1,5	0,1	7,5	0,7	13,5	1,2
16	1 19,0	1 19,2	1 15,4	1,6	0,1	7,6	0,7	13,6	1,2
17	1 19,3	1 19,5	1 15,7	1,7	0,2	7,7	0,7	13,7	1,3
18	1 19,5	1 19,7	1 15,9	1,8	0,2	7,8	0,7	13,8	1,3
19	1 19,8	1 20,0	1 16,1	1,9	0,2	7,9	0,7	13,9	1,3
20	1 20,0	1 20,2	1 16,4	2,0	0,2	8,0	0,7	14,0	1,3
21	1 20,3	1 20,5	1 16,6	2,1	0,2	8,1	0,7	14,1	1,3
22	1 20,5	1 20,7	1 16,9	2,2	0,2	8,2	0,8	14,2	1,3
23	1 20,8	1 21,0	1 17,1	2,3	0,2	8,3	0,8	14,3	1,3
24	1 21,0	1 21,2	1 17,3	2,4	0,2	8,4	0,8	14,4	1,3
25	1 21,3	1 21,5	1 17,6	2,5	0,2	8,5	0,8	14,5	1,3
26	1 21,5	1 21,7	1 17,8	2,6	0,2	8,6	0,8	14,6	1,3
27	1 21,8	1 22,0	1 18,1	2,7	0,2	8,7	0,8	14,7	1,3
28	1 22,0	1 22,2	1 18,3	2,8	0,3	8,8	0,8	14,8	1,4
29	1 22,3	1 22,5	1 18,5	2,9	0,3	8,9	0,8	14,9	1,4
30	1 22,5	1 22,7	1 18,8	3,0	0,3	9,0	0,8	15,0	1,4
31	1 22,8	1 23,0	1 19,0	3,1	0,3	9,1	0,8	15,1	1,4
32	1 23,0	1 23,2	1 19,3	3,2	0,3	9,2	0,8	15,2	1,4
33	1 23,3	1 23,5	1 19,5	3,3	0,3	9,3	0,9	15,3	1,4
34	1 23,5	1 23,7	1 19,7	3,4	0,3	9,4	0,9	15,4	1,4
35	1 23,8	1 24,0	1 20,0	3,5	0,3	9,5	0,9	15,5	1,4
36	1 24,0	1 24,2	1 20,2	3,6	0,3	9,6	0,9	15,6	1,4
37	1 24,3	1 24,5	1 20,5	3,7	0,3	9,7	0,9	15,7	1,4
38	1 24,5	1 24,7	1 20,7	3,8	0,3	9,8	0,9	15,8	1,4
39	1 24,8	1 25,0	1 20,9	3,9	0,4	9,9	0,9	15,9	1,5
40	1 25,0	1 25,2	1 21,2	4,0	0,4	10,0	0,9	16,0	1,5
41	1 25,3	1 25,5	1 21,4	4,1	0,4	10,1	0,9	16,1	1,5
42	1 25,5	1 25,7	1 21,6	4,2	0,4	10,2	0,9	16,2	1,5
43	1 25,8	1 26,0	1 21,9	4,3	0,4	10,3	0,9	16,3	1,5
44	1 26,0	1 26,2	1 22,1	4,4	0,4	10,4	1,0	16,4	1,5
45	1 26,3	1 26,5	1 22,4	4,5	0,4	10,5	1,0	16,5	1,5
46	1 26,5	1 26,7	1 22,6	4,6	0,4	10,6	1,0	16,6	1,5
47	1 26,8	1 27,0	1 22,8	4,7	0,4	10,7	1,0	16,7	1,5
48	1 27,0	1 27,2	1 23,1	4,8	0,4	10,8	1,0	16,8	1,5
49	1 27,3	1 27,5	1 23,3	4,9	0,4	10,9	1,0	16,9	1,5
50	1 27,5	1 27,7	1 23,6	5,0	0,5	11,0	1,0	17,0	1,6
51	1 27,8	1 28,0	1 23,8	5,1	0,5	11,1	1,0	17,1	1,6
52	1 28,0	1 28,2	1 24,0	5,2	0,5	11,2	1,0	17,2	1,6
53	1 28,3	1 28,5	1 24,3	5,3	0,5	11,3	1,0	17,3	1,6
54	1 28,5	1 28,7	1 24,5	5,4	0,5	11,4	1,0	17,4	1,6
55	1 28,8	1 29,0	1 24,8	5,5	0,5	11,5	1,1	17,5	1,6
56	1 29,0	1 29,2	1 25,0	5,6	0,5	11,6	1,1	17,6	1,6
57	1 29,3	1 29,5	1 25,2	5,7	0,5	11,7	1,1	17,7	1,6
58	1 29,5	1 29,7	1 25,5	5,8	0,5	11,8	1,1	17,8	1,6
59	1 29,8	1 30,0	1 25,7	5,9	0,5	11,9	1,1	17,9	1,6
60	1 30,0	1 30,2	1 26,0	6,0	0,6	12,0	1,1	18,0	1,7

m 6	SOL PLANETAS	ARIES	LUNA	v d	Corr	v d	Corr	v d	Corr
s	° ′	° ′	° ′	′	′	′	′	′	′
00	1 30,0	1 30,2	1 25,9	0,0	0,0	6,0	0,7	12,0	1,3
01	1 30,3	1 30,5	1 26,1	0,1	0,0	6,1	0,7	12,1	1,3
02	1 30,5	1 30,7	1 26,4	0,2	0,0	6,2	0,7	12,2	1,3
03	1 30,8	1 31,0	1 26,6	0,3	0,0	6,3	0,7	12,3	1,3
04	1 31,0	1 31,2	1 26,9	0,4	0,0	6,4	0,7	12,4	1,3
05	1 31,3	1 31,5	1 27,1	0,5	0,1	6,5	0,7	12,5	1,4
06	1 31,5	1 31,7	1 27,3	0,6	0,1	6,6	0,7	12,6	1,4
07	1 31,8	1 32,0	1 27,6	0,7	0,1	6,7	0,7	12,7	1,4
08	1 32,0	1 32,2	1 27,8	0,8	0,1	6,8	0,7	12,8	1,4
09	1 32,3	1 32,5	1 28,1	0,9	0,1	6,9	0,7	12,9	1,4
10	1 32,5	1 32,7	1 28,3	1,0	0,1	7,0	0,8	13,0	1,4
11	1 32,8	1 33,0	1 28,5	1,1	0,1	7,1	0,8	13,1	1,4
12	1 33,0	1 33,2	1 28,8	1,2	0,1	7,2	0,8	13,2	1,4
13	1 33,3	1 33,5	1 29,0	1,3	0,1	7,3	0,8	13,3	1,5
14	1 33,5	1 33,7	1 29,2	1,4	0,2	7,4	0,8	13,4	1,5
15	1 33,8	1 34,0	1 29,5	1,5	0,2	7,5	0,8	13,5	1,5
16	1 34,0	1 34,2	1 29,7	1,6	0,2	7,6	0,8	13,6	1,5
17	1 34,3	1 34,5	1 30,0	1,7	0,2	7,7	0,8	13,7	1,5
18	1 34,5	1 34,7	1 30,2	1,8	0,2	7,8	0,8	13,8	1,5
19	1 34,8	1 35,0	1 30,4	1,9	0,2	7,9	0,9	13,9	1,5
20	1 35,0	1 35,2	1 30,7	2,0	0,2	8,0	0,9	14,0	1,5
21	1 35,3	1 35,5	1 30,9	2,1	0,2	8,1	0,9	14,1	1,5
22	1 35,5	1 35,7	1 31,2	2,2	0,2	8,2	0,9	14,2	1,5
23	1 35,8	1 36,0	1 31,4	2,3	0,2	8,3	0,9	14,3	1,5
24	1 36,0	1 36,2	1 31,6	2,4	0,3	8,4	0,9	14,4	1,6
25	1 36,3	1 36,5	1 31,9	2,5	0,3	8,5	0,9	14,5	1,6
26	1 36,5	1 36,7	1 32,1	2,6	0,3	8,6	0,9	14,6	1,6
27	1 36,8	1 37,0	1 32,4	2,7	0,3	8,7	0,9	14,7	1,6
28	1 37,0	1 37,2	1 32,6	2,8	0,3	8,8	1,0	14,8	1,6
29	1 37,3	1 37,5	1 32,8	2,9	0,3	8,9	1,0	14,9	1,6
30	1 37,5	1 37,7	1 33,1	3,0	0,3	9,0	1,0	15,0	1,6
31	1 37,8	1 38,0	1 33,3	3,1	0,3	9,1	1,0	15,1	1,6
32	1 38,0	1 38,2	1 33,6	3,2	0,3	9,2	1,0	15,2	1,6
33	1 38,3	1 38,5	1 33,8	3,3	0,4	9,3	1,0	15,3	1,7
34	1 38,5	1 38,7	1 34,0	3,4	0,4	9,4	1,0	15,4	1,7
35	1 38,8	1 39,0	1 34,3	3,5	0,4	9,5	1,0	15,5	1,7
36	1 39,0	1 39,2	1 34,5	3,6	0,4	9,6	1,0	15,6	1,7
37	1 39,3	1 39,5	1 34,8	3,7	0,4	9,7	1,0	15,7	1,7
38	1 39,5	1 39,7	1 35,0	3,8	0,4	9,8	1,1	15,8	1,7
39	1 39,8	1 40,0	1 35,2	3,9	0,4	9,9	1,1	15,9	1,7
40	1 40,0	1 40,2	1 35,5	4,0	0,4	10,0	1,1	16,0	1,7
41	1 40,3	1 40,5	1 35,7	4,1	0,4	10,1	1,1	16,1	1,7
42	1 40,5	1 40,7	1 35,9	4,2	0,5	10,2	1,1	16,2	1,8
43	1 40,8	1 41,0	1 36,2	4,3	0,5	10,3	1,1	16,3	1,8
44	1 41,0	1 41,2	1 36,4	4,4	0,5	10,4	1,1	16,4	1,8
45	1 41,3	1 41,5	1 36,7	4,5	0,5	10,5	1,1	16,5	1,8
46	1 41,5	1 41,7	1 36,9	4,6	0,5	10,6	1,1	16,6	1,8
47	1 41,8	1 42,0	1 37,1	4,7	0,5	10,7	1,2	16,7	1,8
48	1 42,0	1 42,2	1 37,4	4,8	0,5	10,8	1,2	16,8	1,8
49	1 42,3	1 42,5	1 37,6	4,9	0,5	10,9	1,2	16,9	1,8
50	1 42,5	1 42,7	1 37,9	5,0	0,5	11,0	1,2	17,0	1,8
51	1 42,8	1 43,0	1 38,1	5,1	0,6	11,1	1,2	17,1	1,9
52	1 43,0	1 43,2	1 38,3	5,2	0,6	11,2	1,2	17,2	1,9
53	1 43,3	1 43,5	1 38,6	5,3	0,6	11,3	1,2	17,3	1,9
54	1 43,5	1 43,7	1 38,8	5,4	0,6	11,4	1,2	17,4	1,9
55	1 43,8	1 44,0	1 39,1	5,5	0,6	11,5	1,2	17,5	1,9
56	1 44,0	1 44,2	1 39,3	5,6	0,6	11,6	1,3	17,6	1,9
57	1 44,3	1 44,5	1 39,5	5,7	0,6	11,7	1,3	17,7	1,9
58	1 44,5	1 44,7	1 39,8	5,8	0,6	11,8	1,3	17,8	1,9
59	1 44,8	1 45,0	1 40,0	5,9	0,6	11,9	1,3	17,9	1,9
60	1 45,0	1 45,2	1 40,2	6,0	0,7	12,0	1,3	18,0	2,0

m 7	SOL PLANETAS	ARIES	LUNA	v d	Corr	v d	Corr	v d	Corr
s	° ′	° ′	° ′	′	′	′	′	′	′
00	1 45,0	1 45,3	1 40,2	0,0	0,0	6,0	0,8	12,0	1,5
01	1 45,3	1 45,6	1 40,4	0,1	0,0	6,1	0,8	12,1	1,6
02	1 45,5	1 45,8	1 40,7	0,2	0,0	6,2	0,8	12,2	1,6
03	1 45,8	1 46,1	1 40,9	0,3	0,0	6,3	0,8	12,3	1,6
04	1 46,0	1 46,3	1 41,2	0,4	0,1	6,4	0,8	12,4	1,6
05	1 46,3	1 46,6	1 41,4	0,5	0,1	6,5	0,8	12,5	1,6
06	1 46,5	1 46,8	1 41,6	0,6	0,1	6,6	0,8	12,6	1,6
07	1 46,8	1 47,1	1 41,9	0,7	0,1	6,7	0,8	12,7	1,6
08	1 47,0	1 47,3	1 42,1	0,8	0,1	6,8	0,8	12,8	1,6
09	1 47,3	1 47,6	1 42,4	0,9	0,1	6,9	0,9	12,9	1,6
10	1 47,5	1 47,8	1 42,6	1,0	0,1	7,0	0,9	13,0	1,6
11	1 47,8	1 48,1	1 42,8	1,1	0,1	7,1	0,9	13,1	1,6
12	1 48,0	1 48,3	1 43,1	1,2	0,2	7,2	0,9	13,2	1,7
13	1 48,3	1 48,6	1 43,3	1,3	0,2	7,3	0,9	13,3	1,7
14	1 48,5	1 48,8	1 43,5	1,4	0,2	7,4	0,9	13,4	1,7
15	1 48,8	1 49,1	1 43,8	1,5	0,2	7,5	0,9	13,5	1,7
16	1 49,0	1 49,3	1 44,0	1,6	0,2	7,6	1,0	13,6	1,7
17	1 49,3	1 49,6	1 44,3	1,7	0,2	7,7	1,0	13,7	1,7
18	1 49,5	1 49,8	1 44,5	1,8	0,2	7,8	1,0	13,8	1,7
19	1 49,8	1 50,1	1 44,7	1,9	0,2	7,9	1,0	13,9	1,7
20	1 50,0	1 50,3	1 45,0	2,0	0,3	8,0	1,0	14,0	1,8
21	1 50,3	1 50,6	1 45,2	2,1	0,3	8,1	1,0	14,1	1,8
22	1 50,5	1 50,8	1 45,5	2,2	0,3	8,2	1,0	14,2	1,8
23	1 50,8	1 51,1	1 45,7	2,3	0,3	8,3	1,0	14,3	1,8
24	1 51,0	1 51,3	1 45,9	2,4	0,3	8,4	1,1	14,4	1,8
25	1 51,3	1 51,6	1 46,2	2,5	0,3	8,5	1,1	14,5	1,8
26	1 51,5	1 51,8	1 46,4	2,6	0,3	8,6	1,1	14,6	1,8
27	1 51,8	1 52,1	1 46,7	2,7	0,3	8,7	1,1	14,7	1,8
28	1 52,0	1 52,3	1 46,9	2,8	0,4	8,8	1,1	14,8	1,9
29	1 52,3	1 52,6	1 47,1	2,9	0,4	8,9	1,1	14,9	1,9
30	1 52,5	1 52,8	1 47,4	3,0	0,4	9,0	1,1	15,0	1,9
31	1 52,8	1 53,1	1 47,6	3,1	0,4	9,1	1,1	15,1	1,9
32	1 53,0	1 53,3	1 47,9	3,2	0,4	9,2	1,2	15,2	1,9
33	1 53,3	1 53,6	1 48,1	3,3	0,4	9,3	1,2	15,3	1,9
34	1 53,5	1 53,8	1 48,3	3,4	0,4	9,4	1,2	15,4	1,9
35	1 53,8	1 54,1	1 48,6	3,5	0,4	9,5	1,2	15,5	1,9
36	1 54,0	1 54,3	1 48,8	3,6	0,5	9,6	1,2	15,6	2,0
37	1 54,3	1 54,6	1 49,1	3,7	0,5	9,7	1,2	15,7	2,0
38	1 54,5	1 54,8	1 49,3	3,8	0,5	9,8	1,2	15,8	2,0
39	1 54,8	1 55,1	1 49,5	3,9	0,5	9,9	1,2	15,9	2,0
40	1 55,0	1 55,3	1 49,8	4,0	0,5	10,0	1,3	16,0	2,0
41	1 55,3	1 55,6	1 50,0	4,1	0,5	10,1	1,3	16,1	2,0
42	1 55,5	1 55,8	1 50,2	4,2	0,5	10,2	1,3	16,2	2,0
43	1 55,8	1 56,1	1 50,5	4,3	0,5	10,3	1,3	16,3	2,0
44	1 56,0	1 56,3	1 50,7	4,4	0,6	10,4	1,3	16,4	2,1
45	1 56,3	1 56,6	1 51,0	4,5	0,6	10,5	1,3	16,5	2,1
46	1 56,5	1 56,8	1 51,2	4,6	0,6	10,6	1,3	16,6	2,1
47	1 56,8	1 57,1	1 51,4	4,7	0,6	10,7	1,3	16,7	2,1
48	1 57,0	1 57,3	1 51,7	4,8	0,6	10,8	1,4	16,8	2,1
49	1 57,3	1 57,6	1 51,9	4,9	0,6	10,9	1,4	16,9	2,1
50	1 57,5	1 57,8	1 52,2	5,0	0,6	11,0	1,4	17,0	2,1
51	1 57,8	1 58,1	1 52,4	5,1	0,6	11,1	1,4	17,1	2,1
52	1 58,0	1 58,3	1 52,6	5,2	0,7	11,2	1,4	17,2	2,2
53	1 58,3	1 58,6	1 52,9	5,3	0,7	11,3	1,4	17,3	2,2
54	1 58,5	1 58,8	1 53,1	5,4	0,7	11,4	1,4	17,4	2,2
55	1 58,8	1 59,1	1 53,4	5,5	0,7	11,5	1,4	17,5	2,2
56	1 59,0	1 59,3	1 53,6	5,6	0,7	11,6	1,5	17,6	2,2
57	1 59,3	1 59,6	1 53,8	5,7	0,7	11,7	1,5	17,7	2,2
58	1 59,5	1 59,8	1 54,1	5,8	0,7	11,8	1,5	17,8	2,2
59	1 59,8	2 00,1	1 54,3	5,9	0,7	11,9	1,5	17,9	2,2
60	2 00,0	2 00,3	1 54,6	6,0	0,8	12,0	1,5	18,0	2,3

m 8	SOL PLANETAS	ARIES	LUNA	v d	Corr	v d	Corr	v d	Corr
s	° ′	° ′	° ′	′	′	′	′	′	′
00	2 00,0	2 00,3	1 54,5	0,0	0,0	6,0	0,9	12,0	1,7
01	2 00,3	2 00,6	1 54,7	0,1	0,0	6,1	0,9	12,1	1,7
02	2 00,5	2 00,8	1 55,0	0,2	0,0	6,2	0,9	12,2	1,7
03	2 00,8	2 01,1	1 55,2	0,3	0,0	6,3	0,9	12,3	1,7
04	2 01,0	2 01,3	1 55,5	0,4	0,1	6,4	0,9	12,4	1,8
05	2 01,3	2 01,6	1 55,7	0,5	0,1	6,5	0,9	12,5	1,8
06	2 01,5	2 01,8	1 55,9	0,6	0,1	6,6	0,9	12,6	1,8
07	2 01,8	2 02,1	1 56,2	0,7	0,1	6,7	0,9	12,7	1,8
08	2 02,0	2 02,3	1 56,4	0,8	0,1	6,8	1,0	12,8	1,8
09	2 02,3	2 02,6	1 56,7	0,9	0,1	6,9	1,0	12,9	1,8
10	2 02,5	2 02,8	1 56,9	1,0	0,1	7,0	1,0	13,0	1,8
11	2 02,8	2 03,1	1 57,1	1,1	0,1	7,1	1,0	13,1	1,8
12	2 03,0	2 03,3	1 57,4	1,2	0,2	7,2	1,0	13,2	1,8
13	2 03,3	2 03,6	1 57,6	1,3	0,2	7,3	1,0	13,3	1,9
14	2 03,5	2 03,8	1 57,8	1,4	0,2	7,4	1,0	13,4	1,9
15	2 03,8	2 04,1	1 58,1	1,5	0,2	7,5	1,1	13,5	1,9
16	2 04,0	2 04,3	1 58,3	1,6	0,2	7,6	1,1	13,6	1,9
17	2 04,3	2 04,6	1 58,6	1,7	0,2	7,7	1,1	13,7	1,9
18	2 04,5	2 04,8	1 58,8	1,8	0,3	7,8	1,1	13,8	2,0
19	2 04,8	2 05,1	1 59,0	1,9	0,3	7,9	1,1	13,9	2,0
20	2 05,0	2 05,3	1 59,3	2,0	0,3	8,0	1,1	14,0	2,0
21	2 05,3	2 05,6	1 59,5	2,1	0,3	8,1	1,1	14,1	2,0
22	2 05,5	2 05,8	1 59,8	2,2	0,3	8,2	1,2	14,2	2,0
23	2 05,8	2 06,1	2 00,0	2,3	0,3	8,3	1,2	14,3	2,0
24	2 06,0	2 06,3	2 00,2	2,4	0,4	8,4	1,2	14,4	2,0
25	2 06,3	2 06,6	2 00,5	2,5	0,4	8,5	1,2	14,5	2,1
26	2 06,5	2 06,8	2 00,7	2,6	0,4	8,6	1,2	14,6	2,1
27	2 06,8	2 07,1	2 01,0	2,7	0,4	8,7	1,2	14,7	2,1
28	2 07,0	2 07,3	2 01,2	2,8	0,4	8,8	1,2	14,8	2,1
29	2 07,3	2 07,6	2 01,4	2,9	0,4	8,9	1,3	14,9	2,1
30	2 07,5	2 07,8	2 01,7	3,0	0,4	9,0	1,3	15,0	2,1
31	2 07,8	2 08,1	2 01,9	3,1	0,4	9,1	1,3	15,1	2,1
32	2 08,0	2 08,3	2 02,2	3,2	0,5	9,2	1,3	15,2	2,2
33	2 08,3	2 08,6	2 02,4	3,3	0,5	9,3	1,3	15,3	2,2
34	2 08,5	2 08,8	2 02,6	3,4	0,5	9,4	1,3	15,4	2,2
35	2 08,8	2 09,1	2 02,9	3,5	0,5	9,5	1,3	15,5	2,2
36	2 09,0	2 09,3	2 03,1	3,6	0,5	9,6	1,4	15,6	2,2
37	2 09,3	2 09,6	2 03,4	3,7	0,5	9,7	1,4	15,7	2,2
38	2 09,5	2 09,8	2 03,6	3,8	0,5	9,8	1,4	15,8	2,2
39	2 09,8	2 10,1	2 03,8	3,9	0,6	9,9	1,4	15,9	2,3
40	2 10,0	2 10,3	2 04,1	4,0	0,6	10,0	1,4	16,0	2,3
41	2 10,3	2 10,6	2 04,3	4,1	0,6	10,1	1,4	16,1	2,3
42	2 10,5	2 10,8	2 04,5	4,2	0,6	10,2	1,4	16,2	2,3
43	2 10,8	2 11,1	2 04,8	4,3	0,6	10,3	1,5	16,3	2,3
44	2 11,0	2 11,3	2 05,0	4,4	0,6	10,4	1,5	16,4	2,3
45	2 11,3	2 11,6	2 05,3	4,5	0,6	10,5	1,5	16,5	2,3
46	2 11,5	2 11,8	2 05,5	4,6	0,6	10,6	1,5	16,6	2,4
47	2 11,8	2 12,1	2 05,7	4,7	0,7	10,7	1,5	16,7	2,4
48	2 12,0	2 12,3	2 06,0	4,8	0,7	10,8	1,5	16,8	2,4
49	2 12,3	2 12,6	2 06,2	4,9	0,7	10,9	1,5	16,9	2,4
50	2 12,5	2 12,8	2 06,5	5,0	0,7	11,0	1,6	17,0	2,4
51	2 12,8	2 13,1	2 06,7	5,1	0,7	11,1	1,6	17,1	2,4
52	2 13,0	2 13,3	2 06,9	5,2	0,7	11,2	1,6	17,2	2,4
53	2 13,3	2 13,6	2 07,2	5,3	0,8	11,3	1,6	17,3	2,5
54	2 13,5	2 13,8	2 07,4	5,4	0,8	11,4	1,6	17,4	2,5
55	2 13,8	2 14,1	2 07,7	5,5	0,8	11,5	1,6	17,5	2,5
56	2 14,0	2 14,3	2 07,9	5,6	0,8	11,6	1,6	17,6	2,5
57	2 14,3	2 14,6	2 08,1	5,7	0,8	11,7	1,7	17,7	2,5
58	2 14,5	2 14,8	2 08,4	5,8	0,8	11,8	1,7	17,8	2,5
59	2 14,8	2 15,1	2 08,6	5,9	0,8	11,9	1,7	17,9	2,5
60	2 15,0	2 15,3	2 08,9	6,0	0,9	12,0	1,7	18,0	2,6

m 9	SOL PLANETAS	ARIES	LUNA	v d	Corr	v d	Corr	v d	Corr
s	° ′	° ′	° ′	′	′	′	′	′	′
00	2 15,0	2 15,4	2 08,9	0,0	0,0	6,0	1,0	12,0	1,9
01	2 15,3	2 15,7	2 09,1	0,1	0,0	6,1	1,0	12,1	1,9
02	2 15,5	2 15,9	2 09,4	0,2	0,0	6,2	1,0	12,2	1,9
03	2 15,8	2 16,2	2 09,6	0,3	0,0	6,3	1,0	12,3	1,9
04	2 16,0	2 16,4	2 09,9	0,4	0,1	6,4	1,0	12,4	2,0
05	2 16,3	2 16,7	2 10,1	0,5	0,1	6,5	1,0	12,5	2,0
06	2 16,5	2 16,9	2 10,3	0,6	0,1	6,6	1,0	12,6	2,0
07	2 16,8	2 17,2	2 10,6	0,7	0,1	6,7	1,1	12,7	2,0
08	2 17,0	2 17,4	2 10,8	0,8	0,1	6,8	1,1	12,8	2,0
09	2 17,3	2 17,7	2 11,1	0,9	0,1	6,9	1,1	12,9	2,0
10	2 17,5	2 17,9	2 11,3	1,0	0,2	7,0	1,1	13,0	2,1
11	2 17,8	2 18,2	2 11,5	1,1	0,2	7,1	1,1	13,1	2,1
12	2 18,0	2 18,4	2 11,8	1,2	0,2	7,2	1,1	13,2	2,1
13	2 18,3	2 18,7	2 12,0	1,3	0,2	7,3	1,2	13,3	2,1
14	2 18,5	2 18,9	2 12,2	1,4	0,2	7,4	1,2	13,4	2,1
15	2 18,8	2 19,2	2 12,5	1,5	0,2	7,5	1,2	13,5	2,1
16	2 19,0	2 19,4	2 12,7	1,6	0,3	7,6	1,2	13,6	2,2
17	2 19,3	2 19,7	2 13,0	1,7	0,3	7,7	1,2	13,7	2,2
18	2 19,5	2 19,9	2 13,2	1,8	0,3	7,8	1,2	13,8	2,2
19	2 19,8	2 20,2	2 13,4	1,9	0,3	7,9	1,3	13,9	2,2
20	2 20,0	2 20,4	2 13,7	2,0	0,3	8,0	1,3	14,0	2,2
21	2 20,3	2 20,7	2 13,9	2,1	0,3	8,1	1,3	14,1	2,2
22	2 20,5	2 20,9	2 14,2	2,2	0,3	8,2	1,3	14,2	2,2
23	2 20,8	2 21,2	2 14,4	2,3	0,4	8,3	1,3	14,3	2,3
24	2 21,0	2 21,4	2 14,6	2,4	0,4	8,4	1,3	14,4	2,3
25	2 21,3	2 21,7	2 14,9	2,5	0,4	8,5	1,3	14,5	2,3
26	2 21,5	2 21,9	2 15,1	2,6	0,4	8,6	1,4	14,6	2,3
27	2 21,8	2 22,2	2 15,4	2,7	0,4	8,7	1,4	14,7	2,3
28	2 22,0	2 22,4	2 15,6	2,8	0,4	8,8	1,4	14,8	2,3
29	2 22,3	2 22,7	2 15,8	2,9	0,5	8,9	1,4	14,9	2,4
30	2 22,5	2 22,9	2 16,1	3,0	0,5	9,0	1,4	15,0	2,4
31	2 22,8	2 23,2	2 16,3	3,1	0,5	9,1	1,4	15,1	2,4
32	2 23,0	2 23,4	2 16,6	3,2	0,5	9,2	1,5	15,2	2,4
33	2 23,3	2 23,7	2 16,8	3,3	0,5	9,3	1,5	15,3	2,4
34	2 23,5	2 23,9	2 17,0	3,4	0,5	9,4	1,5	15,4	2,4
35	2 23,8	2 24,2	2 17,3	3,5	0,6	9,5	1,5	15,5	2,5
36	2 24,0	2 24,4	2 17,5	3,6	0,6	9,6	1,5	15,6	2,5
37	2 24,3	2 24,7	2 17,8	3,7	0,6	9,7	1,5	15,7	2,5
38	2 24,5	2 24,9	2 18,0	3,8	0,6	9,8	1,6	15,8	2,5
39	2 24,8	2 25,2	2 18,2	3,9	0,6	9,9	1,6	15,9	2,5
40	2 25,0	2 25,4	2 18,5	4,0	0,6	10,0	1,6	16,0	2,5
41	2 25,3	2 25,7	2 18,7	4,1	0,6	10,1	1,6	16,1	2,5
42	2 25,5	2 25,9	2 18,9	4,2	0,7	10,2	1,6	16,2	2,6
43	2 25,8	2 26,2	2 19,2	4,3	0,7	10,3	1,6	16,3	2,6
44	2 26,0	2 26,4	2 19,4	4,4	0,7	10,4	1,6	16,4	2,6
45	2 26,3	2 26,7	2 19,7	4,5	0,7	10,5	1,7	16,5	2,6
46	2 26,5	2 26,9	2 19,9	4,6	0,7	10,6	1,7	16,6	2,6
47	2 26,8	2 27,2	2 20,1	4,7	0,7	10,7	1,7	16,7	2,6
48	2 27,0	2 27,4	2 20,4	4,8	0,8	10,8	1,7	16,8	2,7
49	2 27,3	2 27,7	2 20,6	4,9	0,8	10,9	1,7	16,9	2,7
50	2 27,5	2 27,9	2 20,9	5,0	0,8	11,0	1,7	17,0	2,7
51	2 27,8	2 28,2	2 21,1	5,1	0,8	11,1	1,8	17,1	2,7
52	2 28,0	2 28,4	2 21,3	5,2	0,8	11,2	1,8	17,2	2,7
53	2 28,3	2 28,7	2 21,6	5,3	0,8	11,3	1,8	17,3	2,7
54	2 28,5	2 28,9	2 21,8	5,4	0,9	11,4	1,8	17,4	2,8
55	2 28,8	2 29,2	2 22,1	5,5	0,9	11,5	1,8	17,5	2,8
56	2 29,0	2 29,4	2 22,3	5,6	0,9	11,6	1,8	17,6	2,8
57	2 29,3	2 29,7	2 22,5	5,7	0,9	11,7	1,9	17,7	2,8
58	2 29,5	2 29,9	2 22,8	5,8	0,9	11,8	1,9	17,8	2,8
59	2 29,8	2 30,2	2 23,0	5,9	0,9	11,9	1,9	17,9	2,8
60	2 30,0	2 30,4	2 23,3	6,0	1,0	12,0	1,9	18,0	2,9

m 10	SOL PLANETAS	ARIES	LUNA	v d	Corr	v d	Corr	v d	Corr
s	° ′	° ′	° ′	′	′	′	′	′	′
00	2 30,0	2 30,4	2 23,2	0,0	0,0	6,0	1,1	12,0	2,1
01	2 30,3	2 30,7	2 23,4	0,1	0,0	6,1	1,1	12,1	2,1
02	2 30,5	2 30,9	2 23,7	0,2	0,0	6,2	1,1	12,2	2,1
03	2 30,8	2 31,2	2 23,9	0,3	0,1	6,3	1,1	12,3	2,2
04	2 31,0	2 31,4	2 24,2	0,4	0,1	6,4	1,1	12,4	2,2
05	2 31,3	2 31,7	2 24,4	0,5	0,1	6,5	1,1	12,5	2,2
06	2 31,5	2 31,9	2 24,6	0,6	0,1	6,6	1,2	12,6	2,2
07	2 31,8	2 32,2	2 24,9	0,7	0,1	6,7	1,2	12,7	2,2
08	2 32,0	2 32,4	2 25,1	0,8	0,1	6,8	1,2	12,8	2,2
09	2 32,3	2 32,7	2 25,4	0,9	0,2	6,9	1,2	12,9	2,3
10	2 32,5	2 32,9	2 25,6	1,0	0,2	7,0	1,2	13,0	2,3
11	2 32,8	2 33,2	2 25,8	1,1	0,2	7,1	1,2	13,1	2,3
12	2 33,0	2 33,4	2 26,1	1,2	0,2	7,2	1,3	13,2	2,3
13	2 33,3	2 33,7	2 26,3	1,3	0,2	7,3	1,3	13,3	2,3
14	2 33,5	2 33,9	2 26,5	1,4	0,2	7,4	1,3	13,4	2,3
15	2 33,8	2 34,2	2 26,8	1,5	0,3	7,5	1,3	13,5	2,4
16	2 34,0	2 34,4	2 27,0	1,6	0,3	7,6	1,3	13,6	2,4
17	2 34,3	2 34,7	2 27,3	1,7	0,3	7,7	1,3	13,7	2,4
18	2 34,5	2 34,9	2 27,5	1,8	0,3	7,8	1,4	13,8	2,4
19	2 34,8	2 35,2	2 27,7	1,9	0,3	7,9	1,4	13,9	2,4
20	2 35,0	2 35,4	2 28,0	2,0	0,4	8,0	1,4	14,0	2,5
21	2 35,3	2 35,7	2 28,2	2,1	0,4	8,1	1,4	14,1	2,5
22	2 35,5	2 35,9	2 28,5	2,2	0,4	8,2	1,4	14,2	2,5
23	2 35,8	2 36,2	2 28,7	2,3	0,4	8,3	1,5	14,3	2,5
24	2 36,0	2 36,4	2 28,9	2,4	0,4	8,4	1,5	14,4	2,5
25	2 36,3	2 36,7	2 29,2	2,5	0,4	8,5	1,5	14,5	2,5
26	2 36,5	2 36,9	2 29,4	2,6	0,5	8,6	1,5	14,6	2,6
27	2 36,8	2 37,2	2 29,7	2,7	0,5	8,7	1,5	14,7	2,6
28	2 37,0	2 37,4	2 29,9	2,8	0,5	8,8	1,5	14,8	2,6
29	2 37,3	2 37,7	2 30,1	2,9	0,5	8,9	1,6	14,9	2,6
30	2 37,5	2 37,9	2 30,4	3,0	0,5	9,0	1,6	15,0	2,6
31	2 37,8	2 38,2	2 30,6	3,1	0,5	9,1	1,6	15,1	2,6
32	2 38,0	2 38,4	2 30,9	3,2	0,6	9,2	1,6	15,2	2,7
33	2 38,3	2 38,7	2 31,1	3,3	0,6	9,3	1,6	15,3	2,7
34	2 38,5	2 38,9	2 31,3	3,4	0,6	9,4	1,6	15,4	2,7
35	2 38,8	2 39,2	2 31,6	3,5	0,6	9,5	1,7	15,5	2,7
36	2 39,0	2 39,4	2 31,8	3,6	0,6	9,6	1,7	15,6	2,7
37	2 39,3	2 39,7	2 32,1	3,7	0,6	9,7	1,7	15,7	2,7
38	2 39,5	2 39,9	2 32,3	3,8	0,7	9,8	1,7	15,8	2,8
39	2 39,8	2 40,2	2 32,5	3,9	0,7	9,9	1,7	15,9	2,8
40	2 40,0	2 40,4	2 32,8	4,0	0,7	10,0	1,8	16,0	2,8
41	2 40,3	2 40,7	2 33,0	4,1	0,7	10,1	1,8	16,1	2,8
42	2 40,5	2 40,9	2 33,2	4,2	0,7	10,2	1,8	16,2	2,8
43	2 40,8	2 41,2	2 33,5	4,3	0,8	10,3	1,8	16,3	2,9
44	2 41,0	2 41,4	2 33,7	4,4	0,8	10,4	1,8	16,4	2,9
45	2 41,3	2 41,7	2 34,0	4,5	0,8	10,5	1,8	16,5	2,9
46	2 41,5	2 41,9	2 34,2	4,6	0,8	10,6	1,9	16,6	2,9
47	2 41,8	2 42,2	2 34,4	4,7	0,8	10,7	1,9	16,7	2,9
48	2 42,0	2 42,4	2 34,7	4,8	0,8	10,8	1,9	16,8	2,9
49	2 42,3	2 42,7	2 34,9	4,9	0,9	10,9	1,9	16,9	3,0
50	2 42,5	2 42,9	2 35,2	5,0	0,9	11,0	1,9	17,0	3,0
51	2 42,8	2 43,2	2 35,4	5,1	0,9	11,1	1,9	17,1	3,0
52	2 43,0	2 43,4	2 35,6	5,2	0,9	11,2	2,0	17,2	3,0
53	2 43,3	2 43,7	2 35,9	5,3	0,9	11,3	2,0	17,3	3,0
54	2 43,5	2 43,9	2 36,1	5,4	0,9	11,4	2,0	17,4	3,0
55	2 43,8	2 44,2	2 36,4	5,5	1,0	11,5	2,0	17,5	3,1
56	2 44,0	2 44,4	2 36,6	5,6	1,0	11,6	2,0	17,6	3,1
57	2 44,3	2 44,7	2 36,8	5,7	1,0	11,7	2,0	17,7	3,1
58	2 44,5	2 44,9	2 37,1	5,8	1,0	11,8	2,0	17,8	3,1
59	2 44,8	2 45,2	2 37,3	5,9	1,0	11,9	2,1	17,9	3,1
60	2 45,0	2 45,4	2 37,6	6,0	1,1	12,0	2,1	18,0	3,2

m 11	SOL PLANETAS	ARIES	LUNA	v d	Corr	v d	Corr	v d	Corr
s	° ′	° ′	° ′	′	′	′	′	′	′
00	2 45,0	2 45,5	2 37,5	0,0	0,0	6,0	1,2	12,0	2,3
01	2 45,3	2 45,8	2 37,7	0,1	0,0	6,1	1,2	12,1	2,3
02	2 45,5	2 46,0	2 38,0	0,2	0,0	6,2	1,2	12,2	2,3
03	2 45,8	2 46,3	2 38,2	0,3	0,1	6,3	1,2	12,3	2,4
04	2 46,0	2 46,5	2 38,5	0,4	0,1	6,4	1,2	12,4	2,4
05	2 46,3	2 46,8	2 38,7	0,5	0,1	6,5	1,2	12,5	2,4
06	2 46,5	2 47,0	2 38,9	0,6	0,1	6,6	1,3	12,6	2,4
07	2 46,8	2 47,3	2 39,2	0,7	0,1	6,7	1,3	12,7	2,4
08	2 47,0	2 47,5	2 39,4	0,8	0,2	6,8	1,3	12,8	2,5
09	2 47,3	2 47,8	2 39,7	0,9	0,2	6,9	1,3	12,9	2,5
10	2 47,5	2 48,0	2 39,9	1,0	0,2	7,0	1,3	13,0	2,5
11	2 47,8	2 48,3	2 40,1	1,1	0,2	7,1	1,4	13,1	2,5
12	2 48,0	2 48,5	2 40,4	1,2	0,2	7,2	1,4	13,2	2,5
13	2 48,3	2 48,8	2 40,6	1,3	0,2	7,3	1,4	13,3	2,5
14	2 48,5	2 49,0	2 40,8	1,4	0,3	7,4	1,4	13,4	2,6
15	2 48,8	2 49,3	2 41,1	1,5	0,3	7,5	1,4	13,5	2,6
16	2 49,0	2 49,5	2 41,3	1,6	0,3	7,6	1,5	13,6	2,6
17	2 49,3	2 49,8	2 41,6	1,7	0,3	7,7	1,5	13,7	2,6
18	2 49,5	2 50,0	2 41,8	1,8	0,3	7,8	1,5	13,8	2,6
19	2 49,8	2 50,3	2 42,0	1,9	0,4	7,9	1,5	13,9	2,7
20	2 50,0	2 50,5	2 42,3	2,0	0,4	8,0	1,5	14,0	2,7
21	2 50,3	2 50,8	2 42,5	2,1	0,4	8,1	1,6	14,1	2,7
22	2 50,5	2 51,0	2 42,8	2,2	0,4	8,2	1,6	14,2	2,7
23	2 50,8	2 51,3	2 43,0	2,3	0,4	8,3	1,6	14,3	2,7
24	2 51,0	2 51,5	2 43,2	2,4	0,5	8,4	1,6	14,4	2,8
25	2 51,3	2 51,8	2 43,5	2,5	0,5	8,5	1,6	14,5	2,8
26	2 51,5	2 52,0	2 43,7	2,6	0,5	8,6	1,6	14,6	2,8
27	2 51,8	2 52,3	2 44,0	2,7	0,5	8,7	1,7	14,7	2,8
28	2 52,0	2 52,5	2 44,2	2,8	0,5	8,8	1,7	14,8	2,8
29	2 52,3	2 52,8	2 44,4	2,9	0,6	8,9	1,7	14,9	2,9
30	2 52,5	2 53,0	2 44,7	3,0	0,6	9,0	1,7	15,0	2,9
31	2 52,8	2 53,3	2 44,9	3,1	0,6	9,1	1,7	15,1	2,9
32	2 53,0	2 53,5	2 45,2	3,2	0,6	9,2	1,8	15,2	2,9
33	2 53,3	2 53,8	2 45,4	3,3	0,6	9,3	1,8	15,3	2,9
34	2 53,5	2 54,0	2 45,6	3,4	0,7	9,4	1,8	15,4	3,0
35	2 53,8	2 54,3	2 45,9	3,5	0,7	9,5	1,8	15,5	3,0
36	2 54,0	2 54,5	2 46,1	3,6	0,7	9,6	1,8	15,6	3,0
37	2 54,3	2 54,8	2 46,4	3,7	0,7	9,7	1,9	15,7	3,0
38	2 54,5	2 55,0	2 46,6	3,8	0,7	9,8	1,9	15,8	3,0
39	2 54,8	2 55,3	2 46,8	3,9	0,7	9,9	1,9	15,9	3,0
40	2 55,0	2 55,5	2 47,1	4,0	0,8	10,0	1,9	16,0	3,1
41	2 55,3	2 55,8	2 47,3	4,1	0,8	10,1	1,9	16,1	3,1
42	2 55,5	2 56,0	2 47,5	4,2	0,8	10,2	2,0	16,2	3,1
43	2 55,8	2 56,3	2 47,8	4,3	0,8	10,3	2,0	16,3	3,1
44	2 56,0	2 56,5	2 48,0	4,4	0,8	10,4	2,0	16,4	3,1
45	2 56,3	2 56,8	2 48,3	4,5	0,9	10,5	2,0	16,5	3,2
46	2 56,5	2 57,0	2 48,5	4,6	0,9	10,6	2,0	16,6	3,2
47	2 56,8	2 57,3	2 48,7	4,7	0,9	10,7	2,1	16,7	3,2
48	2 57,0	2 57,5	2 49,0	4,8	0,9	10,8	2,1	16,8	3,2
49	2 57,3	2 57,8	2 49,2	4,9	0,9	10,9	2,1	16,9	3,2
50	2 57,5	2 58,0	2 49,5	5,0	1,0	11,0	2,1	17,0	3,3
51	2 57,8	2 58,3	2 49,7	5,1	1,0	11,1	2,1	17,1	3,3
52	2 58,0	2 58,5	2 49,9	5,2	1,0	11,2	2,1	17,2	3,3
53	2 58,3	2 58,8	2 50,2	5,3	1,0	11,3	2,2	17,3	3,3
54	2 58,5	2 59,0	2 50,4	5,4	1,0	11,4	2,2	17,4	3,3
55	2 58,8	2 59,3	2 50,7	5,5	1,1	11,5	2,2	17,5	3,4
56	2 59,0	2 59,5	2 50,9	5,6	1,1	11,6	2,2	17,6	3,4
57	2 59,3	2 59,8	2 51,1	5,7	1,1	11,7	2,2	17,7	3,4
58	2 59,5	3 00,0	2 51,4	5,8	1,1	11,8	2,3	17,8	3,4
59	2 59,8	3 00,2	2 51,6	5,9	1,1	11,9	2,3	17,9	3,4
60	0 00,0	3 00,3	2 51,9	6,0	1,2	12,0	2,3	18,0	3,5

m 12	SOL PLANETAS	ARIES	LUNA	v d	Corr	v d	Corr	v d	Corr
s	° ′	° ′	° ′	′	′	′	′	′	′
00	3 00,0	3 00,5	2 51,8	0,0	0,0	6,0	1,3	12,0	2,5
01	3 00,3	3 00,8	2 52,0	0,1	0,0	6,1	1,3	12,1	2,5
02	3 00,5	3 01,0	2 52,3	0,2	0,0	6,2	1,3	12,2	2,5
03	3 00,8	3 01,3	2 52,5	0,3	0,1	6,3	1,3	12,3	2,6
04	3 01,0	3 01,5	2 52,8	0,4	0,1	6,4	1,3	12,4	2,6
05	3 01,3	3 01,8	2 53,0	0,5	0,1	6,5	1,4	12,5	2,6
06	3 01,5	3 02,0	2 53,2	0,6	0,1	6,6	1,4	12,6	2,6
07	3 01,8	3 02,3	2 53,5	0,7	0,1	6,7	1,4	12,7	2,7
08	3 02,0	3 02,5	2 53,7	0,8	0,2	6,8	1,4	12,8	2,7
09	3 02,3	3 02,8	2 54,0	0,9	0,2	6,9	1,4	12,9	2,7
10	3 02,5	3 03,0	2 54,2	1,0	0,2	7,0	1,5	13,0	2,7
11	3 02,8	3 03,3	2 54,4	1,1	0,2	7,1	1,5	13,1	2,7
12	3 03,0	3 03,5	2 54,7	1,2	0,3	7,2	1,5	13,2	2,8
13	3 03,3	3 03,8	2 54,9	1,3	0,3	7,3	1,5	13,3	2,8
14	3 03,5	3 04,0	2 55,1	1,4	0,3	7,4	1,5	13,4	2,8
15	3 03,8	3 04,3	2 55,4	1,5	0,3	7,5	1,6	13,5	2,8
16	3 04,0	3 04,5	2 55,6	1,6	0,3	7,6	1,6	13,6	2,8
17	3 04,3	3 04,8	2 55,9	1,7	0,4	7,7	1,6	13,7	2,9
18	3 04,5	3 05,0	2 56,1	1,8	0,4	7,8	1,6	13,8	2,9
19	3 04,8	3 05,3	2 56,3	1,9	0,4	7,9	1,6	13,9	2,9
20	3 05,0	3 05,5	2 56,6	2,0	0,4	8,0	1,7	14,0	2,9
21	3 05,3	3 05,8	2 56,8	2,1	0,4	8,1	1,7	14,1	2,9
22	3 05,5	3 06,0	2 57,1	2,2	0,5	8,2	1,7	14,2	3,0
23	3 05,8	3 06,3	2 57,3	2,3	0,5	8,3	1,7	14,3	3,0
24	3 06,0	3 06,5	2 57,5	2,4	0,5	8,4	1,8	14,4	3,0
25	3 06,3	3 06,8	2 57,8	2,5	0,5	8,5	1,8	14,5	3,0
26	3 06,5	3 07,0	2 58,0	2,6	0,5	8,6	1,8	14,6	3,0
27	3 06,8	3 07,3	2 58,3	2,7	0,6	8,7	1,8	14,7	3,1
28	3 07,0	3 07,5	2 58,5	2,8	0,6	8,8	1,8	14,8	3,1
29	3 07,3	3 07,8	2 58,7	2,9	0,6	8,9	1,9	14,9	3,1
30	3 07,5	3 08,0	2 59,0	3,0	0,6	9,0	1,9	15,0	3,1
31	3 07,8	3 08,3	2 59,2	3,1	0,6	9,1	1,9	15,1	3,1
32	3 08,0	3 08,5	2 59,5	3,2	0,7	9,2	1,9	15,2	3,2
33	3 08,3	3 08,8	2 59,7	3,3	0,7	9,3	1,9	15,3	3,2
34	3 08,5	3 09,0	2 59,9	3,4	0,7	9,4	2,0	15,4	3,2
35	3 08,8	3 09,3	3 00,0	3,5	0,7	9,5	2,0	15,5	3,2
36	3 09,0	3 09,5	3 00,2	3,6	0,8	9,6	2,0	15,6	3,3
37	3 09,3	3 09,8	3 00,5	3,7	0,8	9,7	2,0	15,7	3,3
38	3 09,5	3 10,0	3 00,7	3,8	0,8	9,8	2,0	15,8	3,3
39	3 09,8	3 10,3	3 00,9	3,9	0,8	9,9	2,0	15,9	3,3
40	3 10,0	3 10,5	3 01,2	4,0	0,8	10,0	2,1	16,0	3,3
41	3 10,3	3 10,8	3 01,4	4,1	0,9	10,1	2,1	16,1	3,4
42	3 10,5	3 11,0	3 01,6	4,2	0,9	10,2	2,1	16,2	3,4
43	3 10,8	3 11,3	3 01,9	4,3	0,9	10,3	2,1	16,3	3,4
44	3 11,0	3 11,5	3 02,1	4,4	0,9	10,4	2,2	16,4	3,4
45	3 11,3	3 11,8	3 02,4	4,5	0,9	10,5	2,2	16,5	3,4
46	3 11,5	3 12,0	3 02,6	4,6	1,0	10,6	2,2	16,6	3,5
47	3 11,8	3 12,3	3 02,8	4,7	1,0	10,7	2,2	16,7	3,5
48	3 12,0	3 12,5	3 03,1	4,8	1,0	10,8	2,3	16,8	3,5
49	3 12,3	3 12,8	3 03,3	4,9	1,0	10,9	2,3	16,9	3,5
50	3 12,5	3 13,0	3 03,6	5,0	1,0	11,0	2,3	17,0	3,5
51	3 12,8	3 13,3	3 03,8	5,1	1,1	11,1	2,3	17,1	3,6
52	3 13,0	3 13,5	3 04,0	5,2	1,1	11,2	2,3	17,2	3,6
53	3 13,3	3 13,8	3 04,3	5,3	1,1	11,3	2,4	17,3	3,6
54	3 13,5	3 14,0	3 04,5	5,4	1,1	11,4	2,4	17,4	3,6
55	3 13,8	3 14,3	3 04,8	5,5	1,1	11,5	2,4	17,5	3,6
56	3 14,0	3 14,5	3 05,0	5,6	1,2	11,6	2,4	17,6	3,7
57	3 14,3	3 14,8	3 05,2	5,7	1,2	11,7	2,4	17,7	3,7
58	3 14,5	3 15,0	3 05,5	5,8	1,2	11,8	2,5	17,8	3,7
59	3 14,8	3 15,3	3 05,7	5,9	1,2	11,9	2,5	17,9	3,7
60	3 15,0	3 15,5	3 06,1	6,0	1,3	12,0	2,5	18,0	3,8

