

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 02.8 -00.2	N 23 07.2 -00.1	210 58.0 -00.7	N 20 31.3 +00.6	156 05.5 -29.7	N 24 51.6 -05.6	00						
01	194 02.6 -00.1	N 23 07.1 -00.2	225 57.3 -00.7	N 20 31.9 +00.5	170 35.8 -29.6	N 24 46.0 -05.6	01						
02	209 02.5 -00.1	N 23 06.9 -00.2	240 56.6 -00.6	N 20 32.4 +00.5	185 06.2 -29.6	N 24 40.4 -05.8	02						
03	224 02.4 -00.1	N 23 06.7 -00.1	255 56.0 -00.7	N 20 32.9 +00.6	199 36.6 -29.5	N 24 34.6 -05.9	03						
04	239 02.3 -00.1	N 23 06.6 -00.2	270 55.3 -00.7	N 20 33.5 +00.5	214 07.1 -29.5	N 24 28.7 -06.0	04						
05	254 02.2 -00.2	N 23 06.4 -00.2	285 54.6 -00.7	N 20 34.0 +00.5	228 37.6 -29.4	N 24 22.7 -06.1	05						
06	269 02.0 -00.1	N 23 06.2 -00.1	300 53.9 -00.7	N 20 34.5 +00.6	243 08.2 -29.4	N 24 16.6 -06.2	06						
07	284 01.9 -00.1	N 23 06.1 -00.2	315 53.2 -00.6	N 20 35.1 +00.5	257 38.8 -29.4	N 24 10.4 -06.3	07						
08	299 01.8 -00.1	N 23 05.9 -00.2	330 52.6 -00.7	N 20 35.6 +00.5	272 09.4 -29.3	N 24 04.1 -06.5	08						
09	314 01.7 -00.1	N 23 05.7 -00.1	345 51.9 -00.7	N 20 36.1 +00.5	286 40.1 -29.2	N 23 57.6 -06.5	09						
10	329 01.6 -00.2	N 23 05.6 -00.2	0 51.2 -00.7	N 20 36.6 +00.6	301 10.9 -29.2	N 23 51.1 -06.7	10						
11	344 01.4 -00.1	N 23 05.4 -00.2	15 50.5 -00.7	N 20 37.2 +00.5	315 41.7 -29.2	N 23 44.4 -06.7	11						
12	359 01.3 -00.1	N 23 05.2 -00.2	30 49.8 -00.6	N 20 37.7 +00.5	330 12.5 -29.1	N 23 37.7 -06.9	12						
13	14 01.2 -00.1	N 23 05.0 -00.1	45 49.2 -00.7	N 20 38.2 +00.5	344 43.4 -29.1	N 23 30.8 -07.0	13						
14	29 01.1 -00.2	N 23 04.9 -00.2	60 48.5 -00.7	N 20 38.7 +00.5	359 14.3 -29.0	N 23 23.8 -07.1	14						
15	44 00.9 -00.1	N 23 04.7 -00.2	75 47.8 -00.7	N 20 39.2 +00.6	13 45.3 -29.0	N 23 16.7 -07.2	15						
16	59 00.8 -00.1	N 23 04.5 -00.2	90 47.1 -00.7	N 20 39.8 +00.5	28 16.3 -29.0	N 23 09.5 -07.3	16						
17	74 00.7 -00.1	N 23 04.3 -00.1	105 46.4 -00.7	N 20 40.3 +00.5	42 47.3 -28.8	N 23 02.2 -07.4	17						
18	89 00.6 -00.1	N 23 04.2 -00.2	120 45.7 -00.6	N 20 40.8 +00.5	57 18.5 -28.9	N 22 54.8 -07.6	18						
19	104 00.5 -00.2	N 23 04.0 -00.2	135 45.1 -00.7	N 20 41.3 +00.5	71 49.6 -28.8	N 22 47.2 -07.6	19						
20	119 00.3 -00.1	N 23 03.8 -00.2	150 44.4 -00.7	N 20 41.8 +00.5	86 20.8 -28.7	N 22 39.6 -07.7	20						
21	134 00.2 -00.1	N 23 03.6 -00.1	165 43.7 -00.7	N 20 42.3 +00.6	100 52.1 -28.7	N 22 31.9 -07.8	21						
22	149 00.1 -00.1	N 23 03.5 -00.2	180 43.0 -00.7	N 20 42.9 +00.5	115 23.4 -28.6	N 22 24.1 -08.0	22						
23	163 00.0 -00.1	N 23 03.3 -00.2	195 42.3 -00.7	N 20 43.4 +00.5	129 54.8 -28.6	N 22 16.1 -08.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'7 15'7 15'7 15'7 15'7 15'7		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 14'7 14'7 14'7 14'8 14'8 14'8								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 54'1 54'1 54'1 54'2 54'2 54'2								
	SHA 260° 260° 260° 259° 259° 259°		SHA 292° 292° 291° 291° 291° 291°		SHA 236° 234° 232° 230° 228° 225°								
	Greenwich Culmination Time: 12:03		Greenwich Culmination Time: 09:56		Greenwich Culmination Time: 14:03								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	253 18.4 +00.8	N 08 42.6 +00.7	271 38.9 +02.3	N 01 46.8 +00.1	311 36.6 +02.6	S 14 25.2 +00.0	00						
01	268 19.2 +00.8	N 08 43.3 +00.6	286 41.2 +02.3	N 01 46.9 +00.0	326 39.2 +02.5	S 14 25.2 +00.0	01						
02	283 20.0 +00.8	N 08 43.9 +00.6	301 43.5 +02.2	N 01 46.9 +00.1	341 41.7 +02.6	S 14 25.2 +00.1	02						
03	298 20.8 +00.8	N 08 44.5 +00.7	316 45.7 +02.3	N 01 47.0 +00.1	356 44.3 +02.5	S 14 25.3 +00.0	03						
04	313 21.6 +00.8	N 08 45.2 +00.6	331 48.0 +02.2	N 01 47.1 +00.1	11 46.8 +02.6	S 14 25.3 +00.1	04						
05	328 22.4 +00.8	N 08 45.8 +00.6	346 50.2 +02.3	N 01 47.2 +00.0	26 49.4 +02.6	S 14 25.4 +00.0	05						
06	343 23.2 +00.8	N 08 46.4 +00.7	1 52.5 +02.3	N 01 47.2 +00.1	41 52.0 +02.5	S 14 25.4 +00.0	06						
07	358 24.0 +00.8	N 08 47.1 +00.6	16 54.8 +02.2	N 01 47.3 +00.1	56 54.5 +02.6	S 14 25.4 +00.1	07						
08	13 24.8 +00.8	N 08 47.7 +00.6	31 57.0 +02.3	N 01 47.4 +00.1	71 57.1 +02.5	S 14 25.5 +00.0	08						
09	28 25.6 +00.8	N 08 48.3 +00.7	46 59.3 +02.3	N 01 47.5 +00.0	86 59.6 +02.6	S 14 25.5 +00.1	09						
10	43 26.4 +00.8	N 08 49.0 +00.6	62 01.6 +02.2	N 01 47.5 +00.1	102 02.2 +02.6	S 14 25.6 +00.0	10						
11	58 27.2 +00.8	N 08 49.6 +00.7	77 03.8 +02.3	N 01 47.6 +00.1	117 04.8 +02.5	S 14 25.6 +00.1	11						
12	73 28.0 +00.8	N 08 50.3 +00.6	92 06.1 +02.3	N 01 47.7 +00.1	132 07.3 +02.6	S 14 25.7 +00.0	12						
13	88 28.8 +00.8	N 08 50.9 +00.6	107 08.4 +02.2	N 01 47.8 +00.0	147 09.9 +02.5	S 14 25.7 +00.0	13						
14	103 29.6 +00.8	N 08 51.5 +00.7	122 10.6 +02.3	N 01 47.8 +00.1	162 12.4 +02.6	S 14 25.7 +00.1	14						
15	118 30.4 +00.8	N 08 52.2 +00.6	137 12.9 +02.2	N 01 47.9 +00.1	177 15.0 +02.6	S 14 25.8 +00.0	15						
16	133 31.2 +00.7	N 08 52.8 +00.6	152 15.1 +02.3	N 01 48.0 +00.0	192 17.6 +02.5	S 14 25.8 +00.1	16						
17	148 31.9 +00.8	N 08 53.4 +00.7	167 17.4 +02.3	N 01 48.0 +00.1	207 20.1 +02.6	S 14 25.9 +00.0	17						
18	163 32.7 +00.8	N 08 54.1 +00.6	182 19.7 +02.2	N 01 48.1 +00.1	222 22.7 +02.6	S 14 25.9 +00.0	18						
19	178 33.5 +00.8	N 08 54.7 +00.6	197 21.9 +02.3	N 01 48.2 +00.1	237 25.3 +02.5	S 14 25.9 +00.1	19						
20	193 34.3 +00.8	N 08 55.3 +00.6	212 24.2 +02.3	N 01 48.3 +00.0	252 27.8 +02.6	S 14 26.0 +00.0	20						
21	208 35.1 +00.8	N 08 55.9 +00.7	227 26.5 +02.2	N 01 48.3 +00.1	267 30.4 +02.5	S 14 26.0 +00.1	21						
22	223 35.9 +00.8	N 08 56.6 +00.6	242 28.7 +02.3	N 01 48.4 +00.1	282 32.9 +02.6	S 14 26.1 +00.0	22						
23	238 36.7 +00.8	N 08 57.2 +00.6	257 31.0 +02.3	N 01 48.5 +00.1	297 35.5 +02.6	S 14 26.1 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'2 00'2 00'2 00'2 00'2 00'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 334° 334° 334° 334° 334° 334°		SHA 353° 353° 353° 353° 353° 353°		SHA 033° 033° 033° 033° 033° 033°								
	Greenwich Culmination Time: 07:06		Greenwich Culmination Time: 05:52		Greenwich Culmination Time: 03:13								

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UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 59.9 -00.2	N 23 03.1 -00.2	210 41.6 -00.6	N 20 43.9 +00.5	144 26.2 -28.6	N 22 08.1 -08.1	00						
01	193 59.7 -00.1	N 23 02.9 -00.2	225 41.0 -00.7	N 20 44.4 +00.5	158 57.6 -28.5	N 21 60.0 -08.3	01						
02	208 59.6 -00.1	N 23 02.7 -00.2	240 40.3 -00.7	N 20 44.9 +00.5	173 29.1 -28.4	N 21 51.7 -08.3	02						
03	223 59.5 -00.1	N 23 02.5 -00.1	255 39.6 -00.7	N 20 45.4 +00.5	188 00.7 -28.4	N 21 43.4 -08.4	03						
04	238 59.4 -00.1	N 23 02.4 -00.2	270 38.9 -00.7	N 20 45.9 +00.5	202 32.3 -28.3	N 21 35.0 -08.6	04						
05	253 59.3 -00.2	N 23 02.2 -00.2	285 38.2 -00.7	N 20 46.4 +00.5	217 04.0 -28.3	N 21 26.4 -08.6	05						
06	268 59.1 -00.1	N 23 02.0 -00.2	300 37.5 -00.7	N 20 46.9 +00.5	231 35.7 -28.3	N 21 17.8 -08.7	06						
07	283 59.0 -00.1	N 23 01.8 -00.2	315 36.8 -00.7	N 20 47.4 +00.5	246 07.4 -28.2	N 21 09.1 -08.8	07						
08	298 58.9 -00.1	N 23 01.6 -00.2	330 36.1 -00.7	N 20 47.9 +00.5	260 39.2 -28.1	N 21 00.3 -09.0	08						
09	313 58.8 -00.1	N 23 01.4 -00.2	345 35.4 -00.6	N 20 48.4 +00.5	275 11.1 -28.1	N 20 51.3 -09.0	09						
10	328 58.7 -00.1	N 23 01.2 -00.1	0 34.8 -00.7	N 20 48.9 +00.5	289 43.0 -28.1	N 20 42.3 -09.1	10						
11	343 58.6 -00.2	N 23 01.1 -00.2	15 34.1 -00.7	N 20 49.4 +00.5	304 14.9 -28.0	N 20 33.2 -09.2	11						
12	358 58.4 -00.1	N 23 00.9 -00.2	30 33.4 -00.7	N 20 49.9 +00.5	318 46.9 -27.9	N 20 24.0 -09.2	12						
13	13 58.3 -00.1	N 23 00.7 -00.2	45 32.7 -00.7	N 20 50.4 +00.5	333 19.0 -27.9	N 20 14.8 -09.4	13						
14	28 58.2 -00.1	N 23 00.5 -00.2	60 32.0 -00.7	N 20 50.9 +00.5	347 51.1 -27.9	N 20 05.4 -09.5	14						
15	43 58.1 -00.1	N 23 00.3 -00.2	75 31.3 -00.7	N 20 51.4 +00.5	2 23.2 -27.8	N 19 55.9 -09.6	15						
16	58 58.0 -00.2	N 23 00.1 -00.2	90 30.6 -00.7	N 20 51.9 +00.5	16 55.4 -27.8	N 19 46.3 -09.6	16						
17	73 57.8 -00.1	N 22 59.9 -00.2	105 29.9 -00.7	N 20 52.4 +00.5	31 27.6 -27.7	N 19 36.7 -09.7	17						
18	88 57.7 -00.1	N 22 59.7 -00.2	120 29.2 -00.7	N 20 52.9 +00.5	45 59.9 -27.6	N 19 27.0 -09.9	18						
19	103 57.6 -00.1	N 22 59.5 -00.2	135 28.5 -00.7	N 20 53.4 +00.5	60 32.3 -27.7	N 19 17.1 -09.9	19						
20	118 57.5 -00.1	N 22 59.3 -00.2	150 27.8 -00.7	N 20 53.9 +00.5	75 04.6 -27.5	N 19 07.2 -10.0	20						
21	133 57.4 -00.1	N 22 59.1 -00.2	165 27.1 -00.7	N 20 54.4 +00.5	89 37.1 -27.6	N 18 57.2 -10.1	21						
22	148 57.3 -00.2	N 22 58.9 -00.2	180 26.4 -00.7	N 20 54.9 +00.5	104 09.5 -27.4	N 18 47.1 -10.1	22						
23	163 57.1 -00.1	N 22 58.7 -00.2	195 25.7 -00.7	N 20 55.4 +00.5	118 42.1 -27.5	N 18 37.0 -10.3	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'7 15'7 15'7 15'7 15'7 15'7		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 14'8 14'8 14'8 14'8 14'8 14'9								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 54'3 54'3 54'4 54'4 54'5 54'5								
	SHA 259° 259° 259° 258° 258° 258°		SHA 291° 290° 290° 290° 290° 290°		SHA 223° 221° 219° 217° 215° 213°								
	Greenwich Culmination Time: 12:04		Greenwich Culmination Time: 09:57		Greenwich Culmination Time: 14:50								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	253 37.5 +00.8	N 08 57.8 +00.7	272 33.3 +02.2	N 01 48.6 +00.0	312 38.1 +02.5	S 14 26.1 +00.1	00						
01	268 38.3 +00.8	N 08 58.5 +00.6	287 35.5 +02.3	N 01 48.6 +00.1	327 40.6 +02.6	S 14 26.2 +00.0	01						
02	283 39.1 +00.8	N 08 59.1 +00.6	302 37.8 +02.3	N 01 48.7 +00.1	342 43.2 +02.6	S 14 26.2 +00.1	02						
03	298 39.9 +00.8	N 08 59.7 +00.7	317 40.1 +02.2	N 01 48.8 +00.0	357 45.8 +02.5	S 14 26.3 +00.0	03						
04	313 40.7 +00.8	N 09 00.4 +00.6	332 42.3 +02.3	N 01 48.8 +00.1	12 48.3 +02.6	S 14 26.3 +00.1	04						
05	328 41.5 +00.8	N 09 01.0 +00.6	347 44.6 +02.3	N 01 48.9 +00.1	27 50.9 +02.6	S 14 26.4 +00.0	05						
06	343 42.3 +00.8	N 09 01.6 +00.7	2 46.9 +02.3	N 01 49.0 +00.1	42 53.5 +02.5	S 14 26.4 +00.0	06						
07	358 43.1 +00.8	N 09 02.3 +00.6	17 49.2 +02.2	N 01 49.1 +00.0	57 56.0 +02.6	S 14 26.4 +00.1	07						
08	13 43.9 +00.8	N 09 02.9 +00.6	32 51.4 +02.3	N 01 49.1 +00.1	72 58.6 +02.5	S 14 26.5 +00.0	08						
09	28 44.7 +00.8	N 09 03.5 +00.6	47 53.7 +02.3	N 01 49.2 +00.1	88 01.1 +02.6	S 14 26.5 +00.1	09						
10	43 45.5 +00.8	N 09 04.1 +00.7	62 56.0 +02.2	N 01 49.3 +00.0	103 03.7 +02.6	S 14 26.6 +00.0	10						
11	58 46.3 +00.8	N 09 04.8 +00.6	77 58.2 +02.3	N 01 49.3 +00.1	118 06.3 +02.5	S 14 26.6 +00.1	11						
12	73 47.1 +00.8	N 09 05.4 +00.6	93 00.5 +02.3	N 01 49.4 +00.1	133 08.8 +02.6	S 14 26.7 +00.0	12						
13	88 47.9 +00.8	N 09 06.0 +00.7	108 02.8 +02.2	N 01 49.5 +00.0	148 11.4 +02.6	S 14 26.7 +00.0	13						
14	103 48.7 +00.8	N 09 06.7 +00.6	123 05.0 +02.3	N 01 49.5 +00.1	163 14.0 +02.5	S 14 26.7 +00.1	14						
15	118 49.5 +00.8	N 09 07.3 +00.6	138 07.3 +02.3	N 01 49.6 +00.1	178 16.5 +02.6	S 14 26.8 +00.0	15						
16	133 50.3 +00.8	N 09 07.9 +00.6	153 09.6 +02.3	N 01 49.7 +00.1	193 19.1 +02.6	S 14 26.8 +00.1	16						
17	148 51.1 +00.8	N 09 08.5 +00.7	168 11.9 +02.2	N 01 49.8 +00.0	208 21.7 +02.5	S 14 26.9 +00.0	17						
18	163 51.9 +00.8	N 09 09.2 +00.6	183 14.1 +02.3	N 01 49.8 +00.1	223 24.2 +02.6	S 14 26.9 +00.0	18						
19	178 52.7 +00.8	N 09 09.8 +00.6	198 16.4 +02.3	N 01 49.9 +00.1	238 26.8 +02.6	S 14 26.9 +00.1	19						
20	193 53.5 +00.8	N 09 10.4 +00.7	213 18.7 +02.2	N 01 50.0 +00.0	253 29.4 +02.5	S 14 27.0 +00.0	20						
21	208 54.3 +00.8	N 09 11.1 +00.6	228 20.9 +02.3	N 01 50.0 +00.1	268 31.9 +02.6	S 14 27.0 +00.1	21						
22	223 55.1 +00.8	N 09 11.7 +00.6	243 23.2 +02.3	N 01 50.1 +00.1	283 34.5 +02.6	S 14 27.1 +00.0	22						
23	238 55.9 +00.7	N 09 12.3 +00.6	258 25.5 +02.3	N 01 50.2 +00.0	298 37.1 +02.5	S 14 27.1 +00.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'2 00'2 00'2 00'2 00'2 00'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 334° 333° 333° 333° 333° 333°		SHA 353° 353° 353° 352° 352° 352°		SHA 033° 033° 033° 033° 033° 033°								
	Greenwich Culmination Time: 07:05		Greenwich Culmination Time: 05:48		Greenwich Culmination Time: 03:08								

UT	Sun				Venus				Moon				UT			
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec				
00	178 57.0 -00.1	N 22 58.5 -00.2	210 25.0 -00.6	N 20 55.9 +00.5	133 14.6 -27.4	N 18 26.7 -10.3	00									
01	193 56.9 -00.1	N 22 58.3 -00.2	225 24.4 -00.7	N 20 56.4 +00.4	147 47.2 -27.3	N 18 16.4 -10.4	01									
02	208 56.8 -00.1	N 22 58.1 -00.2	240 23.7 -00.7	N 20 56.8 +00.5	162 19.9 -27.3	N 18 06.0 -10.5	02									
03	223 56.7 -00.1	N 22 57.9 -00.2	255 23.0 -00.7	N 20 57.3 +00.5	176 52.6 -27.3	N 17 55.5 -10.6	03									
04	238 56.6 -00.2	N 22 57.7 -00.2	270 22.3 -00.7	N 20 57.8 +00.5	191 25.3 -27.2	N 17 44.9 -10.7	04									
05	253 56.4 -00.1	N 22 57.5 -00.2	285 21.6 -00.7	N 20 58.3 +00.5	205 58.1 -27.2	N 17 34.2 -10.7	05									
06	268 56.3 -00.1	N 22 57.3 -00.2	300 20.9 -00.7	N 20 58.8 +00.5	220 30.9 -27.1	N 17 23.5 -10.8	06									
07	283 56.2 -00.1	N 22 57.1 -00.2	315 20.2 -00.7	N 20 59.3 +00.5	235 03.8 -27.1	N 17 12.7 -10.9	07									
08	298 56.1 -00.1	N 22 56.9 -00.2	330 19.5 -00.7	N 20 59.8 +00.4	249 36.7 -27.0	N 17 01.8 -11.0	08									
09	313 56.0 -00.1	N 22 56.7 -00.2	345 18.8 -00.7	N 21 00.2 +00.5	264 09.7 -27.0	N 16 50.8 -11.0	09									
10	328 55.9 -00.1	N 22 56.5 -00.2	0 18.1 -00.7	N 21 00.7 +00.5	278 42.7 -27.0	N 16 39.8 -11.2	10									
11	343 55.8 -00.2	N 22 56.3 -00.2	15 17.4 -00.7	N 21 01.2 +00.5	293 15.7 -26.9	N 16 28.6 -11.2	11									
12	358 55.6 -00.1	N 22 56.1 -00.2	30 16.7 -00.7	N 21 01.7 +00.4	307 48.8 -26.9	N 16 17.4 -11.2	12									
13	13 55.5 -00.1	N 22 55.9 -00.2	45 16.0 -00.7	N 21 02.1 +00.5	322 21.9 -26.9	N 16 06.2 -11.4	13									
14	28 55.4 -00.1	N 22 55.7 -00.2	60 15.3 -00.7	N 21 02.6 +00.5	336 55.0 -26.8	N 15 54.8 -11.4	14									
15	43 55.3 -00.1	N 22 55.5 -00.2	75 14.6 -00.7	N 21 03.1 +00.5	351 28.2 -26.7	N 15 43.4 -11.5	15									
16	58 55.2 -00.1	N 22 55.3 -00.2	90 13.9 -00.7	N 21 03.6 +00.4	6 01.5 -26.8	N 15 31.9 -11.6	16									
17	73 55.1 -00.1	N 22 55.1 -00.2	105 13.2 -00.7	N 21 04.0 +00.5	20 34.7 -26.7	N 15 20.3 -11.6	17									
18	88 55.0 -00.2	N 22 54.9 -00.2	120 12.5 -00.8	N 21 04.5 +00.5	35 08.0 -26.6	N 15 08.7 -11.7	18									
19	103 54.8 -00.1	N 22 54.7 -00.3	135 11.7 -00.7	N 21 05.0 +00.5	49 41.4 -26.7	N 14 57.0 -11.8	19									
20	118 54.7 -00.1	N 22 54.4 -00.2	150 11.0 -00.7	N 21 05.5 +00.4	64 14.7 -26.6	N 14 45.2 -11.8	20									
21	133 54.6 -00.1	N 22 54.2 -00.2	165 10.3 -00.7	N 21 05.9 +00.5	78 48.1 -26.5	N 14 33.4 -11.9	21									
22	148 54.5 -00.1	N 22 54.0 -00.2	180 09.6 -00.7	N 21 06.4 +00.5	93 21.6 -26.5	N 14 21.5 -12.0	22									
23	163 54.4 -00.1	N 22 53.8 -00.2	195 08.9 -00.7	N 21 06.9 +00.4	107 55.1 -26.5	N 14 09.5 -12.1	23									
	UT 02 06 10 14 18 22	UT 02 06 10 14 18 22	UT 02 06 10 14 18 22	UT 02 06 10 14 18 22	SD 15'7 15'7 15'7 15'7 15'7 15'7	SD 00'1 00'1 00'1 00'1 00'1 00'1	SD 14'9 14'9 14'9 14'9 15'0 15'0	SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'1 00'1 00'1 00'1 00'1 00'1	HP 54'6 54'7 54'7 54'8 54'9 55'0	HP 00'0 00'0 00'0 00'0 00'0 00'0	HP 00'0 00'0 00'0 00'0 00'0 00'0	HP 00'1 00'1 00'1 00'1 00'1 00'1								
	SHA 258° 258° 258° 257° 257° 257°	SHA 289° 289° 289° 289° 288° 288°	SHA 289° 289° 289° 289° 288° 288°	SHA 211° 209° 207° 205° 203° 201°	Greenwich Culmination Time: 12:04				Greenwich Culmination Time: 09:58				Greenwich Culmination Time: 15:35			

UT	Mars				Jupiter				Saturn				UT			
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec				
00	253 56.6 +00.8	N 09 12.9 +00.7	273 27.8 +02.2	N 01 50.2 +00.1	313 39.6 +02.6	S 14 27.2 +00.0	00									
01	268 57.4 +00.8	N 09 13.6 +00.6	288 30.0 +02.3	N 01 50.3 +00.1	328 42.2 +02.6	S 14 27.2 +00.0	01									
02	283 58.2 +00.8	N 09 14.2 +00.6	303 32.3 +02.3	N 01 50.4 +00.0	343 44.8 +02.5	S 14 27.2 +00.1	02									
03	298 59.0 +00.8	N 09 14.8 +00.6	318 34.6 +02.3	N 01 50.4 +00.1	358 47.3 +02.6	S 14 27.3 +00.0	03									
04	313 59.8 +00.8	N 09 15.4 +00.7	333 36.9 +02.2	N 01 50.5 +00.1	13 49.9 +02.6	S 14 27.3 +00.1	04									
05	329 00.6 +00.8	N 09 16.1 +00.6	348 39.1 +02.3	N 01 50.6 +00.0	28 52.5 +02.5	S 14 27.4 +00.0	05									
06	344 01.4 +00.8	N 09 16.7 +00.6	3 41.4 +02.3	N 01 50.6 +00.1	43 55.0 +02.6	S 14 27.4 +00.1	06									
07	359 02.2 +00.8	N 09 17.3 +00.7	18 43.7 +02.3	N 01 50.7 +00.1	58 57.6 +02.6	S 14 27.5 +00.0	07									
08	14 03.0 +00.8	N 09 18.0 +00.6	33 46.0 +02.2	N 01 50.8 +00.1	74 00.2 +02.5	S 14 27.5 +00.0	08									
09	29 03.8 +00.8	N 09 18.6 +00.6	48 48.2 +02.3	N 01 50.9 +00.0	89 02.7 +02.6	S 14 27.5 +00.1	09									
10	44 04.6 +00.8	N 09 19.2 +00.6	63 50.5 +02.3	N 01 50.9 +00.1	104 05.3 +02.6	S 14 27.6 +00.0	10									
11	59 05.4 +00.8	N 09 19.8 +00.7	78 52.8 +02.3	N 01 51.0 +00.1	119 07.9 +02.5	S 14 27.6 +00.1	11									
12	74 06.2 +00.8	N 09 20.5 +00.6	93 55.1 +02.3	N 01 51.1 +00.0	134 10.4 +02.6	S 14 27.7 +00.0	12									
13	89 07.0 +00.8	N 09 21.1 +00.6	108 57.4 +02.2	N 01 51.1 +00.1	149 13.0 +02.6	S 14 27.7 +00.1	13									
14	104 07.8 +00.8	N 09 21.7 +00.6	123 59.6 +02.3	N 01 51.2 +00.1	164 15.6 +02.5	S 14 27.8 +00.0	14									
15	119 08.6 +00.8	N 09 22.3 +00.6	139 01.9 +02.3	N 01 51.3 +00.0	179 18.1 +02.6	S 14 27.8 +00.1	15									
16	134 09.4 +00.8	N 09 22.9 +00.7	154 04.2 +02.3	N 01 51.3 +00.1	194 20.7 +02.6	S 14 27.9 +00.0	16									
17	149 10.2 +00.8	N 09 23.6 +00.6	169 06.5 +02.2	N 01 51.4 +00.1	209 23.3 +02.5	S 14 27.9 +00.0	17									
18	164 11.0 +00.8	N 09 24.2 +00.6	184 08.7 +02.3	N 01 51.5 +00.0	224 25.8 +02.6	S 14 27.9 +00.1	18									
19	179 11.8 +00.8	N 09 24.8 +00.6	199 11.0 +02.3	N 01 51.5 +00.1	239 28.4 +02.6	S 14 28.0 +00.0	19									
20	194 12.6 +00.8	N 09 25.4 +00.7	214 13.3 +02.3	N 01 51.6 +00.1	254 31.0 +02.6	S 14 28.0 +00.1	20									
21	209 13.4 +00.8	N 09 26.1 +00.6	229 15.6 +02.3	N 01 51.7 +00.0	269 33.6 +02.5	S 14 28.1 +00.0	21									
22	224 14.2 +00.8	N 09 26.7 +00.6	244 17.9 +02.2	N 01 51.7 +00.1	284 36.1 +02.6	S 14 28.1 +00.1	22									
23	239 15.0 +00.8	N 09 27.3 +00.6	259 20.1 +02.3	N 01 51.8 +00.1	299 38.7 +02.6	S 14 28.2 +00.0	23									
	UT 02 06 10 14 18 22	UT 02 06 10 14 18 22	UT 02 06 10 14 18 22	UT 02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1	SD 00'3 00'3 00'3 00'3 00'3 00'3	SD 00'2 00'2 00'2 00'2 00'2 00'2	SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'0 00'0 00'0 00'0 00'0 00'0	HP 00'0 00'0 00'0 00'0 00'0 00'0	HP 00'0 00'0 00'0 00'0 00'0 00'0	HP 00'0 00'0 00'0 00'0 00'0 00'0	HP 00'0 00'0 00'0 00'0 00'0 00'0	HP 00'0 00'0 00'0 00'0 00'0 00'0	HP 00'1 00'1 00'1 00'1 00'1 00'1								
	SHA 333° 333° 333° 333° 332° 332°	SHA 352° 352° 352° 352° 352° 352°	SHA 352° 352° 352° 352° 352° 352°	SHA 033° 033° 033° 033° 033° 033°	Greenwich Culmination Time: 07:03				Greenwich Culmination Time: 05:45				Greenwich Culmination Time: 03:04			

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 54.3 -00.1	N 22 53.6 -00.2	210 08.2 -00.7	N 21 07.3 +00.5	122 28.6 -26.5	N 13 57.4 -12.1	00						
01	193 54.2 -00.2	N 22 53.4 -00.2	225 07.5 -00.7	N 21 07.8 +00.5	137 02.1 -26.4	N 13 45.3 -12.1	01						
02	208 54.0 -00.1	N 22 53.2 -00.3	240 06.8 -00.7	N 21 08.3 +00.4	151 35.7 -26.5	N 13 33.2 -12.3	02						
03	223 53.9 -00.1	N 22 52.9 -00.2	255 06.1 -00.7	N 21 08.7 +00.5	166 09.2 -26.3	N 13 20.9 -12.3	03						
04	238 53.8 -00.1	N 22 52.7 -00.2	270 05.4 -00.7	N 21 09.2 +00.4	180 42.9 -26.4	N 13 08.6 -12.3	04						
05	253 53.7 -00.1	N 22 52.5 -00.2	285 04.7 -00.7	N 21 09.6 +00.5	195 16.5 -26.3	N 12 56.3 -12.5	05						
06	268 53.6 -00.1	N 22 52.3 -00.2	300 04.0 -00.7	N 21 10.1 +00.5	209 50.2 -26.3	N 12 43.8 -12.5	06						
07	283 53.5 -00.1	N 22 52.1 -00.2	315 03.3 -00.7	N 21 10.6 +00.4	224 23.9 -26.3	N 12 31.3 -12.5	07						
08	298 53.4 -00.1	N 22 51.9 -00.3	330 02.6 -00.7	N 21 11.0 +00.5	238 57.6 -26.2	N 12 18.8 -12.6	08						
09	313 53.3 -00.2	N 22 51.6 -00.2	345 01.9 -00.8	N 21 11.5 +00.4	253 31.4 -26.2	N 12 06.2 -12.7	09						
10	328 53.1 -00.1	N 22 51.4 -00.2	0 01.1 -00.7	N 21 11.9 +00.5	268 05.2 -26.2	N 11 53.5 -12.7	10						
11	343 53.0 -00.1	N 22 51.2 -00.2	15 00.4 -00.7	N 21 12.4 +00.4	282 39.0 -26.2	N 11 40.8 -12.8	11						
12	358 52.9 -00.1	N 22 51.0 -00.3	29 59.7 -00.7	N 21 12.8 +00.5	297 12.8 -26.2	N 11 28.0 -12.8	12						
13	13 52.8 -00.1	N 22 50.7 -00.2	44 59.0 -00.7	N 21 13.3 +00.4	311 46.6 -26.1	N 11 15.2 -12.9	13						
14	28 52.7 -00.1	N 22 50.5 -00.2	59 58.3 -00.7	N 21 13.7 +00.5	326 20.5 -26.1	N 11 02.3 -12.9	14						
15	43 52.6 -00.1	N 22 50.3 -00.2	74 57.6 -00.7	N 21 14.2 +00.4	340 54.4 -26.1	N 10 49.4 -13.0	15						
16	58 52.5 -00.1	N 22 50.1 -00.3	89 56.9 -00.7	N 21 14.6 +00.5	355 28.3 -26.1	N 10 36.4 -13.1	16						
17	73 52.4 -00.1	N 22 49.8 -00.2	104 56.2 -00.8	N 21 15.1 +00.4	10 02.2 -26.0	N 10 23.3 -13.1	17						
18	88 52.3 -00.2	N 22 49.6 -00.2	119 55.4 -00.7	N 21 15.5 +00.5	24 36.2 -26.1	N 10 10.2 -13.2	18						
19	103 52.1 -00.1	N 22 49.4 -00.2	134 54.7 -00.7	N 21 16.0 +00.4	39 10.1 -26.0	N 09 57.0 -13.2	19						
20	118 52.0 -00.1	N 22 49.2 -00.3	149 54.0 -00.7	N 21 16.4 +00.5	53 44.1 -26.0	N 09 43.8 -13.2	20						
21	133 51.9 -00.1	N 22 48.9 -00.2	164 53.3 -00.7	N 21 16.9 +00.4	68 18.1 -26.0	N 09 30.6 -13.3	21						
22	148 51.8 -00.1	N 22 48.7 -00.2	179 52.6 -00.7	N 21 17.3 +00.5	82 52.1 -26.0	N 09 17.3 -13.4	22						
23	163 51.7 -00.1	N 22 48.5 -00.3	194 51.9 -00.7	N 21 17.8 +00.4	97 26.1 -26.0	N 09 03.9 -13.4	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'7 15'7 15'7 15'7 15'7 15'7		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 15'0 15'0 15'0 15'1 15'1 15'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 55'1 55'1 55'2 55'3 55'4 55'5								
	SHA 257° 257° 256° 256° 256° 256°		SHA 288° 288° 288° 287° 287° 287°		SHA 200° 198° 196° 194° 192° 190°								
	Greenwich Culmination Time: 12:04		Greenwich Culmination Time: 09:59		Greenwich Culmination Time: 16:18								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	254 15.8 +00.8	N 09 27.9 +00.7	274 22.4 +02.3	N 01 51.9 +00.0	314 41.3 +02.5	S 14 28.2 +00.0	00						
01	269 16.6 +00.8	N 09 28.6 +00.6	289 24.7 +02.3	N 01 51.9 +00.1	329 43.8 +02.6	S 14 28.2 +00.1	01						
02	284 17.4 +00.8	N 09 29.2 +00.6	304 27.0 +02.3	N 01 52.0 +00.1	344 46.4 +02.6	S 14 28.3 +00.0	02						
03	299 18.2 +00.8	N 09 29.8 +00.6	319 29.3 +02.2	N 01 52.1 +00.0	359 49.0 +02.5	S 14 28.3 +00.1	03						
04	314 19.0 +00.8	N 09 30.4 +00.6	334 31.5 +02.3	N 01 52.1 +00.1	14 51.5 +02.6	S 14 28.4 +00.0	04						
05	329 19.8 +00.8	N 09 31.0 +00.7	349 33.8 +02.3	N 01 52.2 +00.0	29 54.1 +02.6	S 14 28.4 +00.1	05						
06	344 20.6 +00.8	N 09 31.7 +00.6	4 36.1 +02.3	N 01 52.2 +00.1	44 56.7 +02.6	S 14 28.5 +00.0	06						
07	359 21.4 +00.8	N 09 32.3 +00.6	19 38.4 +02.3	N 01 52.3 +00.1	59 59.3 +02.5	S 14 28.5 +00.1	07						
08	14 22.2 +00.8	N 09 32.9 +00.6	34 40.7 +02.3	N 01 52.4 +00.0	75 01.8 +02.6	S 14 28.6 +00.0	08						
09	29 23.0 +00.8	N 09 33.5 +00.6	49 43.0 +02.2	N 01 52.4 +00.1	90 04.4 +02.6	S 14 28.6 +00.0	09						
10	44 23.8 +00.8	N 09 34.1 +00.7	64 45.2 +02.3	N 01 52.5 +00.1	105 07.0 +02.5	S 14 28.6 +00.1	10						
11	59 24.6 +00.8	N 09 34.8 +00.6	79 47.5 +02.3	N 01 52.6 +00.0	120 09.5 +02.6	S 14 28.7 +00.0	11						
12	74 25.4 +00.8	N 09 35.4 +00.6	94 49.8 +02.3	N 01 52.6 +00.1	135 12.1 +02.6	S 14 28.7 +00.1	12						
13	89 26.2 +00.8	N 09 36.0 +00.6	109 52.1 +02.3	N 01 52.7 +00.1	150 14.7 +02.6	S 14 28.8 +00.0	13						
14	104 27.0 +00.8	N 09 36.6 +00.6	124 54.4 +02.3	N 01 52.8 +00.0	165 17.3 +02.5	S 14 28.8 +00.1	14						
15	119 27.8 +00.8	N 09 37.2 +00.7	139 56.7 +02.2	N 01 52.8 +00.1	180 19.8 +02.6	S 14 28.9 +00.0	15						
16	134 28.6 +00.8	N 09 37.9 +00.6	154 58.9 +02.3	N 01 52.9 +00.1	195 22.4 +02.6	S 14 28.9 +00.1	16						
17	149 29.4 +00.8	N 09 38.5 +00.6	170 01.2 +02.3	N 01 53.0 +00.0	210 25.0 +02.5	S 14 29.0 +00.0	17						
18	164 30.2 +00.8	N 09 39.1 +00.6	185 03.5 +02.3	N 01 53.0 +00.1	225 27.5 +02.6	S 14 29.0 +00.0	18						
19	179 31.0 +00.8	N 09 39.7 +00.6	200 05.8 +02.3	N 01 53.1 +00.0	240 30.1 +02.6	S 14 29.0 +00.1	19						
20	194 31.8 +00.8	N 09 40.3 +00.7	215 08.1 +02.3	N 01 53.1 +00.1	255 32.7 +02.6	S 14 29.1 +00.0	20						
21	209 32.6 +00.8	N 09 41.0 +00.6	230 10.4 +02.3	N 01 53.2 +00.1	270 35.3 +02.5	S 14 29.1 +00.1	21						
22	224 33.4 +00.8	N 09 41.6 +00.6	245 12.7 +02.2	N 01 53.3 +00.0	285 37.8 +02.6	S 14 29.2 +00.0	22						
23	239 34.2 +00.8	N 09 42.2 +00.6	260 14.9 +02.3	N 01 53.3 +00.1	300 40.4 +02.6	S 14 29.2 +00.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'2 00'2 00'2 00'2 00'2 00'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 332° 332° 332° 332° 332° 332°		SHA 352° 352° 352° 352° 352° 352°		SHA 033° 033° 033° 033° 033° 033°								
	Greenwich Culmination Time: 07:02		Greenwich Culmination Time: 05:41		Greenwich Culmination Time: 03:00								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 51.6 -00.1	N 22 48.2 -00.2	209 51.2 -00.8	N 21 18.2 +00.5	112 00.1 -26.0	N 08 50.5 -13.5	00						
01	193 51.5 -00.1	N 22 48.0 -00.2	224 50.4 -00.7	N 21 18.7 +00.4	126 34.1 -25.9	N 08 37.0 -13.5	01						
02	208 51.4 -00.1	N 22 47.8 -00.3	239 49.7 -00.7	N 21 19.1 +00.4	141 08.2 -26.0	N 08 23.5 -13.5	02						
03	223 51.3 -00.1	N 22 47.5 -00.2	254 49.0 -00.7	N 21 19.5 +00.5	155 42.2 -25.9	N 08 10.0 -13.6	03						
04	238 51.2 -00.1	N 22 47.3 -00.2	269 48.3 -00.7	N 21 20.0 +00.4	170 16.3 -26.0	N 07 56.4 -13.6	04						
05	253 51.1 -00.2	N 22 47.1 -00.3	284 47.6 -00.7	N 21 20.4 +00.5	184 50.3 -25.9	N 07 42.8 -13.7	05						
06	268 50.9 -00.1	N 22 46.8 -00.2	299 46.9 -00.8	N 21 20.9 +00.4	199 24.4 -26.0	N 07 29.1 -13.7	06						
07	283 50.8 -00.1	N 22 46.6 -00.2	314 46.1 -00.7	N 21 21.3 +00.4	213 58.4 -25.9	N 07 15.4 -13.8	07						
08	298 50.7 -00.1	N 22 46.4 -00.3	329 45.4 -00.7	N 21 21.7 +00.5	228 32.5 -25.9	N 07 01.6 -13.8	08						
09	313 50.6 -00.1	N 22 46.1 -00.2	344 44.7 -00.7	N 21 22.2 +00.4	243 06.6 -25.9	N 06 47.8 -13.9	09						
10	328 50.5 -00.1	N 22 45.9 -00.2	359 44.0 -00.7	N 21 22.6 +00.4	257 40.7 -26.0	N 06 33.9 -13.9	10						
11	343 50.4 -00.1	N 22 45.7 -00.3	14 43.3 -00.8	N 21 23.0 +00.5	272 14.7 -25.9	N 06 20.0 -13.9	11						
12	358 50.3 -00.1	N 22 45.4 -00.2	29 42.5 -00.7	N 21 23.5 +00.4	286 48.8 -25.9	N 06 06.1 -14.0	12						
13	13 50.2 -00.1	N 22 45.2 -00.3	44 41.8 -00.7	N 21 23.9 +00.4	301 22.9 -26.0	N 05 52.1 -14.0	13						
14	28 50.1 -00.1	N 22 44.9 -00.2	59 41.1 -00.7	N 21 24.3 +00.4	315 56.9 -25.9	N 05 38.1 -14.0	14						
15	43 50.0 -00.1	N 22 44.7 -00.2	74 40.4 -00.7	N 21 24.7 +00.5	330 31.0 -26.0	N 05 24.1 -14.1	15						
16	58 49.9 -00.1	N 22 44.5 -00.3	89 39.7 -00.8	N 21 25.2 +00.4	345 05.0 -25.9	N 05 10.0 -14.1	16						
17	73 49.8 -00.2	N 22 44.2 -00.2	104 38.9 -00.7	N 21 25.6 +00.4	359 39.1 -26.0	N 04 55.9 -14.1	17						
18	88 49.6 -00.1	N 22 44.0 -00.3	119 38.2 -00.7	N 21 26.0 +00.4	14 13.1 -25.9	N 04 41.8 -14.2	18						
19	103 49.5 -00.1	N 22 43.7 -00.2	134 37.5 -00.7	N 21 26.4 +00.5	28 47.2 -26.0	N 04 27.6 -14.2	19						
20	118 49.4 -00.1	N 22 43.5 -00.3	149 36.8 -00.7	N 21 26.9 +00.4	43 21.2 -26.0	N 04 13.4 -14.3	20						
21	133 49.3 -00.1	N 22 43.2 -00.2	164 36.1 -00.8	N 21 27.3 +00.4	57 55.2 -26.0	N 03 59.1 -14.2	21						
22	148 49.2 -00.1	N 22 43.0 -00.3	179 35.3 -00.7	N 21 27.7 +00.4	72 29.2 -26.0	N 03 44.9 -14.3	22						
23	163 49.1 -00.1	N 22 42.7 -00.2	194 34.6 -00.7	N 21 28.1 +00.4	87 03.2 -26.1	N 03 30.6 -14.4	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'7 15'7 15'7 15'7 15'7 15'7		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 15'2 15'2 15'2 15'2 15'3 15'3								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 55'6 55'7 55'8 56'0 56'1 56'2								
	SHA 256° 256° 255° 255° 255° 255°		SHA 287° 287° 286° 286° 286° 286°		SHA 188° 186° 184° 182° 181° 179°								
	Greenwich Culmination Time: 12:04		Greenwich Culmination Time: 10:01		Greenwich Culmination Time: 17:01								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	254 35.0 +00.8	N 09 42.8 +00.6	275 17.2 +02.3	N 01 53.4 +00.1	315 43.0 +02.6	S 14 29.3 +00.0	00						
01	269 35.8 +00.8	N 09 43.4 +00.6	290 19.5 +02.3	N 01 53.5 +00.0	330 45.6 +02.5	S 14 29.3 +00.1	01						
02	284 36.6 +00.8	N 09 44.0 +00.7	305 21.8 +02.3	N 01 53.5 +00.1	345 48.1 +02.6	S 14 29.4 +00.0	02						
03	299 37.4 +00.8	N 09 44.7 +00.6	320 24.1 +02.3	N 01 53.6 +00.1	0 50.7 +02.6	S 14 29.4 +00.0	03						
04	314 38.2 +00.8	N 09 45.3 +00.6	335 26.4 +02.3	N 01 53.7 +00.0	15 53.3 +02.5	S 14 29.4 +00.1	04						
05	329 39.0 +00.8	N 09 45.9 +00.6	350 28.7 +02.3	N 01 53.7 +00.1	30 55.8 +02.6	S 14 29.5 +00.0	05						
06	344 39.8 +00.8	N 09 46.5 +00.6	5 31.0 +02.2	N 01 53.8 +00.0	45 58.4 +02.6	S 14 29.5 +00.1	06						
07	359 40.6 +00.8	N 09 47.1 +00.6	20 33.2 +02.3	N 01 53.8 +00.1	61 01.0 +02.6	S 14 29.6 +00.0	07						
08	14 41.4 +00.8	N 09 47.7 +00.7	35 35.5 +02.3	N 01 53.9 +00.1	76 03.6 +02.5	S 14 29.6 +00.1	08						
09	29 42.2 +00.8	N 09 48.4 +00.6	50 37.8 +02.3	N 01 54.0 +00.0	91 06.1 +02.6	S 14 29.7 +00.0	09						
10	44 43.0 +00.8	N 09 49.0 +00.6	65 40.1 +02.3	N 01 54.0 +00.1	106 08.7 +02.6	S 14 29.7 +00.1	10						
11	59 43.8 +00.8	N 09 49.6 +00.6	80 42.4 +02.3	N 01 54.1 +00.0	121 11.3 +02.6	S 14 29.8 +00.0	11						
12	74 44.6 +00.8	N 09 50.2 +00.6	95 44.7 +02.3	N 01 54.1 +00.1	136 13.9 +02.5	S 14 29.8 +00.1	12						
13	89 45.4 +00.8	N 09 50.8 +00.6	110 47.0 +02.3	N 01 54.2 +00.1	151 16.4 +02.6	S 14 29.9 +00.0	13						
14	104 46.2 +00.8	N 09 51.4 +00.6	125 49.3 +02.3	N 01 54.3 +00.0	166 19.0 +02.6	S 14 29.9 +00.0	14						
15	119 47.0 +00.8	N 09 52.0 +00.7	140 51.6 +02.3	N 01 54.3 +00.1	181 21.6 +02.6	S 14 29.9 +00.1	15						
16	134 47.8 +00.8	N 09 52.7 +00.6	155 53.9 +02.3	N 01 54.4 +00.1	196 24.2 +02.5	S 14 30.0 +00.0	16						
17	149 48.6 +00.8	N 09 53.3 +00.6	170 56.2 +02.2	N 01 54.5 +00.0	211 26.7 +02.6	S 14 30.0 +00.1	17						
18	164 49.4 +00.8	N 09 53.9 +00.6	185 58.4 +02.3	N 01 54.5 +00.1	226 29.3 +02.6	S 14 30.1 +00.0	18						
19	179 50.2 +00.8	N 09 54.5 +00.6	201 00.7 +02.3	N 01 54.6 +00.0	241 31.9 +02.6	S 14 30.1 +00.1	19						
20	194 51.0 +00.8	N 09 55.1 +00.6	216 03.0 +02.3	N 01 54.6 +00.1	256 34.5 +02.5	S 14 30.2 +00.0	20						
21	209 51.8 +00.8	N 09 55.7 +00.6	231 05.3 +02.3	N 01 54.7 +00.1	271 37.0 +02.6	S 14 30.2 +00.1	21						
22	224 52.6 +00.8	N 09 56.3 +00.7	246 07.6 +02.3	N 01 54.8 +00.0	286 39.6 +02.6	S 14 30.3 +00.0	22						
23	239 53.4 +00.8	N 09 57.0 +00.6	261 09.9 +02.3	N 01 54.8 +00.1	301 42.2 +02.6	S 14 30.3 +00.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'2 00'2 00'2 00'2 00'2 00'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 332° 331° 331° 331° 331° 331°		SHA 352° 352° 352° 352° 352° 352°		SHA 033° 033° 033° 033° 033° 033°								
	Greenwich Culmination Time: 07:01		Greenwich Culmination Time: 05:37		Greenwich Culmination Time: 02:56								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 49.0 -00.1	N 22 42.5 -00.2	209 33.9 -00.7	N 21 28.5 +00.5	101 37.1 -26.0	N 03 16.2 -14.3	00						
01	193 48.9 -00.1	N 22 42.3 -00.3	224 33.2 -00.8	N 21 29.0 +00.4	116 11.1 -26.1	N 03 01.9 -14.4	01						
02	208 48.8 -00.1	N 22 42.0 -00.2	239 32.4 -00.7	N 21 29.4 +00.4	130 45.0 -26.1	N 02 47.5 -14.4	02						
03	223 48.7 -00.1	N 22 41.8 -00.3	254 31.7 -00.7	N 21 29.8 +00.4	145 18.9 -26.1	N 02 33.1 -14.5	03						
04	238 48.6 -00.1	N 22 41.5 -00.2	269 31.0 -00.7	N 21 30.2 +00.4	159 52.8 -26.1	N 02 18.6 -14.5	04						
05	253 48.5 -00.1	N 22 41.3 -00.3	284 30.3 -00.8	N 21 30.6 +00.4	174 26.7 -26.2	N 02 04.1 -14.5	05						
06	268 48.4 -00.1	N 22 41.0 -00.3	299 29.5 -00.7	N 21 31.0 +00.4	189 00.5 -26.2	N 01 49.6 -14.5	06						
07	283 48.3 -00.1	N 22 40.7 -00.2	314 28.8 -00.7	N 21 31.4 +00.5	203 34.3 -26.2	N 01 35.1 -14.5	07						
08	298 48.2 -00.1	N 22 40.5 -00.3	329 28.1 -00.8	N 21 31.9 +00.4	218 08.1 -26.2	N 01 20.6 -14.6	08						
09	313 48.1 -00.1	N 22 40.2 -00.2	344 27.3 -00.7	N 21 32.3 +00.4	232 41.9 -26.3	N 01 06.0 -14.6	09						
10	328 48.0 -00.1	N 22 40.0 -00.3	359 26.6 -00.7	N 21 32.7 +00.4	247 15.6 -26.2	N 00 51.4 -14.6	10						
11	343 47.9 -00.1	N 22 39.7 -00.2	14 25.9 -00.7	N 21 33.1 +00.4	261 49.4 -26.4	N 00 36.8 -14.6	11						
12	358 47.8 -00.2	N 22 39.5 -00.3	29 25.2 -00.8	N 21 33.5 +00.4	276 23.0 -26.3	N 00 22.2 -14.6	12						
13	13 47.6 -00.1	N 22 39.2 -00.2	44 24.4 -00.7	N 21 33.9 +00.4	290 56.7 -26.4	N 00 07.6 -14.7	13						
14	28 47.5 -00.1	N 22 39.0 -00.3	59 23.7 -00.7	N 21 34.3 +00.4	305 30.3 -26.4	S 00 07.1 +14.7	14						
15	43 47.4 -00.1	N 22 38.7 -00.3	74 23.0 -00.8	N 21 34.7 +00.4	320 03.9 -26.4	S 00 21.8 +14.7	15						
16	58 47.3 -00.1	N 22 38.4 -00.2	89 22.2 -00.7	N 21 35.1 +00.4	334 37.5 -26.5	S 00 36.5 +14.7	16						
17	73 47.2 -00.1	N 22 38.2 -00.3	104 21.5 -00.7	N 21 35.5 +00.4	349 11.0 -26.5	S 00 51.2 +14.7	17						
18	88 47.1 -00.1	N 22 37.9 -00.2	119 20.8 -00.8	N 21 35.9 +00.4	3 44.5 -26.6	S 01 05.9 +14.7	18						
19	103 47.0 -00.1	N 22 37.7 -00.3	134 20.0 -00.7	N 21 36.3 +00.4	18 17.9 -26.6	S 01 20.6 +14.8	19						
20	118 46.9 -00.1	N 22 37.4 -00.3	149 19.3 -00.7	N 21 36.7 +00.4	32 51.3 -26.7	S 01 35.4 +14.7	20						
21	133 46.8 -00.1	N 22 37.1 -00.2	164 18.6 -00.8	N 21 37.1 +00.4	47 24.6 -26.6	S 01 50.1 +14.8	21						
22	148 46.7 -00.1	N 22 36.9 -00.3	179 17.8 -00.7	N 21 37.5 +00.4	61 58.0 -26.8	S 02 04.9 +14.8	22						
23	163 46.6 -00.1	N 22 36.6 -00.2	194 17.1 -00.7	N 21 37.9 +00.4	76 31.2 -26.7	S 02 19.7 +14.7	23						
	UT 02 06 10 14 18 22 SD 15'7 15'7 15'7 15'7 15'7 15'7 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 255° 255° 254° 254° 254° 254° Greenwich Culmination Time: 12:04	UT 02 06 10 14 18 22 SD 00'1 00'1 00'1 00'1 00'1 00'1 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 286° 285° 285° 285° 285° 284° Greenwich Culmination Time: 10:02	UT 02 06 10 14 18 22 SD 15'3 15'4 15'4 15'4 15'5 15'5 HP 56'3 56'4 56'6 56'7 56'8 57'0 SHA 177° 175° 173° 171° 169° 167° Greenwich Culmination Time: 17:44										
UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	254 54.2 +00.8	N 09 57.6 +00.6	276 12.2 +02.3	N 01 54.9 +00.0	316 44.8 +02.6	S 14 30.4 +00.0	00						
01	269 55.0 +00.8	N 09 58.2 +00.6	291 14.5 +02.3	N 01 54.9 +00.1	331 47.4 +02.5	S 14 30.4 +00.0	01						
02	284 55.8 +00.8	N 09 58.8 +00.6	306 16.8 +02.3	N 01 55.0 +00.1	346 49.9 +02.6	S 14 30.4 +00.1	02						
03	299 56.6 +00.8	N 09 59.4 +00.6	321 19.1 +02.3	N 01 55.1 +00.0	1 52.5 +02.6	S 14 30.5 +00.0	03						
04	314 57.4 +00.8	N 10 00.0 +00.6	336 21.4 +02.3	N 01 55.1 +00.1	16 55.1 +02.6	S 14 30.5 +00.1	04						
05	329 58.2 +00.8	N 10 00.6 +00.6	351 23.7 +02.3	N 01 55.2 +00.0	31 57.7 +02.5	S 14 30.6 +00.0	05						
06	344 59.0 +00.9	N 10 01.2 +00.6	6 26.0 +02.3	N 01 55.2 +00.1	47 00.2 +02.6	S 14 30.6 +00.1	06						
07	359 59.9 +00.8	N 10 01.8 +00.7	21 28.3 +02.3	N 01 55.3 +00.1	62 02.8 +02.6	S 14 30.7 +00.0	07						
08	15 00.7 +00.8	N 10 02.5 +00.6	36 30.6 +02.3	N 01 55.4 +00.0	77 05.4 +02.6	S 14 30.7 +00.1	08						
09	30 01.5 +00.8	N 10 03.1 +00.6	51 32.9 +02.3	N 01 55.4 +00.1	92 08.0 +02.5	S 14 30.8 +00.0	09						
10	45 02.3 +00.8	N 10 03.7 +00.6	66 35.2 +02.3	N 01 55.5 +00.0	107 10.5 +02.6	S 14 30.8 +00.1	10						
11	60 03.1 +00.8	N 10 04.3 +00.6	81 37.5 +02.3	N 01 55.5 +00.1	122 13.1 +02.6	S 14 30.9 +00.0	11						
12	75 03.9 +00.8	N 10 04.9 +00.6	96 39.8 +02.2	N 01 55.6 +00.0	137 15.7 +02.6	S 14 30.9 +00.1	12						
13	90 04.7 +00.8	N 10 05.5 +00.6	111 42.0 +02.3	N 01 55.6 +00.1	152 18.3 +02.6	S 14 31.0 +00.0	13						
14	105 05.5 +00.8	N 10 06.1 +00.6	126 44.3 +02.3	N 01 55.7 +00.1	167 20.9 +02.5	S 14 31.0 +00.0	14						
15	120 06.3 +00.8	N 10 06.7 +00.6	141 46.6 +02.3	N 01 55.8 +00.0	182 23.4 +02.6	S 14 31.0 +00.1	15						
16	135 07.1 +00.8	N 10 07.3 +00.7	156 48.9 +02.3	N 01 55.8 +00.1	197 26.0 +02.6	S 14 31.1 +00.0	16						
17	150 07.9 +00.8	N 10 08.0 +00.6	171 51.2 +02.3	N 01 55.9 +00.0	212 28.6 +02.6	S 14 31.1 +00.1	17						
18	165 08.7 +00.8	N 10 08.6 +00.6	186 53.5 +02.3	N 01 55.9 +00.1	227 31.2 +02.5	S 14 31.2 +00.0	18						
19	180 09.5 +00.8	N 10 09.2 +00.6	201 55.8 +02.3	N 01 56.0 +00.1	242 33.7 +02.6	S 14 31.2 +00.1	19						
20	195 10.3 +00.8	N 10 09.8 +00.6	216 58.1 +02.3	N 01 56.1 +00.0	257 36.3 +02.6	S 14 31.3 +00.0	20						
21	210 11.1 +00.8	N 10 10.4 +00.6	232 00.4 +02.3	N 01 56.1 +00.1	272 38.9 +02.6	S 14 31.3 +00.1	21						
22	225 11.9 +00.8	N 10 11.0 +00.6	247 02.7 +02.3	N 01 56.2 +00.0	287 41.5 +02.6	S 14 31.4 +00.0	22						
23	240 12.7 +00.8	N 10 11.6 +00.6	262 05.0 +02.3	N 01 56.2 +00.1	302 44.1 +02.5	S 14 31.4 +00.1	23						
	UT 02 06 10 14 18 22 SD 00'1 00'1 00'1 00'1 00'1 00'1 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 331° 331° 331° 331° 330° 330° Greenwich Culmination Time: 07:00	UT 02 06 10 14 18 22 SD 00'3 00'3 00'3 00'3 00'3 00'3 HP 00'0 00'0 00'0 00'0 00'0 00'0 SHA 352° 352° 352° 352° 352° 352° Greenwich Culmination Time: 05:34	UT 02 06 10 14 18 22 SD 00'2 00'2 00'2 00'2 00'2 00'2 HP 00'0 00'0 00'0 00'0 00'0 00'0 SHA 033° 033° 033° 033° 033° 033° Greenwich Culmination Time: 02:52										