m 13	SOL PLANETAS	ARIES	LUNA	o r	Corr	v d	Corr	v d	Corr
s	° ′	° ′	° ′	′	′	′	′	′	′
00	3 15,0	3 15,5	3 06,1	0,0	0,0	6,0	1,4	12,0	2,7
01	3 15,3	3 15,8	3 06,3	0,1	0,0	6,1	1,4	12,1	2,7
02	3 15,5	3 16,0	3 06,6	0,2	0,0	6,2	1,4	12,2	2,7
03	3 15,8	3 16,3	3 06,8	0,3	0,1	6,3	1,4	12,3	2,8
04	3 16,0	3 16,5	3 07,1	0,4	0,1	6,4	1,4	12,4	2,8
05	3 16,3	3 16,8	3 07,3	0,5	0,1	6,5	1,5	12,5	2,8
06	3 16,5	3 17,0	3 07,5	0,6	0,1	6,6	1,5	12,6	2,8
07	3 16,8	3 17,3	3 07,8	0,7	0,2	6,7	1,5	12,7	2,9
08	3 17,0	3 17,5	3 08,0	0,8	0,2	6,8	1,5	12,8	2,9
09	3 17,3	3 17,8	3 08,3	0,9	0,2	6,9	1,6	12,9	2,9
10	3 17,5	3 18,0	3 08,5	1,0	0,2	7,0	1,6	13,0	2,9
11	3 17,8	3 18,3	3 08,7	1,1	0,2	7,1	1,6	13,1	2,9
12	3 18,0	3 18,5	3 09,0	1,2	0,3	7,2	1,6	13,2	3,0
13	3 18,3	3 18,8	3 09,2	1,3	0,3	7,3	1,6	13,3	3,0
14	3 18,5	3 19,0	3 09,4	1,4	0,3	7,4	1,7	13,4	3,0
15	3 18,8	3 19,3	3 09,7	1,5	0,3	7,5	1,7	13,5	3,0
16	3 19,0	3 19,5	3 09,9	1,6	0,4	7,6	1,7	13,6	3,1
17	3 19,3	3 19,8	3 10,2	1,7	0,4	7,7	1,7	13,7	3,1
18	3 19,5	3 20,0	3 10,4	1,8	0,4	7,8	1,8	13,8	3,1
19	3 19,8	3 20,3	3 10,6	1,9	0,4	7,9	1,8	13,9	3,1
20	3 20,0	3 20,5	3 10,9	2,0	0,5	8,0	1,8	14,0	3,2
21	3 20,3	3 20,8	3 11,1	2,1	0,5	8,1	1,8	14,1	3,2
22	3 20,5	3 21,0	3 11,4	2,2	0,5	8,2	1,8	14,2	3,2
23	3 20,8	3 21,3	3 11,6	2,3	0,5	8,3	1,9	14,3	3,2
24	3 21,0	3 21,5	3 11,8	2,4	0,5	8,4	1,9	14,4	3,2
25	3 21,3	3 21,8	3 12,1	2,5	0,6	8,5	1,9	14,5	3,3
26	3 21,5	3 22,0	3 12,3	2,6	0,6	8,6	1,9	14,6	3,3
27	3 21,8	3 22,3	3 12,6	2,7	0,6	8,7	1,9	14,7	3,3
28	3 22,0	3 22,5	3 12,8	2,8	0,6	8,8	2,0	14,8	3,3
29	3 22,3	3 22,8	3 13,0	2,9	0,7	8,9	2,0	14,9	3,3
30	3 22,5	3 23,0	3 13,3	3,0	0,7	9,0	2,0	15,0	3,4
31	3 22,8	3 23,3	3 13,5	3,1	0,7	9,1	2,0	15,1	3,4
32	3 23,0	3 23,5	3 13,8	3,2	0,7	9,2	2,1	15,2	3,4
33	3 23,3	3 23,8	3 14,0	3,3	0,7	9,3	2,1	15,3	3,4
34	3 23,5	3 24,0	3 14,2	3,4	0,8	9,4	2,1	15,4	3,5
35	3 23,8	3 24,3	3 14,5	3,5	0,8	9,5	2,1	15,5	3,5
36	3 24,0	3 24,5	3 14,7	3,6	0,8	9,6	2,2	15,6	3,5
37	3 24,3	3 24,8	3 15,0	3,7	0,8	9,7	2,2	15,7	3,5
38	3 24,5	3 25,0	3 15,2	3,8	0,9	9,8	2,2	15,8	3,6
39	3 24,8	3 25,3	3 15,4	3,9	0,9	9,9	2,2	15,9	3,6
40	3 25,0	3 25,5	3 15,7	4,0	0,9	10,0	2,2	16,0	3,6
41	3 25,3	3 25,8	3 15,9	4,1	0,9	10,1	2,3	16,1	3,6
42	3 25,5	3 26,0	3 16,1	4,2	0,9	10,2	2,3	16,2	3,6
43	3 25,8	3 26,3	3 16,4	4,3	1,0	10,3	2,3	16,3	3,7
44	3 26,0	3 26,5	3 16,6	4,4	1,0	10,4	2,3	16,4	3,7
45	3 26,3	3 26,8	3 16,9	4,5	1,0	10,5	2,4	16,5	3,7
46	3 26,5	3 27,0	3 17,1	4,6	1,0	10,6	2,4	16,6	3,7
47	3 26,8	3 27,3	3 17,3	4,7	1,1	10,7	2,4	16,7	3,8
48	3 27,0	3 27,5	3 17,6	4,8	1,1	10,8	2,4	16,8	3,8
49	3 27,3	3 27,8	3 17,8	4,9	1,1	10,9	2,4	16,9	3,8
50	3 27,5	3 28,0	3 18,1	5,0	1,1	11,0	2,5	17,0	3,8
51	3 27,8	3 28,3	3 18,3	5,1	1,1	11,1	2,5	17,1	3,8
52	3 28,0	3 28,5	3 18,5	5,2	1,2	11,2	2,5	17,2	3,9
53	3 28,3	3 28,8	3 18,8	5,3	1,2	11,3	2,5	17,3	3,9
54	3 28,5	3 29,0	3 19,0	5,4	1,2	11,4	2,6	17,4	3,9
55	3 28,8	3 29,3	3 19,3	5,5	1,2	11,5	2,6	17,5	3,9
56	3 29,0	3 29,5	3 19,5	5,6	1,3	11,6	2,6	17,6	4,0
57	3 29,3	3 29,8	3 19,7	5,7	1,3	11,7	2,6	17,7	4,0
58	3 29,5	3 30,0	3 20,0	5,8	1,3	11,8	2,7	17,8	4,0
59	3 29,8	3 30,3	3 20,2	5,9	1,3	11,9	2,7	17,9	4,0
60	3 30,0	3 30,6	3 20,4	6,0	1,4	12,0	2,7	18,0	4,1

m 14	SOL PLANETAS	ARIES	LUNA	v d	Corr	v d	Corr	v d	Corr
s	° ′	° ′	° ′	′	′	′	′	′	′
00	3 30,0	3 30,6	3 20,4	0,0	0,0	6,0	1,5	12,0	2,9
01	3 30,3	3 30,9	3 20,6	0,1	0,0	6,1	1,5	12,1	2,9
02	3 30,5	3 31,1	3 20,9	0,2	0,0	6,2	1,5	12,2	2,9
03	3 30,8	3 31,4	3 21,1	0,3	0,1	6,3	1,5	12,3	3,0
04	3 31,0	3 31,6	3 21,4	0,4	0,1	6,4	1,5	12,4	3,0
05	3 31,3	3 31,9	3 21,6	0,5	0,1	6,5	1,6	12,5	3,0
06	3 31,5	3 32,1	3 21,8	0,6	0,1	6,6	1,6	12,6	3,0
07	3 31,8	3 32,4	3 22,1	0,7	0,2	6,7	1,6	12,7	3,1
08	3 32,0	3 32,6	3 22,3	0,8	0,2	6,8	1,6	12,8	3,1
09	3 32,3	3 32,9	3 22,6	0,9	0,2	6,9	1,7	12,9	3,1
10	3 32,5	3 33,1	3 22,8	1,0	0,2	7,0	1,7	13,0	3,1
11	3 32,8	3 33,4	3 23,0	1,1	0,3	7,1	1,7	13,1	3,2
12	3 33,0	3 33,6	3 23,3	1,2	0,3	7,2	1,7	13,2	3,2
13	3 33,3	3 33,9	3 23,5	1,3	0,3	7,3	1,8	13,3	3,2
14	3 33,5	3 34,1	3 23,7	1,4	0,3	7,4	1,8	13,4	3,2
15	3 33,8	3 34,4	3 24,0	1,5	0,4	7,5	1,8	13,5	3,3
16	3 34,0	3 34,6	3 24,2	1,6	0,4	7,6	1,8	13,6	3,3
17	3 34,3	3 34,9	3 24,5	1,7	0,4	7,7	1,9	13,7	3,3
18	3 34,5	3 35,1	3 24,7	1,8	0,4	7,8	1,9	13,8	3,3
19	3 34,8	3 35,4	3 24,9	1,9	0,5	7,9	1,9	13,9	3,4
20	3 35,0	3 35,6	3 25,2	2,0	0,5	8,0	1,9	14,0	3,4
21	3 35,3	3 35,9	3 25,4	2,1	0,5	8,1	2,0	14,1	3,4
22	3 35,5	3 36,1	3 25,7	2,2	0,5	8,2	2,0	14,2	3,4
23	3 35,8	3 36,4	3 25,9	2,3	0,6	8,3	2,0	14,3	3,5
24	3 36,0	3 36,6	3 26,1	2,4	0,6	8,4	2,0	14,4	3,5
25	3 36,3	3 36,9	3 26,4	2,5	0,6	8,5	2,1	14,5	3,5
26	3 36,5	3 37,1	3 26,6	2,6	0,6	8,6	2,1	14,6	3,5
27	3 36,8	3 37,4	3 26,9	2,7	0,7	8,7	2,1	14,7	3,6
28	3 37,0	3 37,6	3 27,1	2,8	0,7	8,8	2,1	14,8	3,6
29	3 37,3	3 37,9	3 27,3	2,9	0,7	8,9	2,2	14,9	3,6
30	3 37,5	3 38,1	3 27,6	3,0	0,7	9,0	2,2	15,0	3,6
31	3 37,8	3 38,4	3 27,8	3,1	0,7	9,1	2,2	15,1	3,6
32	3 38,0	3 38,6	3 28,1	3,2	0,8	9,2	2,2	15,2	3,7
33	3 38,3	3 38,9	3 28,3	3,3	0,8	9,3	2,2	15,3	3,7
34	3 38,5	3 39,1	3 28,5	3,4	0,8	9,4	2,3	15,4	3,7
35	3 38,8	3 39,4	3 28,8	3,5	0,8	9,5	2,3	15,5	3,7
36	3 39,0	3 39,6	3 29,0	3,6	0,9	9,6	2,3	15,6	3,8
37	3 39,3	3 39,9	3 29,3	3,7	0,9	9,7	2,3	15,7	3,8
38	3 39,5	3 40,1	3 29,5	3,8	0,9	9,8	2,8	15,8	3,8
39	3 39,8	3 40,4	3 29,7	3,9	0,9	9,9	2,4	15,9	3,8
40	3 40,0	3 40,6	3 30,0	4,0	1,0	10,0	2,4	16,0	3,9
41	3 40,3	3 40,9	3 30,2	4,1	1,0	10,1	2,4	16,1	3,9
42	3 40,5	3 41,1	3 30,4	4,2	1,0	10,2	2,5	16,2	3,9
43	3 40,8	3 41,4	3 30,7	4,3	1,0	10,3	2,5	16,3	3,9
44	3 41,0	3 41,6	3 30,9	4,4	1,1	10,4	2,5	16,4	4,0
45	3 41,3	3 41,9	3 31,2	4,5	1,1	10,5	2,5	16,5	4,0
46	3 41,5	3 42,1	3 31,4	4,6	1,1	10,6	2,6	16,6	4,0
47	3 41,8	3 42,4	3 31,6	4,7	1,1	10,7	2,6	16,7	4,0
48	3 42,0	3 42,6	3 31,9	4,8	1,2	10,8	2,6	16,8	4,1
49	3 42,3	3 42,9	3 32,1	4,9	1,2	10,9	2,6	16,9	4,1
50	3 42,5	3 43,1	3 32,4	5,0	1,2	11,0	2,7	17,0	4,1
51	3 42,8	3 43,4	3 32,6	5,1	1,2	11,1	2,7	17,1	4,1
52	3 43,0	3 43,6	3 32,8	5,2	1,3	11,2	2,7	17,2	4,2
53	3 43,3	3 43,9	3 33,1	5,3	1,3	11,3	2,7	17,3	4,2
54	3 43,5	3 44,1	3 33,3	5,4	1,3	11,4	2,8	17,4	4,2
55	3 43,8	3 44,4	3 33,6	5,5	1,3	11,5	2,8	17,5	4,2
56	3 44,0	3 44,6	3 33,8	5,6	1,4	11,6	2,8	17,6	4,3
57	3 44,3	3 44,9	3 34,0	5,7	1,4	11,7	2,8	17,7	4,3
58	3 44,5	3 45,1	3 34,3	5,8	1,4	11,8	2,9	17,8	4,3
59	3 44,8	3 45,4	3 34,5	5,9	1,4	11,9	2,9	17,9	4,3
60	3 45,0	3 45,6	3 34,8	6,0	1,5	12,0	2,9	18,0	4,4

m 15	SOL PLANETAS	ARIES	LUNA	v d	Corr	v d	Corr	v d	Corr
s	° ′	° ′	° ′	′	′	′	′	′	′
00	3 45,0	3 45,6	3 34,8	0,0	0,0	6,0	1,6	12,0	3,1
01	3 45,3	3 45,9	3 35,0	0,1	0,0	6,1	1,6	12,1	3,1
02	3 45,5	3 46,1	3 35,3	0,2	0,1	6,2	1,6	12,2	3,2
03	3 45,8	3 46,4	3 35,5	0,3	0,1	6,3	1,6	12,3	3,2
04	3 46,0	3 46,6	3 35,8	0,4	0,1	6,4	1,7	12,4	3,2
05	3 46,3	3 46,9	3 36,0	0,5	0,1	6,5	1,7	12,5	3,2
06	3 46,5	3 47,1	3 36,2	0,6	0,2	6,6	1,7	12,6	3,3
07	3 46,8	3 47,4	3 36,5	0,7	0,2	6,7	1,7	12,7	3,3
08	3 47,0	3 47,6	3 36,7	0,8	0,2	6,8	1,8	12,8	3,3
09	3 47,3	3 47,9	3 37,0	0,9	0,2	6,9	1,8	12,9	3,3
10	3 47,5	3 48,1	3 37,2	1,0	0,3	7,0	1,8	13,0	3,4
11	3 47,8	3 48,4	3 37,4	1,1	0,3	7,1	1,8	13,1	3,4
12	3 48,0	3 48,6	3 37,7	1,2	0,3	7,2	1,9	13,2	3,4
13	3 48,3	3 48,9	3 37,9	1,3	0,3	7,3	1,9	13,3	3,4
14	3 48,5	3 49,1	3 38,1	1,4	0,4	7,4	1,9	13,4	3,5
15	3 48,8	3 49,4	3 38,4	1,5	0,4	7,5	1,9	13,5	3,5
16	3 49,0	3 49,6	3 38,6	1,6	0,4	7,6	2,0	13,6	3,5
17	3 49,3	3 49,9	3 38,9	1,7	0,4	7,7	2,0	13,7	3,5
18	3 49,5	3 50,1	3 39,1	1,8	0,5	7,8	2,0	13,8	3,6
19	3 49,8	3 50,4	3 39,3	1,9	0,5	7,9	2,0	13,9	3,6
20	3 50,0	3 50,6	3 39,6	2,0	0,5	8,0	2,1	14,0	3,6
21	3 50,3	3 50,9	3 39,8	2,1	0,5	8,1	2,1	14,1	3,6
22	3 50,5	3 51,1	3 40,1	2,2	0,6	8,2	2,1	14,2	3,7
23	3 50,8	3 51,4	3 40,3	2,3	0,6	8,3	2,1	14,3	3,7
24	3 51,0	3 51,6	3 40,5	2,4	0,6	8,4	2,1	14,4	3,7
25	3 51,3	3 51,9	3 40,8	2,5	0,6	8,5	2,2	14,5	3,7
26	3 51,5	3 52,1	3 41,0	2,6	0,7	8,6	2,2	14,6	3,8
27	3 51,8	3 52,4	3 41,3	2,7	0,7	8,7	2,2	14,7	3,8
28	3 52,0	3 52,6	3 41,5	2,8	0,7	8,8	2,3	14,8	3,8
29	3 52,3	3 52,9	3 41,7	2,9	0,7	8,9	2,3	14,9	3,8
30	3 52,5	3 53,1	3 42,0	3,0	0,8	9,0	2,3	15,0	3,9
31	3 52,8	3 53,4	3 42,2	3,1	0,8	9,1	2,4	15,1	3,9
32	3 53,0	3 53,6	3 42,5	3,2	0,8	9,2	2,4	15,2	3,9
33	3 53,3	3 53,9	3 42,7	3,3	0,9	9,3	2,4	15,3	4,0
34	3 53,5	3 54,1	3 42,9	3,4	0,9	9,4	2,4	15,4	4,0
35	3 53,8	3 54,4	3 43,2	3,5	0,9	9,5	2,5	15,5	4,0
36	3 54,0	3 54,6	3 43,4	3,6	0,9	9,6	2,5	15,6	4,0
37	3 54,3	3 54,9	3 43,7	3,7	1,0	9,7	2,5	15,7	4,1
38	3 54,5	3 55,1	3 43,9	3,8	1,0	9,8	2,5	15,8	4,1
39	3 54,8	3 55,4	3 44,1	3,9	1,0	9,9	2,6	15,9	4,1
40	3 55,0	3 55,6	3 44,4	4,0	1,0	10,0	2,6	16,0	4,1
41	3 55,3	3 55,9	3 44,6	4,1	1,1	10,1	2,6	16,1	4,2
42	3 55,5	3 56,1	3 44,8	4,2	1,1	10,2	2,6	16,2	4,2
43	3 55,8	3 56,4	3 45,1	4,3	1,1	10,3	2,7	16,3	4,2
44	3 56,0	3 56,6	3 45,3	4,4	1,1	10,4	2,7	16,4	4,2
45	3 56,3	3 56,9	3 45,6	4,5	1,2	10,5	2,7	16,5	4,3
46	3 56,5	3 57,1	3 45,8	4,6	1,2	10,6	2,7	16,6	4,3
47	3 56,8	3 57,4	3 46,0	4,7	1,2	10,7	2,8	16,7	4,3
48	3 57,0	3 57,6	3 46,3	4,8	1,2	10,8	2,8	16,8	4,3
49	3 57,3	3 57,9	3 46,5	4,9	1,3	10,9	2,8	16,9	4,4
50	3 57,5	3 58,1	3 46,8	5,0	1,3	11,0	2,8	17,0	4,4
51	3 57,8	3 58,4	3 47,0	5,1	1,3	11,1	2,9	17,1	4,4
52	3 58,0	3 58,6	3 47,2	5,2	1,3	11,2	2,9	17,2	4,4
53	3 58,3	3 58,9	3 47,5	5,3	1,4	11,3	2,9	17,3	4,5
54	3 58,5	3 59,1	3 47,7	5,4	1,4	11,4	2,9	17,4	4,5
55	3 58,8	3 59,4	3 48,0	5,5	1,4	11,5	3,0	17,5	4,5
56	3 59,0	3 59,6	3 48,2	5,6	1,4	11,6	3,0	17,6	4,5
57	3 59,3	3 59,9	3 48,4	5,7	1,5	11,7	3,0	17,7	4,6
58	3 59,5	0 00,2	3 48,7	5,8	1,5	11,8	3,0	17,8	4,6
59	3 59,8	4 00,4	3 48,9	5,9	1,5	11,9	3,0	17,9	4,6
60	4 00,0	4 00,7	3 49,1	6,0	1,6	12,0	3,1	18,0	4,7

m 16	SOL PLANETAS	ARIES	LUNA	v d	Corr	v d	Corr	v d	Corr
s	° ′	° ′	° ′	′	′	′	′	′	′
00	4 00,0	4 00,7	3 49,1	0,0	0,0	6,0	1,7	12,0	3,3
01	4 00,3	4 01,0	3 49,3	0,1	0,0	6,1	1,7	12,1	3,3
02	4 00,5	4 01,2	3 49,6	0,2	0,1	6,2	1,7	12,2	3,4
03	4 00,8	4 01,5	3 49,8	0,3	0,1	6,3	1,7	12,3	3,4
04	4 01,0	4 01,7	3 50,1	0,4	0,1	6,4	1,8	12,4	3,4
05	4 01,3	4 02,0	3 50,3	0,5	0,1	6,5	1,8	12,5	3,4
06	4 01,5	4 02,2	3 50,5	0,6	0,2	6,6	1,8	12,6	3,5
07	4 01,8	4 02,5	3 50,8	0,7	0,2	6,7	1,8	12,7	3,5
08	4 02,0	4 02,7	3 51,0	0,8	0,2	6,8	1,9	12,8	3,5
09	4 02,3	4 03,0	3 51,3	0,9	0,2	6,9	1,9	12,9	3,5
10	4 02,5	4 03,2	3 51,5	1,0	0,3	7,0	1,9	13,0	3,6
11	4 02,8	4 03,5	3 51,7	1,1	0,3	7,1	2,0	13,1	3,6
12	4 03,0	4 03,7	3 52,0	1,2	0,3	7,2	2,0	13,2	3,6
13	4 03,3	4 04,0	3 52,2	1,3	0,4	7,3	2,0	13,3	3,7
14	4 03,5	4 04,2	3 52,4	1,4	0,4	7,4	2,0	13,4	3,7
15	4 03,8	4 04,5	3 52,7	1,5	0,4	7,5	2,1	13,5	3,7
16	4 04,0	4 04,7	3 52,9	1,6	0,4	7,6	2,1	13,6	3,7
17	4 04,3	4 05,0	3 53,2	1,7	0,5	7,7	2,1	13,7	3,8
18	4 04,5	4 05,2	3 53,4	1,8	0,5	7,8	2,1	13,8	3,8
19	4 04,8	4 05,5	3 53,6	1,9	0,5	7,9	2,2	13,9	3,8
20	4 05,0	4 05,7	3 53,9	2,0	0,6	8,0	2,2	14,0	3,9
21	4 05,3	4 06,0	3 54,1	2,1	0,6	8,1	2,2	14,1	3,9
22	4 05,5	4 06,2	3 54,4	2,2	0,6	8,2	2,3	14,2	3,9
23	4 05,8	4 06,5	3 54,6	2,3	0,6	8,3	2,3	14,3	3,9
24	4 06,0	4 06,7	3 54,8	2,4	0,7	8,4	2,3	14,4	4,0
25	4 06,3	4 07,0	3 55,1	2,5	0,7	8,5	2,3	14,5	4,0
26	4 06,5	4 07,2	3 55,3	2,6	0,7	8,6	2,4	14,6	4,0
27	4 06,8	4 07,5	3 55,6	2,7	0,7	8,7	2,4	14,7	4,0
28	4 07,0	4 07,7	3 55,8	2,8	0,8	8,8	2,4	14,8	4,1
29	4 07,3	4 08,0	3 56,0	2,9	0,8	8,9	2,4	14,9	4,1
30	4 07,5	4 08,2	3 56,3	3,0	0,8	9,0	2,5	15,0	4,1
31	4 07,8	4 08,5	3 56,5	3,1	0,9	9,1	2,5	15,1	4,2
32	4 08,0	4 08,7	3 56,8	3,2	0,9	9,2	2,5	15,2	4,2
33	4 08,3	4 09,0	3 57,0	3,3	0,9	9,3	2,6	15,3	4,2
34	4 08,5	4 09,2	3 57,2	3,4	0,9	9,4	2,6	15,4	4,2
35	4 08,8	4 09,5	3 57,5	3,5	1,0	9,5	2,6	15,5	4,3
36	4 09,0	4 09,7	3 57,7	3,6	1,0	9,6	2,6	15,6	4,3
37	4 09,3	4 10,0	3 58,0	3,7	1,0	9,7	2,7	15,7	4,3
38	4 09,5	4 10,2	3 58,2	3,8	1,0	9,8	2,7	15,8	4,3
39	4 09,8	4 10,5	3 58,4	3,9	1,1	9,9	2,7	15,9	4,4
40	4 10,0	4 10,7	3 58,7	4,0	1,1	10,0	2,8	16,0	4,4
41	4 10,3	4 11,0	3 58,9	4,1	1,1	10,1	2,8	16,1	4,4
42	4 10,5	4 11,2	3 59,1	4,2	1,2	10,2	2,8	16,2	4,5
43	4 10,8	4 11,5	3 59,4	4,3	1,2	10,3	2,8	16,3	4,5
44	4 11,0	4 11,7	3 59,6	4,4	1,2	10,4	2,9	16,4	4,5
45	4 11,3	4 12,0	3 59,9	4,5	1,2	10,5	2,9	16,5	4,5
46	4 11,5	4 12,2	4 00,0	4,6	1,3	10,6	2,9	16,6	4,5
47	4 11,8	4 12,5	4 00,2	4,7	1,3	10,7	2,9	16,7	4,6
48	4 12,0	4 12,7	4 00,5	4,8	1,3	10,8	3,0	16,8	4,6
49	4 12,3	4 13,0	4 00,7	4,9	1,3	10,9	3,0	16,9	4,6
50	4 12,5	4 13,2	4 01,0	5,0	1,4	11,0	3,0	17,0	4,7
51	4 12,8	4 13,5	4 01,2	5,1	1,4	11,1	3,1	17,1	4,7
52	4 13,0	4 13,7	4 01,4	5,2	1,4	11,2	3,1	17,2	4,7
53	4 13,3	4 14,0	4 01,7	5,3	1,5	11,3	3,1	17,3	4,8
54	4 13,5	4 14,2	4 01,9	5,4	1,5	11,4	3,1	17,4	4,8
55	4 13,8	4 14,5	4 02,2	5,5	1,5	11,5	3,2	17,5	4,8
56	4 14,0	4 14,7	4 02,4	5,6	1,5	11,6	3,2	17,6	4,8
57	4 14,3	4 15,0	4 02,6	5,7	1,6	11,7	3,2	17,7	4,9
58	4 14,5	4 15,2	4 02,9	5,8	1,6	11,8	3,2	17,8	4,9
59	4 14,8	4 15,5	4 03,1	5,9	1,6	11,9	3,3	17,9	4,9
60	4 15,0	4 15,7	4 03,4	6,0	1,7	12,0	3,3	18,0	5,0

m 17	SOL PLANETAS	ARIES	LUNA	v d	Corr	v d	Corr	v d	Corr
s	° ′	° ′	° ′	′	′	′	′	′	′
00	4 15,0	4 15,7	4 03,4	0,0	0,0	6,0	1,8	12,0	3,5
01	4 15,3	4 16,0	4 03,6	0,1	0,0	6,1	1,8	12,1	3,5
02	4 15,5	4 16,2	4 03,9	0,2	0,1	6,2	1,8	12,2	3,6
03	4 15,8	4 16,5	4 04,1	0,3	0,1	6,3	1,8	12,3	3,6
04	4 16,0	4 16,7	4 04,4	0,4	0,1	6,4	1,9	12,4	3,6
05	4 16,3	4 17,0	4 04,6	0,5	0,1	6,5	1,9	12,5	3,6
06	4 16,5	4 17,2	4 04,8	0,6	0,2	6,6	1,9	12,6	3,7
07	4 16,8	4 17,5	4 05,1	0,7	0,2	6,7	2,0	12,7	3,7
08	4 17,0	4 17,7	4 05,3	0,8	0,2	6,8	2,0	12,8	3,7
09	4 17,3	4 18,0	4 05,6	0,9	0,2	6,9	2,0	12,9	3,8
10	4 17,5	4 18,2	4 05,8	1,0	0,3	7,0	2,0	13,0	3,8
11	4 17,8	4 18,5	4 06,0	1,1	0,3	7,1	2,1	13,1	3,8
12	4 18,0	4 18,7	4 06,3	1,2	0,4	7,2	2,1	13,2	3,9
13	4 18,3	4 19,0	4 06,5	1,3	0,4	7,3	2,1	13,3	3,9
14	4 18,5	4 19,2	4 06,7	1,4	0,4	7,4	2,2	13,4	3,9
15	4 18,8	4 19,5	4 07,0	1,5	0,4	7,5	2,2	13,5	3,9
16	4 19,0	4 19,7	4 07,2	1,6	0,4	7,6	2,2	13,6	4,0
17	4 19,3	4 20,0	4 07,5	1,7	0,5	7,7	2,2	13,7	4,0
18	4 19,5	4 20,2	4 07,7	1,8	0,5	7,8	2,3	13,8	4,0
19	4 19,8	4 20,5	4 07,9	1,9	0,5	7,9	2,3	13,9	4,1
20	4 20,0	4 20,7	4 08,2	2,0	0,6	8,0	2,3	14,0	4,1
21	4 20,3	4 21,0	4 08,4	2,1	0,6	8,1	2,4	14,1	4,1
22	4 20,5	4 21,2	4 08,7	2,2	0,6	8,2	2,4	14,2	4,1
23	4 20,8	4 21,5	4 08,9	2,3	0,7	8,3	2,4	14,3	4,2
24	4 21,0	4 21,7	4 09,1	2,4	0,7	8,4	2,5	14,4	4,2
25	4 21,3	4 22,0	4 09,4	2,5	0,7	8,5	2,5	14,5	4,2
26	4 21,5	4 22,2	4 09,6	2,6	0,8	8,6	2,5	14,6	4,3
27	4 21,8	4 22,5	4 09,9	2,7	0,8	8,7	2,5	14,7	4,3
28	4 22,0	4 22,7	4 10,1	2,8	0,8	8,8	2,6	14,8	4,3
29	4 22,3	4 23,0	4 10,3	2,9	0,8	8,9	2,6	14,9	4,3
30	4 22,5	4 23,2	4 10,6	3,0	0,9	9,0	2,6	15,0	4,4
31	4 22,8	4 23,5	4 10,8	3,1	0,9	9,1	2,7	15,1	4,4
32	4 23,0	4 23,7	4 11,1	3,2	0,9	9,2	2,7	15,2	4,4
33	4 23,3	4 24,0	4 11,3	3,3	1,0	9,3	2,7	15,3	4,5
34	4 23,5	4 24,2	4 11,5	3,4	1,0	9,4	2,7	15,4	4,5
35	4 23,8	4 24,5	4 11,8	3,5	1,0	9,5	2,8	15,5	4,5
36	4 24,0	4 24,7	4 12,0	3,6	1,1	9,6	2,8	15,6	4,6
37	4 24,3	4 25,0	4 12,3	3,7	1,1	9,7	2,8	15,7	4,6
38	4 24,5	4 25,2	4 12,5	3,8	1,1	9,8	2,9	15,8	4,6
39	4 24,8	4 25,5	4 12,7	3,9	1,1	9,9	2,9	15,9	4,6
40	4 25,0	4 25,7	4 13,0	4,0	1,2	10,0	2,9	16,0	4,7
41	4 25,3	4 26,0	4 13,2	4,1	1,2	10,1	2,9	16,1	4,7
42	4 25,5	4 26,2	4 13,4	4,2	1,2	10,2	3,0	16,2	4,7
43	4 25,8	4 26,5	4 13,7	4,3	1,3	10,3	3,0	16,3	4,8
44	4 26,0	4 26,7	4 13,9	4,4	1,3	10,4	3,0	16,4	4,8
45	4 26,3	4 27,0	4 14,2	4,5	1,3	10,5	3,1	16,5	4,8
46	4 26,5	4 27,2	4 14,4	4,6	1,3	10,6	3,1	16,6	4,8
47	4 26,8	4 27,5	4 14,6	4,7	1,4	10,7	3,1	16,7	4,9
48	4 27,0	4 27,7	4 14,9	4,8	1,4	10,8	3,2	16,8	4,9
49	4 27,3	4 28,0	4 15,1	4,9	1,4	10,9	3,2	16,9	4,9
50	4 27,5	4 28,2	4 15,4	5,0	1,5	11,0	3,2	17,0	4,9
51	4 27,8	4 28,5	4 15,6	5,1	1,5	11,1	3,2	17,1	5,0
52	4 28,0	4 28,7	4 15,8	5,2	1,5	11,2	3,3	17,2	5,0
53	4 28,3	4 29,0	4 16,1	5,3	1,5	11,3	3,3	17,3	5,0
54	4 28,5	4 29,2	4 16,3	5,4	1,6	11,4	3,3	17,4	5,1
55	4 28,8	4 29,5	4 16,6	5,5	1,6	11,5	3,4	17,5	5,1
56	4 29,0	4 29,7	4 16,8	5,6	1,6	11,6	3,4	17,6	5,1
57	4 29,3	4 30,0	4 17,0	5,7	1,7	11,7	3,4	17,7	5,2
58	4 29,5	4 30,2	4 17,3	5,8	1,7	11,8	3,4	17,8	5,2
59	4 29,8	4 30,5	4 17,5	5,9	1,7	11,9	3,5	17,9	5,2
60	4 30,0	4 30,7	4 17,7	6,0	1,8	12,0	3,5	18,0	5,3

m 18	SOL PLANETAS	ARIES	LUNA	v d	Corr	v d	Corr	v d	Corr
s	° ′	° ′	° ′	′	′	′	′	′	′
00	4 30,0	4 30,7	4 17,7	0,0	0,0	6,0	1,9	12,0	3,7
01	4 30,3	4 31,0	4 17,9	0,1	0,0	6,1	1,9	12,1	3,7
02	4 30,5	4 31,2	4 18,2	0,2	0,1	6,2	1,9	12,2	3,8
03	4 30,8	4 31,5	4 18,4	0,3	0,1	6,3	1,9	12,3	3,8
04	4 31,0	4 31,7	4 18,7	0,4	0,1	6,4	2,0	12,4	3,8
05	4 31,3	4 32,0	4 18,9	0,5	0,2	6,5	2,0	12,5	3,8
06	4 31,5	4 32,2	4 19,1	0,6	0,2	6,6	2,0	12,6	3,9
07	4 31,8	4 32,5	4 19,4	0,7	0,2	6,7	2,0	12,7	3,9
08	4 32,0	4 32,7	4 19,6	0,8	0,2	6,8	2,1	12,8	3,9
09	4 32,3	4 33,0	4 19,9	0,9	0,3	6,9	2,1	12,9	4,0
10	4 32,5	4 33,2	4 20,1	1,0	0,3	7,0	2,1	13,0	4,0
11	4 32,8	4 33,5	4 20,3	1,1	0,4	7,1	2,2	13,1	4,0
12	4 33,0	4 33,7	4 20,6	1,2	0,4	7,2	2,2	13,2	4,1
13	4 33,3	4 34,0	4 20,8	1,3	0,4	7,3	2,2	13,3	4,1
14	4 33,5	4 34,2	4 21,0	1,4	0,5	7,4	2,2	13,4	4,1
15	4 33,8	4 34,5	4 21,3	1,5	0,5	7,5	2,3	13,5	4,1
16	4 34,0	4 34,7	4 21,5	1,6	0,5	7,6	2,3	13,6	4,2
17	4 34,3	4 35,0	4 21,8	1,7	0,5	7,7	2,3	13,7	4,2
18	4 34,5	4 35,2	4 22,0	1,8	0,6	7,8	2,3	13,8	4,2
19	4 34,8	4 35,5	4 22,2	1,9	0,6	7,9	2,4	13,9	4,2
20	4 35,0	4 35,7	4 22,5	2,0	0,6	8,0	2,4	14,0	4,3
21	4 35,3	4 36,0	4 22,7	2,1	0,7	8,1	2,4	14,1	4,3
22	4 35,5	4 36,2	4 23,0	2,2	0,7	8,2	2,5	14,2	4,3
23	4 35,8	4 36,5	4 23,2	2,3	0,7	8,3	2,5	14,3	4,3
24	4 36,0	4 36,7	4 23,4	2,4	0,7	8,4	2,5	14,4	4,4
25	4 36,3	4 37,0	4 23,7	2,5	0,8	8,5	2,6	14,5	4,4
26	4 36,5	4 37,2	4 23,9	2,6	0,8	8,6	2,6	14,6	4,4
27	4 36,8	4 37,5	4 24,2	2,7	0,8	8,7	2,6	14,7	4,4
28	4 37,0	4 37,7	4 24,4	2,8	0,9	8,8	2,7	14,8	4,6
29	4 37,3	4 38,0	4 24,6	2,9	0,9	8,9	2,7	14,9	4,6
30	4 37,5	4 38,2	4 24,9	3,0	0,9	9,0	2,8	15,0	4,6
31	4 37,8	4 38,5	4 25,1	3,1	0,9	9,1	2,8	15,1	4,7
32	4 38,0	4 38,7	4 25,4	3,2	1,0	9,2	2,8	15,2	4,7
33	4 38,3	4 39,0	4 25,6	3,3	1,0	9,3	2,9	15,3	4,7
34	4 38,5	4 39,2	4 25,8	3,4	1,0	9,4	2,9	15,4	4,7
35	4 38,8	4 39,5	4 26,1	3,5	1,1	9,5	2,9	15,5	4,8
36	4 39,0	4 39,7	4 26,3	3,6	1,1	9,6	3,0	15,6	4,8
37	4 39,3	4 40,0	4 26,6	3,7	1,1	9,7	3,0	15,7	4,8
38	4 39,5	4 40,2	4 26,8	3,8	1,2	9,8	3,0	15,8	4,9
39	4 39,8	4 40,5	4 27,0	3,9	1,2	9,9	3,1	15,9	4,9
40	4 40,0	4 40,7	4 27,3	4,0	1,2	10,0	3,1	16,0	4,9
41	4 40,3	4 41,0	4 27,5	4,1	1,2	10,1	3,1	16,1	5,0
42	4 40,5	4 41,2	4 27,7	4,2	1,3	10,2	3,2	16,2	5,0
43	4 40,8	4 41,5	4 28,0	4,3	1,3	10,3	3,2	16,3	5,0
44	4 41,0	4 41,7	4 28,2	4,4	1,4	10,4	3,2	16,4	5,1
45	4 41,3	4 42,0	4 28,5	4,5	1,4	10,5	3,3	16,5	5,1
46	4 41,5	4 42,2	4 28,7	4,6	1,4	10,6	3,3	16,6	5,1
47	4 41,8	4 42,5	4 28,9	4,7	1,4	10,7	3,3	16,7	5,1
48	4 42,0	4 42,7	4 29,2	4,8	1,5	10,8	3,3	16,8	5,2
49	4 42,3	4 43,0	4 29,4	4,9	1,5	10,9	3,4	16,9	5,2
50	4 42,5	4 43,2	4 29,7	5,0	1,5	11,0	3,4	17,0	5,3
51	4 42,8	4 43,5	4 29,9	5,1	1,5	11,1	3,4	17,1	5,3
52	4 43,0	4 43,7	4 30,1	5,2	1,6	11,2	3,5	17,2	5,3
53	4 43,3	4 44,0	4 30,4	5,3	1,6	11,3	3,5	17,3	5,3
54	4 43,5	4 44,2	4 30,6	5,4	1,7	11,4	3,5	17,4	5,4
55	4 43,8	4 44,5	4 30,9	5,5	1,7	11,5	3,5	17,5	5,4
56	4 44,0	4 44,7	4 31,1	5,6	1,7	11,6	3,6	17,6	5,4
57	4 44,3	4 45,0	4 31,3	5,7	1,8	11,7	3,6	17,7	5,5
58	4 44,5	4 45,2	4 31,6	5,8	1,8	11,8	3,6	17,8	5,5
59	4 44,8	4 45,5	4 31,8	5,9	1,8	11,9	3,6	17,9	5,5
60	4 45,0	4 45,8	4 32,0	6,0	1,9	12,0	3,7	18,0	5,6

m 19	SOL PLANETAS	ARIES	LUNA	v d	Corr	v d	Corr	v d	Corr
s	° ′	° ′	° ′	′	′	′	′	′	′
00	4 45,0	4 45,8	4 32,0	0,0	0,0	6,0	2,0	12,0	3,9
01	4 45,3	4 46,1	4 32,2	0,1	0,0	6,1	2,0	12,1	3,9
02	4 45,5	4 46,3	4 32,5	0,2	0,1	6,2	2,1	12,2	4,0
03	4 45,8	4 46,6	4 32,7	0,3	0,1	6,3	2,1	12,3	4,0
04	4 46,0	4 46,8	4 33,0	0,4	0,1	6,4	2,1	12,4	4,0
05	4 46,3	4 47,1	4 33,2	0,5	0,2	6,5	2,2	12,5	4,1
06	4 46,5	4 47,3	4 33,4	0,6	0,2	6,6	2,2	12,6	4,1
07	4 46,8	4 47,6	4 33,7	0,7	0,2	6,7	2,2	12,7	4,1
08	4 47,0	4 47,8	4 33,9	0,8	0,3	6,8	2,3	12,8	4,2
09	4 47,3	4 48,1	4 34,2	0,9	0,3	6,9	2,3	12,9	4,2
10	4 47,5	4 48,3	4 34,4	1,0	0,3	7,0	2,3	13,0	4,2
11	4 47,8	4 48,6	4 34,6	1,1	0,4	7,1	2,4	13,1	4,3
12	4 48,0	4 48,8	4 34,9	1,2	0,4	7,2	2,4	13,2	4,3
13	4 48,3	4 49,1	4 35,1	1,3	0,4	7,3	2,4	13,3	4,3
14	4 48,5	4 49,3	4 35,3	1,4	0,5	7,4	2,5	13,4	4,4
15	4 48,8	4 49,6	4 35,6	1,5	0,5	7,5	2,5	13,5	4,4
16	4 49,0	4 49,8	4 35,8	1,6	0,5	7,6	2,5	13,6	4,4
17	4 49,3	4 50,1	4 36,1	1,7	0,6	7,7	2,5	13,7	4,5
18	4 49,5	4 50,3	4 36,3	1,8	0,6	7,8	2,6	13,8	4,5
19	4 49,8	4 50,6	4 36,5	1,9	0,6	7,9	2,6	13,9	4,5
20	4 50,0	4 50,8	4 36,8	2,0	0,7	8,0	2,6	14,0	4,6
21	4 50,3	4 51,1	4 37,0	2,1	0,7	8,1	2,7	14,1	4,6
22	4 50,5	4 51,3	4 37,3	2,2	0,7	8,2	2,7	14,2	4,6
23	4 50,8	4 51,6	4 37,5	2,3	0,8	8,3	2,7	14,3	4,7
24	4 51,0	4 51,8	4 37,7	2,4	0,8	8,4	2,8	14,4	4,7
25	4 51,3	4 52,1	4 38,0	2,5	0,8	8,5	2,8	14,5	4,7
26	4 51,5	4 52,3	4 38,2	2,6	0,9	8,6	2,8	14,6	4,8
27	4 51,8	4 52,6	4 38,5	2,7	0,9	8,7	2,9	14,7	4,8
28	4 52,0	4 52,8	4 38,7	2,8	0,9	8,8	2,9	14,8	4,8
29	4 52,3	4 53,1	4 38,9	2,9	1,0	8,9	2,9	14,9	4,9
30	4 52,5	4 53,3	4 39,2	3,0	1,0	9,0	3,0	15,0	4,9
31	4 52,8	4 53,6	4 39,4	3,1	1,0	9,1	3,0	15,1	4,9
32	4 53,0	4 53,8	4 39,7	3,2	1,1	9,2	3,0	15,2	5,0
33	4 53,3	4 54,1	4 39,9	3,3	1,1	9,3	3,0	15,3	5,0
34	4 53,5	4 54,3	4 40,1	3,4	1,1	9,4	3,1	15,4	5,0
35	4 53,8	4 54,6	4 40,4	3,5	1,2	9,5	3,1	15,5	5,1
36	4 54,0	4 54,8	4 40,6	3,6	1,2	9,6	3,1	15,6	5,1
37	4 54,3	4 55,1	4 40,9	3,7	1,2	9,7	3,2	15,7	5,1
38	4 54,5	4 55,3	4 41,1	3,8	1,3	9,8	3,2	15,8	5,2
39	4 54,8	4 55,6	4 41,3	3,9	1,3	9,9	3,2	15,9	5,2
40	4 55,0	4 55,8	4 41,6	4,0	1,3	10,0	3,3	16,0	5,2
41	4 55,3	4 56,1	4 41,8	4,1	1,4	10,1	3,3	16,1	5,3
42	4 55,5	4 56,3	4 42,0	4,2	1,4	10,2	3,3	16,2	5,3
43	4 55,8	4 56,6	4 42,3	4,3	1,4	10,3	3,4	16,3	5,3
44	4 56,0	4 56,8	4 42,5	4,4	1,5	10,4	3,4	16,4	5,4
45	4 56,3	4 57,1	4 42,8	4,5	1,5	10,5	3,4	16,5	5,4
46	4 56,5	4 57,3	4 43,0	4,6	1,5	10,6	3,5	16,6	5,4
47	4 56,8	4 57,6	4 43,2	4,7	1,6	10,7	3,5	16,7	5,5
48	4 57,0	4 57,8	4 43,5	4,8	1,6	10,8	3,5	16,8	5,5
49	4 57,3	4 58,1	4 43,7	4,9	1,6	10,9	3,6	16,9	5,5
50	4 57,5	4 58,3	4 44,0	5,0	1,7	11,0	3,6	17,0	5,6
51	4 57,8	4 58,6	4 44,2	5,1	1,7	11,1	3,6	17,1	5,6
52	4 58,0	4 58,8	4 44,4	5,2	1,7	11,2	3,7	17,2	5,6
53	4 58,3	4 59,1	4 44,7	5,3	1,8	11,3	3,7	17,3	5,7
54	4 58,5	4 59,3	4 44,9	5,4	1,8	11,4	3,7	17,4	5,7
55	4 58,8	4 59,6	4 45,2	5,5	1,8	11,5	3,8	17,5	5,7
56	4 59,0	4 59,8	4 45,4	5,6	1,9	11,6	3,8	17,6	5,8
57	4 59,3	5 00,1	4 45,6	5,7	1,9	11,7	3,8	17,7	5,8
58	4 59,5	5 00,3	4 45,9	5,8	1,9	11,8	3,8	17,8	5,8
59	4 59,8	5 00,6	4 46,1	5,9	1,9	11,9	3,9	17,9	5,9
60	5 00,0	5 00,8	4 46,3	6,0	2,0	12,0	3,9	18,0	5,9

m 20	SOL PLANETAS	ARIES	LUNA	v d	Corr	v d	Corr	v d	Corr
s	° ′	° ′	° ′	′	′	′	′	′	′
00	5 00,0	5 00,8	4 46,3	0,0	0,0	6,0	2,1	12,0	4,1
01	5 00,3	5 01,1	4 46,5	0,1	0,0	6,1	2,1	12,1	4,1
02	5 00,5	5 01,3	4 46,8	0,2	0,1	6,2	2,1	12,2	4,2
03	5 00,8	5 01,6	4 47,0	0,3	0,1	6,3	2,2	12,3	4,2
04	5 01,0	5 01,8	4 47,3	0,4	0,1	6,4	2,2	12,4	4,2
05	5 01,3	5 02,1	4 47,5	0,5	0,2	6,5	2,2	12,5	4,3
06	5 01,5	5 02,3	4 47,7	0,6	0,2	6,6	2,3	12,6	4,3
07	5 01,8	5 02,6	4 48,0	0,7	0,2	6,7	2,3	12,7	4,3
08	5 02,0	5 02,8	4 48,2	0,8	0,3	6,8	2,3	12,8	4,4
09	5 02,3	5 03,1	4 48,5	0,9	0,3	6,9	2,4	12,9	4,4
10	5 02,5	5 03,3	4 48,7	1,0	0,3	7,0	2,4	13,0	4,4
11	5 02,8	5 03,6	4 48,9	1,1	0,4	7,1	2,4	13,1	4,5
12	5 03,0	5 03,8	4 49,2	1,2	0,4	7,2	2,5	13,2	4,5
13	5 03,3	5 04,1	4 49,4	1,3	0,4	7,3	2,5	13,3	4,5
14	5 03,5	5 04,3	4 49,6	1,4	0,5	7,4	2,5	13,4	4,6
15	5 03,8	5 04,6	4 49,9	1,5	0,5	7,5	2,6	13,5	4,6
16	5 04,0	5 04,8	4 50,1	1,6	0,5	7,6	2,6	13,6	4,6
17	5 04,3	5 05,1	4 50,4	1,7	0,6	7,7	2,6	13,7	4,7
18	5 04,5	5 05,3	4 50,6	1,8	0,6	7,8	2,7	13,8	4,7
19	5 04,8	5 05,6	4 50,8	1,9	0,6	7,9	2,7	13,9	4,7
20	5 05,0	5 05,8	4 51,1	2,0	0,7	8,0	2,7	14,0	4,8
21	5 05,3	5 06,1	4 51,3	2,1	0,7	8,1	2,8	14,1	4,8
22	5 05,5	5 06,3	4 51,6	2,2	0,7	8,2	2,8	14,2	4,8
23	5 05,8	5 06,6	4 51,8	2,3	0,8	8,3	2,8	14,3	4,9
24	5 06,0	5 06,8	4 52,0	2,4	0,8	8,4	2,9	14,4	4,9
25	5 06,3	5 07,1	4 52,3	2,5	0,8	8,5	2,9	14,5	4,9
26	5 06,5	5 07,3	4 52,5	2,6	0,9	8,6	2,9	14,6	5,0
27	5 06,8	5 07,6	4 52,8	2,7	0,9	8,7	3,0	14,7	5,0
28	5 07,0	5 07,8	4 53,0	2,8	0,9	8,8	3,0	14,8	5,0
29	5 07,3	5 08,1	4 53,2	2,9	1,0	8,9	3,0	14,9	5,1
30	5 07,5	5 08,3	4 53,5	3,0	1,0	9,0	3,1	15,0	5,1
31	5 07,8	5 08,6	4 53,7	3,1	1,0	9,1	3,1	15,1	5,1
32	5 08,0	5 08,8	4 54,0	3,2	1,1	9,2	3,1	15,2	5,2
33	5 08,3	5 09,1	4 54,2	3,3	1,1	9,3	3,2	15,3	5,2
34	5 08,5	5 09,3	4 54,4	3,4	1,1	9,4	3,2	15,4	5,2
35	5 08,8	5 09,6	4 54,7	3,5	1,2	9,5	3,2	15,5	5,3
36	5 09,0	5 09,8	4 54,9	3,6	1,2	9,6	3,3	15,6	5,3
37	5 09,3	5 10,1	4 55,2	3,7	1,2	9,7	3,3	15,7	5,3
38	5 09,5	5 10,3	4 55,4	3,8	1,3	9,8	3,3	15,8	5,4
39	5 09,8	5 10,6	4 55,6	3,9	1,3	9,9	3,4	15,9	5,4
40	5 10,0	5 10,8	4 55,9	4,0	1,3	10,0	3,4	16,0	5,4
41	5 10,3	5 11,1	4 56,1	4,1	1,4	10,1	3,4	16,1	5,5
42	5 10,5	5 11,3	4 56,3	4,2	1,4	10,2	3,5	16,2	5,5
43	5 10,8	5 11,6	4 56,6	4,3	1,4	10,3	3,5	16,3	5,5
44	5 11,0	5 11,8	4 56,8	4,4	1,5	10,4	3,5	16,4	5,6
45	5 11,3	5 12,1	4 57,1	4,5	1,5	10,5	3,6	16,5	5,6
46	5 11,5	5 12,3	4 57,3	4,6	1,5	10,6	3,6	16,6	5,6
47	5 11,8	5 12,6	4 57,5	4,7	1,6	10,7	3,6	16,7	5,7
48	5 12,0	5 12,8	4 57,8	4,8	1,6	10,8	3,7	16,8	5,7
49	5 12,3	5 13,1	4 58,0	4,9	1,6	10,9	3,7	16,9	5,7
50	5 12,5	5 13,3	4 58,3	5,0	1,7	11,0	3,7	17,0	5,8
51	5 12,8	5 13,6	4 58,5	5,1	1,7	11,1	3,8	17,1	5,8
52	5 13,0	5 13,8	4 58,7	5,2	1,7	11,2	3,8	17,2	5,8
53	5 13,3	5 14,1	4 59,0	5,3	1,9	11,3	3,8	17,3	5,9
54	5 13,5	5 14,3	4 59,2	5,4	1,9	11,4	3,9	17,4	5,9
55	5 13,8	5 14,6	4 59,5	5,5	1,9	11,5	3,9	17,5	5,9
56	5 14,0	5 14,8	4 59,7	5,6	2,0	11,6	3,9	17,6	6,0
57	5 14,3	5 15,1	4 59,9	5,7	2,0	11,7	4,0	17,7	6,0
58	5 14,5	5 15,3	5 00,2	5,8	2,0	11,8	4,0	17,8	6,1
59	5 14,8	5 15,6	5 00,4	5,9	2,0	11,9	4,0	17,9	6,1
60	5 15,0	5 15,9	5 00,7	6,0	2,1	12,0	4,1	18,0	6,2