UT	Sun				Venus				Moon				UT		
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec			
00	178 46.5 -00.1	N 22 36.4 -00.3	209 16.4 -00.8	N 21 38.3 +00.4	91 04.5 -26.9	S 02 34.4 +14.8	00								
01	193 46.4 -00.1	N 22 36.1 -00.3	224 15.6 -00.7	N 21 38.7 +00.4	105 37.6 -26.8	S 02 49.2 +14.8	01								
02	208 46.3 -00.1	N 22 35.8 -00.2	239 14.9 -00.7	N 21 39.1 +00.4	120 10.8 -27.0	S 03 04.0 +14.8	02								
03	223 46.2 -00.1	N 22 35.6 -00.3	254 14.2 -00.8	N 21 39.5 +00.4	134 43.8 -26.9	S 03 18.8 +14.8	03								
04	238 46.1 -00.1	N 22 35.3 -00.3	269 13.4 -00.7	N 21 39.9 +00.4	149 16.9 -27.1	S 03 33.6 +14.8	04								
05	253 46.0 -00.1	N 22 35.0 -00.2	284 12.7 -00.7	N 21 40.3 +00.3	163 49.8 -27.0	S 03 48.4 +14.8	05								
06	268 45.9 -00.1	N 22 34.8 -00.3	299 12.0 -00.8	N 21 40.6 +00.4	178 22.8 -27.2	S 04 03.2 +14.8	06								
07	283 45.8 -00.1	N 22 34.5 -00.3	314 11.2 -00.7	N 21 41.0 +00.4	192 55.6 -27.2	S 04 18.0 +14.8	07								
08	298 45.7 -00.1	N 22 34.2 -00.2	329 10.5 -00.7	N 21 41.4 +00.4	207 28.4 -27.2	S 04 32.8 +14.8	08								
09	313 45.6 -00.1	N 22 34.0 -00.3	344 09.8 -00.8	N 21 41.8 +00.4	222 01.2 -27.3	S 04 47.6 +14.9	09								
10	328 45.5 -00.1	N 22 33.7 -00.3	359 09.0 -00.7	N 21 42.2 +00.4	236 33.9 -27.4	S 05 02.5 +14.8	10								
11	343 45.4 -00.1	N 22 33.4 -00.3	14 08.3 -00.7	N 21 42.6 +00.4	251 06.5 -27.4	S 05 17.3 +14.7	11								
12	358 45.3 -00.1	N 22 33.1 -00.2	29 07.6 -00.8	N 21 43.0 +00.3	265 39.1 -27.5	S 05 32.0 +14.8	12								
13	13 45.2 -00.1	N 22 32.9 -00.3	44 06.8 -00.7	N 21 43.3 +00.4	280 11.6 -27.6	S 05 46.8 +14.8	13								
14	28 45.1 -00.1	N 22 32.6 -00.3	59 06.1 -00.8	N 21 43.7 +00.4	294 44.0 -27.6	S 06 01.6 +14.8	14								
15	43 45.0 -00.1	N 22 32.3 -00.3	74 05.3 -00.7	N 21 44.1 +00.4	309 16.4 -27.7	S 06 16.4 +14.7	15								
16	58 44.9 -00.1	N 22 32.0 -00.2	89 04.6 -00.7	N 21 44.5 +00.4	323 48.7 -27.7	S 06 31.1 +14.8	16								
17	73 44.8 -00.1	N 22 31.8 -00.3	104 03.9 -00.8	N 21 44.9 +00.3	338 21.0 -27.9	S 06 45.9 +14.7	17								
18	88 44.7 -00.1	N 22 31.5 -00.3	119 03.1 -00.7	N 21 45.2 +00.4	352 53.1 -27.9	S 07 00.6 +14.8	18								
19	103 44.6 -00.1	N 22 31.2 -00.3	134 02.4 -00.8	N 21 45.6 +00.4	7 25.2 -27.9	S 07 15.4 +14.7	19								
20	118 44.5 -00.1	N 22 30.9 -00.2	149 01.6 -00.7	N 21 46.0 +00.4	21 57.3 -28.1	S 07 30.1 +14.7	20								
21	133 44.4 -00.1	N 22 30.7 -00.3	164 00.9 -00.7	N 21 46.4 +00.3	36 29.2 -28.1	S 07 44.8 +14.7	21								
22	148 44.3 -00.1	N 22 30.4 -00.3	179 00.2 -00.8	N 21 46.7 +00.4	51 01.1 -28.2	S 07 59.5 +14.6	22								
23	163 44.2 -00.1	N 22 30.1 -00.3	193 59.4 -00.7	N 21 47.1 +00.4	65 32.9 -28.3	S 08 14.1 +14.7	23								
	UT 02 06 10 14 18 22	SD 15'7 15'7 15'7 15'7 15'7 15'7	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 254° 254° 253° 253° 253° 253°	Greenwich Culmination Time: 12:04	UT 02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 284° 284° 284° 284° 283° 283°	Greenwich Culmination Time: 10:03	UT 02 06 10 14 18 22	SD 15'6 15'6 15'6 15'7 15'7 15'8	HP 57'1 57'2 57'4 57'5 57'7 57'8	SHA 165° 163° 161° 159° 157° 155°	Greenwich Culmination Time: 18:29

UT	Mars				Jupiter				Saturn				UT		
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec			
00	255 13.5 +00.8	N 10 12.2 +00.6	277 07.3 +02.3	N 01 56.3 +00.0	317 46.6 +02.6	S 14 31.5 +00.0	00								
01	270 14.3 +00.8	N 10 12.8 +00.6	292 09.6 +02.3	N 01 56.3 +00.1	332 49.2 +02.6	S 14 31.5 +00.1	01								
02	285 15.1 +00.8	N 10 13.4 +00.6	307 11.9 +02.3	N 01 56.4 +00.1	347 51.8 +02.6	S 14 31.6 +00.0	02								
03	300 15.9 +00.8	N 10 14.0 +00.6	322 14.2 +02.3	N 01 56.5 +00.0	2 54.4 +02.6	S 14 31.6 +00.1	03								
04	315 16.7 +00.8	N 10 14.6 +00.6	337 16.5 +02.3	N 01 56.5 +00.1	17 57.0 +02.5	S 14 31.7 +00.0	04								
05	330 17.5 +00.8	N 10 15.2 +00.7	352 18.8 +02.3	N 01 56.6 +00.0	32 59.5 +02.6	S 14 31.7 +00.0	05								
06	345 18.3 +00.8	N 10 15.9 +00.6	7 21.1 +02.3	N 01 56.6 +00.1	48 02.1 +02.6	S 14 31.7 +00.1	06								
07	0 19.1 +00.8	N 10 16.5 +00.6	22 23.4 +02.4	N 01 56.7 +00.0	63 04.7 +02.6	S 14 31.8 +00.0	07								
08	15 19.9 +00.8	N 10 17.1 +00.6	37 25.8 +02.3	N 01 56.7 +00.1	78 07.3 +02.6	S 14 31.8 +00.1	08								
09	30 20.7 +00.8	N 10 17.7 +00.6	52 28.1 +02.3	N 01 56.8 +00.0	93 09.9 +02.5	S 14 31.9 +00.0	09								
10	45 21.5 +00.8	N 10 18.3 +00.6	67 30.4 +02.3	N 01 56.8 +00.1	108 12.4 +02.6	S 14 31.9 +00.1	10								
11	60 22.3 +00.8	N 10 18.9 +00.6	82 32.7 +02.3	N 01 56.9 +00.1	123 15.0 +02.6	S 14 32.0 +00.0	11								
12	75 23.1 +00.8	N 10 19.5 +00.6	97 35.0 +02.3	N 01 57.0 +00.0	138 17.6 +02.6	S 14 32.0 +00.1	12								
13	90 23.9 +00.9	N 10 20.1 +00.6	112 37.3 +02.3	N 01 57.0 +00.1	153 20.2 +02.6	S 14 32.1 +00.0	13								
14	105 24.8 +00.8	N 10 20.7 +00.6	127 39.6 +02.3	N 01 57.1 +00.0	168 22.8 +02.5	S 14 32.1 +00.1	14								
15	120 25.6 +00.8	N 10 21.3 +00.6	142 41.9 +02.3	N 01 57.1 +00.1	183 25.3 +02.6	S 14 32.2 +00.0	15								
16	135 26.4 +00.8	N 10 21.9 +00.6	157 44.2 +02.3	N 01 57.2 +00.0	198 27.9 +02.6	S 14 32.2 +00.1	16								
17	150 27.2 +00.8	N 10 22.5 +00.6	172 46.5 +02.3	N 01 57.2 +00.1	213 30.5 +02.6	S 14 32.3 +00.0	17								
18	165 28.0 +00.8	N 10 23.1 +00.6	187 48.8 +02.3	N 01 57.3 +00.0	228 33.1 +02.6	S 14 32.3 +00.1	18								
19	180 28.8 +00.8	N 10 23.7 +00.6	202 51.1 +02.3	N 01 57.3 +00.1	243 35.7 +02.6	S 14 32.4 +00.0	19								
20	195 29.6 +00.8	N 10 24.3 +00.6	217 53.4 +02.3	N 01 57.4 +00.1	258 38.3 +02.5	S 14 32.4 +00.1	20								
21	210 30.4 +00.8	N 10 24.9 +00.6	232 55.7 +02.3	N 01 57.5 +00.0	273 40.8 +02.6	S 14 32.5 +00.0	21								
22	225 31.2 +00.8	N 10 25.5 +00.6	247 58.0 +02.3	N 01 57.5 +00.1	288 43.4 +02.6	S 14 32.5 +00.1	22								
23	240 32.0 +00.8	N 10 26.1 +00.6	263 00.3 +02.3	N 01 57.6 +00.0	303 46.0 +02.6	S 14 32.6 +00.0	23								
	UT 02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 330° 330° 330° 330° 330° 330°	Greenwich Culmination Time: 06:58	UT 02 06 10 14 18 22	SD 00'3 00'3 00'3 00'3 00'3 00'3	HP 00'0 00'0 00'0 00'0 00'0 00'0	SHA 352° 352° 352° 352° 352° 352°	Greenwich Culmination Time: 05:30	UT 02 06 10 14 18 22	SD 00'2 00'2 00'2 00'2 00'2 00'2	HP 00'0 00'0 00'0 00'0 00'0 00'0	SHA 033° 033° 033° 033° 033° 033°	Greenwich Culmination Time: 02:48

UT	Sun				Venus				Moon				UT		
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec			
00	178 44.1 -00.1	N 22 29.8 -00.3	208 58.7 -00.8	N 21 47.5 +00.3	80 04.6 -28.4	S 08 28.8 +14.6	00								
01	193 44.0 -00.1	N 22 29.5 -00.2	223 57.9 -00.7	N 21 47.8 +00.4	94 36.2 -28.4	S 08 43.4 +14.6	01								
02	208 43.9 -00.1	N 22 29.3 -00.3	238 57.2 -00.7	N 21 48.2 +00.4	109 07.8 -28.5	S 08 58.0 +14.6	02								
03	223 43.8 -00.1	N 22 29.0 -00.3	253 56.5 -00.8	N 21 48.6 +00.3	123 39.3 -28.6	S 09 12.6 +14.5	03								
04	238 43.7 -00.1	N 22 28.7 -00.3	268 55.7 -00.7	N 21 48.9 +00.4	138 10.7 -28.7	S 09 27.1 +14.5	04								
05	253 43.6 -00.1	N 22 28.4 -00.3	283 55.0 -00.8	N 21 49.3 +00.4	152 42.0 -28.8	S 09 41.6 +14.5	05								
06	268 43.5 -00.1	N 22 28.1 -00.3	298 54.2 -00.7	N 21 49.7 +00.3	167 13.2 -28.9	S 09 56.1 +14.5	06								
07	283 43.4 +00.0	N 22 27.8 -00.2	313 53.5 -00.8	N 21 50.0 +00.4	181 44.3 -28.9	S 10 10.6 +14.4	07								
08	298 43.4 -00.1	N 22 27.6 -00.3	328 52.7 -00.7	N 21 50.4 +00.4	196 15.4 -29.1	S 10 25.0 +14.4	08								
09	313 43.3 -00.1	N 22 27.3 -00.3	343 52.0 -00.8	N 21 50.8 +00.3	210 46.3 -29.1	S 10 39.4 +14.4	09								
10	328 43.2 -00.1	N 22 27.0 -00.3	358 51.2 -00.7	N 21 51.1 +00.4	225 17.2 -29.3	S 10 53.8 +14.3	10								
11	343 43.1 -00.1	N 22 26.7 -00.3	13 50.5 -00.8	N 21 51.5 +00.3	239 47.9 -29.3	S 11 08.1 +14.3	11								
12	358 43.0 -00.1	N 22 26.4 -00.3	28 49.7 -00.7	N 21 51.8 +00.4	254 18.6 -29.4	S 11 22.4 +14.3	12								
13	13 42.9 -00.1	N 22 26.1 -00.3	43 49.0 -00.7	N 21 52.2 +00.4	268 49.2 -29.5	S 11 36.7 +14.2	13								
14	28 42.8 -00.1	N 22 25.8 -00.3	58 48.3 -00.8	N 21 52.6 +00.3	283 19.7 -29.7	S 11 50.9 +14.2	14								
15	43 42.7 -00.1	N 22 25.5 -00.2	73 47.5 -00.7	N 21 52.9 +00.4	297 50.0 -29.7	S 12 05.1 +14.1	15								
16	58 42.6 -00.1	N 22 25.3 -00.3	88 46.8 -00.8	N 21 53.3 +00.3	312 20.3 -29.8	S 12 19.2 +14.1	16								
17	73 42.5 -00.1	N 22 25.0 -00.3	103 46.0 -00.7	N 21 53.6 +00.4	326 50.5 -29.9	S 12 33.3 +14.1	17								
18	88 42.4 -00.1	N 22 24.7 -00.3	118 45.3 -00.8	N 21 54.0 +00.3	341 20.6 -30.1	S 12 47.4 +14.0	18								
19	103 42.3 -00.1	N 22 24.4 -00.3	133 44.5 -00.7	N 21 54.3 +00.4	355 50.5 -30.1	S 13 01.4 +13.9	19								
20	118 42.2 -00.1	N 22 24.1 -00.3	148 43.8 -00.8	N 21 54.7 +00.3	10 20.4 -30.2	S 13 15.3 +13.9	20								
21	133 42.1 -00.1	N 22 23.8 -00.3	163 43.0 -00.7	N 21 55.0 +00.4	24 50.2 -30.4	S 13 29.2 +13.9	21								
22	148 42.0 -00.1	N 22 23.5 -00.3	178 42.3 -00.8	N 21 55.4 +00.3	39 19.8 -30.4	S 13 43.1 +13.8	22								
23	163 41.9 -00.1	N 22 23.2 -00.3	193 41.5 -00.7	N 21 55.7 +00.4	53 49.4 -30.6	S 13 56.9 +13.7	23								
	UT 02 06 10 14 18 22	SD 15'7 15'7 15'7 15'7 15'7 15'7	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 253° 253° 252° 252° 252° 252°	Greenwich Culmination Time: 12:05	UT 02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 283° 283° 283° 282° 282° 282°	Greenwich Culmination Time: 10:04	UT 02 06 10 14 18 22	SD 15'8 15'8 15'9 15'9 16'0 16'0	HP 58'0 58'1 58'3 58'4 58'6 58'7	SHA 153° 151° 149° 147° 145° 142°	Greenwich Culmination Time: 19:17

UT	Mars				Jupiter				Saturn				UT		
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec			
00	255 32.8 +00.8	N 10 26.7 +00.6	278 02.6 +02.3	N 01 57.6 +00.1	318 48.6 +02.6	S 14 32.6 +00.0	00								
01	270 33.6 +00.8	N 10 27.3 +00.6	293 04.9 +02.3	N 01 57.7 +00.0	333 51.2 +02.6	S 14 32.6 +00.1	01								
02	285 34.4 +00.8	N 10 27.9 +00.6	308 07.2 +02.4	N 01 57.7 +00.1	348 53.8 +02.5	S 14 32.7 +00.0	02								
03	300 35.2 +00.8	N 10 28.5 +00.6	323 09.6 +02.3	N 01 57.8 +00.0	3 56.3 +02.6	S 14 32.7 +00.1	03								
04	315 36.0 +00.8	N 10 29.1 +00.6	338 11.9 +02.3	N 01 57.8 +00.1	18 58.9 +02.6	S 14 32.8 +00.0	04								
05	330 36.8 +00.8	N 10 29.7 +00.6	353 14.2 +02.3	N 01 57.9 +00.0	34 01.5 +02.6	S 14 32.8 +00.1	05								
06	345 37.6 +00.8	N 10 30.3 +00.6	8 16.5 +02.3	N 01 57.9 +00.1	49 04.1 +02.6	S 14 32.9 +00.0	06								
07	0 38.4 +00.8	N 10 30.9 +00.6	23 18.8 +02.3	N 01 58.0 +00.0	64 06.7 +02.6	S 14 32.9 +00.1	07								
08	15 39.2 +00.8	N 10 31.5 +00.6	38 21.1 +02.3	N 01 58.0 +00.1	79 09.3 +02.5	S 14 33.0 +00.0	08								
09	30 40.0 +00.8	N 10 32.1 +00.7	53 23.4 +02.3	N 01 58.1 +00.1	94 11.8 +02.6	S 14 33.0 +00.1	09								
10	45 40.8 +00.9	N 10 32.8 +00.6	68 25.7 +02.3	N 01 58.2 +00.0	109 14.4 +02.6	S 14 33.1 +00.0	10								
11	60 41.7 +00.8	N 10 33.4 +00.6	83 28.0 +02.3	N 01 58.2 +00.1	124 17.0 +02.6	S 14 33.1 +00.1	11								
12	75 42.5 +00.8	N 10 34.0 +00.6	98 30.3 +02.4	N 01 58.3 +00.0	139 19.6 +02.6	S 14 33.2 +00.0	12								
13	90 43.3 +00.8	N 10 34.6 +00.6	113 32.7 +02.3	N 01 58.3 +00.1	154 22.2 +02.6	S 14 33.2 +00.1	13								
14	105 44.1 +00.8	N 10 35.2 +00.6	128 35.0 +02.3	N 01 58.4 +00.0	169 24.8 +02.5	S 14 33.3 +00.0	14								
15	120 44.9 +00.8	N 10 35.8 +00.5	143 37.3 +02.3	N 01 58.4 +00.1	184 27.3 +02.6	S 14 33.3 +00.1	15								
16	135 45.7 +00.8	N 10 36.3 +00.6	158 39.6 +02.3	N 01 58.5 +00.0	199 29.9 +02.6	S 14 33.4 +00.0	16								
17	150 46.5 +00.8	N 10 36.9 +00.6	173 41.9 +02.3	N 01 58.5 +00.1	214 32.5 +02.6	S 14 33.4 +00.1	17								
18	165 47.3 +00.8	N 10 37.5 +00.6	188 44.2 +02.3	N 01 58.6 +00.0	229 35.1 +02.6	S 14 33.5 +00.0	18								
19	180 48.1 +00.8	N 10 38.1 +00.6	203 46.5 +02.3	N 01 58.6 +00.1	244 37.7 +02.6	S 14 33.5 +00.1	19								
20	195 48.9 +00.8	N 10 38.7 +00.6	218 48.8 +02.4	N 01 58.7 +00.0	259 40.3 +02.5	S 14 33.6 +00.0	20								
21	210 49.7 +00.8	N 10 39.3 +00.6	233 51.2 +02.3	N 01 58.7 +00.1	274 42.8 +02.6	S 14 33.6 +00.1	21								
22	225 50.5 +00.8	N 10 39.9 +00.6	248 53.5 +02.3	N 01 58.8 +00.0	289 45.4 +02.6	S 14 33.7 +00.0	22								
23	240 51.3 +00.8	N 10 40.5 +00.6	263 55.8 +02.3	N 01 58.8 +00.1	304 48.0 +02.6	S 14 33.7 +00.1	23								
	UT 02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 330° 329° 329° 329° 329° 329°	Greenwich Culmination Time: 06:57	UT 02 06 10 14 18 22	SD 00'3 00'3 00'3 00'3 00'3 00'3	HP 00'0 00'0 00'0 00'0 00'0 00'0	SHA 352° 352° 352° 352° 352° 352°	Greenwich Culmination Time: 05:26	UT 02 06 10 14 18 22	SD 00'2 00'2 00'2 00'2 00'2 00'2	HP 00'0 00'0 00'0 00'0 00'0 00'0	SHA 033° 033° 033° 033° 033° 033°	Greenwich Culmination Time: 02:44

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UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 41.8 -00.1	N 22 22.9 -00.3	208 40.8 -00.8	N 21 56.1 +00.3	68 18.8 -30.7	S 14 10.6 +13.7	00						
01	193 41.7 -00.1	N 22 22.6 -00.3	223 40.0 -00.7	N 21 56.4 +00.4	82 48.1 -30.8	S 14 24.3 +13.6	01						
02	208 41.6 +00.0	N 22 22.3 -00.3	238 39.3 -00.8	N 21 56.8 +00.3	97 17.3 -30.9	S 14 37.9 +13.6	02						
03	223 41.6 -00.1	N 22 22.0 -00.3	253 38.5 -00.7	N 21 57.1 +00.3	111 46.4 -31.0	S 14 51.5 +13.5	03						
04	238 41.5 -00.1	N 22 21.7 -00.3	268 37.8 -00.8	N 21 57.4 +00.4	126 15.4 -31.1	S 15 05.0 +13.4	04						
05	253 41.4 -00.1	N 22 21.4 -00.3	283 37.0 -00.7	N 21 57.8 +00.3	140 44.3 -31.3	S 15 18.4 +13.4	05						
06	268 41.3 -00.1	N 22 21.1 -00.3	298 36.3 -00.8	N 21 58.1 +00.4	155 13.0 -31.4	S 15 31.8 +13.3	06						
07	283 41.2 -00.1	N 22 20.8 -00.3	313 35.5 -00.7	N 21 58.5 +00.3	169 41.6 -31.4	S 15 45.1 +13.2	07						
08	298 41.1 -00.1	N 22 20.5 -00.3	328 34.8 -00.8	N 21 58.8 +00.3	184 10.2 -31.7	S 15 58.3 +13.2	08						
09	313 41.0 -00.1	N 22 20.2 -00.3	343 34.0 -00.7	N 21 59.1 +00.4	198 38.5 -31.7	S 16 11.5 +13.1	09						
10	328 40.9 -00.1	N 22 19.9 -00.3	358 33.3 -00.8	N 21 59.5 +00.3	213 06.8 -31.8	S 16 24.6 +13.0	10						
11	343 40.8 -00.1	N 22 19.6 -00.3	13 32.5 -00.8	N 21 59.8 +00.3	227 35.0 -32.0	S 16 37.6 +12.9	11						
12	358 40.7 -00.1	N 22 19.3 -00.3	28 31.7 -00.7	N 22 00.1 +00.4	242 03.0 -32.1	S 16 50.5 +12.9	12						
13	13 40.6 -00.1	N 22 19.0 -00.3	43 31.0 -00.8	N 22 00.5 +00.3	256 30.9 -32.2	S 17 03.4 +12.8	13						
14	28 40.5 +00.0	N 22 18.7 -00.3	58 30.2 -00.7	N 22 00.8 +00.3	270 58.7 -32.4	S 17 16.2 +12.7	14						
15	43 40.5 -00.1	N 22 18.4 -00.3	73 29.5 -00.8	N 22 01.1 +00.4	285 26.3 -32.4	S 17 28.9 +12.6	15						
16	58 40.4 -00.1	N 22 18.1 -00.3	88 28.7 -00.7	N 22 01.5 +00.3	299 53.9 -32.6	S 17 41.5 +12.5	16						
17	73 40.3 -00.1	N 22 17.8 -00.3	103 28.0 -00.8	N 22 01.8 +00.3	314 21.3 -32.8	S 17 54.0 +12.4	17						
18	88 40.2 -00.1	N 22 17.5 -00.3	118 27.2 -00.7	N 22 02.1 +00.3	328 48.5 -32.8	S 18 06.4 +12.3	18						
19	103 40.1 -00.1	N 22 17.2 -00.4	133 26.5 -00.8	N 22 02.4 +00.4	343 15.7 -33.0	S 18 18.7 +12.3	19						
20	118 40.0 -00.1	N 22 16.8 -00.3	148 25.7 -00.8	N 22 02.8 +00.3	357 42.7 -33.1	S 18 31.0 +12.1	20						
21	133 39.9 -00.1	N 22 16.5 -00.3	163 24.9 -00.7	N 22 03.1 +00.3	12 09.6 -33.2	S 18 43.1 +12.1	21						
22	148 39.8 -00.1	N 22 16.2 -00.3	178 24.2 -00.8	N 22 03.4 +00.3	26 36.4 -33.4	S 18 55.2 +11.9	22						
23	163 39.7 +00.0	N 22 15.9 -00.3	193 23.4 -00.7	N 22 03.7 +00.4	41 03.0 -33.5	S 19 07.1 +11.9	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'7 15'7 15'7 15'7 15'7 15'7		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 16'0 16'1 16'1 16'2 16'2 16'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 58'9 59'0 59'2 59'3 59'5 59'6								
	SHA 252° 252° 251° 251° 251° 251°		SHA 282° 281° 281° 281° 281° 281°		SHA 140° 138° 136° 133° 131° 129°								
	Greenwich Culmination Time: 12:05		Greenwich Culmination Time: 10:05		Greenwich Culmination Time: 20:09								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	255 52.1 +00.8	N 10 41.1 +00.6	278 58.1 +02.3	N 01 58.9 +00.0	319 50.6 +02.6	S 14 33.8 +00.0	00						
01	270 52.9 +00.8	N 10 41.7 +00.6	294 00.4 +02.3	N 01 58.9 +00.1	334 53.2 +02.6	S 14 33.8 +00.1	01						
02	285 53.7 +00.8	N 10 42.3 +00.6	309 02.7 +02.3	N 01 59.0 +00.0	349 55.8 +02.6	S 14 33.9 +00.0	02						
03	300 54.5 +00.9	N 10 42.9 +00.6	324 05.0 +02.4	N 01 59.0 +00.1	4 58.4 +02.5	S 14 33.9 +00.1	03						
04	315 55.4 +00.8	N 10 43.5 +00.6	339 07.4 +02.3	N 01 59.1 +00.0	20 00.9 +02.6	S 14 34.0 +00.0	04						
05	330 56.2 +00.8	N 10 44.1 +00.6	354 09.7 +02.3	N 01 59.1 +00.1	35 03.5 +02.6	S 14 34.0 +00.1	05						
06	345 57.0 +00.8	N 10 44.7 +00.6	9 12.0 +02.3	N 01 59.2 +00.0	50 06.1 +02.6	S 14 34.1 +00.0	06						
07	0 57.8 +00.8	N 10 45.3 +00.6	24 14.3 +02.3	N 01 59.2 +00.1	65 08.7 +02.6	S 14 34.1 +00.1	07						
08	15 58.6 +00.8	N 10 45.9 +00.6	39 16.6 +02.3	N 01 59.3 +00.0	80 11.3 +02.6	S 14 34.2 +00.0	08						
09	30 59.4 +00.8	N 10 46.5 +00.6	54 18.9 +02.4	N 01 59.3 +00.1	95 13.9 +02.6	S 14 34.2 +00.0	09						
10	46 00.2 +00.8	N 10 47.1 +00.6	69 21.3 +02.3	N 01 59.4 +00.0	110 16.5 +02.6	S 14 34.2 +00.1	10						
11	61 01.0 +00.8	N 10 47.7 +00.6	84 23.6 +02.3	N 01 59.4 +00.1	125 19.1 +02.5	S 14 34.3 +00.0	11						
12	76 01.8 +00.8	N 10 48.3 +00.6	99 25.9 +02.3	N 01 59.5 +00.0	140 21.6 +02.6	S 14 34.3 +00.1	12						
13	91 02.6 +00.8	N 10 48.9 +00.6	114 28.2 +02.3	N 01 59.5 +00.1	155 24.2 +02.6	S 14 34.4 +00.0	13						
14	106 03.4 +00.8	N 10 49.5 +00.6	129 30.5 +02.3	N 01 59.6 +00.0	170 26.8 +02.6	S 14 34.4 +00.1	14						
15	121 04.2 +00.8	N 10 50.1 +00.6	144 32.8 +02.4	N 01 59.6 +00.1	185 29.4 +02.6	S 14 34.5 +00.0	15						
16	136 05.0 +00.8	N 10 50.7 +00.6	159 35.2 +02.3	N 01 59.7 +00.0	200 32.0 +02.6	S 14 34.5 +00.1	16						
17	151 05.8 +00.9	N 10 51.3 +00.6	174 37.5 +02.3	N 01 59.7 +00.1	215 34.6 +02.6	S 14 34.6 +00.0	17						
18	166 06.7 +00.8	N 10 51.9 +00.6	189 39.8 +02.3	N 01 59.8 +00.0	230 37.2 +02.5	S 14 34.6 +00.1	18						
19	181 07.5 +00.8	N 10 52.5 +00.5	204 42.1 +02.3	N 01 59.8 +00.1	245 39.7 +02.6	S 14 34.7 +00.0	19						
20	196 08.3 +00.8	N 10 53.0 +00.6	219 44.4 +02.4	N 01 59.9 +00.0	260 42.3 +02.6	S 14 34.7 +00.1	20						
21	211 09.1 +00.8	N 10 53.6 +00.6	234 46.8 +02.3	N 01 59.9 +00.1	275 44.9 +02.6	S 14 34.8 +00.0	21						
22	226 09.9 +00.8	N 10 54.2 +00.6	249 49.1 +02.3	N 01 60.0 +00.0	290 47.5 +02.6	S 14 34.8 +00.1	22						
23	241 10.7 +00.8	N 10 54.8 +00.6	264 51.4 +02.3	N 02 00.0 +00.1	305 50.1 +02.6	S 14 34.9 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'3 00'3 00'3 00'3 00'4 00'4		SD 00'2 00'2 00'2 00'2 00'2 00'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 329° 329° 329° 329° 328° 328°		SHA 352° 352° 352° 352° 352° 352°		SHA 033° 033° 033° 033° 033° 033°								
	Greenwich Culmination Time: 06:56		Greenwich Culmination Time: 05:23		Greenwich Culmination Time: 02:40								

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UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 39.7 -00.1	N 22 15.6 -00.3	208 22.7 -00.8	N 22 04.1 +00.3	55 29.5 -33.7	S 19 19.0 +11.7	00						
01	193 39.6 -00.1	N 22 15.3 -00.3	223 21.9 -00.7	N 22 04.4 +00.3	69 55.8 -33.7	S 19 30.7 +11.7	01						
02	208 39.5 -00.1	N 22 15.0 -00.3	238 21.2 -00.8	N 22 04.7 +00.3	84 22.1 -33.9	S 19 42.4 +11.5	02						
03	223 39.4 -00.1	N 22 14.7 -00.4	253 20.4 -00.8	N 22 05.0 +00.3	98 48.2 -34.0	S 19 53.9 +11.4	03						
04	238 39.3 -00.1	N 22 14.3 -00.3	268 19.6 -00.7	N 22 05.3 +00.3	113 14.2 -34.2	S 20 05.3 +11.4	04						
05	253 39.2 -00.1	N 22 14.0 -00.3	283 18.9 -00.8	N 22 05.6 +00.4	127 40.0 -34.3	S 20 16.7 +11.2	05						
06	268 39.1 -00.1	N 22 13.7 -00.3	298 18.1 -00.7	N 22 06.0 +00.3	142 05.7 -34.4	S 20 27.9 +11.0	06						
07	283 39.0 +00.0	N 22 13.4 -00.3	313 17.4 -00.8	N 22 06.3 +00.3	156 31.3 -34.6	S 20 38.9 +11.0	07						
08	298 39.0 -00.1	N 22 13.1 -00.3	328 16.6 -00.8	N 22 06.6 +00.3	170 56.7 -34.7	S 20 49.9 +10.8	08						
09	313 38.9 -00.1	N 22 12.8 -00.4	343 15.8 -00.7	N 22 06.9 +00.3	185 22.0 -34.8	S 21 00.7 +10.8	09						
10	328 38.8 -00.1	N 22 12.4 -00.3	358 15.1 -00.8	N 22 07.2 +00.3	199 47.2 -35.0	S 21 11.5 +10.6	10						
11	343 38.7 -00.1	N 22 12.1 -00.3	13 14.3 -00.7	N 22 07.5 +00.3	214 12.2 -35.1	S 21 22.1 +10.4	11						
12	358 38.6 -00.1	N 22 11.8 -00.3	28 13.6 -00.8	N 22 07.8 +00.3	228 37.1 -35.2	S 21 32.5 +10.4	12						
13	13 38.5 -00.1	N 22 11.5 -00.3	43 12.8 -00.8	N 22 08.1 +00.3	243 01.9 -35.4	S 21 42.9 +10.2	13						
14	28 38.4 -00.1	N 22 11.2 -00.4	58 12.0 -00.7	N 22 08.4 +00.3	257 26.5 -35.5	S 21 53.1 +10.1	14						
15	43 38.3 +00.0	N 22 10.8 -00.3	73 11.3 -00.8	N 22 08.7 +00.4	271 51.0 -35.6	S 22 03.2 +09.9	15						
16	58 38.3 -00.1	N 22 10.5 -00.3	88 10.5 -00.8	N 22 09.1 +00.3	286 15.4 -35.7	S 22 13.1 +09.8	16						
17	73 38.2 -00.1	N 22 10.2 -00.3	103 09.7 -00.7	N 22 09.4 +00.3	300 39.7 -35.9	S 22 22.9 +09.7	17						
18	88 38.1 -00.1	N 22 09.9 -00.4	118 09.0 -00.8	N 22 09.7 +00.3	315 03.8 -36.1	S 22 32.6 +09.5	18						
19	103 38.0 -00.1	N 22 09.5 -00.3	133 08.2 -00.7	N 22 10.0 +00.3	329 27.7 -36.1	S 22 42.1 +09.4	19						
20	118 37.9 -00.1	N 22 09.2 -00.3	148 07.5 -00.8	N 22 10.3 +00.3	343 51.6 -36.3	S 22 51.5 +09.2	20						
21	133 37.8 +00.0	N 22 08.9 -00.3	163 06.7 -00.8	N 22 10.6 +00.3	358 15.3 -36.4	S 23 00.7 +09.1	21						
22	148 37.8 -00.1	N 22 08.6 -00.4	178 05.9 -00.7	N 22 10.9 +00.3	12 38.9 -36.5	S 23 09.8 +08.9	22						
23	163 37.7 -00.1	N 22 08.2 -00.3	193 05.2 -00.8	N 22 11.2 +00.3	27 02.4 -36.7	S 23 18.7 +08.8	23						
UT	02 06 10 14 18 22		UT	02 06 10 14 18 22		UT	02 06 10 14 18 22						
SD	15'7 15'7 15'7 15'7 15'7 15'7		SD	00'1 00'1 00'1 00'1 00'1 00'1		SD	16'3 16'3 16'4 16'4 16'4 16'5						
HP	00'1 00'1 00'1 00'1 00'1 00'1		HP	00'1 00'1 00'1 00'1 00'1 00'1		HP	59'8 59'9 60'0 60'2 60'3 60'4						
SHA	251° 251° 250° 250° 250° 250°		SHA	280° 280° 280° 280° 280° 279°		SHA	126° 124° 121° 119° 116° 114°						
Greenwich Culmination Time: 12:05				Greenwich Culmination Time: 10:07				Greenwich Culmination Time: 21:07					

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	256 11.5 +00.8	N 10 55.4 +00.6	279 53.7 +02.3	N 02 00.1 +00.0	320 52.7 +02.6	S 14 34.9 +00.1	00						
01	271 12.3 +00.8	N 10 56.0 +00.6	294 56.0 +02.4	N 02 00.1 +00.1	335 55.3 +02.6	S 14 35.0 +00.0	01						
02	286 13.1 +00.8	N 10 56.6 +00.6	309 58.4 +02.3	N 02 00.2 +00.0	350 57.9 +02.6	S 14 35.0 +00.1	02						
03	301 13.9 +00.8	N 10 57.2 +00.6	325 00.7 +02.3	N 02 00.2 +00.1	6 00.5 +02.5	S 14 35.1 +00.0	03						
04	316 14.7 +00.8	N 10 57.8 +00.6	340 03.0 +02.3	N 02 00.3 +00.0	21 03.0 +02.6	S 14 35.1 +00.1	04						
05	331 15.5 +00.8	N 10 58.4 +00.6	355 05.3 +02.4	N 02 00.3 +00.1	36 05.6 +02.6	S 14 35.2 +00.0	05						
06	346 16.3 +00.9	N 10 59.0 +00.6	10 07.7 +02.3	N 02 00.4 +00.0	51 08.2 +02.6	S 14 35.2 +00.1	06						
07	1 17.2 +00.8	N 10 59.6 +00.6	25 10.0 +02.3	N 02 00.4 +00.0	66 10.8 +02.6	S 14 35.3 +00.0	07						
08	16 18.0 +00.8	N 11 00.2 +00.5	40 12.3 +02.3	N 02 00.4 +00.1	81 13.4 +02.6	S 14 35.3 +00.1	08						
09	31 18.8 +00.8	N 11 00.7 +00.6	55 14.6 +02.3	N 02 00.5 +00.0	96 16.0 +02.6	S 14 35.4 +00.0	09						
10	46 19.6 +00.8	N 11 01.3 +00.6	70 16.9 +02.4	N 02 00.5 +00.1	111 18.6 +02.6	S 14 35.4 +00.1	10						
11	61 20.4 +00.8	N 11 01.9 +00.6	85 19.3 +02.3	N 02 00.6 +00.0	126 21.2 +02.6	S 14 35.5 +00.0	11						
12	76 21.2 +00.8	N 11 02.5 +00.6	100 21.6 +02.3	N 02 00.6 +00.1	141 23.8 +02.6	S 14 35.5 +00.1	12						
13	91 22.0 +00.8	N 11 03.1 +00.6	115 23.9 +02.3	N 02 00.7 +00.0	156 26.4 +02.5	S 14 35.6 +00.0	13						
14	106 22.8 +00.8	N 11 03.7 +00.6	130 26.2 +02.4	N 02 00.7 +00.1	171 28.9 +02.6	S 14 35.6 +00.1	14						
15	121 23.6 +00.8	N 11 04.3 +00.6	145 28.6 +02.3	N 02 00.8 +00.0	186 31.5 +02.6	S 14 35.7 +00.0	15						
16	136 24.4 +00.8	N 11 04.9 +00.6	160 30.9 +02.3	N 02 00.8 +00.1	201 34.1 +02.6	S 14 35.7 +00.1	16						
17	151 25.2 +00.8	N 11 05.5 +00.6	175 33.2 +02.3	N 02 00.9 +00.0	216 36.7 +02.6	S 14 35.8 +00.0	17						
18	166 26.0 +00.9	N 11 06.1 +00.5	190 35.5 +02.4	N 02 00.9 +00.1	231 39.3 +02.6	S 14 35.8 +00.1	18						
19	181 26.9 +00.8	N 11 06.6 +00.6	205 37.9 +02.3	N 02 01.0 +00.0	246 41.9 +02.6	S 14 35.9 +00.0	19						
20	196 27.7 +00.8	N 11 07.2 +00.6	220 40.2 +02.3	N 02 01.0 +00.1	261 44.5 +02.6	S 14 35.9 +00.1	20						
21	211 28.5 +00.8	N 11 07.8 +00.6	235 42.5 +02.4	N 02 01.1 +00.0	276 47.1 +02.6	S 14 36.0 +00.0	21						
22	226 29.3 +00.8	N 11 08.4 +00.6	250 44.9 +02.3	N 02 01.1 +00.0	291 49.7 +02.6	S 14 36.0 +00.1	22						
23	241 30.1 +00.8	N 11 09.0 +00.6	265 47.2 +02.3	N 02 01.1 +00.1	306 52.3 +02.5	S 14 36.1 +00.0	23						
UT	02 06 10 14 18 22		UT	02 06 10 14 18 22		UT	02 06 10 14 18 22						
SD	00'1 00'1 00'1 00'1 00'1 00'1		SD	00'4 00'4 00'4 00'4 00'4 00'4		SD	00'2 00'2 00'2 00'2 00'2 00'2						
HP	00'1 00'1 00'1 00'1 00'1 00'1		HP	00'0 00'0 00'0 00'0 00'0 00'0		HP	00'0 00'0 00'0 00'0 00'0 00'0						
SHA	328° 328° 328° 328° 328° 328°		SHA	352° 352° 352° 352° 352° 352°		SHA	033° 033° 033° 033° 033° 033°						
Greenwich Culmination Time: 06:54				Greenwich Culmination Time: 05:19				Greenwich Culmination Time: 02:36					