m 21	SOL PLANETAS	ARIES	LUNA	v d	Corr	v d	Corr	v d	Corr
s	° ′	° ′	° ′	′	′	′	′	′	′
00	5 15,0	5 15,9	5 00,7	0,0	0,0	6,0	2,2	12,0	4,3
01	5 15,3	5 16,2	5 00,9	0,1	0,0	6,1	2,2	12,1	4,3
02	5 15,5	5 16,4	5 01,2	0,2	0,1	6,2	2,2	12,2	4,4
03	5 15,8	5 16,7	5 01,4	0,3	0,1	6,3	2,3	12,3	4,4
04	5 16,0	5 16,9	5 01,7	0,4	0,1	6,4	2,3	12,4	4,4
05	5 16,3	5 17,2	5 01,9	0,5	0,2	6,5	2,3	12,5	4,5
06	5 16,5	5 17,4	5 02,1	0,6	0,2	6,6	2,4	12,6	4,5
07	5 16,8	5 17,7	5 02,4	0,7	0,2	6,7	2,4	12,7	4,5
08	5 17,0	5 17,9	5 02,6	0,8	0,3	6,8	2,4	12,8	4,6
09	5 17,3	5 18,2	5 02,9	0,9	0,3	6,9	2,5	12,9	4,6
10	5 17,5	5 18,4	5 03,1	1,0	0,3	7,0	2,5	13,0	4,6
11	5 17,8	5 18,7	5 03,3	1,1	0,4	7,1	2,5	13,1	4,7
12	5 18,0	5 18,9	5 03,6	1,2	0,4	7,2	2,6	13,2	4,7
13	5 18,3	5 19,2	5 03,8	1,3	0,4	7,3	2,6	13,3	4,7
14	5 18,5	5 19,4	5 04,0	1,4	0,5	7,4	2,6	13,4	4,8
15	5 18,8	5 19,7	5 04,3	1,5	0,5	7,5	2,7	13,5	4,8
16	5 19,0	5 19,9	5 04,5	1,6	0,5	7,6	2,7	13,6	4,8
17	5 19,3	5 20,2	5 04,8	1,7	0,6	7,7	2,7	13,7	4,9
18	5 19,5	5 20,4	5 05,0	1,8	0,6	7,8	2,8	13,8	4,9
19	5 19,8	5 20,7	5 05,2	1,9	0,6	7,9	2,8	13,9	5,0
20	5 20,0	5 20,9	5 05,5	2,0	0,7	8,0	2,8	14,0	5,0
21	5 20,3	5 21,2	5 05,7	2,1	0,7	8,1	2,9	14,1	5,0
22	5 20,5	5 21,4	5 06,0	2,2	0,7	8,2	2,9	14,2	5,1
23	5 20,8	5 21,7	5 06,2	2,3	0,8	8,3	2,9	14,3	5,1
24	5 21,0	5 21,9	5 06,4	2,4	0,8	8,4	3,0	14,4	5,1
25	5 21,3	5 22,2	5 06,7	2,5	0,8	8,5	3,0	14,5	5,2
26	5 21,5	5 22,4	5 06,9	2,6	0,9	8,6	3,0	14,6	5,2
27	5 21,8	5 22,7	5 07,2	2,7	0,9	8,7	3,1	14,7	5,2
28	5 22,0	5 22,9	5 07,4	2,8	0,9	8,8	3,1	14,8	5,3
29	5 22,3	5 23,2	5 07,6	2,9	1,0	8,9	3,1	14,9	5,3
30	5 22,5	5 23,4	5 07,9	3,0	1,0	9,0	3,2	15,0	5,3
31	5 22,8	5 23,7	5 08,1	3,1	1,0	9,1	3,2	15,1	5,4
32	5 23,0	5 23,9	5 08,4	3,2	1,1	9,2	3,2	15,2	5,4
33	5 23,3	5 24,2	5 08,6	3,3	1,1	9,3	3,3	15,3	5,4
34	5 23,5	5 24,4	5 08,8	3,4	1,1	9,4	3,3	15,4	5,5
35	5 23,8	5 24,7	5 09,1	3,5	1,2	9,5	3,3	15,5	5,5
36	5 24,0	5 24,9	5 09,3	3,6	1,2	9,6	3,4	15,6	5,5
37	5 24,3	5 25,2	5 09,6	3,7	1,2	9,7	3,4	15,7	5,6
38	5 24,5	5 25,4	5 09,8	3,8	1,3	9,8	3,4	15,8	5,6
39	5 24,8	5 25,7	5 10,0	3,9	1,3	9,9	3,5	15,9	5,6
40	5 25,0	5 25,9	5 10,3	4,0	1,3	10,0	3,5	16,0	5,7
41	5 25,3	5 26,2	5 10,5	4,1	1,4	10,1	3,5	16,1	5,7
42	5 25,5	5 26,4	5 10,7	4,2	1,4	10,2	3,6	16,2	5,7
43	5 25,8	5 26,7	5 11,0	4,3	1,4	10,3	3,6	16,3	5,8
44	5 26,0	5 26,9	5 11,2	4,4	1,5	10,4	3,6	16,4	5,8
45	5 26,3	5 27,2	5 11,5	4,5	1,5	10,5	3,7	16,5	5,8
46	5 26,5	5 27,4	5 11,7	4,6	1,5	10,6	3,7	16,6	5,9
47	5 26,8	5 27,7	5 11,9	4,7	1,6	10,7	3,7	16,7	5,9
48	5 27,0	5 27,9	5 12,2	4,8	1,6	10,8	3,8	16,8	5,9
49	5 27,3	5 28,2	5 12,4	4,9	1,6	10,9	3,8	16,9	6,0
50	5 27,5	5 28,4	5 12,7	5,0	1,7	11,0	3,8	17,0	6,0
51	5 27,8	5 28,7	5 12,9	5,1	1,7	11,1	3,9	17,1	6,0
52	5 28,0	5 28,9	5 13,1	5,2	1,7	11,2	3,9	17,2	6,1
53	5 28,3	5 29,2	5 13,4	5,3	1,8	11,3	4,0	17,3	6,1
54	5 28,5	5 29,4	5 13,6	5,4	1,8	11,4	4,0	17,4	6,2
55	5 28,8	5 29,7	5 13,9	5,5	1,9	11,5	4,1	17,5	6,2
56	5 29,0	5 29,9	5 14,1	5,6	1,9	11,6	4,1	17,6	6,2
57	5 29,3	5 30,2	5 14,3	5,7	2,0	11,7	4,1	17,7	6,3
58	5 29,5	5 30,4	5 14,6	5,8	2,0	11,8	4,2	17,8	6,3
59	5 29,8	5 30,7	5 14,8	5,9	2,1	11,9	4,2	17,9	6,3
60	5 30,0	5 30,9	5 15,0	6,0	2,2	12,0	4,3	18,0	6,5

m 22	SOL PLANETAS	ARIES	LUNA	v d	Corr	v d	Corr	v d	Corr
s	° ′	° ′	° ′	′	′	′	′	′	′
00	5 30,0	5 30,9	5 15,0	0,0	0,0	6,0	2,3	12,0	4,5
01	5 30,3	5 31,2	5 15,2	0,1	0,0	6,1	2,3	12,1	4,5
02	5 30,5	5 31,4	5 15,5	0,2	0,1	6,2	2,3	12,2	4,6
03	5 30,8	5 31,7	5 15,7	0,3	0,1	6,3	2,4	12,3	4,6
04	5 31,0	5 31,9	5 16,0	0,4	0,2	6,4	2,4	12,4	4,7
05	5 31,3	5 32,2	5 16,2	0,5	0,2	6,5	2,4	12,5	4,7
06	5 31,5	5 32,4	5 16,4	0,6	0,2	6,6	2,5	12,6	4,8
07	5 31,8	5 32,7	5 16,7	0,7	0,3	6,7	2,5	12,7	4,8
08	5 32,0	5 32,9	5 16,9	0,8	0,3	6,8	2,6	12,8	4,8
09	5 32,3	5 33,2	5 17,2	0,9	0,3	6,9	2,6	12,9	4,9
10	5 32,5	5 33,4	5 17,4	1,0	0,4	7,0	2,6	13,0	4,9
11	5 32,8	5 33,7	5 17,6	1,1	0,4	7,1	2,7	13,1	5,0
12	5 33,0	5 33,9	5 17,9	1,2	0,4	7,2	2,7	13,2	5,0
13	5 33,3	5 34,2	5 18,1	1,3	0,5	7,3	2,7	13,3	5,0
14	5 33,5	5 34,4	5 18,3	1,4	0,5	7,4	2,8	13,4	5,1
15	5 33,8	5 34,7	5 18,6	1,5	0,5	7,5	2,8	13,5	5,1
16	5 34,0	5 34,9	5 18,8	1,6	0,6	7,6	2,9	13,6	5,1
17	5 34,3	5 35,2	5 19,1	1,7	0,6	7,7	2,9	13,7	5,2
18	5 34,5	5 35,4	5 19,3	1,8	0,6	7,8	2,9	13,8	5,2
19	5 34,8	5 35,7	5 19,5	1,9	0,7	7,9	3,0	13,9	5,3
20	5 35,0	5 35,9	5 19,8	2,0	0,7	8,0	3,0	14,0	5,3
21	5 35,3	5 36,2	5 20,0	2,1	0,8	8,1	3,0	14,1	5,4
22	5 35,5	5 36,4	5 20,3	2,2	0,8	8,2	3,1	14,2	5,4
23	5 35,8	5 36,7	5 20,5	2,3	0,8	8,3	3,1	14,3	5,4
24	5 36,0	5 36,9	5 20,7	2,4	0,9	8,4	3,2	14,4	5,5
25	5 36,3	5 37,2	5 21,0	2,5	0,9	8,5	3,2	14,5	5,5
26	5 36,5	5 37,4	5 21,2	2,6	0,9	8,6	3,2	14,6	5,6
27	5 36,8	5 37,7	5 21,5	2,7	1,0	8,7	3,3	14,7	5,6
28	5 37,0	5 37,9	5 21,7	2,8	1,0	8,8	3,3	14,8	5,6
29	5 37,3	5 38,2	5 21,9	2,9	1,1	8,9	3,3	14,9	5,7
30	5 37,5	5 38,4	5 22,2	3,0	1,1	9,0	3,4	15,0	5,7
31	5 37,8	5 38,7	5 22,4	3,1	1,1	9,1	3,4	15,1	5,7
32	5 38,0	5 38,9	5 22,7	3,2	1,2	9,2	3,5	15,2	5,8
33	5 38,3	5 39,2	5 22,9	3,3	1,2	9,3	3,5	15,3	5,8
34	5 38,5	5 39,4	5 23,1	3,4	1,2	9,4	3,5	15,4	5,9
35	5 38,8	5 39,7	5 23,4	3,5	1,3	9,5	3,6	15,5	5,9
36	5 39,0	5 39,9	5 23,6	3,6	1,3	9,6	3,6	15,6	5,9
37	5 39,3	5 40,2	5 23,9	3,7	1,3	9,7	3,6	15,7	6,0
38	5 39,5	5 40,4	5 24,1	3,8	1,5	9,8	3,7	15,8	6,0
39	5 39,8	5 40,7	5 24,3	3,9	1,5	9,9	3,7	15,9	6,0
40	5 40,0	5 40,9	5 24,6	4,0	1,5	10,0	3,8	16,0	6,1
41	5 40,3	5 41,2	5 24,8	4,1	1,6	10,1	3,8	16,1	6,1
42	5 40,5	5 41,4	5 25,0	4,2	1,6	10,2	3,8	16,2	6,2
43	5 40,8	5 41,7	5 25,3	4,3	1,7	10,3	3,9	16,3	6,2
44	5 41,0	5 41,9	5 25,5	4,4	1,7	10,4	3,9	16,4	6,2
45	5 41,3	5 42,2	5 25,8	4,5	1,7	10,5	3,9	16,5	6,3
46	5 41,5	5 42,4	5 26,0	4,6	1,8	10,6	4,0	16,6	6,3
47	5 41,8	5 42,7	5 26,2	4,7	1,8	10,7	4,0	16,7	6,3
48	5 42,0	5 42,9	5 26,5	4,8	1,8	10,8	4,1	16,8	6,4
49	5 42,3	5 43,2	5 26,7	4,9	1,9	10,9	4,1	16,9	6,4
50	5 42,5	5 43,4	5 27,0	5,0	1,9	11,0	4,1	17,0	6,4
51	5 42,8	5 43,7	5 27,2	5,1	2,0	11,1	4,2	17,1	6,5
52	5 43,0	5 43,9	5 27,4	5,2	2,0	11,2	4,2	17,2	6,5
53	5 43,3	5 44,2	5 27,7	5,3	2,0	11,3	4,2	17,3	6,5
54	5 43,5	5 44,4	5 27,9	5,4	2,1	11,4	4,3	17,4	6,6
55	5 43,8	5 44,7	5 28,2	5,5	2,1	11,5	4,3	17,5	6,6
56	5 44,0	5 44,9	5 28,4	5,6	2,1	11,6	4,4	17,6	6,6
57	5 44,3	5 45,2	5 28,6	5,7	2,1	11,7	4,4	17,7	6,7
58	5 44,5	5 45,4	5 28,9	5,8	2,2	11,8	4,4	17,8	6,7
59	5 44,8	5 45,7	5 29,1	5,9	2,2	11,9	4,5	17,9	6,7
60	5 45,0	5 45,9	5 29,3	6,0	2,3	12,0	4,5	18,0	6,8

m 23	SOL PLANETAS	ARIES	LUNA	v or d	Corr	v or d	Corr	v or d	Corr
s	° ′	° ′	° ′	′	′	′	′	′	′
00	5 45,0	5 45,9	5 29,3	0,0	0,0	6,0	2,4	12,0	4,7
01	5 45,3	5 46,2	5 29,5	0,1	0,0	6,1	2,4	12,1	4,8
02	5 45,5	5 46,4	5 29,8	0,2	0,1	6,2	2,4	12,2	4,8
03	5 45,8	5 46,7	5 30,0	0,3	0,1	6,3	2,5	12,3	4,8
04	5 46,0	5 46,9	5 30,3	0,4	0,2	6,4	2,5	12,4	4,9
05	5 46,3	5 47,2	5 30,5	0,5	0,2	6,5	2,5	12,5	4,9
06	5 46,5	5 47,4	5 30,7	0,6	0,2	6,6	2,6	12,6	4,9
07	5 46,8	5 47,7	5 31,0	0,7	0,3	6,7	2,6	12,7	5,0
08	5 47,0	5 47,9	5 31,2	0,8	0,3	6,8	2,6	12,8	5,0
09	5 47,3	5 48,2	5 31,5	0,9	0,4	6,9	2,7	12,9	5,0
10	5 47,5	5 48,4	5 31,7	1,0	0,4	7,0	2,7	13,0	5,1
11	5 47,8	5 48,7	5 31,9	1,1	0,4	7,1	2,7	13,1	5,1
12	5 48,0	5 48,9	5 32,2	1,2	0,5	7,2	2,8	13,2	5,2
13	5 48,3	5 49,2	5 32,4	1,3	0,5	7,3	2,8	13,3	5,2
14	5 48,5	5 49,4	5 32,6	1,4	0,5	7,4	2,8	13,4	5,2
15	5 48,8	5 49,7	5 32,9	1,5	0,6	7,5	2,9	13,5	5,3
16	5 49,0	5 49,9	5 33,1	1,6	0,6	7,6	2,9	13,6	5,3
17	5 49,3	5 50,2	5 33,4	1,7	0,6	7,7	3,0	13,7	5,4
18	5 49,5	5 50,4	5 33,6	1,8	0,7	7,8	3,0	13,8	5,4
19	5 49,8	5 50,7	5 33,8	1,9	0,7	7,9	3,0	13,9	5,4
20	5 50,0	5 50,9	5 34,1	2,0	0,8	8,0	3,1	14,0	5,5
21	5 50,3	5 51,2	5 34,3	2,1	0,8	8,1	3,1	14,1	5,5
22	5 50,5	5 51,4	5 34,6	2,2	0,8	8,2	3,1	14,2	5,5
23	5 50,8	5 51,7	5 34,8	2,3	0,9	8,3	3,2	14,3	5,6
24	5 51,0	5 51,9	5 35,0	2,4	0,9	8,4	3,2	14,4	5,6
25	5 51,3	5 52,2	5 35,3	2,5	0,9	8,5	3,2	14,5	5,6
26	5 51,5	5 52,4	5 35,5	2,6	1,0	8,6	3,3	14,6	5,7
27	5 51,8	5 52,7	5 35,8	2,7	1,0	8,7	3,3	14,7	5,7
28	5 52,0	5 52,9	5 36,0	2,8	1,0	8,8	3,3	14,8	5,8
29	5 52,3	5 53,2	5 36,2	2,9	1,1	8,9	3,4	14,9	5,8
30	5 52,5	5 53,4	5 36,5	3,0	1,1	9,0	3,4	15,0	5,9
31	5 52,8	5 53,7	5 36,7	3,1	1,2	9,1	3,5	15,1	5,9
32	5 53,0	5 53,9	5 37,0	3,2	1,2	9,2	3,6	15,2	6,0
33	5 53,3	5 54,2	5 37,2	3,3	1,2	9,3	3,6	15,3	6,0
34	5 53,5	5 54,4	5 37,4	3,4	1,3	9,4	3,7	15,4	6,0
35	5 53,8	5 54,7	5 37,7	3,5	1,3	9,5	3,7	15,5	6,1
36	5 54,0	5 54,9	5 37,9	3,6	1,3	9,6	3,8	15,6	6,1
37	5 54,3	5 55,2	5 38,2	3,7	1,4	9,7	3,8	15,7	6,1
38	5 54,5	5 55,4	5 38,4	3,8	1,4	9,8	3,8	15,8	6,2
39	5 54,8	5 55,7	5 38,6	3,9	1,4	9,9	3,9	15,9	6,2
40	5 55,0	5 55,9	5 38,9	4,0	1,5	10,0	3,9	16,0	6,2
41	5 55,3	5 56,2	5 39,1	4,1	1,5	10,1	4,0	16,1	6,3
42	5 55,5	5 56,4	5 39,3	4,2	1,7	10,2	4,0	16,2	6,3
43	5 55,8	5 56,7	5 39,6	4,3	1,7	10,3	4,0	16,3	6,4
44	5 56,0	5 56,9	5 39,8	4,4	1,7	10,4	4,1	16,4	6,4
45	5 56,3	5 57,2	5 40,1	4,5	1,8	10,5	4,1	16,5	6,4
46	5 56,5	5 57,4	5 40,3	4,6	1,8	10,6	4,2	16,6	6,5
47	5 56,8	5 57,7	5 40,5	4,7	1,9	10,7	4,2	16,7	6,5
48	5 57,0	5 57,9	5 40,8	4,8	1,9	10,8	4,2	16,8	6,6
49	5 57,3	5 58,2	5 41,0	4,9	1,9	10,9	4,3	16,9	6,6
50	5 57,5	5 58,4	5 41,3	5,0	2,0	11,0	4,3	17,0	6,7
51	5 57,8	5 58,7	5 41,5	5,1	2,0	11,1	4,3	17,1	6,7
52	5 58,0	5 58,9	5 41,7	5,2	2,1	11,2	4,4	17,2	6,7
53	5 58,3	5 59,2	5 42,0	5,3	2,1	11,3	4,4	17,3	6,8
54	5 58,5	5 59,4	5 42,2	5,4	2,1	11,4	4,5	17,4	6,8
55	5 58,8	5 59,7	5 42,5	5,5	2,2	11,5	4,5	17,5	6,8
56	5 59,0	5 59,9	5 42,7	5,6	2,2	11,6	4,5	17,6	6,9
57	5 59,3	6 00,2	5 42,9	5,7	2,2	11,7	4,6	17,7	6,9
58	5 59,5	6 00,4	5 43,2	5,8	2,3	11,8	4,6	17,8	6,9
59	5 59,8	6 00,7	5 43,4	5,9	2,3	11,9	4,7	17,9	7,0
60	6 00,0	6 01,0	5 43,6	6,0	2,4	12,0	4,7	18,0	7,0

m 24	SOL PLANETAS	ARIES	LUNA	v d	Corr	v d	Corr	v d	Corr
s	° ′	° ′	° ′	′	′	′	′	′	′
00	6 00,0	6 01,0	5 43,6	0,0	0,0	6,0	2,5	12,0	5,0
01	6 00,3	6 01,3	5 43,8	0,1	0,0	6,1	2,5	12,1	5,0
02	6 00,5	6 01,5	5 44,1	0,2	0,1	6,2	2,5	12,2	5,1
03	6 00,8	6 01,8	5 44,3	0,3	0,1	6,3	2,6	12,3	5,1
04	6 01,0	6 02,0	5 44,6	0,4	0,2	6,4	2,6	12,4	5,2
05	6 01,3	6 02,3	5 44,8	0,5	0,2	6,5	2,7	12,5	5,2
06	6 01,5	6 02,5	5 45,0	0,6	0,3	6,6	2,7	12,6	5,3
07	6 01,8	6 02,8	5 45,3	0,7	0,3	6,7	2,8	12,7	5,3
08	6 02,0	6 03,0	5 45,5	0,8	0,4	6,8	2,8	12,8	5,3
09	6 02,3	6 03,3	5 45,8	0,9	0,4	6,9	2,8	12,9	5,4
10	6 02,5	6 03,5	5 46,0	1,0	0,4	7,0	2,9	13,0	5,4
11	6 02,8	6 03,8	5 46,2	1,1	0,5	7,1	2,9	13,1	5,5
12	6 03,0	6 04,0	5 46,5	1,2	0,5	7,2	3,0	13,2	5,5
13	6 03,3	6 04,3	5 46,7	1,3	0,6	7,3	3,0	13,3	5,6
14	6 03,5	6 04,5	5 46,9	1,4	0,6	7,4	3,1	13,4	5,6
15	6 03,8	6 04,8	5 47,2	1,5	0,7	7,5	3,1	13,5	5,6
16	6 04,0	6 05,0	5 47,4	1,6	0,7	7,6	3,1	13,6	5,7
17	6 04,3	6 05,3	5 47,7	1,7	0,7	7,7	3,2	13,7	5,7
18	6 04,5	6 05,5	5 47,9	1,8	0,8	7,8	3,2	13,8	5,8
19	6 04,8	6 05,8	5 48,1	1,9	0,8	7,9	3,3	13,9	5,8
20	6 05,0	6 06,0	5 48,4	2,0	0,8	8,0	3,3	14,0	5,9
21	6 05,3	6 06,3	5 48,6	2,1	0,9	8,1	3,4	14,1	5,9
22	6 05,5	6 06,5	5 48,9	2,2	0,9	8,2	3,4	14,2	5,9
23	6 05,8	6 06,8	5 49,1	2,3	1,0	8,3	3,4	14,3	6,0
24	6 06,0	6 07,0	5 49,3	2,4	1,0	8,4	3,5	14,4	6,0
25	6 06,3	6 07,3	5 49,6	2,5	1,1	8,5	3,5	14,5	6,1
26	6 06,5	6 07,5	5 49,8	2,6	1,1	8,6	3,6	14,6	6,1
27	6 06,8	6 07,8	5 50,1	2,7	1,1	8,7	3,6	14,7	6,2
28	6 07,0	6 08,0	5 50,3	2,8	1,2	8,8	3,7	14,8	6,2
29	6 07,3	6 08,3	5 50,5	2,9	1,2	8,9	3,7	14,9	6,2
30	6 07,5	6 08,5	5 50,8	3,0	1,3	9,0	3,7	15,0	6,3
31	6 07,8	6 08,8	5 51,0	3,1	1,3	9,1	3,8	15,1	6,3
32	6 08,0	6 09,0	5 51,3	3,2	1,3	9,2	3,8	15,2	6,4
33	6 08,3	6 09,3	5 51,5	3,3	1,4	9,3	3,9	15,3	6,4
34	6 08,5	6 09,5	5 51,7	3,4	1,4	9,4	3,9	15,4	6,5
35	6 08,8	6 09,8	5 52,0	3,5	1,5	9,5	3,9	15,5	6,5
36	6 09,0	6 10,0	5 52,2	3,6	1,5	9,6	4,0	15,6	6,5
37	6 09,3	6 10,3	5 52,5	3,7	1,5	9,7	4,0	15,7	6,6
38	6 09,5	6 10,5	5 52,7	3,8	1,6	9,8	4,1	15,8	6,6
39	6 09,8	6 10,8	5 52,9	3,9	1,6	9,9	4,1	15,9	6,7
40	6 10,0	6 11,0	5 53,2	4,0	1,7	10,0	4,2	16,0	6,7
41	6 10,3	6 11,3	5 53,4	4,1	1,7	10,1	4,2	16,1	6,8
42	6 10,5	6 11,5	5 53,6	4,2	1,7	10,2	4,2	16,2	6,8
43	6 10,8	6 11,8	5 53,9	4,3	1,8	10,3	4,3	16,3	6,8
44	6 11,0	6 12,0	5 54,1	4,4	1,8	10,4	4,3	16,4	6,9
45	6 11,3	6 12,3	5 54,4	4,5	1,9	10,5	4,4	16,5	6,9
46	6 11,5	6 12,5	5 54,6	4,6	1,9	10,6	4,4	16,6	7,0
47	6 11,8	6 12,8	5 54,8	4,7	1,9	10,7	4,5	16,7	7,0
48	6 12,0	6 13,0	5 55,1	4,8	2,0	10,8	4,5	16,8	7,0
49	6 12,3	6 13,3	5 55,3	4,9	2,0	10,9	4,5	16,9	7,1
50	6 12,5	6 13,5	5 55,6	5,0	2,1	11,0	4,6	17,0	7,1
51	6 12,8	6 13,8	5 55,8	5,1	2,1	11,1	4,6	17,1	7,2
52	6 13,0	6 14,0	5 56,0	5,2	2,1	11,2	4,7	17,2	7,2
53	6 13,3	6 14,3	5 56,3	5,3	2,2	11,3	4,7	17,3	7,3
54	6 13,5	6 14,5	5 56,5	5,4	2,2	11,4	4,8	17,4	7,3
55	6 13,8	6 14,8	5 56,8	5,5	2,3	11,5	4,8	17,5	7,3
56	6 14,0	6 15,0	5 57,0	5,6	2,3	11,6	4,8	17,6	7,4
57	6 14,3	6 15,3	5 57,2	5,7	2,3	11,7	4,9	17,7	7,4
58	6 14,5	6 15,5	5 57,5	5,8	2,4	11,8	4,9	17,8	7,5
59	6 14,8	6 15,8	5 57,7	5,9	2,4	11,9	5,0	17,9	7,5
60	6 15,0	6 16,0	5 57,9	6,0	2,5	12,0	5,0	18,0	7,6

m 25	SOL PLANETAS	ARIES	LUNA	v d	Corr	v d	Corr	v d	Corr
s	° ′	° ′	° ′	′	′	′	′	′	′
00	6 15,0	6 16,0	5 57,9	0,0	0,0	6,0	2,6	12,0	5,1
01	6 15,3	6 16,3	5 58,1	0,1	0,0	6,1	2,6	12,1	5,1
02	6 15,5	6 16,5	5 58,4	0,2	0,1	6,2	2,7	12,2	5,2
03	6 15,8	6 16,8	5 58,6	0,3	0,1	6,3	2,7	12,3	5,2
04	6 16,0	6 17,0	5 58,9	0,4	0,2	6,4	2,8	12,4	5,3
05	6 16,3	6 17,3	5 59,1	0,5	0,2	6,5	2,8	12,5	5,3
06	6 16,5	6 17,5	5 59,3	0,6	0,3	6,6	2,9	12,6	5,4
07	6 16,8	6 17,8	5 59,6	0,7	0,3	6,7	2,9	12,7	5,4
08	6 17,0	6 18,0	5 59,8	0,8	0,4	6,8	2,9	12,8	5,4
09	6 17,3	6 18,3	6 00,1	0,9	0,4	6,9	3,0	12,9	5,5
10	6 17,5	6 18,5	6 00,3	1,0	0,4	7,0	3,0	13,0	5,5
11	6 17,8	6 18,8	6 00,5	1,1	0,5	7,1	3,1	13,1	5,6
12	6 18,0	6 19,0	6 00,8	1,2	0,5	7,2	3,1	13,2	5,6
13	6 18,3	6 19,3	6 01,0	1,3	0,6	7,3	3,2	13,3	5,7
14	6 18,5	6 19,5	6 01,2	1,4	0,6	7,4	3,2	13,4	5,7
15	6 18,8	6 19,8	6 01,5	1,5	0,7	7,5	3,2	13,5	5,7
16	6 19,0	6 20,0	6 01,7	1,6	0,7	7,6	3,3	13,6	5,8
17	6 19,3	6 20,3	6 02,0	1,7	0,7	7,7	3,3	13,7	5,8
18	6 19,5	6 20,5	6 02,2	1,8	0,8	7,8	3,4	13,8	5,9
19	6 19,8	6 20,8	6 02,4	1,9	0,8	7,9	3,4	13,9	5,9
20	6 20,0	6 21,0	6 02,7	2,0	0,9	8,0	3,5	14,0	6,0
21	6 20,3	6 21,3	6 02,9	2,1	0,9	8,1	3,5	14,1	6,0
22	6 20,5	6 21,5	6 03,2	2,2	1,0	8,2	3,5	14,2	6,0
23	6 20,8	6 21,8	6 03,4	2,3	1,0	8,3	3,6	14,3	6,1
24	6 21,0	6 22,0	6 03,6	2,4	1,0	8,4	3,6	14,4	6,1
25	6 21,3	6 22,3	6 03,9	2,5	1,1	8,5	3,7	14,5	6,2
26	6 21,5	6 22,5	6 04,1	2,6	1,1	8,6	3,7	14,6	6,2
27	6 21,8	6 22,8	6 04,4	2,7	1,2	8,7	3,8	14,7	6,3
28	6 22,0	6 23,0	6 04,6	2,8	1,2	8,8	3,8	14,8	6,3
29	6 22,3	6 23,3	6 04,8	2,9	1,3	8,9	3,8	14,9	6,3
30	6 22,5	6 23,5	6 05,1	3,0	1,3	9,0	3,9	15,0	6,4
31	6 22,8	6 23,8	6 05,3	3,1	1,3	9,1	3,9	15,1	6,4
32	6 23,0	6 24,0	6 05,6	3,2	1,4	9,2	4,0	15,2	6,5
33	6 23,3	6 24,3	6 05,8	3,3	1,4	9,3	4,0	15,3	6,5
34	6 23,5	6 24,5	6 06,0	3,4	1,5	9,4	4,1	15,4	6,6
35	6 23,8	6 24,8	6 06,3	3,5	1,5	9,5	4,1	15,5	6,6
36	6 24,0	6 25,0	6 06,5	3,6	1,6	9,6	4,1	15,6	6,6
37	6 24,3	6 25,3	6 06,8	3,7	1,6	9,7	4,2	15,7	6,7
38	6 24,5	6 25,5	6 07,0	3,8	1,6	9,8	4,2	15,8	6,7
39	6 24,8	6 25,8	6 07,2	3,9	1,7	9,9	4,3	15,9	6,8
40	6 25,0	6 26,0	6 07,5	4,0	1,7	10,0	4,3	16,0	6,8
41	6 25,3	6 26,3	6 07,7	4,1	1,8	10,1	4,4	16,1	6,9
42	6 25,5	6 26,5	6 07,9	4,2	1,8	10,2	4,4	16,2	6,9
43	6 25,8	6 26,8	6 08,2	4,3	1,9	10,3	4,4	16,3	6,9
44	6 26,0	6 27,0	6 08,4	4,4	1,9	10,4	4,5	16,4	7,0
45	6 26,3	6 27,3	6 08,7	4,5	1,9	10,5	4,5	16,5	7,0
46	6 26,5	6 27,5	6 08,9	4,6	2,0	10,6	4,6	16,6	7,1
47	6 26,8	6 27,8	6 09,1	4,7	2,0	10,7	4,6	16,7	7,1
48	6 27,0	6 28,0	6 09,4	4,8	2,1	10,8	4,7	16,8	7,2
49	6 27,3	6 28,3	6 09,6	4,9	2,1	10,9	4,7	16,9	7,2
50	6 27,5	6 28,5	6 09,9	5,0	2,2	11,0	4,7	17,0	7,2
51	6 27,8	6 28,8	6 10,1	5,1	2,2	11,1	4,8	17,1	7,3
52	6 28,0	6 29,0	6 10,3	5,2	2,2	11,2	4,8	17,2	7,3
53	6 28,3	6 29,3	6 10,6	5,3	2,3	11,3	4,9	17,3	7,4
54	6 28,5	6 29,5	6 10,8	5,4	2,3	11,4	4,9	17,4	7,4
55	6 28,8	6 29,8	6 11,1	5,5	2,4	11,5	5,0	17,5	7,5
56	6 29,0	6 30,0	6 11,3	5,6	2,4	11,6	5,0	17,6	7,5
57	6 29,3	6 30,3	6 11,5	5,7	2,5	11,7	5,0	17,7	7,5
58	6 29,5	6 30,5	6 11,8	5,8	2,5	11,8	5,1	17,8	7,6
59	6 29,8	6 30,8	6 12,0	5,9	2,5	11,9	5,1	17,9	7,6
60	6 30,0	6 31,2	6 12,2	6,0	2,6	12,0	5,1	18,0	7,7

m 26	SOL PLANETAS	ARIES	LUNA	v d	Corr	v d	Corr	v d	Corr
s	° '	° '	° '	'	'	'	'	'	'
00	6 30,0	6 31,1	6 12,2	0,0	0,0	6,0	2,7	12,0	5,3
01	6 30,3	6 31,4	6 12,4	0,1	0,0	6,1	2,7	12,1	5,3
02	6 30,5	6 31,6	6 12,7	0,2	0,1	6,2	2,8	12,2	5,4
03	6 30,8	6 31,9	6 12,9	0,3	0,1	6,3	2,8	12,3	5,4
04	6 31,0	6 32,1	6 13,2	0,4	0,2	6,4	2,9	12,4	5,5
05	6 31,3	6 32,4	6 13,4	0,5	0,2	6,5	2,9	12,5	5,5
06	6 31,5	6 32,6	6 13,6	0,6	0,3	6,6	3,0	12,6	5,6
07	6 31,8	6 32,9	6 13,9	0,7	0,3	6,7	3,0	12,7	5,6
08	6 32,0	6 33,1	6 14,1	0,8	0,4	6,8	3,0	12,8	5,6
09	6 32,3	6 33,4	6 14,4	0,9	0,4	6,9	3,1	12,9	5,7
10	6 32,5	6 33,6	6 14,6	1,0	0,4	7,0	3,1	13,0	5,7
11	6 32,8	6 33,9	6 14,8	1,1	0,5	7,1	3,2	13,1	5,8
12	6 33,0	6 34,1	6 15,1	1,2	0,5	7,2	3,2	13,2	5,8
13	6 33,3	6 34,4	6 15,3	1,3	0,6	7,3	3,3	13,3	5,9
14	6 33,5	6 34,6	6 15,5	1,4	0,6	7,4	3,3	13,4	5,9
15	6 33,8	6 34,9	6 15,8	1,5	0,7	7,5	3,3	13,5	5,9
16	6 34,0	6 35,1	6 16,0	1,6	0,7	7,6	3,4	13,6	6,0
17	6 34,3	6 35,4	6 16,3	1,7	0,7	7,7	3,4	13,7	6,0
18	6 34,5	6 35,6	6 16,5	1,8	0,8	7,8	3,5	13,8	6,1
19	6 34,8	6 35,9	6 16,7	1,9	0,8	7,9	3,5	13,9	6,1
20	6 35,0	6 36,1	6 17,0	2,0	0,9	8,0	3,6	14,0	6,2
21	6 35,3	6 36,4	6 17,2	2,1	0,9	8,1	3,6	14,1	6,2
22	6 35,5	6 36,6	6 17,5	2,2	1,0	8,2	3,6	14,2	6,3
23	6 35,8	6 36,9	6 17,7	2,3	1,0	8,3	3,7	14,3	6,3
24	6 36,0	6 37,1	6 17,9	2,4	1,0	8,4	3,7	14,4	6,3
25	6 36,3	6 37,4	6 18,2	2,5	1,1	8,5	3,8	14,5	6,4
26	6 36,5	6 37,6	6 18,4	2,6	1,1	8,6	3,8	14,6	6,4
27	6 36,8	6 37,9	6 18,7	2,7	1,2	8,7	3,9	14,7	6,5
28	6 37,0	6 38,1	6 18,9	2,8	1,2	8,8	3,9	14,8	6,5
29	6 37,3	6 38,4	6 19,1	2,9	1,3	8,9	3,9	14,9	6,6
30	6 37,5	6 38,6	6 19,4	3,0	1,3	9,0	4,0	15,0	6,6
31	6 37,8	6 38,9	6 19,6	3,1	1,3	9,1	4,0	15,1	6,6
32	6 38,0	6 39,1	6 19,9	3,2	1,4	9,2	4,1	15,2	6,7
33	6 38,3	6 39,4	6 20,1	3,3	1,4	9,3	4,1	15,3	6,7
34	6 38,5	6 39,6	6 20,3	3,4	1,5	9,4	4,2	15,4	6,8
35	6 38,8	6 39,9	6 20,6	3,5	1,5	9,5	4,2	15,5	6,8
36	6 39,0	6 40,1	6 20,8	3,6	1,6	9,6	4,3	15,6	6,9
37	6 39,3	6 40,4	6 21,1	3,7	1,6	9,7	4,3	15,7	6,9
38	6 39,5	6 40,6	6 21,3	3,8	1,6	9,8	4,3	15,8	6,9
39	6 39,8	6 40,9	6 21,5	3,9	1,7	9,9	4,4	15,9	7,0
40	6 40,0	6 41,1	6 21,8	4,0	1,7	10,0	4,4	16,0	7,0
41	6 40,3	6 41,4	6 22,0	4,1	1,8	10,1	4,5	16,1	7,1
42	6 40,5	6 41,6	6 22,2	4,2	1,8	10,2	4,5	16,2	7,1
43	6 40,8	6 41,9	6 22,5	4,3	1,9	10,3	4,6	16,3	7,2
44	6 41,0	6 42,1	6 22,7	4,4	1,9	10,4	4,6	16,4	7,2
45	6 41,3	6 42,4	6 23,0	4,5	1,9	10,5	4,6	16,5	7,2
46	6 41,5	6 42,6	6 23,2	4,6	2,0	10,6	4,7	16,6	7,3
47	6 41,8	6 42,9	6 23,4	4,7	2,0	10,7	4,7	16,7	7,3
48	6 42,0	6 43,1	6 23,7	4,8	2,1	10,8	4,8	16,8	7,4
49	6 42,3	6 43,4	6 23,9	4,9	2,1	10,9	4,8	16,9	7,4
50	6 42,5	6 43,6	6 24,2	5,0	2,2	11,0	4,9	17,0	7,5
51	6 42,8	6 43,9	6 24,4	5,1	2,2	11,1	4,9	17,1	7,5
52	6 43,0	6 44,1	6 24,6	5,2	2,3	11,2	4,9	17,2	7,6
53	6 43,3	6 44,4	6 24,9	5,3	2,3	11,3	5,0	17,3	7,6
54	6 43,5	6 44,6	6 25,1	5,4	2,3	11,4	5,0	17,4	7,6
55	6 43,8	6 44,9	6 25,4	5,5	2,4	11,5	5,1	17,5	7,7
56	6 44,0	6 45,1	6 25,6	5,6	2,4	11,6	5,1	17,6	7,7
57	6 44,3	6 45,4	6 25,8	5,7	2,5	11,7	5,2	17,7	7,8
58	6 44,5	6 45,6	6 26,1	5,8	2,5	11,8	5,2	17,8	7,8
59	6 44,8	6 45,9	6 26,3	5,9	2,6	11,9	5,2	17,9	7,9
60	6 45,0	6 46,1	6 26,6	6,0	2,7	12,0	5,3	18,0	8,0

m 27	SOL PLANETAS	ARIES	LUNA	v d	Corr	v d	Corr	v d	Corr
s	° '	° '	° '	'	'	'	'	'	'
00	6 45,0	6 46,1	6 26,6	0,0	0,0	6,0	0,0	12,0	0,0
01	6 45,3	6 46,4	6 26,8	0,1	0,0	6,1	0,0	12,1	0,0
02	6 45,5	6 46,6	6 27,1	0,2	0,0	6,2	0,0	12,2	0,0
03	6 45,8	6 46,9	6 27,3	0,3	0,0	6,3	0,0	12,3	0,0
04	6 46,0	6 47,1	6 27,6	0,4	0,0	6,4	0,0	12,4	0,0
05	6 46,3	6 47,4	6 27,8	0,5	0,0	6,5	0,0	12,5	0,0
06	6 46,5	6 47,6	6 28,0	0,6	0,0	6,6	0,0	12,6	0,0
07	6 46,8	6 47,9	6 28,3	0,7	0,0	6,7	0,0	12,7	0,0
08	6 47,0	6 48,1	6 28,5	0,8	0,0	6,8	0,0	12,8	0,0
09	6 47,3	6 48,4	6 28,8	0,9	0,0	6,9	0,0	12,9	0,0
10	6 47,5	6 48,6	6 29,0	1,0	0,0	7,0	0,0	13,0	0,0
11	6 47,8	6 48,9	6 29,2	1,1	0,0	7,1	0,0	13,1	0,0
12	6 48,0	6 49,1	6 29,5	1,2	0,0	7,2	0,0	13,2	0,0
13	6 48,3	6 49,4	6 29,7	1,3	0,0	7,3	0,0	13,3	0,0
14	6 48,5	6 49,6	6 29,9	1,4	0,0	7,4	0,0	13,4	0,0
15	6 48,8	6 49,9	6 30,2	1,5	0,0	7,5	0,0	13,5	0,0
16	6 49,0	6 50,1	6 30,4	1,6	0,0	7,6	0,0	13,6	0,0
17	6 49,3	6 50,4	6 30,7	1,7	0,0	7,7	0,0	13,7	0,0
18	6 49,5	6 50,6	6 30,9	1,8	0,0	7,8	0,0	13,8	0,0
19	6 49,8	6 50,9	6 31,1	1,9	0,0	7,9	0,0	13,9	0,0
20	6 50,0	6 51,1	6 31,4	2,0	0,0	8,0	0,0	14,0	0,0
21	6 50,3	6 51,4	6 31,6	2,1	0,0	8,1	0,0	14,1	0,0
22	6 50,5	6 51,6	6 31,9	2,2	0,0	8,2	0,0	14,2	0,0
23	6 50,8	6 51,9	6 32,1	2,3	0,0	8,3	0,0	14,3	0,0
24	6 51,0	6 52,1	6 32,3	2,4	0,0	8,4	0,0	14,4	0,0
25	6 51,3	6 52,4	6 32,6	2,5	0,0	8,5	0,0	14,5	0,0
26	6 51,5	6 52,6	6 32,8	2,6	0,0	8,6	0,0	14,6	0,0
27	6 51,8	6 52,9	6 33,1	2,7	0,0	8,7	0,0	14,7	0,0
28	6 52,0	6 53,1	6 33,3	2,8	0,0	8,8	0,0	14,8	0,0
29	6 52,3	6 53,4	6 33,5	2,9	0,0	8,9	0,0	14,9	0,0
30	6 52,5	6 53,6	6 33,8	3,0	0,0	9,0	0,0	15,0	0,0
31	6 52,8	6 53,9	6 34,0	3,1	0,0	9,1	0,0	15,1	0,0
32	6 53,0	6 54,1	6 34,3	3,2	0,0	9,2	0,0	15,2	0,0
33	6 53,3	6 54,4	6 34,5	3,3	0,0	9,3	0,0	15,3	0,0
34	6 53,5	6 54,6	6 34,7	3,4	0,0	9,4	0,0	15,4	0,0
35	6 53,8	6 54,9	6 35,0	3,5	0,0	9,5	0,0	15,5	0,0
36	6 54,0	6 55,1	6 35,2	3,6	0,0	9,6	0,0	15,6	0,0
37	6 54,3	6 55,4	6 35,5	3,7	0,0	9,7	0,0	15,7	0,0
38	6 54,5	6 55,6	6 35,7	3,8	0,0	9,8	0,0	15,8	0,0
39	6 54,8	6 55,9	6 35,9	3,9	0,0	9,9	0,0	15,9	0,0
40	6 55,0	6 56,1	6 36,2	4,0	0,0	10,0	0,0	16,0	0,0
41	6 55,3	6 56,4	6 36,4	4,1	0,0	10,1	0,0	16,1	0,0
42	6 55,5	6 56,6	6 36,6	4,2	0,0	10,2	0,0	16,2	0,0
43	6 55,8	6 56,9	6 36,9	4,3	0,0	10,3	0,0	16,3	0,0
44	6 56,0	6 57,1	6 37,1	4,4	0,0	10,4	0,0	16,4	0,0
45	6 56,3	6 57,4	6 37,4	4,5	0,0	10,5	0,0	16,5	0,0
46	6 56,5	6 57,6	6 37,6	4,6	0,0	10,6	0,0	16,6	0,0
47	6 56,8	6 57,9	6 37,8	4,7	0,0	10,7	0,0	16,7	0,0
48	6 57,0	6 58,1	6 38,1	4,8	0,0	10,8	0,0	16,8	0,0
49	6 57,3	6 58,4	6 38,3	4,9	0,0	10,9	0,0	16,9	0,0
50	6 57,5	6 58,6	6 38,6	5,0	0,0	11,0	0,0	17,0	0,0
51	6 57,8	6 58,9	6 38,8	5,1	0,0	11,1	0,0	17,1	0,0
52	6 58,0	6 59,1	6 39,0	5,2	0,0	11,2	0,0	17,2	0,0
53	6 58,3	6 59,4	6 39,3	5,3	0,0	11,3	0,0	17,3	0,0
54	6 58,5	6 59,6	6 39,5	5,4	0,0	11,4	0,0	17,4	0,0
55	6 58,8	6 59,9	6 39,8	5,5	0,0	11,5	0,0	17,5	0,0
56	6 59,0	7 00,1	6 40,0	5,6	0,0	11,6	0,0	17,6	0,0
57	6 59,3	7 00,4	6 40,2	5,7	0,0	11,7	0,0	17,7	0,0
58	6 59,5	7 00,6	6 40,5	5,8	0,0	11,8	0,0	17,8	0,0
59	6 59,8	7 00,9	6 40,7	5,9	0,0	11,9	0,0	17,9	0,0
60	7 00,0	7 01,1	6 40,9	6,0	0,0	12,0	0,0	18,0	0,0

m 28	SOL PLANETAS	ARIES	LUNA	v d	Corr	v d	Corr	v d	Corr
s	° ′	° ′	° ′	′	′	′	′	′	′
00	7 00,0	7 01,1	6 40,9	0,0	0,0	6,0	2,9	12,0	5,7
01	7 00,3	7 01,4	6 41,1	0,1	0,0	6,1	2,9	12,1	5,7
02	7 00,5	7 01,6	6 41,4	0,2	0,1	6,2	3,0	12,2	5,8
03	7 00,8	7 01,9	6 41,6	0,3	0,1	6,3	3,0	12,3	5,8
04	7 01,0	7 02,1	6 41,9	0,4	0,2	6,4	3,1	12,4	5,9
05	7 01,3	7 02,4	6 42,1	0,5	0,2	6,5	3,1	12,5	5,9
06	7 01,5	7 02,6	6 42,3	0,6	0,3	6,6	3,2	12,6	6,0
07	7 01,8	7 02,9	6 42,6	0,7	0,3	6,7	3,2	12,7	6,0
08	7 02,0	7 03,1	6 42,8	0,8	0,4	6,8	3,3	12,8	6,1
09	7 02,3	7 03,4	6 43,1	0,9	0,4	6,9	3,3	12,9	6,1
10	7 02,5	7 03,6	6 43,3	1,0	0,5	7,0	3,4	13,0	6,2
11	7 02,8	7 03,9	6 43,5	1,1	0,5	7,1	3,4	13,1	6,2
12	7 03,0	7 04,1	6 43,8	1,2	0,6	7,2	3,4	13,2	6,3
13	7 03,3	7 04,4	6 44,0	1,3	0,6	7,3	3,5	13,3	6,3
14	7 03,5	7 04,6	6 44,2	1,4	0,7	7,4	3,5	13,4	6,4
15	7 03,8	7 04,9	6 44,5	1,5	0,7	7,5	3,6	13,5	6,4
16	7 04,0	7 05,1	6 44,7	1,6	0,8	7,6	3,6	13,6	6,5
17	7 04,3	7 05,4	6 45,0	1,7	0,8	7,7	3,7	13,7	6,5
18	7 04,5	7 05,6	6 45,2	1,8	0,9	7,8	3,7	13,8	6,5
19	7 04,8	7 05,9	6 45,4	1,9	0,9	7,9	3,8	13,9	6,6
20	7 05,0	7 06,1	6 45,7	2,0	1,0	8,0	3,8	14,0	6,6
21	7 05,3	7 06,4	6 45,9	2,1	1,0	8,1	3,8	14,1	6,7
22	7 05,5	7 06,6	6 46,2	2,2	1,1	8,2	3,9	14,2	6,7
23	7 05,8	7 06,9	6 46,4	2,3	1,1	8,3	3,9	14,3	6,8
24	7 06,0	7 07,1	6 46,6	2,4	1,2	8,4	4,0	14,4	6,8
25	7 06,3	7 07,4	6 46,9	2,5	1,2	8,5	4,0	14,5	6,9
26	7 06,5	7 07,6	6 47,1	2,6	1,3	8,6	4,1	14,6	6,9
27	7 06,8	7 07,9	6 47,4	2,7	1,3	8,7	4,1	14,7	7,0
28	7 07,0	7 08,1	6 47,6	2,8	1,4	8,8	4,2	14,8	7,0
29	7 07,3	7 08,4	6 47,8	2,9	1,4	8,9	4,2	14,9	7,1
30	7 07,5	7 08,6	6 48,1	3,0	1,5	9,0	4,3	15,0	7,1
31	7 07,8	7 08,9	6 48,3	3,1	1,5	9,1	4,3	15,1	7,2
32	7 08,0	7 09,1	6 48,6	3,2	1,6	9,2	4,3	15,2	7,2
33	7 08,3	7 09,4	6 48,8	3,3	1,6	9,3	4,4	15,3	7,3
34	7 08,5	7 09,6	6 49,0	3,4	1,7	9,4	4,4	15,4	7,3
35	7 08,8	7 09,9	6 49,3	3,5	1,7	9,5	4,5	15,5	7,3
36	7 09,0	7 10,1	6 49,5	3,6	1,8	9,6	4,5	15,6	7,4
37	7 09,3	7 10,4	6 49,8	3,7	1,8	9,7	4,6	15,7	7,4
38	7 09,5	7 10,6	6 50,0	3,8	1,9	9,8	4,6	15,8	7,5
39	7 09,8	7 10,9	6 50,2	3,9	1,9	9,9	4,7	15,9	7,5
40	7 10,0	7 11,1	6 50,5	4,0	2,0	10,0	4,7	16,0	7,6
41	7 10,3	7 11,4	6 50,7	4,1	2,0	10,1	4,7	16,1	7,6
42	7 10,5	7 11,6	6 50,9	4,2	2,1	10,2	4,8	16,2	7,7
43	7 10,8	7 11,9	6 51,2	4,3	2,1	10,3	4,8	16,3	7,7
44	7 11,0	7 12,1	6 51,4	4,4	2,2	10,4	4,9	16,4	7,8
45	7 11,3	7 12,4	6 51,7	4,5	2,2	10,5	4,9	16,5	7,8
46	7 11,5	7 12,6	6 51,9	4,6	2,3	10,6	5,0	16,6	7,9
47	7 11,8	7 12,9	6 52,1	4,7	2,3	10,7	5,0	16,7	7,9
48	7 12,0	7 13,1	6 52,4	4,8	2,4	10,8	5,1	16,8	8,0
49	7 12,3	7 13,4	6 52,6	4,9	2,4	10,9	5,1	16,9	8,0
50	7 12,5	7 13,6	6 52,9	5,0	2,5	11,0	5,2	17,0	8,0
51	7 12,8	7 13,9	6 53,1	5,1	2,5	11,1	5,2	17,1	8,1
52	7 13,0	7 14,1	6 53,3	5,2	2,6	11,2	5,2	17,2	8,1
53	7 13,3	7 14,4	6 53,6	5,3	2,6	11,3	5,3	17,3	8,2
54	7 13,5	7 14,6	6 53,8	5,4	2,6	11,4	5,3	17,4	8,2
55	7 13,8	7 14,9	6 54,0	5,5	2,7	11,5	5,4	17,5	8,3
56	7 14,0	7 15,1	6 54,2	5,6	2,7	11,6	5,4	17,6	8,3
57	7 14,3	7 15,4	6 54,4	5,7	2,8	11,7	5,5	17,7	8,4
58	7 14,5	7 15,6	6 54,7	5,8	2,8	11,8	5,5	17,8	8,4
59	7 14,8	7 15,9	6 54,9	5,9	2,9	11,9	5,6	17,9	8,5
60	7 15,0	7 16,2	6 55,2	6,0	2,9	12,0	5,7	18,0	8,6

m 29	SOL PLANETAS	ARIES	LUNA	v d	Corr	v d	Corr	v d	Corr
s	° ′	° ′	° ′	′	′	′	′	′	′
00	7 15,0	7 16,2	6 55,2	0,0	0,0	6,0	3,0	12,0	5,9
01	7 15,3	7 16,5	6 55,4	0,1	0,1	6,1	3,0	12,1	5,9
02	7 15,5	7 16,7	6 55,7	0,2	0,1	6,2	3,1	12,2	6,0
03	7 15,8	7 17,0	6 55,9	0,3	0,2	6,3	3,1	12,3	6,0
04	7 16,0	7 17,2	6 56,2	0,4	0,2	6,4	3,2	12,4	6,1
05	7 16,3	7 17,5	6 56,4	0,5	0,3	6,5	3,2	12,5	6,1
06	7 16,5	7 17,7	6 56,6	0,6	0,3	6,6	3,3	12,6	6,2
07	7 16,8	7 18,0	6 56,9	0,7	0,4	6,7	3,3	12,7	6,2
08	7 17,0	7 18,2	6 57,1	0,8	0,4	6,8	3,4	12,8	6,3
09	7 17,3	7 18,5	6 57,4	0,9	0,5	6,9	3,4	12,9	6,3
10	7 17,5	7 18,7	6 57,6	1,0	0,5	7,0	3,5	13,0	6,4
11	7 17,8	7 19,0	6 57,8	1,1	0,6	7,1	3,5	13,1	6,4
12	7 18,0	7 19,2	6 58,1	1,2	0,6	7,2	3,6	13,2	6,5
13	7 18,3	7 19,5	6 58,3	1,3	0,7	7,3	3,6	13,3	6,5
14	7 18,5	7 19,7	6 58,5	1,4	0,7	7,4	3,7	13,4	6,6
15	7 18,8	7 20,0	6 58,8	1,5	0,8	7,5	3,7	13,5	6,6
16	7 19,0	7 20,2	6 59,0	1,6	0,8	7,6	3,8	13,6	6,7
17	7 19,3	7 20,5	6 59,3	1,7	0,9	7,7	3,8	13,7	6,7
18	7 19,5	7 20,7	6 59,5	1,8	0,9	7,8	3,9	13,8	6,8
19	7 19,8	7 21,0	6 59,7	1,9	1,0	7,9	3,9	13,9	6,8
20	7 20,0	7 21,2	7 00,0	2,0	1,0	8,0	4,0	14,0	6,9
21	7 20,3	7 21,5	7 00,2	2,1	1,1	8,1	4,0	14,1	6,9
22	7 20,5	7 21,7	7 00,5	2,2	1,1	8,2	4,1	14,2	7,0
23	7 20,8	7 22,0	7 00,7	2,3	1,2	8,3	4,1	14,3	7,0
24	7 21,0	7 22,2	7 00,9	2,4	1,2	8,4	4,2	14,4	7,1
25	7 21,3	7 22,5	7 01,2	2,5	1,3	8,5	4,2	14,5	7,1
26	7 21,5	7 22,7	7 01,4	2,6	1,3	8,6	4,3	14,6	7,2
27	7 21,8	7 23,0	7 01,7	2,7	1,4	8,7	4,3	14,7	7,2
28	7 22,0	7 23,2	7 01,9	2,8	1,4	8,8	4,4	14,8	7,3
29	7 22,3	7 23,5	7 02,1	2,9	1,5	8,9	4,4	14,9	7,3
30	7 22,5	7 23,7	7 02,4	3,0	1,5	9,0	4,5	15,0	7,4
31	7 22,8	7 24,0	7 02,6	3,1	1,6	9,1	4,5	15,1	7,4
32	7 23,0	7 24,2	7 02,9	3,2	1,6	9,2	4,6	15,2	7,5
33	7 23,3	7 24,5	7 03,1	3,3	1,7	9,3	4,6	15,3	7,5
34	7 23,5	7 24,7	7 03,3	3,4	1,7	9,4	4,7	15,4	7,6
35	7 23,8	7 25,0	7 03,6	3,5	1,8	9,5	4,7	15,5	7,6
36	7 24,0	7 25,2	7 03,8	3,6	1,8	9,6	4,8	15,6	7,7
37	7 24,3	7 25,5	7 04,1	3,7	1,9	9,7	4,8	15,7	7,7
38	7 24,5	7 25,7	7 04,3	3,8	1,9	9,8	4,9	15,8	7,8
39	7 24,8	7 26,0	7 04,5	3,9	2,0	9,9	4,9	15,9	7,8
40	7 25,0	7 26,2	7 04,8	4,0	2,0	10,0	5,0	16,0	7,9
41	7 25,3	7 26,5	7 05,0	4,1	2,1	10,1	5,0	16,1	7,9
42	7 25,5	7 26,7	7 05,2	4,2	2,1	10,2	5,1	16,2	8,0
43	7 25,8	7 27,0	7 05,5	4,3	2,2	10,3	5,1	16,3	8,0
44	7 26,0	7 27,2	7 05,7	4,4	2,2	10,4	5,2	16,4	8,1
45	7 26,3	7 27,5	7 06,0	4,5	2,3	10,5	5,2	16,5	8,1
46	7 26,5	7 27,7	7 06,2	4,6	2,3	10,6	5,3	16,6	8,2
47	7 26,8	7 28,0	7 06,4	4,7	2,4	10,7	5,3	16,7	8,2
48	7 27,0	7 28,2	7 06,7	4,8	2,4	10,8	5,4	16,8	8,3
49	7 27,3	7 28,5	7 06,9	4,9	2,5	10,9	5,4	16,9	8,3
50	7 27,5	7 28,7	7 07,2	5,0	2,5	11,0	5,5	17,0	8,4
51	7 27,8	7 29,0	7 07,4	5,1	2,6	11,1	5,5	17,1	8,4
52	7 28,0	7 29,2	7 07,6	5,2	2,6	11,2	5,5	17,2	8,4
53	7 28,3	7 29,5	7 07,9	5,3	2,6	11,3	5,6	17,3	8,5
54	7 28,5	7 29,7	7 08,1	5,4	2,7	11,4	5,6	17,4	8,5
55	7 28,8	7 30,0	7 08,4	5,5	2,7	11,5	5,7	17,5	8,6
56	7 29,0	7 30,2	7 08,6	5,6	2,8	11,6	5,7	17,6	8,6
57	7 29,3	7 30,5	7 08,8	5,7	2,8	11,7	5,8	17,7	8,7
58	7 29,5	7 30,7	7 09,1	5,8	2,9	11,8	5,8	17,8	8,7
59	7 29,8	7 31,0	7 09,3	5,9	2,9	11,9	5,9	17,9	8,8
60	7 30,0	7 31,2	7 09,5	6,0	3,0	12,0	5,9	18,0	8,9

m 30	SOL PLANETAS	ARIES	LUNA	v d	Corr	v d	Corr	v d	Corr
s	° ′	° ′	° ′	′	′	′	′	′	′
00	7 30,0	7 31,2	7 09,5	0,0	0,0	6,0	3,1	12,0	6,1
01	7 30,3	7 31,5	7 09,7	0,1	0,0	6,1	3,2	12,1	6,2
02	7 30,5	7 31,7	7 10,0	0,2	0,1	6,2	3,2	12,2	6,2
03	7 30,8	7 32,0	7 10,2	0,3	0,2	6,3	3,3	12,3	6,3
04	7 31,0	7 32,2	7 10,5	0,4	0,2	6,4	3,3	12,4	6,3
05	7 31,3	7 32,5	7 10,7	0,5	0,3	6,5	3,4	12,5	6,4
06	7 31,5	7 32,7	7 10,9	0,6	0,3	6,6	3,4	12,6	6,4
07	7 31,8	7 33,0	7 11,2	0,7	0,4	6,7	3,5	12,7	6,5
08	7 32,0	7 33,2	7 11,4	0,8	0,4	6,8	3,5	12,8	6,5
09	7 32,3	7 33,5	7 11,7	0,9	0,5	6,9	3,6	12,9	6,6
10	7 32,5	7 33,7	7 11,9	1,0	0,5	7,0	3,6	13,0	6,6
11	7 32,8	7 34,0	7 12,1	1,1	0,6	7,1	3,7	13,1	6,7
12	7 33,0	7 34,2	7 12,4	1,2	0,6	7,2	3,7	13,2	6,7
13	7 33,3	7 34,5	7 12,6	1,3	0,7	7,3	3,8	13,3	6,8
14	7 33,5	7 34,7	7 12,8	1,4	0,7	7,4	3,8	13,4	6,8
15	7 33,8	7 35,0	7 13,1	1,5	0,8	7,5	3,9	13,5	6,9
16	7 34,0	7 35,2	7 13,3	1,6	0,8	7,6	3,9	13,6	6,9
17	7 34,3	7 35,5	7 13,6	1,7	0,9	7,7	4,0	13,7	7,0
18	7 34,5	7 35,7	7 13,8	1,8	0,9	7,8	4,0	13,8	7,0
19	7 34,8	7 36,0	7 14,0	1,9	1,0	7,9	4,1	13,9	7,1
20	7 35,0	7 36,2	7 14,3	2,0	1,0	8,0	4,1	14,0	7,1
21	7 35,3	7 36,5	7 14,5	2,1	1,1	8,1	4,2	14,1	7,2
22	7 35,5	7 36,7	7 14,8	2,2	1,1	8,2	4,2	14,2	7,2
23	7 35,8	7 37,0	7 15,0	2,3	1,2	8,3	4,3	14,3	7,3
24	7 36,0	7 37,2	7 15,2	2,4	1,2	8,4	4,3	14,4	7,3
25	7 36,3	7 37,5	7 15,5	2,5	1,3	8,5	4,4	14,5	7,4
26	7 36,5	7 37,7	7 15,7	2,6	1,3	8,6	4,5	14,6	7,4
27	7 36,8	7 38,0	7 16,0	2,7	1,4	8,7	4,5	14,7	7,5
28	7 37,0	7 38,2	7 16,2	2,8	1,4	8,8	4,6	14,8	7,6
29	7 37,3	7 38,5	7 16,4	2,9	1,5	8,9	4,6	14,9	7,6
30	7 37,5	7 38,7	7 16,7	3,0	1,5	9,0	4,7	15,0	7,7
31	7 37,8	7 39,0	7 16,9	3,1	1,6	9,1	4,7	15,1	7,7
32	7 38,0	7 39,2	7 17,2	3,2	1,6	9,2	4,8	15,2	7,8
33	7 38,3	7 39,5	7 17,4	3,3	1,7	9,3	4,8	15,3	7,8
34	7 38,5	7 39,7	7 17,6	3,4	1,7	9,4	4,9	15,4	7,9
35	7 38,8	7 40,0	7 17,9	3,5	1,8	9,5	4,9	15,5	7,9
36	7 39,0	7 40,2	7 18,1	3,6	1,8	9,6	5,0	15,6	8,0
37	7 39,3	7 40,5	7 18,4	3,7	1,9	9,7	5,0	15,7	8,0
38	7 39,5	7 40,7	7 18,6	3,8	1,9	9,8	5,1	15,8	8,1
39	7 39,8	7 41,0	7 18,8	3,9	2,0	9,9	5,1	15,9	8,1
40	7 40,0	7 41,2	7 19,1	4,0	2,0	10,0	5,2	16,0	8,2
41	7 40,3	7 41,5	7 19,3	4,1	2,1	10,1	5,2	16,1	8,2
42	7 40,5	7 41,7	7 19,5	4,2	2,1	10,2	5,3	16,2	8,3
43	7 40,8	7 42,0	7 19,8	4,3	2,2	10,3	5,3	16,3	8,3
44	7 41,0	7 42,2	7 20,0	4,4	2,2	10,4	5,4	16,4	8,4
45	7 41,3	7 42,5	7 20,3	4,5	2,3	10,5	5,4	16,5	8,4
46	7 41,5	7 42,7	7 20,5	4,6	2,3	10,6	5,5	16,6	8,5
47	7 41,8	7 43,0	7 20,7	4,7	2,4	10,7	5,5	16,7	8,5
48	7 42,0	7 43,2	7 21,0	4,8	2,4	10,8	5,6	16,8	8,6
49	7 42,3	7 43,5	7 21,2	4,9	2,5	10,9	5,6	16,9	8,6
50	7 42,5	7 43,7	7 21,5	5,0	2,5	11,0	5,7	17,0	8,7
51	7 42,8	7 44,0	7 21,7	5,1	2,6	11,1	5,8	17,1	8,7
52	7 43,0	7 44,2	7 21,9	5,2	2,6	11,2	5,8	17,2	8,8
53	7 43,3	7 44,5	7 22,2	5,3	2,7	11,3	5,9	17,3	8,9
54	7 43,5	7 44,7	7 22,4	5,4	2,7	11,4	5,9	17,4	8,9
55	7 43,8	7 45,0	7 22,7	5,5	2,8	11,5	6,0	17,5	9,0
56	7 44,0	7 45,2	7 22,9	5,6	2,8	11,6	6,0	17,6	9,0
57	7 44,3	7 45,5	7 23,1	5,7	2,9	11,7	6,1	17,7	9,1
58	7 44,5	7 45,7	7 23,4	5,8	2,9	11,8	6,1	17,8	9,1
59	7 44,8	7 46,0	7 23,6	5,9	3,0	11,9	6,2	17,9	9,2
60	7 45,0	7 46,3	7 23,8	6,0	3,1	12,0	6,2	18,0	9,2

m 31	SOL PLANETAS	ARIES	LUNA	v d	Corr	v d	Corr	v d	Corr
s	° ′	° ′	° ′	′	′	′	′	′	′
00	7 45,0	7 46,3	7 23,8	0,0	0,0	6,0	3,2	12,0	6,3
01	7 45,3	7 46,6	7 24,0	0,1	0,1	6,1	3,3	12,1	6,4
02	7 45,5	7 46,8	7 24,3	0,2	0,1	6,2	3,3	12,2	6,4
03	7 45,8	7 47,1	7 24,5	0,3	0,2	6,3	3,4	12,3	6,5
04	7 46,0	7 47,3	7 24,8	0,4	0,2	6,4	3,4	12,4	6,5
05	7 46,3	7 47,6	7 25,0	0,5	0,3	6,5	3,5	12,5	6,6
06	7 46,5	7 47,8	7 25,2	0,6	0,3	6,6	3,5	12,6	6,6
07	7 46,8	7 48,1	7 25,5	0,7	0,4	6,7	3,6	12,7	6,7
08	7 47,0	7 48,3	7 25,7	0,8	0,4	6,8	3,6	12,8	6,7
09	7 47,3	7 48,6	7 26,0	0,9	0,5	6,9	3,7	12,9	6,8
10	7 47,5	7 48,8	7 26,2	1,0	0,5	7,0	3,7	13,0	6,8
11	7 47,8	7 49,1	7 26,4	1,1	0,6	7,1	3,8	13,1	6,9
12	7 48,0	7 49,3	7 26,7	1,2	0,6	7,2	3,8	13,2	6,9
13	7 48,3	7 49,6	7 26,9	1,3	0,7	7,3	3,9	13,3	7,0
14	7 48,5	7 49,8	7 27,1	1,4	0,7	7,4	3,9	13,4	7,0
15	7 48,8	7 50,1	7 27,4	1,5	0,8	7,5	4,0	13,5	7,1
16	7 49,0	7 50,3	7 27,6	1,6	0,8	7,6	4,0	13,6	7,1
17	7 49,3	7 50,6	7 27,9	1,7	0,9	7,7	4,1	13,7	7,2
18	7 49,5	7 50,8	7 28,1	1,8	0,9	7,8	4,1	13,8	7,2
19	7 49,8	7 51,1	7 28,3	1,9	1,0	7,9	4,2	13,9	7,3
20	7 50,0	7 51,3	7 28,6	2,0	1,0	8,0	4,2	14,0	7,3
21	7 50,3	7 51,6	7 28,8	2,1	1,1	8,1	4,3	14,1	7,4
22	7 50,5	7 51,8	7 29,1	2,2	1,1	8,2	4,3	14,2	7,4
23	7 50,8	7 52,1	7 29,3	2,3	1,2	8,3	4,4	14,3	7,5
24	7 51,0	7 52,3	7 29,5	2,4	1,2	8,4	4,4	14,4	7,5
25	7 51,3	7 52,6	7 29,8	2,5	1,3	8,5	4,5	14,5	7,6
26	7 51,5	7 52,8	7 30,0	2,6	1,3	8,6	4,6	14,6	7,7
27	7 51,8	7 53,1	7 30,3	2,7	1,4	8,7	4,6	14,7	7,7
28	7 52,0	7 53,3	7 30,5	2,8	1,4	8,8	4,7	14,8	7,8
29	7 52,3	7 53,6	7 30,7	2,9	1,5	8,9	4,7	14,9	7,8
30	7 52,5	7 53,8	7 31,0	3,0	1,6	9,0	4,8	15,0	7,9
31	7 52,8	7 54,1	7 31,2	3,1	1,6	9,1	4,8	15,1	7,9
32	7 53,0	7 54,3	7 31,5	3,2	1,7	9,2	4,9	15,2	8,0
33	7 53,3	7 54,6	7 31,7	3,3	1,7	9,3	4,9	15,3	8,0
34	7 53,5	7 54,8	7 31,9	3,4	1,8	9,4	5,0	15,4	8,1
35	7 53,8	7 55,1	7 32,2	3,5	1,8	9,5	5,0	15,5	8,1
36	7 54,0	7 55,3	7 32,4	3,6	1,9	9,6	5,1	15,6	8,2
37	7 54,3	7 55,6	7 32,7	3,7	1,9	9,7	5,1	15,7	8,2
38	7 54,5	7 55,8	7 32,9	3,8	2,0	9,8	5,2	15,8	8,3
39	7 54,8	7 56,1	7 33,1	3,9	2,0	9,9	5,2	15,9	8,3
40	7 55,0	7 56,3	7 33,4	4,0	2,1	10,0	5,3	16,0	8,4
41	7 55,3	7 56,6	7 33,6	4,1	2,1	10,1	5,3	16,1	8,4
42	7 55,5	7 56,8	7 33,8	4,2	2,2	10,2	5,4	16,2	8,5
43	7 55,8	7 57,1	7 34,1	4,3	2,2	10,3	5,4	16,3	8,5
44	7 56,0	7 57,3	7 34,3	4,4	2,3	10,4	5,5	16,4	8,6
45	7 56,3	7 57,6	7 34,6	4,5	2,3	10,5	5,5	16,5	8,6
46	7 56,5	7 57,8	7 34,8	4,6	2,4	10,6	5,6	16,6	8,7
47	7 56,8	7 58,1	7 35,0	4,7	2,4	10,7	5,6	16,7	8,7
48	7 57,0	7 58,3	7 35,3	4,8	2,5	10,8	5,7	16,8	8,8
49	7 57,3	7 58,6	7 35,5	4,9	2,5	10,9	5,7	16,9	8,8
50	7 57,5	7 58,8	7 35,8	5,0	2,6	11,0	5,8	17,0	8,9
51	7 57,8	7 59,1	7 36,0	5,1	2,6	11,1	5,9	17,1	9,0
52	7 58,0	7 59,3	7 36,2	5,2	2,7	11,2	5,9	17,2	9,0
53	7 58,3	7 59,6	7 36,5	5,3	2,7	11,3	6,0	17,3	9,1
54	7 58,5	7 59,8	7 36,7	5,4	2,8	11,4	6,0	17,4	9,1
55	7 58,8	8 00,0	7 37,0	5,5	2,9	11,5	6,1	17,5	9,2
56	7 59,0	8 00,2	7 37,2	5,6	2,9	11,6	6,1	17,6	9,2
57	7 59,3	8 00,5	7 37,4	5,7	3,0	11,7	6,2	17,7	9,3
58	7 59,5	8 00,7	7 37,7	5,8	3,0	11,8	6,2	17,8	9,3
59	7 59,8	8 01,0	7 37,9	5,9	3,1	11,9	6,3	17,9	9,4
60	8 00,0	8 01,3	7 38,1	6,0	3,2	12,0	6,3	18,0	9,5

m 32	SOL PLANETAS	ARIES	LUNA	v d	Corr	v d	Corr	v d	Corr
s	° ′	° ′	° ′	′	′	′	′	′	′
00	8 00,0	8 01,3	7 38,1	0,0	0,0	6,0	3,3	12,0	6,5
01	8 00,3	8 01,6	7 38,3	0,1	0,1	6,1	3,4	12,1	6,6
02	8 00,5	8 01,8	7 38,6	0,2	0,2	6,2	3,4	12,2	6,6
03	8 00,8	8 02,1	7 38,8	0,3	0,2	6,3	3,5	12,3	6,7
04	8 01,0	8 02,3	7 39,1	0,4	0,3	6,4	3,5	12,4	6,7
05	8 01,3	8 02,6	7 39,3	0,5	0,3	6,5	3,6	12,5	6,8
06	8 01,5	8 02,8	7 39,5	0,6	0,4	6,6	3,6	12,6	6,8
07	8 01,8	8 03,1	7 39,8	0,7	0,4	6,7	3,7	12,7	6,9
08	8 02,0	8 03,3	7 40,0	0,8	0,5	6,8	3,7	12,8	6,9
09	8 02,3	8 03,6	7 40,3	0,9	0,5	6,9	3,8	12,9	7,0
10	8 02,5	8 03,8	7 40,5	1,0	0,6	7,0	3,8	13,0	7,0
11	8 02,8	8 04,1	7 40,7	1,1	0,6	7,1	3,9	13,1	7,1
12	8 03,0	8 04,3	7 41,0	1,2	0,7	7,2	3,9	13,2	7,1
13	8 03,3	8 04,6	7 41,2	1,3	0,7	7,3	4,0	13,3	7,2
14	8 03,5	8 04,8	7 41,4	1,4	0,8	7,4	4,1	13,4	7,3
15	8 03,8	8 05,1	7 41,7	1,5	0,8	7,5	4,1	13,5	7,3
16	8 04,0	8 05,3	7 41,9	1,6	0,9	7,6	4,2	13,6	7,4
17	8 04,3	8 05,6	7 42,2	1,7	0,9	7,7	4,2	13,7	7,4
18	8 04,5	8 05,8	7 42,4	1,8	1,0	7,8	4,3	13,8	7,5
19	8 04,8	8 06,1	7 42,6	1,9	1,0	7,9	4,3	13,9	7,5
20	8 05,0	8 06,3	7 42,9	2,0	1,1	8,0	4,4	14,0	7,6
21	8 05,3	8 06,6	7 43,1	2,1	1,1	8,1	4,4	14,1	7,6
22	8 05,5	8 06,8	7 43,4	2,2	1,2	8,2	4,5	14,2	7,7
23	8 05,8	8 07,1	7 43,6	2,3	1,2	8,3	4,5	14,3	7,7
24	8 06,0	8 07,3	7 43,8	2,4	1,3	8,4	4,6	14,4	7,8
25	8 06,3	8 07,6	7 44,1	2,5	1,3	8,5	4,7	14,5	7,9
26	8 06,5	8 07,8	7 44,3	2,6	1,4	8,6	4,7	14,6	7,9
27	8 06,8	8 08,1	7 44,6	2,7	1,5	8,7	4,8	14,7	8,0
28	8 07,0	8 08,3	7 44,8	2,8	1,5	8,8	4,8	14,8	8,0
29	8 07,3	8 08,6	7 45,0	2,9	1,6	8,9	4,9	14,9	8,1
30	8 07,5	8 08,8	7 45,3	3,0	1,6	9,0	4,9	15,0	8,1
31	8 07,8	8 09,1	7 45,5	3,1	1,7	9,1	5,0	15,1	8,2
32	8 08,0	8 09,3	7 45,8	3,2	1,7	9,2	5,0	15,2	8,2
33	8 08,3	8 09,6	7 46,0	3,3	1,8	9,3	5,1	15,3	8,3
34	8 08,5	8 09,8	7 46,2	3,4	1,8	9,4	5,1	15,4	8,3
35	8 08,8	8 10,1	7 46,5	3,5	1,9	9,5	5,2	15,5	8,4
36	8 09,0	8 10,3	7 46,7	3,6	2,0	9,6	5,2	15,6	8,4
37	8 09,3	8 10,6	7 47,0	3,7	2,0	9,7	5,3	15,7	8,5
38	8 09,5	8 10,8	7 47,2	3,8	2,1	9,8	5,4	15,8	8,6
39	8 09,8	8 11,1	7 47,4	3,9	2,1	9,9	5,4	15,9	8,6
40	8 10,0	8 11,3	7 47,7	4,0	2,2	10,0	5,5	16,0	8,7
41	8 10,3	8 11,6	7 47,9	4,1	2,2	10,1	5,5	16,1	8,7
42	8 10,5	8 11,8	7 48,1	4,2	2,3	10,2	5,6	16,2	8,8
43	8 10,8	8 12,1	7 48,4	4,3	2,3	10,3	5,6	16,3	8,8
44	8 11,0	8 12,3	7 48,6	4,4	2,4	10,4	5,7	16,4	8,9
45	8 11,3	8 12,6	7 48,9	4,5	2,4	10,5	5,7	16,5	8,9
46	8 11,5	8 12,8	7 49,1	4,6	2,5	10,6	5,8	16,6	9,0
47	8 11,8	8 13,1	7 49,3	4,7	2,6	10,7	5,8	16,7	9,0
48	8 12,0	8 13,3	7 49,6	4,8	2,6	10,8	5,9	16,8	9,1
49	8 12,3	8 13,6	7 49,8	4,9	2,7	10,9	5,9	16,9	9,1
50	8 12,5	8 13,8	7 50,1	5,0	2,7	11,0	6,0	17,0	9,2
51	8 12,8	8 14,1	7 50,3	5,1	2,8	11,1	6,1	17,1	9,3
52	8 13,0	8 14,3	7 50,5	5,2	2,8	11,2	6,1	17,2	9,3
53	8 13,3	8 14,6	7 50,8	5,3	2,9	11,3	6,2	17,3	9,4
54	8 13,5	8 14,8	7 51,0	5,4	2,9	11,4	6,2	17,4	9,4
55	8 13,8	8 15,1	7 51,3	5,5	3,0	11,5	6,3	17,5	9,5
56	8 14,0	8 15,3	7 51,5	5,6	3,1	11,6	6,3	17,6	9,5
57	8 14,3	8 15,6	7 51,7	5,7	3,1	11,7	6,4	17,7	9,6
58	8 14,5	8 15,8	7 52,0	5,8	3,2	11,8	6,4	17,8	9,6
59	8 14,8	8 16,1	7 52,2	5,9	3,2	11,9	6,5	17,9	9,7
60	8 15,0	8 16,4	7 52,5	6,0	3,3	12,0	6,5	18,0	9,8

m 33	SOL PLANETAS	ARIES	LUNA	v d	Corr	v d	Corr	v d	Corr
s	° ′	° ′	° ′	′	′	′	′	′	′
00	8 15,0	8 16,4	7 52,5	0,0	0,0	6,0	3,4	12,0	6,7
01	8 15,3	8 16,7	7 52,7	0,1	0,1	6,1	3,5	12,1	6,8
02	8 15,5	8 16,9	7 53,0	0,2	0,2	6,2	3,5	12,2	6,8
03	8 15,8	8 17,2	7 53,2	0,3	0,2	6,3	3,6	12,3	6,9
04	8 16,0	8 17,4	7 53,5	0,4	0,3	6,4	3,6	12,4	6,9
05	8 16,3	8 17,7	7 53,7	0,5	0,3	6,5	3,7	12,5	7,0
06	8 16,5	8 17,9	7 53,9	0,6	0,4	6,6	3,7	12,6	7,0
07	8 16,8	8 18,2	7 54,2	0,7	0,4	6,7	3,8	12,7	7,1
08	8 17,0	8 18,4	7 54,4	0,8	0,5	6,8	3,8	12,8	7,1
09	8 17,3	8 18,7	7 54,7	0,9	0,5	6,9	3,9	12,9	7,2
10	8 17,5	8 18,9	7 54,9	1,0	0,6	7,0	4,0	13,0	7,3
11	8 17,8	8 19,2	7 55,1	1,1	0,6	7,1	4,0	13,1	7,3
12	8 18,0	8 19,4	7 55,4	1,2	0,7	7,2	4,1	13,2	7,4
13	8 18,3	8 19,7	7 55,6	1,3	0,7	7,3	4,1	13,3	7,4
14	8 18,5	8 19,9	7 55,8	1,4	0,8	7,4	4,2	13,4	7,5
15	8 18,8	8 20,2	7 56,1	1,5	0,9	7,5	4,2	13,5	7,5
16	8 19,0	8 20,4	7 56,3	1,6	0,9	7,6	4,3	13,6	7,6
17	8 19,3	8 20,7	7 56,6	1,7	1,0	7,7	4,3	13,7	7,7
18	8 19,5	8 20,9	7 56,8	1,8	1,0	7,8	4,4	13,8	7,7
19	8 19,8	8 21,2	7 57,0	1,9	1,1	7,9	4,4	13,9	7,8
20	8 20,0	8 21,4	7 57,3	2,0	1,1	8,0	4,5	14,0	7,8
21	8 20,3	8 21,7	7 57,5	2,1	1,2	8,1	4,6	14,1	7,9
22	8 20,5	8 21,9	7 57,8	2,2	1,2	8,2	4,6	14,2	7,9
23	8 20,8	8 22,2	7 58,0	2,3	1,3	8,3	4,7	14,3	8,0
24	8 21,0	8 22,4	7 58,2	2,4	1,4	8,4	4,7	14,4	8,0
25	8 21,3	8 22,7	7 58,5	2,5	1,4	8,5	4,8	14,5	8,1
26	8 21,5	8 22,9	7 58,7	2,6	1,5	8,6	4,8	14,6	8,2
27	8 21,8	8 23,2	7 59,0	2,7	1,5	8,7	4,9	14,7	8,2
28	8 22,0	8 23,4	7 59,2	2,8	1,6	8,8	4,9	14,8	8,3
29	8 22,3	8 23,7	7 59,4	2,9	1,6	8,9	5,0	14,9	8,3
30	8 22,5	8 23,9	7 59,7	3,0	1,7	9,0	5,1	15,0	8,4
31	8 22,8	8 24,2	7 59,9	3,1	1,7	9,1	5,1	15,1	8,4
32	8 23,0	8 24,4	8 00,1	3,2	1,8	9,2	5,2	15,2	8,5
33	8 23,3	8 24,7	8 00,3	3,3	1,9	9,3	5,2	15,3	8,5
34	8 23,5	8 24,9	8 00,5	3,4	1,9	9,4	5,3	15,4	8,6
35	8 23,8	8 25,2	8 00,8	3,5	2,0	9,5	5,3	15,5	8,7
36	8 24,0	8 25,4	8 01,0	3,6	2,0	9,6	5,4	15,6	8,7
37	8 24,3	8 25,7	8 01,3	3,7	2,1	9,7	5,4	15,7	8,8
38	8 24,5	8 25,9	8 01,5	3,8	2,1	9,8	5,5	15,8	8,8
39	8 24,8	8 26,2	8 01,7	3,9	2,2	9,9	5,5	15,9	8,9
40	8 25,0	8 26,4	8 02,0	4,0	2,3	10,0	5,6	16,0	8,9
41	8 25,3	8 26,7	8 02,2	4,1	2,3	10,1	5,7	16,1	9,0
42	8 25,5	8 26,9	8 02,4	4,2	2,4	10,2	5,7	16,2	9,1
43	8 25,8	8 27,2	8 02,7	4,3	2,4	10,3	5,8	16,3	9,1
44	8 26,0	8 27,4	8 02,9	4,4	2,5	10,4	5,8	16,4	9,2
45	8 26,3	8 27,7	8 03,2	4,5	2,5	10,5	5,9	16,5	9,2
46	8 26,5	8 27,9	8 03,4	4,6	2,6	10,6	5,9	16,6	9,3
47	8 26,8	8 28,2	8 03,6	4,7	2,6	10,7	6,0	16,7	9,3
48	8 27,0	8 28,4	8 03,9	4,8	2,7	10,8	6,0	16,8	9,4
49	8 27,3	8 28,7	8 04,1	4,9	2,8	10,9	6,1	16,9	9,4
50	8 27,5	8 28,9	8 04,4	5,0	2,8	11,0	6,1	17,0	9,5
51	8 27,8	8 29,2	8 04,6	5,1	2,9	11,1	6,2	17,1	9,6
52	8 28,0	8 29,4	8 04,8	5,2	2,9	11,2	6,3	17,2	9,6
53	8 28,3	8 29,7	8 05,1	5,3	3,0	11,3	6,3	17,3	9,7
54	8 28,5	8 29,9	8 05,3	5,4	3,0	11,4	6,4	17,4	9,7
55	8 28,8	8 30,2	8 05,6	5,5	3,1	11,5	6,4	17,5	9,8
56	8 29,0	8 30,4	8 05,8	5,6	3,1	11,6	6,5	17,6	9,8
57	8 29,3	8 30,7	8 06,0	5,7	3,2	11,7	6,5	17,7	9,9
58	8 29,5	8 30,9	8 06,3	5,8	3,3	11,8	6,6	17,8	9,9
59	8 29,8	8 31,2	8 06,5	5,9	3,3	11,9	6,6	17,9	10,0
60	8 30,0	8 31,4	8 06,8	6,0	3,4	12,0	6,7	18,0	10,1

m 34	SOL PLANETAS	ARIES	LUNA	v d	Corr	v d	Corr	v d	Corr
s	° ′	° ′	° ′	′	′	′	′	′	′
00	8 30,0	8 31,4	8 06,8	0,0	0,0	6,0	3,5	12,0	6,9
01	8 00,3	8 01,6	8 07,0	0,1	0,1	6,1	3,6	12,1	7,0
02	8 00,5	8 01,8	8 07,3	0,2	0,2	6,2	3,6	12,2	7,0
03	8 00,8	8 02,1	8 07,5	0,3	0,2	6,3	3,7	12,3	7,1
04	8 01,0	8 02,3	8 07,8	0,4	0,3	6,4	3,7	12,4	7,1
05	8 01,3	8 02,6	8 08,0	0,5	0,3	6,5	3,8	12,5	7,2
06	8 01,5	8 02,8	8 08,2	0,6	0,4	6,6	3,8	12,6	7,2
07	8 01,8	8 03,1	8 08,5	0,7	0,4	6,7	3,9	12,7	7,3
08	8 02,0	8 03,3	8 08,7	0,8	0,5	6,8	4,0	12,8	7,4
09	8 02,3	8 03,6	8 09,0	0,9	0,6	6,9	4,0	12,9	7,4
10	8 02,5	8 03,8	8 09,2	1,0	0,6	7,0	4,1	13,0	7,5
11	8 02,8	8 04,1	8 09,4	1,1	0,7	7,1	4,1	13,1	7,5
12	8 03,0	8 04,3	8 09,7	1,2	0,7	7,2	4,2	13,2	7,6
13	8 03,3	8 04,6	8 09,9	1,3	0,8	7,3	4,3	13,3	7,7
14	8 03,5	8 04,8	8 10,1	1,4	0,8	7,4	4,3	13,4	7,7
15	8 03,8	8 05,1	8 10,4	1,5	0,9	7,5	4,4	13,5	7,8
16	8 04,0	8 05,3	8 10,6	1,6	1,0	7,6	4,4	13,6	7,8
17	8 04,3	8 05,6	8 10,9	1,7	1,0	7,7	4,5	13,7	7,9
18	8 04,5	8 05,8	8 11,1	1,8	1,1	7,8	4,5	13,8	7,9
19	8 04,8	8 06,1	8 11,3	1,9	1,1	7,9	4,6	13,9	8,0
20	8 05,0	8 06,3	8 11,6	2,0	1,2	8,0	4,7	14,0	8,1
21	8 05,3	8 06,6	8 11,8	2,1	1,3	8,1	4,7	14,1	8,1
22	8 05,5	8 06,8	8 12,1	2,2	1,3	8,2	4,8	14,2	8,2
23	8 05,8	8 07,1	8 12,3	2,3	1,4	8,3	4,8	14,3	8,2
24	8 06,0	8 07,3	8 12,5	2,4	1,4	8,4	4,9	14,4	8,3
25	8 06,3	8 07,6	8 12,8	2,5	1,5	8,5	5,0	14,5	8,4
26	8 06,5	8 07,8	8 13,0	2,6	1,5	8,6	5,0	14,6	8,4
27	8 06,8	8 08,1	8 13,3	2,7	1,6	8,7	5,1	14,7	8,5
28	8 07,0	8 08,3	8 13,5	2,8	1,7	8,8	5,1	14,8	8,5
29	8 07,3	8 08,6	8 13,7	2,9	1,7	8,9	5,2	14,9	8,6
30	8 07,5	8 08,8	8 14,0	3,0	1,8	9,0	5,2	15,0	8,6
31	8 07,8	8 09,1	8 14,2	3,1	1,8	9,1	5,3	15,1	8,7
32	8 08,0	8 09,3	8 14,5	3,2	1,9	9,2	5,4	15,2	8,8
33	8 08,3	8 09,6	8 14,7	3,3	1,9	9,3	5,4	15,3	8,8
34	8 08,5	8 09,8	8 14,9	3,4	2,0	9,4	5,5	15,4	8,9
35	8 08,8	8 10,1	8 15,2	3,5	2,1	9,5	5,5	15,5	8,9
36	8 09,0	8 10,3	8 15,4	3,6	2,1	9,6	5,6	15,6	9,0
37	8 09,3	8 10,6	8 15,7	3,7	2,2	9,7	5,6	15,7	9,0
38	8 09,5	8 10,8	8 15,9	3,8	2,2	9,8	5,7	15,8	9,1
39	8 09,8	8 11,1	8 16,1	3,9	2,3	9,9	5,8	15,9	9,2
40	8 10,0	8 11,3	8 16,4	4,0	2,4	10,0	5,8	16,0	9,2
41	8 10,3	8 11,6	8 16,6	4,1	2,4	10,1	5,9	16,1	9,3
42	8 10,5	8 11,8	8 16,8	4,2	2,5	10,2	5,9	16,2	9,3
43	8 10,8	8 12,1	8 17,1	4,3	2,5	10,3	6,0	16,3	9,4
44	8 11,0	8 12,3	8 17,3	4,4	2,6	10,4	6,1	16,4	9,5
45	8 11,3	8 12,6	8 17,6	4,5	2,6	10,5	6,1	16,5	9,5
46	8 11,5	8 12,8	8 17,8	4,6	2,7	10,6	6,2	16,6	9,6
47	8 11,8	8 13,1	8 18,0	4,7	2,8	10,7	6,2	16,7	9,6
48	8 12,0	8 13,3	8 18,3	4,8	2,8	10,8	6,3	16,8	9,7
49	8 12,3	8 13,6	8 18,5	4,9	2,9	10,9	6,3	16,9	9,7
50	8 12,5	8 13,8	8 18,8	5,0	2,9	11,0	6,4	17,0	9,8
51	8 12,8	8 14,1	8 19,0	5,1	3,0	11,1	6,5	17,1	9,9
52	8 13,0	8 14,3	8 19,2	5,2	3,0	11,2	6,5	17,2	9,9
53	8 13,3	8 14,6	8 19,5	5,3	3,1	11,3	6,6	17,3	10,0
54	8 13,5	8 14,8	8 19,7	5,4	3,2	11,4	6,6	17,4	10,0
55	8 13,8	8 15,1	8 20,0	5,5	3,2	11,5	6,7	17,5	10,1
56	8 14,0	8 15,3	8 20,2	5,6	3,3	11,6	6,7	17,6	10,1
57	8 14,3	8 15,6	8 20,4	5,7	3,3	11,7	6,8	17,7	10,2
58	8 14,5	8 15,8	8 20,7	5,8	3,4	11,8	6,9	17,8	10,3
59	8 14,8	8 16,1	8 20,9	5,9	3,5	11,9	6,9	17,9	10,3
60	8 15,0	8 16,4	8 21,1	6,0	3,5	12,0	6,9	18,0	10,4

m 35	SOL PLANETAS	ARIES	LUNA	v d	Corr	v d	Corr	v d	Corr
s	° ′	° ′	° ′	′	′	′	′	′	′
00	8 45,0	8 46,6	8 21,1	0,0	0,0	6,0	3,6	12,0	7,1
01	8 45,3	8 46,9	8 21,3	0,1	0,1	6,1	3,7	12,1	7,2
02	8 45,5	8 47,1	8 21,6	0,2	0,2	6,2	3,7	12,2	7,2
03	8 45,8	8 47,4	8 21,8	0,3	0,2	6,3	3,8	12,3	7,3
04	8 46,0	8 47,6	8 22,1	0,4	0,3	6,4	3,8	12,4	7,3
05	8 46,3	8 47,9	8 22,3	0,5	0,3	6,5	3,9	12,5	7,4
06	8 46,5	8 48,1	8 22,5	0,6	0,4	6,6	3,9	12,6	7,4
07	8 46,8	8 48,4	8 22,8	0,7	0,4	6,7	4,0	12,7	7,5
08	8 47,0	8 48,6	8 23,0	0,8	0,5	6,8	4,1	12,8	7,6
09	8 47,3	8 48,9	8 23,3	0,9	0,6	6,9	4,1	12,9	7,6
10	8 47,5	8 49,1	8 23,5	1,0	0,6	7,0	4,2	13,0	7,7
11	8 47,8	8 49,4	8 23,7	1,1	0,7	7,1	4,2	13,1	7,7
12	8 48,0	8 49,6	8 24,0	1,2	0,7	7,2	4,3	13,2	7,8
13	8 48,3	8 49,9	8 24,2	1,3	0,8	7,3	4,4	13,3	7,9
14	8 48,5	8 50,1	8 24,4	1,4	0,9	7,4	4,4	13,4	7,9
15	8 48,8	8 50,4	8 24,7	1,5	0,9	7,5	4,5	13,5	8,0
16	8 49,0	8 50,6	8 24,9	1,6	1,0	7,6	4,5	13,6	8,0
17	8 49,3	8 50,9	8 25,2	1,7	1,0	7,7	4,6	13,7	8,1
18	8 49,5	8 51,1	8 25,4	1,8	1,1	7,8	4,6	13,8	8,1
19	8 49,8	8 51,4	8 25,6	1,9	1,1	7,9	4,7	13,9	8,2
20	8 50,0	8 51,6	8 25,9	2,0	1,2	8,0	4,8	14,0	8,3
21	8 50,3	8 51,9	8 26,1	2,1	1,3	8,1	4,8	14,1	8,3
22	8 50,5	8 52,1	8 26,4	2,2	1,3	8,2	4,9	14,2	8,4
23	8 50,8	8 52,4	8 26,6	2,3	1,4	8,3	4,9	14,3	8,4
24	8 51,0	8 52,6	8 26,8	2,4	1,4	8,4	5,0	14,4	8,5
25	8 51,3	8 52,9	8 27,1	2,5	1,5	8,5	5,1	14,5	8,6
26	8 51,5	8 53,1	8 27,3	2,6	1,6	8,6	5,1	14,6	8,6
27	8 51,8	8 53,4	8 27,6	2,7	1,6	8,7	5,2	14,7	8,7
28	8 52,0	8 53,6	8 27,8	2,8	1,7	8,8	5,2	14,8	8,7
29	8 52,3	8 53,9	8 28,0	2,9	1,7	8,9	5,3	14,9	8,8
30	8 52,5	8 54,1	8 28,3	3,0	1,8	9,0	5,3	15,0	8,8
31	8 52,8	8 54,4	8 28,5	3,1	1,8	9,1	5,4	15,1	8,9
32	8 53,0	8 54,6	8 28,8	3,2	1,9	9,2	5,5	15,2	9,0
33	8 53,3	8 54,9	8 29,0	3,3	2,0	9,3	5,5	15,3	9,0
34	8 53,5	8 55,1	8 29,2	3,4	2,0	9,4	5,6	15,4	9,1
35	8 53,8	8 55,4	8 29,5	3,5	2,1	9,5	5,6	15,5	9,1
36	8 54,0	8 55,6	8 29,7	3,6	2,1	9,6	5,7	15,6	9,2
37	8 54,3	8 55,9	8 30,0	3,7	2,2	9,7	5,7	15,7	9,3
38	8 54,5	8 56,1	8 30,2	3,8	2,2	9,8	5,8	15,8	9,3
39	8 54,8	8 56,4	8 30,4	3,9	2,3	9,9	5,9	15,9	9,4
40	8 55,0	8 56,6	8 30,7	4,0	2,4	10,0	5,9	16,0	9,4
41	8 55,3	8 56,9	8 30,9	4,1	2,4	10,1	6,0	16,1	9,5
42	8 55,5	8 57,1	8 31,1	4,2	2,5	10,2	6,0	16,2	9,6
43	8 55,8	8 57,4	8 31,4	4,3	2,5	10,3	6,1	16,3	9,6
44	8 56,0	8 57,6	8 31,6	4,4	2,6	10,4	6,2	16,4	9,7
45	8 56,3	8 57,9	8 31,9	4,5	2,7	10,5	6,2	16,5	9,7
46	8 56,5	8 58,1	8 32,1	4,6	2,7	10,6	6,3	16,6	9,8
47	8 56,8	8 58,4	8 32,3	4,7	2,8	10,7	6,3	16,7	9,9
48	8 57,0	8 58,6	8 32,6	4,8	2,8	10,8	6,4	16,8	9,9
49	8 57,3	8 58,9	8 32,8	4,9	2,9	10,9	6,4	16,9	10,0
50	8 57,5	8 59,1	8 33,1	5,0	2,9	11,0	6,5	17,0	10,0
51	8 57,8	8 59,4	8 33,3	5,1	3,0	11,1	6,6	17,1	10,1
52	8 58,0	8 59,6	8 33,5	5,2	3,1	11,2	6,6	17,2	10,1
53	8 58,3	8 59,9	8 33,8	5,3	3,1	11,3	6,7	17,3	10,2
54	8 58,5	9 00,0	8 34,0	5,4	3,2	11,4	6,7	17,4	10,3
55	8 58,8	9 00,3	8 34,3	5,5	3,2	11,5	6,8	17,5	10,3
56	8 59,0	9 00,5	8 34,5	5,6	3,3	11,6	6,8	17,6	10,4
57	8 59,3	9 00,8	8 34,7	5,7	3,3	11,7	6,9	17,7	10,4
58	8 59,5	9 01,0	8 35,0	5,8	3,4	11,8	7,0	17,8	10,5
59	8 59,8	9 01,3	8 35,2	5,9	3,5	11,9	7,0	17,9	10,6
60	9 00,0	9 01,5	8 35,5	6,0	3,6	12,0	7,1	18,0	10,7

m 36	SUN PLANET	ARIES	MOON	v or d	Corr	v or d	Corr	v or d	Corr
s	° ′	° ′	° ′	′	′	′	′	′	′
00	9 00,0	9 00,0	8 35,4	0,0	0,0	6,0	3,7	12,0	7,3
01	9 00,3	9 00,3	8 35,6	0,1	0,1	6,1	3,8	12,1	7,4
02	9 00,5	9 00,5	8 35,9	0,2	0,2	6,2	3,8	12,2	7,4
03	9 00,8	9 00,8	8 36,1	0,3	0,2	6,3	3,9	12,3	7,5
04	9 01,0	9 01,0	8 36,4	0,4	0,3	6,4	3,9	12,4	7,6
05	9 01,3	9 01,3	8 36,6	0,5	0,3	6,5	4,0	12,5	7,6
06	9 01,5	9 01,5	8 36,8	0,6	0,4	6,6	4,1	12,6	7,7
07	9 01,8	9 01,8	8 37,1	0,7	0,5	6,7	4,1	12,7	7,7
08	9 02,0	9 02,0	8 37,3	0,8	0,5	6,8	4,2	12,8	7,8
09	9 02,3	9 02,3	8 37,6	0,9	0,6	6,9	4,2	12,9	7,9
10	9 02,5	9 02,5	8 37,8	1,0	0,6	7,0	4,3	13,0	7,9
11	9 02,8	9 02,8	8 38,0	1,1	0,7	7,1	4,4	13,1	8,0
12	9 03,0	9 03,0	8 38,3	1,2	0,7	7,2	4,4	13,2	8,1
13	9 03,3	9 03,3	8 38,5	1,3	0,8	7,3	4,5	13,3	8,1
14	9 03,5	9 03,5	8 38,7	1,4	0,9	7,4	4,6	13,4	8,2
15	9 03,8	9 03,8	8 39,0	1,5	0,9	7,5	4,6	13,5	8,3
16	9 04,0	9 04,0	8 39,2	1,6	1,0	7,6	4,7	13,6	8,3
17	9 04,3	9 04,3	8 39,5	1,7	1,0	7,7	4,7	13,7	8,4
18	9 04,5	9 04,5	8 39,7	1,8	1,1	7,8	4,8	13,8	8,5
19	9 04,8	9 04,8	8 39,9	1,9	1,2	7,9	4,9	13,9	8,5
20	9 05,0	9 05,0	8 40,2	2,0	1,2	8,0	4,9	14,0	8,6
21	9 05,3	9 05,3	8 40,4	2,1	1,3	8,1	5,0	14,1	8,7
22	9 05,5	9 05,5	8 40,7	2,2	1,3	8,2	5,0	14,2	8,7
23	9 05,8	9 05,8	8 40,9	2,3	1,4	8,3	5,1	14,3	8,8
24	9 06,0	9 06,0	8 41,1	2,4	1,5	8,4	5,2	14,4	8,9
25	9 06,3	9 06,3	8 41,4	2,5	1,5	8,5	5,2	14,5	8,9
26	9 06,5	9 06,5	8 41,6	2,6	1,6	8,6	5,3	14,6	9,0
27	9 06,8	9 06,8	8 41,9	2,7	1,6	8,7	5,3	14,7	9,0
28	9 07,0	9 07,0	8 42,1	2,8	1,7	8,8	5,4	14,8	9,1
29	9 07,3	9 07,3	8 42,3	2,9	1,8	8,9	5,5	14,9	9,2
30	9 07,5	9 07,5	8 42,6	3,0	1,8	9,0	5,5	15,0	9,2
31	9 07,8	9 07,8	8 42,8	3,1	1,9	9,1	5,6	15,1	9,3
32	9 08,0	9 08,0	8 43,1	3,2	1,9	9,2	5,7	15,2	9,4
33	9 08,3	9 08,3	8 43,3	3,3	2,0	9,3	5,7	15,3	9,4
34	9 08,5	9 08,5	8 43,5	3,4	2,1	9,4	5,8	15,4	9,5
35	9 08,8	9 08,8	8 43,8	3,5	2,1	9,5	5,8	15,5	9,6
36	9 09,0	9 09,0	8 44,0	3,6	2,2	9,6	5,9	15,6	9,6
37	9 09,3	9 09,3	8 44,3	3,7	2,2	9,7	6,0	15,7	9,7
38	9 09,5	9 09,5	8 44,5	3,8	2,3	9,8	6,0	15,8	9,7
39	9 09,8	9 09,8	8 44,7	3,9	2,4	9,9	6,1	15,9	9,8
40	9 10,0	9 10,0	8 45,0	4,0	2,4	10,0	6,1	16,0	9,9
41	9 10,3	9 10,3	8 45,2	4,1	2,5	10,1	6,2	16,1	9,9
42	9 10,5	9 10,5	8 45,4	4,2	2,6	10,2	6,3	16,2	10,0
43	9 10,8	9 10,8	8 45,7	4,3	2,6	10,3	6,3	16,3	10,1
44	9 11,0	9 11,0	8 45,9	4,4	2,7	10,4	6,4	16,4	10,1
45	9 11,3	9 11,3	8 46,2	4,5	2,7	10,5	6,4	16,5	10,2
46	9 11,5	9 11,5	8 46,4	4,6	2,8	10,6	6,5	16,6	10,2
47	9 11,8	9 11,8	8 46,6	4,7	2,9	10,7	6,6	16,7	10,3
48	9 12,0	9 12,0	8 46,9	4,8	2,9	10,8	6,6	16,8	10,4
49	9 12,3	9 12,3	8 47,1	4,9	3,0	10,9	6,7	16,9	10,4
50	9 12,5	9 12,5	8 47,4	5,0	3,0	11,0	6,8	17,0	10,5
51	9 12,8	9 12,8	8 47,6	5,1	3,1	11,1	6,8	17,1	10,6
52	9 13,0	9 13,0	8 47,8	5,2	3,2	11,2	6,9	17,2	10,6
53	9 13,3	9 13,3	8 48,1	5,3	3,2	11,3	6,9	17,3	10,7
54	9 13,5	9 13,5	8 48,3	5,4	3,3	11,4	7,0	17,4	10,8
55	9 13,8	9 13,8	8 48,6	5,5	3,3	11,5	7,1	17,5	10,8
56	9 14,0	9 14,0	8 48,8	5,6	3,4	11,6	7,1	17,6	10,9
57	9 14,3	9 14,3	8 49,0	5,7	3,5	11,7	7,2	17,7	10,9
58	9 14,5	9 14,5	8 49,3	5,8	3,5	11,8	7,2	17,8	11,0
59	9 14,8	9 14,8	8 49,5	5,9	3,6	11,9	7,3	17,9	11,1
60	9 15,0	9 15,0	8 49,8	6,0	3,7	12,0	7,3	18,0	11,3

m 37	SOL PLANETAS	ARIES	LUNA	v d	Corr	v d	Corr	v d	Corr
s	° ′	° ′	° ′	′	′	′	′	′	′
00	9 15,0	9 16,5	8 49,7	0,0	0,0	6,0	3,8	12,0	7,5
01	9 15,3	9 16,8	8 49,9	0,1	0,1	6,1	3,9	12,1	7,6
02	9 15,5	9 17,0	8 50,2	0,2	0,2	6,2	3,9	12,2	7,6
03	9 15,8	9 17,3	8 50,4	0,3	0,2	6,3	4,0	12,3	7,7
04	9 16,0	9 17,5	8 50,7	0,4	0,3	6,4	4,1	12,4	7,8
05	9 16,3	9 17,8	8 50,9	0,5	0,3	6,5	4,1	12,5	7,8
06	9 16,5	9 18,0	8 51,1	0,6	0,4	6,6	4,2	12,6	7,9
07	9 16,8	9 18,3	8 51,4	0,7	0,5	6,7	4,2	12,7	7,9
08	9 17,0	9 18,5	8 51,6	0,8	0,5	6,8	4,3	12,8	8,0
09	9 17,3	9 18,8	8 51,9	0,9	0,6	6,9	4,4	12,9	8,1
10	9 17,5	9 19,0	8 52,1	1,0	0,7	7,0	4,4	13,0	8,1
11	9 17,8	9 19,3	8 52,3	1,1	0,7	7,1	4,5	13,1	8,2
12	9 18,0	9 19,5	8 52,6	1,2	0,8	7,2	4,6	13,2	8,3
13	9 18,3	9 19,8	8 52,8	1,3	0,8	7,3	4,6	13,3	8,3
14	9 18,5	9 20,0	8 53,0	1,4	0,9	7,4	4,7	13,4	8,4
15	9 18,8	9 20,3	8 53,3	1,5	1,0	7,5	4,7	13,5	8,4
16	9 19,0	9 20,5	8 53,5	1,6	1,0	7,6	4,8	13,6	8,5
17	9 19,3	9 20,8	8 53,8	1,7	1,1	7,7	4,9	13,7	8,6
18	9 19,5	9 21,0	8 54,0	1,8	1,2	7,8	4,9	13,8	8,6
19	9 19,8	9 21,3	8 54,2	1,9	1,2	7,9	5,0	13,9	8,7
20	9 20,0	9 21,5	8 54,5	2,0	1,3	8,0	5,0	14,0	8,8
21	9 20,3	9 21,8	8 54,7	2,1	1,3	8,1	5,1	14,1	8,8
22	9 20,5	9 22,0	8 55,0	2,2	1,4	8,2	5,2	14,2	8,9
23	9 20,8	9 22,3	8 55,2	2,3	1,5	8,3	5,2	14,3	8,9
24	9 21,0	9 22,5	8 55,4	2,4	1,5	8,4	5,3	14,4	9,0
25	9 21,3	9 22,8	8 55,7	2,5	1,6	8,5	5,4	14,5	9,1
26	9 21,5	9 23,0	8 55,9	2,6	1,7	8,6	5,4	14,6	9,1
27	9 21,8	9 23,3	8 56,2	2,7	1,7	8,7	5,5	14,7	9,2
28	9 22,0	9 23,5	8 56,4	2,8	1,8	8,8	5,5	14,8	9,3
29	9 22,3	9 23,8	8 56,6	2,9	1,8	8,9	5,6	14,9	9,3
30	9 22,5	9 24,0	8 56,9	3,0	1,9	9,0	5,7	15,0	9,4
31	9 22,8	9 24,3	8 57,1	3,1	2,0	9,1	5,7	15,1	9,5
32	9 23,0	9 24,5	8 57,4	3,2	2,0	9,2	5,8	15,2	9,5
33	9 23,3	9 24,8	8 57,6	3,3	2,1	9,3	5,9	15,3	9,6
34	9 23,5	9 25,0	8 57,8	3,4	2,1	9,4	5,9	15,4	9,6
35	9 23,8	9 25,3	8 58,1	3,5	2,2	9,5	6,0	15,5	9,7
36	9 24,0	9 25,5	8 58,3	3,6	2,3	9,6	6,0	15,6	9,8
37	9 24,3	9 25,8	8 58,6	3,7	2,3	9,7	6,1	15,7	9,8
38	9 24,5	9 26,0	8 58,8	3,8	2,4	9,8	6,2	15,8	9,9
39	9 24,8	9 26,3	8 59,0	3,9	2,5	9,9	6,2	15,9	10,0
40	9 25,0	9 26,5	8 59,3	4,0	2,5	10,0	6,3	16,0	10,0
41	9 25,3	9 26,8	8 59,5	4,1	2,6	10,1	6,3	16,1	10,1
42	9 25,5	9 27,0	8 59,7	4,2	2,6	10,2	6,4	16,2	10,1
43	9 25,8	9 27,3	9 00,0	4,3	2,7	10,3	6,5	16,3	10,2
44	9 26,0	9 27,5	9 00,2	4,4	2,8	10,4	6,5	16,4	10,3
45	9 26,3	9 27,8	9 00,5	4,5	2,8	10,5	6,6	16,5	10,3
46	9 26,5	9 28,0	9 00,7	4,6	2,9	10,6	6,7	16,6	10,4
47	9 26,8	9 28,3	9 00,9	4,7	3,0	10,7	6,7	16,7	10,5
48	9 27,0	9 28,5	9 01,2	4,8	3,0	10,8	6,8	16,8	10,5
49	9 27,3	9 28,8	9 01,4	4,9	3,1	10,9	6,8	16,9	10,6
50	9 27,5	9 29,0	9 01,7	5,0	3,1	11,0	6,9	17,0	10,7
51	9 27,8	9 29,3	9 01,9	5,1	3,2	11,1	7,0	17,1	10,7
52	9 28,0	9 29,5	9 02,1	5,2	3,3	11,2	7,0	17,2	10,8
53	9 28,3	9 29,8	9 02,4	5,3	3,3	11,3	7,1	17,3	10,8
54	9 28,5	9 30,0	9 02,6	5,4	3,4	11,4	7,2	17,4	10,9
55	9 28,8	9 30,3	9 02,9	5,5	3,4	11,5	7,2	17,5	11,0
56	9 29,0	9 30,5	9 03,1	5,6	3,5	11,6	7,3	17,6	11,0
57	9 29,3	9 30,8	9 03,3	5,7	3,6	11,7	7,3	17,7	11,1
58	9 29,5	9 31,0	9 03,6	5,8	3,6	11,8	7,4	17,8	11,2
59	9 29,8	9 31,3	9 03,8	5,9	3,7	11,9	7,5	17,9	11,2
60	9 30,0	9 31,6	9 04,0	6,0	3,8	12,0	7,5	18,0	11,3