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 37.6 -00.1	N	22 07.9 -00.3	208 04.4 -00.8	N	22 11.5 +00.2	41 25.7 -36.8	S	23 27.5 +08.6	00			
01	193 37.5 -00.1	N	22 07.6 -00.4	223 03.6 -00.7	N	22 11.7 +00.3	55 48.9 -36.9	S	23 36.1 +08.5	01			
02	208 37.4 -00.1	N	22 07.2 -00.3	238 02.9 -00.8	N	22 12.0 +00.3	70 12.0 -37.0	S	23 44.6 +08.3	02			
03	223 37.3 -00.1	N	22 06.9 -00.3	253 02.1 -00.8	N	22 12.3 +00.3	84 35.0 -37.2	S	23 52.9 +08.1	03			
04	238 37.2 +00.0	N	22 06.6 -00.3	268 01.3 -00.7	N	22 12.6 +00.3	98 57.8 -37.2	S	24 01.0 +08.0	04			
05	253 37.2 -00.1	N	22 06.3 -00.4	283 00.6 -00.8	N	22 12.9 +00.3	113 20.6 -37.4	S	24 09.0 +07.8	05			
06	268 37.1 -00.1	N	22 05.9 -00.3	297 59.8 -00.8	N	22 13.2 +00.3	127 43.2 -37.5	S	24 16.8 +07.7	06			
07	283 37.0 -00.1	N	22 05.6 -00.3	312 59.0 -00.7	N	22 13.5 +00.3	142 05.7 -37.7	S	24 24.5 +07.5	07			
08	298 36.9 -00.1	N	22 05.3 -00.4	327 58.3 -00.8	N	22 13.8 +00.3	156 28.0 -37.7	S	24 32.0 +07.3	08			
09	313 36.8 +00.0	N	22 04.9 -00.3	342 57.5 -00.8	N	22 14.1 +00.3	170 50.3 -37.9	S	24 39.3 +07.1	09			
10	328 36.8 -00.1	N	22 04.6 -00.3	357 56.7 -00.7	N	22 14.4 +00.2	185 12.4 -37.9	S	24 46.4 +07.0	10			
11	343 36.7 -00.1	N	22 04.3 -00.4	12 56.0 -00.8	N	22 14.6 +00.3	199 34.5 -38.1	S	24 53.4 +06.8	11			
12	358 36.6 -00.1	N	22 03.9 -00.3	27 55.2 -00.8	N	22 14.9 +00.3	213 56.4 -38.2	S	25 00.2 +06.6	12			
13	13 36.5 -00.1	N	22 03.6 -00.4	42 54.4 -00.7	N	22 15.2 +00.3	228 18.2 -38.3	S	25 06.8 +06.4	13			
14	28 36.4 -00.1	N	22 03.2 -00.3	57 53.7 -00.8	N	22 15.5 +00.3	242 39.9 -38.4	S	25 13.2 +06.3	14			
15	43 36.3 +00.0	N	22 02.9 -00.3	72 52.9 -00.8	N	22 15.8 +00.2	257 01.5 -38.5	S	25 19.5 +06.0	15			
16	58 36.3 -00.1	N	22 02.6 -00.4	87 52.1 -00.8	N	22 16.0 +00.3	271 23.0 -38.6	S	25 25.5 +05.9	16			
17	73 36.2 -00.1	N	22 02.2 -00.3	102 51.3 -00.7	N	22 16.3 +00.3	285 44.4 -38.7	S	25 31.4 +05.7	17			
18	88 36.1 -00.1	N	22 01.9 -00.3	117 50.6 -00.8	N	22 16.6 +00.3	300 05.7 -38.8	S	25 37.1 +05.5	18			
19	103 36.0 -00.1	N	22 01.6 -00.4	132 49.8 -00.8	N	22 16.9 +00.2	314 26.9 -38.9	S	25 42.6 +05.3	19			
20	118 35.9 +00.0	N	22 01.2 -00.3	147 49.0 -00.7	N	22 17.1 +00.3	328 48.0 -39.0	S	25 47.9 +05.2	20			
21	133 35.9 -00.1	N	22 00.9 -00.4	162 48.3 -00.8	N	22 17.4 +00.3	343 09.0 -39.0	S	25 53.1 +04.9	21			
22	148 35.8 -00.1	N	22 00.5 -00.3	177 47.5 -00.8	N	22 17.7 +00.3	357 30.0 -39.2	S	25 58.0 +04.7	22			
23	163 35.7 -00.1	N	22 00.2 -00.4	192 46.7 -00.8	N	22 18.0 +00.2	11 50.8 -39.2	S	26 02.7 +04.6	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 15'7 15'7 15'7 15'7 15'7 15'7			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 16'5 16'5 16'5 16'6 16'6 16'6						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 60'5 60'6 60'7 60'8 60'9 61'0						
	SHA 250° 249° 249° 249° 249° 249°			SHA 279° 279° 279° 278° 278° 278°			SHA 111° 109° 106° 103° 100° 098°						
	Greenwich Culmination Time: 12:05			Greenwich Culmination Time: 10:08			Greenwich Culmination Time: 22:10						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	256 30.9 +00.8	N	11 09.6 +00.6	280 49.5 +02.3	N	02 01.2 +00.0	321 54.8 +02.6	S	14 36.1 +00.1	00			
01	271 31.7 +00.8	N	11 10.2 +00.6	295 51.8 +02.4	N	02 01.2 +00.1	336 57.4 +02.6	S	14 36.2 +00.0	01			
02	286 32.5 +00.8	N	11 10.8 +00.5	310 54.2 +02.3	N	02 01.3 +00.0	352 00.0 +02.6	S	14 36.2 +00.1	02			
03	301 33.3 +00.8	N	11 11.3 +00.6	325 56.5 +02.3	N	02 01.3 +00.1	7 02.6 +02.6	S	14 36.3 +00.0	03			
04	316 34.1 +00.8	N	11 11.9 +00.6	340 58.8 +02.4	N	02 01.4 +00.0	22 05.2 +02.6	S	14 36.3 +00.1	04			
05	331 34.9 +00.9	N	11 12.5 +00.6	356 01.2 +02.3	N	02 01.4 +00.1	37 07.8 +02.6	S	14 36.4 +00.0	05			
06	346 35.8 +00.8	N	11 13.1 +00.6	11 03.5 +02.3	N	02 01.5 +00.0	52 10.4 +02.6	S	14 36.4 +00.1	06			
07	1 36.6 +00.8	N	11 13.7 +00.6	26 05.8 +02.3	N	02 01.5 +00.0	67 13.0 +02.6	S	14 36.5 +00.0	07			
08	16 37.4 +00.8	N	11 14.3 +00.6	41 08.1 +02.4	N	02 01.5 +00.1	82 15.6 +02.6	S	14 36.5 +00.1	08			
09	31 38.2 +00.8	N	11 14.9 +00.5	56 10.5 +02.3	N	02 01.6 +00.0	97 18.2 +02.6	S	14 36.6 +00.0	09			
10	46 39.0 +00.8	N	11 15.4 +00.6	71 12.8 +02.3	N	02 01.6 +00.1	112 20.8 +02.6	S	14 36.6 +00.1	10			
11	61 39.8 +00.8	N	11 16.0 +00.6	86 15.1 +02.4	N	02 01.7 +00.0	127 23.4 +02.6	S	14 36.7 +00.0	11			
12	76 40.6 +00.8	N	11 16.6 +00.6	101 17.5 +02.3	N	02 01.7 +00.1	142 26.0 +02.5	S	14 36.7 +00.1	12			
13	91 41.4 +00.8	N	11 17.2 +00.6	116 19.8 +02.3	N	02 01.8 +00.0	157 28.5 +02.6	S	14 36.8 +00.0	13			
14	106 42.2 +00.8	N	11 17.8 +00.6	131 22.1 +02.4	N	02 01.8 +00.0	172 31.1 +02.6	S	14 36.8 +00.1	14			
15	121 43.0 +00.9	N	11 18.4 +00.6	146 24.5 +02.3	N	02 01.8 +00.1	187 33.7 +02.6	S	14 36.9 +00.1	15			
16	136 43.9 +00.8	N	11 19.0 +00.5	161 26.8 +02.3	N	02 01.9 +00.0	202 36.3 +02.6	S	14 37.0 +00.0	16			
17	151 44.7 +00.8	N	11 19.5 +00.6	176 29.1 +02.4	N	02 01.9 +00.1	217 38.9 +02.6	S	14 37.0 +00.1	17			
18	166 45.5 +00.8	N	11 20.1 +00.6	191 31.5 +02.3	N	02 02.0 +00.0	232 41.5 +02.6	S	14 37.1 +00.0	18			
19	181 46.3 +00.8	N	11 20.7 +00.6	206 33.8 +02.3	N	02 02.0 +00.1	247 44.1 +02.6	S	14 37.1 +00.1	19			
20	196 47.1 +00.8	N	11 21.3 +00.6	221 36.1 +02.4	N	02 02.1 +00.0	262 46.7 +02.6	S	14 37.2 +00.0	20			
21	211 47.9 +00.8	N	11 21.9 +00.6	236 38.5 +02.3	N	02 02.1 +00.0	277 49.3 +02.6	S	14 37.2 +00.1	21			
22	226 48.7 +00.8	N	11 22.5 +00.5	251 40.8 +02.3	N	02 02.1 +00.1	292 51.9 +02.6	S	14 37.3 +00.0	22			
23	241 49.5 +00.8	N	11 23.0 +00.6	266 43.1 +02.4	N	02 02.2 +00.0	307 54.5 +02.6	S	14 37.3 +00.1	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'4 00'4 00'4 00'4 00'4 00'4			SD 00'2 00'2 00'2 00'2 00'2 00'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 328° 327° 327° 327° 327° 327°			SHA 352° 352° 352° 352° 352° 352°			SHA 033° 033° 033° 033° 033° 033°						
	Greenwich Culmination Time: 06:53			Greenwich Culmination Time: 05:15			Greenwich Culmination Time: 02:31						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 35.6 -00.1	N 21 59.8 -00.3	207 45.9 -00.7	N 22 18.2 +00.3	26 11.6 -39.3	S 26 07.3 +04.3	00						
01	193 35.5 +00.0	N 21 59.5 -00.4	222 45.2 -00.8	N 22 18.5 +00.3	40 32.3 -39.4	S 26 11.6 +04.1	01						
02	208 35.5 -00.1	N 21 59.1 -00.3	237 44.4 -00.8	N 22 18.8 +00.2	54 52.9 -39.5	S 26 15.7 +04.0	02						
03	223 35.4 -00.1	N 21 58.8 -00.3	252 43.6 -00.7	N 22 19.0 +00.3	69 13.4 -39.5	S 26 19.7 +03.7	03						
04	238 35.3 -00.1	N 21 58.5 -00.4	267 42.9 -00.8	N 22 19.3 +00.3	83 33.9 -39.6	S 26 23.4 +03.5	04						
05	253 35.2 +00.0	N 21 58.1 -00.3	282 42.1 -00.8	N 22 19.6 +00.2	97 54.3 -39.7	S 26 26.9 +03.4	05						
06	268 35.2 -00.1	N 21 57.8 -00.4	297 41.3 -00.8	N 22 19.8 +00.3	112 14.6 -39.7	S 26 30.3 +03.1	06						
07	283 35.1 -00.1	N 21 57.4 -00.3	312 40.5 -00.7	N 22 20.1 +00.3	126 34.9 -39.8	S 26 33.4 +02.9	07						
08	298 35.0 -00.1	N 21 57.1 -00.4	327 39.8 -00.8	N 22 20.4 +00.2	140 55.1 -39.8	S 26 36.3 +02.7	08						
09	313 34.9 -00.1	N 21 56.7 -00.3	342 39.0 -00.8	N 22 20.6 +00.3	155 15.3 -39.9	S 26 39.0 +02.5	09						
10	328 34.8 +00.0	N 21 56.4 -00.4	357 38.2 -00.8	N 22 20.9 +00.2	169 35.4 -40.0	S 26 41.5 +02.3	10						
11	343 34.8 -00.1	N 21 56.0 -00.3	12 37.4 -00.7	N 22 21.1 +00.3	183 55.4 -40.0	S 26 43.8 +02.1	11						
12	358 34.7 -00.1	N 21 55.7 -00.4	27 36.7 -00.8	N 22 21.4 +00.3	198 15.4 -40.0	S 26 45.9 +01.9	12						
13	13 34.6 -00.1	N 21 55.3 -00.3	42 35.9 -00.8	N 22 21.7 +00.2	212 35.4 -40.1	S 26 47.8 +01.7	13						
14	28 34.5 +00.0	N 21 55.0 -00.4	57 35.1 -00.8	N 22 21.9 +00.3	226 55.3 -40.1	S 26 49.5 +01.4	14						
15	43 34.5 -00.1	N 21 54.6 -00.3	72 34.3 -00.7	N 22 22.2 +00.2	241 15.2 -40.1	S 26 50.9 +01.3	15						
16	58 34.4 -00.1	N 21 54.3 -00.4	87 33.6 -00.8	N 22 22.4 +00.3	255 35.1 -40.2	S 26 52.2 +01.0	16						
17	73 34.3 -00.1	N 21 53.9 -00.4	102 32.8 -00.8	N 22 22.7 +00.2	269 54.9 -40.2	S 26 53.2 +00.8	17						
18	88 34.2 +00.0	N 21 53.5 -00.3	117 32.0 -00.8	N 22 22.9 +00.3	284 14.7 -40.2	S 26 54.0 +00.6	18						
19	103 34.2 -00.1	N 21 53.2 -00.4	132 31.2 -00.8	N 22 23.2 +00.2	298 34.5 -40.3	S 26 54.6 +00.4	19						
20	118 34.1 -00.1	N 21 52.8 -00.3	147 30.4 -00.7	N 22 23.4 +00.3	312 54.2 -40.2	S 26 55.0 +00.2	20						
21	133 34.0 -00.1	N 21 52.5 -00.4	162 29.7 -00.8	N 22 23.7 +00.2	327 14.0 -40.3	S 26 55.2 -00.1	21						
22	148 33.9 +00.0	N 21 52.1 -00.3	177 28.9 -00.8	N 22 23.9 +00.3	341 33.7 -40.3	S 26 55.1 -00.2	22						
23	163 33.9 -00.1	N 21 51.8 -00.4	192 28.1 -00.8	N 22 24.2 +00.2	355 53.4 -40.3	S 26 54.9 -00.5	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'7 15'7 15'7 15'7 15'7 15'7		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 16'6 16'7 16'7 16'7 16'7 16'7								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 61'1 61'1 61'2 61'2 61'3 61'3								
	SHA 249° 248° 248° 248° 248° 248°		SHA 278° 278° 277° 277° 277° 277°		SHA 095° 092° 089° 086° 084° 081°								
	Greenwich Culmination Time: 12:05		Greenwich Culmination Time: 10:09		Greenwich Culmination Time: 23:17								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	256 50.3 +00.8	N 11 23.6 +00.6	281 45.5 +02.3	N 02 02.2 +00.1	322 57.1 +02.6	S 14 37.4 +00.0	00						
01	271 51.1 +00.9	N 11 24.2 +00.6	296 47.8 +02.3	N 02 02.3 +00.0	337 59.7 +02.6	S 14 37.4 +00.1	01						
02	286 52.0 +00.8	N 11 24.8 +00.6	311 50.1 +02.4	N 02 02.3 +00.1	353 02.3 +02.6	S 14 37.5 +00.0	02						
03	301 52.8 +00.8	N 11 25.4 +00.5	326 52.5 +02.3	N 02 02.4 +00.0	8 04.9 +02.6	S 14 37.5 +00.1	03						
04	316 53.6 +00.8	N 11 25.9 +00.6	341 54.8 +02.3	N 02 02.4 +00.0	23 07.5 +02.5	S 14 37.6 +00.0	04						
05	331 54.4 +00.8	N 11 26.5 +00.6	356 57.1 +02.4	N 02 02.4 +00.1	38 10.0 +02.6	S 14 37.6 +00.1	05						
06	346 55.2 +00.8	N 11 27.1 +00.6	11 59.5 +02.3	N 02 02.5 +00.0	53 12.6 +02.6	S 14 37.7 +00.0	06						
07	1 56.0 +00.8	N 11 27.7 +00.6	27 01.8 +02.4	N 02 02.5 +00.1	68 15.2 +02.6	S 14 37.7 +00.1	07						
08	16 56.8 +00.8	N 11 28.3 +00.5	42 04.2 +02.3	N 02 02.6 +00.0	83 17.8 +02.6	S 14 37.8 +00.0	08						
09	31 57.6 +00.8	N 11 28.8 +00.6	57 06.5 +02.3	N 02 02.6 +00.0	98 20.4 +02.6	S 14 37.8 +00.1	09						
10	46 58.4 +00.9	N 11 29.4 +00.6	72 08.8 +02.4	N 02 02.6 +00.1	113 23.0 +02.6	S 14 37.9 +00.0	10						
11	61 59.3 +00.8	N 11 30.0 +00.6	87 11.2 +02.3	N 02 02.7 +00.0	128 25.6 +02.6	S 14 37.9 +00.1	11						
12	77 00.1 +00.8	N 11 30.6 +00.6	102 13.5 +02.3	N 02 02.7 +00.1	143 28.2 +02.6	S 14 38.0 +00.0	12						
13	92 00.9 +00.8	N 11 31.2 +00.5	117 15.8 +02.4	N 02 02.8 +00.0	158 30.8 +02.6	S 14 38.0 +00.1	13						
14	107 01.7 +00.8	N 11 31.7 +00.6	132 18.2 +02.3	N 02 02.8 +00.0	173 33.4 +02.6	S 14 38.1 +00.0	14						
15	122 02.5 +00.8	N 11 32.3 +00.6	147 20.5 +02.4	N 02 02.8 +00.1	188 36.0 +02.6	S 14 38.1 +00.1	15						
16	137 03.3 +00.8	N 11 32.9 +00.6	162 22.9 +02.3	N 02 02.9 +00.0	203 38.6 +02.6	S 14 38.2 +00.0	16						
17	152 04.1 +00.8	N 11 33.5 +00.6	177 25.2 +02.3	N 02 02.9 +00.1	218 41.2 +02.6	S 14 38.2 +00.1	17						
18	167 04.9 +00.9	N 11 34.1 +00.5	192 27.5 +02.4	N 02 03.0 +00.0	233 43.8 +02.6	S 14 38.3 +00.0	18						
19	182 05.8 +00.8	N 11 34.6 +00.6	207 29.9 +02.3	N 02 03.0 +00.0	248 46.4 +02.6	S 14 38.3 +00.1	19						
20	197 06.6 +00.8	N 11 35.2 +00.6	222 32.2 +02.4	N 02 03.0 +00.1	263 49.0 +02.6	S 14 38.4 +00.0	20						
21	212 07.4 +00.8	N 11 35.8 +00.6	237 34.6 +02.3	N 02 03.1 +00.0	278 51.6 +02.6	S 14 38.4 +00.1	21						
22	227 08.2 +00.8	N 11 36.4 +00.6	252 36.9 +02.4	N 02 03.1 +00.1	293 54.2 +02.6	S 14 38.5 +00.1	22						
23	242 09.0 +00.8	N 11 37.0 +00.5	267 39.3 +02.3	N 02 03.2 +00.0	308 56.8 +02.6	S 14 38.6 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'4 00'4 00'4 00'4 00'4 00'4		SD 00'2 00'2 00'2 00'2 00'2 00'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 327° 327° 327° 327° 326° 326°		SHA 352° 352° 352° 352° 352° 352°		SHA 033° 033° 033° 033° 033° 033°								
	Greenwich Culmination Time: 06:52		Greenwich Culmination Time: 05:12		Greenwich Culmination Time: 02:27								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 33.8 -00.1	N 21 51.4 -00.4	207 27.3 -00.8	N 22 24.4 +00.2	10 13.1 -40.2	S 26 54.4 -00.7	00						
01	193 33.7 -00.1	N 21 51.0 -00.3	222 26.5 -00.7	N 22 24.6 +00.3	24 32.9 -40.3	S 26 53.7 -00.9	01						
02	208 33.6 +00.0	N 21 50.7 -00.4	237 25.8 -00.8	N 22 24.9 +00.2	38 52.6 -40.3	S 26 52.8 -01.1	02						
03	223 33.6 -00.1	N 21 50.3 -00.3	252 25.0 -00.8	N 22 25.1 +00.3	53 12.3 -40.3	S 26 51.7 -01.4	03						
04	238 33.5 -00.1	N 21 50.0 -00.4	267 24.2 -00.8	N 22 25.4 +00.2	67 32.0 -40.2	S 26 50.3 -01.5	04						
05	253 33.4 -00.1	N 21 49.6 -00.4	282 23.4 -00.8	N 22 25.6 +00.3	81 51.8 -40.2	S 26 48.8 -01.8	05						
06	268 33.3 +00.0	N 21 49.2 -00.3	297 22.6 -00.7	N 22 25.9 +00.2	96 11.6 -40.2	S 26 47.0 -01.9	06						
07	283 33.3 -00.1	N 21 48.9 -00.4	312 21.9 -00.8	N 22 26.1 +00.2	110 31.4 -40.2	S 26 45.1 -02.2	07						
08	298 33.2 -00.1	N 21 48.5 -00.4	327 21.1 -00.8	N 22 26.3 +00.3	124 51.2 -40.2	S 26 42.9 -02.4	08						
09	313 33.1 +00.0	N 21 48.1 -00.3	342 20.3 -00.8	N 22 26.6 +00.2	139 11.0 -40.1	S 26 40.5 -02.6	09						
10	328 33.1 -00.1	N 21 47.8 -00.4	357 19.5 -00.8	N 22 26.8 +00.2	153 30.9 -40.1	S 26 37.9 -02.9	10						
11	343 33.0 -00.1	N 21 47.4 -00.4	12 18.7 -00.7	N 22 27.0 +00.3	167 50.8 -40.1	S 26 35.0 -03.0	11						
12	358 32.9 -00.1	N 21 47.0 -00.3	27 18.0 -00.8	N 22 27.3 +00.2	182 10.7 -40.0	S 26 32.0 -03.3	12						
13	13 32.8 +00.0	N 21 46.7 -00.4	42 17.2 -00.8	N 22 27.5 +00.2	196 30.7 -40.0	S 26 28.7 -03.4	13						
14	28 32.8 -00.1	N 21 46.3 -00.4	57 16.4 -00.8	N 22 27.7 +00.2	210 50.7 -39.9	S 26 25.3 -03.7	14						
15	43 32.7 -00.1	N 21 45.9 -00.3	72 15.6 -00.8	N 22 27.9 +00.3	225 10.8 -39.9	S 26 21.6 -03.9	15						
16	58 32.6 +00.0	N 21 45.6 -00.4	87 14.8 -00.8	N 22 28.2 +00.2	239 30.9 -39.8	S 26 17.7 -04.0	16						
17	73 32.6 -00.1	N 21 45.2 -00.4	102 14.0 -00.7	N 22 28.4 +00.2	253 51.1 -39.8	S 26 13.7 -04.3	17						
18	88 32.5 -00.1	N 21 44.8 -00.4	117 13.3 -00.8	N 22 28.6 +00.3	268 11.3 -39.7	S 26 09.4 -04.5	18						
19	103 32.4 -00.1	N 21 44.4 -00.3	132 12.5 -00.8	N 22 28.9 +00.2	282 31.6 -39.6	S 26 04.9 -04.7	19						
20	118 32.3 +00.0	N 21 44.1 -00.4	147 11.7 -00.8	N 22 29.1 +00.2	296 52.0 -39.6	S 26 00.2 -04.9	20						
21	133 32.3 -00.1	N 21 43.7 -00.4	162 10.9 -00.8	N 22 29.3 +00.2	311 12.4 -39.5	S 25 55.3 -05.1	21						
22	148 32.2 -00.1	N 21 43.3 -00.3	177 10.1 -00.8	N 22 29.5 +00.2	325 32.9 -39.5	S 25 50.2 -05.3	22						
23	163 32.1 +00.0	N 21 43.0 -00.4	192 09.3 -00.7	N 22 29.7 +00.3	339 53.4 -39.3	S 25 44.9 -05.5	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'7 15'7 15'7 15'7 15'7 15'7		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 16'7 16'7 16'7 16'7 16'7 16'7								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 61'3 61'3 61'3 61'3 61'3 61'3								
	SHA 248° 247° 247° 247° 247° 247°		SHA 276° 276° 276° 276° 276° 275°		SHA 078° 075° 072° 069° 067° 064°								
	Greenwich Culmination Time: 12:05		Greenwich Culmination Time: 10:10		Greenwich Culmination Time: -1:00								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	257 09.8 +00.8	N 11 37.5 +00.6	282 41.6 +02.3	N 02 03.2 +00.0	323 59.4 +02.6	S 14 38.6 +00.1	00						
01	272 10.6 +00.8	N 11 38.1 +00.6	297 43.9 +02.4	N 02 03.2 +00.1	339 02.0 +02.6	S 14 38.7 +00.0	01						
02	287 11.4 +00.8	N 11 38.7 +00.6	312 46.3 +02.3	N 02 03.3 +00.0	354 04.6 +02.6	S 14 38.7 +00.1	02						
03	302 12.2 +00.9	N 11 39.3 +00.5	327 48.6 +02.4	N 02 03.3 +00.1	9 07.2 +02.6	S 14 38.8 +00.0	03						
04	317 13.1 +00.8	N 11 39.8 +00.6	342 51.0 +02.3	N 02 03.4 +00.0	24 09.8 +02.6	S 14 38.8 +00.1	04						
05	332 13.9 +00.8	N 11 40.4 +00.6	357 53.3 +02.4	N 02 03.4 +00.0	39 12.4 +02.6	S 14 38.9 +00.0	05						
06	347 14.7 +00.8	N 11 41.0 +00.6	12 55.7 +02.3	N 02 03.4 +00.1	54 15.0 +02.6	S 14 38.9 +00.1	06						
07	2 15.5 +00.8	N 11 41.6 +00.5	27 58.0 +02.3	N 02 03.5 +00.0	69 17.6 +02.5	S 14 39.0 +00.0	07						
08	17 16.3 +00.8	N 11 42.1 +00.6	43 00.3 +02.4	N 02 03.5 +00.1	84 20.1 +02.6	S 14 39.0 +00.1	08						
09	32 17.1 +00.8	N 11 42.7 +00.6	58 02.7 +02.3	N 02 03.6 +00.0	99 22.7 +02.6	S 14 39.1 +00.0	09						
10	47 17.9 +00.8	N 11 43.3 +00.6	73 05.0 +02.4	N 02 03.6 +00.0	114 25.3 +02.6	S 14 39.1 +00.1	10						
11	62 18.7 +00.9	N 11 43.9 +00.5	88 07.4 +02.3	N 02 03.6 +00.1	129 27.9 +02.6	S 14 39.2 +00.0	11						
12	77 19.6 +00.8	N 11 44.4 +00.6	103 09.7 +02.4	N 02 03.7 +00.0	144 30.5 +02.6	S 14 39.2 +00.1	12						
13	92 20.4 +00.8	N 11 45.0 +00.6	118 12.1 +02.3	N 02 03.7 +00.0	159 33.1 +02.6	S 14 39.3 +00.0	13						
14	107 21.2 +00.8	N 11 45.6 +00.6	133 14.4 +02.4	N 02 03.7 +00.1	174 35.7 +02.6	S 14 39.3 +00.1	14						
15	122 22.0 +00.8	N 11 46.2 +00.5	148 16.8 +02.3	N 02 03.8 +00.0	189 38.3 +02.6	S 14 39.4 +00.0	15						
16	137 22.8 +00.8	N 11 46.7 +00.6	163 19.1 +02.4	N 02 03.8 +00.1	204 40.9 +02.6	S 14 39.4 +00.1	16						
17	152 23.6 +00.8	N 11 47.3 +00.6	178 21.5 +02.3	N 02 03.9 +00.0	219 43.5 +02.6	S 14 39.5 +00.0	17						
18	167 24.4 +00.9	N 11 47.9 +00.6	193 23.8 +02.3	N 02 03.9 +00.0	234 46.1 +02.6	S 14 39.5 +00.1	18						
19	182 25.3 +00.8	N 11 48.5 +00.5	208 26.1 +02.4	N 02 03.9 +00.1	249 48.7 +02.6	S 14 39.6 +00.1	19						
20	197 26.1 +00.8	N 11 49.0 +00.6	223 28.5 +02.3	N 02 04.0 +00.0	264 51.3 +02.6	S 14 39.7 +00.0	20						
21	212 26.9 +00.8	N 11 49.6 +00.6	238 30.8 +02.4	N 02 04.0 +00.0	279 53.9 +02.6	S 14 39.7 +00.1	21						
22	227 27.7 +00.8	N 11 50.2 +00.5	253 33.2 +02.3	N 02 04.0 +00.1	294 56.5 +02.6	S 14 39.8 +00.0	22						
23	242 28.5 +00.8	N 11 50.7 +00.6	268 35.5 +02.4	N 02 04.1 +00.0	309 59.1 +02.6	S 14 39.8 +00.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'4 00'4 00'4 00'4 00'4 00'4		SD 00'2 00'2 00'2 00'2 00'2 00'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 326° 326° 326° 326° 326° 326°		SHA 352° 352° 352° 352° 352° 352°		SHA 033° 033° 033° 033° 033° 033°								
	Greenwich Culmination Time: 06:50		Greenwich Culmination Time: 05:08		Greenwich Culmination Time: 02:23								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 32.1 -00.1	N 21 42.6 -00.4	207 08.6 -00.8	N 22 30.0 +00.2	354 14.1 -39.3	S 25 39.4 -05.7	00						
01	193 32.0 -00.1	N 21 42.2 -00.4	222 07.8 -00.8	N 22 30.2 +00.2	8 34.8 -39.2	S 25 33.7 -05.9	01						
02	208 31.9 +00.0	N 21 41.8 -00.4	237 07.0 -00.8	N 22 30.4 +00.2	22 55.6 -39.1	S 25 27.8 -06.0	02						
03	223 31.9 -00.1	N 21 41.4 -00.3	252 06.2 -00.8	N 22 30.6 +00.2	37 16.5 -39.1	S 25 21.8 -06.3	03						
04	238 31.8 -00.1	N 21 41.1 -00.4	267 05.4 -00.8	N 22 30.8 +00.2	51 37.4 -38.9	S 25 15.5 -06.5	04						
05	253 31.7 +00.0	N 21 40.7 -00.4	282 04.6 -00.8	N 22 31.0 +00.2	65 58.5 -38.9	S 25 09.0 -06.6	05						
06	268 31.7 -00.1	N 21 40.3 -00.4	297 03.8 -00.7	N 22 31.2 +00.3	80 19.6 -38.7	S 25 02.4 -06.9	06						
07	283 31.6 -00.1	N 21 39.9 -00.3	312 03.1 -00.8	N 22 31.5 +00.2	94 40.9 -38.7	S 24 55.5 -07.0	07						
08	298 31.5 +00.0	N 21 39.6 -00.4	327 02.3 -00.8	N 22 31.7 +00.2	109 02.2 -38.6	S 24 48.5 -07.2	08						
09	313 31.5 -00.1	N 21 39.2 -00.4	342 01.5 -00.8	N 22 31.9 +00.2	123 23.6 -38.5	S 24 41.3 -07.4	09						
10	328 31.4 -00.1	N 21 38.8 -00.4	357 00.7 -00.8	N 22 32.1 +00.2	137 45.1 -38.3	S 24 33.9 -07.6	10						
11	343 31.3 +00.0	N 21 38.4 -00.4	11 59.9 -00.8	N 22 32.3 +00.2	152 06.8 -38.3	S 24 26.3 -07.7	11						
12	358 31.3 -00.1	N 21 38.0 -00.4	26 59.1 -00.8	N 22 32.5 +00.2	166 28.5 -38.2	S 24 18.6 -08.0	12						
13	13 31.2 -00.1	N 21 37.6 -00.3	41 58.3 -00.8	N 22 32.7 +00.2	180 50.3 -38.0	S 24 10.6 -08.1	13						
14	28 31.1 +00.0	N 21 37.3 -00.4	56 57.5 -00.7	N 22 32.9 +00.2	195 12.3 -38.0	S 24 02.5 -08.3	14						
15	43 31.1 -00.1	N 21 36.9 -00.4	71 56.8 -00.8	N 22 33.1 +00.2	209 34.3 -37.8	S 23 54.2 -08.4	15						
16	58 31.0 -00.1	N 21 36.5 -00.4	86 56.0 -00.8	N 22 33.3 +00.2	223 56.5 -37.7	S 23 45.8 -08.6	16						
17	73 30.9 +00.0	N 21 36.1 -00.4	101 55.2 -00.8	N 22 33.5 +00.2	238 18.8 -37.6	S 23 37.2 -08.8	17						
18	88 30.9 -00.1	N 21 35.7 -00.4	116 54.4 -00.8	N 22 33.7 +00.2	252 41.2 -37.5	S 23 28.4 -09.0	18						
19	103 30.8 -00.1	N 21 35.3 -00.4	131 53.6 -00.8	N 22 33.9 +00.2	267 03.7 -37.4	S 23 19.4 -09.1	19						
20	118 30.7 +00.0	N 21 34.9 -00.3	146 52.8 -00.8	N 22 34.1 +00.2	281 26.3 -37.3	S 23 10.3 -09.2	20						
21	133 30.7 -00.1	N 21 34.6 -00.4	161 52.0 -00.8	N 22 34.3 +00.2	295 49.0 -37.1	S 23 01.1 -09.5	21						
22	148 30.6 -00.1	N 21 34.2 -00.4	176 51.2 -00.8	N 22 34.5 +00.2	310 11.9 -37.0	S 22 51.6 -09.6	22						
23	163 30.5 +00.0	N 21 33.8 -00.4	191 50.4 -00.8	N 22 34.7 +00.2	324 34.9 -36.9	S 22 42.0 -09.7	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'7 15'7 15'7 15'7 15'7 15'7		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 16'7 16'7 16'7 16'6 16'6 16'6								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 61'3 61'2 61'2 61'1 61'0 61'0								
	SHA 247° 246° 246° 246° 246° 246°		SHA 275° 275° 275° 275° 274° 274°		SHA 061° 058° 055° 053° 050° 047°								
	Greenwich Culmination Time: 12:05		Greenwich Culmination Time: 10:11		Greenwich Culmination Time: 00:24								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	257 29.3 +00.8	N 11 51.3 +00.6	283 37.9 +02.3	N 02 04.1 +00.0	325 01.7 +02.6	S 14 39.9 +00.0	00						
01	272 30.1 +00.8	N 11 51.9 +00.6	298 40.2 +02.4	N 02 04.1 +00.1	340 04.3 +02.6	S 14 39.9 +00.1	01						
02	287 30.9 +00.9	N 11 52.5 +00.5	313 42.6 +02.3	N 02 04.2 +00.0	355 06.9 +02.6	S 14 40.0 +00.0	02						
03	302 31.8 +00.8	N 11 53.0 +00.6	328 44.9 +02.4	N 02 04.2 +00.0	10 09.5 +02.6	S 14 40.0 +00.1	03						
04	317 32.6 +00.8	N 11 53.6 +00.6	343 47.3 +02.3	N 02 04.2 +00.1	25 12.1 +02.6	S 14 40.1 +00.0	04						
05	332 33.4 +00.8	N 11 54.2 +00.5	358 49.6 +02.4	N 02 04.3 +00.0	40 14.7 +02.6	S 14 40.1 +00.1	05						
06	347 34.2 +00.8	N 11 54.7 +00.6	13 52.0 +02.3	N 02 04.3 +00.1	55 17.3 +02.6	S 14 40.2 +00.0	06						
07	2 35.0 +00.8	N 11 55.3 +00.6	28 54.3 +02.4	N 02 04.4 +00.0	70 19.9 +02.6	S 14 40.2 +00.1	07						
08	17 35.8 +00.8	N 11 55.9 +00.5	43 56.7 +02.3	N 02 04.4 +00.0	85 22.5 +02.6	S 14 40.3 +00.0	08						
09	32 36.6 +00.9	N 11 56.4 +00.6	58 59.0 +02.4	N 02 04.4 +00.1	100 25.1 +02.6	S 14 40.3 +00.1	09						
10	47 37.5 +00.8	N 11 57.0 +00.6	74 01.4 +02.3	N 02 04.5 +00.0	115 27.7 +02.6	S 14 40.4 +00.1	10						
11	62 38.3 +00.8	N 11 57.6 +00.6	89 03.7 +02.4	N 02 04.5 +00.0	130 30.3 +02.6	S 14 40.5 +00.0	11						
12	77 39.1 +00.8	N 11 58.2 +00.5	104 06.1 +02.4	N 02 04.5 +00.1	145 32.9 +02.6	S 14 40.5 +00.1	12						
13	92 39.9 +00.8	N 11 58.7 +00.6	119 08.5 +02.3	N 02 04.6 +00.0	160 35.5 +02.6	S 14 40.6 +00.0	13						
14	107 40.7 +00.8	N 11 59.3 +00.6	134 10.8 +02.4	N 02 04.6 +00.0	175 38.1 +02.6	S 14 40.6 +00.1	14						
15	122 41.5 +00.9	N 11 59.9 +00.5	149 13.2 +02.3	N 02 04.6 +00.1	190 40.7 +02.6	S 14 40.7 +00.0	15						
16	137 42.4 +00.8	N 12 00.4 +00.6	164 15.5 +02.4	N 02 04.7 +00.0	205 43.3 +02.6	S 14 40.7 +00.1	16						
17	152 43.2 +00.8	N 12 01.0 +00.6	179 17.9 +02.3	N 02 04.7 +00.0	220 45.9 +02.6	S 14 40.8 +00.0	17						
18	167 44.0 +00.8	N 12 01.6 +00.5	194 20.2 +02.4	N 02 04.7 +00.1	235 48.5 +02.6	S 14 40.8 +00.1	18						
19	182 44.8 +00.8	N 12 02.1 +00.6	209 22.6 +02.3	N 02 04.8 +00.0	250 51.1 +02.6	S 14 40.9 +00.0	19						
20	197 45.6 +00.8	N 12 02.7 +00.6	224 24.9 +02.4	N 02 04.8 +00.0	265 53.7 +02.6	S 14 40.9 +00.1	20						
21	212 46.4 +00.8	N 12 03.3 +00.5	239 27.3 +02.3	N 02 04.8 +00.1	280 56.3 +02.6	S 14 41.0 +00.0	21						
22	227 47.2 +00.9	N 12 03.8 +00.6	254 29.6 +02.4	N 02 04.9 +00.0	295 58.9 +02.7	S 14 41.0 +00.1	22						
23	242 48.1 +00.8	N 12 04.4 +00.6	269 32.0 +02.4	N 02 04.9 +00.0	311 01.6 +02.6	S 14 41.1 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'4 00'4 00'4 00'4 00'4 00'4		SD 00'2 00'2 00'2 00'2 00'2 00'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 326° 325° 325° 325° 325° 325°		SHA 352° 352° 352° 352° 352° 352°		SHA 033° 033° 033° 033° 033° 033°								
	Greenwich Culmination Time: 06:49		Greenwich Culmination Time: 05:04		Greenwich Culmination Time: 02:19								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 30.5 -00.1	N 21 33.4 -00.4	206 49.6 -00.7	N 22 34.9 +00.2	338 58.0 -36.8	S 22 32.3 -09.9	00						
01	193 30.4 -00.1	N 21 33.0 -00.4	221 48.9 -00.8	N 22 35.1 +00.2	353 21.2 -36.7	S 22 22.4 -10.1	01						
02	208 30.3 +00.0	N 21 32.6 -00.4	236 48.1 -00.8	N 22 35.3 +00.2	7 44.5 -36.5	S 22 12.3 -10.1	02						
03	223 30.3 -00.1	N 21 32.2 -00.4	251 47.3 -00.8	N 22 35.5 +00.1	22 08.0 -36.4	S 22 02.2 -10.4	03						
04	238 30.2 -00.1	N 21 31.8 -00.4	266 46.5 -00.8	N 22 35.6 +00.2	36 31.6 -36.3	S 21 51.8 -10.5	04						
05	253 30.1 +00.0	N 21 31.4 -00.4	281 45.7 -00.8	N 22 35.8 +00.2	50 55.3 -36.2	S 21 41.3 -10.6	05						
06	268 30.1 -00.1	N 21 31.0 -00.4	296 44.9 -00.8	N 22 36.0 +00.2	65 19.1 -36.0	S 21 30.7 -10.8	06						
07	283 30.0 +00.0	N 21 30.6 -00.4	311 44.1 -00.8	N 22 36.2 +00.2	79 43.1 -35.9	S 21 19.9 -10.9	07						
08	298 30.0 -00.1	N 21 30.2 -00.3	326 43.3 -00.8	N 22 36.4 +00.2	94 07.2 -35.7	S 21 09.0 -11.0	08						
09	313 29.9 -00.1	N 21 29.9 -00.4	341 42.5 -00.8	N 22 36.6 +00.2	108 31.5 -35.7	S 20 58.0 -11.1	09						
10	328 29.8 +00.0	N 21 29.5 -00.4	356 41.7 -00.8	N 22 36.8 +00.1	122 55.8 -35.5	S 20 46.9 -11.3	10						
11	343 29.8 -00.1	N 21 29.1 -00.4	11 40.9 -00.8	N 22 36.9 +00.2	137 20.3 -35.4	S 20 35.6 -11.5	11						
12	358 29.7 +00.0	N 21 28.7 -00.4	26 40.1 -00.8	N 22 37.1 +00.2	151 44.9 -35.2	S 20 24.1 -11.5	12						
13	13 29.7 -00.1	N 21 28.3 -00.4	41 39.3 -00.8	N 22 37.3 +00.2	166 09.7 -35.2	S 20 12.6 -11.7	13						
14	28 29.6 -00.1	N 21 27.9 -00.4	56 38.5 -00.7	N 22 37.5 +00.1	180 34.5 -35.0	S 20 00.9 -11.8	14						
15	43 29.5 +00.0	N 21 27.5 -00.4	71 37.8 -00.8	N 22 37.6 +00.2	194 59.5 -34.8	S 19 49.1 -11.9	15						
16	58 29.5 -00.1	N 21 27.1 -00.4	86 37.0 -00.8	N 22 37.8 +00.2	209 24.7 -34.8	S 19 37.2 -12.0	16						
17	73 29.4 -00.1	N 21 26.7 -00.4	101 36.2 -00.8	N 22 38.0 +00.2	223 49.9 -34.6	S 19 25.2 -12.2	17						
18	88 29.3 +00.0	N 21 26.3 -00.4	116 35.4 -00.8	N 22 38.2 +00.1	238 15.3 -34.4	S 19 13.0 -12.2	18						
19	103 29.3 -00.1	N 21 25.9 -00.4	131 34.6 -00.8	N 22 38.3 +00.2	252 40.9 -34.4	S 19 00.8 -12.4	19						
20	118 29.2 +00.0	N 21 25.5 -00.4	146 33.8 -00.8	N 22 38.5 +00.2	267 06.5 -34.2	S 18 48.4 -12.4	20						
21	133 29.2 -00.1	N 21 25.1 -00.5	161 33.0 -00.8	N 22 38.7 +00.1	281 32.3 -34.1	S 18 36.0 -12.6	21						
22	148 29.1 -00.1	N 21 24.6 -00.4	176 32.2 -00.8	N 22 38.8 +00.2	295 58.2 -34.0	S 18 23.4 -12.7	22						
23	163 29.0 +00.0	N 21 24.2 -00.4	191 31.4 -00.8	N 22 39.0 +00.2	310 24.2 -33.8	S 18 10.7 -12.8	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'7 15'7 15'7 15'7 15'7 15'7		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 16'6 16'6 16'5 16'5 16'5 16'4								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 60'9 60'8 60'7 60'6 60'5 60'3								
	SHA 246° 245° 245° 245° 245° 245°		SHA 274° 274° 273° 273° 273° 273°		SHA 045° 042° 040° 037° 035° 032°								
	Greenwich Culmination Time: 12:06		Greenwich Culmination Time: 10:13		Greenwich Culmination Time: 01:27								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	257 48.9 +00.8	N 12 05.0 +00.5	284 34.4 +02.3	N 02 04.9 +00.1	326 04.2 +02.6	S 14 41.1 +00.1	00						
01	272 49.7 +00.8	N 12 05.5 +00.6	299 36.7 +02.4	N 02 05.0 +00.0	341 06.8 +02.6	S 14 41.2 +00.1	01						
02	287 50.5 +00.8	N 12 06.1 +00.6	314 39.1 +02.3	N 02 05.0 +00.0	356 09.4 +02.6	S 14 41.3 +00.0	02						
03	302 51.3 +00.8	N 12 06.7 +00.5	329 41.4 +02.4	N 02 05.0 +00.1	11 12.0 +02.6	S 14 41.3 +00.1	03						
04	317 52.1 +00.8	N 12 07.2 +00.6	344 43.8 +02.3	N 02 05.1 +00.0	26 14.6 +02.6	S 14 41.4 +00.0	04						
05	332 52.9 +00.9	N 12 07.8 +00.6	359 46.1 +02.4	N 02 05.1 +00.0	41 17.2 +02.6	S 14 41.4 +00.1	05						
06	347 53.8 +00.8	N 12 08.4 +00.5	14 48.5 +02.4	N 02 05.1 +00.1	56 19.8 +02.6	S 14 41.5 +00.0	06						
07	2 54.6 +00.8	N 12 08.9 +00.6	29 50.9 +02.3	N 02 05.2 +00.0	71 22.4 +02.6	S 14 41.5 +00.1	07						
08	17 55.4 +00.8	N 12 09.5 +00.6	44 53.2 +02.4	N 02 05.2 +00.0	86 25.0 +02.6	S 14 41.6 +00.0	08						
09	32 56.2 +00.8	N 12 10.1 +00.5	59 55.6 +02.3	N 02 05.2 +00.1	101 27.6 +02.6	S 14 41.6 +00.1	09						
10	47 57.0 +00.8	N 12 10.6 +00.6	74 57.9 +02.4	N 02 05.3 +00.0	116 30.2 +02.6	S 14 41.7 +00.0	10						
11	62 57.8 +00.9	N 12 11.2 +00.5	90 00.3 +02.4	N 02 05.3 +00.0	131 32.8 +02.6	S 14 41.7 +00.1	11						
12	77 58.7 +00.8	N 12 11.7 +00.6	105 02.7 +02.3	N 02 05.3 +00.0	146 35.4 +02.6	S 14 41.8 +00.1	12						
13	92 59.5 +00.8	N 12 12.3 +00.6	120 05.0 +02.4	N 02 05.3 +00.1	161 38.0 +02.6	S 14 41.9 +00.0	13						
14	108 00.3 +00.8	N 12 12.9 +00.5	135 07.4 +02.3	N 02 05.4 +00.0	176 40.6 +02.6	S 14 41.9 +00.1	14						
15	123 01.1 +00.8	N 12 13.4 +00.6	150 09.7 +02.4	N 02 05.4 +00.0	191 43.2 +02.6	S 14 42.0 +00.0	15						
16	138 01.9 +00.8	N 12 14.0 +00.6	165 12.1 +02.4	N 02 05.4 +00.1	206 45.8 +02.6	S 14 42.0 +00.1	16						
17	153 02.7 +00.9	N 12 14.6 +00.5	180 14.5 +02.3	N 02 05.5 +00.0	221 48.4 +02.6	S 14 42.1 +00.0	17						
18	168 03.6 +00.8	N 12 15.1 +00.6	195 16.8 +02.4	N 02 05.5 +00.0	236 51.0 +02.6	S 14 42.1 +00.1	18						
19	183 04.4 +00.8	N 12 15.7 +00.5	210 19.2 +02.3	N 02 05.5 +00.1	251 53.6 +02.6	S 14 42.2 +00.0	19						
20	198 05.2 +00.8	N 12 16.2 +00.6	225 21.5 +02.4	N 02 05.6 +00.0	266 56.2 +02.6	S 14 42.2 +00.1	20						
21	213 06.0 +00.8	N 12 16.8 +00.6	240 23.9 +02.4	N 02 05.6 +00.0	281 58.8 +02.6	S 14 42.3 +00.0	21						
22	228 06.8 +00.8	N 12 17.4 +00.5	255 26.3 +02.3	N 02 05.6 +00.1	297 01.4 +02.6	S 14 42.3 +00.1	22						
23	243 07.6 +00.9	N 12 17.9 +00.6	270 28.6 +02.4	N 02 05.7 +00.0	312 04.0 +02.6	S 14 42.4 +00.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'4 00'4 00'4 00'4 00'4 00'4		SD 00'2 00'2 00'2 00'2 00'2 00'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 325° 325° 325° 325° 324° 324°		SHA 352° 352° 352° 352° 352° 352°		SHA 033° 033° 033° 033° 033° 033°								
	Greenwich Culmination Time: 06:48		Greenwich Culmination Time: 05:00		Greenwich Culmination Time: 02:15								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 29.0 -00.1	N 21 23.8 -00.4	206 30.6 -00.8	N 22 39.2 +00.1	324 50.4 -33.7	S 17 57.9 -12.8	00						
01	193 28.9 +00.0	N 21 23.4 -00.4	221 29.8 -00.8	N 22 39.3 +00.2	339 16.7 -33.6	S 17 45.1 -13.0	01						
02	208 28.9 -00.1	N 21 23.0 -00.4	236 29.0 -00.8	N 22 39.5 +00.2	353 43.1 -33.4	S 17 32.1 -13.1	02						
03	223 28.8 +00.0	N 21 22.6 -00.4	251 28.2 -00.8	N 22 39.7 +00.1	8 09.7 -33.3	S 17 19.0 -13.1	03						
04	238 28.8 -00.1	N 21 22.2 -00.4	266 27.4 -00.8	N 22 39.8 +00.2	22 36.4 -33.2	S 17 05.9 -13.3	04						
05	253 28.7 -00.1	N 21 21.8 -00.4	281 26.6 -00.8	N 22 40.0 +00.2	37 03.2 -33.1	S 16 52.6 -13.3	05						
06	268 28.6 +00.0	N 21 21.4 -00.4	296 25.8 -00.8	N 22 40.2 +00.1	51 30.1 -33.0	S 16 39.3 -13.4	06						
07	283 28.6 -00.1	N 21 21.0 -00.4	311 25.0 -00.8	N 22 40.3 +00.2	65 57.1 -32.8	S 16 25.9 -13.5	07						
08	298 28.5 +00.0	N 21 20.6 -00.4	326 24.2 -00.8	N 22 40.5 +00.1	80 24.3 -32.7	S 16 12.4 -13.6	08						
09	313 28.5 -00.1	N 21 20.2 -00.5	341 23.4 -00.8	N 22 40.6 +00.2	94 51.6 -32.6	S 15 58.8 -13.7	09						
10	328 28.4 +00.0	N 21 19.7 -00.4	356 22.6 -00.8	N 22 40.8 +00.1	109 19.0 -32.4	S 15 45.1 -13.7	10						
11	343 28.4 -00.1	N 21 19.3 -00.4	11 21.8 -00.8	N 22 40.9 +00.2	123 46.6 -32.4	S 15 31.4 -13.8	11						
12	358 28.3 -00.1	N 21 18.9 -00.4	26 21.0 -00.8	N 22 41.1 +00.1	138 14.2 -32.2	S 15 17.6 -13.9	12						
13	13 28.2 +00.0	N 21 18.5 -00.4	41 20.2 -00.8	N 22 41.2 +00.2	152 42.0 -32.1	S 15 03.7 -13.9	13						
14	28 28.2 -00.1	N 21 18.1 -00.4	56 19.4 -00.8	N 22 41.4 +00.1	167 09.9 -32.0	S 14 49.8 -14.1	14						
15	43 28.1 +00.0	N 21 17.7 -00.4	71 18.6 -00.8	N 22 41.5 +00.2	181 37.9 -31.8	S 14 35.7 -14.1	15						
16	58 28.1 -00.1	N 21 17.3 -00.4	86 17.8 -00.8	N 22 41.7 +00.1	196 06.1 -31.8	S 14 21.6 -14.1	16						
17	73 28.0 +00.0	N 21 16.9 -00.5	101 17.0 -00.8	N 22 41.8 +00.2	210 34.3 -31.6	S 14 07.5 -14.2	17						
18	88 28.0 -00.1	N 21 16.4 -00.4	116 16.2 -00.8	N 22 42.0 +00.1	225 02.7 -31.5	S 13 53.3 -14.3	18						
19	103 27.9 +00.0	N 21 16.0 -00.4	131 15.4 -00.8	N 22 42.1 +00.2	239 31.2 -31.4	S 13 39.0 -14.3	19						
20	118 27.9 -00.1	N 21 15.6 -00.4	146 14.6 -00.8	N 22 42.3 +00.1	253 59.8 -31.3	S 13 24.7 -14.4	20						
21	133 27.8 -00.1	N 21 15.2 -00.4	161 13.8 -00.8	N 22 42.4 +00.2	268 28.5 -31.2	S 13 10.3 -14.5	21						
22	148 27.7 +00.0	N 21 14.8 -00.5	176 13.0 -00.8	N 22 42.6 +00.1	282 57.3 -31.1	S 12 55.8 -14.5	22						
23	163 27.7 -00.1	N 21 14.3 -00.4	191 12.2 -00.8	N 22 42.7 +00.1	297 26.2 -30.9	S 12 41.3 -14.5	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'7 15'7 15'7 15'7 15'7 15'7		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 16'4 16'4 16'3 16'3 16'3 16'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 60'2 60'1 59'9 59'8 59'7 59'5								
	SHA 245° 244° 244° 244° 244° 244°		SHA 273° 272° 272° 272° 272° 271°		SHA 030° 027° 025° 023° 020° 018°								
	Greenwich Culmination Time: 12:06		Greenwich Culmination Time: 10:14		Greenwich Culmination Time: 02:26								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	258 08.5 +00.8	N 12 18.5 +00.6	285 31.0 +02.4	N 02 05.7 +00.0	327 06.6 +02.6	S 14 42.5 +00.0	00						
01	273 09.3 +00.8	N 12 19.1 +00.5	300 33.4 +02.3	N 02 05.7 +00.0	342 09.2 +02.7	S 14 42.5 +00.1	01						
02	288 10.1 +00.8	N 12 19.6 +00.6	315 35.7 +02.4	N 02 05.7 +00.1	357 11.9 +02.6	S 14 42.6 +00.0	02						
03	303 10.9 +00.8	N 12 20.2 +00.5	330 38.1 +02.3	N 02 05.8 +00.0	12 14.5 +02.6	S 14 42.6 +00.1	03						
04	318 11.7 +00.8	N 12 20.7 +00.6	345 40.4 +02.4	N 02 05.8 +00.0	27 17.1 +02.6	S 14 42.7 +00.0	04						
05	333 12.5 +00.9	N 12 21.3 +00.6	0 42.8 +02.4	N 02 05.8 +00.1	42 19.7 +02.6	S 14 42.7 +00.1	05						
06	348 13.4 +00.8	N 12 21.9 +00.5	15 45.2 +02.3	N 02 05.9 +00.0	57 22.3 +02.6	S 14 42.8 +00.0	06						
07	3 14.2 +00.8	N 12 22.4 +00.6	30 47.5 +02.4	N 02 05.9 +00.0	72 24.9 +02.6	S 14 42.8 +00.1	07						
08	18 15.0 +00.8	N 12 23.0 +00.5	45 49.9 +02.4	N 02 05.9 +00.0	87 27.5 +02.6	S 14 42.9 +00.0	08						
09	33 15.8 +00.8	N 12 23.5 +00.6	60 52.3 +02.3	N 02 05.9 +00.1	102 30.1 +02.6	S 14 42.9 +00.1	09						
10	48 16.6 +00.9	N 12 24.1 +00.5	75 54.6 +02.4	N 02 06.0 +00.0	117 32.7 +02.6	S 14 43.0 +00.1	10						
11	63 17.5 +00.8	N 12 24.6 +00.6	90 57.0 +02.4	N 02 06.0 +00.0	132 35.3 +02.6	S 14 43.1 +00.0	11						
12	78 18.3 +00.8	N 12 25.2 +00.6	105 59.4 +02.3	N 02 06.0 +00.1	147 37.9 +02.6	S 14 43.1 +00.1	12						
13	93 19.1 +00.8	N 12 25.8 +00.5	121 01.7 +02.4	N 02 06.1 +00.0	162 40.5 +02.6	S 14 43.2 +00.0	13						
14	108 19.9 +00.8	N 12 26.3 +00.6	136 04.1 +02.4	N 02 06.1 +00.0	177 43.1 +02.6	S 14 43.2 +00.1	14						
15	123 20.7 +00.8	N 12 26.9 +00.5	151 06.5 +02.3	N 02 06.1 +00.0	192 45.7 +02.6	S 14 43.3 +00.0	15						
16	138 21.5 +00.9	N 12 27.4 +00.6	166 08.8 +02.4	N 02 06.1 +00.1	207 48.3 +02.6	S 14 43.3 +00.1	16						
17	153 22.4 +00.8	N 12 28.0 +00.5	181 11.2 +02.4	N 02 06.2 +00.0	222 50.9 +02.6	S 14 43.4 +00.0	17						
18	168 23.2 +00.8	N 12 28.5 +00.6	196 13.6 +02.3	N 02 06.2 +00.0	237 53.5 +02.7	S 14 43.4 +00.1	18						
19	183 24.0 +00.8	N 12 29.1 +00.6	211 15.9 +02.4	N 02 06.2 +00.1	252 56.2 +02.6	S 14 43.5 +00.0	19						
20	198 24.8 +00.8	N 12 29.7 +00.5	226 18.3 +02.4	N 02 06.3 +00.0	267 58.8 +02.6	S 14 43.5 +00.1	20						
21	213 25.6 +00.9	N 12 30.2 +00.6	241 20.7 +02.4	N 02 06.3 +00.0	283 01.4 +02.6	S 14 43.6 +00.1	21						
22	228 26.5 +00.8	N 12 30.8 +00.5	256 23.1 +02.3	N 02 06.3 +00.0	298 04.0 +02.6	S 14 43.7 +00.0	22						
23	243 27.3 +00.8	N 12 31.3 +00.6	271 25.4 +02.4	N 02 06.3 +00.1	313 06.6 +02.6	S 14 43.7 +00.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'4 00'4 00'4 00'4 00'4 00'4		SD 00'2 00'2 00'2 00'2 00'2 00'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 324° 324° 324° 324° 324° 324°		SHA 352° 352° 352° 352° 352° 352°		SHA 033° 033° 033° 033° 033° 033°								
	Greenwich Culmination Time: 06:47		Greenwich Culmination Time: 04:57		Greenwich Culmination Time: 02:11								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 27.6 +00.0	N 21 13.9 -00.4	206 11.4 -00.8	N 22 42.8 +00.2	311 55.3 -30.9	S 12 26.8 -14.6	00						
01	193 27.6 -00.1	N 21 13.5 -00.4	221 10.6 -00.8	N 22 43.0 +00.1	326 24.4 -30.8	S 12 12.2 -14.7	01						
02	208 27.5 +00.0	N 21 13.1 -00.4	236 09.8 -00.8	N 22 43.1 +00.2	340 53.6 -30.6	S 11 57.5 -14.6	02						
03	223 27.5 -00.1	N 21 12.7 -00.5	251 09.0 -00.8	N 22 43.3 +00.1	355 23.0 -30.6	S 11 42.9 -14.8	03						
04	238 27.4 +00.0	N 21 12.2 -00.4	266 08.2 -00.8	N 22 43.4 +00.1	9 52.4 -30.4	S 11 28.1 -14.8	04						
05	253 27.4 -00.1	N 21 11.8 -00.4	281 07.4 -00.8	N 22 43.5 +00.2	24 22.0 -30.3	S 11 13.3 -14.8	05						
06	268 27.3 +00.0	N 21 11.4 -00.4	296 06.6 -00.8	N 22 43.7 +00.1	38 51.7 -30.3	S 10 58.5 -14.8	06						
07	283 27.3 -00.1	N 21 11.0 -00.5	311 05.8 -00.8	N 22 43.8 +00.1	53 21.4 -30.1	S 10 43.7 -14.9	07						
08	298 27.2 +00.0	N 21 10.5 -00.4	326 05.0 -00.8	N 22 43.9 +00.1	67 51.3 -30.1	S 10 28.8 -14.9	08						
09	313 27.2 -00.1	N 21 10.1 -00.4	341 04.2 -00.8	N 22 44.0 +00.2	82 21.2 -29.9	S 10 13.9 -15.0	09						
10	328 27.1 +00.0	N 21 09.7 -00.4	356 03.4 -00.8	N 22 44.2 +00.1	96 51.3 -29.9	S 09 58.9 -15.0	10						
11	343 27.1 -00.1	N 21 09.3 -00.5	11 02.6 -00.8	N 22 44.3 +00.1	111 21.4 -29.7	S 09 43.9 -15.0	11						
12	358 27.0 +00.0	N 21 08.8 -00.4	26 01.8 -00.8	N 22 44.4 +00.2	125 51.7 -29.7	S 09 28.9 -15.0	12						
13	13 27.0 -00.1	N 21 08.4 -00.4	41 01.0 -00.8	N 22 44.6 +00.1	140 22.0 -29.6	S 09 13.9 -15.1	13						
14	28 26.9 +00.0	N 21 08.0 -00.5	56 00.2 -00.8	N 22 44.7 +00.1	154 52.4 -29.5	S 08 58.8 -15.1	14						
15	43 26.9 -00.1	N 21 07.5 -00.4	70 59.4 -00.8	N 22 44.8 +00.1	169 22.9 -29.4	S 08 43.7 -15.1	15						
16	58 26.8 +00.0	N 21 07.1 -00.4	85 58.6 -00.8	N 22 44.9 +00.1	183 53.5 -29.3	S 08 28.6 -15.2	16						
17	73 26.8 -00.1	N 21 06.7 -00.5	100 57.8 -00.8	N 22 45.0 +00.2	198 24.2 -29.2	S 08 13.4 -15.1	17						
18	88 26.7 +00.0	N 21 06.2 -00.4	115 57.0 -00.8	N 22 45.2 +00.1	212 55.0 -29.1	S 07 58.3 -15.2	18						
19	103 26.7 -00.1	N 21 05.8 -00.4	130 56.2 -00.8	N 22 45.3 +00.1	227 25.9 -29.1	S 07 43.1 -15.2	19						
20	118 26.6 +00.0	N 21 05.4 -00.5	145 55.4 -00.8	N 22 45.4 +00.1	241 56.8 -29.0	S 07 27.9 -15.2	20						
21	133 26.6 -00.1	N 21 04.9 -00.4	160 54.6 -00.8	N 22 45.5 +00.1	256 27.8 -28.9	S 07 12.7 -15.3	21						
22	148 26.5 +00.0	N 21 04.5 -00.4	175 53.8 -00.9	N 22 45.6 +00.1	270 58.9 -28.8	S 06 57.4 -15.2	22						
23	163 26.5 -00.1	N 21 04.1 -00.5	190 52.9 -00.8	N 22 45.7 +00.2	285 30.1 -28.7	S 06 42.2 -15.3	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'7 15'7 15'7 15'7 15'7 15'7		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 16'2 16'1 16'1 16'0 16'0 16'0								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 59'4 59'2 59'1 58'9 58'7 58'6								
	SHA 244° 243° 243° 243° 243° 243°		SHA 271° 271° 271° 271° 270° 270°		SHA 016° 014° 012° 009° 007° 005°								
	Greenwich Culmination Time: 12:06		Greenwich Culmination Time: 10:15		Greenwich Culmination Time: 03:19								
UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	258 28.1 +00.8	N 12 31.9 +00.5	286 27.8 +02.4	N 02 06.4 +00.0	328 09.2 +02.6	S 14 43.8 +00.0	00						
01	273 28.9 +00.8	N 12 32.4 +00.6	301 30.2 +02.3	N 02 06.4 +00.0	343 11.8 +02.6	S 14 43.8 +00.1	01						
02	288 29.7 +00.8	N 12 33.0 +00.5	316 32.5 +02.4	N 02 06.4 +00.0	358 14.4 +02.6	S 14 43.9 +00.0	02						
03	303 30.5 +00.9	N 12 33.5 +00.6	331 34.9 +02.4	N 02 06.4 +00.1	13 17.0 +02.6	S 14 43.9 +00.1	03						
04	318 31.4 +00.8	N 12 34.1 +00.6	346 37.3 +02.4	N 02 06.5 +00.0	28 19.6 +02.6	S 14 44.0 +00.0	04						
05	333 32.2 +00.8	N 12 34.7 +00.5	1 39.7 +02.3	N 02 06.5 +00.0	43 22.2 +02.6	S 14 44.0 +00.1	05						
06	348 33.0 +00.8	N 12 35.2 +00.6	16 42.0 +02.4	N 02 06.5 +00.0	58 24.8 +02.6	S 14 44.1 +00.1	06						
07	3 33.8 +00.8	N 12 35.8 +00.5	31 44.4 +02.4	N 02 06.5 +00.1	73 27.4 +02.7	S 14 44.2 +00.0	07						
08	18 34.6 +00.9	N 12 36.3 +00.6	46 46.8 +02.3	N 02 06.6 +00.0	88 30.1 +02.6	S 14 44.2 +00.1	08						
09	33 35.5 +00.8	N 12 36.9 +00.5	61 49.1 +02.4	N 02 06.6 +00.0	103 32.7 +02.6	S 14 44.3 +00.0	09						
10	48 36.3 +00.8	N 12 37.4 +00.6	76 51.5 +02.4	N 02 06.6 +00.0	118 35.3 +02.6	S 14 44.3 +00.1	10						
11	63 37.1 +00.8	N 12 38.0 +00.5	91 53.9 +02.4	N 02 06.6 +00.1	133 37.9 +02.6	S 14 44.4 +00.0	11						
12	78 37.9 +00.8	N 12 38.5 +00.6	106 56.3 +02.3	N 02 06.7 +00.0	148 40.5 +02.6	S 14 44.4 +00.1	12						
13	93 38.7 +00.9	N 12 39.1 +00.5	121 58.6 +02.4	N 02 06.7 +00.0	163 43.1 +02.6	S 14 44.5 +00.0	13						
14	108 39.6 +00.8	N 12 39.6 +00.6	137 01.0 +02.4	N 02 06.7 +00.0	178 45.7 +02.6	S 14 44.5 +00.1	14						
15	123 40.4 +00.8	N 12 40.2 +00.5	152 03.4 +02.4	N 02 06.7 +00.1	193 48.3 +02.6	S 14 44.6 +00.1	15						
16	138 41.2 +00.8	N 12 40.7 +00.6	167 05.8 +02.3	N 02 06.8 +00.0	208 50.9 +02.6	S 14 44.7 +00.0	16						
17	153 42.0 +00.8	N 12 41.3 +00.5	182 08.1 +02.4	N 02 06.8 +00.0	223 53.5 +02.6	S 14 44.7 +00.1	17						
18	168 42.8 +00.9	N 12 41.8 +00.6	197 10.5 +02.4	N 02 06.8 +00.0	238 56.1 +02.7	S 14 44.8 +00.0	18						
19	183 43.7 +00.8	N 12 42.4 +00.5	212 12.9 +02.4	N 02 06.8 +00.1	253 58.8 +02.6	S 14 44.8 +00.1	19						
20	198 44.5 +00.8	N 12 42.9 +00.6	227 15.3 +02.3	N 02 06.9 +00.0	269 01.4 +02.6	S 14 44.9 +00.0	20						
21	213 45.3 +00.8	N 12 43.5 +00.5	242 17.6 +02.4	N 02 06.9 +00.0	284 04.0 +02.6	S 14 44.9 +00.1	21						
22	228 46.1 +00.8	N 12 44.0 +00.6	257 20.0 +02.4	N 02 06.9 +00.0	299 06.6 +02.6	S 14 45.0 +00.1	22						
23	243 46.9 +00.9	N 12 44.6 +00.5	272 22.4 +02.4	N 02 06.9 +00.1	314 09.2 +02.6	S 14 45.1 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'4 00'4 00'4 00'4 00'4 00'4		SD 00'2 00'2 00'2 00'2 00'2 00'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 324° 324° 323° 323° 323° 323°		SHA 352° 352° 352° 352° 352° 352°		SHA 033° 033° 033° 033° 033° 033°								
	Greenwich Culmination Time: 06:45		Greenwich Culmination Time: 04:53		Greenwich Culmination Time: 02:07								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 26.4 +00.0	N 21 03.6 -00.4	205 52.1 -00.8	N 22 45.9 +00.1	300 01.4 -28.7	S 06 26.9 -15.2	00						
01	193 26.4 -00.1	N 21 03.2 -00.4	220 51.3 -00.8	N 22 46.0 +00.1	314 32.7 -28.6	S 06 11.7 -15.3	01						
02	208 26.3 +00.0	N 21 02.8 -00.5	235 50.5 -00.8	N 22 46.1 +00.1	329 04.1 -28.5	S 05 56.4 -15.3	02						
03	223 26.3 -00.1	N 21 02.3 -00.4	250 49.7 -00.8	N 22 46.2 +00.1	343 35.6 -28.4	S 05 41.1 -15.2	03						
04	238 26.2 +00.0	N 21 01.9 -00.4	265 48.9 -00.8	N 22 46.3 +00.1	358 07.2 -28.4	S 05 25.9 -15.3	04						
05	253 26.2 -00.1	N 21 01.5 -00.5	280 48.1 -00.8	N 22 46.4 +00.1	12 38.8 -28.3	S 05 10.6 -15.3	05						
06	268 26.1 +00.0	N 21 01.0 -00.4	295 47.3 -00.8	N 22 46.5 +00.1	27 10.5 -28.2	S 04 55.3 -15.3	06						
07	283 26.1 -00.1	N 21 00.6 -00.5	310 46.5 -00.8	N 22 46.6 +00.1	41 42.3 -28.2	S 04 40.0 -15.3	07						
08	298 26.0 +00.0	N 21 00.1 -00.4	325 45.7 -00.8	N 22 46.7 +00.1	56 14.1 -28.1	S 04 24.7 -15.3	08						
09	313 26.0 -00.1	N 20 59.7 -00.4	340 44.9 -00.8	N 22 46.8 +00.1	70 46.0 -28.1	S 04 09.4 -15.3	09						
10	328 25.9 +00.0	N 20 59.3 -00.5	355 44.1 -00.8	N 22 46.9 +00.1	85 17.9 -27.9	S 03 54.1 -15.3	10						
11	343 25.9 +00.0	N 20 58.8 -00.4	10 43.3 -00.8	N 22 47.0 +00.1	99 50.0 -28.0	S 03 38.8 -15.3	11						
12	358 25.9 -00.1	N 20 58.4 -00.5	25 42.5 -00.8	N 22 47.1 +00.1	114 22.0 -27.8	S 03 23.5 -15.2	12						
13	13 25.8 +00.0	N 20 57.9 -00.4	40 41.7 -00.9	N 22 47.2 +00.1	128 54.2 -27.8	S 03 08.3 -15.3	13						
14	28 25.8 -00.1	N 20 57.5 -00.5	55 40.8 -00.8	N 22 47.3 +00.1	143 26.4 -27.8	S 02 53.0 -15.3	14						
15	43 25.7 +00.0	N 20 57.0 -00.4	70 40.0 -00.8	N 22 47.4 +00.1	157 58.6 -27.6	S 02 37.7 -15.2	15						
16	58 25.7 -00.1	N 20 56.6 -00.4	85 39.2 -00.8	N 22 47.5 +00.1	172 31.0 -27.7	S 02 22.5 -15.2	16						
17	73 25.6 +00.0	N 20 56.2 -00.5	100 38.4 -00.8	N 22 47.6 +00.1	187 03.3 -27.6	S 02 07.3 -15.3	17						
18	88 25.6 -00.1	N 20 55.7 -00.4	115 37.6 -00.8	N 22 47.7 +00.1	201 35.7 -27.5	S 01 52.0 -15.2	18						
19	103 25.5 +00.0	N 20 55.3 -00.5	130 36.8 -00.8	N 22 47.8 +00.1	216 08.2 -27.5	S 01 36.8 -15.2	19						
20	118 25.5 +00.0	N 20 54.8 -00.4	145 36.0 -00.8	N 22 47.9 +00.1	230 40.7 -27.4	S 01 21.6 -15.2	20						
21	133 25.5 -00.1	N 20 54.4 -00.5	160 35.2 -00.8	N 22 48.0 +00.1	245 13.3 -27.4	S 01 06.4 -15.1	21						
22	148 25.4 +00.0	N 20 53.9 -00.4	175 34.4 -00.8	N 22 48.1 +00.1	259 45.9 -27.3	S 00 51.3 -15.2	22						
23	163 25.4 -00.1	N 20 53.5 -00.5	190 33.6 -00.8	N 22 48.2 +00.0	274 18.6 -27.3	S 00 36.1 -15.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'7 15'7 15'7 15'7 15'7 15'7		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 15'9 15'9 15'8 15'8 15'7 15'7								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 58'4 58'3 58'1 57'9 57'8 57'6								
	SHA 243° 242° 242° 242° 242° 242°		SHA 270° 270° 270° 269° 269° 269°		SHA 003° 001° 359° 357° 355° 353°								
	Greenwich Culmination Time: 12:06		Greenwich Culmination Time: 10:17		Greenwich Culmination Time: 04:07								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	258 47.8 +00.8	N 12 45.1 +00.6	287 24.8 +02.4	N 02 07.0 +00.0	329 11.8 +02.6	S 14 45.1 +00.1	00						
01	273 48.6 +00.8	N 12 45.7 +00.5	302 27.2 +02.3	N 02 07.0 +00.0	344 14.4 +02.6	S 14 45.2 +00.0	01						
02	288 49.4 +00.8	N 12 46.2 +00.6	317 29.5 +02.4	N 02 07.0 +00.0	359 17.0 +02.6	S 14 45.2 +00.1	02						
03	303 50.2 +00.8	N 12 46.8 +00.5	332 31.9 +02.4	N 02 07.0 +00.1	14 19.6 +02.6	S 14 45.3 +00.0	03						
04	318 51.0 +00.9	N 12 47.3 +00.6	347 34.3 +02.4	N 02 07.1 +00.0	29 22.2 +02.7	S 14 45.3 +00.1	04						
05	333 51.9 +00.8	N 12 47.9 +00.5	2 36.7 +02.4	N 02 07.1 +00.0	44 24.9 +02.6	S 14 45.4 +00.0	05						
06	348 52.7 +00.8	N 12 48.4 +00.6	17 39.1 +02.3	N 02 07.1 +00.0	59 27.5 +02.6	S 14 45.4 +00.1	06						
07	3 53.5 +00.8	N 12 49.0 +00.5	32 41.4 +02.4	N 02 07.1 +00.0	74 30.1 +02.6	S 14 45.5 +00.1	07						
08	18 54.3 +00.9	N 12 49.5 +00.6	47 43.8 +02.4	N 02 07.1 +00.1	89 32.7 +02.6	S 14 45.6 +00.0	08						
09	33 55.2 +00.8	N 12 50.1 +00.5	62 46.2 +02.4	N 02 07.2 +00.0	104 35.3 +02.6	S 14 45.6 +00.1	09						
10	48 56.0 +00.8	N 12 50.6 +00.6	77 48.6 +02.4	N 02 07.2 +00.0	119 37.9 +02.6	S 14 45.7 +00.0	10						
11	63 56.8 +00.8	N 12 51.2 +00.5	92 51.0 +02.3	N 02 07.2 +00.0	134 40.5 +02.6	S 14 45.7 +00.1	11						
12	78 57.6 +00.8	N 12 51.7 +00.6	107 53.3 +02.4	N 02 07.2 +00.1	149 43.1 +02.6	S 14 45.8 +00.0	12						
13	93 58.4 +00.9	N 12 52.3 +00.5	122 55.7 +02.4	N 02 07.3 +00.0	164 45.7 +02.7	S 14 45.8 +00.1	13						
14	108 59.3 +00.8	N 12 52.8 +00.6	137 58.1 +02.4	N 02 07.3 +00.0	179 48.4 +02.6	S 14 45.9 +00.1	14						
15	124 00.1 +00.8	N 12 53.4 +00.5	153 00.5 +02.4	N 02 07.3 +00.0	194 51.0 +02.6	S 14 46.0 +00.0	15						
16	139 00.9 +00.8	N 12 53.9 +00.6	168 02.9 +02.4	N 02 07.3 +00.0	209 53.6 +02.6	S 14 46.0 +00.1	16						
17	154 01.7 +00.9	N 12 54.5 +00.5	183 05.3 +02.3	N 02 07.3 +00.1	224 56.2 +02.6	S 14 46.1 +00.0	17						
18	169 02.6 +00.8	N 12 55.0 +00.5	198 07.6 +02.4	N 02 07.4 +00.0	239 58.8 +02.6	S 14 46.1 +00.1	18						
19	184 03.4 +00.8	N 12 55.5 +00.6	213 10.0 +02.4	N 02 07.4 +00.0	255 01.4 +02.6	S 14 46.2 +00.0	19						
20	199 04.2 +00.8	N 12 56.1 +00.5	228 12.4 +02.4	N 02 07.4 +00.0	270 04.0 +02.6	S 14 46.2 +00.1	20						
21	214 05.0 +00.8	N 12 56.6 +00.6	243 14.8 +02.4	N 02 07.4 +00.0	285 06.6 +02.6	S 14 46.3 +00.0	21						
22	229 05.8 +00.9	N 12 57.2 +00.5	258 17.2 +02.4	N 02 07.4 +00.1	300 09.2 +02.7	S 14 46.3 +00.1	22						
23	244 06.7 +00.8	N 12 57.7 +00.6	273 19.6 +02.3	N 02 07.5 +00.0	315 11.9 +02.6	S 14 46.4 +00.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'4 00'4 00'4 00'4 00'4 00'4		SD 00'2 00'2 00'2 00'2 00'2 00'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 323° 323° 323° 323° 323° 322°		SHA 352° 352° 352° 352° 352° 352°		SHA 033° 033° 033° 033° 033° 033°								
	Greenwich Culmination Time: 06:44		Greenwich Culmination Time: 04:49		Greenwich Culmination Time: 02:02								