m 38	SOL PLANETAS	ARIES	LUNA	v d	Corr	v d	Corr	v d	Corr
s	° ′	° ′	° ′	′	′	′	′	′	′
00	9 30,0	9 31,6	9 04,0	0,0	0,0	6,0	3,9	12,0	7,7
01	9 30,3	9 31,9	9 04,2	0,1	0,1	6,1	4,0	12,1	7,8
02	9 30,5	9 32,1	9 04,5	0,2	0,2	6,2	4,0	12,2	7,8
03	9 30,8	9 32,4	9 04,7	0,3	0,2	6,3	4,1	12,3	7,9
04	9 31,0	9 32,6	9 05,0	0,4	0,3	6,4	4,2	12,4	8,0
05	9 31,3	9 32,9	9 05,2	0,5	0,4	6,5	4,2	12,5	8,0
06	9 31,5	9 33,1	9 05,4	0,6	0,4	6,6	4,3	12,6	8,1
07	9 31,8	9 33,4	9 05,7	0,7	0,5	6,7	4,3	12,7	8,1
08	9 32,0	9 33,6	9 05,9	0,8	0,5	6,8	4,4	12,8	8,2
09	9 32,3	9 33,9	9 06,2	0,9	0,6	6,9	4,5	12,9	8,3
10	9 32,5	9 34,1	9 06,4	1,0	0,7	7,0	4,5	13,0	8,3
11	9 32,8	9 34,4	9 06,6	1,1	0,7	7,1	4,6	13,1	8,4
12	9 33,0	9 34,6	9 06,9	1,2	0,8	7,2	4,7	13,2	8,5
13	9 33,3	9 34,9	9 07,1	1,3	0,9	7,3	4,7	13,3	8,5
14	9 33,5	9 35,1	9 07,3	1,4	0,9	7,4	4,8	13,4	8,6
15	9 33,8	9 35,4	9 07,6	1,5	1,0	7,5	4,8	13,5	8,6
16	9 34,0	9 35,6	9 07,8	1,6	1,0	7,6	4,9	13,6	8,7
17	9 34,3	9 35,9	9 08,1	1,7	1,1	7,7	5,0	13,7	8,8
18	9 34,5	9 36,1	9 08,3	1,8	1,2	7,8	5,0	13,8	8,8
19	9 34,8	9 36,4	9 08,5	1,9	1,2	7,9	5,1	13,9	8,9
20	9 35,0	9 36,6	9 08,8	2,0	1,3	8,0	5,2	14,0	9,0
21	9 35,3	9 36,9	9 09,0	2,1	1,4	8,1	5,2	14,1	9,0
22	9 35,5	9 37,1	9 09,3	2,2	1,4	8,2	5,3	14,2	9,1
23	9 35,8	9 37,4	9 09,5	2,3	1,5	8,3	5,3	14,3	9,2
24	9 36,0	9 37,6	9 09,7	2,4	1,5	8,4	5,4	14,4	9,2
25	9 36,3	9 37,9	9 10,0	2,5	1,6	8,5	5,5	14,5	9,3
26	9 36,5	9 38,1	9 10,2	2,6	1,7	8,6	5,5	14,6	9,4
27	9 36,8	9 38,4	9 10,5	2,7	1,7	8,7	5,6	14,7	9,4
28	9 37,0	9 38,6	9 10,7	2,8	1,8	8,8	5,7	14,8	9,5
29	9 37,3	9 38,9	9 10,9	2,9	1,9	8,9	5,7	14,9	9,5
30	9 37,5	9 39,1	9 11,2	3,0	1,9	9,0	5,8	15,0	9,6
31	9 37,8	9 39,4	9 11,4	3,1	2,0	9,1	5,9	15,1	9,7
32	9 38,0	9 39,6	9 11,7	3,2	2,1	9,2	5,9	15,2	9,7
33	9 38,3	9 39,9	9 11,9	3,3	2,1	9,3	6,0	15,3	9,8
34	9 38,5	9 40,1	9 12,1	3,4	2,2	9,4	6,0	15,4	9,9
35	9 38,8	9 40,4	9 12,4	3,5	2,2	9,5	6,1	15,5	9,9
36	9 39,0	9 40,6	9 12,6	3,6	2,3	9,6	6,2	15,6	10,0
37	9 39,3	9 40,9	9 12,9	3,7	2,4	9,7	6,2	15,7	10,1
38	9 39,5	9 41,1	9 13,1	3,8	2,4	9,8	6,3	15,8	10,1
39	9 39,8	9 41,4	9 13,3	3,9	2,5	9,9	6,4	15,9	10,2
40	9 40,0	9 41,6	9 13,6	4,0	2,6	10,0	6,4	16,0	10,3
41	9 40,3	9 41,9	9 13,8	4,1	2,6	10,1	6,5	16,1	10,3
42	9 40,5	9 42,1	9 14,0	4,2	2,7	10,2	6,5	16,2	10,4
43	9 40,8	9 42,4	9 14,3	4,3	2,7	10,3	6,6	16,3	10,5
44	9 41,0	9 42,6	9 14,5	4,4	2,8	10,4	6,7	16,4	10,5
45	9 41,3	9 42,9	9 14,8	4,5	2,9	10,5	6,7	16,5	10,6
46	9 41,5	9 43,1	9 15,0	4,6	2,9	10,6	6,8	16,6	10,7
47	9 41,8	9 43,4	9 15,2	4,7	3,0	10,7	6,9	16,7	10,7
48	9 42,0	9 43,6	9 15,5	4,8	3,1	10,8	6,9	16,8	10,8
49	9 42,3	9 43,9	9 15,7	4,9	3,1	10,9	7,0	16,9	10,8
50	9 42,5	9 44,1	9 16,0	5,0	3,2	11,0	7,0	17,0	10,9
51	9 42,8	9 44,4	9 16,2	5,1	3,3	11,1	7,1	17,1	11,0
52	9 43,0	9 44,6	9 16,4	5,2	3,3	11,2	7,2	17,2	11,0
53	9 43,3	9 44,9	9 16,7	5,3	3,4	11,3	7,2	17,3	11,1
54	9 43,5	9 45,1	9 16,9	5,4	3,4	11,4	7,3	17,4	11,2
55	9 43,8	9 45,4	9 17,2	5,5	3,5	11,5	7,4	17,5	11,2
56	9 44,0	9 45,6	9 17,4	5,6	3,6	11,6	7,4	17,6	11,3
57	9 44,3	9 45,9	9 17,6	5,7	3,6	11,7	7,5	17,7	11,4
58	9 44,5	9 46,1	9 17,9	5,8	3,7	11,8	7,6	17,8	11,4
59	9 44,8	9 46,4	9 18,1	5,9	3,8	11,9	7,6	17,9	11,5
60	9 45,0	9 46,6	9 18,4	6,0	3,9	12,0	7,7	18,0	11,6

m 39	SOL PLANETAS	ARIES	LUNA	v d	Corr	v d	Corr	v d	Corr
s	° ′	° ′	° ′	′	′	′	′	′	′
00	9 45,0	9 46,6	9 18,4	0,0	0,0	6,0	4,1	12,0	7,9
01	9 45,3	9 46,9	9 18,6	0,1	0,1	6,1	4,2	12,1	8,0
02	9 45,5	9 47,1	9 18,9	0,2	0,2	6,2	4,2	12,2	8,0
03	9 45,8	9 47,4	9 19,1	0,3	0,2	6,3	4,3	12,3	8,1
04	9 46,0	9 47,6	9 19,4	0,4	0,3	6,4	4,4	12,4	8,2
05	9 46,3	9 47,9	9 19,6	0,5	0,4	6,5	4,4	12,5	8,2
06	9 46,5	9 48,1	9 19,8	0,6	0,4	6,6	4,5	12,6	8,3
07	9 46,8	9 48,4	9 20,1	0,7	0,5	6,7	4,6	12,7	8,4
08	9 47,0	9 48,6	9 20,3	0,8	0,6	6,8	4,6	12,8	8,4
09	9 47,3	9 48,9	9 20,6	0,9	0,7	6,9	4,7	12,9	8,5
10	9 47,5	9 49,1	9 20,8	1,0	0,7	7,0	4,8	13,0	8,6
11	9 47,8	9 49,4	9 21,0	1,1	0,8	7,1	4,8	13,1	8,6
12	9 48,0	9 49,6	9 21,3	1,2	0,9	7,2	4,9	13,2	8,7
13	9 48,3	9 49,9	9 21,5	1,3	0,9	7,3	5,0	13,3	8,8
14	9 48,5	9 50,1	9 21,7	1,4	1,0	7,4	5,0	13,4	8,8
15	9 48,8	9 50,4	9 22,0	1,5	1,1	7,5	5,1	13,5	8,9
16	9 49,0	9 50,6	9 22,2	1,6	1,1	7,6	5,1	13,6	9,0
17	9 49,3	9 50,9	9 22,5	1,7	1,2	7,7	5,2	13,7	9,0
18	9 49,5	9 51,1	9 22,7	1,8	1,3	7,8	5,3	13,8	9,1
19	9 49,8	9 51,4	9 22,9	1,9	1,3	7,9	5,3	13,9	9,2
20	9 50,0	9 51,6	9 23,2	2,0	1,4	8,0	5,4	14,0	9,2
21	9 50,3	9 51,9	9 23,4	2,1	1,5	8,1	5,5	14,1	9,3
22	9 50,5	9 52,1	9 23,7	2,2	1,5	8,2	5,5	14,2	9,4
23	9 50,8	9 52,4	9 23,9	2,3	1,6	8,3	5,6	14,3	9,4
24	9 51,0	9 52,6	9 24,1	2,4	1,7	8,4	5,7	14,4	9,5
25	9 51,3	9 52,9	9 24,4	2,5	1,8	8,5	5,7	14,5	9,6
26	9 51,5	9 53,1	9 24,6	2,6	1,8	8,6	5,8	14,6	9,6
27	9 51,8	9 53,4	9 24,9	2,7	1,9	8,7	5,9	14,7	9,7
28	9 52,0	9 53,6	9 25,1	2,8	2,0	8,8	5,9	14,8	9,8
29	9 52,3	9 53,9	9 25,3	2,9	2,0	8,9	6,0	14,9	9,8
30	9 52,5	9 54,1	9 25,6	3,0	2,1	9,0	6,1	15,0	9,9
31	9 52,8	9 54,4	9 25,8	3,1	2,2	9,1	6,1	15,1	10,0
32	9 53,0	9 54,6	9 26,1	3,2	2,2	9,2	6,2	15,2	10,0
33	9 53,3	9 54,9	9 26,3	3,3	2,3	9,3	6,3	15,3	10,1
34	9 53,5	9 55,1	9 26,5	3,4	2,4	9,4	6,3	15,4	10,2
35	9 53,8	9 55,4	9 26,8	3,5	2,4	9,5	6,4	15,5	10,2
36	9 54,0	9 55,6	9 27,0	3,6	2,5	9,6	6,4	15,6	10,3
37	9 54,3	9 55,9	9 27,3	3,7	2,6	9,7	6,5	15,7	10,4
38	9 54,5	9 56,1	9 27,5	3,8	2,7	9,8	6,6	15,8	10,4
39	9 54,8	9 56,4	9 27,7	3,9	2,7	9,9	6,6	15,9	10,5
40	9 55,0	9 56,6	9 28,0	4,0	2,8	10,0	6,7	16,0	10,6
41	9 55,3	9 56,9	9 28,2	4,1	2,9	10,1	6,8	16,1	10,6
42	9 55,5	9 57,1	9 28,4	4,2	2,9	10,2	6,8	16,2	10,7
43	9 55,8	9 57,4	9 28,7	4,3	3,0	10,3	6,9	16,3	10,8
44	9 56,0	9 57,6	9 28,9	4,4	3,1	10,4	7,0	16,4	10,8
45	9 56,3	9 57,9	9 29,2	4,5	3,1	10,5	7,0	16,5	10,9
46	9 56,5	9 58,1	9 29,4	4,6	3,2	10,6	7,1	16,6	11,0
47	9 56,8	9 58,4	9 29,6	4,7	3,3	10,7	7,2	16,7	11,0
48	9 57,0	9 58,6	9 29,9	4,8	3,3	10,8	7,2	16,8	11,1
49	9 57,3	9 58,9	9 30,1	4,9	3,4	10,9	7,3	16,9	11,2
50	9 57,5	9 59,1	9 30,4	5,0	3,5	11,0	7,4	17,0	11,3
51	9 57,8	9 59,4	9 30,6	5,1	3,6	11,1	7,4	17,1	11,3
52	9 58,0	9 59,6	9 30,8	5,2	3,6	11,2	7,5	17,2	11,4
53	9 58,3	9 59,9	9 31,1	5,3	3,7	11,3	7,6	17,3	11,5
54	9 58,5	10 00,0	9 31,3	5,4	3,8	11,4	7,6	17,4	11,5
55	9 58,8	10 00,3	9 31,6	5,5	3,8	11,5	7,7	17,5	11,6
56	9 59,0	10 00,5	9 31,8	5,6	3,9	11,6	7,7	17,6	11,7
57	9 59,3	10 00,8	9 32,0	5,7	4,0	11,7	7,8	17,7	11,7
58	9 59,5	10 01,0	9 32,3	5,8	4,0	11,8	7,9	17,8	11,8
59	9 59,8	10 01,3	9 32,5	5,9	4,1	11,9	7,9	17,9	11,9
60	10 00,0	10 01,5	9 32,8	6,0	4,1	12,0	7,9	18,0	11,9

m 40	SOL PLANETAS	ARIES	LUNA	v d	Corr	v d	Corr	v d	Corr
s	° '	° '	° '	'	'	'	'	'	'
00	10 00,0	10 01,6	9 32,7	0,0	0,0	6,0	4,1	12,0	8,3
01	10 00,3	10 01,9	9 32,9	0,1	0,1	6,1	4,2	12,1	8,4
02	10 00,5	10 02,1	9 33,2	0,2	0,2	6,2	4,2	12,2	8,4
03	10 00,8	10 02,4	9 33,4	0,3	0,2	6,3	4,3	12,3	8,5
04	10 01,0	10 02,6	9 33,7	0,4	0,3	6,4	4,4	12,4	8,6
05	10 01,3	10 02,9	9 33,9	0,5	0,4	6,5	4,4	12,5	8,6
06	10 01,5	10 03,1	9 34,1	0,6	0,5	6,6	4,5	12,6	8,7
07	10 01,8	10 03,4	9 34,4	0,7	0,5	6,7	4,6	12,7	8,8
08	10 02,0	10 03,6	9 34,6	0,8	0,6	6,8	4,7	12,8	8,9
09	10 02,3	10 03,9	9 34,9	0,9	0,7	6,9	4,7	12,9	8,9
10	10 02,5	10 04,1	9 35,1	1,0	0,7	7,0	4,8	13,0	9,0
11	10 02,8	10 04,4	9 35,3	1,1	0,8	7,1	4,9	13,1	9,1
12	10 03,0	10 04,6	9 35,6	1,2	0,9	7,2	4,9	13,2	9,1
13	10 03,3	10 04,9	9 35,8	1,3	0,9	7,3	5,0	13,3	9,2
14	10 03,5	10 05,1	9 36,0	1,4	1,0	7,4	5,1	13,4	9,3
15	10 03,8	10 05,4	9 36,3	1,5	1,1	7,5	5,1	13,5	9,3
16	10 04,0	10 05,6	9 36,5	1,6	1,2	7,6	5,2	13,6	9,4
17	10 04,3	10 05,9	9 36,8	1,7	1,2	7,7	5,3	13,7	9,5
18	10 04,5	10 06,1	9 37,0	1,8	1,3	7,8	5,3	13,8	9,5
19	10 04,8	10 06,4	9 37,2	1,9	1,4	7,9	5,4	13,9	9,6
20	10 05,0	10 06,6	9 37,5	2,0	1,4	8,0	5,5	14,0	9,7
21	10 05,3	10 06,9	9 37,7	2,1	1,5	8,1	5,5	14,1	9,7
22	10 05,5	10 07,1	9 38,0	2,2	1,6	8,2	5,6	14,2	9,8
23	10 05,8	10 07,4	9 38,2	2,3	1,6	8,3	5,7	14,3	9,9
24	10 06,0	10 07,6	9 38,4	2,4	1,7	8,4	5,8	14,4	10,0
25	10 06,3	10 07,9	9 38,7	2,5	1,8	8,5	5,8	14,5	10,0
26	10 06,5	10 08,1	9 38,9	2,6	1,9	8,6	5,9	14,6	10,1
27	10 06,8	10 08,4	9 39,2	2,7	1,9	8,7	6,0	14,7	10,2
28	10 07,0	10 08,6	9 39,4	2,8	2,0	8,8	6,0	14,8	10,2
29	10 07,3	10 08,9	9 39,6	2,9	2,1	8,9	6,1	14,9	10,3
30	10 07,5	10 09,1	9 39,9	3,0	2,1	9,0	6,2	15,0	10,4
31	10 07,8	10 09,4	9 40,1	3,1	2,2	9,1	6,2	15,1	10,4
32	10 08,0	10 09,6	9 40,4	3,2	2,3	9,2	6,3	15,2	10,5
33	10 08,3	10 09,9	9 40,6	3,3	2,3	9,3	6,4	15,3	10,6
34	10 08,5	10 10,1	9 40,8	3,4	2,4	9,4	6,4	15,4	10,6
35	10 08,8	10 10,4	9 41,1	3,5	2,5	9,5	6,5	15,5	10,7
36	10 09,0	10 10,6	9 41,3	3,6	2,6	9,6	6,6	15,6	10,8
37	10 09,3	10 10,9	9 41,6	3,7	2,6	9,7	6,7	15,7	10,9
38	10 09,5	10 11,1	9 41,8	3,8	2,7	9,8	6,7	15,8	10,9
39	10 09,8	10 11,4	9 42,0	3,9	2,8	9,9	6,8	15,9	11,0
40	10 10,0	10 11,6	9 42,3	4,0	2,8	10,0	6,9	16,0	11,1
41	10 10,3	10 11,9	9 42,5	4,1	2,9	10,1	6,9	16,1	11,1
42	10 10,5	10 12,1	9 42,7	4,2	3,0	10,2	7,0	16,2	11,2
43	10 10,8	10 12,4	9 43,0	4,3	3,0	10,3	7,1	16,3	11,3
44	10 11,0	10 12,6	9 43,2	4,4	3,1	10,4	7,1	16,4	11,3
45	10 11,3	10 12,9	9 43,5	4,5	3,2	10,5	7,2	16,5	11,4
46	10 11,5	10 13,1	9 43,7	4,6	3,3	10,6	7,3	16,6	11,5
47	10 11,8	10 13,4	9 43,9	4,7	3,3	10,7	7,3	16,7	11,5
48	10 12,0	10 13,6	9 44,2	4,8	3,4	10,8	7,4	16,8	11,6
49	10 12,3	10 13,9	9 44,4	4,9	3,5	10,9	7,5	16,9	11,7
50	10 12,5	10 14,1	9 44,7	5,0	3,5	11,0	7,6	17,0	11,8
51	10 12,8	10 14,4	9 44,9	5,1	3,6	11,1	7,6	17,1	11,8
52	10 13,0	10 14,6	9 45,1	5,2	3,7	11,2	7,7	17,2	11,9
53	10 13,3	10 14,9	9 45,4	5,3	3,7	11,3	7,8	17,3	12,0
54	10 13,5	10 15,1	9 45,6	5,4	3,8	11,4	7,8	17,4	12,0
55	10 13,8	10 15,4	9 45,9	5,5	3,9	11,5	7,9	17,5	12,1
56	10 14,0	10 15,6	9 46,1	5,6	4,0	11,6	8,0	17,6	12,2
57	10 14,3	10 15,9	9 46,3	5,7	4,0	11,7	8,0	17,7	12,2
58	10 14,5	10 16,1	9 46,6	5,8	4,1	11,8	8,1	17,8	12,3
59	10 14,8	10 16,4	9 46,8	5,9	4,1	11,9	8,2	17,9	12,4
60	10 15,0	10 16,7	9 47,0	6,0	4,1	12,0	8,3	18,0	12,5

m 41	SOL PLANETAS	ARIES	LUNA	v d	Corr	v d	Corr	v d	Corr
s	° '	° '	° '	'	'	'	'	'	'
00	10 15,0	10 16,7	9 47,0	0,0	0,0	6,0	4,2	12,0	8,3
01	10 15,3	10 17,0	9 47,2	0,1	0,1	6,1	4,3	12,1	8,4
02	10 15,5	10 17,2	9 47,5	0,2	0,2	6,2	4,3	12,2	8,4
03	10 15,8	10 17,5	9 47,7	0,3	0,2	6,3	4,4	12,3	8,5
04	10 16,0	10 17,7	9 48,0	0,4	0,3	6,4	4,5	12,4	8,6
05	10 16,3	10 18,0	9 48,2	0,5	0,4	6,5	4,5	12,5	8,6
06	10 16,5	10 18,2	9 48,4	0,6	0,4	6,6	4,6	12,6	8,7
07	10 16,8	10 18,5	9 48,7	0,7	0,5	6,7	4,7	12,7	8,8
08	10 17,0	10 18,7	9 48,9	0,8	0,6	6,8	4,8	12,8	8,9
09	10 17,3	10 19,0	9 49,2	0,9	0,7	6,9	4,8	12,9	8,9
10	10 17,5	10 19,2	9 49,4	1,0	0,7	7,0	4,9	13,0	9,0
11	10 17,8	10 19,5	9 49,6	1,1	0,8	7,1	5,0	13,1	9,1
12	10 18,0	10 19,7	9 49,9	1,2	0,9	7,2	5,0	13,2	9,1
13	10 18,3	10 20,0	9 50,1	1,3	0,9	7,3	5,1	13,3	9,2
14	10 18,5	10 20,2	9 50,3	1,4	1,0	7,4	5,2	13,4	9,3
15	10 18,8	10 20,5	9 50,6	1,5	1,1	7,5	5,2	13,5	9,3
16	10 19,0	10 20,7	9 50,8	1,6	1,1	7,6	5,3	13,6	9,4
17	10 19,3	10 21,0	9 51,1	1,7	1,2	7,7	5,4	13,7	9,5
18	10 19,5	10 21,2	9 51,3	1,8	1,3	7,8	5,4	13,8	9,5
19	10 19,8	10 21,5	9 51,5	1,9	1,3	7,9	5,5	13,9	9,6
20	10 20,0	10 21,7	9 51,8	2,0	1,4	8,0	5,6	14,0	9,7
21	10 20,3	10 22,0	9 52,0	2,1	1,5	8,1	5,6	14,1	9,7
22	10 20,5	10 22,2	9 52,3	2,2	1,5	8,2	5,7	14,2	9,8
23	10 20,8	10 22,5	9 52,5	2,3	1,6	8,3	5,8	14,3	9,9
24	10 21,0	10 22,7	9 52,7	2,4	1,7	8,4	5,9	14,4	10,0
25	10 21,3	10 23,0	9 53,0	2,5	1,8	8,5	5,9	14,5	10,0
26	10 21,5	10 23,2	9 53,2	2,6	1,8	8,6	6,0	14,6	10,1
27	10 21,8	10 23,5	9 53,5	2,7	1,9	8,7	6,1	14,7	10,2
28	10 22,0	10 23,7	9 53,7	2,8	2,0	8,8	6,1	14,8	10,2
29	10 22,3	10 24,0	9 53,9	2,9	2,0	8,9	6,2	14,9	10,3
30	10 22,5	10 24,2	9 54,2	3,0	2,1	9,0	6,3	15,0	10,4
31	10 22,8	10 24,5	9 54,4	3,1	2,2	9,1	6,3	15,1	10,4
32	10 23,0	10 24,7	9 54,7	3,2	2,2	9,2	6,4	15,2	10,5
33	10 23,3	10 25,0	9 54,9	3,3	2,3	9,3	6,5	15,3	10,6
34	10 23,5	10 25,2	9 55,1	3,4	2,4	9,4	6,5	15,4	10,6
35	10 23,8	10 25,5	9 55,4	3,5	2,4	9,5	6,6	15,5	10,7
36	10 24,0	10 25,7	9 55,6	3,6	2,5	9,6	6,7	15,6	10,8
37	10 24,3	10 26,0	9 55,9	3,7	2,6	9,7	6,8	15,7	10,9
38	10 24,5	10 26,2	9 56,1	3,8	2,7	9,8	6,8	15,8	10,9
39	10 24,8	10 26,5	9 56,3	3,9	2,7	9,9	6,9	15,9	11,0
40	10 25,0	10 26,7	9 56,6	4,0	2,8	10,0	7,0	16,0	11,1
41	10 25,3	10 27,0	9 56,8	4,1	2,9	10,1	7,0	16,1	11,1
42	10 25,5	10 27,2	9 57,0	4,2	2,9	10,2	7,1	16,2	11,2
43	10 25,8	10 27,5	9 57,3	4,3	3,0	10,3	7,2	16,3	11,3
44	10 26,0	10 27,7	9 57,5	4,4	3,1	10,4	7,2	16,4	11,3
45	10 26,3	10 28,0	9 57,8	4,5	3,1	10,5	7,3	16,5	11,4
46	10 26,5	10 28,2	9 58,0	4,6	3,2	10,6	7,4	16,6	11,5
47	10 26,8	10 28,5	9 58,2	4,7	3,3	10,7	7,4	16,7	11,5
48	10 27,0	10 28,7	9 58,5	4,8	3,3	10,8	7,5	16,8	11,6
49	10 27,3	10 29,0	9 58,7	4,9	3,4	10,9	7,6	16,9	11,7
50	10 27,5	10 29,2	9 59,0	5,0	3,5	11,0	7,7	17,0	11,8
51	10 27,8	10 29,5	9 59,2	5,1	3,6	11,1	7,7	17,1	11,8
52	10 28,0	10 29,7	9 59,4	5,2	3,6	11,2	7,8	17,2	11,9
53	10 28,3	10 30,0	9 59,7	5,3	3,7	11,3	7,9	17,3	12,0
54	10 28,5	10 30,2	9 59,9	5,4	3,8	11,4	7,9	17,4	12,0
55	10 28,8	10 30,5	10 00,1	5,5	3,8	11,5	8,0	17,5	12,1
56	10 29,0	10 30,7	10 00,3	5,6	3,9	11,6	8,1	17,6	12,2
57	10 29,3	10 31,0	10 00,5	5,7	4,0	11,7	8,1	17,7	12,2
58	10 29,5	10 31,2	10 00,8	5,8	4,0	11,8	8,2	17,8	12,3
59	10 29,8	10 31,5	10 01,0	5,9	4,1	11,9	8,3	17,9	12,4
60	10 30,0	10 31,7	10 01,3	6,0	4,2	12,0	8,3	18,0	12,5

m 42	SOL PLANETAS	ARIES	LUNA	v d	Corr	v d	Corr	v d	Corr
s	° ′	° ′	° ′	′	′	′	′	′	′
00	10 30,0	10 31,7	10 01,3	0,0	0,0	6,0	4,3	12,0	8,5
01	10 30,3	10 32,0	10 01,5	0,1	0,1	6,1	4,4	12,1	8,6
02	10 30,5	10 32,2	10 01,8	0,2	0,2	6,2	4,4	12,2	8,6
03	10 30,8	10 32,5	10 02,0	0,3	0,2	6,3	4,5	12,3	8,7
04	10 31,0	10 32,7	10 02,3	0,4	0,3	6,4	4,6	12,4	8,8
05	10 31,3	10 33,0	10 02,5	0,5	0,4	6,5	4,7	12,5	8,8
06	10 31,5	10 33,2	10 02,7	0,6	0,4	6,6	4,7	12,6	8,9
07	10 31,8	10 33,5	10 03,0	0,7	0,5	6,7	4,8	12,7	9,0
08	10 32,0	10 33,7	10 03,2	0,8	0,6	6,8	4,9	12,8	9,1
09	10 32,3	10 34,0	10 03,5	0,9	0,7	6,9	4,9	12,9	9,1
10	10 32,5	10 34,2	10 03,7	1,0	0,7	7,0	5,0	13,0	9,2
11	10 32,8	10 34,5	10 03,9	1,1	0,8	7,1	5,1	13,1	9,3
12	10 33,0	10 34,7	10 04,2	1,2	0,9	7,2	5,1	13,2	9,3
13	10 33,3	10 35,0	10 04,4	1,3	0,9	7,3	5,2	13,3	9,4
14	10 33,5	10 35,2	10 04,6	1,4	1,0	7,4	5,3	13,4	9,5
15	10 33,8	10 35,5	10 04,9	1,5	1,1	7,5	5,4	13,5	9,5
16	10 34,0	10 35,7	10 05,1	1,6	1,1	7,6	5,4	13,6	9,6
17	10 34,3	10 36,0	10 05,4	1,7	1,2	7,7	5,5	13,7	9,7
18	10 34,5	10 36,2	10 05,6	1,8	1,3	7,8	5,6	13,8	9,8
19	10 34,8	10 36,5	10 05,8	1,9	1,3	7,9	5,6	13,9	9,8
20	10 35,0	10 36,7	10 06,1	2,0	1,4	8,0	5,7	14,0	9,9
21	10 35,3	10 37,0	10 06,3	2,1	1,5	8,1	5,8	14,1	10,0
22	10 35,5	10 37,2	10 06,6	2,2	1,5	8,2	5,8	14,2	10,0
23	10 35,8	10 37,5	10 06,8	2,3	1,6	8,3	5,9	14,3	10,1
24	10 36,0	10 37,7	10 07,0	2,4	1,7	8,4	6,0	14,4	10,2
25	10 36,3	10 38,0	10 07,3	2,5	1,8	8,5	6,1	14,5	10,2
26	10 36,5	10 38,2	10 07,5	2,6	1,8	8,6	6,1	14,6	10,3
27	10 36,8	10 38,5	10 07,8	2,7	1,9	8,7	6,2	14,7	10,4
28	10 37,0	10 38,7	10 08,0	2,8	2,0	8,8	6,3	14,8	10,5
29	10 37,3	10 39,0	10 08,2	2,9	2,0	8,9	6,3	14,9	10,5
30	10 37,5	10 39,2	10 08,5	3,0	2,1	9,0	6,4	15,0	10,6
31	10 37,8	10 39,5	10 08,7	3,1	2,2	9,1	6,5	15,1	10,7
32	10 38,0	10 39,7	10 09,0	3,2	2,2	9,2	6,5	15,2	10,7
33	10 38,3	10 40,0	10 09,2	3,3	2,3	9,3	6,6	15,3	10,8
34	10 38,5	10 40,2	10 09,4	3,4	2,4	9,4	6,7	15,4	10,9
35	10 38,8	10 40,5	10 09,7	3,5	2,4	9,5	6,8	15,5	10,9
36	10 39,0	10 40,7	10 09,9	3,6	2,5	9,6	6,8	15,6	11,0
37	10 39,3	10 41,0	10 10,2	3,7	2,6	9,7	6,9	15,7	11,1
38	10 39,5	10 41,2	10 10,4	3,8	2,7	9,8	7,0	15,8	11,2
39	10 39,8	10 41,5	10 10,6	3,9	2,7	9,9	7,0	15,9	11,2
40	10 40,0	10 41,7	10 10,9	4,0	2,8	10,0	7,1	16,0	11,3
41	10 40,3	10 42,0	10 11,1	4,1	2,9	10,1	7,2	16,1	11,4
42	10 40,5	10 42,2	10 11,3	4,2	2,9	10,2	7,2	16,2	11,4
43	10 40,8	10 42,5	10 11,6	4,3	3,0	10,3	7,3	16,3	11,5
44	10 41,0	10 42,7	10 11,8	4,4	3,1	10,4	7,4	16,4	11,6
45	10 41,3	10 43,0	10 12,1	4,5	3,1	10,5	7,5	16,5	11,6
46	10 41,5	10 43,2	10 12,3	4,6	3,2	10,6	7,5	16,6	11,7
47	10 41,8	10 43,5	10 12,5	4,7	3,3	10,7	7,6	16,7	11,8
48	10 42,0	10 43,7	10 12,8	4,8	3,3	10,8	7,7	16,8	11,9
49	10 42,3	10 44,0	10 13,0	4,9	3,4	10,9	7,7	16,9	11,9
50	10 42,5	10 44,2	10 13,3	5,0	3,5	11,0	7,8	17,0	12,0
51	10 42,8	10 44,5	10 13,5	5,1	3,6	11,1	7,9	17,1	12,1
52	10 43,0	10 44,7	10 13,7	5,2	3,6	11,2	7,9	17,2	12,1
53	10 43,3	10 45,0	10 14,0	5,3	3,7	11,3	8,0	17,3	12,2
54	10 43,5	10 45,2	10 14,2	5,4	3,8	11,4	8,1	17,4	12,3
55	10 43,8	10 45,5	10 14,5	5,5	3,8	11,5	8,2	17,5	12,3
56	10 44,0	10 45,7	10 14,7	5,6	3,9	11,6	8,2	17,6	12,4
57	10 44,3	10 46,0	10 14,9	5,7	4,0	11,7	8,3	17,7	12,5
58	10 44,5	10 46,2	10 15,2	5,8	4,0	11,8	8,4	17,8	12,6
59	10 44,8	10 46,5	10 15,4	5,9	4,1	11,9	8,4	17,9	12,6
60	10 45,0	10 46,8	10 15,6	6,0	4,3	12,0	8,5	18,0	12,7

m 43	SOL PLANETAS	ARIES	LUNA	v d	Corr	v d	Corr	v d	Corr
s	° ′	° ′	° ′	′	′	′	′	′	′
00	10 45,0	10 46,8	10 15,6	0,0	0,0	6,0	4,3	12,0	8,7
01	10 45,3	10 47,1	10 15,8	0,1	0,1	6,1	4,4	12,1	8,8
02	10 45,5	10 47,3	10 16,1	0,2	0,2	6,2	4,4	12,2	8,8
03	10 45,8	10 47,6	10 16,3	0,3	0,2	6,3	4,5	12,3	8,9
04	10 46,0	10 47,8	10 16,6	0,4	0,3	6,4	4,6	12,4	9,0
05	10 46,3	10 48,1	10 16,8	0,5	0,4	6,5	4,7	12,5	9,1
06	10 46,5	10 48,3	10 17,0	0,6	0,5	6,6	4,7	12,6	9,1
07	10 46,8	10 48,6	10 17,3	0,7	0,5	6,7	4,8	12,7	9,2
08	10 47,0	10 48,8	10 17,5	0,8	0,6	6,8	4,9	12,8	9,3
09	10 47,3	10 49,1	10 17,8	0,9	0,7	6,9	5,0	12,9	9,4
10	10 47,5	10 49,3	10 18,0	1,0	0,7	7,0	5,0	13,0	9,4
11	10 47,8	10 49,6	10 18,2	1,1	0,8	7,1	5,1	13,1	9,5
12	10 48,0	10 49,8	10 18,5	1,2	0,9	7,2	5,2	13,2	9,6
13	10 48,3	10 50,1	10 18,7	1,3	1,0	7,3	5,2	13,3	9,6
14	10 48,5	10 50,3	10 18,9	1,4	1,0	7,4	5,3	13,4	9,7
15	10 48,8	10 50,6	10 19,2	1,5	1,1	7,5	5,4	13,5	9,8
16	10 49,0	10 50,8	10 19,4	1,6	1,2	7,6	5,5	13,6	9,9
17	10 49,3	10 51,1	10 19,7	1,7	1,3	7,7	5,5	13,7	9,9
18	10 49,5	10 51,3	10 19,9	1,8	1,3	7,8	5,6	13,8	10,0
19	10 49,8	10 51,6	10 20,1	1,9	1,4	7,9	5,7	13,9	10,1
20	10 50,0	10 51,8	10 20,4	2,0	1,5	8,0	5,8	14,0	10,2
21	10 50,3	10 52,1	10 20,6	2,1	1,5	8,1	5,8	14,1	10,2
22	10 50,5	10 52,3	10 20,9	2,2	1,6	8,2	5,9	14,2	10,3
23	10 50,8	10 52,6	10 21,1	2,3	1,7	8,3	6,0	14,3	10,4
24	10 51,0	10 52,8	10 21,3	2,4	1,8	8,4	6,1	14,4	10,5
25	10 51,3	10 53,1	10 21,6	2,5	1,8	8,5	6,1	14,5	10,5
26	10 51,5	10 53,3	10 21,8	2,6	1,9	8,6	6,2	14,6	10,6
27	10 51,8	10 53,6	10 22,1	2,7	2,0	8,7	6,3	14,7	10,7
28	10 52,0	10 53,8	10 22,3	2,8	2,0	8,8	6,3	14,8	10,7
29	10 52,3	10 54,1	10 22,5	2,9	2,1	8,9	6,4	14,9	10,8
30	10 52,5	10 54,3	10 22,8	3,0	2,2	9,0	6,5	15,0	10,9
31	10 52,8	10 54,6	10 23,0	3,1	2,3	9,1	6,6	15,1	11,0
32	10 53,0	10 54,8	10 23,3	3,2	2,3	9,2	6,6	15,2	11,0
33	10 53,3	10 55,1	10 23,5	3,3	2,4	9,3	6,7	15,3	11,1
34	10 53,5	10 55,3	10 23,7	3,4	2,5	9,4	6,8	15,4	11,2
35	10 53,8	10 55,6	10 24,0	3,5	2,5	9,5	6,9	15,5	11,3
36	10 54,0	10 55,8	10 24,2	3,6	2,6	9,6	6,9	15,6	11,3
37	10 54,3	10 56,1	10 24,5	3,7	2,7	9,7	7,0	15,7	11,4
38	10 54,5	10 56,3	10 24,7	3,8	2,8	9,8	7,1	15,8	11,5
39	10 54,8	10 56,6	10 24,9	3,9	2,8	9,9	7,1	15,9	11,5
40	10 55,0	10 56,8	10 25,2	4,0	2,9	10,0	7,2	16,0	11,6
41	10 55,3	10 57,1	10 25,4	4,1	3,0	10,1	7,3	16,1	11,7
42	10 55,5	10 57,3	10 25,6	4,2	3,1	10,2	7,4	16,2	11,8
43	10 55,8	10 57,6	10 25,9	4,3	3,1	10,3	7,4	16,3	11,8
44	10 56,0	10 57,8	10 26,1	4,4	3,2	10,4	7,5	16,4	11,9
45	10 56,3	10 58,1	10 26,4	4,5	3,3	10,5	7,6	16,5	12,0
46	10 56,5	10 58,3	10 26,6	4,6	3,3	10,6	7,7	16,6	12,1
47	10 56,8	10 58,6	10 26,8	4,7	3,4	10,7	7,7	16,7	12,1
48	10 57,0	10 58,8	10 27,1	4,8	3,5	10,8	7,8	16,8	12,2
49	10 57,3	10 59,1	10 27,3	4,9	3,6	10,9	7,9	16,9	12,3
50	10 57,5	10 59,3	10 27,6	5,0	3,6	11,0	8,0	17,0	12,4
51	10 57,8	10 59,6	10 27,8	5,1	3,7	11,1	8,0	17,1	12,4
52	10 58,0	10 59,8	10 28,0	5,2	3,8	11,2	8,1	17,2	12,5
53	10 58,3	11 00,0	10 28,3	5,3	3,8	11,3	8,2	17,3	12,6
54	10 58,5	11 00,3	10 28,5	5,4	3,9	11,4	8,2	17,4	12,6
55	10 58,8	11 00,6	10 28,8	5,5	4,0	11,5	8,3	17,5	12,7
56	10 59,0	11 00,8	10 29,0	5,6	4,1	11,6	8,4	17,6	12,8
57	10 59,3	11 01,1	10 29,2	5,7	4,1	11,7	8,5	17,7	12,9
58	10 59,5	11 01,3	10 29,5	5,8	4,2	11,8	8,5	17,8	12,9
59	10 59,8	11 01,6	10 29,7	5,9	4,3	11,9	8,6	17,9	13,0
60	11 00,0	11 01,8	10 29,9	6,0	4,3	12,0	8,7	18,0	13,1

m 44	SOL PLANETAS	ARIES	LUNA	v d	Corr	v d	Corr	v d	Corr
s	° '	° '	° '	'	'	'	'	'	'
00	11 00,0	11 01,8	10 29,9	0,0	0,0	6,0	4,5	12,0	8,9
01	11 00,3	11 02,1	10 30,1	0,1	0,1	6,1	4,6	12,1	9,0
02	11 00,5	11 02,3	10 30,4	0,2	0,2	6,2	4,6	12,2	9,0
03	11 00,8	11 02,6	10 30,6	0,3	0,2	6,3	4,7	12,3	9,1
04	11 01,0	11 02,8	10 30,9	0,4	0,3	6,4	4,8	12,4	9,2
05	11 01,3	11 03,1	10 31,1	0,5	0,4	6,5	4,9	12,5	9,3
06	11 01,5	11 03,3	10 31,3	0,6	0,5	6,6	4,9	12,6	9,3
07	11 01,8	11 03,6	10 31,6	0,7	0,5	6,7	5,0	12,7	9,4
08	11 02,0	11 03,8	10 31,8	0,8	0,6	6,8	5,1	12,8	9,5
09	11 02,3	11 04,1	10 32,1	0,9	0,7	6,9	5,2	12,9	9,6
10	11 02,5	11 04,3	10 32,3	1,0	0,8	7,0	5,2	13,0	9,6
11	11 02,8	11 04,6	10 32,5	1,1	0,8	7,1	5,3	13,1	9,7
12	11 03,0	11 04,8	10 32,8	1,2	0,9	7,2	5,4	13,2	9,8
13	11 03,3	11 05,1	10 33,0	1,3	1,0	7,3	5,5	13,3	9,9
14	11 03,5	11 05,3	10 33,2	1,4	1,1	7,4	5,5	13,4	9,9
15	11 03,8	11 05,6	10 33,5	1,5	1,1	7,5	5,6	13,5	10,0
16	11 04,0	11 05,8	10 33,7	1,6	1,2	7,6	5,7	13,6	10,1
17	11 04,3	11 06,1	10 34,0	1,7	1,3	7,7	5,8	13,7	10,2
18	11 04,5	11 06,3	10 34,2	1,8	1,4	7,8	5,8	13,8	10,2
19	11 04,8	11 06,6	10 34,4	1,9	1,4	7,9	5,9	13,9	10,3
20	11 05,0	11 06,8	10 34,7	2,0	1,5	8,0	6,0	14,0	10,4
21	11 05,3	11 07,1	10 34,9	2,1	1,6	8,1	6,1	14,1	10,5
22	11 05,5	11 07,3	10 35,2	2,2	1,7	8,2	6,1	14,2	10,5
23	11 05,8	11 07,6	10 35,4	2,3	1,7	8,3	6,2	14,3	10,6
24	11 06,0	11 07,8	10 35,6	2,4	1,8	8,4	6,3	14,4	10,7
25	11 06,3	11 08,1	10 35,9	2,5	1,9	8,5	6,4	14,5	10,8
26	11 06,5	11 08,3	10 36,1	2,6	2,0	8,6	6,4	14,6	10,8
27	11 06,8	11 08,6	10 36,4	2,7	2,0	8,7	6,5	14,7	10,9
28	11 07,0	11 08,8	10 36,6	2,8	2,1	8,8	6,6	14,8	11,0
29	11 07,3	11 09,1	10 36,8	2,9	2,2	8,9	6,6	14,9	11,0
30	11 07,5	11 09,3	10 37,1	3,0	2,2	9,0	6,7	15,0	11,1
31	11 07,8	11 09,6	10 37,3	3,1	2,3	9,1	6,8	15,1	11,2
32	11 08,0	11 09,8	10 37,6	3,2	2,4	9,2	6,9	15,2	11,3
33	11 08,3	11 10,1	10 37,8	3,3	2,5	9,3	6,9	15,3	11,3
34	11 08,5	11 10,3	10 38,0	3,4	2,5	9,4	7,0	15,4	11,4
35	11 08,8	11 10,6	10 38,3	3,5	2,6	9,5	7,1	15,5	11,5
36	11 09,0	11 10,8	10 38,5	3,6	2,7	9,6	7,2	15,6	11,6
37	11 09,3	11 11,1	10 38,8	3,7	2,8	9,7	7,2	15,7	11,6
38	11 09,5	11 11,3	10 39,0	3,8	2,8	9,8	7,3	15,8	11,7
39	11 09,8	11 11,6	10 39,2	3,9	2,9	9,9	7,4	15,9	11,8
40	11 10,0	11 11,8	10 39,5	4,0	3,0	10,0	7,5	16,0	11,9
41	11 10,3	11 12,1	10 39,7	4,1	3,1	10,1	7,5	16,1	11,9
42	11 10,5	11 12,3	10 39,9	4,2	3,1	10,2	7,6	16,2	12,0
43	11 10,8	11 12,6	10 40,2	4,3	3,2	10,3	7,7	16,3	12,1
44	11 11,0	11 12,8	10 40,4	4,4	3,3	10,4	7,8	16,4	12,2
45	11 11,3	11 13,1	10 40,7	4,5	3,4	10,5	7,8	16,5	12,2
46	11 11,5	11 13,3	10 40,9	4,6	3,4	10,6	7,9	16,6	12,3
47	11 11,8	11 13,6	10 41,1	4,7	3,5	10,7	8,0	16,7	12,4
48	11 12,0	11 13,8	10 41,4	4,8	3,6	10,8	8,1	16,8	12,5
49	11 12,3	11 14,1	10 41,6	4,9	3,7	10,9	8,1	16,9	12,5
50	11 12,5	11 14,3	10 41,9	5,0	3,7	11,0	8,2	17,0	12,6
51	11 12,8	11 14,6	10 42,1	5,1	3,8	11,1	8,3	17,1	12,7
52	11 13,0	11 14,8	10 42,3	5,2	3,9	11,2	8,3	17,2	12,7
53	11 13,3	11 15,1	10 42,6	5,3	3,9	11,3	8,4	17,3	12,8
54	11 13,5	11 15,3	10 42,8	5,4	4,0	11,4	8,5	17,4	12,9
55	11 13,8	11 15,6	10 43,1	5,5	4,1	11,5	8,6	17,5	13,0
56	11 14,0	11 15,8	10 43,3	5,6	4,2	11,6	8,6	17,6	13,0
57	11 14,3	11 16,1	10 43,5	5,7	4,2	11,7	8,7	17,7	13,1
58	11 14,5	11 16,3	10 43,8	5,8	4,3	11,8	8,8	17,8	13,2
59	11 14,8	11 16,6	10 44,0	5,9	4,4	11,9	8,9	17,9	13,3
60	11 15,0	11 16,8	10 44,3	6,0	4,5	12,0	8,9	18,0	13,4

m 45	SOL PLANETAS	ARIES	LUNA	v d	Corr	v d	Corr	v d	Corr
s	° '	° '	° '	'	'	'	'	'	'
00	11 15,0	11 16,8	10 44,3	0,0	0,0	6,0	4,6	12,0	9,1
01	11 15,3	11 17,1	10 44,5	0,1	0,1	6,1	4,7	12,1	9,2
02	11 15,5	11 17,3	10 44,8	0,2	0,2	6,2	4,8	12,2	9,3
03	11 15,8	11 17,6	10 45,0	0,3	0,3	6,3	4,8	12,3	9,3
04	11 16,0	11 17,8	10 45,3	0,4	0,3	6,4	4,9	12,4	9,4
05	11 16,3	11 18,1	10 45,5	0,5	0,4	6,5	5,0	12,5	9,5
06	11 16,5	11 18,3	10 45,7	0,6	0,5	6,6	5,1	12,6	9,6
07	11 16,8	11 18,6	10 46,0	0,7	0,6	6,7	5,1	12,7	9,6
08	11 17,0	11 18,8	10 46,2	0,8	0,6	6,8	5,2	12,8	9,7
09	11 17,3	11 19,1	10 46,5	0,9	0,7	6,9	5,3	12,9	9,8
10	11 17,5	11 19,3	10 46,7	1,0	0,8	7,0	5,4	13,0	9,8
11	11 17,8	11 19,6	10 46,9	1,1	0,9	7,1	5,4	13,1	9,9
12	11 18,0	11 19,8	10 47,2	1,2	0,9	7,2	5,5	13,2	10,0
13	11 18,3	11 20,1	10 47,4	1,3	1,0	7,3	5,6	13,3	10,1
14	11 18,5	11 20,3	10 47,6	1,4	1,1	7,4	5,7	13,4	10,2
15	11 18,8	11 20,6	10 47,9	1,5	1,2	7,5	5,7	13,5	10,2
16	11 19,0	11 20,8	10 48,1	1,6	1,2	7,6	5,8	13,6	10,3
17	11 19,3	11 21,1	10 48,4	1,7	1,3	7,7	5,9	13,7	10,4
18	11 19,5	11 21,3	10 48,6	1,8	1,4	7,8	6,0	13,8	10,5
19	11 19,8	11 21,6	10 48,8	1,9	1,5	7,9	6,0	13,9	10,5
20	11 20,0	11 21,8	10 49,1	2,0	1,5	8,0	6,1	14,0	10,6
21	11 20,3	11 22,1	10 49,3	2,1	1,6	8,1	6,2	14,1	10,7
22	11 20,5	11 22,3	10 49,6	2,2	1,7	8,2	6,3	14,2	10,8
23	11 20,8	11 22,6	10 49,8	2,3	1,8	8,3	6,3	14,3	10,8
24	11 21,0	11 22,8	10 50,0	2,4	1,8	8,4	6,4	14,4	10,9
25	11 21,3	11 23,1	10 50,3	2,5	1,9	8,5	6,5	14,5	11,0
26	11 21,5	11 23,3	10 50,5	2,6	2,0	8,6	6,6	14,6	11,1
27	11 21,8	11 23,6	10 50,8	2,7	2,1	8,7	6,6	14,7	11,1
28	11 22,0	11 23,8	10 51,0	2,8	2,1	8,8	6,7	14,8	11,2
29	11 22,3	11 24,1	10 51,2	2,9	2,2	8,9	6,8	14,9	11,3
30	11 22,5	11 24,3	10 51,5	3,0	2,3	9,0	6,9	15,0	11,4
31	11 22,8	11 24,6	10 51,7	3,1	2,4	9,1	6,9	15,1	11,4
32	11 23,0	11 24,8	10 52,0	3,2	2,4	9,2	7,0	15,2	11,5
33	11 23,3	11 25,1	10 52,2	3,3	2,5	9,3	7,1	15,3	11,6
34	11 23,5	11 25,3	10 52,4	3,4	2,6	9,4	7,2	15,4	11,7
35	11 23,8	11 25,6	10 52,7	3,5	2,7	9,5	7,2	15,5	11,7
36	11 24,0	11 25,8	10 52,9	3,6	2,7	9,6	7,3	15,6	11,8
37	11 24,3	11 26,1	10 53,2	3,7	2,8	9,7	7,4	15,7	11,9
38	11 24,5	11 26,3	10 53,4	3,8	2,9	9,8	7,5	15,8	12,0
39	11 24,8	11 26,6	10 53,6	3,9	3,0	9,9	7,5	15,9	12,0
40	11 25,0	11 26,8	10 53,9	4,0	3,0	10,0	7,6	16,0	12,1
41	11 25,3	11 27,1	10 54,1	4,1	3,1	10,1	7,7	16,1	12,2
42	11 25,5	11 27,3	10 54,3	4,2	3,2	10,2	7,8	16,2	12,3
43	11 25,8	11 27,6	10 54,6	4,3	3,3	10,3	7,8	16,3	12,3
44	11 26,0	11 27,8	10 54,8	4,4	3,3	10,4	7,9	16,4	12,4
45	11 26,3	11 28,1	10 55,1	4,5	3,4	10,5	8,0	16,5	12,5
46	11 26,5	11 28,3	10 55,3	4,6	3,5	10,6	8,1	16,6	12,6
47	11 26,8	11 28,6	10 55,5	4,7	3,6	10,7	8,1	16,7	12,6
48	11 27,0	11 28,8	10 55,8	4,8	3,6	10,8	8,2	16,8	12,7
49	11 27,3	11 29,1	10 56,0	4,9	3,7	10,9	8,3	16,9	12,8
50	11 27,5	11 29,3	10 56,3	5,0	3,8	11,0	8,4	17,0	12,9
51	11 27,8	11 29,6	10 56,5	5,1	3,9	11,1	8,4	17,1	12,9
52	11 28,0	11 29,8	10 56,7	5,2	3,9	11,2	8,5	17,2	13,0
53	11 28,3	11 30,1	10 57,0	5,3	4,0	11,3	8,6	17,3	13,1
54	11 28,5	11 30,3	10 57,2	5,4	4,1	11,4	8,7	17,4	13,2
55	11 28,8	11 30,6	10 57,5	5,5	4,2	11,5	8,7	17,5	13,2
56	11 29,0	11 30,8	10 57,7	5,6	4,2	11,6	8,8	17,6	13,3
57	11 29,3	11 31,1	10 57,9	5,7	4,3	11,7	8,9	17,7	13,4
58	11 29,5	11 31,3	10 58,2	5,8	4,4	11,8	9,0	17,8	13,5
59	11 29,8	11 31,6	10 58,4	5,9	4,5	11,9	9,0	17,9	13,6
60	11 30,0	11 31,9	10 58,6	6,0	4,6	12,0	9,1	18,0	13,7