UT	Sun				Venus				Moon				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	178 25.3 +00.0	N 20 53.0 -00.4	205 32.8 -00.8	N 22 48.2 +00.1	288 51.3 -27.3	S 00 21.0 -15.1														
01	193 25.3 -00.1	N 20 52.6 -00.5	220 32.0 -00.9	N 22 48.3 +00.1	303 24.0 -27.2	S 00 05.9 -15.1														
02	208 25.2 +00.0	N 20 52.1 -00.4	235 31.1 -00.8	N 22 48.4 +00.1	317 56.8 -27.1	N 00 09.2 +15.1														
03	223 25.2 +00.0	N 20 51.7 -00.5	250 30.3 -00.8	N 22 48.5 +00.1	332 29.7 -27.2	N 00 24.3 +15.1														
04	238 25.2 -00.1	N 20 51.2 -00.4	265 29.5 -00.8	N 22 48.6 +00.1	347 02.5 -27.0	N 00 39.4 +15.0														
05	253 25.1 +00.0	N 20 50.8 -00.5	280 28.7 -00.8	N 22 48.7 +00.0	1 35.5 -27.1	N 00 54.4 +15.0														
06	268 25.1 -00.1	N 20 50.3 -00.5	295 27.9 -00.8	N 22 48.7 +00.1	16 08.4 -27.0	N 01 09.4 +15.0														
07	283 25.0 +00.0	N 20 49.8 -00.4	310 27.1 -00.8	N 22 48.8 +00.1	30 41.4 -27.0	N 01 24.4 +14.9														
08	298 25.0 +00.0	N 20 49.4 -00.5	325 26.3 -00.8	N 22 48.9 +00.1	45 14.4 -26.9	N 01 39.3 +14.9														
09	313 25.0 -00.1	N 20 48.9 -00.4	340 25.5 -00.8	N 22 49.0 +00.0	59 47.5 -27.0	N 01 54.2 +14.9														
10	328 24.9 +00.0	N 20 48.5 -00.5	355 24.7 -00.9	N 22 49.0 +00.1	74 20.5 -26.8	N 02 09.1 +14.9														
11	343 24.9 -00.1	N 20 48.0 -00.4	10 23.8 -00.8	N 22 49.1 +00.1	88 53.7 -26.9	N 02 24.0 +14.8														
12	358 24.8 +00.0	N 20 47.6 -00.5	25 23.0 -00.8	N 22 49.2 +00.1	103 26.8 -26.8	N 02 38.8 +14.8														
13	13 24.8 -00.1	N 20 47.1 -00.5	40 22.2 -00.8	N 22 49.3 +00.0	117 60.0 -26.8	N 02 53.6 +14.8														
14	28 24.7 +00.0	N 20 46.6 -00.4	55 21.4 -00.8	N 22 49.3 +00.1	132 33.2 -26.8	N 03 08.4 +14.7														
15	43 24.7 +00.0	N 20 46.2 -00.5	70 20.6 -00.8	N 22 49.4 +00.1	147 06.4 -26.8	N 03 23.1 +14.7														
16	58 24.7 -00.1	N 20 45.7 -00.4	85 19.8 -00.8	N 22 49.5 +00.0	161 39.6 -26.7	N 03 37.8 +14.7														
17	73 24.6 +00.0	N 20 45.3 -00.5	100 19.0 -00.8	N 22 49.5 +00.1	176 12.9 -26.7	N 03 52.5 +14.6														
18	88 24.6 +00.0	N 20 44.8 -00.5	115 18.2 -00.8	N 22 49.6 +00.1	190 46.2 -26.7	N 04 07.1 +14.6														
19	103 24.6 -00.1	N 20 44.3 -00.4	130 17.4 -00.9	N 22 49.7 +00.0	205 19.5 -26.6	N 04 21.7 +14.5														
20	118 24.5 +00.0	N 20 43.9 -00.5	145 16.5 -00.8	N 22 49.7 +00.1	219 52.9 -26.7	N 04 36.2 +14.6														
21	133 24.5 -00.1	N 20 43.4 -00.4	160 15.7 -00.8	N 22 49.8 +00.1	234 26.2 -26.6	N 04 50.8 +14.4														
22	148 24.4 +00.0	N 20 43.0 -00.5	175 14.9 -00.8	N 22 49.9 +00.0	248 59.6 -26.6	N 05 05.2 +14.5														
23	163 24.4 +00.0	N 20 42.5 -00.5	190 14.1 -00.8	N 22 49.9 +00.1	263 33.0 -26.6	N 05 19.7 +14.4														
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT	02	06	10	14	18	22
SD	15'7	15'7	15'7	15'7	15'7	15'7	SD	00'1	00'1	00'1	00'1	00'1	00'1	SD	15'7	15'6	15'6	15'5	15'5	15'5
HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	57'5	57'3	57'2	57'0	56'9	56'7
SHA	242°	241°	241°	241°	241°	241°	SHA	269°	268°	268°	268°	268°	268°	SHA	351°	349°	347°	345°	343°	341°
Greenwich Culmination Time: 12:06							Greenwich Culmination Time: 10:18							Greenwich Culmination Time: 04:53						

UT	Mars				Jupiter				Saturn				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	259 07.5 +00.8	N 12 58.3 +00.5	288 21.9 +02.4	N 02 07.5 +00.0	330 14.5 +02.6	S 14 46.5 +00.0														
01	274 08.3 +00.8	N 12 58.8 +00.6	303 24.3 +02.4	N 02 07.5 +00.0	345 17.1 +02.6	S 14 46.5 +00.1														
02	289 09.1 +00.9	N 12 59.4 +00.5	318 26.7 +02.4	N 02 07.5 +00.0	0 19.7 +02.6	S 14 46.6 +00.0														
03	304 10.0 +00.8	N 12 59.9 +00.5	333 29.1 +02.4	N 02 07.5 +00.1	15 22.3 +02.6	S 14 46.6 +00.1														
04	319 10.8 +00.8	N 13 00.4 +00.6	348 31.5 +02.4	N 02 07.6 +00.0	30 24.9 +02.6	S 14 46.7 +00.0														
05	334 11.6 +00.8	N 13 01.0 +00.5	3 33.9 +02.4	N 02 07.6 +00.0	45 27.5 +02.7	S 14 46.7 +00.1														
06	349 12.4 +00.8	N 13 01.5 +00.6	18 36.3 +02.3	N 02 07.6 +00.0	60 30.2 +02.6	S 14 46.8 +00.1														
07	4 13.2 +00.9	N 13 02.1 +00.5	33 38.6 +02.4	N 02 07.6 +00.0	75 32.8 +02.6	S 14 46.9 +00.0														
08	19 14.1 +00.8	N 13 02.6 +00.5	48 41.0 +02.4	N 02 07.6 +00.1	90 35.4 +02.6	S 14 46.9 +00.1														
09	34 14.9 +00.8	N 13 03.1 +00.6	63 43.4 +02.4	N 02 07.7 +00.0	105 38.0 +02.6	S 14 47.0 +00.0														
10	49 15.7 +00.8	N 13 03.7 +00.5	78 45.8 +02.4	N 02 07.7 +00.0	120 40.6 +02.6	S 14 47.0 +00.1														
11	64 16.5 +00.9	N 13 04.2 +00.6	93 48.2 +02.4	N 02 07.7 +00.0	135 43.2 +02.6	S 14 47.1 +00.0														
12	79 17.4 +00.8	N 13 04.8 +00.5	108 50.6 +02.4	N 02 07.7 +00.0	150 45.8 +02.6	S 14 47.1 +00.1														
13	94 18.2 +00.8	N 13 05.3 +00.6	123 53.0 +02.4	N 02 07.7 +00.1	165 48.4 +02.7	S 14 47.2 +00.1														
14	109 19.0 +00.8	N 13 05.9 +00.5	138 55.4 +02.4	N 02 07.8 +00.0	180 51.1 +02.6	S 14 47.3 +00.0														
15	124 19.8 +00.9	N 13 06.4 +00.5	153 57.8 +02.3	N 02 07.8 +00.0	195 53.7 +02.6	S 14 47.3 +00.1														
16	139 20.7 +00.8	N 13 06.9 +00.6	169 00.1 +02.4	N 02 07.8 +00.0	210 56.3 +02.6	S 14 47.4 +00.0														
17	154 21.5 +00.8	N 13 07.5 +00.5	184 02.5 +02.4	N 02 07.8 +00.0	225 58.9 +02.6	S 14 47.4 +00.1														
18	169 22.3 +00.8	N 13 08.0 +00.6	199 04.9 +02.4	N 02 07.8 +00.0	241 01.5 +02.6	S 14 47.5 +00.0														
19	184 23.1 +00.9	N 13 08.6 +00.5	214 07.3 +02.4	N 02 07.8 +00.1	256 04.1 +02.6	S 14 47.5 +00.1														
20	199 24.0 +00.8	N 13 09.1 +00.5	229 09.7 +02.4	N 02 07.9 +00.0	271 06.7 +02.7	S 14 47.6 +00.1														
21	214 24.8 +00.8	N 13 09.6 +00.6	244 12.1 +02.4	N 02 07.9 +00.0	286 09.4 +02.6	S 14 47.7 +00.0														
22	229 25.6 +00.8	N 13 10.2 +00.5	259 14.5 +02.4	N 02 07.9 +00.0	301 12.0 +02.6	S 14 47.7 +00.1														
23	244 26.4 +00.9	N 13 10.7 +00.5	274 16.9 +02.4	N 02 07.9 +00.0	316 14.6 +02.6	S 14 47.8 +00.0														
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT	02	06	10	14	18	22
SD	00'1	00'1	00'1	00'1	00'1	00'1	SD	00'4	00'4	00'4	00'4	00'4	00'4	SD	00'2	00'2	00'2	00'2	00'2	00'2
HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	00'0	00'0	00'0	00'0	00'0	00'0	HP	00'0	00'0	00'0	00'0	00'0	00'0
SHA	322°	322°	322°	322°	322°	322°	SHA	352°	352°	352°	352°	352°	352°	SHA	033°	033°	033°	034°	034°	034°
Greenwich Culmination Time: 06:43							Greenwich Culmination Time: 04:45							Greenwich Culmination Time: 01:58						

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UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 24.4 -00.1	N 20 42.0 -00.4	205 13.3 -00.8	N 22 50.0 +00.0	278 06.4 -26.6	N 05 34.1 +14.3	00						
01	193 24.3 +00.0	N 20 41.6 -00.5	220 12.5 -00.8	N 22 50.0 +00.1	292 39.8 -26.6	N 05 48.4 +14.3	01						
02	208 24.3 +00.0	N 20 41.1 -00.5	235 11.7 -00.8	N 22 50.1 +00.0	307 13.2 -26.6	N 06 02.7 +14.3	02						
03	223 24.3 -00.1	N 20 40.6 -00.4	250 10.9 -00.9	N 22 50.1 +00.1	321 46.6 -26.5	N 06 17.0 +14.2	03						
04	238 24.2 +00.0	N 20 40.2 -00.5	265 10.0 -00.8	N 22 50.2 +00.0	336 20.1 -26.6	N 06 31.2 +14.2	04						
05	253 24.2 -00.1	N 20 39.7 -00.5	280 09.2 -00.8	N 22 50.2 +00.1	350 53.5 -26.5	N 06 45.4 +14.1	05						
06	268 24.1 +00.0	N 20 39.2 -00.4	295 08.4 -00.8	N 22 50.3 +00.1	5 27.0 -26.5	N 06 59.5 +14.1	06						
07	283 24.1 +00.0	N 20 38.8 -00.5	310 07.6 -00.8	N 22 50.4 +00.0	20 00.5 -26.6	N 07 13.6 +14.0	07						
08	298 24.1 -00.1	N 20 38.3 -00.5	325 06.8 -00.8	N 22 50.4 +00.1	34 33.9 -26.5	N 07 27.6 +14.0	08						
09	313 24.0 +00.0	N 20 37.8 -00.5	340 06.0 -00.8	N 22 50.5 +00.0	49 07.4 -26.5	N 07 41.6 +14.0	09						
10	328 24.0 +00.0	N 20 37.3 -00.4	355 05.2 -00.9	N 22 50.5 +00.0	63 40.9 -26.5	N 07 55.6 +13.8	10						
11	343 24.0 -00.1	N 20 36.9 -00.5	10 04.3 -00.8	N 22 50.5 +00.1	78 14.4 -26.5	N 08 09.4 +13.9	11						
12	358 23.9 +00.0	N 20 36.4 -00.5	25 03.5 -00.8	N 22 50.6 +00.0	92 47.9 -26.5	N 08 23.3 +13.8	12						
13	13 23.9 +00.0	N 20 35.9 -00.4	40 02.7 -00.8	N 22 50.6 +00.1	107 21.4 -26.6	N 08 37.1 +13.7	13						
14	28 23.9 -00.1	N 20 35.5 -00.5	55 01.9 -00.8	N 22 50.7 +00.0	121 54.8 -26.5	N 08 50.8 +13.7	14						
15	43 23.8 +00.0	N 20 35.0 -00.5	70 01.1 -00.8	N 22 50.7 +00.1	136 28.3 -26.5	N 09 04.5 +13.6	15						
16	58 23.8 +00.0	N 20 34.5 -00.5	85 00.3 -00.8	N 22 50.8 +00.0	151 01.8 -26.5	N 09 18.1 +13.6	16						
17	73 23.8 -00.1	N 20 34.0 -00.4	99 59.5 -00.9	N 22 50.8 +00.0	165 35.3 -26.6	N 09 31.7 +13.5	17						
18	88 23.7 +00.0	N 20 33.6 -00.5	114 58.6 -00.8	N 22 50.8 +00.1	180 08.7 -26.5	N 09 45.2 +13.5	18						
19	103 23.7 +00.0	N 20 33.1 -00.5	129 57.8 -00.8	N 22 50.9 +00.0	194 42.2 -26.5	N 09 58.7 +13.4	19						
20	118 23.7 -00.1	N 20 32.6 -00.5	144 57.0 -00.8	N 22 50.9 +00.1	209 15.7 -26.6	N 10 12.1 +13.3	20						
21	133 23.6 +00.0	N 20 32.1 -00.5	159 56.2 -00.8	N 22 51.0 +00.0	223 49.1 -26.6	N 10 25.4 +13.3	21						
22	148 23.6 +00.0	N 20 31.6 -00.4	174 55.4 -00.8	N 22 51.0 +00.0	238 22.5 -26.5	N 10 38.7 +13.2	22						
23	163 23.6 -00.1	N 20 31.2 -00.5	189 54.6 -00.8	N 22 51.0 +00.1	252 56.0 -26.6	N 10 51.9 +13.2	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'7 15'7 15'7 15'7 15'7 15'7		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 15'4 15'4 15'3 15'3 15'3 15'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 56'6 56'4 56'3 56'2 56'0 55'9								
	SHA 241° 240° 240° 240° 240° 240°		SHA 267° 267° 267° 267° 266° 266°		SHA 339° 337° 336° 334° 332° 330°								
	Greenwich Culmination Time: 12:06		Greenwich Culmination Time: 10:19		Greenwich Culmination Time: 05:37								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	259 27.3 +00.8	N 13 11.2 +00.6	289 19.3 +02.4	N 02 07.9 +00.1	331 17.2 +02.6	S 14 47.8 +00.1	00						
01	274 28.1 +00.8	N 13 11.8 +00.5	304 21.7 +02.4	N 02 08.0 +00.0	346 19.8 +02.6	S 14 47.9 +00.0	01						
02	289 28.9 +00.8	N 13 12.3 +00.6	319 24.1 +02.4	N 02 08.0 +00.0	1 22.4 +02.6	S 14 47.9 +00.1	02						
03	304 29.7 +00.9	N 13 12.9 +00.5	334 26.5 +02.3	N 02 08.0 +00.0	16 25.0 +02.7	S 14 48.0 +00.1	03						
04	319 30.6 +00.8	N 13 13.4 +00.5	349 28.8 +02.4	N 02 08.0 +00.0	31 27.7 +02.6	S 14 48.1 +00.0	04						
05	334 31.4 +00.8	N 13 13.9 +00.6	4 31.2 +02.4	N 02 08.0 +00.0	46 30.3 +02.6	S 14 48.1 +00.1	05						
06	349 32.2 +00.8	N 13 14.5 +00.5	19 33.6 +02.4	N 02 08.0 +00.1	61 32.9 +02.6	S 14 48.2 +00.0	06						
07	4 33.0 +00.9	N 13 15.0 +00.5	34 36.0 +02.4	N 02 08.1 +00.0	76 35.5 +02.6	S 14 48.2 +00.1	07						
08	19 33.9 +00.8	N 13 15.5 +00.6	49 38.4 +02.4	N 02 08.1 +00.0	91 38.1 +02.6	S 14 48.3 +00.1	08						
09	34 34.7 +00.8	N 13 16.1 +00.5	64 40.8 +02.4	N 02 08.1 +00.0	106 40.7 +02.7	S 14 48.4 +00.0	09						
10	49 35.5 +00.8	N 13 16.6 +00.6	79 43.2 +02.4	N 02 08.1 +00.0	121 43.4 +02.6	S 14 48.4 +00.1	10						
11	64 36.3 +00.9	N 13 17.2 +00.5	94 45.6 +02.4	N 02 08.1 +00.0	136 46.0 +02.6	S 14 48.5 +00.0	11						
12	79 37.2 +00.8	N 13 17.7 +00.5	109 48.0 +02.4	N 02 08.1 +00.0	151 48.6 +02.6	S 14 48.5 +00.1	12						
13	94 38.0 +00.8	N 13 18.2 +00.6	124 50.4 +02.4	N 02 08.1 +00.1	166 51.2 +02.6	S 14 48.6 +00.0	13						
14	109 38.8 +00.8	N 13 18.8 +00.5	139 52.8 +02.4	N 02 08.2 +00.0	181 53.8 +02.6	S 14 48.6 +00.1	14						
15	124 39.6 +00.9	N 13 19.3 +00.5	154 55.2 +02.4	N 02 08.2 +00.0	196 56.4 +02.7	S 14 48.7 +00.1	15						
16	139 40.5 +00.8	N 13 19.8 +00.6	169 57.6 +02.4	N 02 08.2 +00.0	211 59.1 +02.6	S 14 48.8 +00.0	16						
17	154 41.3 +00.8	N 13 20.4 +00.5	184 60.0 +02.4	N 02 08.2 +00.0	227 01.7 +02.6	S 14 48.8 +00.1	17						
18	169 42.1 +00.8	N 13 20.9 +00.5	200 02.4 +02.4	N 02 08.2 +00.0	242 04.3 +02.6	S 14 48.9 +00.0	18						
19	184 42.9 +00.9	N 13 21.4 +00.6	215 04.8 +02.4	N 02 08.2 +00.1	257 06.9 +02.6	S 14 48.9 +00.1	19						
20	199 43.8 +00.8	N 13 22.0 +00.5	230 07.2 +02.4	N 02 08.3 +00.0	272 09.5 +02.6	S 14 49.0 +00.0	20						
21	214 44.6 +00.8	N 13 22.5 +00.5	245 09.6 +02.4	N 02 08.3 +00.0	287 12.1 +02.7	S 14 49.0 +00.1	21						
22	229 45.4 +00.8	N 13 23.0 +00.6	260 12.0 +02.4	N 02 08.3 +00.0	302 14.8 +02.6	S 14 49.1 +00.1	22						
23	244 46.2 +00.9	N 13 23.6 +00.5	275 14.4 +02.4	N 02 08.3 +00.0	317 17.4 +02.6	S 14 49.2 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'4 00'4 00'4 00'4 00'4 00'4		SD 00'2 00'2 00'2 00'2 00'2 00'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 322° 322° 321° 321° 321° 321°		SHA 352° 352° 352° 352° 352° 352°		SHA 034° 034° 034° 034° 034° 034°								
	Greenwich Culmination Time: 06:41		Greenwich Culmination Time: 04:41		Greenwich Culmination Time: 01:54								