m 46	SOL PLANETAS	ARIES	LUNA	v d	Corr	v d	Corr	v d	Corr
s	° ′	° ′	° ′	′	′	′	′	′	′
00	11 30,0	11 31,9	10 58,6	0,0	0,0	6,0	4,7	12,0	9,3
01	11 30,3	11 32,2	10 58,8	0,1	0,1	6,1	4,8	12,1	9,4
02	11 30,5	11 32,4	10 59,1	0,2	0,2	6,2	4,9	12,2	9,5
03	11 30,8	11 32,7	10 59,3	0,3	0,3	6,3	4,9	12,3	9,5
04	11 31,0	11 32,9	10 59,6	0,4	0,3	6,4	5,0	12,4	9,6
05	11 31,3	11 33,2	10 59,8	0,5	0,4	6,5	5,1	12,5	9,7
06	11 31,5	11 33,4	11 00,0	0,6	0,5	6,6	5,2	12,6	9,8
07	11 31,8	11 33,7	11 00,3	0,7	0,6	6,7	5,2	12,7	9,8
08	11 32,0	11 33,9	11 00,5	0,8	0,6	6,8	5,3	12,8	9,9
09	11 32,3	11 34,2	11 00,8	0,9	0,7	6,9	5,4	12,9	10,0
10	11 32,5	11 34,4	11 01,0	1,0	0,8	7,0	5,5	13,0	10,1
11	11 32,8	11 34,7	11 01,2	1,1	0,9	7,1	5,6	13,1	10,1
12	11 33,0	11 34,9	11 01,5	1,2	1,0	7,2	5,6	13,2	10,2
13	11 33,3	11 35,2	11 01,7	1,3	1,0	7,3	5,7	13,3	10,3
14	11 33,5	11 35,4	11 01,9	1,4	1,1	7,4	5,8	13,4	10,4
15	11 33,8	11 35,7	11 02,2	1,5	1,2	7,5	5,9	13,5	10,4
16	11 34,0	11 35,9	11 02,4	1,6	1,3	7,6	5,9	13,6	10,5
17	11 34,3	11 36,2	11 02,7	1,7	1,3	7,7	6,0	13,7	10,6
18	11 34,5	11 36,4	11 02,9	1,8	1,4	7,8	6,1	13,8	10,7
19	11 34,8	11 36,7	11 03,1	1,9	1,5	7,9	6,2	13,9	10,7
20	11 35,0	11 36,9	11 03,4	2,0	1,6	8,0	6,3	14,0	10,8
21	11 35,3	11 37,2	11 03,6	2,1	1,7	8,1	6,3	14,1	10,9
22	11 35,5	11 37,4	11 03,9	2,2	1,7	8,2	6,4	14,2	11,0
23	11 35,8	11 37,7	11 04,1	2,3	1,8	8,3	6,5	14,3	11,0
24	11 36,0	11 37,9	11 04,3	2,4	1,9	8,4	6,6	14,4	11,1
25	11 36,3	11 38,2	11 04,6	2,5	2,0	8,5	6,7	14,5	11,2
26	11 36,5	11 38,4	11 04,8	2,6	2,1	8,6	6,7	14,6	11,3
27	11 36,8	11 38,7	11 05,1	2,7	2,1	8,7	6,8	14,7	11,3
28	11 37,0	11 38,9	11 05,3	2,8	2,2	8,8	6,9	14,8	11,4
29	11 37,3	11 39,2	11 05,5	2,9	2,3	8,9	7,0	14,9	11,5
30	11 37,5	11 39,4	11 05,8	3,0	2,4	9,0	7,0	15,0	11,6
31	11 37,8	11 39,7	11 06,0	3,1	2,4	9,1	7,1	15,1	11,6
32	11 38,0	11 39,9	11 06,3	3,2	2,5	9,2	7,2	15,2	11,7
33	11 38,3	11 40,2	11 06,5	3,3	2,6	9,3	7,3	15,3	11,8
34	11 38,5	11 40,4	11 06,7	3,4	2,7	9,4	7,4	15,4	11,9
35	11 38,8	11 40,7	11 07,0	3,5	2,8	9,5	7,4	15,5	11,9
36	11 39,0	11 40,9	11 07,2	3,6	2,8	9,6	7,5	15,6	12,0
37	11 39,3	11 41,2	11 07,5	3,7	2,9	9,7	7,6	15,7	12,1
38	11 39,5	11 41,4	11 07,7	3,8	3,0	9,8	7,7	15,8	12,2
39	11 39,8	11 41,7	11 07,9	3,9	3,1	9,9	7,7	15,9	12,2
40	11 40,0	11 41,9	11 08,2	4,0	3,1	10,0	7,8	16,0	12,3
41	11 40,3	11 42,2	11 08,4	4,1	3,2	10,1	7,9	16,1	12,4
42	11 40,5	11 42,4	11 08,6	4,2	3,3	10,2	8,0	16,2	12,5
43	11 40,8	11 42,7	11 08,9	4,3	3,4	10,3	8,1	16,3	12,5
44	11 41,0	11 42,9	11 09,1	4,4	3,5	10,4	8,1	16,4	12,6
45	11 41,3	11 43,2	11 09,4	4,5	3,5	10,5	8,2	16,5	12,7
46	11 41,5	11 43,4	11 09,6	4,6	3,6	10,6	8,3	16,6	12,8
47	11 41,8	11 43,7	11 09,8	4,7	3,7	10,7	8,4	16,7	12,8
48	11 42,0	11 43,9	11 10,1	4,8	3,8	10,8	8,4	16,8	12,9
49	11 42,3	11 44,2	11 10,3	4,9	3,8	10,9	8,5	16,9	13,0
50	11 42,5	11 44,4	11 10,6	5,0	3,9	11,0	8,6	17,0	13,1
51	11 42,8	11 44,7	11 10,8	5,1	4,0	11,1	8,7	17,1	13,1
52	11 43,0	11 44,9	11 11,0	5,2	4,1	11,2	8,8	17,2	13,2
53	11 43,3	11 45,2	11 11,3	5,3	4,2	11,3	8,8	17,3	13,3
54	11 43,5	11 45,4	11 11,4	5,4	4,2	11,4	8,9	17,4	13,4
55	11 43,8	11 45,7	11 11,7	5,5	4,3	11,5	9,0	17,5	13,4
56	11 44,0	11 45,9	11 11,9	5,6	4,4	11,6	9,1	17,6	13,5
57	11 44,3	11 46,2	11 12,1	5,7	4,5	11,7	9,1	17,7	13,6
58	11 44,5	11 46,4	11 12,4	5,8	4,5	11,8	9,2	17,8	13,7
59	11 44,8	11 46,7	11 12,6	5,9	4,6	11,9	9,3	17,9	13,7
60	11 45,0	11 46,9	11 12,9	6,0	4,7	12,0	9,4	18,0	13,8

m 47	SOL PLANETAS	ARIES	LUNA	v d	Corr	v d	Corr	v d	Corr
s	° ′	° ′	° ′	′	′	′	′	′	′
00	11 45,0	11 46,9	11 12,9	0,0	0,0	6,0	4,8	12,0	9,5
01	11 45,3	11 47,2	11 13,1	0,1	0,1	6,1	4,9	12,1	9,6
02	11 45,5	11 47,4	11 13,4	0,2	0,2	6,2	5,0	12,2	9,7
03	11 45,8	11 47,7	11 13,6	0,3	0,3	6,3	5,0	12,3	9,7
04	11 46,0	11 47,9	11 13,9	0,4	0,3	6,4	5,1	12,4	9,8
05	11 46,3	11 48,2	11 14,1	0,5	0,4	6,5	5,2	12,5	9,9
06	11 46,5	11 48,4	11 14,3	0,6	0,5	6,6	5,3	12,6	10,0
07	11 46,8	11 48,7	11 14,6	0,7	0,6	6,7	5,4	12,7	10,1
08	11 47,0	11 48,9	11 14,8	0,8	0,7	6,8	5,4	12,8	10,1
09	11 47,3	11 49,2	11 15,1	0,9	0,7	6,9	5,5	12,9	10,2
10	11 47,5	11 49,4	11 15,3	1,0	0,8	7,0	5,6	13,0	10,3
11	11 47,8	11 49,7	11 15,5	1,1	0,9	7,1	5,7	13,1	10,4
12	11 48,0	11 49,9	11 15,8	1,2	1,0	7,2	5,7	13,2	10,4
13	11 48,3	11 50,2	11 16,0	1,3	1,0	7,3	5,8	13,3	10,5
14	11 48,5	11 50,4	11 16,2	1,4	1,1	7,4	5,9	13,4	10,6
15	11 48,8	11 50,7	11 16,5	1,5	1,2	7,5	6,0	13,5	10,7
16	11 49,0	11 50,9	11 16,7	1,6	1,3	7,6	6,1	13,6	10,8
17	11 49,3	11 51,2	11 17,0	1,7	1,4	7,7	6,1	13,7	10,8
18	11 49,5	11 51,4	11 17,2	1,8	1,4	7,8	6,2	13,8	10,9
19	11 49,8	11 51,7	11 17,4	1,9	1,5	7,9	6,3	13,9	11,0
20	11 50,0	11 51,9	11 17,7	2,0	1,6	8,0	6,4	14,0	11,1
21	11 50,3	11 52,2	11 17,9	2,1	1,7	8,1	6,5	14,1	11,2
22	11 50,5	11 52,4	11 18,2	2,2	1,8	8,2	6,5	14,2	11,2
23	11 50,8	11 52,7	11 18,4	2,3	1,8	8,3	6,6	14,3	11,3
24	11 51,0	11 52,9	11 18,6	2,4	1,9	8,4	6,7	14,4	11,4
25	11 51,3	11 53,2	11 18,9	2,5	2,0	8,5	6,8	14,5	11,5
26	11 51,5	11 53,4	11 19,1	2,6	2,1	8,6	6,9	14,6	11,6
27	11 51,8	11 53,7	11 19,4	2,7	2,2	8,7	6,9	14,7	11,6
28	11 52,0	11 53,9	11 19,6	2,8	2,2	8,8	7,0	14,8	11,7
29	11 52,3	11 54,2	11 19,8	2,9	2,3	8,9	7,1	14,9	11,8
30	11 52,5	11 54,4	11 20,1	3,0	2,4	9,0	7,2	15,0	11,9
31	11 52,8	11 54,7	11 20,3	3,1	2,5	9,1	7,2	15,1	11,9
32	11 53,0	11 54,9	11 20,6	3,2	2,5	9,2	7,3	15,2	12,0
33	11 53,3	11 55,2	11 20,8	3,3	2,6	9,3	7,4	15,3	12,1
34	11 53,5	11 55,4	11 21,0	3,4	2,7	9,4	7,5	15,4	12,2
35	11 53,8	11 55,7	11 21,3	3,5	2,8	9,5	7,6	15,5	12,3
36	11 54,0	11 55,9	11 21,5	3,6	2,9	9,6	7,6	15,6	12,3
37	11 54,3	11 56,2	11 21,8	3,7	2,9	9,7	7,7	15,7	12,4
38	11 54,5	11 56,4	11 22,0	3,8	3,0	9,8	7,8	15,8	12,5
39	11 54,8	11 56,7	11 22,2	3,9	3,1	9,9	7,9	15,9	12,6
40	11 55,0	11 56,9	11 22,5	4,0	3,2	10,0	8,0	16,0	12,7
41	11 55,3	11 57,2	11 22,7	4,1	3,3	10,1	8,0	16,1	12,7
42	11 55,5	11 57,4	11 22,9	4,2	3,3	10,2	8,1	16,2	12,8
43	11 55,8	11 57,7	11 23,2	4,3	3,4	10,3	8,2	16,3	12,9
44	11 56,0	11 57,9	11 23,4	4,4	3,5	10,4	8,3	16,4	13,0
45	11 56,3	11 58,2	11 23,7	4,5	3,6	10,5	8,4	16,5	13,1
46	11 56,5	11 58,4	11 23,9	4,6	3,7	10,6	8,4	16,6	13,1
47	11 56,8	11 58,7	11 24,1	4,7	3,7	10,7	8,5	16,7	13,2
48	11 57,0	11 58,9	11 24,4	4,8	3,8	10,8	8,6	16,8	13,3
49	11 57,3	11 59,2	11 24,6	4,9	3,9	10,9	8,7	16,9	13,4
50	11 57,5	11 59,4	11 24,9	5,0	4,0	11,0	8,7	17,0	13,5
51	11 57,8	11 59,8	11 25,1	5,1	4,1	11,1	8,8	17,1	13,5
52	11 58,0	12 00,0	11 25,3	5,2	4,1	11,2	8,9	17,2	13,6
53	11 58,3	12 00,3	11 25,6	5,3	4,2	11,3	9,0	17,3	13,7
54	11 58,5	12 00,5	11 25,8	5,4	4,3	11,4	9,1	17,4	13,8
55	11 58,8	12 00,8	11 26,1	5,5	4,4	11,5	9,1	17,5	13,8
56	11 59,0	12 01,0	11 26,3	5,6	4,4	11,6	9,2	17,6	13,9
57	11 59,3	12 01,3	11 26,5	5,7	4,5	11,7	9,3	17,7	14,0
58	11 59,5	12 01,5	11 26,8	5,8	4,6	11,8	9,4	17,8	14,1
59	11 59,8	12 01,8	11 27,0	5,9	4,7	11,9	9,5	17,9	14,2
60	12 00,0	12 02,0	11 27,2	6,0	4,8	12,0	9,5	18,0	14,3

m 48	SOL PLANETAS	ARIES	LUNA	v d	Corr	v d	Corr	v d	Corr
s	° ′	° ′	° ′	′	′	′	′	′	′
00	12 00,0	12 02,0	11 27,2	0,0	0,0	6,0	4,8	12,0	9,7
01	12 00,3	12 02,3	11 27,4	0,1	0,1	6,1	4,9	12,1	9,8
02	12 00,5	12 02,5	11 27,7	0,2	0,2	6,2	5,0	12,2	9,9
03	12 00,8	12 02,8	11 27,9	0,3	0,3	6,3	5,0	12,3	9,9
04	12 01,0	12 03,0	11 28,2	0,4	0,3	6,4	5,1	12,4	10,0
05	12 01,3	12 03,3	11 28,4	0,5	0,4	6,5	5,2	12,5	10,1
06	12 01,5	12 03,5	11 28,6	0,6	0,5	6,6	5,3	12,6	10,2
07	12 01,8	12 03,8	11 28,9	0,7	0,6	6,7	5,4	12,7	10,3
08	12 02,0	12 04,0	11 29,1	0,8	0,7	6,8	5,4	12,8	10,3
09	12 02,3	12 04,3	11 29,4	0,9	0,7	6,9	5,5	12,9	10,4
10	12 02,5	12 04,5	11 29,6	1,0	0,8	7,0	5,6	13,0	10,5
11	12 02,8	12 04,8	11 29,8	1,1	0,9	7,1	5,7	13,1	10,6
12	12 03,0	12 05,0	11 30,1	1,2	1,0	7,2	5,8	13,2	10,7
13	12 03,3	12 05,3	11 30,3	1,3	1,1	7,3	5,9	13,3	10,8
14	12 03,5	12 05,5	11 30,5	1,4	1,1	7,4	5,9	13,4	10,8
15	12 03,8	12 05,8	11 30,8	1,5	1,2	7,5	6,0	13,5	10,9
16	12 04,0	12 06,0	11 31,0	1,6	1,3	7,6	6,1	13,6	11,0
17	12 04,3	12 06,3	11 31,3	1,7	1,4	7,7	6,2	13,7	11,1
18	12 04,5	12 06,5	11 31,5	1,8	1,5	7,8	6,3	13,8	11,2
19	12 04,8	12 06,8	11 31,7	1,9	1,5	7,9	6,3	13,9	11,2
20	12 05,0	12 07,0	11 32,0	2,0	1,6	8,0	6,4	14,0	11,3
21	12 05,3	12 07,3	11 32,2	2,1	1,7	8,1	6,5	14,1	11,4
22	12 05,5	12 07,5	11 32,5	2,2	1,8	8,2	6,6	14,2	11,5
23	12 05,8	12 07,8	11 32,7	2,3	1,9	8,3	6,7	14,3	11,6
24	12 06,0	12 08,0	11 32,9	2,4	1,9	8,4	6,7	14,4	11,6
25	12 06,3	12 08,3	11 33,2	2,5	2,0	8,5	6,8	14,5	11,7
26	12 06,5	12 08,5	11 33,4	2,6	2,1	8,6	6,9	14,6	11,8
27	12 06,8	12 08,8	11 33,7	2,7	2,2	8,7	7,0	14,7	11,9
28	12 07,0	12 09,0	11 33,9	2,8	2,3	8,8	7,1	14,8	12,0
29	12 07,3	12 09,3	11 34,1	2,9	2,3	8,9	7,1	14,9	12,0
30	12 07,5	12 09,5	11 34,4	3,0	2,4	9,0	7,2	15,0	12,1
31	12 07,8	12 09,8	11 34,6	3,1	2,5	9,1	7,3	15,1	12,2
32	12 08,0	12 10,0	11 34,9	3,2	2,6	9,2	7,4	15,2	12,3
33	12 08,3	12 10,3	11 35,1	3,3	2,7	9,3	7,5	15,3	12,4
34	12 08,5	12 10,5	11 35,3	3,4	2,7	9,4	7,6	15,4	12,5
35	12 08,8	12 10,8	11 35,6	3,5	2,8	9,5	7,6	15,5	12,5
36	12 09,0	12 11,0	11 35,8	3,6	2,9	9,6	7,7	15,6	12,6
37	12 09,3	12 11,3	11 36,1	3,7	3,0	9,7	7,8	15,7	12,7
38	12 09,5	12 11,5	11 36,3	3,8	3,1	9,8	7,9	15,8	12,8
39	12 09,8	12 11,8	11 36,5	3,9	3,1	9,9	8,0	15,9	12,9
40	12 10,0	12 12,0	11 36,8	4,0	3,2	10,0	8,0	16,0	12,9
41	12 10,3	12 12,3	11 37,0	4,1	3,3	10,1	8,1	16,1	13,0
42	12 10,5	12 12,5	11 37,2	4,2	3,4	10,2	8,2	16,2	13,1
43	12 10,8	12 12,8	11 37,5	4,3	3,5	10,3	8,3	16,3	13,2
44	12 11,0	12 13,0	11 37,7	4,4	3,5	10,4	8,4	16,4	13,3
45	12 11,3	12 13,3	11 38,0	4,5	3,6	10,5	8,4	16,5	13,3
46	12 11,5	12 13,5	11 38,2	4,6	3,7	10,6	8,5	16,6	13,4
47	12 11,8	12 13,8	11 38,4	4,7	3,8	10,7	8,6	16,7	13,5
48	12 12,0	12 14,0	11 38,7	4,8	3,9	10,8	8,7	16,8	13,6
49	12 12,3	12 14,3	11 38,9	4,9	3,9	10,9	8,8	16,9	13,7
50	12 12,5	12 14,5	11 39,2	5,0	4,0	11,0	8,9	17,0	13,8
51	12 12,8	12 14,8	11 39,4	5,1	4,1	11,1	8,9	17,1	13,8
52	12 13,0	12 15,0	11 39,6	5,2	4,2	11,2	9,0	17,2	13,9
53	12 13,3	12 15,3	11 39,9	5,3	4,3	11,3	9,1	17,3	14,0
54	12 13,5	12 15,5	11 40,1	5,4	4,3	11,4	9,2	17,4	14,1
55	12 13,8	12 15,8	11 40,4	5,5	4,4	11,5	9,3	17,5	14,2
56	12 14,0	12 16,0	11 40,6	5,6	4,5	11,6	9,3	17,6	14,2
57	12 14,3	12 16,3	11 40,8	5,7	4,6	11,7	9,4	17,7	14,3
58	12 14,5	12 16,5	11 41,1	5,8	4,7	11,8	9,5	17,8	14,4
59	12 14,8	12 16,8	11 41,3	5,9	4,7	11,9	9,6	17,9	14,5
60	12 15,0	12 17,0	11 41,5	6,0	4,8	12,0	9,7	18,0	14,6

m 49	SOL PLANETAS	ARIES	LUNA	v d	Corr	v d	Corr	v d	Corr
s	° ′	° ′	° ′	′	′	′	′	′	′
00	12 15,0	12 17,0	11 41,5	0,0	0,0	6,0	5,0	12,0	9,9
01	12 15,3	12 17,3	11 41,7	0,1	0,1	6,1	5,1	12,1	10,0
02	12 15,5	12 17,5	11 42,0	0,2	0,2	6,2	5,2	12,2	10,1
03	12 15,8	12 17,8	11 42,2	0,3	0,3	6,3	5,2	12,3	10,1
04	12 16,0	12 18,0	11 42,5	0,4	0,3	6,4	5,3	12,4	10,2
05	12 16,3	12 18,3	11 42,7	0,5	0,4	6,5	5,4	12,5	10,3
06	12 16,5	12 18,5	11 42,9	0,6	0,5	6,6	5,5	12,6	10,4
07	12 16,8	12 18,8	11 43,2	0,7	0,6	6,7	5,6	12,7	10,5
08	12 17,0	12 19,0	11 43,4	0,8	0,7	6,8	5,7	12,8	10,6
09	12 17,3	12 19,3	11 43,7	0,9	0,8	6,9	5,7	12,9	10,6
10	12 17,5	12 19,5	11 43,9	1,0	0,8	7,0	5,8	13,0	10,7
11	12 17,8	12 19,8	11 44,1	1,1	0,9	7,1	5,9	13,1	10,8
12	12 18,0	12 20,0	11 44,4	1,2	1,0	7,2	6,0	13,2	10,9
13	12 18,3	12 20,3	11 44,6	1,3	1,1	7,3	6,1	13,3	11,0
14	12 18,5	12 20,5	11 44,8	1,4	1,2	7,4	6,2	13,4	11,1
15	12 18,8	12 20,8	11 45,1	1,5	1,3	7,5	6,2	13,5	11,1
16	12 19,0	12 21,0	11 45,3	1,6	1,3	7,6	6,3	13,6	11,2
17	12 19,3	12 21,3	11 45,6	1,7	1,4	7,7	6,4	13,7	11,3
18	12 19,5	12 21,5	11 45,8	1,8	1,5	7,8	6,5	13,8	11,4
19	12 19,8	12 21,8	11 46,0	1,9	1,6	7,9	6,6	13,9	11,5
20	12 20,0	12 22,0	11 46,3	2,0	1,7	8,0	6,7	14,0	11,6
21	12 20,3	12 22,3	11 46,5	2,1	1,8	8,1	6,7	14,1	11,6
22	12 20,5	12 22,5	11 46,8	2,2	1,8	8,2	6,8	14,2	11,7
23	12 20,8	12 22,8	11 47,0	2,3	1,9	8,3	6,9	14,3	11,8
24	12 21,0	12 23,0	11 47,2	2,4	2,0	8,4	7,0	14,4	11,9
25	12 21,3	12 23,3	11 47,5	2,5	2,1	8,5	7,1	14,5	12,0
26	12 21,5	12 23,5	11 47,7	2,6	2,2	8,6	7,2	14,6	12,1
27	12 21,8	12 23,8	11 48,0	2,7	2,3	8,7	7,2	14,7	12,1
28	12 22,0	12 24,0	11 48,2	2,8	2,3	8,8	7,3	14,8	12,2
29	12 22,3	12 24,3	11 48,4	2,9	2,4	8,9	7,4	14,9	12,3
30	12 22,5	12 24,5	11 48,7	3,0	2,5	9,0	7,5	15,0	12,4
31	12 22,8	12 24,8	11 48,9	3,1	2,6	9,1	7,6	15,1	12,5
32	12 23,0	12 25,0	11 49,2	3,2	2,7	9,2	7,7	15,2	12,6
33	12 23,3	12 25,3	11 49,4	3,3	2,8	9,3	7,7	15,3	12,6
34	12 23,5	12 25,5	11 49,6	3,4	2,8	9,4	7,8	15,4	12,7
35	12 23,8	12 25,8	11 49,9	3,5	2,9	9,5	7,9	15,5	12,8
36	12 24,0	12 26,0	11 50,1	3,6	3,0	9,6	8,0	15,6	12,9
37	12 24,3	12 26,3	11 50,4	3,7	3,1	9,7	8,1	15,7	13,0
38	12 24,5	12 26,5	11 50,6	3,8	3,2	9,8	8,2	15,8	13,1
39	12 24,8	12 26,8	11 50,8	3,9	3,3	9,9	8,2	15,9	13,1
40	12 25,0	12 27,0	11 51,1	4,0	3,3	10,0	8,3	16,0	13,2
41	12 25,3	12 27,3	11 51,3	4,1	3,4	10,1	8,4	16,1	13,3
42	12 25,5	12 27,5	11 51,5	4,2	3,5	10,2	8,5	16,2	13,4
43	12 25,8	12 27,8	11 51,8	4,3	3,6	10,3	8,6	16,3	13,5
44	12 26,0	12 28,0	11 52,0	4,4	3,7	10,4	8,7	16,4	13,6
45	12 26,3	12 28,3	11 52,3	4,5	3,8	10,5	8,7	16,5	13,6
46	12 26,5	12 28,5	11 52,5	4,6	3,8	10,6	8,8	16,6	13,7
47	12 26,8	12 28,8	11 52,7	4,7	3,9	10,7	8,9	16,7	13,8
48	12 27,0	12 29,0	11 53,0	4,8	4,0	10,8	9,0	16,8	13,9
49	12 27,3	12 29,3	11 53,2	4,9	4,1	10,9	9,1	16,9	14,0
50	12 27,5	12 29,5	11 53,5	5,0	4,2	11,0	9,2	17,0	14,1
51	12 27,8	12 29,8	11 53,7	5,1	4,3	11,1	9,2	17,1	14,1
52	12 28,0	12 30,0	11 53,9	5,2	4,3	11,2	9,3	17,2	14,2
53	12 28,3	12 30,3	11 54,2	5,3	4,4	11,3	9,4	17,3	14,3
54	12 28,5	12 30,5	11 54,4	5,4	4,5	11,4	9,5	17,4	14,4
55	12 28,8	12 30,8	11 54,7	5,5	4,6	11,5	9,6	17,5	14,5
56	12 29,0	12 31,0	11 54,9	5,6	4,7	11,6	9,6	17,6	14,5
57	12 29,3	12 31,3	11 55,1	5,7	4,7	11,7	9,7	17,7	14,6
58	12 29,5	12 31,5	11 55,4	5,8	4,8	11,8	9,8	17,8	14,7
59	12 29,8	12 31,8	11 55,6	5,9	4,9	11,9	9,9	17,9	14,8
60	12 30,0	12 32,1	11 55,8	6,0	5,0	12,0	9,9	18,0	14,9

m 50	SOL PLANETAS	ARIES	LUNA	v d	Corr	v d	Corr	v d	Corr
s	° ′	° ′	° ′	′	′	′	′	′	′
00	12 30,0	12 32,1	11 55,8	0,0	0,0	6,0	5,1	12,0	10,2
01	12 30,3	12 32,4	11 56,0	0,1	0,1	6,1	5,2	12,1	10,3
02	12 30,5	12 32,6	11 56,3	0,2	0,2	6,2	5,3	12,2	10,4
03	12 30,8	12 32,9	11 56,5	0,3	0,3	6,3	5,4	12,3	10,5
04	12 31,0	12 33,1	11 56,8	0,4	0,4	6,4	5,4	12,4	10,5
05	12 31,3	12 33,4	11 57,0	0,5	0,4	6,5	5,5	12,5	10,6
06	12 31,5	12 33,6	11 57,2	0,6	0,5	6,6	5,6	12,6	10,7
07	12 31,8	12 33,9	11 57,5	0,7	0,6	6,7	5,7	12,7	10,8
08	12 32,0	12 34,1	11 57,7	0,8	0,7	6,8	5,8	12,8	10,9
09	12 32,3	12 34,4	11 58,0	0,9	0,8	6,9	5,9	12,9	11,0
10	12 32,5	12 34,6	11 58,2	1,0	0,9	7,0	6,0	13,0	11,0
11	12 32,8	12 34,9	11 58,4	1,1	1,0	7,1	6,0	13,1	11,1
12	12 33,0	12 35,1	11 58,7	1,2	1,0	7,2	6,1	13,2	11,2
13	12 33,3	12 35,4	11 58,9	1,3	1,1	7,3	6,2	13,3	11,3
14	12 33,5	12 35,6	11 59,1	1,4	1,2	7,4	6,3	13,4	11,4
15	12 33,8	12 35,9	11 59,4	1,5	1,3	7,5	6,4	13,5	11,5
16	12 34,0	12 36,1	11 59,6	1,6	1,4	7,6	6,5	13,6	11,5
17	12 34,3	12 36,4	11 59,9	1,7	1,5	7,7	6,5	13,7	11,6
18	12 34,5	12 36,6	12 00,0	1,8	1,5	7,8	6,6	13,8	11,7
19	12 34,8	12 36,9	12 00,2	1,9	1,6	7,9	6,7	13,9	11,8
20	12 35,0	12 37,1	12 00,5	2,0	1,7	8,0	6,8	14,0	11,9
21	12 35,3	12 37,4	12 00,7	2,1	1,8	8,1	6,9	14,1	12,0
22	12 35,5	12 37,6	12 01,0	2,2	1,9	8,2	7,0	14,2	12,0
23	12 35,8	12 37,9	12 01,2	2,3	2,0	8,3	7,1	14,3	12,1
24	12 36,0	12 38,1	12 01,4	2,4	2,1	8,4	7,1	14,4	12,2
25	12 36,3	12 38,4	12 01,7	2,5	2,1	8,5	7,2	14,5	12,3
26	12 36,5	12 38,6	12 01,9	2,6	2,2	8,6	7,3	14,6	12,4
27	12 36,8	12 38,9	12 02,2	2,7	2,3	8,7	7,4	14,7	12,5
28	12 37,0	12 39,1	12 02,4	2,8	2,4	8,8	7,5	14,8	12,6
29	12 37,3	12 39,4	12 02,6	2,9	2,5	8,9	7,6	14,9	12,6
30	12 37,5	12 39,6	12 02,9	3,0	2,6	9,0	7,7	15,0	12,7
31	12 37,8	12 39,9	12 03,1	3,1	2,7	9,1	7,7	15,1	12,8
32	12 38,0	12 40,1	12 03,4	3,2	2,7	9,2	7,8	15,2	12,9
33	12 38,3	12 40,4	12 03,6	3,3	2,8	9,3	7,9	15,3	13,0
34	12 38,5	12 40,6	12 03,8	3,4	2,9	9,4	8,0	15,4	13,1
35	12 38,8	12 40,9	12 04,1	3,5	3,0	9,5	8,1	15,5	13,1
36	12 39,0	12 41,1	12 04,3	3,6	3,1	9,6	8,2	15,6	13,2
37	12 39,3	12 41,4	12 04,6	3,7	3,2	9,7	8,2	15,7	13,3
38	12 39,5	12 41,6	12 04,8	3,8	3,2	9,8	8,3	15,8	13,4
39	12 39,8	12 41,9	12 05,0	3,9	3,3	9,9	8,4	15,9	13,5
40	12 40,0	12 42,1	12 05,3	4,0	3,4	10,0	8,5	16,0	13,6
41	12 40,3	12 42,4	12 05,5	4,1	3,5	10,1	8,6	16,1	13,6
42	12 40,5	12 42,6	12 05,7	4,2	3,6	10,2	8,7	16,2	13,7
43	12 40,8	12 42,9	12 06,0	4,3	3,7	10,3	8,8	16,3	13,8
44	12 41,0	12 43,1	12 06,2	4,4	3,8	10,4	8,8	16,4	13,9
45	12 41,3	12 43,4	12 06,5	4,5	3,8	10,5	8,9	16,5	14,0
46	12 41,5	12 43,6	12 06,7	4,6	3,9	10,6	9,0	16,6	14,1
47	12 41,8	12 43,9	12 06,9	4,7	4,0	10,7	9,1	16,7	14,1
48	12 42,0	12 44,1	12 07,2	4,8	4,1	10,8	9,2	16,8	14,2
49	12 42,3	12 44,4	12 07,4	4,9	4,2	10,9	9,3	16,9	14,3
50	12 42,5	12 44,6	12 07,7	5,0	4,3	11,0	9,4	17,0	14,4
51	12 42,8	12 44,9	12 07,9	5,1	4,4	11,1	9,4	17,1	14,5
52	12 43,0	12 45,1	12 08,1	5,2	4,4	11,2	9,5	17,2	14,6
53	12 43,3	12 45,4	12 08,4	5,3	4,5	11,3	9,6	17,3	14,7
54	12 43,5	12 45,6	12 08,6	5,4	4,6	11,4	9,7	17,4	14,7
55	12 43,8	12 45,9	12 08,9	5,5	4,7	11,5	9,8	17,5	14,8
56	12 44,0	12 46,1	12 09,2	5,6	4,8	11,6	9,9	17,6	14,9
57	12 44,3	12 46,4	12 09,4	5,7	4,9	11,7	9,9	17,7	15,0
58	12 44,5	12 46,6	12 09,7	5,8	4,9	11,8	10,0	17,8	15,1
59	12 44,8	12 46,9	12 09,9	5,9	5,0	11,9	10,1	17,9	15,2
60	12 45,0	12 47,1	12 10,2	6,0	5,1	12,0	10,2	18,0	15,2

m 51	SOL PLANETAS	ARIES	LUNA	v d	Corr	v d	Corr	v d	Corr
s	° ′	° ′	° ′	′	′	′	′	′	′
00	12 45,0	12 47,1	12 10,2	0,0	0,0	6,0	5,2	12,0	10,3
01	12 45,3	12 47,4	12 10,4	0,1	0,1	6,1	5,3	12,1	10,4
02	12 45,5	12 47,6	12 10,7	0,2	0,2	6,2	5,4	12,2	10,5
03	12 45,8	12 47,9	12 10,9	0,3	0,3	6,3	5,5	12,3	10,6
04	12 46,0	12 48,1	12 11,2	0,4	0,4	6,4	5,5	12,4	10,6
05	12 46,3	12 48,4	12 11,4	0,5	0,4	6,5	5,6	12,5	10,7
06	12 46,5	12 48,6	12 11,6	0,6	0,5	6,6	5,7	12,6	10,8
07	12 46,8	12 48,9	12 11,9	0,7	0,6	6,7	5,8	12,7	10,9
08	12 47,0	12 49,1	12 12,1	0,8	0,7	6,8	5,9	12,8	11,0
09	12 47,3	12 49,4	12 12,4	0,9	0,8	6,9	6,0	12,9	11,1
10	12 47,5	12 49,6	12 12,6	1,0	0,9	7,0	6,0	13,0	11,2
11	12 47,8	12 49,9	12 12,8	1,1	0,9	7,1	6,1	13,1	11,2
12	12 48,0	12 50,1	12 13,1	1,2	1,0	7,2	6,2	13,2	11,3
13	12 48,3	12 50,4	12 13,3	1,3	1,1	7,3	6,3	13,3	11,4
14	12 48,5	12 50,6	12 13,5	1,4	1,2	7,4	6,4	13,4	11,5
15	12 48,8	12 50,9	12 13,8	1,5	1,3	7,5	6,5	13,5	11,6
16	12 49,0	12 51,1	12 14,0	1,6	1,4	7,6	6,5	13,6	11,7
17	12 49,3	12 51,4	12 14,3	1,7	1,4	7,7	6,6	13,7	11,7
18	12 49,5	12 51,6	12 14,5	1,8	1,5	7,8	6,7	13,8	11,8
19	12 49,8	12 51,9	12 14,7	1,9	1,6	7,9	6,8	13,9	11,9
20	12 50,0	12 52,1	12 15,0	2,0	1,7	8,0	6,9	14,0	12,0
21	12 50,3	12 52,4	12 15,2	2,1	1,8	8,1	7,0	14,1	12,1
22	12 50,5	12 52,6	12 15,5	2,2	1,9	8,2	7,0	14,2	12,2
23	12 50,8	12 52,9	12 15,7	2,3	1,9	8,3	7,1	14,3	12,3
24	12 51,0	12 53,1	12 15,9	2,4	2,0	8,4	7,2	14,4	12,3
25	12 51,3	12 53,4	12 16,2	2,5	2,1	8,5	7,3	14,5	12,4
26	12 51,5	12 53,6	12 16,4	2,6	2,2	8,6	7,4	14,6	12,5
27	12 51,8	12 53,9	12 16,7	2,7	2,3	8,7	7,5	14,7	12,6
28	12 52,0	12 54,1	12 16,9	2,8	2,4	8,8	7,6	14,8	12,7
29	12 52,3	12 54,4	12 17,1	2,9	2,5	8,9	7,6	14,9	12,8
30	12 52,5	12 54,6	12 17,4	3,0	2,5	9,0	7,7	15,0	12,9
31	12 52,8	12 54,9	12 17,6	3,1	2,6	9,1	7,8	15,1	13,0
32	12 53,0	12 55,1	12 17,9	3,2	2,7	9,2	7,9	15,2	13,0
33	12 53,3	12 55,4	12 18,1	3,3	2,8	9,3	8,0	15,3	13,1
34	12 53,5	12 55,6	12 18,3	3,4	2,9	9,4	8,1	15,4	13,2
35	12 53,8	12 55,9	12 18,6	3,5	3,0	9,5	8,1	15,5	13,3
36	12 54,0	12 56,1	12 18,8	3,6	3,0	9,6	8,2	15,6	13,4
37	12 54,3	12 56,4	12 19,1	3,7	3,1	9,7	8,3	15,7	13,5
38	12 54,5	12 56,6	12 19,3	3,8	3,2	9,8	8,4	15,8	13,6
39	12 54,8	12 56,9	12 19,5	3,9	3,3	9,9	8,5	15,9	13,7
40	12 55,0	12 57,1	12 19,8	4,0	3,4	10,0	8,6	16,0	13,7
41	12 55,3	12 57,4	12 20,0	4,1	3,5	10,1	8,6	16,1	13,8
42	12 55,5	12 57,6	12 20,2	4,2	3,5	10,2	8,7	16,2	13,9
43	12 55,8	12 57,9	12 20,5	4,3	3,6	10,3	8,8	16,3	14,0
44	12 56,0	12 58,1	12 20,7	4,4	3,7	10,4	8,9	16,4	14,1
45	12 56,3	12 58,4	12 21,0	4,5	3,8	10,5	9,0	16,5	14,2
46	12 56,5	12 58,6	12 21,2	4,6	3,9	10,6	9,1	16,6	14,3
47	12 56,8	12 58,9	12 21,4	4,7	4,0	10,7	9,1	16,7	14,3
48	12 57,0	12 59,1	12 21,7	4,8	4,0	10,8	9,2	16,8	14,4
49	12 57,3	12 59,4	12 21,9	4,9	4,1	10,9	9,3	16,9	14,5
50	12 57,5	12 59,6	12 22,2	5,0	4,2	11,0	9,4	17,0	14,6
51	12 57,8	12 59,9	12 22,4	5,1	4,3	11,1	9,5	17,1	14,7
52	12 58,0	13 00,1	12 22,6	5,2	4,4	11,2	9,6	17,2	14,8
53	12 58,3	13 00,4	12 22,9	5,3	4,5	11,3	9,7	17,3	14,9
54	12 58,5	13 00,6	12 23,1	5,4	4,6	11,4	9,7	17,4	15,0
55	12 58,8	13 00,9	12 23,4	5,5	4,6	11,5	9,8	17,5	15,0
56	12 59,0	13 01,1	12 23,6	5,6	4,7	11,6	9,9	17,6	15,1
57	12 59,3	13 01,4	12 23,8	5,7	4,8	11,7	10,0	17,7	15,2
58	12 59,5	13 01,6	12 24,1	5,8	4,9	11,8	10,1	17,8	15,3
59	12 59,8	13 01,9	12 24,3	5,9	5,0	11,9	10,2	17,9	15,4
60	13 00,0	13 02,1	12 24,5	6,0	5,1	12,0	10,3	18,0	15,5

m 52	SOL PLANETAS	ARIES	LUNA	v d	Corr	v d	Corr	v d	Corr
s	° '	° '	° '	'	'	'	'	'	'
00	13 00,0	13 02,1	12 24,5	0,0	0,0	6,0	5,3	12,0	10,6
01	13 00,3	13 02,4	12 24,7	0,1	0,1	6,1	5,4	12,1	10,7
02	13 00,5	13 02,6	12 25,0	0,2	0,2	6,2	5,5	12,2	10,8
03	13 00,8	13 02,9	12 25,2	0,3	0,3	6,3	5,6	12,3	10,9
04	13 01,0	13 03,1	12 25,5	0,4	0,4	6,4	5,7	12,4	11,0
05	13 01,3	13 03,4	12 25,7	0,5	0,5	6,5	5,7	12,5	11,0
06	13 01,5	13 03,6	12 25,9	0,6	0,5	6,6	5,8	12,6	11,1
07	13 01,8	13 03,9	12 26,2	0,7	0,6	6,7	5,9	12,7	11,2
08	13 02,0	13 04,1	12 26,4	0,8	0,7	6,8	6,0	12,8	11,3
09	13 02,3	13 04,4	12 26,7	0,9	0,8	6,9	6,1	12,9	11,4
10	13 02,5	13 04,6	12 26,9	1,0	0,9	7,0	6,2	13,0	11,5
11	13 02,8	13 04,9	12 27,1	1,1	1,0	7,1	6,3	13,1	11,6
12	13 03,0	13 05,1	12 27,4	1,2	1,1	7,2	6,4	13,2	11,7
13	13 03,3	13 05,4	12 27,6	1,3	1,2	7,3	6,4	13,3	11,7
14	13 03,5	13 05,6	12 27,8	1,4	1,2	7,4	6,5	13,4	11,8
15	13 03,8	13 05,9	12 28,1	1,5	1,3	7,5	6,6	13,5	11,9
16	13 04,0	13 06,1	12 28,3	1,6	1,4	7,6	6,7	13,6	12,0
17	13 04,3	13 06,4	12 28,6	1,7	1,5	7,7	6,8	13,7	12,1
18	13 04,5	13 06,6	12 28,8	1,8	1,6	7,8	6,9	13,8	12,2
19	13 04,8	13 06,9	12 29,0	1,9	1,7	7,9	7,0	13,9	12,3
20	13 05,0	13 07,1	12 29,3	2,0	1,8	8,0	7,1	14,0	12,4
21	13 05,3	13 07,4	12 29,5	2,1	1,9	8,1	7,1	14,1	12,4
22	13 05,5	13 07,6	12 29,8	2,2	1,9	8,2	7,2	14,2	12,5
23	13 05,8	13 07,9	12 30,0	2,3	2,0	8,3	7,3	14,3	12,6
24	13 06,0	13 08,1	12 30,2	2,4	2,1	8,4	7,4	14,4	12,7
25	13 06,3	13 08,4	12 30,5	2,5	2,2	8,5	7,5	14,5	12,8
26	13 06,5	13 08,6	12 30,7	2,6	2,3	8,6	7,6	14,6	12,9
27	13 06,8	13 08,9	12 31,0	2,7	2,4	8,7	7,7	14,7	13,0
28	13 07,0	13 09,1	12 31,2	2,8	2,5	8,8	7,8	14,8	13,1
29	13 07,3	13 09,4	12 31,4	2,9	2,6	8,9	7,9	14,9	13,2
30	13 07,5	13 09,6	12 31,7	3,0	2,7	9,0	7,9	15,0	13,2
31	13 07,8	13 09,9	12 31,9	3,1	2,7	9,1	8,0	15,1	13,3
32	13 08,0	13 10,1	12 32,2	3,2	2,8	9,2	8,1	15,2	13,4
33	13 08,3	13 10,4	12 32,4	3,3	2,9	9,3	8,2	15,3	13,5
34	13 08,5	13 10,6	12 32,6	3,4	3,0	9,4	8,3	15,4	13,6
35	13 08,8	13 10,9	12 32,9	3,5	3,1	9,5	8,4	15,5	13,7
36	13 09,0	13 11,1	12 33,1	3,6	3,2	9,6	8,5	15,6	13,8
37	13 09,3	13 11,4	12 33,4	3,7	3,3	9,7	8,6	15,7	13,9
38	13 09,5	13 11,6	12 33,6	3,8	3,4	9,8	8,6	15,8	13,9
39	13 09,8	13 11,9	12 33,8	3,9	3,4	9,9	8,7	15,9	14,0
40	13 10,0	13 12,1	12 34,1	4,0	3,5	10,0	8,8	16,0	14,1
41	13 10,3	13 12,4	12 34,3	4,1	3,6	10,1	8,9	16,1	14,2
42	13 10,5	13 12,6	12 34,5	4,2	3,7	10,2	9,0	16,2	14,3
43	13 10,8	13 12,9	12 34,8	4,3	3,8	10,3	9,1	16,3	14,4
44	13 11,0	13 13,1	12 35,0	4,4	3,9	10,4	9,2	16,4	14,5
45	13 11,3	13 13,4	12 35,3	4,5	4,0	10,5	9,3	16,5	14,6
46	13 11,5	13 13,6	12 35,5	4,6	4,1	10,6	9,3	16,6	14,6
47	13 11,8	13 13,9	12 35,7	4,7	4,1	10,7	9,4	16,7	14,7
48	13 12,0	13 14,1	12 36,0	4,8	4,2	10,8	9,5	16,8	14,8
49	13 12,3	13 14,4	12 36,2	4,9	4,3	10,9	9,6	16,9	14,9
50	13 12,5	13 14,6	12 36,5	5,0	4,4	11,0	9,7	17,0	15,0
51	13 12,8	13 14,9	12 36,7	5,1	4,5	11,1	9,8	17,1	15,1
52	13 13,0	13 15,1	12 36,9	5,2	4,6	11,2	9,9	17,2	15,2
53	13 13,3	13 15,4	12 37,2	5,3	4,7	11,3	10,0	17,3	15,3
54	13 13,5	13 15,6	12 37,4	5,4	4,8	11,4	10,1	17,4	15,4
55	13 13,8	13 15,9	12 37,7	5,5	4,9	11,5	10,1	17,5	15,4
56	13 14,0	13 16,1	12 37,8	5,6	4,9	11,6	10,2	17,6	15,5
57	13 14,3	13 16,4	12 38,0	5,7	5,0	11,7	10,3	17,7	15,6
58	13 14,5	13 16,6	12 38,3	5,8	5,1	11,8	10,4	17,8	15,7
59	13 14,8	13 16,9	12 38,5	5,9	5,2	11,9	10,5	17,9	15,8
60	13 15,0	13 17,2	12 38,8	6,0	5,3	12,0	10,6	18,0	15,9

m 53	SOL PLANETAS	ARIES	LUNA	v d	Corr	v d	Corr	v d	Corr
s	° '	° '	° '	'	'	'	'	'	'
00	13 15,0	13 17,2	12 38,8	0,0	0,0	6,0	5,4	12,0	10,7
01	13 15,3	13 17,5	12 39,0	0,1	0,1	6,1	5,5	12,1	10,8
02	13 15,5	13 17,7	12 39,3	0,2	0,2	6,2	5,6	12,2	10,9
03	13 15,8	13 18,0	12 39,5	0,3	0,3	6,3	5,7	12,3	11,0
04	13 16,0	13 18,2	12 39,8	0,4	0,4	6,4	5,8	12,4	11,1
05	13 16,3	13 18,5	12 40,0	0,5	0,5	6,5	5,8	12,5	11,1
06	13 16,5	13 18,7	12 40,2	0,6	0,5	6,6	5,9	12,6	11,2
07	13 16,8	13 19,0	12 40,5	0,7	0,6	6,7	6,0	12,7	11,3
08	13 17,0	13 19,2	12 40,7	0,8	0,7	6,8	6,1	12,8	11,4
09	13 17,3	13 19,5	12 41,0	0,9	0,8	6,9	6,2	12,9	11,5
10	13 17,5	13 19,7	12 41,2	1,0	0,9	7,0	6,3	13,0	11,6
11	13 17,8	13 20,0	12 41,4	1,1	1,0	7,1	6,4	13,1	11,7
12	13 18,0	13 20,2	12 41,7	1,2	1,1	7,2	6,5	13,2	11,8
13	13 18,3	13 20,5	12 41,9	1,3	1,2	7,3	6,6	13,3	11,9
14	13 18,5	13 20,7	12 42,1	1,4	1,3	7,4	6,6	13,4	11,9
15	13 18,8	13 21,0	12 42,4	1,5	1,3	7,5	6,7	13,5	12,0
16	13 19,0	13 21,2	12 42,6	1,6	1,4	7,6	6,8	13,6	12,1
17	13 19,3	13 21,5	12 42,9	1,7	1,5	7,7	6,9	13,7	12,2
18	13 19,5	13 21,7	12 43,1	1,8	1,6	7,8	7,0	13,8	12,3
19	13 19,8	13 22,0	12 43,3	1,9	1,7	7,9	7,1	13,9	12,4
20	13 20,0	13 22,2	12 43,6	2,0	1,8	8,0	7,2	14,0	12,5
21	13 20,3	13 22,5	12 43,8	2,1	1,9	8,1	7,3	14,1	12,6
22	13 20,5	13 22,7	12 44,1	2,2	2,0	8,2	7,4	14,2	12,7
23	13 20,8	13 23,0	12 44,3	2,3	2,1	8,3	7,4	14,3	12,7
24	13 21,0	13 23,2	12 44,5	2,4	2,1	8,4	7,5	14,4	12,8
25	13 21,3	13 23,5	12 44,8	2,5	2,2	8,5	7,6	14,5	12,9
26	13 21,5	13 23,7	12 45,0	2,6	2,3	8,6	7,7	14,6	13,0
27	13 21,8	13 24,0	12 45,3	2,7	2,4	8,7	7,8	14,7	13,1
28	13 22,0	13 24,2	12 45,5	2,8	2,5	8,8	7,9	14,8	13,2
29	13 22,3	13 24,5	12 45,7	2,9	2,6	8,9	8,0	14,9	13,3
30	13 22,5	13 24,7	12 46,0	3,0	2,7	9,0	8,1	15,0	13,4
31	13 22,8	13 25,0	12 46,2	3,1	2,8	9,1	8,2	15,1	13,5
32	13 23,0	13 25,2	12 46,5	3,2	2,9	9,2	8,2	15,2	13,5
33	13 23,3	13 25,5	12 46,7	3,3	2,9	9,3	8,3	15,3	13,6
34	13 23,5	13 25,7	12 46,9	3,4	3,0	9,4	8,4	15,4	13,7
35	13 23,8	13 26,0	12 47,2	3,5	3,1	9,5	8,5	15,5	13,8
36	13 24,0	13 26,2	12 47,4	3,6	3,2	9,6	8,6	15,6	13,9
37	13 24,3	13 26,5	12 47,7	3,7	3,3	9,7	8,7	15,7	14,0
38	13 24,5	13 26,7	12 47,9	3,8	3,4	9,8	8,8	15,8	14,1
39	13 24,8	13 27,0	12 48,1	3,9	3,5	9,9	8,9	15,9	14,2
40	13 25,0	13 27,2	12 48,4	4,0	3,6	10,0	9,0	16,0	14,3
41	13 25,3	13 27,5	12 48,6	4,1	3,7	10,1	9,0	16,1	14,3
42	13 25,5	13 27,7	12 48,8	4,2	3,7	10,2	9,1	16,2	14,4
43	13 25,8	13 28,0	12 49,1	4,3	3,8	10,3	9,2	16,3	14,5
44	13 26,0	13 28,2	12 49,3	4,4	3,9	10,4	9,3	16,4	14,6
45	13 26,3	13 28,5	12 49,6	4,5	4,0	10,5	9,4	16,5	14,7
46	13 26,5	13 28,7	12 49,8	4,6	4,1	10,6	9,5	16,6	14,8
47	13 26,8	13 29,0	12 50,0	4,7	4,2	10,7	9,6	16,7	14,9
48	13 27,0	13 29,2	12 50,3	4,8	4,3	10,8	9,7	16,8	15,0
49	13 27,3	13 29,5	12 50,5	4,9	4,4	10,9	9,8	16,9	15,1
50	13 27,5	13 29,7	12 50,8	5,0	4,5	11,0	9,9	17,0	15,2
51	13 27,8	13 30,0	12 51,0	5,1	4,6	11,1	9,9	17,1	15,2
52	13 28,0	13 30,2	12 51,2	5,2	4,6	11,2	10,0	17,2	15,3
53	13 28,3	13 30,5	12 51,5	5,3	4,7	11,3	10,1	17,3	15,4
54	13 28,5	13 30,7	12 51,7	5,4	4,8	11,4	10,2	17,4	15,5
55	13 28,8	13 31,0	12 52,0	5,5	4,9	11,5	10,3	17,5	15,6
56	13 29,0	13 31,2	12 52,1	5,6	5,0	11,6	10,4	17,6	15,7
57	13 29,3	13 31,5	12 52,3	5,7	5,1	11,7	10,5	17,7	15,8
58	13 29,5	13 31,7	12 52,6	5,8	5,2	11,8	10,6	17,8	15,9
59	13 29,8	13 32,0	12 52,8	5,9	5,3	11,9	10,7	17,9	16,0
60	13 30,0	13 32,2	12 53,1	6,0	5,4	12,0	10,7	18,0	16,1

m 54	SOL PLANETAS	ARIES	LUNA	v d	Corr	v d	Corr	v d	Corr
s	° ′	° ′	° ′	′	′	′	′	′	′
00	13 30,0	13 32,2	12 53,1	0,0	0,0	6,0	5,5	12,0	11,0
01	13 30,3	13 32,5	12 53,3	0,1	0,1	6,1	5,6	12,1	11,1
02	13 30,5	13 32,7	12 53,6	0,2	0,2	6,2	5,7	12,2	11,2
03	13 30,8	13 33,0	12 53,8	0,3	0,3	6,3	5,8	12,3	11,3
04	13 31,0	13 33,2	12 54,1	0,4	0,4	6,4	5,9	12,4	11,4
05	13 31,3	13 33,5	12 54,3	0,5	0,5	6,5	6,0	12,5	11,5
06	13 31,5	13 33,7	12 54,5	0,6	0,6	6,6	6,0	12,6	11,5
07	13 31,8	13 34,0	12 54,8	0,7	0,6	6,7	6,1	12,7	11,6
08	13 32,0	13 34,2	12 55,0	0,8	0,7	6,8	6,2	12,8	11,7
09	13 32,3	13 34,5	12 55,3	0,9	0,8	6,9	6,3	12,9	11,8
10	13 32,5	13 34,7	12 55,5	1,0	0,9	7,0	6,4	13,0	11,9
11	13 32,8	13 35,0	12 55,7	1,1	1,0	7,1	6,5	13,1	12,0
12	13 33,0	13 35,2	12 56,0	1,2	1,1	7,2	6,6	13,2	12,1
13	13 33,3	13 35,5	12 56,2	1,3	1,2	7,3	6,7	13,3	12,2
14	13 33,5	13 35,7	12 56,4	1,4	1,3	7,4	6,8	13,4	12,3
15	13 33,8	13 36,0	12 56,7	1,5	1,4	7,5	6,9	13,5	12,4
16	13 34,0	13 36,2	12 56,9	1,6	1,5	7,6	7,0	13,6	12,5
17	13 34,3	13 36,5	12 57,2	1,7	1,6	7,7	7,0	13,7	12,5
18	13 34,5	13 36,7	12 57,4	1,8	1,6	7,8	7,1	13,8	12,6
19	13 34,8	13 37,0	12 57,6	1,9	1,7	7,9	7,2	13,9	12,7
20	13 35,0	13 37,2	12 57,9	2,0	1,8	8,0	7,3	14,0	12,8
21	13 35,3	13 37,5	12 58,1	2,1	1,9	8,1	7,4	14,1	12,9
22	13 35,5	13 37,7	12 58,4	2,2	2,0	8,2	7,5	14,2	13,0
23	13 35,8	13 38,0	12 58,6	2,3	2,1	8,3	7,6	14,3	13,1
24	13 36,0	13 38,2	12 58,8	2,4	2,2	8,4	7,7	14,4	13,2
25	13 36,3	13 38,5	12 59,1	2,5	2,3	8,5	7,8	14,5	13,3
26	13 36,5	13 38,7	12 59,3	2,6	2,4	8,6	7,9	14,6	13,4
27	13 36,8	13 39,0	12 59,6	2,7	2,5	8,7	8,0	14,7	13,5
28	13 37,0	13 39,2	12 59,8	2,8	2,6	8,8	8,0	14,8	13,5
29	13 37,3	13 39,5	13 00,0	2,9	2,6	8,9	8,1	14,9	13,6
30	13 37,5	13 39,7	13 00,3	3,0	2,7	9,0	8,2	15,0	13,7
31	13 37,8	13 40,0	13 00,5	3,1	2,8	9,1	8,3	15,1	13,8
32	13 38,0	13 40,2	13 00,8	3,2	2,9	9,2	8,4	15,2	13,9
33	13 38,3	13 40,5	13 01,0	3,3	3,0	9,3	8,5	15,3	14,0
34	13 38,5	13 40,7	13 01,2	3,4	3,1	9,4	8,6	15,4	14,1
35	13 38,8	13 41,0	13 01,5	3,5	3,2	9,5	8,7	15,5	14,2
36	13 39,0	13 41,2	13 01,7	3,6	3,3	9,6	8,8	15,6	14,3
37	13 39,3	13 41,5	13 02,0	3,7	3,4	9,7	8,9	15,7	14,4
38	13 39,5	13 41,7	13 02,2	3,8	3,5	9,8	9,0	15,8	14,5
39	13 39,8	13 42,0	13 02,4	3,9	3,6	9,9	9,0	15,9	14,5
40	13 40,0	13 42,2	13 02,7	4,0	3,6	10,0	9,1	16,0	14,6
41	13 40,3	13 42,5	13 02,9	4,1	3,7	10,1	9,2	16,1	14,7
42	13 40,5	13 42,7	13 03,1	4,2	3,8	10,2	9,3	16,2	14,8
43	13 40,8	13 43,0	13 03,4	4,3	3,9	10,3	9,4	16,3	14,9
44	13 41,0	13 43,2	13 03,6	4,4	4,0	10,4	9,5	16,4	15,0
45	13 41,3	13 43,5	13 03,9	4,5	4,1	10,5	9,6	16,5	15,1
46	13 41,5	13 43,7	13 04,1	4,6	4,2	10,6	9,7	16,6	15,2
47	13 41,8	13 44,0	13 04,3	4,7	4,3	10,7	9,8	16,7	15,3
48	13 42,0	13 44,2	13 04,6	4,8	4,4	10,8	9,9	16,8	15,4
49	13 42,3	13 44,5	13 04,8	4,9	4,5	10,9	10,0	16,9	15,5
50	13 42,5	13 44,7	13 05,1	5,0	4,6	11,0	10,1	17,0	15,6
51	13 42,8	13 45,0	13 05,3	5,1	4,7	11,1	10,1	17,1	15,6
52	13 43,0	13 45,2	13 05,5	5,2	4,7	11,2	10,2	17,2	15,7
53	13 43,3	13 45,5	13 05,8	5,3	4,8	11,3	10,3	17,3	15,8
54	13 43,5	13 45,8	13 06,0	5,4	4,9	11,4	10,4	17,4	15,9
55	13 43,8	13 46,1	13 06,2	5,5	5,0	11,5	10,5	17,5	16,0
56	13 44,0	13 46,3	13 06,4	5,6	5,1	11,6	10,6	17,6	16,1
57	13 44,3	13 46,6	13 06,6	5,7	5,2	11,7	10,7	17,7	16,2
58	13 44,5	13 46,8	13 06,9	5,8	5,3	11,8	10,8	17,8	16,3
59	13 44,8	13 47,1	13 07,1	5,9	5,4	11,9	10,9	17,9	16,4
60	13 45,0	13 47,3	13 07,4	6,0	5,5	12,0	11,0	18,0	16,5

m 55	SOL PLANETAS	ARIES	LUNA	v d	Corr	v d	Corr	v d	Corr
s	° ′	° ′	° ′	′	′	′	′	′	′
00	13 45,0	13 47,3	13 07,4	0,0	0,0	6,0	5,6	12,0	11,2
01	13 45,3	13 47,6	13 07,6	0,1	0,1	6,1	5,7	12,1	11,3
02	13 45,5	13 47,8	13 07,9	0,2	0,2	6,2	5,8	12,2	11,4
03	13 45,8	13 48,1	13 08,1	0,3	0,3	6,3	5,9	12,3	11,5
04	13 46,0	13 48,3	13 08,4	0,4	0,4	6,4	6,0	12,4	11,6
05	13 46,3	13 48,6	13 08,6	0,5	0,5	6,5	6,1	12,5	11,7
06	13 46,5	13 48,8	13 08,8	0,6	0,6	6,6	6,2	12,6	11,8
07	13 46,8	13 49,1	13 09,1	0,7	0,7	6,7	6,3	12,7	11,9
08	13 47,0	13 49,3	13 09,3	0,8	0,8	6,8	6,3	12,8	11,9
09	13 47,3	13 49,6	13 09,6	0,9	0,8	6,9	6,4	12,9	12,0
10	13 47,5	13 49,8	13 09,8	1,0	0,9	7,0	6,5	13,0	12,1
11	13 47,8	13 50,1	13 10,0	1,1	1,0	7,1	6,6	13,1	12,2
12	13 48,0	13 50,3	13 10,3	1,2	1,1	7,2	6,7	13,2	12,3
13	13 48,3	13 50,6	13 10,5	1,3	1,2	7,3	6,8	13,3	12,4
14	13 48,5	13 50,8	13 10,7	1,4	1,3	7,4	6,9	13,4	12,5
15	13 48,8	13 51,1	13 11,0	1,5	1,4	7,5	7,0	13,5	12,6
16	13 49,0	13 51,3	13 11,2	1,6	1,5	7,6	7,1	13,6	12,7
17	13 49,3	13 51,6	13 11,5	1,7	1,6	7,7	7,2	13,7	12,8
18	13 49,5	13 51,8	13 11,7	1,8	1,7	7,8	7,3	13,8	12,9
19	13 49,8	13 52,1	13 11,9	1,9	1,8	7,9	7,4	13,9	13,0
20	13 50,0	13 52,3	13 12,2	2,0	1,9	8,0	7,5	14,0	13,1
21	13 50,3	13 52,6	13 12,4	2,1	2,0	8,1	7,6	14,1	13,2
22	13 50,5	13 52,8	13 12,7	2,2	2,1	8,2	7,6	14,2	13,2
23	13 50,8	13 53,1	13 12,9	2,3	2,1	8,3	7,7	14,3	13,3
24	13 51,0	13 53,3	13 13,1	2,4	2,2	8,4	7,8	14,4	13,4
25	13 51,3	13 53,6	13 13,4	2,5	2,3	8,5	7,9	14,5	13,5
26	13 51,5	13 53,8	13 13,6	2,6	2,4	8,6	8,0	14,6	13,6
27	13 51,8	13 54,1	13 13,9	2,7	2,5	8,7	8,1	14,7	13,7
28	13 52,0	13 54,3	13 14,1	2,8	2,6	8,8	8,2	14,8	13,8
29	13 52,3	13 54,6	13 14,3	2,9	2,7	8,9	8,3	14,9	13,9
30	13 52,5	13 54,8	13 14,6	3,0	2,8	9,0	8,4	15,0	14,0
31	13 52,8	13 55,1	13 14,8	3,1	2,9	9,1	8,5	15,1	14,1
32	13 53,0	13 55,3	13 15,1	3,2	3,0	9,2	8,6	15,2	14,2
33	13 53,3	13 55,6	13 15,3	3,3	3,1	9,3	8,7	15,3	14,3
34	13 53,5	13 55,8	13 15,5	3,4	3,2	9,4	8,8	15,4	14,4
35	13 53,8	13 56,1	13 15,8	3,5	3,3	9,5	8,9	15,5	14,5
36	13 54,0	13 56,3	13 16,0	3,6	3,4	9,6	8,9	15,6	14,5
37	13 54,3	13 56,6	13 16,3	3,7	3,4	9,7	9,0	15,7	14,6
38	13 54,5	13 56,8	13 16,5	3,8	3,5	9,8	9,1	15,8	14,7
39	13 54,8	13 57,1	13 16,7	3,9	3,6	9,9	9,2	15,9	14,8
40	13 55,0	13 57,3	13 17,0	4,0	3,7	10,0	9,3	16,0	14,9
41	13 55,3	13 57,6	13 17,2	4,1	3,8	10,1	9,4	16,1	15,0
42	13 55,5	13 57,8	13 17,4	4,2	3,9	10,2	9,5	16,2	15,1
43	13 55,8	13 58,1	13 17,7	4,3	4,0	10,3	9,6	16,3	15,2
44	13 56,0	13 58,3	13 17,9	4,4	4,1	10,4	9,7	16,4	15,3
45	13 56,3	13 58,6	13 18,2	4,5	4,2	10,5	9,8	16,5	15,4
46	13 56,5	13 58,8	13 18,4	4,6	4,3	10,6	9,9	16,6	15,5
47	13 56,8	13 59,1	13 18,6	4,7	4,4	10,7	10,0	16,7	15,6
48	13 57,0	13 59,3	13 18,9	4,8	4,5	10,8	10,1	16,8	15,7
49	13 57,3	13 59,6	13 19,1	4,9	4,6	10,9	10,2	16,9	15,8
50	13 57,5	13 59,8	13 19,4	5,0	4,7	11,0	10,3	17,0	15,9
51	13 57,8	14 00,0	13 19,6	5,1	4,8	11,1	10,3	17,1	15,9
52	13 58,0	14 00,3	13 19,8	5,2	4,8	11,2	10,4	17,2	16,0
53	13 58,3	14 00,5	13 20,1	5,3	4,9	11,3	10,5	17,3	16,1
54	13 58,5	14 00,8	13 20,3	5,4	5,0	11,4	10,6	17,4	16,2
55	13 58,8	14 01,1	13 20,6	5,5	5,1	11,5	10,7	17,5	16,3
56	13 59,0	14 01,3	13 20,8	5,6	5,2	11,6	10,8	17,6	16,4
57	13 59,3	14 01,6	13 21,0	5,7	5,3	11,7	10,9	17,7	16,5
58	13 59,5	14 01,8	13 21,3	5,8	5,4	11,8	11,0	17,8	16,6
59	13 59,8	14 02,1	13 21,5	5,9	5,5	11,9	11,1	17,9	16,7
60	14 00,0	14 02,3	13 21,7	6,0	5,6	12,0	11,2	18,0	16,7

m 56	SOL PLANETAS	ARIES	LUNA	v d	Corr	v d	Corr	v d	Corr
s	° ′	° ′	° ′	′	′	′	′	′	′
00	14 00,0	14 02,3	13 21,7	0,0	0,0	6,0	5,7	12,0	11,3
01	14 00,3	14 02,6	13 21,9	0,1	0,1	6,1	5,8	12,1	11,4
02	14 00,5	14 02,8	13 22,2	0,2	0,2	6,2	5,9	12,2	11,5
03	14 00,8	14 03,1	13 22,4	0,3	0,3	6,3	6,0	12,3	11,6
04	14 01,0	14 03,3	13 22,7	0,4	0,4	6,4	6,1	12,4	11,7
05	14 01,3	14 03,6	13 22,9	0,5	0,5	6,5	6,2	12,5	11,8
06	14 01,5	14 03,8	13 23,1	0,6	0,6	6,6	6,3	12,6	11,9
07	14 01,8	14 04,1	13 23,4	0,7	0,7	6,7	6,4	12,7	12,0
08	14 02,0	14 04,3	13 23,6	0,8	0,8	6,8	6,5	12,8	12,1
09	14 02,3	14 04,6	13 23,9	0,9	0,9	6,9	6,6	12,9	12,2
10	14 02,5	14 04,8	13 24,1	1,0	1,0	7,0	6,7	13,0	12,3
11	14 02,8	14 05,1	13 24,3	1,1	1,1	7,1	6,7	13,1	12,3
12	14 03,0	14 05,3	13 24,6	1,2	1,1	7,2	6,8	13,2	12,4
13	14 03,3	14 05,6	13 24,8	1,3	1,2	7,3	6,9	13,3	12,5
14	14 03,5	14 05,8	13 25,0	1,4	1,3	7,4	7,0	13,4	12,6
15	14 03,8	14 06,1	13 25,3	1,5	1,4	7,5	7,1	13,5	12,7
16	14 04,0	14 06,3	13 25,5	1,6	1,5	7,6	7,2	13,6	12,8
17	14 04,3	14 06,6	13 25,8	1,7	1,6	7,7	7,3	13,7	12,9
18	14 04,5	14 06,8	13 26,0	1,8	1,7	7,8	7,4	13,8	13,0
19	14 04,8	14 07,1	13 26,2	1,9	1,8	7,9	7,5	13,9	13,1
20	14 05,0	14 07,3	13 26,5	2,0	1,9	8,0	7,6	14,0	13,2
21	14 05,3	14 07,6	13 26,7	2,1	2,0	8,1	7,7	14,1	13,3
22	14 05,5	14 07,8	13 27,0	2,2	2,1	8,2	7,8	14,2	13,4
23	14 05,8	14 08,1	13 27,2	2,3	2,2	8,3	7,9	14,3	13,5
24	14 06,0	14 08,3	13 27,4	2,4	2,3	8,4	8,0	14,4	13,6
25	14 06,3	14 08,6	13 27,7	2,5	2,4	8,5	8,1	14,5	13,7
26	14 06,5	14 08,8	13 27,9	2,6	2,5	8,6	8,2	14,6	13,8
27	14 06,8	14 09,1	13 28,2	2,7	2,6	8,7	8,3	14,7	13,9
28	14 07,0	14 09,3	13 28,4	2,8	2,7	8,8	8,4	14,8	14,0
29	14 07,3	14 09,6	13 28,6	2,9	2,8	8,9	8,5	14,9	14,1
30	14 07,5	14 09,8	13 28,9	3,0	2,9	9,0	8,6	15,0	14,2
31	14 07,8	14 10,1	13 29,1	3,1	3,0	9,1	8,6	15,1	14,2
32	14 08,0	14 10,3	13 29,4	3,2	3,0	9,2	8,7	15,2	14,3
33	14 08,3	14 10,6	13 29,6	3,3	3,1	9,3	8,8	15,3	14,4
34	14 08,5	14 10,8	13 29,8	3,4	3,2	9,4	8,9	15,4	14,5
35	14 08,8	14 11,1	13 30,1	3,5	3,3	9,5	9,0	15,5	14,6
36	14 09,0	14 11,3	13 30,3	3,6	3,4	9,6	9,1	15,6	14,7
37	14 09,3	14 11,6	13 30,6	3,7	3,5	9,7	9,2	15,7	14,8
38	14 09,5	14 11,8	13 30,8	3,8	3,6	9,8	9,3	15,8	14,9
39	14 09,8	14 12,1	13 31,0	3,9	3,7	9,9	9,4	15,9	15,0
40	14 10,0	14 12,3	13 31,3	4,0	3,8	10,0	9,5	16,0	15,1
41	14 10,3	14 12,6	13 31,5	4,1	3,9	10,1	9,6	16,1	15,2
42	14 10,5	14 12,8	13 31,7	4,2	4,0	10,2	9,7	16,2	15,3
43	14 10,8	14 13,1	13 32,0	4,3	4,1	10,3	9,8	16,3	15,4
44	14 11,0	14 13,3	13 32,2	4,4	4,2	10,4	9,9	16,4	15,5
45	14 11,3	14 13,6	13 32,5	4,5	4,3	10,5	10,0	16,5	15,6
46	14 11,5	14 13,8	13 32,7	4,6	4,4	10,6	10,1	16,6	15,7
47	14 11,8	14 14,1	13 32,9	4,7	4,5	10,7	10,2	16,7	15,8
48	14 12,0	14 14,3	13 33,2	4,8	4,6	10,8	10,3	16,8	15,9
49	14 12,3	14 14,6	13 33,4	4,9	4,7	10,9	10,4	16,9	16,0
50	14 12,5	14 14,8	13 33,7	5,0	4,8	11,0	10,5	17,0	16,1
51	14 12,8	14 15,1	13 33,9	5,1	4,9	11,1	10,5	17,1	16,1
52	14 13,0	14 15,3	13 34,1	5,2	4,9	11,2	10,6	17,2	16,2
53	14 13,3	14 15,6	13 34,4	5,3	5,0	11,3	10,7	17,3	16,3
54	14 13,5	14 15,8	13 34,6	5,4	5,1	11,4	10,8	17,4	16,4
55	14 13,8	14 16,1	13 34,9	5,5	5,2	11,5	10,9	17,5	16,5
56	14 14,0	14 16,3	13 35,1	5,6	5,3	11,6	11,0	17,6	16,6
57	14 14,3	14 16,6	13 35,3	5,7	5,4	11,7	11,1	17,7	16,7
58	14 14,5	14 16,8	13 35,6	5,8	5,5	11,8	11,2	17,8	16,8
59	14 14,8	14 17,1	13 35,8	5,9	5,6	11,9	11,3	17,9	16,9
60	14 15,0	14 17,3	13 36,1	6,0	5,7	12,0	11,4	18,0	17,0

m 57	SOL PLANETAS	ARIES	LUNA	v d	Corr	v d	Corr	v d	Corr
s	° ′	° ′	° ′	′	′	′	′	′	′
00	14 15,0	14 17,3	13 36,1	0,0	0,0	6,0	5,8	12,0	11,5
01	14 15,3	14 17,6	13 36,3	0,1	0,1	6,1	5,9	12,1	11,6
02	14 15,5	14 17,8	13 36,6	0,2	0,2	6,2	6,0	12,2	11,7
03	14 15,8	14 18,1	13 36,8	0,3	0,3	6,3	6,1	12,3	11,8
04	14 16,0	14 18,3	13 37,1	0,4	0,4	6,4	6,2	12,4	11,9
05	14 16,3	14 18,6	13 37,3	0,5	0,5	6,5	6,3	12,5	12,0
06	14 16,5	14 18,8	13 37,5	0,6	0,6	6,6	6,4	12,6	12,1
07	14 16,8	14 19,1	13 37,8	0,7	0,7	6,7	6,5	12,7	12,2
08	14 17,0	14 19,3	13 38,0	0,8	0,8	6,8	6,6	12,8	12,3
09	14 17,3	14 19,6	13 38,3	0,9	0,9	6,9	6,7	12,9	12,4
10	14 17,5	14 19,8	13 38,5	1,0	1,0	7,0	6,8	13,0	12,5
11	14 17,8	14 20,1	13 38,7	1,1	1,1	7,1	6,9	13,1	12,6
12	14 18,0	14 20,3	13 39,0	1,2	1,2	7,2	7,0	13,2	12,7
13	14 18,3	14 20,6	13 39,2	1,3	1,3	7,3	7,0	13,3	12,7
14	14 18,5	14 20,8	13 39,4	1,4	1,4	7,4	7,1	13,4	12,8
15	14 18,8	14 21,1	13 39,7	1,5	1,5	7,5	7,2	13,5	12,9
16	14 19,0	14 21,3	13 39,9	1,6	1,6	7,6	7,3	13,6	13,0
17	14 19,3	14 21,6	13 40,2	1,7	1,7	7,7	7,4	13,7	13,1
18	14 19,5	14 21,8	13 40,4	1,8	1,7	7,8	7,5	13,8	13,2
19	14 19,8	14 22,1	13 40,6	1,9	1,8	7,9	7,6	13,9	13,3
20	14 20,0	14 22,3	13 40,9	2,0	1,9	8,0	7,7	14,0	13,4
21	14 20,3	14 22,6	13 41,1	2,1	2,0	8,1	7,8	14,1	13,5
22	14 20,5	14 22,8	13 41,4	2,2	2,1	8,2	7,9	14,2	13,6
23	14 20,8	14 23,1	13 41,6	2,3	2,2	8,3	8,0	14,3	13,7
24	14 21,0	14 23,3	13 41,8	2,4	2,3	8,4	8,1	14,4	13,8
25	14 21,3	14 23,6	13 42,1	2,5	2,4	8,5	8,2	14,5	13,9
26	14 21,5	14 23,8	13 42,3	2,6	2,5	8,6	8,3	14,6	14,0
27	14 21,8	14 24,1	13 42,6	2,7	2,6	8,7	8,4	14,7	14,1
28	14 22,0	14 24,3	13 42,8	2,8	2,7	8,8	8,5	14,8	14,2
29	14 22,3	14 24,6	13 43,0	2,9	2,8	8,9	8,6	14,9	14,3
30	14 22,5	14 24,8	13 43,3	3,0	2,9	9,0	8,7	15,0	14,4
31	14 22,8	14 25,1	13 43,5	3,1	3,0	9,1	8,8	15,1	14,5
32	14 23,0	14 25,3	13 43,8	3,2	3,1	9,2	8,9	15,2	14,6
33	14 23,3	14 25,6	13 44,0	3,3	3,2	9,3	9,0	15,3	14,7
34	14 23,5	14 25,8	13 44,2	3,4	3,3	9,4	9,1	15,4	14,8
35	14 23,8	14 26,1	13 44,5	3,5	3,4	9,5	9,2	15,5	14,9
36	14 24,0	14 26,3	13 44,7	3,6	3,5	9,6	9,3	15,6	15,0
37	14 24,3	14 26,6	13 45,0	3,7	3,6	9,7	9,4	15,7	15,1
38	14 24,5	14 26,8	13 45,2	3,8	3,7	9,8	9,4	15,8	15,1
39	14 24,8	14 27,1	13 45,4	3,9	3,8	9,9	9,5	15,9	15,2
40	14 25,0	14 27,3	13 45,7	4,0	3,9	10,0	9,6	16,0	15,3
41	14 25,3	14 27,6	13 45,9	4,1	4,0	10,1	9,7	16,1	15,4
42	14 25,5	14 27,8	13 46,1	4,2	4,1	10,2	9,8	16,2	15,5
43	14 25,8	14 28,1	13 46,4	4,3	4,2	10,3	9,9	16,3	15,6
44	14 26,0	14 28,3	13 46,6	4,4	4,3	10,4	10,0	16,4	15,7
45	14 26,3	14 28,6	13 46,9	4,5	4,4	10,5	10,1	16,5	15,8
46	14 26,5	14 28,8	13 47,1	4,6	4,5	10,6	10,2	16,6	15,9
47	14 26,8	14 29,1	13 47,3	4,7	4,6	10,7	10,3	16,7	16,0
48	14 27,0	14 29,3	13 47,6	4,8	4,7	10,8	10,4	16,8	16,1
49	14 27,3	14 29,6	13 47,8	4,9	4,8	10,9	10,5	16,9	16,2
50	14 27,5	14 29,8	13 48,1	5,0	4,9	11,0	10,6	17,0	16,3
51	14 27,8	14 30,1	13 48,3	5,1	5,0	11,1	10,7	17,1	16,4
52	14 28,0	14 30,3	13 48,5	5,2	5,0	11,2	10,8	17,2	16,5
53	14 28,3	14 30,6	13 48,8	5,3	5,1	11,3	10,9	17,3	16,6
54	14 28,5	14 30,8	13 49,0	5,4	5,2	11,4	11,0	17,4	16,7
55	14 28,8	14 31,1	13 49,3	5,5	5,3	11,5	11,1	17,5	16,8
56	14 29,0	14 31,3	13 49,5	5,6	5,4	11,6	11,2	17,6	16,9
57	14 29,3	14 31,6	13 49,7	5,7	5,5	11,7	11,3	17,7	17,0
58	14 29,5	14 31,8	13 50,0	5,8	5,6	11,8	11,4	17,8	17,1
59	14 29,8	14 32,1	13 50,1	5,9	5,7	11,9	11,5	17,9	17,2
60	-14 30,0	14 32,4	13 50,4	6,0	5,8	12,0	11,6	18,0	17,3

m 58	SOL PLANETAS	ARIES	LUNA	v d	Corr	v d	Corr	v d	Corr
s	° ′	° ′	° ′	′	′	′	′	′	′
00	14 30,0	14 32,4	13 50,4	0,0	0,0	6,0	5,9	12,0	11,8
01	14 30,3	14 32,7	13 50,6	0,1	0,1	6,1	6,0	12,1	11,9
02	14 30,5	14 32,9	13 50,9	0,2	0,2	6,2	6,1	12,2	12,0
03	14 30,8	14 33,2	13 51,1	0,3	0,3	6,3	6,2	12,3	12,1
04	14 31,0	14 33,4	13 51,4	0,4	0,4	6,4	6,3	12,4	12,2
05	14 31,3	14 33,7	13 51,6	0,5	0,5	6,5	6,4	12,5	12,3
06	14 31,5	14 33,9	13 51,8	0,6	0,6	6,6	6,5	12,6	12,4
07	14 31,8	14 34,2	13 52,1	0,7	0,7	6,7	6,6	12,7	12,5
08	14 32,0	14 34,4	13 52,3	0,8	0,8	6,8	6,7	12,8	12,6
09	14 32,3	14 34,7	13 52,6	0,9	0,9	6,9	6,8	12,9	12,7
10	14 32,5	14 34,9	13 52,8	1,0	1,0	7,0	6,9	13,0	12,8
11	14 32,8	14 35,2	13 53,0	1,1	1,1	7,1	7,0	13,1	12,9
12	14 33,0	14 35,4	13 53,3	1,2	1,2	7,2	7,1	13,2	13,0
13	14 33,3	14 35,7	13 53,5	1,3	1,3	7,3	7,2	13,3	13,1
14	14 33,5	14 35,9	13 53,7	1,4	1,4	7,4	7,3	13,4	13,2
15	14 33,8	14 36,2	13 54,0	1,5	1,5	7,5	7,4	13,5	13,3
16	14 34,0	14 36,4	13 54,2	1,6	1,6	7,6	7,5	13,6	13,4
17	14 34,3	14 36,7	13 54,5	1,7	1,7	7,7	7,6	13,7	13,4
18	14 34,5	14 36,9	13 54,7	1,8	1,7	7,8	7,7	13,8	13,5
19	14 34,8	14 37,2	13 54,9	1,9	1,8	7,9	7,8	13,9	13,6
20	14 35,0	14 37,4	13 55,2	2,0	1,9	8,0	7,9	14,0	13,7
21	14 35,3	14 37,7	13 55,4	2,1	2,0	8,1	8,0	14,1	13,8
22	14 35,5	14 37,9	13 55,7	2,2	2,1	8,2	8,1	14,2	13,9
23	14 35,8	14 38,2	13 55,9	2,3	2,2	8,3	8,2	14,3	14,0
24	14 36,0	14 38,4	13 56,1	2,4	2,3	8,4	8,3	14,4	14,1
25	14 36,3	14 38,7	13 56,4	2,5	2,4	8,5	8,4	14,5	14,2
26	14 36,5	14 38,9	13 56,6	2,6	2,5	8,6	8,4	14,6	14,3
27	14 36,8	14 39,2	13 56,9	2,7	2,6	8,7	8,5	14,7	14,4
28	14 37,0	14 39,4	13 57,1	2,8	2,7	8,8	8,6	14,8	14,5
29	14 37,3	14 39,7	13 57,3	2,9	2,8	8,9	8,7	14,9	14,6
30	14 37,5	14 39,9	13 57,6	3,0	2,9	9,0	8,8	15,0	14,7
31	14 37,8	14 40,2	13 57,8	3,1	3,0	9,1	8,9	15,1	14,8
32	14 38,0	14 40,4	13 58,1	3,2	3,1	9,2	9,0	15,2	14,9
33	14 38,3	14 40,7	13 58,3	3,3	3,2	9,3	9,1	15,3	15,0
34	14 38,5	14 40,9	13 58,5	3,4	3,3	9,4	9,2	15,4	15,1
35	14 38,8	14 41,2	13 58,8	3,5	3,4	9,5	9,3	15,5	15,2
36	14 39,0	14 41,4	13 59,0	3,6	3,5	9,6	9,4	15,6	15,3
37	14 39,3	14 41,7	13 59,3	3,7	3,6	9,7	9,5	15,7	15,4
38	14 39,5	14 41,9	13 59,5	3,8	3,7	9,8	9,6	15,8	15,5
39	14 39,8	14 42,2	13 59,7	3,9	3,8	9,9	9,7	15,9	15,6
40	14 40,0	14 42,4	14 00,0	4,0	3,9	10,0	9,8	16,0	15,7
41	14 40,3	14 42,7	14 00,2	4,1	4,0	10,1	9,9	16,1	15,8
42	14 40,5	14 42,9	14 00,4	4,2	4,1	10,2	10,0	16,2	15,9
43	14 40,8	14 43,2	14 00,7	4,3	4,2	10,3	10,1	16,3	16,0
44	14 41,0	14 43,4	14 00,9	4,4	4,3	10,4	10,2	16,4	16,1
45	14 41,3	14 43,7	14 01,2	4,5	4,4	10,5	10,3	16,5	16,2
46	14 41,5	14 43,9	14 01,4	4,6	4,5	10,6	10,4	16,6	16,3
47	14 41,8	14 44,2	14 01,6	4,7	4,6	10,7	10,5	16,7	16,4
48	14 42,0	14 44,4	14 01,9	4,8	4,7	10,8	10,6	16,8	16,5
49	14 42,3	14 44,7	14 02,1	4,9	4,8	10,9	10,7	16,9	16,5
50	14 42,5	14 44,9	14 02,4	5,0	4,9	11,0	10,8	17,0	16,6
51	14 42,8	14 45,2	14 02,6	5,1	5,0	11,1	10,9	17,1	16,7
52	14 43,0	14 45,4	14 02,8	5,2	5,0	11,2	11,0	17,2	16,8
53	14 43,3	14 45,7	14 03,1	5,3	5,1	11,3	11,1	17,3	16,9
54	14 43,5	14 45,9	14 03,3	5,4	5,2	11,4	11,2	17,4	17,0
55	14 43,8	14 46,2	14 03,6	5,5	5,3	11,5	11,3	17,5	17,1
56	14 44,0	14 46,4	14 03,8	5,6	5,4	11,6	11,4	17,6	17,2
57	14 44,3	14 46,7	14 04,0	5,7	5,5	11,7	11,5	17,7	17,3
58	14 44,5	14 46,9	14 04,2	5,8	5,6	11,8	11,6	17,8	17,4
59	14 44,8	14 47,2	14 04,4	5,9	5,7	11,9	11,7	17,9	17,5
60	14 45,0	14 47,4	14 04,7	6,0	5,9	12,0	11,8	18,0	17,6

m 59	SOL PLANETAS	ARIES	LUNA	v d	Corr	v d	Corr	v d	Corr
s	° ′	° ′	° ′	′	′	′	′	′	′
00	14 45,0	14 47,4	14 04,7	0,0	0,0	6,0	6,0	12,0	12,0
01	14 45,3	14 47,7	14 04,9	0,1	0,1	6,1	6,1	12,1	12,1
02	14 45,5	14 47,9	14 05,2	0,2	0,2	6,2	6,2	12,2	12,2
03	14 45,8	14 48,2	14 05,4	0,3	0,3	6,3	6,3	12,3	12,3
04	14 46,0	14 48,4	14 05,7	0,4	0,4	6,4	6,4	12,4	12,4
05	14 46,3	14 48,7	14 05,9	0,5	0,5	6,5	6,5	12,5	12,5
06	14 46,5	14 48,9	14 06,1	0,6	0,6	6,6	6,6	12,6	12,6
07	14 46,8	14 49,2	14 06,4	0,7	0,7	6,7	6,7	12,7	12,7
08	14 47,0	14 49,4	14 06,6	0,8	0,8	6,8	6,8	12,8	12,8
09	14 47,3	14 49,7	14 06,9	0,9	0,9	6,9	6,9	12,9	12,9
10	14 47,5	14 49,9	14 07,1	1,0	1,0	7,0	7,0	13,0	13,0
11	14 47,8	14 50,2	14 07,3	1,1	1,1	7,1	7,1	13,1	13,1
12	14 48,0	14 50,4	14 07,6	1,2	1,2	7,2	7,2	13,2	13,2
13	14 48,3	14 50,7	14 07,8	1,3	1,3	7,3	7,3	13,3	13,3
14	14 48,5	14 50,9	14 08,0	1,4	1,4	7,4	7,4	13,4	13,4
15	14 48,8	14 51,2	14 08,3	1,5	1,5	7,5	7,5	13,5	13,5
16	14 49,0	14 51,4	14 08,5	1,6	1,6	7,6	7,6	13,6	13,6
17	14 49,3	14 51,7	14 08,8	1,7	1,7	7,7	7,7	13,7	13,7
18	14 49,5	14 51,9	14 09,0	1,8	1,8	7,8	7,8	13,8	13,8
19	14 49,8	14 52,2	14 09,2	1,9	1,9	7,9	7,9	13,9	13,9
20	14 50,0	14 52,4	14 09,5	2,0	2,0	8,0	8,0	14,0	14,0
21	14 50,3	14 52,7	14 09,7	2,1	2,1	8,1	8,1	14,1	14,1
22	14 50,5	14 52,9	14 10,0	2,2	2,2	8,2	8,2	14,2	14,2
23	14 50,8	14 53,2	14 10,2	2,3	2,3	8,3	8,3	14,3	14,3
24	14 51,0	14 53,4	14 10,4	2,4	2,4	8,4	8,4	14,4	14,4
25	14 51,3	14 53,7	14 10,7	2,5	2,5	8,5	8,5	14,5	14,5
26	14 51,5	14 53,9	14 10,9	2,6	2,6	8,6	8,6	14,6	14,6
27	14 51,8	14 54,2	14 11,2	2,7	2,7	8,7	8,7	14,7	14,7
28	14 52,0	14 54,4	14 11,4	2,8	2,8	8,8	8,8	14,8	14,8
29	14 52,3	14 54,7	14 11,6	2,9	2,9	8,9	8,9	14,9	14,9
30	14 52,5	14 54,9	14 11,9	3,0	3,0	9,0	9,0	15,0	15,0
31	14 52,8	14 55,2	14 12,1	3,1	3,1	9,1	9,1	15,1	15,1
32	14 53,0	14 55,4	14 12,4	3,2	3,2	9,2	9,2	15,2	15,2
33	14 53,3	14 55,7	14 12,6	3,3	3,3	9,3	9,3	15,3	15,3
34	14 53,5	14 55,9	14 12,8	3,4	3,4	9,4	9,4	15,4	15,4
35	14 53,8	14 56,2	14 13,1	3,5	3,5	9,5	9,5	15,5	15,5
36	14 54,0	14 56,4	14 13,3	3,6	3,6	9,6	9,6	15,6	15,6
37	14 54,3	14 56,7	14 13,6	3,7	3,7	9,7	9,7	15,7	15,7
38	14 54,5	14 56,9	14 13,8	3,8	3,8	9,8	9,8	15,8	15,8
39	14 54,8	14 57,2	14 14,0	3,9	3,9	9,9	9,9	15,9	15,9
40	14 55,0	14 57,4	14 14,3	4,0	4,0	10,0	10,0	16,0	16,0
41	14 55,3	14 57,7	14 14,5	4,1	4,1	10,1	10,1	16,1	16,1
42	14 55,5	14 57,9	14 14,7	4,2	4,2	10,2	10,2	16,2	16,2
43	14 55,8	14 58,2	14 15,0	4,3	4,3	10,3	10,3	16,3	16,3
44	14 56,0	14 58,4	14 15,2	4,4	4,4	10,4	10,4	16,4	16,4
45	14 56,3	14 58,7	14 15,5	4,5	4,5	10,5	10,5	16,5	16,5
46	14 56,5	14 58,9	14 15,7	4,6	4,6	10,6	10,6	16,6	16,6
47	14 56,8	14 59,2	14 15,9	4,7	4,7	10,7	10,7	16,7	16,7
48	14 57,0	14 59,4	14 16,2	4,8	4,8	10,8	10,8	16,8	16,8
49	14 57,3	14 59,7	14 16,4	4,9	4,9	10,9	10,9	16,9	16,9
50	14 57,5	14 59,9	14 16,6	5,0	5,0	11,0	11,0	17,0	17,0
51	14 57,8	15 00,0	14 16,8	5,1	5,1	11,1	11,1	17,1	17,1
52	14 58,0	15 00,3	14 17,0	5,2	5,2	11,2	11,2	17,2	17,2
53	14 58,3	15 00,5	14 17,3	5,3	5,3	11,3	11,3	17,3	17,3
54	14 58,5	15 00,8	14 17,5	5,4	5,4	11,4	11,4	17,4	17,4
55	14 58,8	15 01,2	14 17,8	5,5	5,5	11,5	11,5	17,5	17,5
56	14 59,0	15 01,4	14 18,0	5,6	5,6	11,6	11,6	17,6	17,6
57	14 59,3	15 01,7	14 18,2	5,7	5,7	11,7	11,7	17,7	17,7
58	14 59,5	15 02,0	14 18,5	5,8	5,8	11,8	11,8	17,8	17,8
59	14 59,8	15 02,3	14 18,7	5,9	5,9	11,9	11,9	17,9	17,9
60	15 00,0	15 02,5	14 19,0	6,0	6,0	12,0	12,0	18,0	18,0

Tablas de Interpolación
(Orto, Ocaso, Crepúsculos)

Tabla – I Latitud

Intervalo Tabular			Diferencia de tiempo para latitudes consecutivas															
10°	5°	2°	5m	10m	15m	20m	25m	30m	35m	40m	45m	50m	55m	60m	1h05m	1h10m	1h15m	1h20m
0°30'	0° 15'	0° 06'	0 m	0 m	1 m	1 m	1 m	1 m	1 m	2 m	2 m	2 m	2 m	2 m	0h02m	0h02m	0h02m	0h02m
1 00	0 30	0 12	0	1	1	2	2	3	3	3	4	4	4	5	05	05	05	05
1 30	0 45	0 18	1	1	2	3	3	4	4	5	5	6	7	7	07	07	07	07
2 00	1 00	0 24	1	2	3	4	5	5	6	7	7	8	9	10	10	10	10	10
2 30	1 15	0 30	1	2	4	5	6	7	8	9	9	10	11	12	12	13	13	13
3 00	1 30	0 36	1	3	4	6	7	8	9	10	11	12	13	14	0 15	0 15	0 16	0 16
3 30	1 45	0 42	2	3	5	7	8	10	11	12	13	14	16	17	18	18	19	19
4 00	2 00	0 48	2	4	6	8	9	11	13	14	15	16	18	19	20	21	22	22
4 30	2 15	0 54	2	4	7	9	11	13	15	16	18	19	21	22	23	24	25	26
5 00	2 30	1 00	2	5	7	10	12	14	16	18	20	22	23	25	26	27	28	29
5 30	2 45	1 06	3	5	8	11	13	16	18	20	22	24	26	28	0 29	0 30	0 31	0 32
6 00	3 00	1 12	3	6	9	12	14	17	20	22	24	26	29	31	32	33	34	36
6 30	3 15	1 18	3	6	10	13	16	19	22	24	26	29	31	34	36	37	38	40
7 00	3 30	1 24	3	7	10	14	17	20	23	26	29	31	34	37	39	41	42	44
7 30	3 45	1 30	4	7	11	15	18	22	25	28	31	34	37	40	43	44	46	48
8 00	4 00	1 36	4	8	12	16	20	23	27	30	34	37	41	44	0 47	0 48	0 51	0 53
8 30	4 15	1 42	4	8	13	17	21	25	29	33	36	40	44	48	0 51	0 53	0 56	0 58
9 00	4 30	1 48	4	9	13	18	22	27	31	35	39	43	47	52	0 55	0 58	1 01	1 04
9 30	4 45	1 54	5	9	14	19	24	28	33	38	42	47	51	56	1 00	1 04	1 08	1 12
10 00	5 00	2 00	5	10	15	20	25	30	35	40	45	50	55	60	1 05	1 10	1 15	1 20

Tabla – II Longitud

Longitud Este u Oeste	Diferencia de tiempo entre la fecha dada y la anterior para longitud Este; o entre la fecha dada y la siguiente para longitud Oeste.																	
							1h +					2h +						3h00m
	10m	20m	30m	40m	50m	60m	10m	20m	30m	40m	50m	00m	10m	20m	30m	40m	50m	
0°	0m	0m	0m	0m	0m	0m	0m	0m	0m	0m	0m	0m	0h00m	0h00m	0h00m	0h00m	0h00m	0h00m
10°	0	1	1	1	1	2	2	2	2	3	3	3	04	04	04	04	05	05
20°	1	1	2	2	3	3	4	4	5	6	6	7	07	08	08	09	09	10
30°	1	2	2	3	4	5	6	7	7	8	9	10	11	12	12	13	14	15
40°	1	2	3	4	6	7	8	9	10	11	12	13	14	16	17	18	19	20
50°	1	3	4	6	7	8	10	11	12	14	15	17	0 18	0 19	0 21	0 22	0 24	0 25
60°	2	3	5	7	8	10	12	13	15	17	18	20	22	23	25	27	28	30
70°	2	4	6	8	10	12	14	16	17	19	21	23	25	27	29	31	33	35
80°	2	4	7	9	11	13	16	18	20	22	24	27	29	31	33	36	38	40
90°	2	5	7	10	12	15	17	20	22	25	27	30	32	35	37	40	42	45
100°	3	6	8	11	14	17	19	22	25	28	31	33	0 36	0 39	0 42	0 44	0 47	0 50
110°	3	6	9	12	15	18	21	24	27	31	34	37	40	43	46	49	52	55
120°	3	7	10	13	17	20	23	27	30	33	37	40	43	47	50	53	57	1 00
130°	4	7	11	14	18	22	25	29	32	36	40	43	47	51	54	58	1 01	1 05
140°	4	8	12	16	19	23	27	31	35	39	43	47	51	54	58	1 02	1 06	1 10
150°	4	8	13	17	21	25	29	33	38	42	46	50	0 54	0 58	1 03	1 07	1 11	1 15
160°	4	9	13	18	22	27	31	36	40	44	49	53	58	1 02	1 07	1 11	1 16	1 20
170°	5	9	14	19	24	28	33	38	42	47	52	57	1 01	1 06	1 11	1 16	1 20	1 25
180°	5	10	15	20	25	30	35	40	45	50	55	60	1 05	1 10	1 15	1 20	1 25	1 30

T_5 Tabla de corrección de la altura 0° - 35° LUNA

ha	0°- 4°	5°- 9°	10°- 14°	15°- 19°	20°- 24°	25°- 29°	30°- 34°	ha
	Corr^n	Corr^n	Corr^n	Corr^n	Corr^n	Corr^n	Corr^n	
′	0°	5°	10°	15°	20°	25°	30°	
00	33,8	58,2	62,1	62,8	62,2	60,8	58,9	00
10	35,9	58,5	62,2	62,8	62,1	60,8	58,8	10
20	37,8	58,7	62,2	62,8	62,1	60,8	58,8	20
30	39,6	58,9	62,3	62,8	62,1	60,7	58,7	30
40	41,2	59,1	62,3	62,8	62,0	60,6	58,6	40
50	42,6	59,3	62,4	62,8	62,0	60,6	58,5	50
	1	6	11	16	21	26	31	
00	44,0	59,5	62,4	62,7	62,0	60,5	58,5	00
10	45,2	59,7	62,4	62,7	61,9	60,4	58,4	10
20	46,3	59,9	62,5	62,7	61,9	60,4	58,3	20
30	47,3	60,0	62,5	62,7	61,9	60,3	58,2	30
40	48,3	60,2	62,5	62,7	61,8	60,3	58,2	40
50	49,2	60,3	62,6	62,7	61,8	60,2	58,1	50
	2	7	12	17	22	27	32	
00	50,0	60,5	62,6	62,7	61,7	60,1	58,0	00
10	50,8	60,6	62,6	62,6	61,7	60,1	57,9	10
20	51,4	60,7	62,6	62,6	61,6	60,0	57,8	20
30	52,1	60,9	62,7	62,6	61,6	59,9	57,8	30
40	52,7	61,0	62,7	62,6	61,5	59,9	57,7	40
50	53,3	61,1	62,7	62,6	61,5	59,8	57,6	50
	3	8	13	18	23	28	33	
00	53,3	61,2	62,7	62,5	61,5	59,7	57,5	00
10	54,3	61,3	62,7	62,5	61,4	59,7	57,4	10
20	54,8	61,4	62,7	62,5	61,4	59,6	57,4	20
30	55,2	61,5	62,8	62,5	61,3	59,6	57,3	30
40	55,6	61,6	62,8	62,4	61,3	59,5	57,2	40
50	56,0	61,6	62,8	62,4	61,2	59,4	57,1	50
	4	9	14	19	24	29	34	
00	56,4	61,7	62,8	62,4	61,2	59,3	57,0	00
10	56,7	61,8	62,8	62,3	61,2	59,3	56,9	10
20	57,1	61,9	62,8	62,3	61,1	59,2	56,9	20
30	57,4	61,9	62,8	62,3	61,0	59,1	56,8	30
40	57,7	62,0	62,8	62,2	60,9	59,1	56,7	40
50	57,9	62,1	62,8	62,2	60,9	59,0	56,6	50

HP	L U	L U	L U	L U	L U	L U	L U	HP
′	′ ′	′ ′	′ ′	′ ′	′ ′	′ ′	′ ′	′
54,0	0,3 0,9	0,3 0,9	0,3 1,2	0,5 1,1	0,6 1,2	0,7 1,3	0,9 1,5	54,0
54,3	0,7 1,1	0,7 1,2	0,7 1,2	0,8 1,3	0,9 1,4	1,1 1,5	1,2 1,7	54,3
54,6	1,1 1,4	1,1 1,4	1,3 1,4	1,2 1,5	1,3 1,6	1,4 1,7	1,5 1,8	54,6
54,9	1,4 1,6	1,5 1,6	1,5 1,6	1,6 1,7	1,6 1,8	1,8 1,9	1,9 2,0	54,9
55,2	1,8 1,8	1,8 1,8	1,9 1,9	1,9 1,9	2,0 2,0	2,1 2,1	2,2 2,2	55,2
55,5	2,2 2,0	2,2 2,0	2,3 2,1	2,3 2,1	2,4 2,2	2,4 2,3	2,5 2,4	55,5
55,8	2,6 2,2	2,6 2,2	2,6 2,3	2,7 2,3	2,7 2,4	2,8 2,4	2,9 2,5	55,8
56,1	3,0 2,4	3,0 2,5	3,0 2,5	3,0 2,5	3,1 2,6	3,1 2,6	3,2 2,7	56,1
56,4	3,4 2,7	3,4 2,7	3,4 2,7	3,4 2,7	3,4 2,8	3,5 2,8	3,5 2,9	56,4
56,7	3,7 2,9	3,7 2,9	3,8 2,9	3,8 2,9	3,8 3,0	3,8 3,0	3,9 3,0	56,7
57,0	3,7 3,1	4,1 3,1	4,1 3,1	4,1 3,1	4,2 3,1	4,2 3,2	4,2 3,2	57,0
57,3	4,5 3,3	4,5 3,3	4,5 3,3	4,5 3,3	4,5 3,3	4,5 3,4	4,6 3,4	57,3
57,6	4,9 3,5	4,9 3,5	4,9 3,5	4,9 3,5	4,9 3,5	4,9 3,5	4,9 3,6	57,6
57,9	5,3 3,8	5,3 3,8	5,2 3,8	5,2 3,7	5,2 3,7	5,2 3,7	5,2 3,7	57,9
58,2	5,6 4,0	5,6 4,0	5,6 4,0	5,6 4,0	5,6 3,9	5,6 3,9	5,6 3,9	58,2
58,5	6,0 4,2	6,0 4,2	6,0 4,2	6,0 4,2	6,0 4,1	5,9 4,1	5,9 4,1	58,5
58,8	6,4 4,4	6,4 4,4	6,4 4,4	6,4 4,4	6,3 4,3	6,3 4,3	6,2 4,2	58,8
59,1	6,8 4,6	6,8 4,6	6,7 4,6	6,7 4,6	6,7 4,5	6,6 4,5	6,6 4,4	59,2
59,4	7,2 4,8	7,1 4,8	7,1 4,8	7,1 4,8	7,0 4,7	7,0 4,7	6,9 4,6	59,4
59,7	7,5 5,1	7,5 5,0	7,5 5,0	7,5 5,0	7,4 4,9	7,3 4,8	7,2 4,7	59,7
60,0	7,9 5,3	7,9 5,3	7,9 5,2	7,8 5,2	7,8 5,1	7,7 5,0	7,6 4,9	60,0
60,3	8,3 5,6	8,3 5,5	8,2 5,4	8,2 5,4	8,1 5,3	8,0 5,2	7,9 5,1	60,3
60,6	8,7 5,7	8,7 5,7	8,6 5,7	8,6 5,6	8,5 5,5	8,4 5,4	8,2 5,3	60,6
60,9	9,1 5,9	9,0 5,9	9,0 5,9	8,9 5,8	8,8 5,7	8,7 5,6	8,6 5,4	60,9
61,2	9,5 6,2	9,4 6,1	9,4 6,1	9,3 6,0	9,2 5,9	9,1 5,8	8,9 5,6	61,2
61,5	9,8 6,4	9,8 6,3	9,7 6,3	9,7 6,2	9,5 6,1	9,4 5,9	9,2 5,8	61,5

DIP (Depresión del horizonte)					
Ht. of Eye	Corr^n	Ht. of Eye	Ht. of Eye	Corr^n	Ht. of Eye
m	′	ft.	m	′	ft.
2,4		8,0	9,5		31,8
	− 2,8			− 5,5	
2,6		8,6	9,8		32,7
	− 2,9			− 5,6	
2,8		9,2	10,3		33,9
	− 3,0			− 5,7	
3,0		9,8	10,6		35,1
	− 3,1			− 5,8	
3,2		10,5	11,0		36,3
	− 3,2			− 5,9	
3,4		11,2	11,4		37,6
	− 3,3			− 6,0	
3,6		11,9	11,8		38,9
	− 3,4			− 6,1	
3,8		12,6	12,2		40,1
	− 3,5			− 6,2	
4,0		13,3	12,6		41,5
	− 3,6			− 6,3	
4,3		14,1	13,0		42,8
	− 3,7			− 6,4	
4,5		14,9	13,4		44,2
	− 3,8			− 6,5	
4,7		15,7	13,8		45,5
	− 3,9			− 6,6	
5,0		16,5	14,2		46,9
	− 4,0			− 6,7	
5,2		17,4	14,7		48,4
	− 4,1			− 6,8	
5,5		18,3	15,1		49,8
	− 4,2			− 6,9	
5,8		19,1	15,5		51,3
	− 4,3			− 7,0	
6,1		20,1	16,0		52,8
	− 4,3			− 7,1	
6,3		21,0	16,5		54,3
	− 4,5			− 7,2	
6,6		22,0	16,9		55,8
	− 4,6			− 7,3	
6,9		22,9	17,4		57,4
	− 4,7			− 7,4	
7,2		23,9	17,9		**58,9**
	− 4,8			− 7,5	
7,5		24,9	18,4		60,5
	− 4,9			− 7,6	
7,9		26,0	18,8		62,1
	− 5,0			− 7,7	
8,2		27,1	19,3		63,8
	− 5,1			− 7,8	
8,5		28,1	19,8		65,4
	− 5,2			− 7,9	
8,8		29,2	20,4		67,1
	− 5,3			− 8,0	
9,2		30,4	20,9		68,8
	− 5,4			− 8,1	
9,5		31,5	21,4		70,5

Tablas de correcciones

La corrección aparece en dos partes; la primera parte se obtiene en la parte superior de la tabla,empleando como argumento la altura aparente. La segunda es tomada de la parte inferior, con el argumento de paralaje horizontal (HP), en la misma columna en que la primera corrección fue obtenida.