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UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> A: 76%				UT
	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	
00	178 23.5 +00.0	N 20	30.7 -00.5	204 53.8 -00.9	N 22	51.1 +00.0	267 29.4 -26.6	N 11	05.1 +13.1	00			
01	193 23.5 +00.0	N 20	30.2 -00.5	219 52.9 -00.8	N 22	51.1 +00.0	282 02.8 -26.6	N 11	18.2 +13.0	01			
02	208 23.5 -00.1	N 20	29.7 -00.4	234 52.1 -00.8	N 22	51.1 +00.0	296 36.2 -26.6	N 11	31.2 +13.0	02			
03	223 23.4 +00.0	N 20	29.3 -00.5	249 51.3 -00.8	N 22	51.1 +00.1	311 09.6 -26.7	N 11	44.2 +12.9	03			
04	238 23.4 +00.0	N 20	28.8 -00.5	264 50.5 -00.8	N 22	51.2 +00.0	325 42.9 -26.6	N 11	57.1 +12.9	04			
05	253 23.4 +00.0	N 20	28.3 -00.5	279 49.7 -00.8	N 22	51.2 +00.0	340 16.3 -26.7	N 12	10.0 +12.8	05			
06	268 23.4 -00.1	N 20	27.8 -00.5	294 48.9 -00.9	N 22	51.2 +00.0	354 49.6 -26.7	N 12	22.8 +12.7	06			
07	283 23.3 +00.0	N 20	27.3 -00.5	309 48.0 -00.8	N 22	51.2 +00.1	9 22.9 -26.7	N 12	35.5 +12.7	07			
08	298 23.3 +00.0	N 20	26.8 -00.4	324 47.2 -00.8	N 22	51.3 +00.0	23 56.2 -26.7	N 12	48.2 +12.6	08			
09	313 23.3 -00.1	N 20	26.4 -00.5	339 46.4 -00.8	N 22	51.3 +00.0	38 29.5 -26.8	N 13	00.8 +12.5	09			
10	328 23.2 +00.0	N 20	25.9 -00.5	354 45.6 -00.8	N 22	51.3 +00.0	53 02.7 -26.7	N 13	13.3 +12.5	10			
11	343 23.2 +00.0	N 20	25.4 -00.5	9 44.8 -00.8	N 22	51.3 +00.0	67 36.0 -26.8	N 13	25.8 +12.4	11			
12	358 23.2 -00.1	N 20	24.9 -00.5	24 44.0 -00.9	N 22	51.3 +00.1	82 09.2 -26.8	N 13	38.2 +12.3	12			
13	13 23.1 +00.0	N 20	24.4 -00.5	39 43.1 -00.8	N 22	51.4 +00.0	96 42.4 -26.9	N 13	50.5 +12.2	13			
14	28 23.1 +00.0	N 20	23.9 -00.5	54 42.3 -00.8	N 22	51.4 +00.0	111 15.5 -26.8	N 14	02.7 +12.2	14			
15	43 23.1 +00.0	N 20	23.4 -00.5	69 41.5 -00.8	N 22	51.4 +00.0	125 48.7 -26.9	N 14	14.9 +12.1	15			
16	58 23.1 -00.1	N 20	22.9 -00.4	84 40.7 -00.8	N 22	51.4 +00.0	140 21.8 -26.9	N 14	27.0 +12.1	16			
17	73 23.0 +00.0	N 20	22.5 -00.5	99 39.9 -00.8	N 22	51.4 +00.0	154 54.9 -26.9	N 14	39.1 +11.9	17			
18	88 23.0 +00.0	N 20	22.0 -00.5	114 39.1 -00.9	N 22	51.4 +00.0	169 28.0 -27.0	N 14	51.0 +11.9	18			
19	103 23.0 +00.0	N 20	21.5 -00.5	129 38.2 -00.8	N 22	51.4 +00.1	184 01.0 -27.0	N 15	02.9 +11.9	19			
20	118 23.0 -00.1	N 20	21.0 -00.5	144 37.4 -00.8	N 22	51.5 +00.0	198 34.0 -27.0	N 15	14.8 +11.7	20			
21	133 22.9 +00.0	N 20	20.5 -00.5	159 36.6 -00.8	N 22	51.5 +00.0	213 07.0 -27.1	N 15	26.5 +11.7	21			
22	148 22.9 +00.0	N 20	20.0 -00.5	174 35.8 -00.8	N 22	51.5 +00.0	227 39.9 -27.1	N 15	38.2 +11.6	22			
23	163 22.9 -00.1	N 20	19.5 -00.5	189 35.0 -00.8	N 22	51.5 +00.0	242 12.8 -27.1	N 15	49.8 +11.5	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 15'7 15'7 15'7 15'7 15'7 15'7			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 15'2 15'2 15'1 15'1 15'1 15'0						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 55'8 55'7 55'5 55'4 55'3 55'2						
	SHA 240° 239° 239° 239° 239° 239°			SHA 266° 266° 266° 265° 265° 265°			SHA 328° 326° 324° 322° 320° 318°						
	Greenwich Culmination Time: 12:06			Greenwich Culmination Time: 10:20			Greenwich Culmination Time: 06:21						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	
00	259 47.1 +00.8	N 13	24.1 +00.5	290 16.8 +02.4	N 02	08.3 +00.0	332 20.0 +02.6	S 14	49.2 +00.1	00			
01	274 47.9 +00.8	N 13	24.6 +00.6	305 19.2 +02.4	N 02	08.3 +00.0	347 22.6 +02.6	S 14	49.3 +00.0	01			
02	289 48.7 +00.9	N 13	25.2 +00.5	320 21.6 +02.4	N 02	08.3 +00.1	2 25.2 +02.6	S 14	49.3 +00.1	02			
03	304 49.6 +00.8	N 13	25.7 +00.5	335 24.0 +02.4	N 02	08.4 +00.0	17 27.8 +02.7	S 14	49.4 +00.1	03			
04	319 50.4 +00.8	N 13	26.2 +00.5	350 26.4 +02.4	N 02	08.4 +00.0	32 30.5 +02.6	S 14	49.5 +00.0	04			
05	334 51.2 +00.8	N 13	26.7 +00.6	5 28.8 +02.4	N 02	08.4 +00.0	47 33.1 +02.6	S 14	49.5 +00.1	05			
06	349 52.0 +00.9	N 13	27.3 +00.5	20 31.2 +02.4	N 02	08.4 +00.0	62 35.7 +02.6	S 14	49.6 +00.0	06			
07	4 52.9 +00.8	N 13	27.8 +00.5	35 33.6 +02.4	N 02	08.4 +00.0	77 38.3 +02.6	S 14	49.6 +00.1	07			
08	19 53.7 +00.8	N 13	28.3 +00.6	50 36.0 +02.4	N 02	08.4 +00.0	92 40.9 +02.6	S 14	49.7 +00.0	08			
09	34 54.5 +00.9	N 13	28.9 +00.5	65 38.4 +02.4	N 02	08.4 +00.0	107 43.5 +02.7	S 14	49.7 +00.1	09			
10	49 55.4 +00.8	N 13	29.4 +00.5	80 40.8 +02.4	N 02	08.4 +00.1	122 46.2 +02.6	S 14	49.8 +00.1	10			
11	64 56.2 +00.8	N 13	29.9 +00.6	95 43.2 +02.4	N 02	08.5 +00.0	137 48.8 +02.6	S 14	49.9 +00.0	11			
12	79 57.0 +00.8	N 13	30.5 +00.5	110 45.6 +02.4	N 02	08.5 +00.0	152 51.4 +02.6	S 14	49.9 +00.1	12			
13	94 57.8 +00.9	N 13	31.0 +00.5	125 48.0 +02.4	N 02	08.5 +00.0	167 54.0 +02.6	S 14	50.0 +00.0	13			
14	109 58.7 +00.8	N 13	31.5 +00.5	140 50.4 +02.4	N 02	08.5 +00.0	182 56.6 +02.7	S 14	50.0 +00.1	14			
15	124 59.5 +00.8	N 13	32.0 +00.6	155 52.8 +02.4	N 02	08.5 +00.0	197 59.3 +02.6	S 14	50.1 +00.1	15			
16	140 00.3 +00.8	N 13	32.6 +00.5	170 55.2 +02.4	N 02	08.5 +00.0	213 01.9 +02.6	S 14	50.2 +00.0	16			
17	155 01.1 +00.9	N 13	33.1 +00.5	185 57.6 +02.4	N 02	08.5 +00.0	228 04.5 +02.6	S 14	50.2 +00.1	17			
18	170 02.0 +00.8	N 13	33.6 +00.6	201 00.0 +02.4	N 02	08.5 +00.1	243 07.1 +02.6	S 14	50.3 +00.0	18			
19	185 02.8 +00.8	N 13	34.2 +00.5	216 02.4 +02.4	N 02	08.6 +00.0	258 09.7 +02.6	S 14	50.3 +00.1	19			
20	200 03.6 +00.9	N 13	34.7 +00.5	231 04.8 +02.5	N 02	08.6 +00.0	273 12.3 +02.7	S 14	50.4 +00.0	20			
21	215 04.5 +00.8	N 13	35.2 +00.5	246 07.3 +02.4	N 02	08.6 +00.0	288 15.0 +02.6	S 14	50.4 +00.1	21			
22	230 05.3 +00.8	N 13	35.7 +00.6	261 09.7 +02.4	N 02	08.6 +00.0	303 17.6 +02.6	S 14	50.5 +00.1	22			
23	245 06.1 +00.9	N 13	36.3 +00.5	276 12.1 +02.4	N 02	08.6 +00.0	318 20.2 +02.6	S 14	50.6 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'4 00'4 00'4 00'4 00'4 00'4			SD 00'2 00'2 00'2 00'2 00'2 00'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 321° 321° 321° 321° 321° 320°			SHA 352° 352° 352° 352° 352° 352°			SHA 034° 034° 034° 034° 034° 034°						
	Greenwich Culmination Time: 06:40			Greenwich Culmination Time: 04:38			Greenwich Culmination Time: 01:50						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 22.8 +00.0	N 20 19.0 -00.5	204 34.2 -00.9	N 22 51.5 +00.0	256 45.7 -27.1	N 16 01.3 +11.4	00						
01	193 22.8 +00.0	N 20 18.5 -00.5	219 33.3 -00.8	N 22 51.5 +00.0	271 18.6 -27.2	N 16 12.7 +11.4	01						
02	208 22.8 +00.0	N 20 18.0 -00.5	234 32.5 -00.8	N 22 51.5 +00.0	285 51.4 -27.2	N 16 24.1 +11.3	02						
03	223 22.8 -00.1	N 20 17.5 -00.5	249 31.7 -00.8	N 22 51.5 +00.0	300 24.2 -27.2	N 16 35.4 +11.2	03						
04	238 22.7 +00.0	N 20 17.0 -00.5	264 30.9 -00.8	N 22 51.5 +00.0	314 57.0 -27.3	N 16 46.6 +11.1	04						
05	253 22.7 +00.0	N 20 16.5 -00.5	279 30.1 -00.9	N 22 51.5 +00.0	329 29.7 -27.3	N 16 57.7 +11.0	05						
06	268 22.7 +00.0	N 20 16.0 -00.5	294 29.2 -00.8	N 22 51.5 +00.0	344 02.4 -27.4	N 17 08.7 +11.0	06						
07	283 22.7 -00.1	N 20 15.5 -00.5	309 28.4 -00.8	N 22 51.5 +00.0	358 35.0 -27.4	N 17 19.7 +10.9	07						
08	298 22.6 +00.0	N 20 15.0 -00.5	324 27.6 -00.8	N 22 51.5 +00.0	13 07.6 -27.4	N 17 30.6 +10.8	08						
09	313 22.6 +00.0	N 20 14.5 -00.5	339 26.8 -00.8	N 22 51.5 +00.0	27 40.2 -27.4	N 17 41.4 +10.7	09						
10	328 22.6 +00.0	N 20 14.0 -00.5	354 26.0 -00.8	N 22 51.5 +00.0	42 12.8 -27.5	N 17 52.1 +10.6	10						
11	343 22.6 +00.0	N 20 13.5 -00.5	9 25.2 -00.9	N 22 51.5 -00.1	56 45.3 -27.6	N 18 02.7 +10.6	11						
12	358 22.6 -00.1	N 20 13.0 -00.5	24 24.3 -00.8	N 22 51.4 +00.0	71 17.7 -27.5	N 18 13.3 +10.4	12						
13	13 22.5 +00.0	N 20 12.5 -00.5	39 23.5 -00.8	N 22 51.4 +00.0	85 50.2 -27.7	N 18 23.7 +10.4	13						
14	28 22.5 +00.0	N 20 12.0 -00.5	54 22.7 -00.8	N 22 51.4 +00.0	100 22.5 -27.6	N 18 34.1 +10.3	14						
15	43 22.5 +00.0	N 20 11.5 -00.5	69 21.9 -00.8	N 22 51.4 +00.0	114 54.9 -27.7	N 18 44.4 +10.2	15						
16	58 22.5 -00.1	N 20 11.0 -00.5	84 21.1 -00.9	N 22 51.4 +00.0	129 27.2 -27.7	N 18 54.6 +10.1	16						
17	73 22.4 +00.0	N 20 10.5 -00.5	99 20.2 -00.8	N 22 51.4 +00.0	143 59.5 -27.8	N 19 04.7 +10.0	17						
18	88 22.4 +00.0	N 20 10.0 -00.5	114 19.4 -00.8	N 22 51.4 +00.0	158 31.7 -27.8	N 19 14.7 +09.9	18						
19	103 22.4 +00.0	N 20 09.5 -00.5	129 18.6 -00.8	N 22 51.4 -00.1	173 03.9 -27.9	N 19 24.6 +09.9	19						
20	118 22.4 +00.0	N 20 09.0 -00.5	144 17.8 -00.8	N 22 51.3 +00.0	187 36.0 -27.9	N 19 34.5 +09.7	20						
21	133 22.4 -00.1	N 20 08.5 -00.5	159 17.0 -00.9	N 22 51.3 +00.0	202 08.1 -27.9	N 19 44.2 +09.7	21						
22	148 22.3 +00.0	N 20 08.0 -00.5	174 16.1 -00.8	N 22 51.3 +00.0	216 40.2 -28.0	N 19 53.9 +09.6	22						
23	163 22.3 +00.0	N 20 07.5 -00.5	189 15.3 -00.8	N 22 51.3 +00.0	231 12.2 -28.0	N 20 03.5 +09.4	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'7 15'7 15'7 15'7 15'7 15'7		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 15'0 15'0 15'0 14'9 14'9 14'9								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 55'1 55'0 54'9 54'9 54'8 54'7								
	SHA 239° 238° 238° 238° 238° 238°		SHA 265° 265° 264° 264° 264° 264°		SHA 316° 314° 312° 310° 308° 306°								
	Greenwich Culmination Time: 12:06		Greenwich Culmination Time: 10:22		Greenwich Culmination Time: 07:05								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	260 07.0 +00.8	N 13 36.8 +00.5	291 14.5 +02.4	N 02 08.6 +00.0	333 22.8 +02.6	S 14 50.6 +00.1	00						
01	275 07.8 +00.8	N 13 37.3 +00.5	306 16.9 +02.4	N 02 08.6 +00.0	348 25.4 +02.7	S 14 50.7 +00.0	01						
02	290 08.6 +00.8	N 13 37.8 +00.6	321 19.3 +02.4	N 02 08.6 +00.0	3 28.1 +02.6	S 14 50.7 +00.1	02						
03	305 09.4 +00.9	N 13 38.4 +00.5	336 21.7 +02.4	N 02 08.6 +00.0	18 30.7 +02.6	S 14 50.8 +00.1	03						
04	320 10.3 +00.8	N 13 38.9 +00.5	351 24.1 +02.4	N 02 08.6 +00.1	33 33.3 +02.6	S 14 50.9 +00.0	04						
05	335 11.1 +00.8	N 13 39.4 +00.5	6 26.5 +02.4	N 02 08.7 +00.0	48 35.9 +02.6	S 14 50.9 +00.1	05						
06	350 11.9 +00.9	N 13 39.9 +00.6	21 28.9 +02.4	N 02 08.7 +00.0	63 38.5 +02.7	S 14 51.0 +00.0	06						
07	5 12.8 +00.8	N 13 40.5 +00.5	36 31.3 +02.4	N 02 08.7 +00.0	78 41.2 +02.6	S 14 51.0 +00.1	07						
08	20 13.6 +00.8	N 13 41.0 +00.5	51 33.7 +02.5	N 02 08.7 +00.0	93 43.8 +02.6	S 14 51.1 +00.1	08						
09	35 14.4 +00.9	N 13 41.5 +00.5	66 36.2 +02.4	N 02 08.7 +00.0	108 46.4 +02.6	S 14 51.2 +00.0	09						
10	50 15.3 +00.8	N 13 42.0 +00.6	81 38.6 +02.4	N 02 08.7 +00.0	123 49.0 +02.6	S 14 51.2 +00.1	10						
11	65 16.1 +00.8	N 13 42.6 +00.5	96 41.0 +02.4	N 02 08.7 +00.0	138 51.6 +02.7	S 14 51.3 +00.0	11						
12	80 16.9 +00.8	N 13 43.1 +00.5	111 43.4 +02.4	N 02 08.7 +00.0	153 54.3 +02.6	S 14 51.3 +00.1	12						
13	95 17.7 +00.9	N 13 43.6 +00.5	126 45.8 +02.4	N 02 08.7 +00.0	168 56.9 +02.6	S 14 51.4 +00.0	13						
14	110 18.6 +00.8	N 13 44.1 +00.6	141 48.2 +02.4	N 02 08.7 +00.1	183 59.5 +02.6	S 14 51.4 +00.1	14						
15	125 19.4 +00.8	N 13 44.7 +00.5	156 50.6 +02.4	N 02 08.8 +00.0	199 02.1 +02.6	S 14 51.5 +00.1	15						
16	140 20.2 +00.9	N 13 45.2 +00.5	171 53.0 +02.4	N 02 08.8 +00.0	214 04.7 +02.7	S 14 51.6 +00.0	16						
17	155 21.1 +00.8	N 13 45.7 +00.5	186 55.4 +02.5	N 02 08.8 +00.0	229 07.4 +02.6	S 14 51.6 +00.1	17						
18	170 21.9 +00.8	N 13 46.2 +00.5	201 57.9 +02.4	N 02 08.8 +00.0	244 10.0 +02.6	S 14 51.7 +00.0	18						
19	185 22.7 +00.9	N 13 46.7 +00.6	217 00.3 +02.4	N 02 08.8 +00.0	259 12.6 +02.6	S 14 51.7 +00.1	19						
20	200 23.6 +00.8	N 13 47.3 +00.5	232 02.7 +02.4	N 02 08.8 +00.0	274 15.2 +02.6	S 14 51.8 +00.1	20						
21	215 24.4 +00.8	N 13 47.8 +00.5	247 05.1 +02.4	N 02 08.8 +00.0	289 17.8 +02.7	S 14 51.9 +00.0	21						
22	230 25.2 +00.9	N 13 48.3 +00.5	262 07.5 +02.4	N 02 08.8 +00.0	304 20.5 +02.6	S 14 51.9 +00.1	22						
23	245 26.1 +00.8	N 13 48.8 +00.6	277 09.9 +02.4	N 02 08.8 +00.0	319 23.1 +02.6	S 14 52.0 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'4 00'4 00'4 00'4 00'4 00'4		SD 00'2 00'2 00'2 00'2 00'2 00'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 320° 320° 320° 320° 320° 320°		SHA 352° 352° 352° 352° 351° 351°		SHA 034° 034° 034° 034° 034° 034°								
	Greenwich Culmination Time: 06:39		Greenwich Culmination Time: 04:34		Greenwich Culmination Time: 01:46								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 22.3 +00.0	N 20 07.0 -00.5	204 14.5 -00.8	N 22 51.3 -00.1	245 44.2 -28.1	N 20 12.9 +09.4	200						00
01	193 22.3 +00.0	N 20 06.5 -00.5	219 13.7 -00.8	N 22 51.2 +00.0	260 16.1 -28.1	N 20 22.3 +09.3	201						01
02	208 22.3 -00.1	N 20 06.0 -00.5	234 12.9 -00.9	N 22 51.2 +00.0	274 48.0 -28.1	N 20 31.6 +09.2	202						02
03	223 22.2 +00.0	N 20 05.5 -00.5	249 12.0 -00.8	N 22 51.2 -00.1	289 19.9 -28.2	N 20 40.8 +09.1	203						03
04	238 22.2 +00.0	N 20 05.0 -00.6	264 11.2 -00.8	N 22 51.1 +00.0	303 51.7 -28.3	N 20 49.9 +09.0	204						04
05	253 22.2 +00.0	N 20 04.4 -00.5	279 10.4 -00.8	N 22 51.1 +00.0	318 23.4 -28.3	N 20 58.9 +08.9	205						05
06	268 22.2 +00.0	N 20 03.9 -00.5	294 09.6 -00.8	N 22 51.1 +00.0	332 55.1 -28.3	N 21 07.8 +08.8	206						06
07	283 22.2 -00.1	N 20 03.4 -00.5	309 08.8 -00.9	N 22 51.1 -00.1	347 26.8 -28.4	N 21 16.6 +08.7	207						07
08	298 22.1 +00.0	N 20 02.9 -00.5	324 07.9 -00.8	N 22 51.0 +00.0	1 58.4 -28.4	N 21 25.3 +08.6	208						08
09	313 22.1 +00.0	N 20 02.4 -00.5	339 07.1 -00.8	N 22 51.0 +00.0	16 30.0 -28.4	N 21 33.9 +08.5	209						09
10	328 22.1 +00.0	N 20 01.9 -00.5	354 06.3 -00.8	N 22 51.0 -00.1	31 01.6 -28.6	N 21 42.4 +08.4	210						10
11	343 22.1 +00.0	N 20 01.4 -00.5	9 05.5 -00.8	N 22 50.9 +00.0	45 33.0 -28.5	N 21 50.8 +08.3	211						11
12	358 22.1 +00.0	N 20 00.9 -00.6	24 04.7 -00.9	N 22 50.9 +00.0	60 04.5 -28.6	N 21 59.1 +08.2	212						12
13	13 22.1 -00.1	N 20 00.3 -00.5	39 03.8 -00.8	N 22 50.9 -00.1	74 35.9 -28.7	N 22 07.3 +08.1	213						13
14	28 22.0 +00.0	N 19 59.8 -00.5	54 03.0 -00.8	N 22 50.8 +00.0	89 07.2 -28.6	N 22 15.4 +08.0	214						14
15	43 22.0 +00.0	N 19 59.3 -00.5	69 02.2 -00.8	N 22 50.8 -00.1	103 38.6 -28.8	N 22 23.4 +07.9	215						15
16	58 22.0 +00.0	N 19 58.8 -00.5	84 01.4 -00.8	N 22 50.7 +00.0	118 09.8 -28.8	N 22 31.3 +07.8	216						16
17	73 22.0 +00.0	N 19 58.3 -00.5	99 00.6 -00.9	N 22 50.7 -00.1	132 41.0 -28.8	N 22 39.1 +07.7	217						17
18	88 22.0 +00.0	N 19 57.8 -00.6	113 59.7 -00.8	N 22 50.6 +00.0	147 12.2 -28.8	N 22 46.8 +07.5	218						18
19	103 22.0 -00.1	N 19 57.2 -00.5	128 58.9 -00.8	N 22 50.6 +00.0	161 43.4 -29.0	N 22 54.3 +07.5	219						19
20	118 21.9 +00.0	N 19 56.7 -00.5	143 58.1 -00.8	N 22 50.6 -00.1	176 14.4 -28.9	N 23 01.8 +07.4	220						20
21	133 21.9 +00.0	N 19 56.2 -00.5	158 57.3 -00.8	N 22 50.5 +00.0	190 45.5 -29.0	N 23 09.2 +07.2	221						21
22	148 21.9 +00.0	N 19 55.7 -00.5	173 56.5 -00.9	N 22 50.5 -00.1	205 16.5 -29.1	N 23 16.4 +07.2	222						22
23	163 21.9 +00.0	N 19 55.2 -00.6	188 55.6 -00.8	N 22 50.4 +00.0	219 47.4 -29.1	N 23 23.6 +07.0	223						23
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'7 15'7 15'7 15'7 15'7 15'7		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 14'9 14'9 14'8 14'8 14'8 14'8								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 54'6 54'6 54'5 54'4 54'4 54'3								
	SHA 238° 237° 237° 237° 237° 237°		SHA 263° 263° 263° 263° 263° 262°		SHA 304° 302° 300° 298° 296° 294°								
	Greenwich Culmination Time: 12:06		Greenwich Culmination Time: 10:23		Greenwich Culmination Time: 07:51								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	260 26.9 +00.8	N 13 49.4 +00.5	292 12.3 +02.5	N 02 08.8 +00.0	334 25.7 +02.6	S 14 52.0 +00.1	200						00
01	275 27.7 +00.9	N 13 49.9 +00.5	307 14.8 +02.4	N 02 08.8 +00.0	349 28.3 +02.7	S 14 52.1 +00.1	201						01
02	290 28.6 +00.8	N 13 50.4 +00.5	322 17.2 +02.4	N 02 08.8 +00.1	4 31.0 +02.6	S 14 52.2 +00.0	202						02
03	305 29.4 +00.8	N 13 50.9 +00.5	337 19.6 +02.4	N 02 08.9 +00.0	19 33.6 +02.6	S 14 52.2 +00.1	203						03
04	320 30.2 +00.8	N 13 51.4 +00.6	352 22.0 +02.4	N 02 08.9 +00.0	34 36.2 +02.6	S 14 52.3 +00.0	204						04
05	335 31.0 +00.9	N 13 52.0 +00.5	7 24.4 +02.4	N 02 08.9 +00.0	49 38.8 +02.6	S 14 52.3 +00.1	205						05
06	350 31.9 +00.8	N 13 52.5 +00.5	22 26.8 +02.5	N 02 08.9 +00.0	64 41.4 +02.7	S 14 52.4 +00.1	206						06
07	5 32.7 +00.8	N 13 53.0 +00.5	37 29.3 +02.4	N 02 08.9 +00.0	79 44.1 +02.6	S 14 52.5 +00.0	207						07
08	20 33.5 +00.9	N 13 53.5 +00.5	52 31.7 +02.4	N 02 08.9 +00.0	94 46.7 +02.6	S 14 52.5 +00.1	208						08
09	35 34.4 +00.8	N 13 54.0 +00.5	67 34.1 +02.4	N 02 08.9 +00.0	109 49.3 +02.6	S 14 52.6 +00.0	209						09
10	50 35.2 +00.8	N 13 54.5 +00.6	82 36.5 +02.4	N 02 08.9 +00.0	124 51.9 +02.7	S 14 52.6 +00.1	210						10
11	65 36.0 +00.9	N 13 55.1 +00.5	97 38.9 +02.4	N 02 08.9 +00.0	139 54.6 +02.6	S 14 52.7 +00.0	211						11
12	80 36.9 +00.8	N 13 55.6 +00.5	112 41.3 +02.5	N 02 08.9 +00.0	154 57.2 +02.6	S 14 52.7 +00.1	212						12
13	95 37.7 +00.8	N 13 56.1 +00.5	127 43.8 +02.4	N 02 08.9 +00.0	169 59.8 +02.6	S 14 52.8 +00.1	213						13
14	110 38.5 +00.9	N 13 56.6 +00.5	142 46.2 +02.4	N 02 08.9 +00.0	185 02.4 +02.6	S 14 52.9 +00.0	214						14
15	125 39.4 +00.8	N 13 57.1 +00.5	157 48.6 +02.4	N 02 08.9 +00.0	200 05.0 +02.7	S 14 52.9 +00.1	215						15
16	140 40.2 +00.8	N 13 57.6 +00.6	172 51.0 +02.4	N 02 08.9 +00.0	215 07.7 +02.6	S 14 53.0 +00.0	216						16
17	155 41.0 +00.9	N 13 58.2 +00.5	187 53.4 +02.5	N 02 08.9 +00.0	230 10.3 +02.6	S 14 53.0 +00.1	217						17
18	170 41.9 +00.8	N 13 58.7 +00.5	202 55.9 +02.4	N 02 08.9 +00.0	245 12.9 +02.6	S 14 53.1 +00.1	218						18
19	185 42.7 +00.8	N 13 59.2 +00.5	217 58.3 +02.4	N 02 08.9 +00.1	260 15.5 +02.7	S 14 53.2 +00.0	219						19
20	200 43.5 +00.9	N 13 59.7 +00.5	233 00.7 +02.4	N 02 09.0 +00.0	275 18.2 +02.6	S 14 53.2 +00.1	220						20
21	215 44.4 +00.8	N 14 00.2 +00.5	248 03.1 +02.4	N 02 09.0 +00.0	290 20.8 +02.6	S 14 53.3 +00.0	221						21
22	230 45.2 +00.8	N 14 00.7 +00.6	263 05.5 +02.5	N 02 09.0 +00.0	305 23.4 +02.6	S 14 53.3 +00.1	222						22
23	245 46.0 +00.9	N 14 01.3 +00.5	278 08.0 +02.4	N 02 09.0 +00.0	320 26.0 +02.7	S 14 53.4 +00.1	223						23
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'4 00'4 00'4 00'4 00'4 00'4		SD 00'2 00'2 00'2 00'2 00'2 00'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 320° 320° 319° 319° 319° 319°		SHA 351° 351° 351° 351° 351° 351°		SHA 034° 034° 034° 034° 034° 034°								
	Greenwich Culmination Time: 06:37		Greenwich Culmination Time: 04:30		Greenwich Culmination Time: 01:41								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 21.9 +00.0	N 19 54.6 -00.5	203 54.8 -00.8	N 22 50.4 -00.1	234 18.3 -29.1	N 23 30.6 +07.0	00						
01	193 21.9 +00.0	N 19 54.1 -00.5	218 54.0 -00.8	N 22 50.3 +00.0	248 49.2 -29.2	N 23 37.6 +06.8	01						
02	208 21.9 -00.1	N 19 53.6 -00.5	233 53.2 -00.8	N 22 50.3 -00.1	263 20.0 -29.2	N 23 44.4 +06.7	02						
03	223 21.8 +00.0	N 19 53.1 -00.6	248 52.4 -00.9	N 22 50.2 +00.0	277 50.8 -29.3	N 23 51.1 +06.6	03						
04	238 21.8 +00.0	N 19 52.5 -00.5	263 51.5 -00.8	N 22 50.2 -00.1	292 21.5 -29.3	N 23 57.7 +06.5	04						
05	253 21.8 +00.0	N 19 52.0 -00.5	278 50.7 -00.8	N 22 50.1 -00.1	306 52.2 -29.3	N 24 04.2 +06.4	05						
06	268 21.8 +00.0	N 19 51.5 -00.5	293 49.9 -00.8	N 22 50.0 +00.0	321 22.9 -29.4	N 24 10.6 +06.3	06						
07	283 21.8 +00.0	N 19 51.0 -00.6	308 49.1 -00.8	N 22 50.0 -00.1	335 53.5 -29.5	N 24 16.9 +06.1	07						
08	298 21.8 +00.0	N 19 50.4 -00.5	323 48.3 -00.9	N 22 49.9 +00.0	350 24.0 -29.4	N 24 23.0 +06.1	08						
09	313 21.8 +00.0	N 19 49.9 -00.5	338 47.4 -00.8	N 22 49.9 -00.1	4 54.6 -29.6	N 24 29.1 +05.9	09						
10	328 21.8 -00.1	N 19 49.4 -00.5	353 46.6 -00.8	N 22 49.8 -00.1	19 25.0 -29.5	N 24 35.0 +05.8	10						
11	343 21.7 +00.0	N 19 48.9 -00.6	8 45.8 -00.8	N 22 49.7 +00.0	33 55.5 -29.6	N 24 40.8 +05.7	11						
12	358 21.7 +00.0	N 19 48.3 -00.5	23 45.0 -00.9	N 22 49.7 -00.1	48 25.9 -29.7	N 24 46.5 +05.6	12						
13	13 21.7 +00.0	N 19 47.8 -00.5	38 44.1 -00.8	N 22 49.6 -00.1	62 56.2 -29.7	N 24 52.1 +05.4	13						
14	28 21.7 +00.0	N 19 47.3 -00.6	53 43.3 -00.8	N 22 49.5 +00.0	77 26.5 -29.7	N 24 57.5 +05.4	14						
15	43 21.7 +00.0	N 19 46.7 -00.5	68 42.5 -00.8	N 22 49.5 -00.1	91 56.8 -29.7	N 25 02.9 +05.2	15						
16	58 21.7 +00.0	N 19 46.2 -00.5	83 41.7 -00.8	N 22 49.4 -00.1	106 27.1 -29.8	N 25 08.1 +05.1	16						
17	73 21.7 +00.0	N 19 45.7 -00.6	98 40.9 -00.9	N 22 49.3 +00.0	120 57.3 -29.9	N 25 13.2 +05.0	17						
18	88 21.7 +00.0	N 19 45.1 -00.5	113 40.0 -00.8	N 22 49.3 -00.1	135 27.4 -29.8	N 25 18.2 +04.9	18						
19	103 21.7 +00.0	N 19 44.6 -00.5	128 39.2 -00.8	N 22 49.2 -00.1	149 57.6 -29.9	N 25 23.1 +04.8	19						
20	118 21.7 -00.1	N 19 44.1 -00.6	143 38.4 -00.8	N 22 49.1 +00.0	164 27.7 -30.0	N 25 27.9 +04.6	20						
21	133 21.6 +00.0	N 19 43.5 -00.5	158 37.6 -00.8	N 22 49.1 -00.1	178 57.7 -30.0	N 25 32.5 +04.5	21						
22	148 21.6 +00.0	N 19 43.0 -00.5	173 36.8 -00.9	N 22 49.0 -00.1	193 27.7 -30.0	N 25 37.0 +04.4	22						
23	163 21.6 +00.0	N 19 42.5 -00.6	188 35.9 -00.8	N 22 48.9 -00.1	207 57.7 -30.0	N 25 41.4 +04.3	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'7 15'7 15'7 15'7 15'7 15'7		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 14'8 14'8 14'8 14'8 14'7 14'7								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 54'3 54'2 54'2 54'1 54'1 54'1								
	SHA 237° 236° 236° 236° 236° 236°		SHA 262° 262° 262° 261° 261° 261°		SHA 292° 289° 287° 285° 283° 281°								
	Greenwich Culmination Time: 12:06		Greenwich Culmination Time: 10:24		Greenwich Culmination Time: 08:39								
UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	260 46.9 +00.8	N 14 01.8 +00.5	293 10.4 +02.4	N 02 09.0 +00.0	335 28.7 +02.6	S 14 53.5 +00.0	00						
01	275 47.7 +00.9	N 14 02.3 +00.5	308 12.8 +02.4	N 02 09.0 +00.0	350 31.3 +02.6	S 14 53.5 +00.1	01						
02	290 48.6 +00.8	N 14 02.8 +00.5	323 15.2 +02.5	N 02 09.0 +00.0	5 33.9 +02.6	S 14 53.6 +00.0	02						
03	305 49.4 +00.8	N 14 03.3 +00.5	338 17.7 +02.4	N 02 09.0 +00.0	20 36.5 +02.6	S 14 53.6 +00.1	03						
04	320 50.2 +00.9	N 14 03.8 +00.5	353 20.1 +02.4	N 02 09.0 +00.0	35 39.1 +02.7	S 14 53.7 +00.1	04						
05	335 51.1 +00.8	N 14 04.3 +00.6	8 22.5 +02.4	N 02 09.0 +00.0	50 41.8 +02.6	S 14 53.8 +00.0	05						
06	350 51.9 +00.8	N 14 04.9 +00.5	23 24.9 +02.5	N 02 09.0 +00.0	65 44.4 +02.6	S 14 53.8 +00.1	06						
07	5 52.7 +00.9	N 14 05.4 +00.5	38 27.4 +02.4	N 02 09.0 +00.0	80 47.0 +02.6	S 14 53.9 +00.0	07						
08	20 53.6 +00.8	N 14 05.9 +00.5	53 29.8 +02.4	N 02 09.0 +00.0	95 49.6 +02.7	S 14 53.9 +00.1	08						
09	35 54.4 +00.8	N 14 06.4 +00.5	68 32.2 +02.4	N 02 09.0 +00.0	110 52.3 +02.6	S 14 54.0 +00.1	09						
10	50 55.2 +00.9	N 14 06.9 +00.5	83 34.6 +02.5	N 02 09.0 +00.0	125 54.9 +02.6	S 14 54.1 +00.0	10						
11	65 56.1 +00.8	N 14 07.4 +00.5	98 37.1 +02.4	N 02 09.0 +00.0	140 57.5 +02.6	S 14 54.1 +00.1	11						
12	80 56.9 +00.8	N 14 07.9 +00.5	113 39.5 +02.4	N 02 09.0 +00.0	156 00.1 +02.7	S 14 54.2 +00.0	12						
13	95 57.7 +00.9	N 14 08.4 +00.5	128 41.9 +02.4	N 02 09.0 +00.0	171 02.8 +02.6	S 14 54.2 +00.1	13						
14	110 58.6 +00.8	N 14 08.9 +00.6	143 44.3 +02.5	N 02 09.0 +00.0	186 05.4 +02.6	S 14 54.3 +00.1	14						
15	125 59.4 +00.8	N 14 09.5 +00.5	158 46.8 +02.4	N 02 09.0 +00.0	201 08.0 +02.6	S 14 54.4 +00.0	15						
16	141 00.2 +00.9	N 14 10.0 +00.5	173 49.2 +02.4	N 02 09.0 +00.0	216 10.6 +02.7	S 14 54.4 +00.1	16						
17	156 01.1 +00.8	N 14 10.5 +00.5	188 51.6 +02.4	N 02 09.0 +00.0	231 13.3 +02.6	S 14 54.5 +00.0	17						
18	171 01.9 +00.9	N 14 11.0 +00.5	203 54.0 +02.5	N 02 09.0 +00.0	246 15.9 +02.6	S 14 54.5 +00.1	18						
19	186 02.8 +00.8	N 14 11.5 +00.5	218 56.5 +02.4	N 02 09.0 +00.0	261 18.5 +02.6	S 14 54.6 +00.1	19						
20	201 03.6 +00.8	N 14 12.0 +00.5	233 58.9 +02.4	N 02 09.0 +00.0	276 21.1 +02.7	S 14 54.7 +00.0	20						
21	216 04.4 +00.9	N 14 12.5 +00.5	249 01.3 +02.5	N 02 09.0 +00.0	291 23.8 +02.6	S 14 54.7 +00.1	21						
22	231 05.3 +00.8	N 14 13.0 +00.5	264 03.8 +02.4	N 02 09.0 +00.0	306 26.4 +02.6	S 14 54.8 +00.0	22						
23	246 06.1 +00.8	N 14 13.5 +00.5	279 06.2 +02.4	N 02 09.0 +00.0	321 29.0 +02.6	S 14 54.8 +00.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'4 00'4 00'4 00'4 00'4 00'4		SD 00'2 00'2 00'2 00'2 00'2 00'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 319° 319° 319° 319° 319° 318°		SHA 351° 351° 351° 351° 351° 351°		SHA 034° 034° 034° 034° 034° 034°								
	Greenwich Culmination Time: 06:36		Greenwich Culmination Time: 04:26		Greenwich Culmination Time: 01:37								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 21.6 +00.0	N 19 41.9 -00.5	203 35.1 -00.8	N 22 48.8 -00.1	222 27.7 -30.1	N 25 45.7 +04.2	00						
01	193 21.6 +00.0	N 19 41.4 -00.5	218 34.3 -00.8	N 22 48.7 +00.0	236 57.6 -30.1	N 25 49.9 +04.0	01						
02	208 21.6 +00.0	N 19 40.9 -00.6	233 33.5 -00.8	N 22 48.7 -00.1	251 27.5 -30.1	N 25 53.9 +03.9	02						
03	223 21.6 +00.0	N 19 40.3 -00.5	248 32.7 -00.9	N 22 48.6 -00.1	265 57.4 -30.2	N 25 57.8 +03.8	03						
04	238 21.6 +00.0	N 19 39.8 -00.5	263 31.8 -00.8	N 22 48.5 -00.1	280 27.2 -30.2	N 26 01.6 +03.7	04						
05	253 21.6 +00.0	N 19 39.3 -00.6	278 31.0 -00.8	N 22 48.4 -00.1	294 57.0 -30.2	N 26 05.3 +03.5	05						
06	268 21.6 +00.0	N 19 38.7 -00.5	293 30.2 -00.8	N 22 48.3 +00.0	309 26.8 -30.3	N 26 08.8 +03.4	06						
07	283 21.6 +00.0	N 19 38.2 -00.6	308 29.4 -00.9	N 22 48.3 -00.1	323 56.5 -30.3	N 26 12.2 +03.3	07						
08	298 21.6 +00.0	N 19 37.6 -00.5	323 28.5 -00.8	N 22 48.2 -00.1	338 26.2 -30.3	N 26 15.5 +03.2	08						
09	313 21.6 -00.1	N 19 37.1 -00.5	338 27.7 -00.8	N 22 48.1 -00.1	352 55.9 -30.4	N 26 18.7 +03.0	09						
10	328 21.5 +00.0	N 19 36.6 -00.6	353 26.9 -00.8	N 22 48.0 -00.1	7 25.5 -30.3	N 26 21.7 +02.9	10						
11	343 21.5 +00.0	N 19 36.0 -00.5	8 26.1 -00.8	N 22 47.9 -00.1	21 55.2 -30.4	N 26 24.6 +02.8	11						
12	358 21.5 +00.0	N 19 35.5 -00.6	23 25.3 -00.9	N 22 47.8 -00.1	36 24.8 -30.4	N 26 27.4 +02.7	12						
13	13 21.5 +00.0	N 19 34.9 -00.5	38 24.4 -00.8	N 22 47.7 -00.1	50 54.4 -30.5	N 26 30.1 +02.5	13						
14	28 21.5 +00.0	N 19 34.4 -00.6	53 23.6 -00.8	N 22 47.6 -00.1	65 23.9 -30.4	N 26 32.6 +02.4	14						
15	43 21.5 +00.0	N 19 33.8 -00.5	68 22.8 -00.8	N 22 47.5 -00.1	79 53.5 -30.5	N 26 35.0 +02.3	15						
16	58 21.5 +00.0	N 19 33.3 -00.5	83 22.0 -00.8	N 22 47.4 -00.1	94 23.0 -30.5	N 26 37.3 +02.2	16						
17	73 21.5 +00.0	N 19 32.8 -00.6	98 21.2 -00.9	N 22 47.3 -00.1	108 52.5 -30.5	N 26 39.5 +02.0	17						
18	88 21.5 +00.0	N 19 32.2 -00.5	113 20.3 -00.8	N 22 47.2 -00.1	123 22.0 -30.5	N 26 41.5 +01.9	18						
19	103 21.5 +00.0	N 19 31.7 -00.6	128 19.5 -00.8	N 22 47.1 -00.1	137 51.5 -30.6	N 26 43.4 +01.8	19						
20	118 21.5 +00.0	N 19 31.1 -00.5	143 18.7 -00.8	N 22 47.0 -00.1	152 20.9 -30.6	N 26 45.2 +01.7	20						
21	133 21.5 +00.0	N 19 30.6 -00.6	158 17.9 -00.9	N 22 46.9 -00.1	166 50.3 -30.5	N 26 46.9 +01.5	21						
22	148 21.5 +00.0	N 19 30.0 -00.5	173 17.0 -00.8	N 22 46.8 -00.1	181 19.8 -30.6	N 26 48.4 +01.4	22						
23	163 21.5 +00.0	N 19 29.5 -00.6	188 16.2 -00.8	N 22 46.7 -00.1	195 49.2 -30.6	N 26 49.8 +01.2	23						
UT	02 06 10 14 18 22	SD 15'7 15'7 15'7 15'7 15'7 15'7	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 236° 235° 235° 235° 235° 235°	Greenwich Culmination Time: 12:06								
UT	02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 261° 261° 260° 260° 260° 260°	Greenwich Culmination Time: 10:26								
UT	02 06 10 14 18 22	SD 14'7 14'7 14'7 14'7 14'7 14'7	HP 54'0 54'0 54'0 54'0 54'0 54'0	SHA 279° 277° 274° 272° 270° 268°	Greenwich Culmination Time: 09:29								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	261 06.9 +00.9	N 14 14.0 +00.5	294 08.6 +02.5	N 02 09.0 +00.0	336 31.6 +02.7	S 14 54.9 +00.1	00						
01	276 07.8 +00.8	N 14 14.5 +00.6	309 11.1 +02.4	N 02 09.0 +00.0	351 34.3 +02.6	S 14 55.0 +00.0	01						
02	291 08.6 +00.9	N 14 15.1 +00.5	324 13.5 +02.4	N 02 09.0 +00.0	6 36.9 +02.6	S 14 55.0 +00.1	02						
03	306 09.5 +00.8	N 14 15.6 +00.5	339 15.9 +02.4	N 02 09.0 +00.0	21 39.5 +02.6	S 14 55.1 +00.0	03						
04	321 10.3 +00.8	N 14 16.1 +00.5	354 18.3 +02.5	N 02 09.0 +00.0	36 42.1 +02.7	S 14 55.1 +00.1	04						
05	336 11.1 +00.9	N 14 16.6 +00.5	9 20.8 +02.4	N 02 09.0 +00.0	51 44.8 +02.6	S 14 55.2 +00.1	05						
06	351 12.0 +00.8	N 14 17.1 +00.5	24 23.2 +02.4	N 02 09.0 +00.0	66 47.4 +02.6	S 14 55.3 +00.0	06						
07	6 12.8 +00.8	N 14 17.6 +00.5	39 25.6 +02.5	N 02 09.0 +00.0	81 50.0 +02.6	S 14 55.3 +00.1	07						
08	21 13.6 +00.9	N 14 18.1 +00.5	54 28.1 +02.4	N 02 09.0 +00.0	96 52.6 +02.7	S 14 55.4 +00.1	08						
09	36 14.5 +00.8	N 14 18.6 +00.5	69 30.5 +02.4	N 02 09.0 +00.0	111 55.3 +02.6	S 14 55.5 +00.0	09						
10	51 15.3 +00.9	N 14 19.1 +00.5	84 32.9 +02.5	N 02 09.0 +00.0	126 57.9 +02.6	S 14 55.5 +00.1	10						
11	66 16.2 +00.8	N 14 19.6 +00.5	99 35.4 +02.4	N 02 09.0 +00.0	142 00.5 +02.7	S 14 55.6 +00.0	11						
12	81 17.0 +00.8	N 14 20.1 +00.5	114 37.8 +02.4	N 02 09.0 +00.0	157 03.2 +02.6	S 14 55.6 +00.1	12						
13	96 17.8 +00.9	N 14 20.6 +00.5	129 40.2 +02.5	N 02 09.0 +00.0	172 05.8 +02.6	S 14 55.7 +00.1	13						
14	111 18.7 +00.8	N 14 21.1 +00.5	144 42.7 +02.4	N 02 09.0 +00.0	187 08.4 +02.6	S 14 55.8 +00.0	14						
15	126 19.5 +00.9	N 14 21.6 +00.5	159 45.1 +02.4	N 02 09.0 +00.0	202 11.0 +02.7	S 14 55.8 +00.1	15						
16	141 20.4 +00.8	N 14 22.1 +00.5	174 47.5 +02.5	N 02 09.0 +00.0	217 13.7 +02.6	S 14 55.9 +00.0	16						
17	156 21.2 +00.8	N 14 22.6 +00.5	189 50.0 +02.4	N 02 09.0 +00.0	232 16.3 +02.6	S 14 55.9 +00.1	17						
18	171 22.0 +00.9	N 14 23.1 +00.6	204 52.4 +02.4	N 02 09.0 +00.0	247 18.9 +02.6	S 14 56.0 +00.1	18						
19	186 22.9 +00.8	N 14 23.7 +00.5	219 54.8 +02.5	N 02 09.0 +00.0	262 21.5 +02.7	S 14 56.1 +00.0	19						
20	201 23.7 +00.8	N 14 24.2 +00.5	234 57.3 +02.4	N 02 09.0 +00.0	277 24.2 +02.6	S 14 56.1 +00.1	20						
21	216 24.5 +00.9	N 14 24.7 +00.5	249 59.7 +02.5	N 02 09.0 +00.0	292 26.8 +02.6	S 14 56.2 +00.0	21						
22	231 25.4 +00.8	N 14 25.2 +00.5	265 02.2 +02.4	N 02 09.0 +00.0	307 29.4 +02.7	S 14 56.2 +00.1	22						
23	246 26.2 +00.9	N 14 25.7 +00.5	280 04.6 +02.4	N 02 09.0 +00.0	322 32.1 +02.6	S 14 56.3 +00.1	23						
UT	02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 318° 318° 318° 318° 318° 318°	Greenwich Culmination Time: 06:35								
UT	02 06 10 14 18 22	SD 00'4 00'4 00'4 00'4 00'4 00'4	HP 00'0 00'0 00'0 00'0 00'0 00'0	SHA 351° 351° 351° 351° 351° 351°	Greenwich Culmination Time: 04:22								
UT	02 06 10 14 18 22	SD 00'2 00'2 00'2 00'2 00'2 00'2	HP 00'0 00'0 00'0 00'0 00'0 00'0	SHA 034° 034° 034° 034° 034° 034°	Greenwich Culmination Time: 01:33								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 21.5 +00.0	N 19 28.9 -00.5	203 15.4 -00.8	N 22 46.6 -00.1	210 18.6 -30.7	N 26 51.0 +01.2	00						
01	193 21.5 +00.0	N 19 28.4 -00.6	218 14.6 -00.8	N 22 46.5 -00.1	224 47.9 -30.6	N 26 52.2 +01.0	01						
02	208 21.5 +00.0	N 19 27.8 -00.5	233 13.8 -00.9	N 22 46.4 -00.1	239 17.3 -30.6	N 26 53.2 +00.9	02						
03	223 21.5 +00.0	N 19 27.3 -00.6	248 12.9 -00.8	N 22 46.3 -00.1	253 46.7 -30.7	N 26 54.1 +00.7	03						
04	238 21.5 +00.0	N 19 26.7 -00.5	263 12.1 -00.8	N 22 46.2 -00.1	268 16.0 -30.6	N 26 54.8 +00.6	04						
05	253 21.5 +00.0	N 19 26.2 -00.6	278 11.3 -00.8	N 22 46.1 -00.1	282 45.4 -30.7	N 26 55.4 +00.5	05						
06	268 21.5 +00.0	N 19 25.6 -00.5	293 10.5 -00.8	N 22 46.0 -00.1	297 14.7 -30.7	N 26 55.9 +00.4	06						
07	283 21.5 +00.0	N 19 25.1 -00.6	308 09.7 -00.9	N 22 45.9 -00.2	311 44.0 -30.6	N 26 56.3 +00.2	07						
08	298 21.5 +00.0	N 19 24.5 -00.5	323 08.8 -00.8	N 22 45.7 -00.1	326 13.4 -30.7	N 26 56.5 +00.1	08						
09	313 21.5 +00.0	N 19 24.0 -00.6	338 08.0 -00.8	N 22 45.6 -00.1	340 42.7 -30.7	N 26 56.6 +00.0	09						
10	328 21.5 +00.0	N 19 23.4 -00.6	353 07.2 -00.8	N 22 45.5 -00.1	355 12.0 -30.7	N 26 56.6 -00.2	10						
11	343 21.5 +00.0	N 19 22.8 -00.5	8 06.4 -00.8	N 22 45.4 -00.1	9 41.3 -30.7	N 26 56.4 -00.2	11						
12	358 21.5 +00.0	N 19 22.3 -00.6	23 05.6 -00.9	N 22 45.3 -00.1	24 10.6 -30.6	N 26 56.2 -00.5	12						
13	13 21.5 +00.0	N 19 21.7 -00.5	38 04.7 -00.8	N 22 45.2 -00.2	38 40.0 -30.7	N 26 55.7 -00.5	13						
14	28 21.5 +00.0	N 19 21.2 -00.6	53 03.9 -00.8	N 22 45.0 -00.1	53 09.3 -30.7	N 26 55.2 -00.7	14						
15	43 21.5 +00.0	N 19 20.6 -00.5	68 03.1 -00.8	N 22 44.9 -00.1	67 38.6 -30.6	N 26 54.5 -00.8	15						
16	58 21.5 +00.0	N 19 20.1 -00.6	83 02.3 -00.9	N 22 44.8 -00.1	82 08.0 -30.7	N 26 53.7 -00.9	16						
17	73 21.5 +00.0	N 19 19.5 -00.6	98 01.4 -00.8	N 22 44.7 -00.2	96 37.3 -30.7	N 26 52.8 -01.1	17						
18	88 21.5 +00.0	N 19 18.9 -00.5	113 00.6 -00.8	N 22 44.5 -00.1	111 06.6 -30.6	N 26 51.7 -01.2	18						
19	103 21.5 +00.0	N 19 18.4 -00.6	127 59.8 -00.8	N 22 44.4 -00.1	125 36.0 -30.7	N 26 50.5 -01.3	19						
20	118 21.5 +00.0	N 19 17.8 -00.5	142 59.0 -00.8	N 22 44.3 -00.1	140 05.3 -30.6	N 26 49.2 -01.4	20						
21	133 21.5 +00.0	N 19 17.3 -00.6	157 58.2 -00.9	N 22 44.2 -00.2	154 34.7 -30.6	N 26 47.8 -01.6	21						
22	148 21.5 +00.0	N 19 16.7 -00.6	172 57.3 -00.8	N 22 44.0 -00.1	169 04.1 -30.6	N 26 46.2 -01.7	22						
23	163 21.5 +00.0	N 19 16.1 -00.5	187 56.5 -00.8	N 22 43.9 -00.1	183 33.5 -30.6	N 26 44.5 -01.9	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'7 15'7 15'7 15'7 15'7 15'7		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 14'7 14'7 14'7 14'7 14'7 14'7								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 54'0 53'9 53'9 53'9 54'0 54'0								
	SHA 235° 234° 234° 234° 234° 234°		SHA 259° 259° 259° 259° 259° 258°		SHA 266° 263° 261° 259° 257° 254°								
	Greenwich Culmination Time: 12:06		Greenwich Culmination Time: 10:27		Greenwich Culmination Time: 10:19								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	261 27.1 +00.8	N 14 26.2 +00.5	295 07.0 +02.5	N 02 09.0 +00.0	337 34.7 +02.6	S 14 56.4 +00.0	00						
01	276 27.9 +00.8	N 14 26.7 +00.5	310 09.5 +02.4	N 02 09.0 +00.0	352 37.3 +02.6	S 14 56.4 +00.1	01						
02	291 28.7 +00.9	N 14 27.2 +00.5	325 11.9 +02.4	N 02 09.0 +00.0	7 39.9 +02.7	S 14 56.5 +00.0	02						
03	306 29.6 +00.8	N 14 27.7 +00.5	340 14.3 +02.5	N 02 09.0 +00.0	22 42.6 +02.6	S 14 56.5 +00.1	03						
04	321 30.4 +00.9	N 14 28.2 +00.5	355 16.8 +02.4	N 02 09.0 +00.0	37 45.2 +02.6	S 14 56.6 +00.1	04						
05	336 31.3 +00.8	N 14 28.7 +00.5	10 19.2 +02.5	N 02 09.0 +00.0	52 47.8 +02.6	S 14 56.7 +00.0	05						
06	351 32.1 +00.9	N 14 29.2 +00.5	25 21.7 +02.4	N 02 09.0 +00.0	67 50.4 +02.7	S 14 56.7 +00.1	06						
07	6 33.0 +00.8	N 14 29.7 +00.5	40 24.1 +02.4	N 02 09.0 +00.0	82 53.1 +02.6	S 14 56.8 +00.0	07						
08	21 33.8 +00.8	N 14 30.2 +00.5	55 26.5 +02.5	N 02 09.0 +00.0	97 55.7 +02.6	S 14 56.8 +00.1	08						
09	36 34.6 +00.9	N 14 30.7 +00.5	70 29.0 +02.4	N 02 09.0 +00.0	112 58.3 +02.7	S 14 56.9 +00.1	09						
10	51 35.5 +00.8	N 14 31.2 +00.5	85 31.4 +02.5	N 02 09.0 +00.0	128 01.0 +02.6	S 14 57.0 +00.0	10						
11	66 36.3 +00.9	N 14 31.7 +00.5	100 33.9 +02.4	N 02 09.0 +00.0	143 03.6 +02.6	S 14 57.0 +00.1	11						
12	81 37.2 +00.8	N 14 32.2 +00.5	115 36.3 +02.4	N 02 09.0 +00.0	158 06.2 +02.6	S 14 57.1 +00.1	12						
13	96 38.0 +00.8	N 14 32.7 +00.5	130 38.7 +02.5	N 02 09.0 +00.0	173 08.8 +02.7	S 14 57.2 +00.0	13						
14	111 38.8 +00.9	N 14 33.2 +00.5	145 41.2 +02.4	N 02 09.0 +00.0	188 11.5 +02.6	S 14 57.2 +00.1	14						
15	126 39.7 +00.8	N 14 33.7 +00.5	160 43.6 +02.5	N 02 09.0 +00.0	203 14.1 +02.6	S 14 57.3 +00.0	15						
16	141 40.5 +00.9	N 14 34.2 +00.5	175 46.1 +02.4	N 02 09.0 +00.0	218 16.7 +02.7	S 14 57.3 +00.1	16						
17	156 41.4 +00.8	N 14 34.7 +00.5	190 48.5 +02.5	N 02 09.0 +00.0	233 19.4 +02.6	S 14 57.4 +00.1	17						
18	171 42.2 +00.9	N 14 35.2 +00.5	205 51.0 +02.4	N 02 09.0 +00.0	248 22.0 +02.6	S 14 57.5 +00.0	18						
19	186 43.1 +00.8	N 14 35.7 +00.5	220 53.4 +02.4	N 02 09.0 +00.0	263 24.6 +02.6	S 14 57.5 +00.1	19						
20	201 43.9 +00.8	N 14 36.2 +00.5	235 55.8 +02.5	N 02 09.0 +00.0	278 27.2 +02.7	S 14 57.6 +00.0	20						
21	216 44.7 +00.9	N 14 36.7 +00.4	250 58.3 +02.4	N 02 09.0 +00.0	293 29.9 +02.6	S 14 57.6 +00.1	21						
22	231 45.6 +00.8	N 14 37.1 +00.5	266 00.7 +02.5	N 02 09.0 -00.1	308 32.5 +02.6	S 14 57.7 +00.1	22						
23	246 46.4 +00.9	N 14 37.6 +00.5	281 03.2 +02.4	N 02 08.9 +00.0	323 35.1 +02.7	S 14 57.8 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'4 00'4 00'4 00'4 00'4 00'4		SD 00'2 00'2 00'2 00'2 00'2 00'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 318° 318° 318° 317° 317° 317°		SHA 351° 351° 351° 351° 351° 351°		SHA 034° 034° 034° 034° 034° 034°								
	Greenwich Culmination Time: 06:33		Greenwich Culmination Time: 04:18		Greenwich Culmination Time: 01:29								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 21.5 +00.0	N 19 15.6 -00.6	202 55.7 -00.8	N 22 43.8 -00.2	198 02.9 -30.6	N 26 42.6 -01.9	00						
01	193 21.5 +00.0	N 19 15.0 -00.5	217 54.9 -00.8	N 22 43.6 -00.1	212 32.3 -30.6	N 26 40.7 -02.1	01						
02	208 21.5 +00.0	N 19 14.5 -00.6	232 54.1 -00.9	N 22 43.5 -00.1	227 01.7 -30.5	N 26 38.6 -02.2	02						
03	223 21.5 +00.0	N 19 13.9 -00.6	247 53.2 -00.8	N 22 43.4 -00.2	241 31.2 -30.6	N 26 36.4 -02.4	03						
04	238 21.5 +00.0	N 19 13.3 -00.5	262 52.4 -00.8	N 22 43.2 -00.1	256 00.6 -30.5	N 26 34.0 -02.4	04						
05	253 21.5 +00.0	N 19 12.8 -00.6	277 51.6 -00.8	N 22 43.1 -00.1	270 30.1 -30.5	N 26 31.6 -02.6	05						
06	268 21.5 +00.1	N 19 12.2 -00.6	292 50.8 -00.8	N 22 43.0 -00.2	284 59.6 -30.5	N 26 29.0 -02.8	06						
07	283 21.6 +00.0	N 19 11.6 -00.5	307 50.0 -00.9	N 22 42.8 -00.1	299 29.1 -30.4	N 26 26.2 -02.8	07						
08	298 21.6 +00.0	N 19 11.1 -00.6	322 49.1 -00.8	N 22 42.7 -00.2	313 58.7 -30.5	N 26 23.4 -03.0	08						
09	313 21.6 +00.0	N 19 10.5 -00.6	337 48.3 -00.8	N 22 42.5 -00.1	328 28.2 -30.4	N 26 20.4 -03.1	09						
10	328 21.6 +00.0	N 19 09.9 -00.5	352 47.5 -00.8	N 22 42.4 -00.2	342 57.8 -30.4	N 26 17.3 -03.2	10						
11	343 21.6 +00.0	N 19 09.4 -00.6	7 46.7 -00.8	N 22 42.2 -00.1	357 27.4 -30.3	N 26 14.1 -03.4	11						
12	358 21.6 +00.0	N 19 08.8 -00.6	22 45.9 -00.9	N 22 42.1 -00.2	11 57.1 -30.4	N 26 10.7 -03.5	12						
13	13 21.6 +00.0	N 19 08.2 -00.5	37 45.0 -00.8	N 22 41.9 -00.1	26 26.7 -30.3	N 26 07.2 -03.6	13						
14	28 21.6 +00.0	N 19 07.7 -00.6	52 44.2 -00.8	N 22 41.8 -00.1	40 56.4 -30.3	N 26 03.6 -03.7	14						
15	43 21.6 +00.0	N 19 07.1 -00.6	67 43.4 -00.8	N 22 41.7 -00.2	55 26.1 -30.2	N 25 59.9 -03.9	15						
16	58 21.6 +00.0	N 19 06.5 -00.6	82 42.6 -00.8	N 22 41.5 -00.2	69 55.9 -30.3	N 25 56.0 -04.0	16						
17	73 21.6 +00.0	N 19 05.9 -00.5	97 41.8 -00.9	N 22 41.3 -00.1	84 25.6 -30.2	N 25 52.0 -04.1	17						
18	88 21.6 +00.0	N 19 05.4 -00.6	112 40.9 -00.8	N 22 41.2 -00.2	98 55.4 -30.1	N 25 47.9 -04.2	18						
19	103 21.6 +00.1	N 19 04.8 -00.6	127 40.1 -00.8	N 22 41.0 -00.1	113 25.3 -30.2	N 25 43.7 -04.3	19						
20	118 21.7 +00.0	N 19 04.2 -00.6	142 39.3 -00.8	N 22 40.9 -00.2	127 55.1 -30.1	N 25 39.4 -04.5	20						
21	133 21.7 +00.0	N 19 03.6 -00.5	157 38.5 -00.8	N 22 40.7 -00.1	142 25.0 -30.1	N 25 34.9 -04.6	21						
22	148 21.7 +00.0	N 19 03.1 -00.6	172 37.7 -00.9	N 22 40.6 -00.2	156 54.9 -30.0	N 25 30.3 -04.7	22						
23	163 21.7 +00.0	N 19 02.5 -00.6	187 36.8 -00.8	N 22 40.4 -00.1	171 24.9 -30.0	N 25 25.6 -04.9	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'7 15'7 15'7 15'7 15'7 15'7		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 14'7 14'7 14'7 14'7 14'7 14'7								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 54'0 54'0 54'0 54'0 54'0 54'1								
	SHA 234° 233° 233° 233° 233° 233°		SHA 258° 258° 258° 258° 257° 257°		SHA 252° 250° 248° 246° 244° 241°								
	Greenwich Culmination Time: 12:06		Greenwich Culmination Time: 10:28		Greenwich Culmination Time: 11:10								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	261 47.3 +00.8	N 14 38.1 +00.5	296 05.6 +02.5	N 02 08.9 +00.0	338 37.8 +02.6	S 14 57.8 +00.1	00						
01	276 48.1 +00.9	N 14 38.6 +00.5	311 08.1 +02.4	N 02 08.9 +00.0	353 40.4 +02.6	S 14 57.9 +00.0	01						
02	291 49.0 +00.8	N 14 39.1 +00.5	326 10.5 +02.5	N 02 08.9 +00.0	8 43.0 +02.6	S 14 57.9 +00.1	02						
03	306 49.8 +00.8	N 14 39.6 +00.5	341 13.0 +02.4	N 02 08.9 +00.0	23 45.6 +02.7	S 14 58.0 +00.1	03						
04	321 50.6 +00.9	N 14 40.1 +00.5	356 15.4 +02.5	N 02 08.9 +00.0	38 48.3 +02.6	S 14 58.1 +00.0	04						
05	336 51.5 +00.8	N 14 40.6 +00.5	11 17.9 +02.4	N 02 08.9 +00.0	53 50.9 +02.6	S 14 58.1 +00.1	05						
06	351 52.3 +00.9	N 14 41.1 +00.5	26 20.3 +02.5	N 02 08.9 +00.0	68 53.5 +02.7	S 14 58.2 +00.1	06						
07	6 53.2 +00.8	N 14 41.6 +00.5	41 22.8 +02.4	N 02 08.9 +00.0	83 56.2 +02.6	S 14 58.3 +00.0	07						
08	21 54.0 +00.9	N 14 42.1 +00.5	56 25.2 +02.4	N 02 08.9 +00.0	98 58.8 +02.6	S 14 58.3 +00.1	08						
09	36 54.9 +00.8	N 14 42.6 +00.5	71 27.6 +02.5	N 02 08.9 +00.0	114 01.4 +02.7	S 14 58.4 +00.0	09						
10	51 55.7 +00.8	N 14 43.1 +00.5	86 30.1 +02.4	N 02 08.9 +00.0	129 04.1 +02.6	S 14 58.4 +00.1	10						
11	66 56.5 +00.9	N 14 43.6 +00.5	101 32.5 +02.5	N 02 08.9 +00.0	144 06.7 +02.6	S 14 58.5 +00.1	11						
12	81 57.4 +00.8	N 14 44.1 +00.5	116 35.0 +02.4	N 02 08.9 +00.0	159 09.3 +02.6	S 14 58.6 +00.0	12						
13	96 58.2 +00.9	N 14 44.6 +00.5	131 37.4 +02.5	N 02 08.9 +00.0	174 11.9 +02.7	S 14 58.6 +00.1	13						
14	111 59.1 +00.8	N 14 45.1 +00.4	146 39.9 +02.4	N 02 08.9 -00.1	189 14.6 +02.6	S 14 58.7 +00.0	14						
15	126 59.9 +00.9	N 14 45.5 +00.5	161 42.3 +02.5	N 02 08.8 +00.0	204 17.2 +02.6	S 14 58.7 +00.1	15						
16	142 00.8 +00.8	N 14 46.0 +00.5	176 44.8 +02.4	N 02 08.8 +00.0	219 19.8 +02.7	S 14 58.8 +00.1	16						
17	157 01.6 +00.9	N 14 46.5 +00.5	191 47.2 +02.5	N 02 08.8 +00.0	234 22.5 +02.6	S 14 58.9 +00.0	17						
18	172 02.5 +00.8	N 14 47.0 +00.5	206 49.7 +02.4	N 02 08.8 +00.0	249 25.1 +02.6	S 14 58.9 +00.1	18						
19	187 03.3 +00.9	N 14 47.5 +00.5	221 52.1 +02.5	N 02 08.8 +00.0	264 27.7 +02.7	S 14 59.0 +00.1	19						
20	202 04.2 +00.8	N 14 48.0 +00.5	236 54.6 +02.4	N 02 08.8 +00.0	279 30.4 +02.6	S 14 59.1 +00.0	20						
21	217 05.0 +00.8	N 14 48.5 +00.5	251 57.0 +02.5	N 02 08.8 +00.0	294 33.0 +02.6	S 14 59.1 +00.1	21						
22	232 05.8 +00.9	N 14 49.0 +00.5	266 59.5 +02.4	N 02 08.8 +00.0	309 35.6 +02.7	S 14 59.2 +00.0	22						
23	247 06.7 +00.8	N 14 49.5 +00.5	282 01.9 +02.5	N 02 08.8 +00.0	324 38.3 +02.6	S 14 59.2 +00.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'4 00'4 00'4 00'4 00'4 00'4		SD 00'2 00'2 00'2 00'2 00'2 00'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 317° 317° 317° 317° 317° 317°		SHA 351° 351° 351° 351° 351° 351°		SHA 034° 034° 034° 034° 034° 034°								
	Greenwich Culmination Time: 06:32		Greenwich Culmination Time: 04:14		Greenwich Culmination Time: 01:25								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 21.7 +00.0	N 19 01.9 -00.6	202 36.0 -00.8	N 22 40.3 -00.2	185 54.9 -30.0	N 25 20.7 -04.9	00						
01	193 21.7 +00.0	N 19 01.3 -00.5	217 35.2 -00.8	N 22 40.1 -00.2	200 24.9 -29.9	N 25 15.8 -05.1	01						
02	208 21.7 +00.0	N 19 00.8 -00.6	232 34.4 -00.8	N 22 39.9 -00.1	214 55.0 -29.9	N 25 10.7 -05.2	02						
03	223 21.7 +00.0	N 19 00.2 -00.6	247 33.6 -00.9	N 22 39.8 -00.2	229 25.1 -29.8	N 25 05.5 -05.3	03						
04	238 21.7 +00.0	N 18 59.6 -00.6	262 32.7 -00.8	N 22 39.6 -00.2	243 55.3 -29.9	N 25 00.2 -05.4	04						
05	253 21.7 +00.1	N 18 59.0 -00.5	277 31.9 -00.8	N 22 39.4 -00.1	258 25.4 -29.7	N 24 54.8 -05.6	05						
06	268 21.8 +00.0	N 18 58.5 -00.6	292 31.1 -00.8	N 22 39.3 -00.2	272 55.7 -29.8	N 24 49.2 -05.6	06						
07	283 21.8 +00.0	N 18 57.9 -00.6	307 30.3 -00.8	N 22 39.1 -00.2	287 25.9 -29.7	N 24 43.6 -05.8	07						
08	298 21.8 +00.0	N 18 57.3 -00.6	322 29.5 -00.9	N 22 38.9 -00.1	301 56.2 -29.6	N 24 37.8 -05.9	08						
09	313 21.8 +00.0	N 18 56.7 -00.6	337 28.6 -00.8	N 22 38.8 -00.2	316 26.6 -29.7	N 24 31.9 -06.0	09						
10	328 21.8 +00.0	N 18 56.1 -00.5	352 27.8 -00.8	N 22 38.6 -00.2	330 56.9 -29.5	N 24 25.9 -06.2	10						
11	343 21.8 +00.0	N 18 55.6 -00.6	7 27.0 -00.8	N 22 38.4 -00.1	345 27.4 -29.6	N 24 19.7 -06.2	11						
12	358 21.8 +00.1	N 18 55.0 -00.6	22 26.2 -00.8	N 22 38.3 -00.2	359 57.8 -29.4	N 24 13.5 -06.3	12						
13	13 21.9 +00.0	N 18 54.4 -00.6	37 25.4 -00.8	N 22 38.1 -00.2	14 28.4 -29.5	N 24 07.2 -06.5	13						
14	28 21.9 +00.0	N 18 53.8 -00.6	52 24.6 -00.9	N 22 37.9 -00.2	28 58.9 -29.4	N 24 00.7 -06.6	14						
15	43 21.9 +00.0	N 18 53.2 -00.6	67 23.7 -00.8	N 22 37.7 -00.2	43 29.5 -29.4	N 23 54.1 -06.7	15						
16	58 21.9 +00.0	N 18 52.6 -00.5	82 22.9 -00.8	N 22 37.5 -00.1	58 00.1 -29.3	N 23 47.4 -06.8	16						
17	73 21.9 +00.0	N 18 52.1 -00.6	97 22.1 -00.8	N 22 37.4 -00.2	72 30.8 -29.2	N 23 40.6 -06.9	17						
18	88 21.9 +00.0	N 18 51.5 -00.6	112 21.3 -00.8	N 22 37.2 -00.2	87 01.6 -29.2	N 23 33.7 -07.0	18						
19	103 21.9 +00.1	N 18 50.9 -00.6	127 20.5 -00.9	N 22 37.0 -00.2	101 32.4 -29.2	N 23 26.7 -07.2	19						
20	118 22.0 +00.0	N 18 50.3 -00.6	142 19.6 -00.8	N 22 36.8 -00.2	116 03.2 -29.2	N 23 19.5 -07.2	20						
21	133 22.0 +00.0	N 18 49.7 -00.6	157 18.8 -00.8	N 22 36.6 -00.1	130 34.0 -29.0	N 23 12.3 -07.4	21						
22	148 22.0 +00.0	N 18 49.1 -00.6	172 18.0 -00.8	N 22 36.5 -00.2	145 05.0 -29.1	N 23 04.9 -07.4	22						
23	163 22.0 +00.0	N 18 48.5 -00.6	187 17.2 -00.8	N 22 36.3 -00.2	159 35.9 -29.0	N 22 57.5 -07.6	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'7 15'7 15'8 15'8 15'8 15'8		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 14'7 14'7 14'8 14'8 14'8 14'8								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 54'1 54'1 54'1 54'2 54'2 54'2								
	SHA 233° 232° 232° 232° 232° 232°		SHA 257° 257° 256° 256° 256° 256°		SHA 239° 237° 235° 233° 231° 229°								
	Greenwich Culmination Time: 12:06		Greenwich Culmination Time: 10:30		Greenwich Culmination Time: 12:00								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	262 07.5 +00.9	N 14 50.0 +00.5	297 04.4 +02.5	N 02 08.8 +00.0	339 40.9 +02.6	S 14 59.3 +00.1	00						
01	277 08.4 +00.8	N 14 50.5 +00.4	312 06.9 +02.4	N 02 08.8 +00.0	354 43.5 +02.6	S 14 59.4 +00.0	01						
02	292 09.2 +00.9	N 14 50.9 +00.5	327 09.3 +02.5	N 02 08.8 +00.0	9 46.1 +02.7	S 14 59.4 +00.1	02						
03	307 10.1 +00.8	N 14 51.4 +00.5	342 11.8 +02.4	N 02 08.8 -00.1	24 48.8 +02.6	S 14 59.5 +00.1	03						
04	322 10.9 +00.9	N 14 51.9 +00.5	357 14.2 +02.5	N 02 08.7 +00.0	39 51.4 +02.6	S 14 59.6 +00.0	04						
05	337 11.8 +00.8	N 14 52.4 +00.5	12 16.7 +02.4	N 02 08.7 +00.0	54 54.0 +02.7	S 14 59.6 +00.1	05						
06	352 12.6 +00.9	N 14 52.9 +00.5	27 19.1 +02.5	N 02 08.7 +00.0	69 56.7 +02.6	S 14 59.7 +00.0	06						
07	7 13.5 +00.8	N 14 53.4 +00.5	42 21.6 +02.4	N 02 08.7 +00.0	84 59.3 +02.6	S 14 59.7 +00.1	07						
08	22 14.3 +00.9	N 14 53.9 +00.5	57 24.0 +02.5	N 02 08.7 +00.0	100 01.9 +02.7	S 14 59.8 +00.1	08						
09	37 15.2 +00.8	N 14 54.4 +00.4	72 26.5 +02.4	N 02 08.7 +00.0	115 04.6 +02.6	S 14 59.9 +00.0	09						
10	52 16.0 +00.9	N 14 54.8 +00.5	87 28.9 +02.5	N 02 08.7 +00.0	130 07.2 +02.6	S 14 59.9 +00.1	10						
11	67 16.9 +00.8	N 14 55.3 +00.5	102 31.4 +02.5	N 02 08.7 +00.0	145 09.8 +02.7	S 14 60.0 +00.0	11						
12	82 17.7 +00.9	N 14 55.8 +00.5	117 33.9 +02.4	N 02 08.7 +00.0	160 12.5 +02.6	S 15 00.0 +00.1	12						
13	97 18.6 +00.8	N 14 56.3 +00.5	132 36.3 +02.5	N 02 08.7 -00.1	175 15.1 +02.6	S 15 00.1 +00.1	13						
14	112 19.4 +00.8	N 14 56.8 +00.5	147 38.8 +02.4	N 02 08.6 +00.0	190 17.7 +02.7	S 15 00.2 +00.0	14						
15	127 20.2 +00.9	N 14 57.3 +00.5	162 41.2 +02.5	N 02 08.6 +00.0	205 20.4 +02.6	S 15 00.2 +00.1	15						
16	142 21.1 +00.8	N 14 57.8 +00.5	177 43.7 +02.4	N 02 08.6 +00.0	220 23.0 +02.6	S 15 00.3 +00.1	16						
17	157 21.9 +00.9	N 14 58.3 +00.4	192 46.1 +02.5	N 02 08.6 +00.0	235 25.6 +02.7	S 15 00.4 +00.0	17						
18	172 22.8 +00.8	N 14 58.7 +00.5	207 48.6 +02.5	N 02 08.6 +00.0	250 28.3 +02.6	S 15 00.4 +00.1	18						
19	187 23.6 +00.9	N 14 59.2 +00.5	222 51.1 +02.4	N 02 08.6 +00.0	265 30.9 +02.6	S 15 00.5 +00.0	19						
20	202 24.5 +00.8	N 14 59.7 +00.5	237 53.5 +02.5	N 02 08.6 +00.0	280 33.5 +02.6	S 15 00.5 +00.1	20						
21	217 25.3 +00.9	N 15 00.2 +00.5	252 56.0 +02.4	N 02 08.6 +00.0	295 36.1 +02.7	S 15 00.6 +00.1	21						
22	232 26.2 +00.8	N 15 00.7 +00.5	267 58.4 +02.5	N 02 08.6 -00.1	310 38.8 +02.6	S 15 00.7 +00.0	22						
23	247 27.0 +00.9	N 15 01.2 +00.4	283 00.9 +02.5	N 02 08.5 +00.0	325 41.4 +02.6	S 15 00.7 +00.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'4 00'4 00'4 00'4 00'4 00'4		SD 00'2 00'2 00'2 00'2 00'2 00'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 316° 316° 316° 316° 316° 316°		SHA 351° 351° 351° 351° 351° 351°		SHA 034° 034° 034° 034° 034° 034°								
	Greenwich Culmination Time: 06:31		Greenwich Culmination Time: 04:11		Greenwich Culmination Time: 01:21								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 22.0 +00.0	N 18 47.9 -00.5	202 16.4 -00.9	N 22 36.1 -00.2	174 06.9 -28.9	N 22 49.9 -07.6	00						
01	193 22.0 +00.1	N 18 47.4 -00.6	217 15.5 -00.8	N 22 35.9 -00.2	188 38.0 -28.9	N 22 42.3 -07.8	01						
02	208 22.1 +00.0	N 18 46.8 -00.6	232 14.7 -00.8	N 22 35.7 -00.2	203 09.1 -28.8	N 22 34.5 -07.9	02						
03	223 22.1 +00.0	N 18 46.2 -00.6	247 13.9 -00.8	N 22 35.5 -00.2	217 40.3 -28.8	N 22 26.6 -08.0	03						
04	238 22.1 +00.0	N 18 45.6 -00.6	262 13.1 -00.8	N 22 35.3 -00.2	232 11.5 -28.8	N 22 18.6 -08.1	04						
05	253 22.1 +00.0	N 18 45.0 -00.6	277 12.3 -00.8	N 22 35.1 -00.2	246 42.7 -28.7	N 22 10.5 -08.2	05						
06	268 22.1 +00.0	N 18 44.4 -00.6	292 11.5 -00.9	N 22 34.9 -00.2	261 14.0 -28.6	N 22 02.3 -08.2	06						
07	283 22.1 +00.1	N 18 43.8 -00.6	307 10.6 -00.8	N 22 34.7 -00.2	275 45.4 -28.6	N 21 54.1 -08.4	07						
08	298 22.2 +00.0	N 18 43.2 -00.6	322 09.8 -00.8	N 22 34.5 -00.2	290 16.8 -28.6	N 21 45.7 -08.5	08						
09	313 22.2 +00.0	N 18 42.6 -00.6	337 09.0 -00.8	N 22 34.3 -00.1	304 48.2 -28.5	N 21 37.2 -08.6	09						
10	328 22.2 +00.0	N 18 42.0 -00.6	352 08.2 -00.8	N 22 34.2 -00.2	319 19.7 -28.4	N 21 28.6 -08.7	10						
11	343 22.2 +00.0	N 18 41.4 -00.6	7 07.4 -00.8	N 22 34.0 -00.2	333 51.3 -28.4	N 21 19.9 -08.8	11						
12	358 22.2 +00.1	N 18 40.8 -00.6	22 06.6 -00.9	N 22 33.8 -00.3	348 22.9 -28.4	N 21 11.1 -08.9	12						
13	13 22.3 +00.0	N 18 40.2 -00.5	37 05.7 -00.8	N 22 33.5 -00.2	2 54.5 -28.3	N 21 02.2 -08.9	13						
14	28 22.3 +00.0	N 18 39.7 -00.6	52 04.9 -00.8	N 22 33.3 -00.2	17 26.2 -28.2	N 20 53.3 -09.1	14						
15	43 22.3 +00.0	N 18 39.1 -00.6	67 04.1 -00.8	N 22 33.1 -00.2	31 58.0 -28.2	N 20 44.2 -09.2	15						
16	58 22.3 +00.0	N 18 38.5 -00.6	82 03.3 -00.8	N 22 32.9 -00.2	46 29.8 -28.2	N 20 35.0 -09.3	16						
17	73 22.3 +00.1	N 18 37.9 -00.6	97 02.5 -00.8	N 22 32.7 -00.2	61 01.6 -28.1	N 20 25.7 -09.3	17						
18	88 22.4 +00.0	N 18 37.3 -00.6	112 01.7 -00.9	N 22 32.5 -00.2	75 33.5 -28.0	N 20 16.4 -09.5	18						
19	103 22.4 +00.0	N 18 36.7 -00.6	127 00.8 -00.8	N 22 32.3 -00.2	90 05.5 -28.0	N 20 06.9 -09.5	19						
20	118 22.4 +00.0	N 18 36.1 -00.6	142 00.0 -00.8	N 22 32.1 -00.2	104 37.5 -28.0	N 19 57.4 -09.6	20						
21	133 22.4 +00.0	N 18 35.5 -00.6	156 59.2 -00.8	N 22 31.9 -00.2	119 09.5 -27.9	N 19 47.8 -09.8	21						
22	148 22.4 +00.1	N 18 34.9 -00.6	171 58.4 -00.8	N 22 31.7 -00.2	133 41.6 -27.9	N 19 38.0 -09.8	22						
23	163 22.5 +00.0	N 18 34.3 -00.6	186 57.6 -00.8	N 22 31.5 -00.2	148 13.7 -27.8	N 19 28.2 -09.9	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'8 15'8 15'8 15'8 15'8 15'8		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 14'8 14'8 14'8 14'8 14'8 14'9								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 54'3 54'3 54'4 54'4 54'5 54'5								
	SHA 232° 231° 231° 231° 231° 231°		SHA 256° 255° 255° 255° 255° 254°		SHA 226° 224° 222° 220° 218° 216°								
	Greenwich Culmination Time: 12:06		Greenwich Culmination Time: 10:31		Greenwich Culmination Time: 12:47								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	262 27.9 +00.8	N 15 01.6 +00.5	298 03.4 +02.4	N 02 08.5 +00.0	340 44.0 +02.7	S 15 00.8 +00.1	00						
01	277 28.7 +00.9	N 15 02.1 +00.5	313 05.8 +02.5	N 02 08.5 +00.0	355 46.7 +02.6	S 15 00.9 +00.0	01						
02	292 29.6 +00.8	N 15 02.6 +00.5	328 08.3 +02.4	N 02 08.5 +00.0	10 49.3 +02.6	S 15 00.9 +00.1	02						
03	307 30.4 +00.9	N 15 03.1 +00.5	343 10.7 +02.5	N 02 08.5 +00.0	25 51.9 +02.7	S 15 01.0 +00.0	03						
04	322 31.3 +00.8	N 15 03.6 +00.5	358 13.2 +02.5	N 02 08.5 +00.0	40 54.6 +02.6	S 15 01.0 +00.1	04						
05	337 32.1 +00.9	N 15 04.1 +00.4	13 15.7 +02.4	N 02 08.5 +00.0	55 57.2 +02.6	S 15 01.1 +00.1	05						
06	352 33.0 +00.8	N 15 04.5 +00.5	28 18.1 +02.5	N 02 08.5 -00.1	70 59.8 +02.7	S 15 01.2 +00.0	06						
07	7 33.8 +00.9	N 15 05.0 +00.5	43 20.6 +02.5	N 02 08.4 +00.0	86 02.5 +02.6	S 15 01.2 +00.1	07						
08	22 34.7 +00.8	N 15 05.5 +00.5	58 23.1 +02.4	N 02 08.4 +00.0	101 05.1 +02.6	S 15 01.3 +00.1	08						
09	37 35.5 +00.9	N 15 06.0 +00.5	73 25.5 +02.5	N 02 08.4 +00.0	116 07.7 +02.7	S 15 01.4 +00.0	09						
10	52 36.4 +00.8	N 15 06.5 +00.4	88 28.0 +02.4	N 02 08.4 +00.0	131 10.4 +02.6	S 15 01.4 +00.1	10						
11	67 37.2 +00.9	N 15 06.9 +00.5	103 30.4 +02.5	N 02 08.4 +00.0	146 13.0 +02.6	S 15 01.5 +00.0	11						
12	82 38.1 +00.8	N 15 07.4 +00.5	118 32.9 +02.5	N 02 08.4 +00.0	161 15.6 +02.7	S 15 01.5 +00.1	12						
13	97 38.9 +00.9	N 15 07.9 +00.5	133 35.4 +02.4	N 02 08.4 +00.0	176 18.3 +02.6	S 15 01.6 +00.1	13						
14	112 39.8 +00.8	N 15 08.4 +00.5	148 37.8 +02.5	N 02 08.4 -00.1	191 20.9 +02.6	S 15 01.7 +00.0	14						
15	127 40.6 +00.9	N 15 08.9 +00.4	163 40.3 +02.5	N 02 08.3 +00.0	206 23.5 +02.7	S 15 01.7 +00.1	15						
16	142 41.5 +00.9	N 15 09.3 +00.5	178 42.8 +02.4	N 02 08.3 +00.0	221 26.2 +02.6	S 15 01.8 +00.0	16						
17	157 42.4 +00.8	N 15 09.8 +00.5	193 45.2 +02.5	N 02 08.3 +00.0	236 28.8 +02.6	S 15 01.8 +00.1	17						
18	172 43.2 +00.9	N 15 10.3 +00.5	208 47.7 +02.5	N 02 08.3 +00.0	251 31.4 +02.7	S 15 01.9 +00.1	18						
19	187 44.1 +00.8	N 15 10.8 +00.5	223 50.2 +02.4	N 02 08.3 +00.0	266 34.1 +02.6	S 15 02.0 +00.0	19						
20	202 44.9 +00.9	N 15 11.3 +00.4	238 52.6 +02.5	N 02 08.3 +00.0	281 36.7 +02.6	S 15 02.0 +00.1	20						
21	217 45.8 +00.8	N 15 11.7 +00.5	253 55.1 +02.5	N 02 08.3 -00.1	296 39.3 +02.7	S 15 02.1 +00.1	21						
22	232 46.6 +00.9	N 15 12.2 +00.5	268 57.6 +02.4	N 02 08.2 +00.0	311 42.0 +02.6	S 15 02.2 +00.0	22						
23	247 47.5 +00.8	N 15 12.7 +00.5	284 00.0 +02.5	N 02 08.2 +00.0	326 44.6 +02.6	S 15 02.2 +00.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'4 00'4 00'4 00'4 00'4 00'4		SD 00'2 00'2 00'2 00'2 00'2 00'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 316° 316° 316° 315° 315° 315°		SHA 351° 351° 351° 351° 351° 351°		SHA 034° 034° 034° 034° 034° 034°								
	Greenwich Culmination Time: 06:29		Greenwich Culmination Time: 04:07		Greenwich Culmination Time: 01:16								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 22.5 +00.0	N 18 33.7 -00.6	201 56.8 -00.9	N 22 31.3 -00.3	162 45.9 -27.7	N 19 18.3 -10.0	00						
01	193 22.5 +00.0	N 18 33.1 -00.6	216 55.9 -00.8	N 22 31.0 -00.2	177 18.2 -27.8	N 19 08.3 -10.0	01						
02	208 22.5 +00.1	N 18 32.5 -00.6	231 55.1 -00.8	N 22 30.8 -00.2	191 50.4 -27.6	N 18 58.3 -10.2	02						
03	223 22.6 +00.0	N 18 31.9 -00.6	246 54.3 -00.8	N 22 30.6 -00.2	206 22.8 -27.6	N 18 48.1 -10.2	03						
04	238 22.6 +00.0	N 18 31.3 -00.7	261 53.5 -00.8	N 22 30.4 -00.2	220 55.2 -27.6	N 18 37.9 -10.4	04						
05	253 22.6 +00.0	N 18 30.6 -00.6	276 52.7 -00.8	N 22 30.2 -00.3	235 27.6 -27.5	N 18 27.5 -10.4	05						
06	268 22.6 +00.1	N 18 30.0 -00.6	291 51.9 -00.8	N 22 29.9 -00.2	250 00.1 -27.5	N 18 17.1 -10.5	06						
07	283 22.7 +00.0	N 18 29.4 -00.6	306 51.1 -00.9	N 22 29.7 -00.2	264 32.6 -27.5	N 18 06.6 -10.6	07						
08	298 22.7 +00.0	N 18 28.8 -00.6	321 50.2 -00.8	N 22 29.5 -00.2	279 05.1 -27.3	N 17 56.0 -10.6	08						
09	313 22.7 +00.0	N 18 28.2 -00.6	336 49.4 -00.8	N 22 29.3 -00.2	293 37.8 -27.4	N 17 45.4 -10.8	09						
10	328 22.7 +00.1	N 18 27.6 -00.6	351 48.6 -00.8	N 22 29.1 -00.3	308 10.4 -27.3	N 17 34.6 -10.8	10						
11	343 22.8 +00.0	N 18 27.0 -00.6	6 47.8 -00.8	N 22 28.8 -00.2	322 43.1 -27.2	N 17 23.8 -10.9	11						
12	358 22.8 +00.0	N 18 26.4 -00.6	21 47.0 -00.8	N 22 28.6 -00.2	337 15.9 -27.2	N 17 12.9 -11.0	12						
13	13 22.8 +00.0	N 18 25.8 -00.6	36 46.2 -00.8	N 22 28.4 -00.3	351 48.7 -27.2	N 17 01.9 -11.0	13						
14	28 22.8 +00.1	N 18 25.2 -00.6	51 45.4 -00.9	N 22 28.1 -00.2	6 21.5 -27.1	N 16 50.9 -11.2	14						
15	43 22.9 +00.0	N 18 24.6 -00.6	66 44.5 -00.8	N 22 27.9 -00.2	20 54.4 -27.1	N 16 39.7 -11.2	15						
16	58 22.9 +00.0	N 18 24.0 -00.6	81 43.7 -00.8	N 22 27.7 -00.3	35 27.3 -27.0	N 16 28.5 -11.3	16						
17	73 22.9 +00.1	N 18 23.4 -00.6	96 42.9 -00.8	N 22 27.4 -00.2	50 00.3 -27.0	N 16 17.2 -11.3	17						
18	88 23.0 +00.0	N 18 22.8 -00.7	111 42.1 -00.8	N 22 27.2 -00.2	64 33.3 -27.0	N 16 05.9 -11.5	18						
19	103 23.0 +00.0	N 18 22.1 -00.6	126 41.3 -00.8	N 22 27.0 -00.3	79 06.3 -26.9	N 15 54.4 -11.5	19						
20	118 23.0 +00.0	N 18 21.5 -00.6	141 40.5 -00.8	N 22 26.7 -00.2	93 39.4 -26.8	N 15 42.9 -11.5	20						
21	133 23.0 +00.1	N 18 20.9 -00.6	156 39.7 -00.9	N 22 26.5 -00.2	108 12.6 -26.9	N 15 31.4 -11.7	21						
22	148 23.1 +00.0	N 18 20.3 -00.6	171 38.8 -00.8	N 22 26.3 -00.3	122 45.7 -26.8	N 15 19.7 -11.7	22						
23	163 23.1 +00.0	N 18 19.7 -00.6	186 38.0 -00.8	N 22 26.0 -00.2	137 18.9 -26.7	N 15 08.0 -11.8	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'8 15'8 15'8 15'8 15'8 15'8		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 14'9 14'9 14'9 14'9 14'9 14'9								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 54'6 54'6 54'7 54'7 54'8 54'8								
	SHA 231° 231° 230° 230° 230° 230°		SHA 254° 254° 254° 254° 253° 253°		SHA 214° 212° 210° 208° 206° 204°								
	Greenwich Culmination Time: 12:06		Greenwich Culmination Time: 10:32		Greenwich Culmination Time: 13:33								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	262 48.3 +00.9	N 15 13.2 +00.4	299 02.5 +02.5	N 02 08.2 +00.0	341 47.2 +02.7	S 15 02.3 +00.0	00						
01	277 49.2 +00.8	N 15 13.6 +00.5	314 05.0 +02.4	N 02 08.2 +00.0	356 49.9 +02.6	S 15 02.3 +00.1	01						
02	292 50.0 +00.9	N 15 14.1 +00.5	329 07.4 +02.5	N 02 08.2 +00.0	11 52.5 +02.7	S 15 02.4 +00.1	02						
03	307 50.9 +00.8	N 15 14.6 +00.5	344 09.9 +02.5	N 02 08.2 +00.0	26 55.2 +02.6	S 15 02.5 +00.0	03						
04	322 51.7 +00.9	N 15 15.1 +00.4	359 12.4 +02.4	N 02 08.2 -00.1	41 57.8 +02.6	S 15 02.5 +00.1	04						
05	337 52.6 +00.8	N 15 15.5 +00.5	14 14.8 +02.5	N 02 08.1 +00.0	57 00.4 +02.7	S 15 02.6 +00.1	05						
06	352 53.4 +00.9	N 15 16.0 +00.5	29 17.3 +02.5	N 02 08.1 +00.0	72 03.1 +02.6	S 15 02.7 +00.0	06						
07	7 54.3 +00.8	N 15 16.5 +00.5	44 19.8 +02.5	N 02 08.1 +00.0	87 05.7 +02.6	S 15 02.7 +00.1	07						
08	22 55.1 +00.9	N 15 17.0 +00.4	59 22.3 +02.4	N 02 08.1 +00.0	102 08.3 +02.7	S 15 02.8 +00.0	08						
09	37 56.0 +00.9	N 15 17.4 +00.5	74 24.7 +02.5	N 02 08.1 +00.0	117 11.0 +02.6	S 15 02.8 +00.1	09						
10	52 56.9 +00.8	N 15 17.9 +00.5	89 27.2 +02.5	N 02 08.1 -00.1	132 13.6 +02.6	S 15 02.9 +00.1	10						
11	67 57.7 +00.9	N 15 18.4 +00.5	104 29.7 +02.4	N 02 08.0 +00.0	147 16.2 +02.7	S 15 03.0 +00.0	11						
12	82 58.6 +00.8	N 15 18.9 +00.4	119 32.1 +02.5	N 02 08.0 +00.0	162 18.9 +02.6	S 15 03.0 +00.1	12						
13	97 59.4 +00.9	N 15 19.3 +00.5	134 34.6 +02.5	N 02 08.0 +00.0	177 21.5 +02.6	S 15 03.1 +00.1	13						
14	113 00.3 +00.8	N 15 19.8 +00.5	149 37.1 +02.5	N 02 08.0 +00.0	192 24.1 +02.7	S 15 03.2 +00.0	14						
15	128 01.1 +00.9	N 15 20.3 +00.5	164 39.6 +02.4	N 02 08.0 +00.0	207 26.8 +02.6	S 15 03.2 +00.1	15						
16	143 02.0 +00.8	N 15 20.8 +00.4	179 42.0 +02.5	N 02 08.0 -00.1	222 29.4 +02.6	S 15 03.3 +00.1	16						
17	158 02.8 +00.9	N 15 21.2 +00.5	194 44.5 +02.5	N 02 07.9 +00.0	237 32.0 +02.7	S 15 03.4 +00.0	17						
18	173 03.7 +00.9	N 15 21.7 +00.5	209 47.0 +02.4	N 02 07.9 +00.0	252 34.7 +02.6	S 15 03.4 +00.1	18						
19	188 04.6 +00.8	N 15 22.2 +00.4	224 49.4 +02.5	N 02 07.9 +00.0	267 37.3 +02.6	S 15 03.5 +00.0	19						
20	203 05.4 +00.9	N 15 22.6 +00.5	239 51.9 +02.5	N 02 07.9 +00.0	282 39.9 +02.7	S 15 03.5 +00.1	20						
21	218 06.3 +00.8	N 15 23.1 +00.5	254 54.4 +02.5	N 02 07.9 +00.0	297 42.6 +02.6	S 15 03.6 +00.1	21						
22	233 07.1 +00.9	N 15 23.6 +00.5	269 56.9 +02.4	N 02 07.9 -00.1	312 45.2 +02.7	S 15 03.7 +00.0	22						
23	248 08.0 +00.8	N 15 24.1 +00.4	284 59.3 +02.5	N 02 07.8 +00.0	327 47.9 +02.6	S 15 03.7 +00.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'4 00'4 00'4 00'4 00'4 00'4		SD 00'2 00'2 00'2 00'2 00'2 00'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 315° 315° 315° 315° 315° 315°		SHA 351° 351° 351° 351° 351° 351°		SHA 034° 034° 034° 034° 034° 034°								
	Greenwich Culmination Time: 06:28		Greenwich Culmination Time: 04:03		Greenwich Culmination Time: 01:12								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 23.1 +00.1	N 18 19.1 -00.6	201 37.2 -00.8	N 22 25.8 -00.3	151 52.2 -26.7	N 14 56.2 -11.8	00						
01	193 23.2 +00.0	N 18 18.5 -00.7	216 36.4 -00.8	N 22 25.5 -00.2	166 25.5 -26.7	N 14 44.4 -11.9	01						
02	208 23.2 +00.0	N 18 17.8 -00.6	231 35.6 -00.8	N 22 25.3 -00.3	180 58.8 -26.6	N 14 32.5 -12.0	02						
03	223 23.2 +00.0	N 18 17.2 -00.6	246 34.8 -00.8	N 22 25.0 -00.2	195 32.2 -26.6	N 14 20.5 -12.1	03						
04	238 23.2 +00.1	N 18 16.6 -00.6	261 34.0 -00.8	N 22 24.8 -00.3	210 05.6 -26.6	N 14 08.4 -12.1	04						
05	253 23.3 +00.0	N 18 16.0 -00.6	276 33.2 -00.9	N 22 24.5 -00.2	224 39.0 -26.5	N 13 56.3 -12.2	05						
06	268 23.3 +00.0	N 18 15.4 -00.6	291 32.3 -00.8	N 22 24.3 -00.2	239 12.5 -26.5	N 13 44.1 -12.2	06						
07	283 23.3 +00.1	N 18 14.8 -00.7	306 31.5 -00.8	N 22 24.1 -00.3	253 46.0 -26.5	N 13 31.9 -12.3	07						
08	298 23.4 +00.0	N 18 14.1 -00.6	321 30.7 -00.8	N 22 23.8 -00.2	268 19.5 -26.4	N 13 19.6 -12.4	08						
09	313 23.4 +00.0	N 18 13.5 -00.6	336 29.9 -00.8	N 22 23.6 -00.3	282 53.1 -26.4	N 13 07.2 -12.4	09						
10	328 23.4 +00.1	N 18 12.9 -00.6	351 29.1 -00.8	N 22 23.3 -00.3	297 26.7 -26.4	N 12 54.8 -12.5	10						
11	343 23.5 +00.0	N 18 12.3 -00.6	6 28.3 -00.8	N 22 23.0 -00.2	312 00.3 -26.3	N 12 42.3 -12.6	11						
12	358 23.5 +00.0	N 18 11.7 -00.7	21 27.5 -00.8	N 22 22.8 -00.3	326 34.0 -26.3	N 12 29.7 -12.6	12						
13	13 23.5 +00.1	N 18 11.0 -00.6	36 26.7 -00.9	N 22 22.5 -00.2	341 07.7 -26.3	N 12 17.1 -12.7	13						
14	28 23.6 +00.0	N 18 10.4 -00.6	51 25.8 -00.8	N 22 22.3 -00.3	355 41.4 -26.2	N 12 04.4 -12.7	14						
15	43 23.6 +00.0	N 18 09.8 -00.6	66 25.0 -00.8	N 22 22.0 -00.2	10 15.2 -26.2	N 11 51.7 -12.8	15						
16	58 23.6 +00.1	N 18 09.2 -00.6	81 24.2 -00.8	N 22 21.8 -00.3	24 49.0 -26.2	N 11 38.9 -12.8	16						
17	73 23.7 +00.0	N 18 08.6 -00.7	96 23.4 -00.8	N 22 21.5 -00.3	39 22.8 -26.2	N 11 26.1 -12.9	17						
18	88 23.7 +00.0	N 18 07.9 -00.6	111 22.6 -00.8	N 22 21.2 -00.2	53 56.6 -26.1	N 11 13.2 -12.9	18						
19	103 23.7 +00.1	N 18 07.3 -00.6	126 21.8 -00.8	N 22 21.0 -00.3	68 30.5 -26.1	N 11 00.3 -13.0	19						
20	118 23.8 +00.0	N 18 06.7 -00.6	141 21.0 -00.8	N 22 20.7 -00.3	83 04.4 -26.1	N 10 47.3 -13.1	20						
21	133 23.8 +00.0	N 18 06.1 -00.7	156 20.2 -00.8	N 22 20.4 -00.2	97 38.3 -26.1	N 10 34.2 -13.1	21						
22	148 23.8 +00.1	N 18 05.4 -00.6	171 19.4 -00.8	N 22 20.2 -00.3	112 12.2 -26.0	N 10 21.1 -13.1	22						
23	163 23.9 +00.0	N 18 04.8 -00.6	186 18.6 -00.9	N 22 19.9 -00.3	126 46.2 -26.0	N 10 08.0 -13.2	23						
	UT 02 06 10 14 18 22	UT 02 06 10 14 18 22	UT 02 06 10 14 18 22		SD 15'8 15'8 15'8 15'8 15'8 15'8	SD 00'1 00'1 00'1 00'1 00'1 00'1	SD 15'0 15'0 15'0 15'0 15'0 15'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1	HP 54'9 55'0 55'0 55'1 55'2 55'3							
	SHA 230° 230° 229° 229° 229° 229°	SHA 253° 253° 252° 252° 252° 252°	SHA 253° 253° 252° 252° 252° 252°		SHA 202° 200° 198° 197° 195° 193°								
	Greenwich Culmination Time: 12:06	Greenwich Culmination Time: 10:34	Greenwich Culmination Time: 14:17										