En la parte inferior de la tabla aparecen, por separado, las correcciones para las alturas medidas respecto al limbo inferior (L), o superior, (U) de la Luna.

Todas las correcciones deben ser sumadas a la altura aparente, pero en aquellos casos en que se encuentre referida al limbo superior, deben restarse 30′.

T_5 Tabla de corrección de la altura 35° - 90°

App. Alt.	35°-39°	40°-44°	45°-49°	50°-54°	55°-59°	60°-64°	65°-69°	70°-74°	75°-79°	80°-84°	85°-89°	App. Alt.
	Corrⁿ	Corrⁿ	Corrⁿ	Corrⁿ	Corrⁿ	Corrⁿ	Corrⁿ	Corrⁿ	Corrⁿ	Corrⁿ	Corrⁿ	
'	35° '	40° '	45° '	50° '	55° '	60° '	65° '	70° '	75° '	80° '	85° '	'
00	56,5	53,7	50,5	46,9	43,1	38,9	34,6	30,1	25,3	20,5	15,6	00
10	56,4	53,6	50,4	46,8	42,9	38,8	34,4	29,9	25,2	20,4	15,5	10
20	56,3	53,5	50,2	46,7	42,8	38,7	34,3	29,7	25,0	20,2	15,3	20
30	56,2	53,4	50,1	46,5	42,7	38,5	34,1	29,6	24,9	20,0	15,1	30
40	56,2	53,3	50,0	46,4	42,5	38,4	34,0	29,4	24,7	19,9	15,0	40
50	56,1	53,2	49,9	46,3	42,4	38,2	33,8	29,3	24,5	19,7	14,8	50
00	36 56,0	41 53,1	46 49,8	51 46,2	56 42,3	61 38,1	66 33,7	71 29,1	76 24,4	81 19,6	86 14,6	00
10	55,9	53,0	49,7	46,0	42,1	37,9	33,5	29,0	24,2	19,4	14,5	10
20	55,8	52,8	49,5	45,9	42,0	37,8	33,4	28,8	24,1	19,2	14,3	20
30	55,7	52,7	49,4	45,8	41,8	37,7	33,2	28,7	23,9	19,1	14,1	30
40	55,6	52,6	49,3	45,7	41,7	37,5	33,1	28,5	23,8	18,9	14,0	40
50	55,5	52,5	49,2	45,5	41,6	37,4	32,9	28,3	23,6	18,7	13,8	50
00	37 55,4	42 52,4	47 49,1	52 45,4	57 41,4	62 37,2	67 32,8	72 28,2	77 23,4	82 18,6	87 13,7	00
10	55,3	52,3	49,0	45,3	41,3	37,1	32,6	28,0	23,3	18,4	13,5	10
20	55,2	52,2	48,8	45,2	41,2	36,9	32,5	27,9	23,1	18,2	13,3	20
30	55,1	52,1	48,7	45,0	41,0	36,8	32,3	27,7	22,9	18,1	13,2	30
40	55,0	52,0	48,6	44,9	40,9	36,6	32,2	27,6	22,8	17,9	13,0	40
50	55,0	51,9	48,5	44,8	40,8	36,5	32,0	27,4	22,6	17,8	12,8	50
00	38 54,9	43 51,8	48 48,4	53 44,6	58 40,6	63 36,4	68 31,9	73 27,2	78 22,5	83 17,6	88 12,7	00
10	54,8	51,7	48,2	44,5	40,5	36,2	31,7	27,1	22,3	17,4	15,5	10
20	54,7	51,6	48,1	44,4	40,3	36,1	31,6	26,9	22,1	17,3	12,3	20
30	54,6	51,5	48,0	44,2	40,2	35,9	31,4	26,8	22,0	17,1	12,2	30
40	54,5	51,4	47,9	44,1	40,1	38,8	31,3	26,6	21,8	16,9	12,0	40
50	54,4	51,2	47,8	44,0	39,9	35,6	31,1	26,5	21,7	16,8	11,8	50
00	39 54,3	44 51,1	49 47,6	54 43,9	59 39,8	64 35,5	69 31,0	74 26,3	79 21,5	84 16,6	89 11,7	00
10	54,2	51,0	47,5	43,7	39,6	35,3	30,8	26,1	21,3	16,5	11,5	10
20	54,1	50,9	47,4	43,6	39,5	35,2	30,7	26,0	21,2	16,3	11,4	20
30	54,0	50,8	47,3	43,5	39,4	35,0	30,5	25,8	21,0	16,1	11,2	30
40	53,9	50,7	47,2	43,3	39,2	34,9	30,4	25,7	20,9	16,0	11,0	40
50	53,8	50,6	47,0	43,2	39,1	34,7	30,2	25,5	20,7	15,8	10,9	50
HP	L U	L U	L U	L U	L U	L U	L U	L U	L U	L U	L U	HP
'	' '	' '	' '	' '	' '	' '	' '	' '	' '	' '	' '	'
54,0	1,1 1,7	1,3 1,9	1,5 2,1	1,7 2,4	2,0 2,6	2,3 2,9	2,6 3,2	2,9 3,5	3,2 3,8	3,5 4,1	3,8 4,5	54,0
54,3	1,4 1,8	1,6 2,0	1,8 2,2	2,0 2,5	2,3 2,7	2,5 3,0	2,8 3,2	3,0 3,5	3,3 3,8	3,6 4,1	3,9 4,4	54,3
54,6	1,7 2,0	1,9 2.2	2,1 2,1	2,3 2,6	2,5 2,8	2,7 3,0	3,0 3,3	3,2 3,5	3,5 3,8	3,7 4,1	4,0 4,3	54,6
54,9	2,0 2,2	2,2 2,3	2,3 2,5	2,5 2,7	2,7 2,9	2,9 3,1	3,2 3,3	3,4 3,5	3,6 3,8	3,9 4,0	4,1 4,3	54,9
55,2	2,3 2,3	2,3 2,4	2,6 2,6	2,8 2,8	3,0 2,9	3,2 3,1	3,4 3,3	3,6 3,5	3,8 3,7	4,0 4,0	4,2 4,2	55,2
55,5	2,7 2,3	2,8 2,6	2,9 2,7	3,1 2,9	3,2 3,0	3,4 3,2	3,6 3,4	3,7 3,5	3,9 3,7	4,1 3,9	4,3 4,1	55,5
55,8	3,0 2,6	3,1 2,7	3,2 2,8	3,3 3,0	3,5 3,1	3,6 3,3	3,8 3,4	3,9 3,6	4,1 3,7	4,2 3,9	4,4 4,0	55,8
56,1	3,3 2,8	3,4 2,9	3,5 3,0	3,6 3,1	3,7 3,2	3,8 3,3	4,0 3,4	4,1 3,6	4,2 3,7	4,4 3,8	4,5 4,0	56,1
56,4	3,6 2,9	3,7 3,0	3,8 3,1	3,9 3,2	3,9 3,3	4,0 3,4	4,1 3,5	4,3 3,6	4,4 3,7	4,5 3,8	4,6 3,9	56,4
56,7	3,9 3,1	4,0 3,1	4,1 3,2	4,1 3,3	4,2 3,3	4,3 3,4	4,3 3,5	4,4 3,6	4,5 3,7	4,6 3,8	4,7 3,8	56,7
57,0	4,3 3,2	4,3 3,3	4,3 3,3	4,4 3,4	4,4 3,4	4,5 3,5	4,5 3,5	4,6 3,6	4,7 3,6	4,7 3,7	4,8 3,8	57,0
57,3	4,6 3,4	4,6 3,4	4,6 3,4	4,6 3,5	4,7 3,5	4,7 3,5	4,7 3,6	4,8 3,6	4,8 3,6	4,8 3,7	4,9 3,7	57,3
57,6	4,9 3,6	4,9 3,6	4,9 3,6	4,9 3,6	4,9 3,6	4,9 3,6	4,9 3,6	4,9 3,6	5,0 3,6	5,0 3,6	5,0 3,6	57,5
57,9	5,2 3,7	5,2 3,7	5,2 3,7	5,2 3,7	5,2 3,7	5,1 3,6	5,1 3,6	5,1 3,6	5,1 3,6	5,1 3,6	5,1 3,6	57,9
58,2	5,5 3,9	5,5 3,8	5,5 3,8	5,4 3,8	5,4 3,7	5,4 3,7	5,3 3,7	5,3 3,6	5,2 3,6	5,2 3,5	5,2 3,5	58,2
58,5	5,9 4,0	5,8 4,0	5,8 3,9	5,7 3,9	5,6 3,8	5,6 3,8	5,5 3,7	5,3 3,6	5,4 3,6	5,3 3,5	5,3 3,4	58,5
58,8	6,2 4,2	6,1 4,1	6,0 4,1	6,0 4,0	5,9 3,9	5,8 3,8	5,7 3,7	5,6 3,6	5,5 3,5	5,4 3,5	5,3 3,4	58,8
59,1	6,5 4,3	6,4 4,3	6,3 4,2	6,2 4,1	6,1 4,0	6,0 3,9	5,9 3,8	5,8 3,6	5,7 3,5	5,6 3,4	5,4 3,3	59,1
59,4	6,8 4,5	6,7 4,4	6,6 4,3	6,5 4,2	6,4 4,1	6,2 3,9	6,1 3,8	6,0 3,7	5,8 3,5	5,7 3,4	5,5 3,2	59,4
59,7	7,1 4,6	7,0 4,5	6,9 4,4	6,8 4,3	6,6 4,1	6,5 4,0	6,3 3,8	6,2 3,7	6,0 3,5	5,8 3,3	5,6 3,2	59,7
60,0	7,5 4,8	7,3 4,7	7,2 4,5	7,0 4,4	6,9 4,2	6,7 4,0	6,5 3,9	6,3 3,7	6,1 3,5	5,9 3,8	5,7 3,1	60,0
60,3	7,8 5,0	7,6 4,8	7,5 4,7	7,3 4,5	7,1 4,3	6,9 4,1	6,7 3,9	6,5 3,7	6,3 3,5	6,0 3,2	5,8 3,0	60,3
60,6	8,1 5,1	7,9 5,0	7,7 4,8	7,6 4,6	7,3 4,4	7,1 4,2	6,9 3,9	6,7 3,7	6,4 3,4	6,2 3,2	5,9 2,9	60,6
60,9	8,4 5,3	8,2 5,1	8,0 4,9	7,8 4,7	7,6 4,5	7,3 4,2	7,1 4,0	6,8 3,7	6,6 3,4	6,3 3,2	6,0 2,9	60,9
61,2	8,7 5,4	8,5 5,2	8,3 5,0	8,1 4,8	7,8 4,5	7,6 4,3	7,3 4,0	7,0 3,7	6,7 3,4	6,4 3,1	6,1 2,8	61,2
61,5	9,1 5,6	8,8 5,4	8,6 5,1	8,3 4,9	8,1 4,6	7,8 4,3	7,5 4,0	7,2 3,7	6,9 3,4	6,5 3,1	6,2 2,7	61,5

Tiempo, velocidad y distancia

Minutos	Velocidad en nudos																Minutos
	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	
	Distancia en millas																
1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1
2	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	2
3	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.4	0.4	3
4	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.5	0.5	0.5	4
5	0.0	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.4	0.4	0.5	0.5	0.5	0.6	0.6	0.7	5
6	0.0	0.1	0.2	0.2	0.2	0.3	0.4	0.4	0.4	0.5	0.6	0.6	0.6	0.7	0.8	0.8	6
7	0.1	0.1	0.2	0.2	0.3	0.4	0.4	0.5	0.5	0.6	0.6	0.7	0.8	0.8	0.9	0.9	7
8	0.1	0.1	0.2	0.3	0.3	0.4	0.5	0.5	0.6	0.7	0.7	0.8	0.9	0.9	1.0	1.1	8
9	0.1	0.2	0.2	0.3	0.4	0.4	0.5	0.6	0.7	0.8	0.8	0.9	1.0	1.0	1.1	1.2	9
10	0.1	0.2	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.8	0.9	1.0	1.1	1.2	1.2	1.3	10
11	0.1	0.2	0.3	0.4	0.5	0.6	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	11
12	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	12
13	0.1	0.2	0.3	0.4	0.5	0.6	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	13
14	0.1	0.2	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.2	1.3	1.4	1.5	1.6	1.8	1.9	14
15	0.1	0.2	0.4	0.5	0.6	0.8	0.9	1.0	1.1	1.2	1.4	1.5	1.6	1.8	1.9	2.0	15
16	0.1	0.3	0.4	0.5	0.7	0.8	0.9	1.1	1.2	1.3	1.5	1.6	1.7	1.9	2.0	2.1	16
17	0.1	0.3	0.4	0.6	0.7	0.8	1.0	1.1	1.3	1.4	1.6	1.7	1.8	2.0	2.1	2.3	17
18	0.2	0.3	0.4	0.6	0.8	0.9	1.0	1.2	1.4	1.5	1.6	1.8	2.0	2.1	2.2	2.4	18
19	0.2	0.3	0.5	0.6	0.8	1.0	1.1	1.3	1.4	1.6	1.7	1.9	2.1	2.2	2.4	2.5	19
20	0.2	0.3	0.5	0.7	0.8	1.0	1.2	1.3	1.5	1.7	1.8	2.0	2.2	2.3	2.5	2.7	20
21	0.2	0.4	0.5	0.7	0.9	1.0	1.2	1.4	1.6	1.8	1.9	2.1	2.3	2.4	2.6	2.8	21
22	0.2	0.4	0.6	0.7	0.9	1.1	1.3	1.5	1.6	1.8	2.0	2.2	2.4	2.6	2.8	2.9	22
23	0.2	0.4	0.6	0.8	1.0	1.2	1.3	1.5	1.7	1.9	2.1	2.3	2.5	2.7	2.9	3.1	23
24	0.2	0.4	0.6	0.8	1.0	1.2	1.4	1.6	1.8	2.0	2.2	2.4	2.6	2.8	3.0	3.2	24
25	0.2	0.4	0.6	0.8	1.0	1.2	1.5	1.7	1.9	2.1	2.3	2.5	2.7	2.9	3.1	3.3	25
26	0.2	0.4	0.6	0.9	1.1	1.3	1.5	1.7	2.0	2.2	2.4	2.6	2.8	3.0	3.2	3.5	26
27	0.2	0.4	0.7	0.9	1.1	1.4	1.6	1.8	2.0	2.2	2.5	2.7	2.9	3.2	3.4	3.6	27
28	0.2	0.5	0.7	0.9	1.2	1.4	1.6	1.9	2.1	2.3	2.6	2.8	3.0	3.3	3.5	3.7	28
29	0.2	0.5	0.7	1.0	1.2	1.4	1.7	1.9	2.2	2.4	2.7	2.9	3.1	3.4	3.6	3.9	29
30	0.2	0.5	0.8	1.0	1.2	1.5	1.8	2.0	2.2	2.5	2.8	3.0	3.2	3.5	3.8	4.0	30
31	0.3	0.5	0.8	1.0	1.3	1.6	1.8	2.1	2.3	2.6	2.8	3.1	3.4	3.6	3.9	4.1	31
32	0.3	0.5	0.8	1.1	1.3	1.6	1.9	2.1	2.4	2.7	2.9	3.2	3.5	3.7	4.0	4.3	32
33	0.3	0.6	0.8	1.1	1.4	1.6	1.9	2.2	2.5	2.8	3.0	3.3	3.6	3.8	4.1	4.4	33
34	0.3	0.6	0.8	1.1	1.4	1.7	2.0	2.3	2.6	2.8	3.1	3.4	3.7	4.0	4.2	4.5	34
35	0.3	0.6	0.9	1.2	1.5	1.8	2.0	2.3	2.6	2.9	3.2	3.5	3.8	4.1	4.4	4.7	35
36	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3.0	3.3	3.6	3.9	4.2	4.5	4.8	36
37	0.3	0.6	0.9	1.2	1.5	1.8	2.2	2.5	2.8	3.1	3.4	3.7	4.0	4.3	4.6	4.9	37
38	0.3	0.6	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.2	3.5	3.8	4.1	4.4	4.8	5.1	38
39	0.3	0.6	1.0	1.3	1.6	2.0	2.3	2.6	2.9	3.2	3.6	3.9	4.2	4.6	4.9	5.2	39
40	0.3	0.7	1.0	1.3	1.7	2.0	2.3	2.7	3.0	3.3	3.7	4.0	4.3	4.7	5.0	5.3	40
41	0.3	0.7	1.0	1.4	1.7	2.0	2.4	2.7	3.1	3.4	3.8	4.1	4.4	4.8	5.1	5.5	41
42	0.4	0.7	1.0	1.4	1.8	2.1	2.4	2.8	3.2	3.5	3.8	4.2	4.6	4.9	5.2	5.6	42
43	0.4	0.7	1.1	1.4	1.8	2.2	2.5	2.9	3.2	3.6	3.9	4.3	4.7	5.0	5.4	5.7	43
44	0.4	0.7	1.1	1.5	1.8	2.2	2.6	2.9	3.3	3.7	4.0	4.4	4.8	5.1	5.5	5.9	44
45	0.4	0.8	1.1	1.5	1.9	2.2	2.6	3.0	3.4	3.8	4.1	4.5	4.9	5.2	5.6	6.0	45
46	0.4	0.8	1.2	1.5	1.9	2.3	2.7	3.1	3.4	3.8	4.2	4.6	5.0	5.4	5.8	6.1	46
47	0.4	0.8	1.2	1.6	2.0	2.4	2.7	3.1	3.5	3.9	4.3	4.7	5.1	5.5	5.9	6.3	47
48	0.4	0.8	1.2	1.6	2.0	2.4	2.8	3.2	3.6	4.0	4.4	4.8	5.2	5.6	6.0	6.4	48
49	0.4	0.8	1.2	1.6	2.0	2.4	2.9	3.3	3.7	4.1	4.5	4.9	5.3	5.7	6.1	6.5	49
50	0.4	0.8	1.2	1.7	2.1	2.5	2.9	3.3	3.8	4.2	4.6	5.0	5.4	5.8	6.2	6.7	50
51	0.4	0.8	1.3	1.7	2.1	2.6	3.0	3.4	3.8	4.2	4.7	5.1	5.5	6.0	6.4	6.8	51
52	0.4	0.9	1.3	1.7	2.2	2.6	3.0	3.5	3.9	4.3	4.8	5.2	5.6	6.1	6.5	6.9	52
53	0.4	0.9	1.3	1.8	2.2	2.6	3.1	3.5	4.0	4.4	4.9	5.3	5.7	6.2	6.6	7.1	53
54	0.4	0.9	1.4	1.8	2.2	2.7	3.2	3.6	4.0	4.5	5.0	5.4	5.8	6.3	6.8	7.2	54
55	0.5	0.9	1.4	1.8	2.3	2.8	3.2	3.7	4.1	4.6	5.0	5.5	6.0	6.4	6.9	7.3	55
56	0.5	0.9	1.4	1.9	2.3	2.8	3.3	3.7	4.2	4.7	5.1	5.6	6.1	6.5	7.0	7.5	56
57	0.5	1.0	1.4	1.9	2.4	2.8	3.3	3.8	4.3	4.8	5.2	5.7	6.2	6.6	7.1	7.6	57
58	0.5	1.0	1.4	1.9	2.4	2.9	3.4	3.9	4.4	4.8	5.3	5.8	6.3	6.8	7.2	7.7	58
59	0.5	1.0	1.5	2.0	2.5	3.0	3.4	3.9	4.4	4.9	5.4	5.9	6.4	6.9	7.4	7.9	59
60	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	60

Tiempo, velocidad y distancia

Minutos	Velocidad en nudos																Minutos
	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0	15.5	16.0	
	Distancia en millas																
1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.3	1
2	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.5	2
3	0.4	0.4	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.8	0.8	0.8	3
4	0.6	0.6	0.6	0.7	0.7	0.7	0.8	0.8	0.8	0.9	0.9	0.9	1.0	1.0	1.0	1.1	4
5	0.7	0.8	0.8	0.8	0.9	0.9	1.0	1.0	1.0	1.1	1.1	1.2	1.2	1.2	1.3	1.3	5
6	0.8	0.9	1.0	1.0	1.0	1.1	1.2	1.2	1.2	1.3	1.4	1.4	1.4	1.5	1.6	1.6	6
7	1.0	1.0	1.1	1.2	1.2	1.3	1.3	1.4	1.5	1.5	1.6	1.6	1.7	1.8	1.8	1.9	7
8	1.1	1.2	1.3	1.3	1.4	1.5	1.5	1.6	1.7	1.7	1.8	1.9	1.9	2.0	2.1	2.1	8
9	1.3	1.4	1.4	1.5	1.6	1.6	1.7	1.8	1.9	2.0	2.0	2.1	2.2	2.2	2.3	2.4	9
10	1.4	1.5	1.6	1.7	1.8	1.8	1.9	2.0	2.1	2.2	2.2	2.3	2.4	2.5	2.6	2.7	10
11	1.6	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.8	2.9	11
12	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.2	12
13	1.8	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.4	3.5	13
14	2.0	2.1	2.2	2.3	2.4	2.6	2.7	2.8	2.9	3.0	3.2	3.3	3.4	3.5	3.6	3.7	14
15	2.1	2.2	2.4	2.5	2.6	2.8	2.9	3.0	3.1	3.2	3.4	3.5	3.6	3.8	3.9	4.0	15
16	2.3	2.4	2.5	2.7	2.8	2.9	3.1	3.2	3.3	3.5	3.6	3.7	3.9	4.0	4.1	4.3	16
17	2.4	2.6	2.7	2.8	3.0	3.1	3.3	3.4	3.5	3.7	3.8	4.0	4.1	4.2	4.4	4.5	17
18	2.6	2.7	2.8	3.0	3.2	3.3	3.4	3.6	3.8	3.9	4.0	4.2	4.4	4.5	4.6	4.8	18
19	2.7	2.8	3.0	3.2	3.3	3.5	3.6	3.8	4.0	4.1	4.3	4.4	4.6	4.8	4.9	5.1	19
20	2.8	3.0	3.2	3.3	3.5	3.7	3.8	4.0	4.2	4.3	4.5	4.7	4.8	5.0	5.2	5.3	20
21	3.0	3.2	3.3	3.5	3.7	3.8	4.0	4.2	4.4	4.6	4.7	4.9	5.1	5.2	5.4	5.6	21
22	3.1	3.3	3.5	3.7	3.8	4.0	4.2	4.4	4.6	4.8	5.0	5.1	5.3	5.5	5.7	5.9	22
23	3.3	3.4	3.6	3.8	4.0	4.2	4.4	4.6	4.8	5.0	5.2	5.4	5.6	5.8	5.9	6.1	23
24	3.4	3.6	3.8	4.0	4.2	4.4	4.6	4.8	5.0	5.2	5.4	5.6	5.8	6.0	6.2	6.4	24
25	3.5	3.8	4.0	4.2	4.4	4.6	4.8	5.0	5.2	5.4	5.6	5.8	6.0	6.2	6.5	6.7	25
26	3.7	3.9	4.1	4.3	4.6	4.8	5.0	5.2	5.4	5.6	5.8	6.1	6.3	6.5	6.7	6.9	26
27	3.8	4.0	4.3	4.5	4.7	5.0	5.2	5.4	5.6	5.8	6.1	6.3	6.5	6.8	7.0	7.2	27
28	4.0	4.2	4.4	4.7	4.9	5.1	5.4	5.6	5.8	6.1	6.3	6.5	6.8	7.0	7.2	7.5	28
29	4.1	4.4	4.6	4.8	5.1	5.3	5.6	5.8	6.0	6.3	6.5	6.8	7.0	7.2	7.5	7.7	29
30	4.2	4.5	4.8	5.0	5.2	5.5	5.8	6.0	6.2	6.5	6.8	7.0	7.2	7.5	7.8	8.0	30
31	4.4	4.6	4.9	5.2	5.4	5.7	5.9	6.2	6.5	6.7	7.0	7.2	7.5	7.8	8.0	8.3	31
32	4.5	4.8	5.1	5.3	5.6	5.9	6.1	6.4	6.7	6.9	7.2	7.5	7.7	8.0	8.3	8.5	32
33	4.7	5.0	5.2	5.5	5.8	6.0	6.3	6.6	6.9	7.2	7.4	7.7	8.0	8.2	8.5	8.8	33
34	4.8	5.1	5.4	5.7	6.0	6.2	6.5	6.8	7.1	7.4	7.6	7.9	8.2	8.5	8.8	9.1	34
35	5.0	5.2	5.5	5.8	6.1	6.4	6.7	7.0	7.3	7.6	7.9	8.2	8.5	8.8	9.0	9.3	35
36	5.1	5.4	5.7	6.0	6.3	6.6	6.9	7.2	7.5	7.8	8.1	8.4	8.7	9.0	9.3	9.6	36
37	5.2	5.6	5.9	6.2	6.5	6.8	7.1	7.4	7.7	8.0	8.3	8.6	8.9	9.2	9.6	9.9	37
38	5.4	5.7	6.0	6.3	6.6	7.0	7.3	7.6	7.9	8.2	8.6	8.9	9.2	9.5	9.8	10.1	38
39	5.5	5.8	6.2	6.5	6.8	7.2	7.5	7.8	8.1	8.4	8.8	9.1	9.4	9.8	10.1	10.4	39
40	5.7	6.0	6.3	6.7	7.0	7.3	7.7	8.0	8.3	8.7	9.0	9.3	9.7	10.0	10.3	10.7	40
41	5.8	6.2	6.5	6.8	7.2	7.5	7.9	8.2	8.5	8.9	9.2	9.6	9.9	10.2	10.6	10.9	41
42	6.0	6.3	6.6	7.0	7.4	7.7	8.0	8.4	8.8	9.1	9.4	9.8	10.2	10.5	10.8	11.2	42
43	6.1	6.4	6.8	7.2	7.5	7.9	8.2	8.6	9.0	9.3	9.7	10.0	10.4	10.8	11.1	11.5	43
44	6.2	6.6	7.0	7.3	7.7	8.1	8.4	8.8	9.2	9.5	9.9	10.3	10.6	11.0	11.4	11.7	44
45	6.4	6.8	7.1	7.5	7.9	8.2	8.6	9.0	9.4	9.8	10.1	10.5	10.9	11.2	11.6	12.0	45
46	6.5	6.9	7.3	7.7	8.0	8.4	8.8	9.2	9.6	10.0	10.4	10.7	11.1	11.5	11.9	12.3	46
47	6.7	7.0	7.4	7.8	8.2	8.6	9.0	9.4	9.8	10.2	10.6	11.0	11.4	11.8	12.1	12.5	47
48	6.8	7.2	7.6	8.0	8.4	8.8	9.2	9.6	10.0	10.4	10.8	11.2	11.6	12.0	12.4	12.8	48
49	6.9	7.4	7.8	8.2	8.6	9.0	9.4	9.8	10.2	10.6	11.0	11.4	11.8	12.2	12.7	13.1	49
50	7.1	7.5	7.9	8.3	8.8	9.2	9.6	10.0	10.4	10.8	11.2	11.7	12.1	12.5	12.9	13.3	50
51	7.2	7.6	8.1	8.5	8.9	9.4	9.8	10.2	10.6	11.0	11.5	11.9	12.3	12.8	13.2	13.6	51
52	7.4	7.8	8.2	8.7	9.1	9.5	10.0	10.4	10.8	11.3	11.7	12.1	12.6	13.0	13.4	13.9	52
53	7.5	8.0	8.4	8.8	9.3	9.7	10.2	10.6	11.0	11.5	11.9	12.4	12.8	13.2	13.7	14.1	53
54	7.6	8.1	8.6	9.0	9.4	9.9	10.4	10.8	11.2	11.7	12.2	12.6	13.0	13.5	14.0	14.4	54
55	7.8	8.2	8.7	9.2	9.6	10.1	10.5	11.0	11.5	11.9	12.4	12.8	13.3	13.8	14.2	14.7	55
56	7.9	8.4	8.9	9.3	9.8	10.3	10.7	11.2	11.7	12.1	12.6	13.1	13.5	14.0	14.5	14.9	56
57	8.1	8.6	9.0	9.5	10.0	10.4	10.9	11.4	11.9	12.4	12.8	13.3	13.8	14.2	14.7	15.2	57
58	8.2	8.7	9.2	9.7	10.2	10.6	11.1	11.6	12.1	12.6	13.0	13.5	14.0	14.5	15.0	15.5	58
59	8.4	8.8	9.3	9.8	10.3	10.8	11.3	11.8	12.3	12.8	13.3	13.8	14.3	14.8	15.2	15.7	59
60	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0	15.5	16.0	60

Tiempo, velocidad y distancia

Minutos	Velocidad en nudos																Minutos
	16.5	17.0	17.5	18.0	18.5	19.0	19.5	20.0	20.5	21.0	21.5	22.0	22.5	23.0	23.5	24.0	
	Distancia en millas																
1	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	1
2	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.8	2
3	0.8	0.8	0.9	0.9	0.9	1.0	1.0	1.0	1.0	1.0	1.1	1.1	1.1	1.2	1.2	1.2	3
4	1.1	1.1	1.2	1.2	1.2	1.3	1.3	1.3	1.4	1.4	1.4	1.5	1.5	1.5	1.6	1.6	4
5	1.4	1.4	1.5	1.5	1.5	1.6	1.6	1.7	1.7	1.8	1.8	1.8	1.9	1.9	2.0	2.0	5
6	1.6	1.7	1.8	1.8	1.8	1.9	2.0	2.0	2.0	2.1	2.2	2.2	2.2	2.3	2.4	2.4	6
7	1.9	2.0	2.0	2.1	2.2	2.2	2.3	2.3	2.4	2.4	2.5	2.6	2.6	2.7	2.7	2.8	7
8	2.2	2.3	2.3	2.4	2.5	2.5	2.6	2.7	2.7	2.8	2.9	2.9	3.0	3.1	3.1	3.2	8
9	2.5	2.6	2.6	2.7	2.8	2.8	2.9	3.0	3.1	3.2	3.2	3.3	3.4	3.4	3.5	3.6	9
10	2.8	2.8	2.9	3.0	3.1	3.2	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.8	3.9	4.0	10
11	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.8	3.9	4.0	4.1	4.2	4.3	4.4	11
12	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.0	4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.8	12
13	3.6	3.7	3.8	3.9	4.0	4.1	4.2	4.3	4.4	4.6	4.7	4.8	4.9	5.0	5.1	5.2	13
14	3.8	4.0	4.1	4.2	4.3	4.4	4.6	4.7	4.8	4.9	5.0	5.1	5.2	5.4	5.5	5.6	14
15	4.1	4.2	4.4	4.5	4.6	4.8	4.9	5.0	5.1	5.2	5.4	5.5	5.6	5.8	5.9	6.0	15
16	4.4	4.5	4.7	4.8	4.9	5.1	5.2	5.3	5.5	5.6	5.7	5.9	6.0	6.1	6.3	6.4	16
17	4.7	4.8	5.0	5.1	5.2	5.4	5.5	5.7	5.8	6.0	6.1	6.2	6.4	6.5	6.7	6.8	17
18	5.0	5.1	5.2	5.4	5.6	5.7	5.8	6.0	6.2	6.3	6.4	6.6	6.8	6.9	7.0	7.2	18
19	5.2	5.4	5.5	5.7	5.9	6.0	6.2	6.3	6.5	6.6	6.8	7.0	7.1	7.3	7.4	7.6	19
20	5.5	5.7	5.8	6.0	6.2	6.3	6.5	6.7	6.8	7.0	7.2	7.3	7.5	7.7	7.8	8.0	20
21	5.8	6.0	6.1	6.3	6.5	6.6	6.8	7.0	7.2	7.4	7.5	7.7	7.9	8.0	8.2	8.4	21
22	6.0	6.2	6.4	6.6	6.8	7.0	7.2	7.3	7.5	7.7	7.9	8.1	8.2	8.4	8.6	8.8	22
23	6.3	6.5	6.7	6.9	7.1	7.3	7.5	7.7	7.9	8.0	8.2	8.4	8.6	8.8	9.0	9.2	23
24	6.6	6.8	7.0	7.2	7.4	7.6	7.8	8.0	8.2	8.4	8.6	8.8	9.0	9.2	9.4	9.6	24
25	6.9	7.1	7.3	7.5	7.7	7.9	8.1	8.3	8.5	8.8	9.0	9.2	9.4	9.6	9.8	10.0	25
26	7.2	7.4	7.6	7.8	8.0	8.2	8.4	8.7	8.9	9.1	9.3	9.5	9.8	10.0	10.2	10.4	26
27	7.4	7.6	7.9	8.1	8.3	8.6	8.8	9.0	9.2	9.4	9.7	9.9	10.1	10.4	10.6	10.8	27
28	7.7	7.9	8.2	8.4	8.6	8.9	9.1	9.3	9.6	9.8	10.0	10.3	10.5	10.7	11.0	11.2	28
29	8.0	8.2	8.5	8.7	8.9	9.2	9.4	9.7	9.9	10.2	10.4	10.6	10.9	11.1	11.4	11.6	29
30	8.2	8.5	8.8	9.0	9.2	9.5	9.8	10.0	10.2	10.5	10.8	11.0	11.2	11.5	11.8	12.0	30
31	8.5	8.8	9.0	9.3	9.6	9.8	10.1	10.3	10.6	10.8	11.1	11.4	11.6	11.9	12.1	12.4	31
32	8.8	9.1	9.3	9.6	9.9	10.1	10.4	10.7	10.9	11.2	11.5	11.7	12.0	12.3	12.5	12.8	32
33	9.1	9.4	9.6	9.9	10.2	10.4	10.7	11.0	11.3	11.6	11.8	12.1	12.4	12.6	12.9	13.2	33
34	9.4	9.6	9.9	10.2	10.5	10.8	11.0	11.3	11.6	11.9	12.2	12.5	12.8	13.0	13.3	13.6	34
35	9.6	9.9	10.2	10.5	10.8	11.1	11.4	11.7	12.0	12.2	12.5	12.8	13.1	13.4	13.7	14.0	35
36	9.9	10.2	10.5	10.8	11.1	11.4	11.7	12.0	12.3	12.6	12.9	13.2	13.5	13.8	14.1	14.4	36
37	10.2	10.5	10.8	11.1	11.4	11.7	12.0	12.3	12.6	13.0	13.3	13.6	13.9	14.2	14.5	14.8	37
38	10.4	10.8	11.1	11.4	11.7	12.0	12.4	12.7	13.0	13.3	13.6	13.9	14.2	14.6	14.9	15.2	38
39	10.7	11.0	11.4	11.7	12.0	12.4	12.7	13.0	13.3	13.6	14.0	14.3	14.6	15.0	15.3	15.6	39
40	11.0	11.3	11.7	12.0	12.3	12.7	13.0	13.3	13.7	14.0	14.3	14.7	15.0	15.3	15.7	16.0	40
41	11.3	11.6	12.0	12.3	12.6	13.0	13.3	13.7	14.0	14.4	14.7	15.0	15.4	15.7	16.1	16.4	41
42	11.6	11.9	12.2	12.6	13.0	13.3	13.6	14.0	14.4	14.7	15.0	15.4	15.8	16.1	16.4	16.8	42
43	11.8	12.2	12.5	12.9	13.3	13.6	14.0	14.3	14.7	15.0	15.4	15.8	16.1	16.5	16.8	17.2	43
44	12.1	12.5	12.8	13.2	13.6	13.9	14.3	14.7	15.0	15.4	15.8	16.1	16.5	16.9	17.2	17.6	44
45	12.4	12.8	13.1	13.5	13.9	14.2	14.6	15.0	15.4	15.8	16.1	16.5	16.9	17.2	17.6	18.0	45
46	12.6	13.0	13.4	13.8	14.2	14.6	15.0	15.3	15.7	16.1	16.5	16.9	17.2	17.6	18.0	18.4	46
47	12.9	13.3	13.7	14.1	14.5	14.9	15.3	15.7	16.1	16.4	16.8	17.2	17.6	18.0	18.4	18.8	47
48	13.2	13.6	14.0	14.4	14.8	15.2	15.6	16.0	16.4	16.8	17.2	17.6	18.0	18.4	18.8	19.2	48
49	13.5	13.9	14.3	14.7	15.1	15.5	15.9	16.3	16.7	17.2	17.6	18.0	18.4	18.8	19.2	19.6	49
50	13.8	14.2	14.6	15.0	15.4	15.8	16.2	16.7	17.1	17.5	17.9	18.3	18.8	19.2	19.6	20.0	50
51	14.0	14.4	14.9	15.3	15.7	16.2	16.6	17.0	17.4	17.8	18.3	18.7	19.1	19.6	20.0	20.4	51
52	14.3	14.7	15.2	15.6	16.0	16.5	16.9	17.3	17.8	18.2	18.6	19.1	19.5	19.9	20.4	20.8	52
53	14.6	15.0	15.5	15.9	16.3	16.8	17.2	17.7	18.1	18.6	19.0	19.4	19.9	20.3	20.8	21.2	53
54	14.8	15.3	15.8	16.2	16.6	17.1	17.6	18.0	18.4	18.9	19.4	19.8	20.2	20.7	21.2	21.6	54
55	15.1	15.6	16.0	16.5	17.0	17.4	17.9	18.3	18.8	19.2	19.7	20.2	20.6	21.1	21.5	22.0	55
56	15.4	15.9	16.3	16.8	17.3	17.7	18.2	18.7	19.1	19.6	20.1	20.5	21.0	21.5	21.9	22.4	56
57	15.7	16.2	16.6	17.1	17.6	18.0	18.5	19.0	19.5	20.0	20.4	20.9	21.4	21.8	22.3	22.8	57
58	16.0	16.4	16.9	17.4	17.9	18.4	18.8	19.3	19.8	20.3	20.8	21.3	21.8	22.2	22.7	23.2	58
59	16.2	16.7	17.2	17.7	18.2	18.7	19.2	19.7	20.2	20.6	21.1	21.6	22.1	22.6	23.1	23.6	59
60	16.5	17.0	17.5	18.0	18.5	19.0	19.5	20.0	20.5	21.0	21.5	22.0	22.5	23.0	23.5	24.0	60

Tiempo, velocidad y distancia

Minutos	Velocidad en nudos																Minutos
	24.5	25.0	25.5	26.0	26.5	27.0	27.5	28.0	28.5	29.0	29.5	30.0	30.5	31.0	31.5	32.0	
	Distancia en millas																
1	0. 4	0. 4	0. 4	0. 4	0. 4	0. 4	0. 5	0. 5	0. 5	0. 5	0. 5	0. 5	0. 5	0. 5	0. 5	0. 5	1
2	0. 8	0. 8	0. 8	0. 9	0. 9	0. 9	0. 9	0. 9	1. 0	1. 0	1. 0	1. 0	1. 0	1. 0	1. 0	1. 1	2
3	1. 2	1. 2	1. 3	1. 3	1. 3	1. 4	1. 4	1. 4	1. 4	1. 4	1. 5	1. 5	1. 5	1. 6	1. 6	1. 6	3
4	1. 6	1. 7	1. 7	1. 7	1. 8	1. 8	1. 8	1. 9	1. 9	1. 9	2. 0	2. 0	2. 0	2. 1	2. 1	2. 1	4
5	2. 0	2. 1	2. 1	2. 2	2. 2	2. 2	2. 3	2. 3	2. 4	2. 4	2. 5	2. 5	2. 5	2. 6	2. 6	2. 7	5
6	2. 4	2. 5	2. 6	2. 6	2. 6	2. 7	2. 8	2. 8	2. 8	2. 9	3. 0	3. 0	3. 0	3. 1	3. 2	3. 2	6
7	2. 9	2. 9	3. 0	3. 0	3. 1	3. 2	3. 2	3. 3	3. 3	3. 4	3. 4	3. 5	3. 6	3. 6	3. 7	3. 7	7
8	3. 3	3. 3	3. 4	3. 5	3. 5	3. 6	3. 7	3. 7	3. 8	3. 9	3. 9	4. 0	4. 1	4. 1	4. 2	4. 3	8
9	3. 7	3. 8	3. 8	3. 9	4. 0	4. 0	4. 1	4. 2	4. 3	4. 4	4. 4	4. 5	4. 6	4. 6	4. 7	4. 8	9
10	4. 1	4. 2	4. 2	4. 3	4. 4	4. 5	4. 6	4. 7	4. 8	4. 8	4. 9	5. 0	5. 1	5. 2	5. 2	5. 3	10
11	4. 5	4. 6	4. 7	4. 8	4. 9	5. 0	5. 0	5. 1	5. 2	5. 3	5. 4	5. 5	5. 6	5. 7	5. 8	5. 9	11
12	4. 9	5. 0	5. 1	5. 2	5. 3	5. 4	5. 5	5. 6	5. 7	5. 8	5. 9	6. 0	6. 1	6. 2	6. 3	6. 4	12
13	5. 3	5. 4	5. 5	5. 6	5. 7	5. 8	6. 0	6. 1	6. 2	6. 3	6. 4	6. 5	6. 6	6. 7	6. 8	6. 9	13
14	5. 7	5. 8	6. 0	6. 1	6. 2	6. 3	6. 4	6. 5	6. 6	6. 8	6. 9	7. 0	7. 1	7. 2	7. 4	7. 5	14
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GLOSARIO DE TÉRMINOS NORMALIZADOS A EMPLEAR EN EL ALMANAQUE NÁUTICO.	
Abreviatura del término	**Significado**
H	Hora, Huso
ARG	Argumento de entrada en el Almanaque Náutico
Hb	Hora a bordo del buque
HH	Huso horario
HMG'	Hora Media en Greenwich aproximada de la observación
HMG	Hora Media en Greenwich exacta de la observación
Hc	Hora cronómetro
Hco	Hora cronómetro de la observación
Ea	Estado absoluto (corrección del cronómetro)
Lcg	Lectura del cronógrafo
AHG_t	Ángulo Horario en Greenwich tabulado
AHG	Ángulo Horario en Greenwich del astro
AHL	Ángulo Horario Local del astro
AHS	Ángulo Horario Sidéreo del astro
AR	Ascensión Recta del astro
dec	Declinación del astro
dec_t	Declinación tabulada del astro
c/dec	Corrección a la declinación del astro
c/ms	Corrección al Ángulo Horario en Greenwich tabulado del astro por minutos y segundos de la HMG
c/v	Corrección al Ángulo Horario en Greenwich del astro por variación
e	Elevación del ojo del observador
h	Altura
hs	Altura instrumental del sextante
ho	Altura observada
ha	Altura aparente del astro
hv	Altura verdadera del astro
h'v	Altura verdadera del astro corregida por Δhz
i	Corrección de índice del sextante
s	Corrección por excentricidad del sextante
c/i+s	Corrección a la altura por índice y excentricidad
c/D	Corrección por Depresión del horizonte visible o de la mar
c/r	Corrección a la altura por refracción astronómica
c/P	Corrección Principal a las alturas del Sol y la Luna por refracción, semidiámetro y paralaje
c/Ph	Corrección por Paralaje a las alturas de los planetas Marte y Venus
c/TP	Corrección a la altura por Temperatura y Presión (termómetro y barómetro)
a	Diferencia de alturas o intercepto
Δhz	Cambio de la altura del astro por el rumbo y la velocidad del buque (traslado analítico)

Abreviatura del término	Significado
E	Este
Lat	Latitud
Long	Longitud
W	Oeste
N	Norte
S	Sur
SD	Semidiámetro del Sol o de la Luna
PE	Posición de Estima empleada en los cálculos
PA	Posición Asumida empleada en los cálculos
v	Variación
UT	Tiempo Universal (Universal Time)
UTC	Tiempo Universal Coordinado (Universal Time Coordined)
DTU1	Corrección al Tiempo Universal
arc	Arco
Z	Distancia zenital
Zt	Azimut semicircular tabulado
c/Z	Corrección por azimut
Zc	Azimut circular o sexagesimal
S	Distancia recorrida
M	Movimiento diario del estado absoluto del cronómetro
V	Velocidad
R	Rumbo
Rv	Rumbo verdadero

TABLA 1

día	ene	feb	mar	abr	may	jun	jul	ago	set	oct	nov	Dic
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
1	06 47	08 49	10 44	12 46	14 44	16 46	18 45	20 47	22 49	00 47	02 49	04 44
2	06 51	08 53	10 48	12 50	14 48	16 50	18 48	20 51	22 53	00 51	02 53	04 48
3	06 55	08 57	10 51	12 54	14 52	16 54	18 52	20 55	22 57	00 55	02 57	04 52
4	06 59	09 01	10 55	12 58	14 56	16 58	18 56	20 59	23 01	00 59	03 01	04 56
5	07 03	03 05	10 59	13 02	15 00	17 02	19 00	21 03	23 05	01 03	03 05	05 00
6	07 07	09 09	11 03	13 06	15 04	17 06	19 04	21 06	23 09	01 07	03 09	05 04
7	07 11	09 13	11 07	13 09	15 08	17 10	19 08	21 10	23 13	01 11	03 13	05 07
8	07 15	09 17	11 11	13 13	15 12	17 14	19 12	21 14	23 17	01 15	03 17	05 11
9	07 19	09 21	11 15	13 17	15 16	17 18	19 16	21 18	23 21	01 19	03 21	05 15
10	07 22	09 25	11 19	13 21	15 20	17 22	19 20	21 22	23 24	01 23	03 25	05 19
11	07 26	09 29	11 23	13 25	15 23	17 26	19 24	21 26	23 28	01 27	03 29	05 23
12	07 30	09 33	11 27	13 29	15 27	17 30	19 28	21 30	23 32	01 31	03 33	05 27
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15	07 42	09 44	11 39	13 41	15 39	17 41	19 40	21 42	23 44	01 42	03 45	05 39
16	07 46	09 48	11 43	13 45	15 43	17 45	19 44	21 46	23 48	01 46	03 49	05 43
17	07 50	09 52	11 47	16 49	15 47	17 49	19 48	21 50	23 52	01 50	03 53	05 47
18	07 54	09 56	11 51	13 53	15 51	17 53	19 52	21 54	23 56	01 54	03 56	05 51
19	07 58	10 00	11 55	13 57	15 55	17 57	19 56	21 58	00 00	01 58	04 00	05 55
20	08 02	10 04	11 58	14 01	15 59	18 01	20 00	22 02	00 04	02 02	04 04	05 59
21	08 06	10 08	12 02	14 05	16 03	18 05	20 03	22 06	00 08	02 06	04 08	06 03
22	08 02	10 12	12 06	14 09	16 07	18 09	20 07	22 10	00 12	02 10	04 12	06 07
23	08 10	10 16	11 10	14 13	16 11	18 13	20 11	22 13	00 16	02 14	04 16	06 11
24	08 14	10 20	12 14	14 16	16 15	18 17	20 15	22 17	00 20	02 18	04 20	06 14
25	08 18	10 24	12 18	14 20	16 19	18 21	20 19	22 21	00 24	02 22	04 24	06 18
26	08 26	10 28	12 22	14 24	16 23	18 25	20 23	22 25	00 28	02 26	04 28	06 22
27	08 30	10 32	12 26	14 28	16 27	18 29	20 27	22 29	00 31	02 30	04 32	06 26
28	08 33	10 36	12 30	14 32	16 30	18 33	20 31	22 33	00 35	02 34	04 36	06 30
29	08 37	10 40	12 34	14 36	16 34	18 37	20 35	22 37	00 39	02 38	04 40	06 34
30	08 41		12 38	14 40	16 38	18 41	20 39	22 41	00 43	02 42	04 44	06 38
31	08 45		12 42		16 42		20 43	22 45		02 46		06 42

SOLUCIÓN APROXIMADA DE PROBLEMAS ASOCIADOS AL MOVIMIENTO DE LA LUNA

Bajo ciertas circunstancias a veces se requiere la determinación aproximada de la fase de la Luna, lo que es posible conociendo su "edad" (E), definida ésta como el número de días transcurridos desde Luna nueva hasta un día dado.

$$E = D + M + K$$

donde:

E – Edad de la Luna
D – Día del mes
M – Número del mes
K – Coeficiente

Si el resultado fuera superior a 30 se le resta igual cantidad para obtener la edad de la Luna. En la tabla se dan los valores del coeficiente K para el período 2020 - 2025.

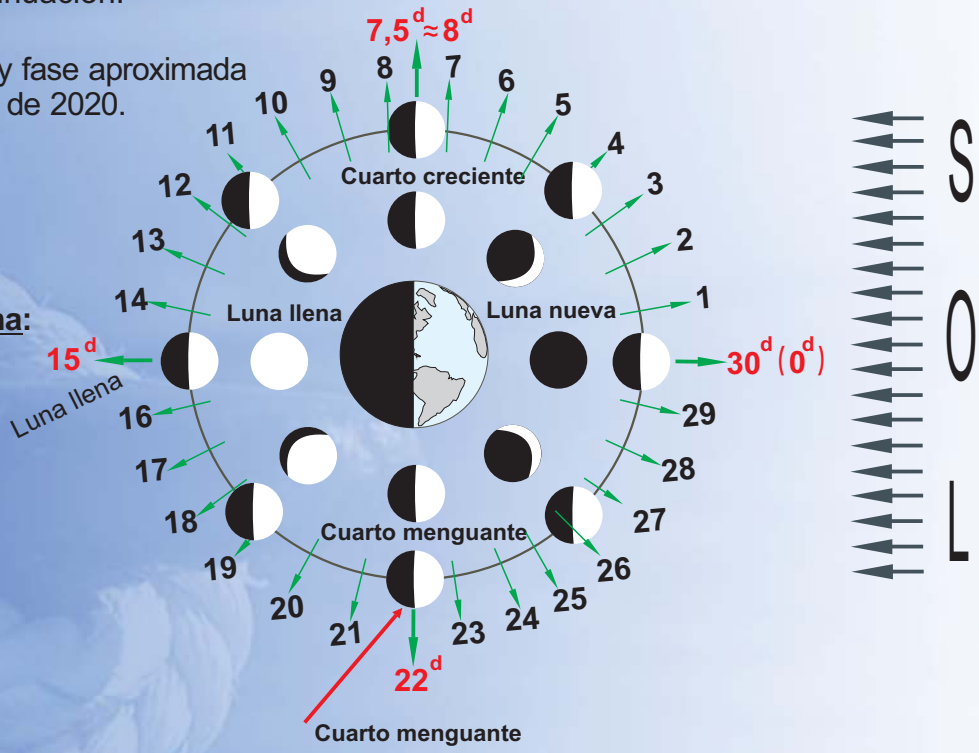
Año	2020	2021	2022	2023	2024	2025
K	3	14	25	6	17	28

Estos coeficientes pueden ser hallados para años posteriores sumando 11 al último conocido. Si el resultado fuera superior a 30 se le resta este valor obteniéndose dicho coeficiente.

Para determinar la fase se tiene en cuenta el valor E calculado por la fórmula, auxiliado de la figura que se observa a continuación:

Ejemplo: Hallar la Edad (E) y fase aproximada de la Luna el 7 de diciembre de 2020.

Cálculo de E
E = D + M + K
E = 7 + 12 + 3 = 22
E = 22
Fase aproximada de la Luna:
Cuarto menguante



Edimar
Agencia de Cartografía Náutica

Fuente: *Cuaderno de Astronomía Náutica, Agencia de Cartografía Náutica (Edimar), La Habana, 2002*