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	263 08.8 +00.9	N 15 24.5 +00.5	300 01.8 +02.5	N 02 07.8 +00.0	342 50.5 +02.6	S 15 03.8 +00.1	00						
01	278 09.7 +00.8	N 15 25.0 +00.5	315 04.3 +02.5	N 02 07.8 +00.0	357 53.1 +02.7	S 15 03.9 +00.0	01						
02	293 10.5 +00.9	N 15 25.5 +00.4	330 06.8 +02.5	N 02 07.8 +00.0	12 55.8 +02.6	S 15 03.9 +00.1	02						
03	308 11.4 +00.9	N 15 25.9 +00.5	345 09.3 +02.4	N 02 07.8 -00.1	27 58.4 +02.6	S 15 04.0 +00.0	03						
04	323 12.3 +00.8	N 15 26.4 +00.5	0 11.7 +02.5	N 02 07.7 +00.0	43 01.0 +02.7	S 15 04.0 +00.1	04						
05	338 13.1 +00.9	N 15 26.9 +00.5	15 14.2 +02.5	N 02 07.7 +00.0	58 03.7 +02.6	S 15 04.1 +00.1	05						
06	353 14.0 +00.8	N 15 27.4 +00.4	30 16.7 +02.5	N 02 07.7 +00.0	73 06.3 +02.6	S 15 04.2 +00.0	06						
07	8 14.8 +00.9	N 15 27.8 +00.5	45 19.2 +02.4	N 02 07.7 +00.0	88 08.9 +02.7	S 15 04.2 +00.1	07						
08	23 15.7 +00.8	N 15 28.3 +00.5	60 21.6 +02.5	N 02 07.7 -00.1	103 11.6 +02.6	S 15 04.3 +00.1	08						
09	38 16.5 +00.9	N 15 28.8 +00.4	75 24.1 +02.5	N 02 07.6 +00.0	118 14.2 +02.6	S 15 04.4 +00.0	09						
10	53 17.4 +00.9	N 15 29.2 +00.5	90 26.6 +02.5	N 02 07.6 +00.0	133 16.8 +02.7	S 15 04.4 +00.1	10						
11	68 18.3 +00.8	N 15 29.7 +00.5	105 29.1 +02.5	N 02 07.6 +00.0	148 19.5 +02.6	S 15 04.5 +00.0	11						
12	83 19.1 +00.9	N 15 30.2 +00.4	120 31.6 +02.4	N 02 07.6 +00.0	163 22.1 +02.7	S 15 04.5 +00.1	12						
13	98 20.0 +00.8	N 15 30.6 +00.5	135 34.0 +02.5	N 02 07.6 -00.1	178 24.8 +02.6	S 15 04.6 +00.1	13						
14	113 20.8 +00.9	N 15 31.1 +00.5	150 36.5 +02.5	N 02 07.5 +00.0	193 27.4 +02.6	S 15 04.7 +00.0	14						
15	128 21.7 +00.9	N 15 31.6 +00.4	165 39.0 +02.5	N 02 07.5 +00.0	208 30.0 +02.7	S 15 04.7 +00.1	15						
16	143 22.6 +00.8	N 15 32.0 +00.5	180 41.5 +02.5	N 02 07.5 +00.0	223 32.7 +02.6	S 15 04.8 +00.1	16						
17	158 23.4 +00.9	N 15 32.5 +00.5	195 44.0 +02.4	N 02 07.5 +00.0	238 35.3 +02.6	S 15 04.9 +00.0	17						
18	173 24.3 +00.8	N 15 33.0 +00.4	210 46.4 +02.5	N 02 07.5 -00.1	253 37.9 +02.7	S 15 04.9 +00.1	18						
19	188 25.1 +00.9	N 15 33.4 +00.5	225 48.9 +02.5	N 02 07.4 +00.0	268 40.6 +02.6	S 15 05.0 +00.1	19						
20	203 26.0 +00.9	N 15 33.9 +00.5	240 51.4 +02.5	N 02 07.4 +00.0	283 43.2 +02.7	S 15 05.1 +00.0	20						
21	218 26.9 +00.8	N 15 34.4 +00.4	255 53.9 +02.5	N 02 07.4 +00.0	298 45.9 +02.6	S 15 05.1 +00.1	21						
22	233 27.7 +00.9	N 15 34.8 +00.5	270 56.4 +02.4	N 02 07.4 +00.0	313 48.5 +02.6	S 15 05.2 +00.0	22						
23	248 28.6 +00.8	N 15 35.3 +00.4	285 58.8 +02.5	N 02 07.4 -00.1	328 51.1 +02.7	S 15 05.2 +00.1	23						
	UT 02 06 10 14 18 22	UT 02 06 10 14 18 22	UT 02 06 10 14 18 22		SD 00'2 00'2 00'2 00'2 00'2 00'2	SD 00'2 00'2 00'2 00'2 00'2 00'2							
	HP 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'0 00'0 00'0 00'0 00'0 00'0	HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0	HP 00'0 00'0 00'0 00'0 00'0 00'0							
	SHA 314° 314° 314° 314° 314° 314°	SHA 351° 351° 351° 351° 351° 351°	SHA 351° 351° 351° 351° 351° 351°		SHA 034° 034° 034° 034° 034° 034°	SHA 034° 034° 034° 034° 034° 034°							
	Greenwich Culmination Time: 06:27	Greenwich Culmination Time: 03:59	Greenwich Culmination Time: 01:08										

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 23.9 +00.0	N 18 04.2 -00.6	201 17.7 -00.8	N 22 19.6 -00.2	141 20.2 -26.0	N 09 54.8 -13.3	00						
01	193 23.9 +00.1	N 18 03.6 -00.7	216 16.9 -00.8	N 22 19.4 -00.3	155 54.2 -26.0	N 09 41.5 -13.3	01						
02	208 24.0 +00.0	N 18 02.9 -00.6	231 16.1 -00.8	N 22 19.1 -00.3	170 28.2 -25.9	N 09 28.2 -13.3	02						
03	223 24.0 +00.1	N 18 02.3 -00.6	246 15.3 -00.8	N 22 18.8 -00.2	185 02.3 -26.0	N 09 14.9 -13.4	03						
04	238 24.1 +00.0	N 18 01.7 -00.7	261 14.5 -00.8	N 22 18.6 -00.3	199 36.3 -25.9	N 09 01.5 -13.4	04						
05	253 24.1 +00.0	N 18 01.0 -00.6	276 13.7 -00.8	N 22 18.3 -00.3	214 10.4 -25.9	N 08 48.1 -13.5	05						
06	268 24.1 +00.1	N 18 00.4 -00.6	291 12.9 -00.8	N 22 18.0 -00.3	228 44.5 -25.9	N 08 34.6 -13.5	06						
07	283 24.2 +00.0	N 17 59.8 -00.6	306 12.1 -00.8	N 22 17.7 -00.2	243 18.6 -25.9	N 08 21.1 -13.6	07						
08	298 24.2 +00.0	N 17 59.2 -00.7	321 11.3 -00.8	N 22 17.5 -00.3	257 52.7 -25.8	N 08 07.5 -13.6	08						
09	313 24.2 +00.1	N 17 58.5 -00.6	336 10.5 -00.8	N 22 17.2 -00.3	272 26.9 -25.9	N 07 53.9 -13.6	09						
10	328 24.3 +00.0	N 17 57.9 -00.6	351 09.7 -00.9	N 22 16.9 -00.3	287 01.0 -25.8	N 07 40.3 -13.7	10						
11	343 24.3 +00.1	N 17 57.3 -00.7	6 08.8 -00.8	N 22 16.6 -00.3	301 35.2 -25.9	N 07 26.6 -13.7	11						
12	358 24.4 +00.0	N 17 56.6 -00.6	21 08.0 -00.8	N 22 16.3 -00.3	316 09.3 -25.8	N 07 12.9 -13.8	12						
13	13 24.4 +00.0	N 17 56.0 -00.6	36 07.2 -00.8	N 22 16.0 -00.2	330 43.5 -25.8	N 06 59.1 -13.8	13						
14	28 24.4 +00.1	N 17 55.4 -00.7	51 06.4 -00.8	N 22 15.8 -00.3	345 17.7 -25.8	N 06 45.3 -13.8	14						
15	43 24.5 +00.0	N 17 54.7 -00.6	66 05.6 -00.8	N 22 15.5 -00.3	359 51.9 -25.8	N 06 31.5 -13.9	15						
16	58 24.5 +00.1	N 17 54.1 -00.6	81 04.8 -00.8	N 22 15.2 -00.3	14 26.1 -25.8	N 06 17.6 -13.9	16						
17	73 24.6 +00.0	N 17 53.5 -00.7	96 04.0 -00.8	N 22 14.9 -00.3	29 00.3 -25.8	N 06 03.7 -14.0	17						
18	88 24.6 +00.0	N 17 52.8 -00.6	111 03.2 -00.8	N 22 14.6 -00.3	43 34.5 -25.8	N 05 49.7 -13.9	18						
19	103 24.6 +00.1	N 17 52.2 -00.6	126 02.4 -00.8	N 22 14.3 -00.3	58 08.7 -25.7	N 05 35.8 -14.1	19						
20	118 24.7 +00.0	N 17 51.6 -00.7	141 01.6 -00.8	N 22 14.0 -00.3	72 43.0 -25.8	N 05 21.7 -14.0	20						
21	133 24.7 +00.1	N 17 50.9 -00.6	156 00.8 -00.8	N 22 13.7 -00.3	87 17.2 -25.8	N 05 07.7 -14.1	21						
22	148 24.8 +00.0	N 17 50.3 -00.7	170 60.0 -00.8	N 22 13.4 -00.2	101 51.4 -25.8	N 04 53.6 -14.1	22						
23	163 24.8 +00.0	N 17 49.6 -00.6	185 59.2 -00.8	N 22 13.2 -00.3	116 25.6 -25.8	N 04 39.5 -14.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'8 15'8 15'8 15'8 15'8 15'8		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 15'1 15'1 15'1 15'1 15'2 15'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 55'3 55'4 55'5 55'6 55'7 55'8								
	SHA 229° 229° 228° 228° 228° 228°		SHA 252° 251° 251° 251° 251° 251°		SHA 191° 189° 187° 185° 183° 181°								
	Greenwich Culmination Time: 12:06		Greenwich Culmination Time: 10:35		Greenwich Culmination Time: 15:00								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	263 29.4 +00.9	N 15 35.7 +00.5	301 01.3 +02.5	N 02 07.3 +00.0	343 53.8 +02.6	S 15 05.3 +00.1	00						
01	278 30.3 +00.9	N 15 36.2 +00.5	316 03.8 +02.5	N 02 07.3 +00.0	358 56.4 +02.6	S 15 05.4 +00.0	01						
02	293 31.2 +00.8	N 15 36.7 +00.4	331 06.3 +02.5	N 02 07.3 +00.0	13 59.0 +02.7	S 15 05.4 +00.1	02						
03	308 32.0 +00.9	N 15 37.1 +00.5	346 08.8 +02.5	N 02 07.3 +00.0	29 01.7 +02.6	S 15 05.5 +00.1	03						
04	323 32.9 +00.8	N 15 37.6 +00.5	1 11.3 +02.5	N 02 07.3 -00.1	44 04.3 +02.6	S 15 05.6 +00.0	04						
05	338 33.7 +00.9	N 15 38.1 +00.4	16 13.8 +02.4	N 02 07.2 +00.0	59 06.9 +02.7	S 15 05.6 +00.1	05						
06	353 34.6 +00.9	N 15 38.5 +00.5	31 16.2 +02.5	N 02 07.2 +00.0	74 09.6 +02.6	S 15 05.7 +00.0	06						
07	8 35.5 +00.8	N 15 39.0 +00.5	46 18.7 +02.5	N 02 07.2 +00.0	89 12.2 +02.7	S 15 05.7 +00.1	07						
08	23 36.3 +00.9	N 15 39.5 +00.4	61 21.2 +02.5	N 02 07.2 -00.1	104 14.9 +02.6	S 15 05.8 +00.1	08						
09	38 37.2 +00.8	N 15 39.9 +00.5	76 23.7 +02.5	N 02 07.1 +00.0	119 17.5 +02.6	S 15 05.9 +00.0	09						
10	53 38.0 +00.9	N 15 40.4 +00.4	91 26.2 +02.5	N 02 07.1 +00.0	134 20.1 +02.7	S 15 05.9 +00.1	10						
11	68 38.9 +00.9	N 15 40.8 +00.5	106 28.7 +02.5	N 02 07.1 +00.0	149 22.8 +02.6	S 15 06.0 +00.1	11						
12	83 39.8 +00.8	N 15 41.3 +00.5	121 31.2 +02.4	N 02 07.1 +00.0	164 25.4 +02.6	S 15 06.1 +00.0	12						
13	98 40.6 +00.9	N 15 41.8 +00.4	136 33.6 +02.5	N 02 07.1 -00.1	179 28.0 +02.7	S 15 06.1 +00.1	13						
14	113 41.5 +00.9	N 15 42.2 +00.5	151 36.1 +02.5	N 02 07.0 +00.0	194 30.7 +02.6	S 15 06.2 +00.1	14						
15	128 42.4 +00.8	N 15 42.7 +00.4	166 38.6 +02.5	N 02 07.0 +00.0	209 33.3 +02.7	S 15 06.3 +00.0	15						
16	143 43.2 +00.9	N 15 43.1 +00.5	181 41.1 +02.5	N 02 07.0 +00.0	224 36.0 +02.6	S 15 06.3 +00.1	16						
17	158 44.1 +00.8	N 15 43.6 +00.5	196 43.6 +02.5	N 02 07.0 -00.1	239 38.6 +02.6	S 15 06.4 +00.0	17						
18	173 44.9 +00.9	N 15 44.1 +00.4	211 46.1 +02.5	N 02 06.9 +00.0	254 41.2 +02.7	S 15 06.4 +00.1	18						
19	188 45.8 +00.9	N 15 44.5 +00.5	226 48.6 +02.5	N 02 06.9 +00.0	269 43.9 +02.6	S 15 06.5 +00.1	19						
20	203 46.7 +00.8	N 15 45.0 +00.4	241 51.1 +02.4	N 02 06.9 +00.0	284 46.5 +02.7	S 15 06.6 +00.0	20						
21	218 47.5 +00.9	N 15 45.4 +00.5	256 53.5 +02.5	N 02 06.9 -00.1	299 49.2 +02.6	S 15 06.6 +00.1	21						
22	233 48.4 +00.9	N 15 45.9 +00.5	271 56.0 +02.5	N 02 06.8 +00.0	314 51.8 +02.6	S 15 06.7 +00.1	22						
23	248 49.3 +00.8	N 15 46.4 +00.4	286 58.5 +02.5	N 02 06.8 +00.0	329 54.4 +02.7	S 15 06.8 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'4 00'4 00'4 00'4 00'4 00'4		SD 00'2 00'2 00'2 00'2 00'2 00'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 314° 314° 314° 314° 313° 313°		SHA 351° 351° 351° 351° 351° 351°		SHA 034° 034° 034° 034° 034° 034°								
	Greenwich Culmination Time: 06:25		Greenwich Culmination Time: 03:55		Greenwich Culmination Time: 01:04								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 27.2 +00.0	N 17 17.8 -00.7	200 19.9 -00.8	N 21 57.4 -00.4	109 58.3 -27.3	S 07 10.0 +14.5	00						
01	193 27.2 +00.1	N 17 17.1 -00.7	215 19.1 -00.8	N 21 57.0 -00.3	124 31.0 -27.3	S 07 24.5 +14.4	01						
02	208 27.3 +00.1	N 17 16.4 -00.6	230 18.3 -00.8	N 21 56.7 -00.4	139 03.7 -27.4	S 07 38.9 +14.4	02						
03	223 27.4 +00.0	N 17 15.8 -00.7	245 17.5 -00.8	N 21 56.3 -00.3	153 36.3 -27.5	S 07 53.3 +14.4	03						
04	238 27.4 +00.1	N 17 15.1 -00.6	260 16.7 -00.8	N 21 56.0 -00.4	168 08.8 -27.5	S 08 07.7 +14.4	04						
05	253 27.5 +00.0	N 17 14.5 -00.7	275 15.9 -00.8	N 21 55.6 -00.4	182 41.3 -27.6	S 08 22.1 +14.3	05						
06	268 27.5 +00.1	N 17 13.8 -00.7	290 15.1 -00.8	N 21 55.2 -00.3	197 13.7 -27.7	S 08 36.4 +14.3	06						
07	283 27.6 +00.0	N 17 13.1 -00.6	305 14.3 -00.8	N 21 54.9 -00.4	211 46.0 -27.7	S 08 50.7 +14.3	07						
08	298 27.6 +00.1	N 17 12.5 -00.7	320 13.5 -00.8	N 21 54.5 -00.3	226 18.3 -27.8	S 09 05.0 +14.3	08						
09	313 27.7 +00.1	N 17 11.8 -00.7	335 12.7 -00.8	N 21 54.2 -00.4	240 50.5 -27.9	S 09 19.3 +14.2	09						
10	328 27.8 +00.0	N 17 11.1 -00.6	350 11.9 -00.8	N 21 53.8 -00.4	255 22.6 -28.0	S 09 33.5 +14.3	10						
11	343 27.8 +00.1	N 17 10.5 -00.7	5 11.1 -00.8	N 21 53.4 -00.3	269 54.6 -28.0	S 09 47.8 +14.1	11						
12	358 27.9 +00.0	N 17 09.8 -00.7	20 10.3 -00.8	N 21 53.1 -00.4	284 26.6 -28.1	S 10 01.9 +14.2	12						
13	13 27.9 +00.1	N 17 09.1 -00.6	35 09.5 -00.8	N 21 52.7 -00.3	298 58.5 -28.2	S 10 16.1 +14.1	13						
14	28 28.0 +00.1	N 17 08.5 -00.7	50 08.7 -00.8	N 21 52.4 -00.4	313 30.3 -28.2	S 10 30.2 +14.1	14						
15	43 28.1 +00.0	N 17 07.8 -00.7	65 07.9 -00.8	N 21 52.0 -00.4	328 02.1 -28.3	S 10 44.3 +14.0	15						
16	58 28.1 +00.1	N 17 07.1 -00.7	80 07.1 -00.8	N 21 51.6 -00.3	342 33.8 -28.4	S 10 58.3 +14.0	16						
17	73 28.2 +00.0	N 17 06.4 -00.6	95 06.3 -00.7	N 21 51.3 -00.4	357 05.4 -28.5	S 11 12.3 +14.0	17						
18	88 28.2 +00.1	N 17 05.8 -00.7	110 05.6 -00.8	N 21 50.9 -00.4	11 36.9 -28.6	S 11 26.3 +13.9	18						
19	103 28.3 +00.1	N 17 05.1 -00.7	125 04.8 -00.8	N 21 50.5 -00.4	26 08.3 -28.7	S 11 40.2 +13.9	19						
20	118 28.4 +00.0	N 17 04.4 -00.6	140 04.0 -00.8	N 21 50.1 -00.3	40 39.6 -28.7	S 11 54.1 +13.9	20						
21	133 28.4 +00.1	N 17 03.8 -00.7	155 03.2 -00.8	N 21 49.8 -00.4	55 10.9 -28.9	S 12 08.0 +13.8	21						
22	148 28.5 +00.0	N 17 03.1 -00.7	170 02.4 -00.8	N 21 49.4 -00.4	69 42.0 -28.9	S 12 21.8 +13.7	22						
23	163 28.5 +00.1	N 17 02.4 -00.7	185 01.6 -00.8	N 21 49.0 -00.4	84 13.1 -29.0	S 12 35.5 +13.7	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'8 15'8 15'8 15'8 15'8 15'8		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 15'6 15'6 15'6 15'7 15'7 15'7								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 57'1 57'2 57'4 57'5 57'6 57'7								
	SHA 226° 226° 226° 225° 225° 225°		SHA 248° 247° 247° 247° 247° 247°		SHA 156° 154° 152° 150° 148° 146°								
	Greenwich Culmination Time: 12:06		Greenwich Culmination Time: 10:39		Greenwich Culmination Time: 17:12								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	264 31.8 +00.9	N 16 08.5 +00.4	304 00.9 +02.5	N 02 05.5 -00.1	347 03.8 +02.6	S 15 09.9 +00.0	00						
01	279 32.7 +00.8	N 16 08.9 +00.5	319 03.4 +02.6	N 02 05.4 +00.0	2 06.4 +02.6	S 15 09.9 +00.1	01						
02	294 33.5 +00.9	N 16 09.4 +00.4	334 06.0 +02.5	N 02 05.4 +00.0	17 09.0 +02.7	S 15 10.0 +00.1	02						
03	309 34.4 +00.9	N 16 09.8 +00.4	349 08.5 +02.5	N 02 05.4 -00.1	32 11.7 +02.6	S 15 10.1 +00.0	03						
04	324 35.3 +00.9	N 16 10.2 +00.5	4 11.0 +02.5	N 02 05.3 +00.0	47 14.3 +02.7	S 15 10.1 +00.1	04						
05	339 36.2 +00.8	N 16 10.7 +00.4	19 13.5 +02.5	N 02 05.3 +00.0	62 17.0 +02.6	S 15 10.2 +00.1	05						
06	354 37.0 +00.9	N 16 11.1 +00.5	34 16.0 +02.5	N 02 05.3 -00.1	77 19.6 +02.7	S 15 10.3 +00.0	06						
07	9 37.9 +00.9	N 16 11.6 +00.4	49 18.5 +02.5	N 02 05.2 +00.0	92 22.3 +02.6	S 15 10.3 +00.1	07						
08	24 38.8 +00.8	N 16 12.0 +00.5	64 21.0 +02.5	N 02 05.2 +00.0	107 24.9 +02.6	S 15 10.4 +00.1	08						
09	39 39.6 +00.9	N 16 12.5 +00.4	79 23.5 +02.5	N 02 05.2 -00.1	122 27.5 +02.7	S 15 10.5 +00.0	09						
10	54 40.5 +00.9	N 16 12.9 +00.4	94 26.0 +02.5	N 02 05.1 +00.0	137 30.2 +02.6	S 15 10.5 +00.1	10						
11	69 41.4 +00.9	N 16 13.3 +00.5	109 28.5 +02.5	N 02 05.1 +00.0	152 32.8 +02.7	S 15 10.6 +00.0	11						
12	84 42.3 +00.8	N 16 13.8 +00.4	124 31.0 +02.5	N 02 05.1 -00.1	167 35.5 +02.6	S 15 10.6 +00.1	12						
13	99 43.1 +00.9	N 16 14.2 +00.5	139 33.5 +02.6	N 02 05.0 +00.0	182 38.1 +02.6	S 15 10.7 +00.1	13						
14	114 44.0 +00.9	N 16 14.7 +00.4	154 36.1 +02.5	N 02 05.0 +00.0	197 40.7 +02.7	S 15 10.8 +00.0	14						
15	129 44.9 +00.9	N 16 15.1 +00.5	169 38.6 +02.5	N 02 05.0 -00.1	212 43.4 +02.6	S 15 10.8 +00.1	15						
16	144 45.8 +00.8	N 16 15.6 +00.4	184 41.1 +02.5	N 02 04.9 +00.0	227 46.0 +02.7	S 15 10.9 +00.1	16						
17	159 46.6 +00.9	N 16 16.0 +00.4	199 43.6 +02.5	N 02 04.9 +00.0	242 48.7 +02.6	S 15 11.0 +00.0	17						
18	174 47.5 +00.9	N 16 16.4 +00.5	214 46.1 +02.5	N 02 04.9 -00.1	257 51.3 +02.6	S 15 11.0 +00.1	18						
19	189 48.4 +00.9	N 16 16.9 +00.4	229 48.6 +02.5	N 02 04.8 +00.0	272 53.9 +02.7	S 15 11.1 +00.1	19						
20	204 49.3 +00.8	N 16 17.3 +00.5	244 51.1 +02.5	N 02 04.8 +00.0	287 56.6 +02.6	S 15 11.2 +00.0	20						
21	219 50.1 +00.9	N 16 17.8 +00.4	259 53.6 +02.6	N 02 04.8 -00.1	302 59.2 +02.7	S 15 11.2 +00.1	21						
22	234 51.0 +00.9	N 16 18.2 +00.4	274 56.2 +02.5	N 02 04.7 +00.0	318 01.9 +02.6	S 15 11.3 +00.0	22						
23	249 51.9 +00.9	N 16 18.6 +00.5	289 58.7 +02.5	N 02 04.7 +00.0	333 04.5 +02.7	S 15 11.3 +00.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'4 00'4 00'4 00'4 00'4 00'4		SD 00'2 00'2 00'2 00'2 00'2 00'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 312° 312° 312° 312° 312° 311°		SHA 351° 351° 351° 351° 351° 351°		SHA 035° 035° 035° 035° 035° 035°								
	Greenwich Culmination Time: 06:21		Greenwich Culmination Time: 03:43		Greenwich Culmination Time: 00:51								

Main table containing astronomical data for Sun, Venus, Moon, Mars, Jupiter, and Saturn. Columns include UT, GHA, ddGHA, Dec, dDec, and UT for each planet. It also includes sub-headers for UT, SD, HP, and SHA, and Greenwich Culmination Time for each planet.

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 30.2 +00.0	N 16 45.4 -00.7	199 41.9 -00.8	N 21 39.3 -00.4	86 38.0 -31.6	S 18 00.5 +12.0	00						
01	193 30.2 +00.1	N 16 44.7 -00.6	214 41.1 -00.8	N 21 38.9 -00.4	101 06.4 -31.7	S 18 12.5 +12.0	01						
02	208 30.3 +00.1	N 16 44.1 -00.7	229 40.3 -00.8	N 21 38.5 -00.4	115 34.7 -31.8	S 18 24.5 +11.9	02						
03	223 30.4 +00.0	N 16 43.4 -00.7	244 39.5 -00.8	N 21 38.1 -00.4	130 02.9 -32.0	S 18 36.4 +11.8	03						
04	238 30.4 +00.1	N 16 42.7 -00.7	259 38.7 -00.8	N 21 37.7 -00.4	144 30.9 -32.1	S 18 48.2 +11.7	04						
05	253 30.5 +00.1	N 16 42.0 -00.7	274 37.9 -00.8	N 21 37.3 -00.4	158 58.8 -32.2	S 18 59.9 +11.6	05						
06	268 30.6 +00.0	N 16 41.3 -00.7	289 37.1 -00.7	N 21 36.9 -00.4	173 26.6 -32.3	S 19 11.5 +11.5	06						
07	283 30.6 +00.1	N 16 40.6 -00.7	304 36.4 -00.8	N 21 36.5 -00.4	187 54.3 -32.4	S 19 23.0 +11.4	07						
08	298 30.7 +00.1	N 16 39.9 -00.7	319 35.6 -00.8	N 21 36.1 -00.5	202 21.9 -32.6	S 19 34.4 +11.3	08						
09	313 30.8 +00.1	N 16 39.2 -00.7	334 34.8 -00.8	N 21 35.6 -00.4	216 49.3 -32.6	S 19 45.7 +11.2	09						
10	328 30.9 +00.0	N 16 38.5 -00.6	349 34.0 -00.8	N 21 35.2 -00.4	231 16.7 -32.8	S 19 56.9 +11.1	10						
11	343 30.9 +00.1	N 16 37.9 -00.7	4 33.2 -00.8	N 21 34.8 -00.4	245 43.9 -33.0	S 20 08.0 +11.0	11						
12	358 31.0 +00.1	N 16 37.2 -00.7	19 32.4 -00.7	N 21 34.4 -00.4	260 10.9 -33.0	S 20 19.0 +10.9	12						
13	13 31.1 +00.0	N 16 36.5 -00.7	34 31.7 -00.8	N 21 34.0 -00.4	274 37.9 -33.2	S 20 29.9 +10.8	13						
14	28 31.1 +00.1	N 16 35.8 -00.7	49 30.9 -00.8	N 21 33.6 -00.5	289 04.7 -33.2	S 20 40.7 +10.6	14						
15	43 31.2 +00.1	N 16 35.1 -00.7	64 30.1 -00.8	N 21 33.1 -00.4	303 31.5 -33.5	S 20 51.3 +10.6	15						
16	58 31.3 +00.1	N 16 34.4 -00.7	79 29.3 -00.8	N 21 32.7 -00.4	317 58.0 -33.5	S 21 01.9 +10.4	16						
17	73 31.4 +00.0	N 16 33.7 -00.7	94 28.5 -00.8	N 21 32.3 -00.4	332 24.5 -33.6	S 21 12.3 +10.4	17						
18	88 31.4 +00.1	N 16 33.0 -00.7	109 27.7 -00.7	N 21 31.9 -00.4	346 50.9 -33.8	S 21 22.7 +10.2	18						
19	103 31.5 +00.1	N 16 32.3 -00.7	124 27.0 -00.8	N 21 31.5 -00.5	1 17.1 -33.9	S 21 32.9 +10.1	19						
20	118 31.6 +00.0	N 16 31.6 -00.7	139 26.2 -00.8	N 21 31.0 -00.4	15 43.2 -34.1	S 21 43.0 +09.9	20						
21	133 31.6 +00.1	N 16 30.9 -00.7	154 25.4 -00.8	N 21 30.6 -00.4	30 09.1 -34.1	S 21 52.9 +09.9	21						
22	148 31.7 +00.1	N 16 30.2 -00.7	169 24.6 -00.8	N 21 30.2 -00.4	44 35.0 -34.3	S 22 02.8 +09.7	22						
23	163 31.8 +00.1	N 16 29.5 -00.7	184 23.8 -00.7	N 21 29.8 -00.5	59 00.7 -34.4	S 22 12.5 +09.6	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'8 15'8 15'8 15'8 15'8 15'8		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 16'0 16'0 16'0 16'1 16'1 16'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 58'6 58'7 58'9 59'0 59'1 59'2								
	SHA 224° 224° 224° 223° 223° 223°		SHA 245° 245° 245° 244° 244° 244°		SHA 131° 129° 126° 124° 122° 119°								
	Greenwich Culmination Time: 12:05		Greenwich Culmination Time: 10:41		Greenwich Culmination Time: 18:54								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	265 13.9 +00.8	N 16 29.5 +00.4	306 01.6 +02.5	N 02 03.8 +00.0	349 10.6 +02.6	S 15 13.0 +00.0	00						
01	280 14.7 +00.9	N 16 29.9 +00.5	321 04.1 +02.5	N 02 03.8 -00.1	4 13.2 +02.7	S 15 13.0 +00.1	01						
02	295 15.6 +00.9	N 16 30.4 +00.4	336 06.6 +02.6	N 02 03.7 +00.0	19 15.9 +02.6	S 15 13.1 +00.0	02						
03	310 16.5 +00.9	N 16 30.8 +00.4	351 09.2 +02.5	N 02 03.7 +00.0	34 18.5 +02.6	S 15 13.1 +00.1	03						
04	325 17.4 +00.9	N 16 31.2 +00.5	6 11.7 +02.5	N 02 03.7 -00.1	49 21.1 +02.7	S 15 13.2 +00.1	04						
05	340 18.3 +00.8	N 16 31.7 +00.4	21 14.2 +02.5	N 02 03.6 +00.0	64 23.8 +02.6	S 15 13.3 +00.0	05						
06	355 19.1 +00.9	N 16 32.1 +00.4	36 16.7 +02.5	N 02 03.6 -00.1	79 26.4 +02.7	S 15 13.3 +00.1	06						
07	10 20.0 +00.9	N 16 32.5 +00.5	51 19.2 +02.6	N 02 03.5 +00.0	94 29.1 +02.6	S 15 13.4 +00.1	07						
08	25 20.9 +00.9	N 16 33.0 +00.4	66 21.8 +02.5	N 02 03.5 +00.0	109 31.7 +02.7	S 15 13.5 +00.0	08						
09	40 21.8 +00.9	N 16 33.4 +00.4	81 24.3 +02.5	N 02 03.5 -00.1	124 34.4 +02.6	S 15 13.5 +00.1	09						
10	55 22.7 +00.8	N 16 33.8 +00.4	96 26.8 +02.5	N 02 03.4 +00.0	139 37.0 +02.6	S 15 13.6 +00.1	10						
11	70 23.5 +00.9	N 16 34.2 +00.5	111 29.3 +02.6	N 02 03.4 +00.0	154 39.6 +02.7	S 15 13.7 +00.0	11						
12	85 24.4 +00.9	N 16 34.7 +00.4	126 31.9 +02.5	N 02 03.4 -00.1	169 42.3 +02.6	S 15 13.7 +00.1	12						
13	100 25.3 +00.9	N 16 35.1 +00.4	141 34.4 +02.5	N 02 03.3 +00.0	184 44.9 +02.7	S 15 13.8 +00.0	13						
14	115 26.2 +00.9	N 16 35.5 +00.5	156 36.9 +02.5	N 02 03.3 -00.1	199 47.6 +02.6	S 15 13.8 +00.1	14						
15	130 27.1 +00.9	N 16 36.0 +00.4	171 39.4 +02.6	N 02 03.2 +00.0	214 50.2 +02.7	S 15 13.9 +00.1	15						
16	145 28.0 +00.8	N 16 36.4 +00.4	186 42.0 +02.5	N 02 03.2 +00.0	229 52.9 +02.6	S 15 14.0 +00.0	16						
17	160 28.8 +00.9	N 16 36.8 +00.4	201 44.5 +02.5	N 02 03.2 -00.1	244 55.5 +02.6	S 15 14.0 +00.1	17						
18	175 29.7 +00.9	N 16 37.2 +00.5	216 47.0 +02.5	N 02 03.1 +00.0	259 58.1 +02.7	S 15 14.1 +00.1	18						
19	190 30.6 +00.9	N 16 37.7 +00.4	231 49.5 +02.6	N 02 03.1 -00.1	275 00.8 +02.6	S 15 14.2 +00.0	19						
20	205 31.5 +00.9	N 16 38.1 +00.4	246 52.1 +02.5	N 02 03.0 +00.0	290 03.4 +02.7	S 15 14.2 +00.1	20						
21	220 32.4 +00.9	N 16 38.5 +00.4	261 54.6 +02.5	N 02 03.0 +00.0	305 06.1 +02.6	S 15 14.3 +00.1	21						
22	235 33.3 +00.9	N 16 38.9 +00.5	276 57.1 +02.6	N 02 03.0 -00.1	320 08.7 +02.7	S 15 14.4 +00.0	22						
23	250 34.2 +00.8	N 16 39.4 +00.4	291 59.7 +02.5	N 02 02.9 +00.0	335 11.4 +02.6	S 15 14.4 +00.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'4 00'4 00'4 00'4 00'4 00'4		SD 00'2 00'2 00'2 00'2 00'2 00'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 311° 311° 310° 310° 310° 310°		SHA 352° 352° 352° 352° 352° 352°		SHA 035° 035° 035° 035° 035° 035°								
	Greenwich Culmination Time: 06:18		Greenwich Culmination Time: 03:35		Greenwich Culmination Time: 00:43								

UT	Sun				Venus				Moon				UT				
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec					
00	178 37.9 +00.1	N 15 37.5 -00.7	198 27.6 -00.8	N 20 55.7 -00.5	28 03.5 -39.3	S 26 30.2 -03.7	00										
01	193 38.0 +00.1	N 15 36.8 -00.7	213 26.8 -00.7	N 20 55.2 -00.5	42 24.2 -39.2	S 26 26.5 -03.9	01										
02	208 38.1 +00.1	N 15 36.1 -00.7	228 26.1 -00.8	N 20 54.7 -00.5	56 45.0 -39.1	S 26 22.6 -04.1	02										
03	223 38.2 +00.1	N 15 35.4 -00.8	243 25.3 -00.8	N 20 54.2 -00.5	71 05.9 -39.1	S 26 18.5 -04.3	03										
04	238 38.3 +00.1	N 15 34.6 -00.7	258 24.5 -00.7	N 20 53.7 -00.5	85 26.8 -39.1	S 26 14.2 -04.5	04										
05	253 38.4 +00.1	N 15 33.9 -00.7	273 23.8 -00.8	N 20 53.2 -00.6	99 47.7 -39.0	S 26 09.7 -04.7	05										
06	268 38.5 +00.1	N 15 33.2 -00.8	288 23.0 -00.7	N 20 52.6 -00.5	114 08.7 -39.0	S 26 05.0 -04.9	06										
07	283 38.6 +00.1	N 15 32.4 -00.7	303 22.3 -00.8	N 20 52.1 -00.5	128 29.7 -39.0	S 26 00.1 -05.1	07										
08	298 38.7 +00.1	N 15 31.7 -00.7	318 21.5 -00.7	N 20 51.6 -00.5	142 50.7 -38.8	S 25 55.0 -05.3	08										
09	313 38.8 +00.1	N 15 31.0 -00.8	333 20.8 -00.8	N 20 51.1 -00.5	157 11.9 -38.9	S 25 49.7 -05.5	09										
10	328 38.9 +00.1	N 15 30.2 -00.7	348 20.0 -00.8	N 20 50.6 -00.5	171 33.0 -38.7	S 25 44.2 -05.7	10										
11	343 39.0 +00.1	N 15 29.5 -00.7	3 19.2 -00.7	N 20 50.1 -00.5	185 54.3 -38.8	S 25 38.5 -05.9	11										
12	358 39.1 +00.1	N 15 28.8 -00.8	18 18.5 -00.8	N 20 49.6 -00.6	200 15.5 -38.6	S 25 32.6 -06.0	12										
13	13 39.2 +00.1	N 15 28.0 -00.7	33 17.7 -00.7	N 20 49.0 -00.5	214 36.9 -38.6	S 25 26.6 -06.3	13										
14	28 39.3 +00.1	N 15 27.3 -00.7	48 17.0 -00.8	N 20 48.5 -00.5	228 58.3 -38.5	S 25 20.3 -06.5	14										
15	43 39.4 +00.1	N 15 26.6 -00.8	63 16.2 -00.7	N 20 48.0 -00.5	243 19.8 -38.4	S 25 13.8 -06.6	15										
16	58 39.5 +00.1	N 15 25.8 -00.7	78 15.5 -00.8	N 20 47.5 -00.5	257 41.4 -38.4	S 25 07.2 -06.8	16										
17	73 39.6 +00.0	N 15 25.1 -00.7	93 14.7 -00.7	N 20 47.0 -00.6	272 03.0 -38.3	S 25 00.4 -07.0	17										
18	88 39.6 +00.1	N 15 24.4 -00.8	108 14.0 -00.8	N 20 46.4 -00.5	286 24.7 -38.2	S 24 53.4 -07.2	18										
19	103 39.7 +00.1	N 15 23.6 -00.7	123 13.2 -00.8	N 20 45.9 -00.5	300 46.5 -38.2	S 24 46.2 -07.4	19										
20	118 39.8 +00.1	N 15 22.9 -00.7	138 12.4 -00.7	N 20 45.4 -00.5	315 08.3 -38.0	S 24 38.8 -07.6	20										
21	133 39.9 +00.1	N 15 22.2 -00.8	153 11.7 -00.8	N 20 44.9 -00.6	329 30.3 -38.0	S 24 31.2 -07.7	21										
22	148 40.0 +00.1	N 15 21.4 -00.7	168 10.9 -00.7	N 20 44.3 -00.5	343 52.3 -37.9	S 24 23.5 -08.0	22										
23	163 40.1 +00.1	N 15 20.7 -00.8	183 10.2 -00.8	N 20 43.8 -00.5	358 14.4 -37.8	S 24 15.5 -08.1	23										
	UT 02 06 10 14 18 22	SD 15'8 15'8 15'8 15'8 15'8 15'8	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 220° 220° 220° 220° 219° 219°	Greenwich Culmination Time: 12:05		UT 02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 240° 240° 239° 239° 239° 239°	Greenwich Culmination Time: 10:46		UT 02 06 10 14 18 22	SD 16'6 16'6 16'6 16'6 16'6 16'6	HP 60'9 60'9 60'9 60'9 60'9 60'9	SHA 068° 065° 063° 060° 057° 055°	Greenwich Culmination Time: 23:07

UT	Mars				Jupiter				Saturn				UT				
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec					
00	266 39.3 +00.9	N 17 09.7 +00.4	310 05.0 +02.6	N 01 59.6 +00.0	353 24.4 +02.6	S 15 19.1 +00.1	00										
01	281 40.2 +00.9	N 17 10.1 +00.4	325 07.6 +02.5	N 01 59.6 -00.1	8 27.0 +02.7	S 15 19.2 +00.0	01										
02	296 41.1 +00.9	N 17 10.5 +00.4	340 10.1 +02.6	N 01 59.5 +00.0	23 29.7 +02.6	S 15 19.2 +00.1	02										
03	311 42.0 +00.9	N 17 10.9 +00.4	355 12.7 +02.6	N 01 59.5 -00.1	38 32.3 +02.7	S 15 19.3 +00.1	03										
04	326 42.9 +00.9	N 17 11.3 +00.5	10 15.3 +02.5	N 01 59.4 +00.0	53 35.0 +02.6	S 15 19.4 +00.0	04										
05	341 43.8 +00.9	N 17 11.8 +00.4	25 17.8 +02.6	N 01 59.4 -00.1	68 37.6 +02.7	S 15 19.4 +00.1	05										
06	356 44.7 +00.9	N 17 12.2 +00.4	40 20.4 +02.5	N 01 59.3 +00.0	83 40.3 +02.6	S 15 19.5 +00.1	06										
07	11 45.6 +00.9	N 17 12.6 +00.4	55 22.9 +02.6	N 01 59.3 -00.1	98 42.9 +02.7	S 15 19.6 +00.0	07										
08	26 46.5 +00.9	N 17 13.0 +00.4	70 25.5 +02.5	N 01 59.2 +00.0	113 45.6 +02.6	S 15 19.6 +00.1	08										
09	41 47.4 +00.9	N 17 13.4 +00.4	85 28.0 +02.6	N 01 59.2 -00.1	128 48.2 +02.7	S 15 19.7 +00.1	09										
10	56 48.3 +00.9	N 17 13.8 +00.4	100 30.6 +02.5	N 01 59.1 +00.0	143 50.9 +02.6	S 15 19.8 +00.0	10										
11	71 49.2 +00.9	N 17 14.2 +00.4	115 33.1 +02.6	N 01 59.1 -00.1	158 53.5 +02.6	S 15 19.8 +00.1	11										
12	86 50.1 +00.9	N 17 14.6 +00.4	130 35.7 +02.5	N 01 59.0 +00.0	173 56.1 +02.7	S 15 19.9 +00.1	12										
13	101 51.0 +00.9	N 17 15.0 +00.4	145 38.2 +02.6	N 01 59.0 -00.1	188 58.8 +02.6	S 15 20.0 +00.0	13										
14	116 51.9 +00.9	N 17 15.4 +00.4	160 40.8 +02.5	N 01 58.9 +00.0	204 01.4 +02.7	S 15 20.0 +00.1	14										
15	131 52.8 +00.9	N 17 15.8 +00.4	175 43.3 +02.6	N 01 58.9 -00.1	219 04.1 +02.6	S 15 20.1 +00.0	15										
16	146 53.7 +00.9	N 17 16.2 +00.4	190 45.9 +02.6	N 01 58.8 +00.0	234 06.7 +02.7	S 15 20.1 +00.1	16										
17	161 54.6 +00.9	N 17 16.6 +00.4	205 48.5 +02.5	N 01 58.8 -00.1	249 09.4 +02.6	S 15 20.2 +00.1	17										
18	176 55.5 +00.9	N 17 17.0 +00.4	220 51.0 +02.6	N 01 58.7 +00.0	264 12.0 +02.7	S 15 20.3 +00.0	18										
19	191 56.4 +00.9	N 17 17.4 +00.4	235 53.6 +02.5	N 01 58.7 -00.1	279 14.7 +02.6	S 15 20.3 +00.1	19										
20	206 57.3 +00.9	N 17 17.8 +00.4	250 56.1 +02.6	N 01 58.6 +00.0	294 17.3 +02.7	S 15 20.4 +00.1	20										
21	221 58.2 +00.9	N 17 18.2 +00.4	265 58.7 +02.5	N 01 58.6 -00.1	309 20.0 +02.6	S 15 20.5 +00.0	21										
22	236 59.1 +00.9	N 17 18.6 +00.4	281 01.2 +02.6	N 01 58.5 +00.0	324 22.6 +02.6	S 15 20.5 +00.1	22										
23	251 60.0 +00.9	N 17 19.0 +00.4	296 03.8 +02.6	N 01 58.5 -00.1	339 25.2 +02.7	S 15 20.6 +00.1	23										
	UT 02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 308° 308° 308° 308° 308° 308°	Greenwich Culmination Time: 06:13		UT 02 06 10 14 18 22	SD 00'4 00'4 00'4 00'4 00'4 00'4	HP 00'0 00'0 00'0 00'0 00'0 00'0	SHA 352° 352° 352° 352° 352° 352°	Greenwich Culmination Time: 03:19		UT 02 06 10 14 18 22	SD 00'2 00'2 00'2 00'2 00'2 00'2	HP 00'0 00'0 00'0 00'0 00'0 00'0	SHA 035° 035° 035° 035° 035° 035°	Greenwich Culmination Time: 00:26

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 40.2 +00.1	N 15 19.9 -00.7	198 09.4 -00.7	N 20 43.3 -00.6	12 36.6 -37.7	S 24 07.4 -08.2	00						
01	193 40.3 +00.1	N 15 19.2 -00.7	213 08.7 -00.8	N 20 42.7 -00.5	26 58.9 -37.6	S 23 59.2 -08.5	01						
02	208 40.4 +00.1	N 15 18.5 -00.8	228 07.9 -00.7	N 20 42.2 -00.5	41 21.3 -37.5	S 23 50.7 -08.6	02						
03	223 40.5 +00.1	N 15 17.7 -00.7	243 07.2 -00.8	N 20 41.7 -00.6	55 43.8 -37.5	S 23 42.1 -08.8	03						
04	238 40.6 +00.1	N 15 17.0 -00.8	258 06.4 -00.7	N 20 41.1 -00.5	70 06.3 -37.3	S 23 33.3 -09.0	04						
05	253 40.7 +00.1	N 15 16.2 -00.7	273 05.7 -00.8	N 20 40.6 -00.5	84 29.0 -37.3	S 23 24.3 -09.1	05						
06	268 40.8 +00.1	N 15 15.5 -00.7	288 04.9 -00.7	N 20 40.1 -00.6	98 51.7 -37.1	S 23 15.2 -09.3	06						
07	283 40.9 +00.1	N 15 14.8 -00.8	303 04.2 -00.8	N 20 39.5 -00.5	113 14.6 -37.0	S 23 05.9 -09.5	07						
08	298 41.0 +00.1	N 15 14.0 -00.7	318 03.4 -00.7	N 20 39.0 -00.5	127 37.6 -37.0	S 22 56.4 -09.6	08						
09	313 41.1 +00.1	N 15 13.3 -00.8	333 02.7 -00.8	N 20 38.5 -00.6	142 00.6 -36.8	S 22 46.8 -09.7	09						
10	328 41.2 +00.2	N 15 12.5 -00.7	348 01.9 -00.7	N 20 37.9 -00.5	156 23.8 -36.7	S 22 37.1 -10.0	10						
11	343 41.4 +00.1	N 15 11.8 -00.8	3 01.2 -00.8	N 20 37.4 -00.6	170 47.1 -36.7	S 22 27.1 -10.1	11						
12	358 41.5 +00.1	N 15 11.0 -00.7	18 00.4 -00.7	N 20 36.8 -00.5	185 10.4 -36.5	S 22 17.0 -10.2	12						
13	13 41.6 +00.1	N 15 10.3 -00.7	32 59.7 -00.8	N 20 36.3 -00.6	199 33.9 -36.4	S 22 06.8 -10.4	13						
14	28 41.7 +00.1	N 15 09.6 -00.8	47 58.9 -00.7	N 20 35.7 -00.5	213 57.5 -36.3	S 21 56.4 -10.5	14						
15	43 41.8 +00.1	N 15 08.8 -00.7	62 58.2 -00.8	N 20 35.2 -00.5	228 21.2 -36.2	S 21 45.9 -10.7	15						
16	58 41.9 +00.1	N 15 08.1 -00.8	77 57.4 -00.7	N 20 34.7 -00.6	242 45.0 -36.1	S 21 35.2 -10.9	16						
17	73 42.0 +00.1	N 15 07.3 -00.7	92 56.7 -00.8	N 20 34.1 -00.5	257 08.9 -36.0	S 21 24.3 -10.9	17						
18	88 42.1 +00.1	N 15 06.6 -00.8	107 55.9 -00.7	N 20 33.6 -00.6	271 32.9 -35.8	S 21 13.4 -11.1	18						
19	103 42.2 +00.1	N 15 05.8 -00.7	122 55.2 -00.8	N 20 33.0 -00.5	285 57.1 -35.8	S 21 02.3 -11.3	19						
20	118 42.3 +00.1	N 15 05.1 -00.8	137 54.4 -00.7	N 20 32.5 -00.6	300 21.3 -35.6	S 20 51.0 -11.4	20						
21	133 42.4 +00.1	N 15 04.3 -00.7	152 53.7 -00.8	N 20 31.9 -00.5	314 45.7 -35.6	S 20 39.6 -11.5	21						
22	148 42.5 +00.1	N 15 03.6 -00.8	167 52.9 -00.7	N 20 31.4 -00.6	329 10.1 -35.4	S 20 28.1 -11.7	22						
23	163 42.6 +00.1	N 15 02.8 -00.7	182 52.2 -00.7	N 20 30.8 -00.6	343 34.7 -35.3	S 20 16.4 -11.7	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'8 15'8 15'8 15'8 15'8 15'8		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 16'6 16'6 16'6 16'6 16'6 16'5								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 60'9 60'9 60'8 60'8 60'8 60'7								
	SHA 219° 219° 219° 219° 219° 218°		SHA 239° 238° 238° 238° 238° 238°		SHA 052° 049° 047° 044° 041° 039°								
	Greenwich Culmination Time: 12:05		Greenwich Culmination Time: 10:47		Greenwich Culmination Time: -1:00								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	267 00.9 +00.9	N 17 19.4 +00.4	311 06.4 +02.5	N 01 58.4 +00.0	354 27.9 +02.6	S 15 20.7 +00.0	00						
01	282 01.8 +00.9	N 17 19.8 +00.4	326 08.9 +02.6	N 01 58.4 -00.1	9 30.5 +02.7	S 15 20.7 +00.1	01						
02	297 02.7 +00.9	N 17 20.2 +00.4	341 11.5 +02.5	N 01 58.3 +00.0	24 33.2 +02.6	S 15 20.8 +00.1	02						
03	312 03.6 +00.9	N 17 20.6 +00.4	356 14.0 +02.6	N 01 58.3 -00.1	39 35.8 +02.7	S 15 20.9 +00.0	03						
04	327 04.5 +00.9	N 17 21.0 +00.4	11 16.6 +02.5	N 01 58.2 -00.1	54 38.5 +02.6	S 15 20.9 +00.1	04						
05	342 05.4 +00.9	N 17 21.4 +00.4	26 19.1 +02.6	N 01 58.1 +00.0	69 41.1 +02.7	S 15 21.0 +00.0	05						
06	357 06.3 +00.9	N 17 21.8 +00.4	41 21.7 +02.6	N 01 58.1 -00.1	84 43.8 +02.6	S 15 21.0 +00.1	06						
07	12 07.2 +00.9	N 17 22.2 +00.4	56 24.3 +02.5	N 01 58.0 +00.0	99 46.4 +02.7	S 15 21.1 +00.1	07						
08	27 08.1 +00.9	N 17 22.6 +00.4	71 26.8 +02.6	N 01 58.0 -00.1	114 49.1 +02.6	S 15 21.2 +00.0	08						
09	42 09.0 +00.9	N 17 23.0 +00.4	86 29.4 +02.6	N 01 57.9 +00.0	129 51.7 +02.7	S 15 21.2 +00.1	09						
10	57 09.9 +01.0	N 17 23.4 +00.4	101 32.0 +02.5	N 01 57.9 -00.1	144 54.4 +02.6	S 15 21.3 +00.1	10						
11	72 10.9 +00.9	N 17 23.8 +00.4	116 34.5 +02.6	N 01 57.8 +00.0	159 57.0 +02.6	S 15 21.4 +00.0	11						
12	87 11.8 +00.9	N 17 24.2 +00.4	131 37.1 +02.5	N 01 57.8 -00.1	174 59.6 +02.7	S 15 21.4 +00.1	12						
13	102 12.7 +00.9	N 17 24.6 +00.4	146 39.6 +02.6	N 01 57.7 +00.0	190 02.3 +02.6	S 15 21.5 +00.1	13						
14	117 13.6 +00.9	N 17 25.0 +00.4	161 42.2 +02.6	N 01 57.7 -00.1	205 04.9 +02.7	S 15 21.6 +00.0	14						
15	132 14.5 +00.9	N 17 25.4 +00.4	176 44.8 +02.5	N 01 57.6 +00.0	220 07.6 +02.6	S 15 21.6 +00.1	15						
16	147 15.4 +00.9	N 17 25.8 +00.3	191 47.3 +02.6	N 01 57.6 -00.1	235 10.2 +02.7	S 15 21.7 +00.1	16						
17	162 16.3 +00.9	N 17 26.1 +00.4	206 49.9 +02.6	N 01 57.5 -00.1	250 12.9 +02.6	S 15 21.8 +00.0	17						
18	177 17.2 +00.9	N 17 26.5 +00.4	221 52.5 +02.5	N 01 57.4 +00.0	265 15.5 +02.7	S 15 21.8 +00.1	18						
19	192 18.1 +00.9	N 17 26.9 +00.4	236 55.0 +02.6	N 01 57.4 -00.1	280 18.2 +02.6	S 15 21.9 +00.0	19						
20	207 19.0 +00.9	N 17 27.3 +00.4	251 57.6 +02.5	N 01 57.3 +00.0	295 20.8 +02.7	S 15 21.9 +00.1	20						
21	222 19.9 +00.9	N 17 27.7 +00.4	267 00.1 +02.6	N 01 57.3 -00.1	310 23.5 +02.6	S 15 22.0 +00.1	21						
22	237 20.8 +00.9	N 17 28.1 +00.4	282 02.7 +02.6	N 01 57.2 +00.0	325 26.1 +02.7	S 15 22.1 +00.0	22						
23	252 21.7 +01.0	N 17 28.5 +00.4	297 05.3 +02.5	N 01 57.2 -00.1	340 28.8 +02.6	S 15 22.1 +00.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'4 00'4 00'4 00'4 00'4 00'4		SD 00'2 00'2 00'2 00'2 00'2 00'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 308° 307° 307° 307° 307° 307°		SHA 352° 352° 352° 352° 352° 352°		SHA 035° 035° 035° 035° 035° 035°								
	Greenwich Culmination Time: 06:11		Greenwich Culmination Time: 03:15		Greenwich Culmination Time: 00:22								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 42.7 +00.1	N 15 02.1 -00.8	197 51.5 -00.8	N 20 30.2 -00.5	357 59.4 -35.2	S 20 04.7 -12.0	00						
01	193 42.8 +00.1	N 15 01.3 -00.7	212 50.7 -00.7	N 20 29.7 -00.6	12 24.2 -35.0	S 19 52.7 -12.0	01						
02	208 42.9 +00.1	N 15 00.6 -00.8	227 50.0 -00.8	N 20 29.1 -00.5	26 49.2 -35.0	S 19 40.7 -12.2	02						
03	223 43.0 +00.1	N 14 59.8 -00.7	242 49.2 -00.7	N 20 28.6 -00.6	41 14.2 -34.8	S 19 28.5 -12.2	03						
04	238 43.1 +00.1	N 14 59.1 -00.8	257 48.5 -00.8	N 20 28.0 -00.5	55 39.4 -34.7	S 19 16.3 -12.4	04						
05	253 43.2 +00.1	N 14 58.3 -00.7	272 47.7 -00.7	N 20 27.5 -00.6	70 04.7 -34.7	S 19 03.9 -12.6	05						
06	268 43.3 +00.1	N 14 57.6 -00.8	287 47.0 -00.8	N 20 26.9 -00.6	84 30.0 -34.4	S 18 51.3 -12.6	06						
07	283 43.4 +00.2	N 14 56.8 -00.7	302 46.2 -00.7	N 20 26.3 -00.5	98 55.6 -34.4	S 18 38.7 -12.7	07						
08	298 43.6 +00.1	N 14 56.1 -00.8	317 45.5 -00.7	N 20 25.8 -00.6	113 21.2 -34.3	S 18 26.0 -12.9	08						
09	313 43.7 +00.1	N 14 55.3 -00.7	332 44.8 -00.8	N 20 25.2 -00.6	127 46.9 -34.1	S 18 13.1 -13.0	09						
10	328 43.8 +00.1	N 14 54.6 -00.8	347 44.0 -00.7	N 20 24.6 -00.5	142 12.8 -34.1	S 18 00.1 -13.0	10						
11	343 43.9 +00.1	N 14 53.8 -00.7	2 43.3 -00.8	N 20 24.1 -00.6	156 38.7 -33.9	S 17 47.1 -13.2	11						
12	358 44.0 +00.1	N 14 53.1 -00.8	17 42.5 -00.7	N 20 23.5 -00.6	171 04.8 -33.8	S 17 33.9 -13.3	12						
13	13 44.1 +00.1	N 14 52.3 -00.7	32 41.8 -00.7	N 20 22.9 -00.5	185 31.0 -33.7	S 17 20.6 -13.4	13						
14	28 44.2 +00.1	N 14 51.6 -00.8	47 41.1 -00.8	N 20 22.4 -00.6	199 57.3 -33.6	S 17 07.2 -13.4	14						
15	43 44.3 +00.1	N 14 50.8 -00.7	62 40.3 -00.7	N 20 21.8 -00.6	214 23.7 -33.4	S 16 53.8 -13.6	15						
16	58 44.4 +00.1	N 14 50.1 -00.8	77 39.6 -00.8	N 20 21.2 -00.5	228 50.3 -33.4	S 16 40.2 -13.7	16						
17	73 44.5 +00.1	N 14 49.3 -00.7	92 38.8 -00.7	N 20 20.7 -00.6	243 16.9 -33.2	S 16 26.5 -13.7	17						
18	88 44.6 +00.1	N 14 48.6 -00.8	107 38.1 -00.7	N 20 20.1 -00.6	257 43.7 -33.1	S 16 12.8 -13.8	18						
19	103 44.7 +00.2	N 14 47.8 -00.8	122 37.4 -00.8	N 20 19.5 -00.6	272 10.6 -33.0	S 15 59.0 -14.0	19						
20	118 44.9 +00.1	N 14 47.0 -00.7	137 36.6 -00.7	N 20 18.9 -00.5	286 37.6 -32.9	S 15 45.0 -14.0	20						
21	133 45.0 +00.1	N 14 46.3 -00.8	152 35.9 -00.8	N 20 18.4 -00.6	301 04.7 -32.8	S 15 31.0 -14.1	21						
22	148 45.1 +00.1	N 14 45.5 -00.7	167 35.1 -00.7	N 20 17.8 -00.6	315 31.9 -32.7	S 15 16.9 -14.1	22						
23	163 45.2 +00.1	N 14 44.8 -00.8	182 34.4 -00.7	N 20 17.2 -00.6	329 59.2 -32.6	S 15 02.8 -14.3	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'8 15'8 15'8 15'8 15'8 15'8		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 16'5 16'5 16'5 16'5 16'4 16'4								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 60'6 60'6 60'5 60'4 60'3 60'2								
	SHA 218° 218° 218° 218° 218° 217°		SHA 237° 237° 237° 237° 236° 236°		SHA 036° 034° 031° 029° 027° 024°								
	Greenwich Culmination Time: 12:05		Greenwich Culmination Time: 10:49		Greenwich Culmination Time: 00:08								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	267 22.7 +00.9	N 17 28.9 +00.4	312 07.8 +02.6	N 01 57.1 +00.0	355 31.4 +02.6	S 15 22.2 +00.1	00						
01	282 23.6 +00.9	N 17 29.3 +00.4	327 10.4 +02.6	N 01 57.1 -00.1	10 34.0 +02.7	S 15 22.3 +00.0	01						
02	297 24.5 +00.9	N 17 29.7 +00.4	342 13.0 +02.5	N 01 57.0 -00.1	25 36.7 +02.6	S 15 22.3 +00.1	02						
03	312 25.4 +00.9	N 17 30.1 +00.4	357 15.5 +02.6	N 01 56.9 +00.0	40 39.3 +02.7	S 15 22.4 +00.1	03						
04	327 26.3 +00.9	N 17 30.5 +00.4	12 18.1 +02.6	N 01 56.9 -00.1	55 42.0 +02.6	S 15 22.5 +00.0	04						
05	342 27.2 +00.9	N 17 30.9 +00.4	27 20.7 +02.5	N 01 56.8 +00.0	70 44.6 +02.7	S 15 22.5 +00.1	05						
06	357 28.1 +00.9	N 17 31.3 +00.4	42 23.2 +02.6	N 01 56.8 -00.1	85 47.3 +02.6	S 15 22.6 +00.1	06						
07	12 29.0 +00.9	N 17 31.7 +00.3	57 25.8 +02.6	N 01 56.7 +00.0	100 49.9 +02.7	S 15 22.7 +00.0	07						
08	27 29.9 +00.9	N 17 32.0 +00.4	72 28.4 +02.5	N 01 56.7 -00.1	115 52.6 +02.6	S 15 22.7 +00.1	08						
09	42 30.8 +01.0	N 17 32.4 +00.4	87 30.9 +02.6	N 01 56.6 -00.1	130 55.2 +02.7	S 15 22.8 +00.0	09						
10	57 31.8 +00.9	N 17 32.8 +00.4	102 33.5 +02.6	N 01 56.5 +00.0	145 57.9 +02.6	S 15 22.8 +00.1	10						
11	72 32.7 +00.9	N 17 33.2 +00.4	117 36.1 +02.5	N 01 56.5 -00.1	161 00.5 +02.7	S 15 22.9 +00.1	11						
12	87 33.6 +00.9	N 17 33.6 +00.4	132 38.6 +02.6	N 01 56.4 +00.0	176 03.2 +02.6	S 15 23.0 +00.0	12						
13	102 34.5 +00.9	N 17 34.0 +00.4	147 41.2 +02.6	N 01 56.4 -00.1	191 05.8 +02.6	S 15 23.0 +00.1	13						
14	117 35.4 +00.9	N 17 34.4 +00.4	162 43.8 +02.6	N 01 56.3 +00.0	206 08.4 +02.7	S 15 23.1 +00.1	14						
15	132 36.3 +00.9	N 17 34.8 +00.4	177 46.4 +02.5	N 01 56.3 -00.1	221 11.1 +02.6	S 15 23.2 +00.0	15						
16	147 37.2 +00.9	N 17 35.2 +00.4	192 48.9 +02.6	N 01 56.2 -00.1	236 13.7 +02.7	S 15 23.2 +00.1	16						
17	162 38.1 +01.0	N 17 35.6 +00.3	207 51.5 +02.6	N 01 56.1 +00.0	251 16.4 +02.6	S 15 23.3 +00.1	17						
18	177 39.1 +00.9	N 17 35.9 +00.4	222 54.1 +02.5	N 01 56.1 -00.1	266 19.0 +02.7	S 15 23.4 +00.0	18						
19	192 40.0 +00.9	N 17 36.3 +00.4	237 56.6 +02.6	N 01 56.0 +00.0	281 21.7 +02.6	S 15 23.4 +00.1	19						
20	207 40.9 +00.9	N 17 36.7 +00.4	252 59.2 +02.6	N 01 56.0 -00.1	296 24.3 +02.7	S 15 23.5 +00.1	20						
21	222 41.8 +00.9	N 17 37.1 +00.4	268 01.8 +02.6	N 01 55.9 +00.0	311 27.0 +02.6	S 15 23.6 +00.0	21						
22	237 42.7 +00.9	N 17 37.5 +00.4	283 04.4 +02.5	N 01 55.9 -00.1	326 29.6 +02.7	S 15 23.6 +00.1	22						
23	252 43.6 +00.9	N 17 37.9 +00.4	298 06.9 +02.6	N 01 55.8 -00.1	341 32.3 +02.6	S 15 23.7 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'4 00'4 00'4 00'4 00'4 00'4		SD 00'2 00'2 00'2 00'2 00'2 00'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 307° 307° 307° 307° 306° 306°		SHA 352° 352° 352° 352° 352° 352°		SHA 035° 035° 035° 035° 035° 035°								
	Greenwich Culmination Time: 06:10		Greenwich Culmination Time: 03:10		Greenwich Culmination Time: 00:17								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 45.3 +00.1	N 14 44.0 -00.8			197 33.7 -00.8	N 20 16.6 -00.6			344 26.6 -32.5	S 14 48.5 -14.3			00
01	193 45.4 +00.1	N 14 43.2 -00.7			212 32.9 -00.7	N 20 16.0 -00.5			358 54.1 -32.3	S 14 34.2 -14.4			01
02	208 45.5 +00.1	N 14 42.5 -00.8			227 32.2 -00.7	N 20 15.5 -00.6			13 21.8 -32.3	S 14 19.8 -14.5			02
03	223 45.6 +00.1	N 14 41.7 -00.7			242 31.5 -00.8	N 20 14.9 -00.6			27 49.5 -32.1	S 14 05.3 -14.5			03
04	238 45.7 +00.2	N 14 41.0 -00.8			257 30.7 -00.7	N 20 14.3 -00.6			42 17.4 -32.1	S 13 50.8 -14.6			04
05	253 45.9 +00.1	N 14 40.2 -00.8			272 30.0 -00.7	N 20 13.7 -00.6			56 45.3 -31.9	S 13 36.2 -14.7			05
06	268 46.0 +00.1	N 14 39.4 -00.7			287 29.3 -00.8	N 20 13.1 -00.6			71 13.4 -31.8	S 13 21.5 -14.7			06
07	283 46.1 +00.1	N 14 38.7 -00.8			302 28.5 -00.7	N 20 12.5 -00.5			85 41.6 -31.7	S 13 06.8 -14.8			07
08	298 46.2 +00.1	N 14 37.9 -00.7			317 27.8 -00.8	N 20 12.0 -00.6			100 09.9 -31.7	S 12 52.0 -14.9			08
09	313 46.3 +00.1	N 14 37.2 -00.8			332 27.0 -00.7	N 20 11.4 -00.6			114 38.2 -31.5	S 12 37.1 -14.9			09
10	328 46.4 +00.1	N 14 36.4 -00.8			347 26.3 -00.7	N 20 10.8 -00.6			129 06.7 -31.4	S 12 22.2 -14.9			10
11	343 46.5 +00.1	N 14 35.6 -00.7			2 25.6 -00.8	N 20 10.2 -00.6			143 35.3 -31.4	S 12 07.3 -15.1			11
12	358 46.6 +00.2	N 14 34.9 -00.8			17 24.8 -00.7	N 20 09.6 -00.6			158 03.9 -31.2	S 11 52.2 -15.0			12
13	13 46.8 +00.1	N 14 34.1 -00.8			32 24.1 -00.7	N 20 09.0 -00.6			172 32.7 -31.1	S 11 37.2 -15.1			13
14	28 46.9 +00.1	N 14 33.3 -00.7			47 23.4 -00.7	N 20 08.4 -00.6			187 01.6 -31.1	S 11 22.1 -15.2			14
15	43 47.0 +00.1	N 14 32.6 -00.8			62 22.7 -00.8	N 20 07.8 -00.6			201 30.5 -30.9	S 11 06.9 -15.2			15
16	58 47.1 +00.1	N 14 31.8 -00.7			77 21.9 -00.7	N 20 07.2 -00.6			215 59.6 -30.8	S 10 51.7 -15.3			16
17	73 47.2 +00.1	N 14 31.1 -00.8			92 21.2 -00.7	N 20 06.6 -00.6			230 28.8 -30.8	S 10 36.4 -15.3			17
18	88 47.3 +00.2	N 14 30.3 -00.8			107 20.5 -00.8	N 20 06.0 -00.6			244 58.0 -30.7	S 10 21.1 -15.3			18
19	103 47.5 +00.1	N 14 29.5 -00.7			122 19.7 -00.7	N 20 05.4 -00.6			259 27.3 -30.5	S 10 05.8 -15.4			19
20	118 47.6 +00.1	N 14 28.8 -00.8			137 19.0 -00.7	N 20 04.8 -00.6			273 56.8 -30.5	S 09 50.4 -15.4			20
21	133 47.7 +00.1	N 14 28.0 -00.8			152 18.3 -00.8	N 20 04.2 -00.6			288 26.3 -30.4	S 09 35.0 -15.4			21
22	148 47.8 +00.1	N 14 27.2 -00.7			167 17.5 -00.7	N 20 03.6 -00.6			302 55.9 -30.3	S 09 19.6 -15.5			22
23	163 47.9 +00.1	N 14 26.5 -00.8			182 16.8 -00.7	N 20 03.0 -00.6			317 25.6 -30.2	S 09 04.1 -15.5			23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 15'8 15'8 15'8 15'8 15'8 15'8				SD 00'1 00'1 00'1 00'1 00'1 00'1				SD 16'4 16'3 16'3 16'3 16'2 16'2				
	HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 60'1 60'0 59'9 59'8 59'6 59'5				
	SHA 217° 217° 217° 217° 217° 216°				SHA 236° 236° 236° 235° 235° 235°				SHA 022° 020° 017° 015° 013° 011°				
	Greenwich Culmination Time: 12:04				Greenwich Culmination Time: 10:50				Greenwich Culmination Time: 01:04				

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	267 44.5 +01.0	N 17 38.3 +00.4			313 09.5 +02.6	N 01 55.7 +00.0			356 34.9 +02.7	S 15 23.7 +00.1			00
01	282 45.5 +00.9	N 17 38.7 +00.3			328 12.1 +02.5	N 01 55.7 -00.1			11 37.6 +02.6	S 15 23.8 +00.1			01
02	297 46.4 +00.9	N 17 39.0 +00.4			343 14.6 +02.6	N 01 55.6 +00.0			26 40.2 +02.7	S 15 23.9 +00.0			02
03	312 47.3 +00.9	N 17 39.4 +00.4			358 17.2 +02.6	N 01 55.6 -00.1			41 42.9 +02.6	S 15 23.9 +00.1			03
04	327 48.2 +00.9	N 17 39.8 +00.4			13 19.8 +02.6	N 01 55.5 -00.1			56 45.5 +02.6	S 15 24.0 +00.1			04
05	342 49.1 +00.9	N 17 40.2 +00.4			28 22.4 +02.5	N 01 55.4 +00.0			71 48.1 +02.7	S 15 24.1 +00.0			05
06	357 50.0 +00.9	N 17 40.6 +00.4			43 24.9 +02.6	N 01 55.4 -00.1			86 50.8 +02.6	S 15 24.1 +00.1			06
07	12 50.9 +01.0	N 17 41.0 +00.4			58 27.5 +02.6	N 01 55.3 +00.0			101 53.4 +02.7	S 15 24.2 +00.1			07
08	27 51.9 +00.9	N 17 41.4 +00.3			73 30.1 +02.6	N 01 55.3 -00.1			116 56.1 +02.6	S 15 24.3 +00.0			08
09	42 52.8 +00.9	N 17 41.7 +00.4			88 32.7 +02.5	N 01 55.2 -00.1			131 58.7 +02.7	S 15 24.3 +00.1			09
10	57 53.7 +00.9	N 17 42.1 +00.4			103 35.2 +02.6	N 01 55.1 +00.0			147 01.4 +02.6	S 15 24.4 +00.1			10
11	72 54.6 +00.9	N 17 42.5 +00.4			118 37.8 +02.6	N 01 55.1 -00.1			162 04.0 +02.7	S 15 24.5 +00.0			11
12	87 55.5 +00.9	N 17 42.9 +00.4			133 40.4 +02.6	N 01 55.0 +00.0			177 06.7 +02.6	S 15 24.5 +00.1			12
13	102 56.4 +01.0	N 17 43.3 +00.4			148 43.0 +02.5	N 01 55.0 -00.1			192 09.3 +02.7	S 15 24.6 +00.0			13
14	117 57.4 +00.9	N 17 43.7 +00.3			163 45.5 +02.6	N 01 54.9 -00.1			207 12.0 +02.6	S 15 24.6 +00.1			14
15	132 58.3 +00.9	N 17 44.0 +00.4			178 48.1 +02.6	N 01 54.8 +00.0			222 14.6 +02.7	S 15 24.7 +00.1			15
16	147 59.2 +00.9	N 17 44.4 +00.4			193 50.7 +02.6	N 01 54.8 -00.1			237 17.3 +02.6	S 15 24.8 +00.0			16
17	163 00.1 +00.9	N 17 44.8 +00.4			208 53.3 +02.6	N 01 54.7 +00.0			252 19.9 +02.6	S 15 24.8 +00.1			17
18	178 01.0 +01.0	N 17 45.2 +00.4			223 55.9 +02.5	N 01 54.7 -00.1			267 22.5 +02.7	S 15 24.9 +00.1			18
19	193 02.0 +00.9	N 17 45.6 +00.3			238 58.4 +02.6	N 01 54.6 -00.1			282 25.2 +02.6	S 15 25.0 +00.0			19
20	208 02.9 +00.9	N 17 45.9 +00.4			254 01.0 +02.6	N 01 54.5 +00.0			297 27.8 +02.7	S 15 25.0 +00.1			20
21	223 03.8 +00.9	N 17 46.3 +00.4			269 03.6 +02.6	N 01 54.5 -00.1			312 30.5 +02.6	S 15 25.1 +00.1			21
22	238 04.7 +00.9	N 17 46.7 +00.4			284 06.2 +02.5	N 01 54.4 +00.0			327 33.1 +02.7	S 15 25.2 +00.0			22
23	253 05.6 +00.9	N 17 47.1 +00.4			299 08.7 +02.6	N 01 54.4 -00.1			342 35.8 +02.6	S 15 25.2 +00.1			23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 00'1 00'1 00'1 00'1 00'1 00'1				SD 00'4 00'4 00'4 00'4 00'4 00'4				SD 00'2 00'2 00'2 00'2 00'2 00'2				
	HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'0 00'0 00'0 00'0 00'0 00'0				HP 00'0 00'0 00'0 00'0 00'0 00'0				
	SHA 306° 306° 306° 306° 306° 306°				SHA 352° 352° 352° 352° 352° 352°				SHA 035° 035° 035° 035° 035° 035°				
	Greenwich Culmination Time: 06:08				Greenwich Culmination Time: 03:06				Greenwich Culmination Time: 00:13				

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 48.0 +00.1	N 14 25.7 -00.8	197 16.1 -00.8	N 20 02.4 -00.6	331 55.4 -30.2	S 08 48.6 -15.6	00						
01	193 48.1 +00.2	N 14 24.9 -00.8	212 15.3 -00.7	N 20 01.8 -00.6	346 25.2 -30.0	S 08 33.0 -15.5	01						
02	208 48.3 +00.1	N 14 24.1 -00.7	227 14.6 -00.7	N 20 01.2 -00.6	0 55.2 -30.0	S 08 17.5 -15.6	02						
03	223 48.4 +00.1	N 14 23.4 -00.8	242 13.9 -00.7	N 20 00.6 -00.6	15 25.2 -29.9	S 08 01.9 -15.6	03						
04	238 48.5 +00.1	N 14 22.6 -00.8	257 13.2 -00.8	N 19 60.0 -00.6	29 55.3 -29.8	S 07 46.3 -15.7	04						
05	253 48.6 +00.1	N 14 21.8 -00.7	272 12.4 -00.7	N 19 59.4 -00.6	44 25.5 -29.7	S 07 30.6 -15.6	05						
06	268 48.7 +00.2	N 14 21.1 -00.8	287 11.7 -00.7	N 19 58.8 -00.6	58 55.8 -29.7	S 07 15.0 -15.7	06						
07	283 48.9 +00.1	N 14 20.3 -00.8	302 11.0 -00.7	N 19 58.2 -00.6	73 26.1 -29.6	S 06 59.3 -15.7	07						
08	298 49.0 +00.1	N 14 19.5 -00.7	317 10.3 -00.8	N 19 57.6 -00.7	87 56.5 -29.5	S 06 43.6 -15.7	08						
09	313 49.1 +00.1	N 14 18.8 -00.8	332 09.5 -00.7	N 19 56.9 -00.6	102 27.0 -29.4	S 06 27.9 -15.7	09						
10	328 49.2 +00.1	N 14 18.0 -00.8	347 08.8 -00.7	N 19 56.3 -00.6	116 57.6 -29.4	S 06 12.2 -15.7	10						
11	343 49.3 +00.2	N 14 17.2 -00.8	2 08.1 -00.7	N 19 55.7 -00.6	131 28.2 -29.3	S 05 56.5 -15.8	11						
12	358 49.5 +00.1	N 14 16.4 -00.7	17 07.4 -00.8	N 19 55.1 -00.6	145 58.9 -29.2	S 05 40.7 -15.7	12						
13	13 49.6 +00.1	N 14 15.7 -00.8	32 06.6 -00.7	N 19 54.5 -00.6	160 29.7 -29.1	S 05 25.0 -15.8	13						
14	28 49.7 +00.1	N 14 14.9 -00.8	47 05.9 -00.7	N 19 53.9 -00.7	175 00.6 -29.1	S 05 09.2 -15.7	14						
15	43 49.8 +00.1	N 14 14.1 -00.8	62 05.2 -00.7	N 19 53.2 -00.6	189 31.5 -29.0	S 04 53.5 -15.8	15						
16	58 49.9 +00.2	N 14 13.3 -00.7	77 04.5 -00.8	N 19 52.6 -00.6	204 02.5 -29.0	S 04 37.7 -15.8	16						
17	73 50.1 +00.1	N 14 12.6 -00.8	92 03.7 -00.7	N 19 52.0 -00.6	218 33.5 -28.8	S 04 21.9 -15.7	17						
18	88 50.2 +00.1	N 14 11.8 -00.8	107 03.0 -00.7	N 19 51.4 -00.6	233 04.7 -28.9	S 04 06.2 -15.8	18						
19	103 50.3 +00.1	N 14 11.0 -00.8	122 02.3 -00.7	N 19 50.8 -00.7	247 35.8 -28.7	S 03 50.4 -15.8	19						
20	118 50.4 +00.1	N 14 10.2 -00.7	137 01.6 -00.8	N 19 50.1 -00.6	262 07.1 -28.7	S 03 34.6 -15.7	20						
21	133 50.5 +00.2	N 14 09.5 -00.8	152 00.8 -00.7	N 19 49.5 -00.6	276 38.4 -28.7	S 03 18.9 -15.8	21						
22	148 50.7 +00.1	N 14 08.7 -00.8	167 00.1 -00.7	N 19 48.9 -00.6	291 09.7 -28.6	S 03 03.1 -15.8	22						
23	163 50.8 +00.1	N 14 07.9 -00.8	181 59.4 -00.7	N 19 48.3 -00.7	305 41.1 -28.5	S 02 47.3 -15.7	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'8 15'8 15'8 15'8 15'8 15'8		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 16'2 16'1 16'1 16'1 16'0 16'0								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 59'4 59'2 59'1 58'9 58'8 58'7								
	SHA 216° 216° 216° 216° 216° 216°		SHA 235° 235° 234° 234° 234° 234°		SHA 008° 006° 004° 002° 360° 358°								
	Greenwich Culmination Time: 12:04		Greenwich Culmination Time: 10:51		Greenwich Culmination Time: 01:56								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	268 06.5 +01.0	N 17 47.5 +00.3	314 11.3 +02.6	N 01 54.3 -00.1	357 38.4 +02.7	S 15 25.3 +00.1	00						
01	283 07.5 +00.9	N 17 47.8 +00.4	329 13.9 +02.6	N 01 54.2 +00.0	12 41.1 +02.6	S 15 25.4 +00.0	01						
02	298 08.4 +00.9	N 17 48.2 +00.4	344 16.5 +02.6	N 01 54.2 -00.1	27 43.7 +02.7	S 15 25.4 +00.1	02						
03	313 09.3 +00.9	N 17 48.6 +00.4	359 19.1 +02.6	N 01 54.1 -00.1	42 46.4 +02.6	S 15 25.5 +00.0	03						
04	328 10.2 +01.0	N 17 49.0 +00.4	14 21.7 +02.5	N 01 54.0 +00.0	57 49.0 +02.7	S 15 25.5 +00.1	04						
05	343 11.2 +00.9	N 17 49.4 +00.3	29 24.2 +02.6	N 01 54.0 -00.1	72 51.7 +02.6	S 15 25.6 +00.1	05						
06	358 12.1 +00.9	N 17 49.7 +00.4	44 26.8 +02.6	N 01 53.9 +00.0	87 54.3 +02.7	S 15 25.7 +00.0	06						
07	13 13.0 +00.9	N 17 50.1 +00.4	59 29.4 +02.6	N 01 53.9 -00.1	102 57.0 +02.6	S 15 25.7 +00.1	07						
08	28 13.9 +00.9	N 17 50.5 +00.4	74 32.0 +02.6	N 01 53.8 -00.1	117 59.6 +02.7	S 15 25.8 +00.1	08						
09	43 14.8 +01.0	N 17 50.9 +00.4	89 34.6 +02.5	N 01 53.7 +00.0	133 02.3 +02.6	S 15 25.9 +00.0	09						
10	58 15.8 +00.9	N 17 51.3 +00.3	104 37.1 +02.6	N 01 53.7 -00.1	148 04.9 +02.6	S 15 25.9 +00.1	10						
11	73 16.7 +00.9	N 17 51.6 +00.4	119 39.7 +02.6	N 01 53.6 -00.1	163 07.5 +02.7	S 15 26.0 +00.1	11						
12	88 17.6 +00.9	N 17 52.0 +00.4	134 42.3 +02.6	N 01 53.5 +00.0	178 10.2 +02.6	S 15 26.1 +00.0	12						
13	103 18.5 +00.9	N 17 52.4 +00.4	149 44.9 +02.6	N 01 53.5 -00.1	193 12.8 +02.7	S 15 26.1 +00.1	13						
14	118 19.4 +01.0	N 17 52.8 +00.3	164 47.5 +02.6	N 01 53.4 +00.0	208 15.5 +02.6	S 15 26.2 +00.0	14						
15	133 20.4 +00.9	N 17 53.1 +00.4	179 50.1 +02.5	N 01 53.4 -00.1	223 18.1 +02.7	S 15 26.2 +00.1	15						
16	148 21.3 +00.9	N 17 53.5 +00.4	194 52.6 +02.6	N 01 53.3 -00.1	238 20.8 +02.6	S 15 26.3 +00.1	16						
17	163 22.2 +00.9	N 17 53.9 +00.4	209 55.2 +02.6	N 01 53.2 +00.0	253 23.4 +02.7	S 15 26.4 +00.0	17						
18	178 23.1 +01.0	N 17 54.3 +00.3	224 57.8 +02.6	N 01 53.2 -00.1	268 26.1 +02.6	S 15 26.4 +00.1	18						
19	193 24.1 +00.9	N 17 54.6 +00.4	240 00.4 +02.6	N 01 53.1 -00.1	283 28.7 +02.7	S 15 26.5 +00.1	19						
20	208 25.0 +00.9	N 17 55.0 +00.4	255 03.0 +02.6	N 01 53.0 +00.0	298 31.4 +02.6	S 15 26.6 +00.0	20						
21	223 25.9 +00.9	N 17 55.4 +00.4	270 05.6 +02.6	N 01 53.0 -00.1	313 34.0 +02.7	S 15 26.6 +00.1	21						
22	238 26.8 +01.0	N 17 55.8 +00.3	285 08.2 +02.5	N 01 52.9 -00.1	328 36.7 +02.6	S 15 26.7 +00.1	22						
23	253 27.8 +00.9	N 17 56.1 +00.4	300 10.7 +02.6	N 01 52.8 +00.0	343 39.3 +02.7	S 15 26.8 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'4 00'4 00'4 00'4 00'4 00'4		SD 00'2 00'2 00'2 00'2 00'2 00'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 306° 306° 305° 305° 305° 305°		SHA 352° 352° 352° 352° 352° 352°		SHA 035° 035° 035° 035° 035° 035°								
	Greenwich Culmination Time: 06:07		Greenwich Culmination Time: 03:02		Greenwich Culmination Time: 00:09								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 50.9 +00.1	N 14 07.1 -00.7	196 58.7 -00.7	N 19 47.6 -00.6	320 12.6 -28.5	S 02 31.6 -15.7	00						
01	193 51.0 +00.1	N 14 06.4 -00.8	211 58.0 -00.8	N 19 47.0 -00.6	334 44.1 -28.4	S 02 15.9 -15.8	01						
02	208 51.1 +00.2	N 14 05.6 -00.8	226 57.2 -00.7	N 19 46.4 -00.7	349 15.7 -28.3	S 02 00.1 -15.7	02						
03	223 51.3 +00.1	N 14 04.8 -00.8	241 56.5 -00.7	N 19 45.7 -00.6	3 47.4 -28.4	S 01 44.4 -15.7	03						
04	238 51.4 +00.1	N 14 04.0 -00.8	256 55.8 -00.7	N 19 45.1 -00.6	18 19.0 -28.2	S 01 28.7 -15.7	04						
05	253 51.5 +00.1	N 14 03.2 -00.7	271 55.1 -00.7	N 19 44.5 -00.6	32 50.8 -28.3	S 01 13.0 -15.6	05						
06	268 51.6 +00.2	N 14 02.5 -00.8	286 54.4 -00.7	N 19 43.9 -00.7	47 22.5 -28.1	S 00 57.4 -15.7	06						
07	283 51.8 +00.1	N 14 01.7 -00.8	301 53.7 -00.8	N 19 43.2 -00.6	61 54.4 -28.1	S 00 41.7 -15.6	07						
08	298 51.9 +00.1	N 14 00.9 -00.8	316 52.9 -00.7	N 19 42.6 -00.7	76 26.3 -28.1	S 00 26.1 -15.7	08						
09	313 52.0 +00.1	N 14 00.1 -00.8	331 52.2 -00.7	N 19 41.9 -00.6	90 58.2 -28.1	S 00 10.4 -15.6	09						
10	328 52.1 +00.2	N 13 59.3 -00.7	346 51.5 -00.7	N 19 41.3 -00.6	105 30.1 -28.0	N 00 05.2 +15.5	10						
11	343 52.3 +00.1	N 13 58.6 -00.8	1 50.8 -00.7	N 19 40.7 -00.7	120 02.1 -27.9	N 00 20.7 +15.6	11						
12	358 52.4 +00.1	N 13 57.8 -00.8	16 50.1 -00.8	N 19 40.0 -00.6	134 34.2 -27.9	N 00 36.3 +15.5	12						
13	13 52.5 +00.1	N 13 57.0 -00.8	31 49.3 -00.7	N 19 39.4 -00.7	149 06.3 -27.9	N 00 51.8 +15.5	13						
14	28 52.6 +00.2	N 13 56.2 -00.8	46 48.6 -00.7	N 19 38.7 -00.6	163 38.4 -27.8	N 01 07.3 +15.5	14						
15	43 52.8 +00.1	N 13 55.4 -00.8	61 47.9 -00.7	N 19 38.1 -00.6	178 10.6 -27.8	N 01 22.8 +15.4	15						
16	58 52.9 +00.1	N 13 54.6 -00.7	76 47.2 -00.7	N 19 37.5 -00.7	192 42.8 -27.8	N 01 38.2 +15.5	16						
17	73 53.0 +00.1	N 13 53.9 -00.8	91 46.5 -00.7	N 19 36.8 -00.6	207 15.0 -27.7	N 01 53.7 +15.3	17						
18	88 53.1 +00.2	N 13 53.1 -00.8	106 45.8 -00.7	N 19 36.2 -00.7	221 47.3 -27.7	N 02 09.0 +15.4	18						
19	103 53.3 +00.1	N 13 52.3 -00.8	121 45.1 -00.8	N 19 35.5 -00.6	236 19.6 -27.7	N 02 24.4 +15.3	19						
20	118 53.4 +00.1	N 13 51.5 -00.8	136 44.3 -00.7	N 19 34.9 -00.7	250 51.9 -27.7	N 02 39.7 +15.3	20						
21	133 53.5 +00.1	N 13 50.7 -00.8	151 43.6 -00.7	N 19 34.2 -00.6	265 24.2 -27.6	N 02 55.0 +15.3	21						
22	148 53.6 +00.2	N 13 49.9 -00.7	166 42.9 -00.7	N 19 33.6 -00.7	279 56.6 -27.5	N 03 10.3 +15.2	22						
23	163 53.8 +00.1	N 13 49.2 -00.8	181 42.2 -00.7	N 19 32.9 -00.6	294 29.1 -27.6	N 03 25.5 +15.2	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'8 15'8 15'8 15'8 15'8 15'8		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 15'9 15'9 15'9 15'8 15'8 15'7								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 58'5 58'3 58'2 58'0 57'9 57'7								
	SHA 215° 215° 215° 215° 215° 215°		SHA 233° 233° 233° 233° 233° 232°		SHA 356° 354° 352° 350° 348° 346°								
	Greenwich Culmination Time: 12:04		Greenwich Culmination Time: 10:52		Greenwich Culmination Time: 02:44								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	268 28.7 +00.9	N 17 56.5 +00.4	315 13.3 +02.6	N 01 52.8 -00.1	358 42.0 +02.6	S 15 26.8 +00.1	00						
01	283 29.6 +00.9	N 17 56.9 +00.4	330 15.9 +02.6	N 01 52.7 -00.1	13 44.6 +02.6	S 15 26.9 +00.1	01						
02	298 30.5 +01.0	N 17 57.3 +00.3	345 18.5 +02.6	N 01 52.6 +00.0	28 47.2 +02.7	S 15 27.0 +00.0	02						
03	313 31.5 +00.9	N 17 57.6 +00.4	0 21.1 +02.6	N 01 52.6 -00.1	43 49.9 +02.6	S 15 27.0 +00.1	03						
04	328 32.4 +00.9	N 17 58.0 +00.4	15 23.7 +02.6	N 01 52.5 +00.0	58 52.5 +02.7	S 15 27.1 +00.0	04						
05	343 33.3 +01.0	N 17 58.4 +00.4	30 26.3 +02.6	N 01 52.5 -00.1	73 55.2 +02.6	S 15 27.1 +00.1	05						
06	358 34.3 +00.9	N 17 58.8 +00.3	45 28.9 +02.6	N 01 52.4 -00.1	88 57.8 +02.7	S 15 27.2 +00.1	06						
07	13 35.2 +00.9	N 17 59.1 +00.4	60 31.5 +02.5	N 01 52.3 +00.0	104 00.5 +02.6	S 15 27.3 +00.0	07						
08	28 36.1 +00.9	N 17 59.5 +00.4	75 34.0 +02.6	N 01 52.3 -00.1	119 03.1 +02.7	S 15 27.3 +00.1	08						
09	43 37.0 +01.0	N 17 59.9 +00.3	90 36.6 +02.6	N 01 52.2 -00.1	134 05.8 +02.6	S 15 27.4 +00.1	09						
10	58 38.0 +00.9	N 18 00.2 +00.4	105 39.2 +02.6	N 01 52.1 +00.0	149 08.4 +02.7	S 15 27.5 +00.0	10						
11	73 38.9 +00.9	N 18 00.6 +00.4	120 41.8 +02.6	N 01 52.1 -00.1	164 11.1 +02.6	S 15 27.5 +00.1	11						
12	88 39.8 +00.9	N 18 01.0 +00.4	135 44.4 +02.6	N 01 52.0 -00.1	179 13.7 +02.7	S 15 27.6 +00.1	12						
13	103 40.7 +01.0	N 18 01.4 +00.3	150 47.0 +02.6	N 01 51.9 +00.0	194 16.4 +02.6	S 15 27.7 +00.0	13						
14	118 41.7 +00.9	N 18 01.7 +00.4	165 49.6 +02.6	N 01 51.9 -00.1	209 19.0 +02.7	S 15 27.7 +00.1	14						
15	133 42.6 +00.9	N 18 02.1 +00.4	180 52.2 +02.6	N 01 51.8 -00.1	224 21.7 +02.6	S 15 27.8 +00.0	15						
16	148 43.5 +01.0	N 18 02.5 +00.3	195 54.8 +02.6	N 01 51.7 +00.0	239 24.3 +02.7	S 15 27.8 +00.1	16						
17	163 44.5 +00.9	N 18 02.8 +00.4	210 57.4 +02.6	N 01 51.7 -00.1	254 27.0 +02.6	S 15 27.9 +00.1	17						
18	178 45.4 +00.9	N 18 03.2 +00.4	225 60.0 +02.5	N 01 51.6 -00.1	269 29.6 +02.6	S 15 28.0 +00.0	18						
19	193 46.3 +01.0	N 18 03.6 +00.3	241 02.5 +02.6	N 01 51.5 +00.0	284 32.2 +02.7	S 15 28.0 +00.1	19						
20	208 47.3 +00.9	N 18 03.9 +00.4	256 05.1 +02.6	N 01 51.5 -00.1	299 34.9 +02.6	S 15 28.1 +00.1	20						
21	223 48.2 +00.9	N 18 04.3 +00.4	271 07.7 +02.6	N 01 51.4 -00.1	314 37.5 +02.7	S 15 28.2 +00.0	21						
22	238 49.1 +00.9	N 18 04.7 +00.3	286 10.3 +02.6	N 01 51.3 +00.0	329 40.2 +02.6	S 15 28.2 +00.1	22						
23	253 50.0 +01.0	N 18 05.0 +00.4	301 12.9 +02.6	N 01 51.3 -00.1	344 42.8 +02.7	S 15 28.3 +00.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'4 00'4 00'4 00'4 00'4 00'4		SD 00'2 00'2 00'2 00'2 00'2 00'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 305° 305° 305° 305° 305° 305°		SHA 352° 352° 352° 352° 352° 352°		SHA 035° 035° 035° 035° 035° 035°								
	Greenwich Culmination Time: 06:05		Greenwich Culmination Time: 02:58		Greenwich Culmination Time: 00:05								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 53.9 +00.1	N 13 48.4 -00.8	196 41.5 -00.7	N 19 32.3 -00.7	309 01.5 -27.5	N 03 40.7 +15.1	00						
01	193 54.0 +00.2	N 13 47.6 -00.8	211 40.8 -00.7	N 19 31.6 -00.6	323 34.0 -27.5	N 03 55.8 +15.1	01						
02	208 54.2 +00.1	N 13 46.8 -00.8	226 40.1 -00.7	N 19 31.0 -00.7	338 06.5 -27.5	N 04 10.9 +15.1	02						
03	223 54.3 +00.1	N 13 46.0 -00.8	241 39.4 -00.7	N 19 30.3 -00.6	352 39.0 -27.5	N 04 26.0 +15.0	03						
04	238 54.4 +00.1	N 13 45.2 -00.8	256 38.7 -00.8	N 19 29.7 -00.7	7 11.5 -27.4	N 04 41.0 +15.0	04						
05	253 54.5 +00.2	N 13 44.4 -00.8	271 37.9 -00.7	N 19 29.0 -00.6	21 44.1 -27.4	N 04 56.0 +15.0	05						
06	268 54.7 +00.1	N 13 43.6 -00.8	286 37.2 -00.7	N 19 28.4 -00.7	36 16.7 -27.4	N 05 11.0 +14.9	06						
07	283 54.8 +00.1	N 13 42.8 -00.7	301 36.5 -00.7	N 19 27.7 -00.7	50 49.3 -27.4	N 05 25.9 +14.8	07						
08	298 54.9 +00.2	N 13 42.1 -00.8	316 35.8 -00.7	N 19 27.0 -00.6	65 21.9 -27.4	N 05 40.7 +14.8	08						
09	313 55.1 +00.1	N 13 41.3 -00.8	331 35.1 -00.7	N 19 26.4 -00.7	79 54.5 -27.4	N 05 55.5 +14.8	09						
10	328 55.2 +00.1	N 13 40.5 -00.8	346 34.4 -00.7	N 19 25.7 -00.6	94 27.1 -27.3	N 06 10.3 +14.7	10						
11	343 55.3 +00.1	N 13 39.7 -00.8	1 33.7 -00.7	N 19 25.1 -00.7	108 59.8 -27.3	N 06 25.0 +14.7	11						
12	358 55.4 +00.2	N 13 38.9 -00.8	16 33.0 -00.7	N 19 24.4 -00.7	123 32.5 -27.3	N 06 39.7 +14.6	12						
13	13 55.6 +00.1	N 13 38.1 -00.8	31 32.3 -00.7	N 19 23.7 -00.6	138 05.2 -27.3	N 06 54.3 +14.5	13						
14	28 55.7 +00.1	N 13 37.3 -00.8	46 31.6 -00.7	N 19 23.1 -00.7	152 37.9 -27.3	N 07 08.8 +14.5	14						
15	43 55.8 +00.2	N 13 36.5 -00.8	61 30.9 -00.7	N 19 22.4 -00.7	167 10.6 -27.3	N 07 23.3 +14.5	15						
16	58 56.0 +00.1	N 13 35.7 -00.8	76 30.2 -00.7	N 19 21.7 -00.6	181 43.3 -27.3	N 07 37.8 +14.4	16						
17	73 56.1 +00.1	N 13 34.9 -00.8	91 29.5 -00.8	N 19 21.1 -00.7	196 16.0 -27.3	N 07 52.2 +14.4	17						
18	88 56.2 +00.2	N 13 34.1 -00.8	106 28.7 -00.7	N 19 20.4 -00.7	210 48.7 -27.3	N 08 06.6 +14.3	18						
19	103 56.4 +00.1	N 13 33.3 -00.7	121 28.0 -00.7	N 19 19.7 -00.6	225 21.4 -27.2	N 08 20.9 +14.2	19						
20	118 56.5 +00.1	N 13 32.6 -00.8	136 27.3 -00.7	N 19 19.1 -00.7	239 54.2 -27.3	N 08 35.1 +14.2	20						
21	133 56.6 +00.2	N 13 31.8 -00.8	151 26.6 -00.7	N 19 18.4 -00.7	254 26.9 -27.2	N 08 49.3 +14.1	21						
22	148 56.8 +00.1	N 13 31.0 -00.8	166 25.9 -00.7	N 19 17.7 -00.7	268 59.7 -27.3	N 09 03.4 +14.1	22						
23	163 56.9 +00.1	N 13 30.2 -00.8	181 25.2 -00.7	N 19 17.0 -00.6	283 32.4 -27.3	N 09 17.5 +14.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'8 15'8 15'8 15'8 15'8 15'8		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 15'7 15'6 15'6 15'6 15'5 15'5								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 57'6 57'4 57'3 57'1 57'0 56'8								
	SHA 214° 214° 214° 214° 214° 214°		SHA 232° 232° 232° 232° 231° 231°		SHA 344° 342° 340° 338° 336° 334°								
	Greenwich Culmination Time: 12:04		Greenwich Culmination Time: 10:53		Greenwich Culmination Time: 03:30								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	268 51.0 +00.9	N 18 05.4 +00.4	316 15.5 +02.6	N 01 51.2 -00.1	359 45.5 +02.6	S 15 28.4 +00.0	00						
01	283 51.9 +00.9	N 18 05.8 +00.3	331 18.1 +02.6	N 01 51.1 +00.0	14 48.1 +02.7	S 15 28.4 +00.1	01						
02	298 52.8 +01.0	N 18 06.1 +00.4	346 20.7 +02.6	N 01 51.1 -00.1	29 50.8 +02.6	S 15 28.5 +00.0	02						
03	313 53.8 +00.9	N 18 06.5 +00.4	1 23.3 +02.6	N 01 51.0 -00.1	44 53.4 +02.7	S 15 28.5 +00.1	03						
04	328 54.7 +00.9	N 18 06.9 +00.3	16 25.9 +02.6	N 01 50.9 -00.1	59 56.1 +02.6	S 15 28.6 +00.1	04						
05	343 55.6 +01.0	N 18 07.2 +00.4	31 28.5 +02.6	N 01 50.8 +00.0	74 58.7 +02.7	S 15 28.7 +00.0	05						
06	358 56.6 +00.9	N 18 07.6 +00.4	46 31.1 +02.6	N 01 50.8 -00.1	90 01.4 +02.6	S 15 28.7 +00.1	06						
07	13 57.5 +00.9	N 18 08.0 +00.3	61 33.7 +02.6	N 01 50.7 -00.1	105 04.0 +02.7	S 15 28.8 +00.1	07						
08	28 58.4 +01.0	N 18 08.3 +00.4	76 36.3 +02.6	N 01 50.6 +00.0	120 06.7 +02.6	S 15 28.9 +00.0	08						
09	43 59.4 +00.9	N 18 08.7 +00.4	91 38.9 +02.6	N 01 50.6 -00.1	135 09.3 +02.6	S 15 28.9 +00.1	09						
10	59 00.3 +00.9	N 18 09.1 +00.3	106 41.5 +02.6	N 01 50.5 -00.1	150 11.9 +02.7	S 15 29.0 +00.1	10						
11	74 01.2 +01.0	N 18 09.4 +00.4	121 44.1 +02.6	N 01 50.4 +00.0	165 14.6 +02.6	S 15 29.1 +00.0	11						
12	89 02.2 +00.9	N 18 09.8 +00.4	136 46.7 +02.6	N 01 50.4 -00.1	180 17.2 +02.7	S 15 29.1 +00.1	12						
13	104 03.1 +00.9	N 18 10.2 +00.3	151 49.3 +02.6	N 01 50.3 -00.1	195 19.9 +02.6	S 15 29.2 +00.0	13						
14	119 04.0 +01.0	N 18 10.5 +00.4	166 51.9 +02.6	N 01 50.2 +00.0	210 22.5 +02.7	S 15 29.2 +00.1	14						
15	134 05.0 +00.9	N 18 10.9 +00.4	181 54.5 +02.6	N 01 50.2 -00.1	225 25.2 +02.6	S 15 29.3 +00.1	15						
16	149 05.9 +01.0	N 18 11.3 +00.3	196 57.1 +02.6	N 01 50.1 -00.1	240 27.8 +02.7	S 15 29.4 +00.0	16						
17	164 06.9 +00.9	N 18 11.6 +00.4	211 59.7 +02.6	N 01 50.0 +00.0	255 30.5 +02.6	S 15 29.4 +00.1	17						
18	179 07.8 +00.9	N 18 12.0 +00.3	227 02.3 +02.6	N 01 50.0 -00.1	270 33.1 +02.7	S 15 29.5 +00.1	18						
19	194 08.7 +01.0	N 18 12.3 +00.4	242 04.9 +02.6	N 01 49.9 -00.1	285 35.8 +02.6	S 15 29.6 +00.0	19						
20	209 09.7 +00.9	N 18 12.7 +00.4	257 07.5 +02.6	N 01 49.8 -00.1	300 38.4 +02.7	S 15 29.6 +00.1	20						
21	224 10.6 +00.9	N 18 13.1 +00.3	272 10.1 +02.6	N 01 49.7 +00.0	315 41.1 +02.6	S 15 29.7 +00.1	21						
22	239 11.5 +01.0	N 18 13.4 +00.4	287 12.7 +02.6	N 01 49.7 -00.1	330 43.7 +02.7	S 15 29.8 +00.0	22						
23	254 12.5 +00.9	N 18 13.8 +00.3	302 15.3 +02.6	N 01 49.6 -00.1	345 46.4 +02.6	S 15 29.8 +00.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'4 00'4 00'4 00'4 00'4 00'4		SD 00'2 00'2 00'2 00'2 00'2 00'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 304° 304° 304° 304° 304° 304°		SHA 352° 352° 352° 352° 352° 352°		SHA 035° 035° 035° 035° 035° 035°								
	Greenwich Culmination Time: 06:04		Greenwich Culmination Time: 02:54		Greenwich Culmination Time: 00:00								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 57.0 +00.2	N 13 29.4 -00.8	196 24.5 -00.7	N 19 16.4 -00.7	298 05.1 -27.2	N 09 31.5 +13.9	00						
01	193 57.2 +00.1	N 13 28.6 -00.8	211 23.8 -00.7	N 19 15.7 -00.7	312 37.9 -27.3	N 09 45.4 +13.9	01						
02	208 57.3 +00.1	N 13 27.8 -00.8	226 23.1 -00.7	N 19 15.0 -00.7	327 10.6 -27.2	N 09 59.3 +13.8	02						
03	223 57.4 +00.2	N 13 27.0 -00.8	241 22.4 -00.7	N 19 14.3 -00.6	341 43.4 -27.3	N 10 13.1 +13.8	03						
04	238 57.6 +00.1	N 13 26.2 -00.8	256 21.7 -00.7	N 19 13.7 -00.7	356 16.1 -27.3	N 10 26.9 +13.7	04						
05	253 57.7 +00.1	N 13 25.4 -00.8	271 21.0 -00.7	N 19 13.0 -00.7	10 48.8 -27.2	N 10 40.6 +13.6	05						
06	268 57.8 +00.2	N 13 24.6 -00.8	286 20.3 -00.7	N 19 12.3 -00.7	25 21.6 -27.3	N 10 54.2 +13.6	06						
07	283 58.0 +00.1	N 13 23.8 -00.8	301 19.6 -00.7	N 19 11.6 -00.7	39 54.3 -27.3	N 11 07.8 +13.5	07						
08	298 58.1 +00.1	N 13 23.0 -00.8	316 18.9 -00.7	N 19 10.9 -00.6	54 27.0 -27.3	N 11 21.3 +13.4	08						
09	313 58.2 +00.2	N 13 22.2 -00.8	331 18.2 -00.7	N 19 10.3 -00.7	68 59.7 -27.3	N 11 34.7 +13.4	09						
10	328 58.4 +00.1	N 13 21.4 -00.8	346 17.5 -00.7	N 19 09.6 -00.7	83 32.4 -27.3	N 11 48.1 +13.3	10						
11	343 58.5 +00.1	N 13 20.6 -00.8	1 16.8 -00.7	N 19 08.9 -00.7	98 05.1 -27.4	N 12 01.4 +13.2	11						
12	358 58.6 +00.2	N 13 19.8 -00.8	16 16.1 -00.7	N 19 08.2 -00.7	112 37.7 -27.3	N 12 14.6 +13.2	12						
13	13 58.8 +00.1	N 13 19.0 -00.8	31 15.4 -00.7	N 19 07.5 -00.7	127 10.4 -27.4	N 12 27.8 +13.0	13						
14	28 58.9 +00.1	N 13 18.2 -00.8	46 14.7 -00.7	N 19 06.8 -00.7	141 43.0 -27.3	N 12 40.8 +13.1	14						
15	43 59.0 +00.2	N 13 17.4 -00.8	61 14.0 -00.7	N 19 06.1 -00.6	156 15.7 -27.4	N 12 53.9 +12.9	15						
16	58 59.2 +00.1	N 13 16.6 -00.8	76 13.3 -00.7	N 19 05.5 -00.7	170 48.3 -27.4	N 13 06.8 +12.9	16						
17	73 59.3 +00.2	N 13 15.8 -00.8	91 12.6 -00.7	N 19 04.8 -00.7	185 20.9 -27.4	N 13 19.7 +12.8	17						
18	88 59.5 +00.1	N 13 15.0 -00.8	106 11.9 -00.7	N 19 04.1 -00.7	199 53.5 -27.5	N 13 32.5 +12.7	18						
19	103 59.6 +00.1	N 13 14.2 -00.8	121 11.2 -00.7	N 19 03.4 -00.7	214 26.0 -27.4	N 13 45.2 +12.6	19						
20	118 59.7 +00.2	N 13 13.4 -00.8	136 10.5 -00.7	N 19 02.7 -00.7	228 58.6 -27.5	N 13 57.8 +12.6	20						
21	133 59.9 +00.1	N 13 12.6 -00.8	151 09.8 -00.6	N 19 02.0 -00.7	243 31.1 -27.5	N 14 10.4 +12.5	21						
22	148 60.0 +00.1	N 13 11.8 -00.8	166 09.2 -00.7	N 19 01.3 -00.7	258 03.6 -27.5	N 14 22.9 +12.4	22						
23	164 00.1 +00.2	N 13 11.0 -00.8	181 08.5 -00.7	N 19 00.6 -00.7	272 36.1 -27.5	N 14 35.3 +12.3	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15'8 15'8 15'8 15'8 15'8 15'8		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 15'4 15'4 15'4 15'3 15'3 15'3								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 56'7 56'5 56'4 56'3 56'1 56'0								
	SHA 214° 213° 213° 213° 213° 213°		SHA 231° 231° 231° 230° 230° 230°		SHA 332° 330° 328° 326° 324° 322°								
	Greenwich Culmination Time: 12:04		Greenwich Culmination Time: 10:54		Greenwich Culmination Time: 04:15								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	269 13.4 +01.0	N 18 14.1 +00.4	317 17.9 +02.6	N 01 49.5 +00.0	0 49.0 +02.7	S 15 29.9 +00.0	00						
01	284 14.4 +00.9	N 18 14.5 +00.4	332 20.5 +02.6	N 01 49.5 -00.1	15 51.7 +02.6	S 15 29.9 +00.1	01						
02	299 15.3 +00.9	N 18 14.9 +00.3	347 23.1 +02.6	N 01 49.4 -00.1	30 54.3 +02.6	S 15 30.0 +00.1	02						
03	314 16.2 +01.0	N 18 15.2 +00.4	2 25.7 +02.6	N 01 49.3 -00.1	45 56.9 +02.7	S 15 30.1 +00.0	03						
04	329 17.2 +00.9	N 18 15.6 +00.3	17 28.3 +02.6	N 01 49.2 +00.0	60 59.6 +02.6	S 15 30.1 +00.1	04						
05	344 18.1 +00.9	N 18 15.9 +00.4	32 30.9 +02.6	N 01 49.2 -00.1	76 02.2 +02.7	S 15 30.2 +00.1	05						
06	359 19.0 +01.0	N 18 16.3 +00.4	47 33.5 +02.6	N 01 49.1 -00.1	91 04.9 +02.6	S 15 30.3 +00.0	06						
07	14 20.0 +00.9	N 18 16.7 +00.3	62 36.1 +02.6	N 01 49.0 +00.0	106 07.5 +02.7	S 15 30.3 +00.1	07						
08	29 20.9 +01.0	N 18 17.0 +00.4	77 38.7 +02.6	N 01 49.0 -00.1	121 10.2 +02.6	S 15 30.4 +00.1	08						
09	44 21.9 +00.9	N 18 17.4 +00.3	92 41.3 +02.6	N 01 48.9 -00.1	136 12.8 +02.7	S 15 30.5 +00.0	09						
10	59 22.8 +00.9	N 18 17.7 +00.4	107 43.9 +02.6	N 01 48.8 -00.1	151 15.5 +02.6	S 15 30.5 +00.1	10						
11	74 23.7 +01.0	N 18 18.1 +00.4	122 46.5 +02.6	N 01 48.7 +00.0	166 18.1 +02.7	S 15 30.6 +00.0	11						
12	89 24.7 +00.9	N 18 18.5 +00.3	137 49.1 +02.6	N 01 48.7 -00.1	181 20.8 +02.6	S 15 30.6 +00.1	12						
13	104 25.6 +01.0	N 18 18.8 +00.4	152 51.7 +02.6	N 01 48.6 -00.1	196 23.4 +02.7	S 15 30.7 +00.1	13						
14	119 26.6 +00.9	N 18 19.2 +00.3	167 54.3 +02.6	N 01 48.5 +00.0	211 26.1 +02.6	S 15 30.8 +00.0	14						
15	134 27.5 +01.0	N 18 19.5 +00.4	182 56.9 +02.6	N 01 48.5 -00.1	226 28.7 +02.7	S 15 30.8 +00.1	15						
16	149 28.5 +00.9	N 18 19.9 +00.3	197 59.5 +02.6	N 01 48.4 -00.1	241 31.4 +02.6	S 15 30.9 +00.1	16						
17	164 29.4 +00.9	N 18 20.2 +00.4	213 02.1 +02.6	N 01 48.3 -00.1	256 34.0 +02.6	S 15 31.0 +00.0	17						
18	179 30.3 +01.0	N 18 20.6 +00.4	228 04.7 +02.6	N 01 48.2 +00.0	271 36.6 +02.7	S 15 31.0 +00.1	18						
19	194 31.3 +00.9	N 18 21.0 +00.3	243 07.3 +02.6	N 01 48.2 -00.1	286 39.3 +02.6	S 15 31.1 +00.0	19						
20	209 32.2 +01.0	N 18 21.3 +00.4	258 09.9 +02.7	N 01 48.1 -00.1	301 41.9 +02.7	S 15 31.1 +00.1	20						
21	224 33.2 +00.9	N 18 21.7 +00.3	273 12.6 +02.6	N 01 48.0 +00.0	316 44.6 +02.6	S 15 31.2 +00.1	21						
22	239 34.1 +01.0	N 18 22.0 +00.4	288 15.2 +02.6	N 01 48.0 -00.1	331 47.2 +02.7	S 15 31.3 +00.0	22						
23	254 35.1 +00.9	N 18 22.4 +00.3	303 17.8 +02.6	N 01 47.9 -00.1	346 49.9 +02.6	S 15 31.3 +00.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'4 00'4 00'4 00'4 00'4 00'4		SD 00'2 00'2 00'2 00'2 00'2 00'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 304° 304° 304° 304° 303° 303°		SHA 352° 352° 352° 352° 352° 352°		SHA 035° 035° 035° 036° 036° 036°								
	Greenwich Culmination Time: 06:02		Greenwich Culmination Time: 02:50		Greenwich Culmination Time: 23:52								

Table with columns for Sun, Venus, Moon, Mars, Jupiter, Saturn and rows for UT (00-23). Each planet section includes GHA, ddGHA, Dec, dDec, and UT values. Summary statistics (SD, HP, SHA) and Greenwich Culmination Time are provided at the bottom of each section.

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	
00	179 30.4 +00.2		N 10 29.4 -00.9		194 01.9 -00.6		N 16 29.4 -00.9		192 37.6 -28.2		N 20 20.9 -09.6		00
01	194 30.6 +00.2		N 10 28.5 -00.9		209 01.3 -00.6		N 16 28.5 -00.9		207 09.4 -28.2		N 20 11.3 -09.7		01
02	209 30.8 +00.1		N 10 27.6 -00.8		224 00.7 -00.6		N 16 27.6 -00.8		221 41.2 -28.1		N 20 01.6 -09.8		02
03	224 30.9 +00.2		N 10 26.8 -00.9		239 00.1 -00.7		N 16 26.8 -00.9		236 13.1 -28.1		N 19 51.8 -09.8		03
04	239 31.1 +00.2		N 10 25.9 -00.9		253 59.4 -00.6		N 16 25.9 -00.9		250 45.0 -28.0		N 19 42.0 -10.0		04
05	254 31.3 +00.2		N 10 25.0 -00.8		268 58.8 -00.6		N 16 25.0 -00.9		265 17.0 -28.0		N 19 32.0 -10.0		05
06	269 31.5 +00.1		N 10 24.2 -00.9		283 58.2 -00.6		N 16 24.1 -00.8		279 49.0 -28.0		N 19 22.0 -10.2		06
07	284 31.6 +00.2		N 10 23.3 -00.9		298 57.6 -00.6		N 16 23.3 -00.9		294 21.0 -27.9		N 19 11.8 -10.2		07
08	299 31.8 +00.2		N 10 22.4 -00.9		313 57.0 -00.6		N 16 22.4 -00.9		308 53.1 -27.8		N 19 01.6 -10.3		08
09	314 32.0 +00.2		N 10 21.5 -00.8		328 56.4 -00.6		N 16 21.5 -00.8		323 25.3 -27.8		N 18 51.3 -10.4		09
10	329 32.2 +00.1		N 10 20.7 -00.9		343 55.8 -00.7		N 16 20.7 -00.9		337 57.5 -27.8		N 18 40.9 -10.5		10
11	344 32.3 +00.2		N 10 19.8 -00.9		358 55.1 -00.6		N 16 19.8 -00.9		352 29.7 -27.7		N 18 30.4 -10.6		11
12	359 32.5 +00.2		N 10 18.9 -00.8		13 54.5 -00.6		N 16 18.9 -00.9		7 02.0 -27.7		N 18 19.8 -10.7		12
13	14 32.7 +00.2		N 10 18.1 -00.9		28 53.9 -00.6		N 16 18.0 -00.9		21 34.3 -27.6		N 18 09.1 -10.7		13
14	29 32.9 +00.1		N 10 17.2 -00.9		43 53.3 -00.6		N 16 17.1 -00.8		36 06.7 -27.6		N 17 58.4 -10.9		14
15	44 33.0 +00.2		N 10 16.3 -00.9		58 52.7 -00.6		N 16 16.3 -00.9		50 39.1 -27.5		N 17 47.5 -10.9		15
16	59 33.2 +00.2		N 10 15.4 -00.8		73 52.1 -00.6		N 16 15.4 -00.9		65 11.6 -27.5		N 17 36.6 -11.0		16
17	74 33.4 +00.2		N 10 14.6 -00.9		88 51.5 -00.6		N 16 14.5 -00.9		79 44.1 -27.5		N 17 25.6 -11.1		17
18	89 33.6 +00.2		N 10 13.7 -00.9		103 50.9 -00.6		N 16 13.6 -00.8		94 16.6 -27.4		N 17 14.5 -11.1		18
19	104 33.8 +00.1		N 10 12.8 -00.8		118 50.3 -00.6		N 16 12.8 -00.9		108 49.2 -27.4		N 17 03.4 -11.3		19
20	119 33.9 +00.2		N 10 12.0 -00.9		133 49.7 -00.7		N 16 11.9 -00.9		123 21.8 -27.3		N 16 52.1 -11.3		20
21	134 34.1 +00.2		N 10 11.1 -00.9		148 49.0 -00.6		N 16 11.0 -00.9		137 54.5 -27.3		N 16 40.8 -11.4		21
22	149 34.3 +00.2		N 10 10.2 -00.9		163 48.4 -00.6		N 16 10.1 -00.9		152 27.2 -27.3		N 16 29.4 -11.5		22
23	164 34.5 +00.1		N 10 09.3 -00.8		178 47.8 -00.6		N 16 09.2 -00.9		166 59.9 -27.2		N 16 17.9 -11.5		23
UT 02 06 10 14 18 22 SD 15'8 15'8 15'8 15'8 15'8 15'8 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 205° 205° 205° 205° 205° 204° Greenwich Culmination Time: 12:01				UT 02 06 10 14 18 22 SD 00'1 00'1 00'1 00'1 00'1 00'1 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 220° 219° 219° 219° 219° 219° Greenwich Culmination Time: 11:04				UT 02 06 10 14 18 22 SD 14'9 14'9 14'9 14'9 15'0 15'0 HP 54'6 54'7 54'8 54'8 54'9 55'0 SHA 217° 215° 213° 211° 209° 207° Greenwich Culmination Time: 11:30					
UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	
00	272 42.9 +01.0		N 19 25.8 +00.3		326 46.4 +02.7		N 01 31.6 -00.1		10 20.3 +02.7		S 15 43.3 +00.1		00
01	287 43.9 +01.0		N 19 26.1 +00.3		341 49.1 +02.6		N 01 31.5 -00.1		25 23.0 +02.6		S 15 43.4 +00.0		01
02	302 44.9 +01.0		N 19 26.4 +00.4		356 51.7 +02.7		N 01 31.4 -00.1		40 25.6 +02.7		S 15 43.4 +00.1		02
03	317 45.9 +01.0		N 19 26.8 +00.3		11 54.4 +02.6		N 01 31.3 -00.1		55 28.3 +02.6		S 15 43.5 +00.0		03
04	332 46.9 +01.0		N 19 27.1 +00.3		26 57.0 +02.7		N 01 31.2 -00.1		70 30.9 +02.6		S 15 43.5 +00.1		04
05	347 47.9 +01.0		N 19 27.4 +00.3		41 59.7 +02.7		N 01 31.1 -00.1		85 33.5 +02.7		S 15 43.6 +00.1		05
06	2 48.9 +01.1		N 19 27.7 +00.3		57 02.4 +02.6		N 01 31.0 +00.0		100 36.2 +02.6		S 15 43.7 +00.0		06
07	17 50.0 +01.0		N 19 28.0 +00.3		72 05.0 +02.7		N 01 31.0 -00.1		115 38.8 +02.7		S 15 43.7 +00.1		07
08	32 51.0 +01.0		N 19 28.3 +00.3		87 07.7 +02.7		N 01 30.9 -00.1		130 41.5 +02.6		S 15 43.8 +00.0		08
09	47 52.0 +01.0		N 19 28.6 +00.3		102 10.4 +02.6		N 01 30.8 -00.1		145 44.1 +02.7		S 15 43.8 +00.1		09
10	62 53.0 +01.0		N 19 28.9 +00.3		117 13.0 +02.7		N 01 30.7 -00.1		160 46.8 +02.6		S 15 43.9 +00.1		10
11	77 54.0 +01.0		N 19 29.2 +00.3		132 15.7 +02.6		N 01 30.6 -00.1		175 49.4 +02.6		S 15 44.0 +00.0		11
12	92 55.0 +01.0		N 19 29.5 +00.3		147 18.3 +02.7		N 01 30.5 -00.1		190 52.0 +02.7		S 15 44.0 +00.1		12
13	107 56.0 +01.0		N 19 29.8 +00.3		162 21.0 +02.7		N 01 30.4 -00.1		205 54.7 +02.6		S 15 44.1 +00.0		13
14	122 57.0 +01.0		N 19 30.1 +00.3		177 23.7 +02.6		N 01 30.3 -00.1		220 57.3 +02.7		S 15 44.1 +00.1		14
15	137 58.0 +01.0		N 19 30.4 +00.3		192 26.3 +02.7		N 01 30.2 -00.1		235 60.0 +02.6		S 15 44.2 +00.1		15
16	152 59.0 +01.1		N 19 30.7 +00.3		207 29.0 +02.7		N 01 30.1 -00.1		251 02.6 +02.6		S 15 44.3 +00.0		16
17	168 00.1 +01.0		N 19 31.0 +00.3		222 31.7 +02.6		N 01 30.0 -00.1		266 05.2 +02.7		S 15 44.3 +00.1		17
18	183 01.1 +01.0		N 19 31.3 +00.3		237 34.3 +02.7		N 01 29.9 -00.1		281 07.9 +02.6		S 15 44.4 +00.0		18
19	198 02.1 +01.0		N 19 31.6 +00.3		252 37.0 +02.7		N 01 29.8 -00.1		296 10.5 +02.7		S 15 44.4 +00.1		19
20	213 03.1 +01.0		N 19 31.9 +00.3		267 39.7 +02.6		N 01 29.7 -00.1		311 13.2 +02.6		S 15 44.5 +00.1		20
21	228 04.1 +01.0		N 19 32.2 +00.3		282 42.3 +02.7		N 01 29.6 -00.1		326 15.8 +02.6		S 15 44.6 +00.0		21
22	243 05.1 +01.0		N 19 32.5 +00.3		297 45.0 +02.7		N 01 29.5 -00.1		341 18.4 +02.7		S 15 44.6 +00.1		22
23	258 06.1 +01.1		N 19 32.8 +00.2		312 47.7 +02.6		N 01 29.4 -00.1		356 21.1 +02.6		S 15 44.7 +00.0		23
UT 02 06 10 14 18 22 SD 00'1 00'1 00'1 00'1 00'1 00'1 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 298° 298° 298° 298° 298° 298° Greenwich Culmination Time: 05:48				UT 02 06 10 14 18 22 SD 00'4 00'4 00'4 00'4 00'4 00'4 HP 00'0 00'0 00'0 00'0 00'0 00'0 SHA 353° 353° 353° 353° 353° 353° Greenwich Culmination Time: 02:12				UT 02 06 10 14 18 22 SD 00'2 00'2 00'2 00'2 00'2 00'2 HP 00'0 00'0 00'0 00'0 00'0 00'0 SHA 036° 036° 036° 036° 036° 036° Greenwich Culmination Time: 23:14					

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT	
	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec		
00	179 34.6 +00.2	N 10 08.5 -00.9	193 47.2 -00.6	N 16 08.3 -00.9	181 32.7 -27.1	N 16 06.4 -11.7	00							
01	194 34.8 +00.2	N 10 07.6 -00.9	208 46.6 -00.6	N 16 07.4 -00.8	196 05.6 -27.2	N 15 54.7 -11.7	01							
02	209 35.0 +00.2	N 10 06.7 -00.9	223 46.0 -00.6	N 16 06.6 -00.9	210 38.4 -27.1	N 15 43.0 -11.7	02							
03	224 35.2 +00.2	N 10 05.8 -00.8	238 45.4 -00.6	N 16 05.7 -00.9	225 11.3 -27.0	N 15 31.3 -11.9	03							
04	239 35.4 +00.1	N 10 05.0 -00.9	253 44.8 -00.6	N 16 04.8 -00.9	239 44.3 -27.0	N 15 19.4 -11.9	04							
05	254 35.5 +00.2	N 10 04.1 -00.9	268 44.2 -00.6	N 16 03.9 -00.9	254 17.3 -27.0	N 15 07.5 -12.0	05							
06	269 35.7 +00.2	N 10 03.2 -00.9	283 43.6 -00.6	N 16 03.0 -00.9	268 50.3 -27.0	N 14 55.5 -12.1	06							
07	284 35.9 +00.2	N 10 02.3 -00.9	298 43.0 -00.6	N 16 02.1 -00.9	283 23.3 -26.9	N 14 43.4 -12.1	07							
08	299 36.1 +00.2	N 10 01.4 -00.8	313 42.4 -00.6	N 16 01.2 -00.9	297 56.4 -26.8	N 14 31.3 -12.2	08							
09	314 36.3 +00.1	N 10 00.6 -00.9	328 41.8 -00.6	N 16 00.3 -00.9	312 29.6 -26.9	N 14 19.1 -12.3	09							
10	329 36.4 +00.2	N 09 59.7 -00.9	343 41.2 -00.6	N 15 59.4 -00.9	327 02.7 -26.8	N 14 06.8 -12.3	10							
11	344 36.6 +00.2	N 09 58.8 -00.9	358 40.6 -00.6	N 15 58.5 -00.8	341 35.9 -26.7	N 13 54.5 -12.4	11							
12	359 36.8 +00.2	N 09 57.9 -00.8	13 40.0 -00.6	N 15 57.7 -00.9	356 09.2 -26.8	N 13 42.1 -12.5	12							
13	14 37.0 +00.2	N 09 57.1 -00.9	28 39.4 -00.6	N 15 56.8 -00.9	10 42.4 -26.7	N 13 29.6 -12.5	13							
14	29 37.2 +00.1	N 09 56.2 -00.9	43 38.8 -00.6	N 15 55.9 -00.9	25 15.7 -26.6	N 13 17.1 -12.6	14							
15	44 37.3 +00.2	N 09 55.3 -00.9	58 38.2 -00.6	N 15 55.0 -00.9	39 49.1 -26.7	N 13 04.5 -12.7	15							
16	59 37.5 +00.2	N 09 54.4 -00.9	73 37.6 -00.6	N 15 54.1 -00.9	54 22.4 -26.6	N 12 51.8 -12.7	16							
17	74 37.7 +00.2	N 09 53.5 -00.8	88 37.0 -00.6	N 15 53.2 -00.9	68 55.8 -26.6	N 12 39.1 -12.8	17							
18	89 37.9 +00.2	N 09 52.7 -00.9	103 36.4 -00.6	N 15 52.3 -00.9	83 29.2 -26.5	N 12 26.3 -12.8	18							
19	104 38.1 +00.1	N 09 51.8 -00.9	118 35.8 -00.6	N 15 51.4 -00.9	98 02.7 -26.5	N 12 13.5 -12.9	19							
20	119 38.2 +00.2	N 09 50.9 -00.9	133 35.2 -00.6	N 15 50.5 -00.9	112 36.2 -26.5	N 12 00.6 -13.0	20							
21	134 38.4 +00.2	N 09 50.0 -00.9	148 34.6 -00.6	N 15 49.6 -00.9	127 09.7 -26.5	N 11 47.6 -13.0	21							
22	149 38.6 +00.2	N 09 49.1 -00.8	163 34.0 -00.6	N 15 48.7 -00.9	141 43.2 -26.4	N 11 34.6 -13.1	22							
23	164 38.8 +00.2	N 09 48.3 -00.9	178 33.4 -00.6	N 15 47.8 -00.9	156 16.8 -26.4	N 11 21.5 -13.1	23							
UT 02 06 10 14 18 22	SD 15'8 15'8 15'8 15'8 15'8 15'8	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 204° 204° 204° 204° 204° 204°	Greenwich Culmination Time: 12:01	UT 02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 218° 218° 218° 218° 218° 217°	Greenwich Culmination Time: 11:05	UT 02 06 10 14 18 22	SD 15'0 15'0 15'0 15'0 15'1 15'1	HP 55'0 55'1 55'2 55'2 55'3 55'4	SHA 205° 203° 201° 199° 198° 196°	Greenwich Culmination Time: 12:15

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT	
	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec		
00	273 07.2 +01.0	N 19 33.0 +00.3	327 50.3 +02.7	N 01 29.3 -00.1	11 23.7 +02.7	S 15 44.7 +00.1	00							
01	288 08.2 +01.0	N 19 33.3 +00.3	342 53.0 +02.7	N 01 29.2 -00.1	26 26.4 +02.6	S 15 44.8 +00.1	01							
02	303 09.2 +01.0	N 19 33.6 +00.3	357 55.7 +02.6	N 01 29.1 -00.1	41 29.0 +02.7	S 15 44.9 +00.0	02							
03	318 10.2 +01.0	N 19 33.9 +00.3	12 58.3 +02.7	N 01 29.0 -00.1	56 31.7 +02.6	S 15 44.9 +00.1	03							
04	333 11.2 +01.0	N 19 34.2 +00.3	28 01.0 +02.7	N 01 28.9 -00.1	71 34.3 +02.6	S 15 45.0 +00.0	04							
05	348 12.2 +01.0	N 19 34.5 +00.3	43 03.7 +02.7	N 01 28.8 -00.1	86 36.9 +02.7	S 15 45.0 +00.1	05							
06	3 13.2 +01.1	N 19 34.8 +00.3	58 06.4 +02.6	N 01 28.7 -00.1	101 39.6 +02.6	S 15 45.1 +00.0	06							
07	18 14.3 +01.0	N 19 35.1 +00.3	73 09.0 +02.7	N 01 28.6 -00.1	116 42.2 +02.7	S 15 45.1 +00.1	07							
08	33 15.3 +01.0	N 19 35.4 +00.3	88 11.7 +02.7	N 01 28.5 -00.1	131 44.9 +02.6	S 15 45.2 +00.1	08							
09	48 16.3 +01.0	N 19 35.7 +00.3	103 14.4 +02.6	N 01 28.4 -00.1	146 47.5 +02.6	S 15 45.3 +00.0	09							
10	63 17.3 +01.0	N 19 36.0 +00.3	118 17.0 +02.7	N 01 28.3 -00.1	161 50.1 +02.7	S 15 45.3 +00.1	10							
11	78 18.3 +01.1	N 19 36.3 +00.3	133 19.7 +02.7	N 01 28.2 -00.1	176 52.8 +02.6	S 15 45.4 +00.0	11							
12	93 19.4 +01.0	N 19 36.6 +00.3	148 22.4 +02.6	N 01 28.1 -00.1	191 55.4 +02.7	S 15 45.4 +00.1	12							
13	108 20.4 +01.0	N 19 36.9 +00.3	163 25.0 +02.7	N 01 28.0 -00.1	206 58.1 +02.6	S 15 45.5 +00.1	13							
14	123 21.4 +01.0	N 19 37.2 +00.3	178 27.7 +02.7	N 01 27.9 -00.1	222 00.7 +02.6	S 15 45.6 +00.0	14							
15	138 22.4 +01.0	N 19 37.5 +00.3	193 30.4 +02.7	N 01 27.8 -00.1	237 03.3 +02.7	S 15 45.6 +00.1	15							
16	153 23.4 +01.1	N 19 37.8 +00.3	208 33.1 +02.6	N 01 27.7 -00.1	252 06.0 +02.6	S 15 45.7 +00.0	16							
17	168 24.5 +01.0	N 19 38.1 +00.3	223 35.7 +02.7	N 01 27.6 -00.1	267 08.6 +02.7	S 15 45.7 +00.1	17							
18	183 25.5 +01.0	N 19 38.4 +00.2	238 38.4 +02.7	N 01 27.5 -00.1	282 11.3 +02.6	S 15 45.8 +00.1	18							
19	198 26.5 +01.0	N 19 38.6 +00.3	253 41.1 +02.6	N 01 27.4 -00.1	297 13.9 +02.6	S 15 45.9 +00.0	19							
20	213 27.5 +01.0	N 19 38.9 +00.3	268 43.7 +02.7	N 01 27.3 -00.1	312 16.5 +02.7	S 15 45.9 +00.1	20							
21	228 28.5 +01.1	N 19 39.2 +00.3	283 46.4 +02.7	N 01 27.2 -00.1	327 19.2 +02.6	S 15 46.0 +00.0	21							
22	243 29.6 +01.0	N 19 39.5 +00.3	298 49.1 +02.7	N 01 27.1 -00.1	342 21.8 +02.7	S 15 46.0 +00.1	22							
23	258 30.6 +01.0	N 19 39.8 +00.3	313 51.8 +02.6	N 01 27.0 -00.1	357 24.5 +02.6	S 15 46.1 +00.1	23							
UT 02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 298° 298° 298° 298° 297° 297°	Greenwich Culmination Time: 05:47	UT 02 06 10 14 18 22	SD 00'4 00'4 00'4 00'4 00'4 00'4	HP 00'0 00'0 00'0 00'0 00'0 00'0	SHA 353° 353° 353° 353° 353° 353°	Greenwich Culmination Time: 02:08	UT 02 06 10 14 18 22	SD 00'2 00'2 00'2 00'2 00'2 00'2	HP 00'0 00'0 00'0 00'0 00'0 00'0	SHA 036° 036° 036° 036° 036° 036°	Greenwich Culmination Time: 23:10

Warning: This page has been generated by a computer program. Complex computer programs usually have bugs and may produce wrong data. The data on this page is believed to be accurate but no warranty is given for its correctness. Use it only for training and exercising!

UT	Sun				Venus				Moon A: 03%				UT
	GHA ° / '	ddGHA /	Dec ° / '	dDec /	GHA ° / '	ddGHA /	Dec ° / '	dDec /	GHA ° / '	ddGHA /	Dec ° / '	dDec /	
00	179 39.0 +00.2	N 09	47.4 -00.9	193 32.8 -00.6	N 15	46.9 -00.9	170 50.4 -26.4	N 11	08.4 -13.2	00			
01	194 39.2 +00.1	N 09	46.5 -00.9	208 32.2 -00.6	N 15	46.0 -00.9	185 24.0 -26.4	N 10	55.2 -13.3	01			
02	209 39.3 +00.2	N 09	45.6 -00.9	223 31.6 -00.6	N 15	45.1 -01.0	199 57.6 -26.3	N 10	41.9 -13.2	02			
03	224 39.5 +00.2	N 09	44.7 -00.8	238 31.0 -00.6	N 15	44.1 -00.9	214 31.3 -26.3	N 10	28.7 -13.4	03			
04	239 39.7 +00.2	N 09	43.9 -00.9	253 30.4 -00.6	N 15	43.2 -00.9	229 05.0 -26.3	N 10	15.3 -13.4	04			
05	254 39.9 +00.2	N 09	43.0 -00.9	268 29.8 -00.6	N 15	42.3 -00.9	243 38.7 -26.3	N 10	01.9 -13.4	05			
06	269 40.1 +00.2	N 09	42.1 -00.9	283 29.2 -00.6	N 15	41.4 -00.9	258 12.4 -26.2	N 09	48.5 -13.5	06			
07	284 40.3 +00.1	N 09	41.2 -00.9	298 28.6 -00.6	N 15	40.5 -00.9	272 46.2 -26.3	N 09	35.0 -13.6	07			
08	299 40.4 +00.2	N 09	40.3 -00.9	313 28.0 -00.6	N 15	39.6 -00.9	287 19.9 -26.2	N 09	21.4 -13.6	08			
09	314 40.6 +00.2	N 09	39.4 -00.8	328 27.4 -00.6	N 15	38.7 -00.9	301 53.7 -26.2	N 09	07.8 -13.6	09			
10	329 40.8 +00.2	N 09	38.6 -00.9	343 26.8 -00.5	N 15	37.8 -00.9	316 27.5 -26.1	N 08	54.2 -13.7	10			
11	344 41.0 +00.2	N 09	37.7 -00.9	358 26.3 -00.6	N 15	36.9 -00.9	331 01.4 -26.2	N 08	40.5 -13.7	11			
12	359 41.2 +00.2	N 09	36.8 -00.9	13 25.7 -00.6	N 15	36.0 -01.0	345 35.2 -26.1	N 08	26.8 -13.8	12			
13	14 41.4 +00.1	N 09	35.9 -00.9	28 25.1 -00.6	N 15	35.0 -00.9	0 09.1 -26.2	N 08	13.0 -13.8	13			
14	29 41.5 +00.2	N 09	35.0 -00.9	43 24.5 -00.6	N 15	34.1 -00.9	14 42.9 -26.1	N 07	59.2 -13.9	14			
15	44 41.7 +00.2	N 09	34.1 -00.8	58 23.9 -00.6	N 15	33.2 -00.9	29 16.8 -26.1	N 07	45.3 -13.9	15			
16	59 41.9 +00.2	N 09	33.3 -00.9	73 23.3 -00.6	N 15	32.3 -00.9	43 50.7 -26.1	N 07	31.4 -13.9	16			
17	74 42.1 +00.2	N 09	32.4 -00.9	88 22.7 -00.6	N 15	31.4 -00.9	58 24.6 -26.1	N 07	17.5 -14.0	17			
18	89 42.3 +00.2	N 09	31.5 -00.9	103 22.1 -00.6	N 15	30.5 -01.0	72 58.5 -26.0	N 07	03.5 -14.0	18			
19	104 42.5 +00.2	N 09	30.6 -00.9	118 21.5 -00.6	N 15	29.5 -00.9	87 32.5 -26.1	N 06	49.5 -14.0	19			
20	119 42.7 +00.1	N 09	29.7 -00.9	133 20.9 -00.5	N 15	28.6 -00.9	102 06.4 -26.0	N 06	35.5 -14.1	20			
21	134 42.8 +00.2	N 09	28.8 -00.9	148 20.4 -00.6	N 15	27.7 -00.9	116 40.4 -26.1	N 06	21.4 -14.2	21			
22	149 43.0 +00.2	N 09	27.9 -00.9	163 19.8 -00.6	N 15	26.8 -00.9	131 14.3 -26.0	N 06	07.2 -14.1	22			
23	164 43.2 +00.2	N 09	27.0 -00.8	178 19.2 -00.6	N 15	25.9 -01.0	145 48.3 -26.1	N 05	53.1 -14.2	23			
UT	02 06 10 14 18 22				UT	02 06 10 14 18 22				UT	02 06 10 14 18 22		
SD	15'8 15'8 15'8 15'8 15'8 15'8				SD	00'1 00'1 00'1 00'1 00'1 00'1				SD	15'1 15'1 15'1 15'2 15'2 15'2		
HP	00'1 00'1 00'1 00'1 00'1 00'1				HP	00'1 00'1 00'1 00'1 00'1 00'1				HP	55'4 55'5 55'6 55'7 55'7 55'8		
SHA	203° 203° 203° 203° 203° 203°				SHA	217° 217° 217° 217° 216° 216°				SHA	194° 192° 190° 188° 186° 184°		
Greenwich Culmination Time:	12:01			Greenwich Culmination Time:	11:06			Greenwich Culmination Time:	12:59				

UT	Mars				Jupiter				Saturn				UT
	GHA ° / '	ddGHA /	Dec ° / '	dDec /	GHA ° / '	ddGHA /	Dec ° / '	dDec /	GHA ° / '	ddGHA /	Dec ° / '	dDec /	
00	273 31.6 +01.0	N 19	40.1 +00.3	328 54.4 +02.7	N 01	26.9 -00.1	12 27.1 +02.6	S 15	46.2 +00.0	00			
01	288 32.6 +01.1	N 19	40.4 +00.3	343 57.1 +02.7	N 01	26.8 -00.1	27 29.7 +02.7	S 15	46.2 +00.1	01			
02	303 33.7 +01.0	N 19	40.7 +00.3	358 59.8 +02.7	N 01	26.7 -00.1	42 32.4 +02.6	S 15	46.3 +00.0	02			
03	318 34.7 +01.0	N 19	41.0 +00.3	14 02.5 +02.6	N 01	26.6 -00.1	57 35.0 +02.7	S 15	46.3 +00.1	03			
04	333 35.7 +01.0	N 19	41.3 +00.3	29 05.1 +02.7	N 01	26.5 -00.1	72 37.7 +02.6	S 15	46.4 +00.1	04			
05	348 36.7 +01.1	N 19	41.6 +00.2	44 07.8 +02.7	N 01	26.4 -00.1	87 40.3 +02.6	S 15	46.5 +00.0	05			
06	3 37.8 +01.0	N 19	41.8 +00.3	59 10.5 +02.7	N 01	26.3 -00.1	102 42.9 +02.7	S 15	46.5 +00.1	06			
07	18 38.8 +01.0	N 19	42.1 +00.3	74 13.2 +02.6	N 01	26.2 -00.1	117 45.6 +02.6	S 15	46.6 +00.0	07			
08	33 39.8 +01.0	N 19	42.4 +00.3	89 15.8 +02.7	N 01	26.1 -00.1	132 48.2 +02.7	S 15	46.6 +00.1	08			
09	48 40.8 +01.1	N 19	42.7 +00.3	104 18.5 +02.7	N 01	26.0 -00.1	147 50.9 +02.6	S 15	46.7 +00.1	09			
10	63 41.9 +01.0	N 19	43.0 +00.3	119 21.2 +02.7	N 01	25.9 -00.1	162 53.5 +02.6	S 15	46.8 +00.0	10			
11	78 42.9 +01.0	N 19	43.3 +00.3	134 23.9 +02.6	N 01	25.8 -00.1	177 56.1 +02.7	S 15	46.8 +00.1	11			
12	93 43.9 +01.1	N 19	43.6 +00.3	149 26.5 +02.7	N 01	25.7 -00.1	192 58.8 +02.6	S 15	46.9 +00.0	12			
13	108 45.0 +01.0	N 19	43.9 +00.3	164 29.2 +02.7	N 01	25.6 -00.1	208 01.4 +02.7	S 15	46.9 +00.1	13			
14	123 46.0 +01.0	N 19	44.2 +00.2	179 31.9 +02.7	N 01	25.5 -00.1	223 04.1 +02.6	S 15	47.0 +00.0	14			
15	138 47.0 +01.0	N 19	44.4 +00.3	194 34.6 +02.7	N 01	25.4 -00.1	238 06.7 +02.6	S 15	47.0 +00.1	15			
16	153 48.0 +01.1	N 19	44.7 +00.3	209 37.3 +02.6	N 01	25.3 -00.1	253 09.3 +02.7	S 15	47.1 +00.1	16			
17	168 49.1 +01.0	N 19	45.0 +00.3	224 39.9 +02.7	N 01	25.2 -00.1	268 12.0 +02.6	S 15	47.2 +00.0	17			
18	183 50.1 +01.0	N 19	45.3 +00.3	239 42.6 +02.7	N 01	25.1 -00.1	283 14.6 +02.6	S 15	47.2 +00.1	18			
19	198 51.1 +01.1	N 19	45.6 +00.3	254 45.3 +02.7	N 01	25.0 -00.1	298 17.2 +02.7	S 15	47.3 +00.0	19			
20	213 52.2 +01.0	N 19	45.9 +00.3	269 48.0 +02.6	N 01	24.9 -00.1	313 19.9 +02.6	S 15	47.3 +00.1	20			
21	228 53.2 +01.0	N 19	46.2 +00.2	284 50.6 +02.7	N 01	24.8 -00.1	328 22.5 +02.7	S 15	47.4 +00.1	21			
22	243 54.2 +01.1	N 19	46.4 +00.3	299 53.3 +02.7	N 01	24.7 -00.1	343 25.2 +02.6	S 15	47.5 +00.0	22			
23	258 55.3 +01.0	N 19	46.7 +00.3	314 56.0 +02.7	N 01	24.6 -00.1	358 27.8 +02.6	S 15	47.5 +00.1	23			
UT	02 06 10 14 18 22				UT	02 06 10 14 18 22				UT	02 06 10 14 18 22		
SD	00'1 00'1 00'1 00'1 00'1 00'1				SD	00'4 00'4 00'4 00'4 00'4 00'4				SD	00'2 00'2 00'2 00'2 00'2 00'2		
HP	00'1 00'1 00'1 00'1 00'1 00'2				HP	00'0 00'0 00'0 00'0 00'0 00'0				HP	00'0 00'0 00'0 00'0 00'0 00'0		
SHA	297° 297° 297° 297° 297° 297°				SHA	353° 353° 353° 353° 353° 353°				SHA	036° 036° 036° 036° 036° 036°		
Greenwich Culmination Time:	05:45			Greenwich Culmination Time:	02:04			Greenwich Culmination Time:	23:06				

Table with columns: Sun, Venus, Moon, UT. Rows include UT (00-23) and astronomical data (GHA, ddGHA, Dec, dDec) for each planet. Summary rows at the bottom show UT 02, 06, 10, 14, 18, 22 and SD, HP, SHA values.

Table with columns: Mars, Jupiter, Saturn, UT. Rows include UT (00-23) and astronomical data (GHA, ddGHA, Dec, dDec) for each planet. Summary rows at the bottom show UT 02, 06, 10, 14, 18, 22 and SD, HP, SHA values.

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 52.5 +00.2		N 08 43.3 -00.9		192 50.9 -00.5		N 14 39.8 -00.9		139 19.5 -27.0		S 06 03.2 +14.7		00
01	194 52.7 +00.2		N 08 42.4 -00.9		207 50.4 -00.6		N 14 38.9 -01.0		153 52.5 -27.1		S 06 17.9 +14.6		01
02	209 52.9 +00.2		N 08 41.5 -00.9		222 49.8 -00.6		N 14 37.9 -01.0		168 25.4 -27.1		S 06 32.5 +14.6		02
03	224 53.1 +00.2		N 08 40.6 -00.9		237 49.2 -00.5		N 14 36.9 -00.9		182 58.3 -27.1		S 06 47.1 +14.6		03
04	239 53.3 +00.2		N 08 39.7 -00.9		252 48.7 -00.6		N 14 36.0 -01.0		197 31.2 -27.3		S 07 01.7 +14.6		04
05	254 53.5 +00.2		N 08 38.8 -00.9		267 48.1 -00.6		N 14 35.0 -00.9		212 03.9 -27.2		S 07 16.3 +14.5		05
06	269 53.7 +00.2		N 08 37.9 -00.9		282 47.5 -00.5		N 14 34.1 -01.0		226 36.7 -27.4		S 07 30.8 +14.5		06
07	284 53.9 +00.2		N 08 37.0 -00.9		297 47.0 -00.6		N 14 33.1 -01.0		241 09.3 -27.3		S 07 45.3 +14.5		07
08	299 54.1 +00.2		N 08 36.1 -00.9		312 46.4 -00.6		N 14 32.1 -00.9		255 42.0 -27.5		S 07 59.8 +14.5		08
09	314 54.3 +00.2		N 08 35.2 -00.9		327 45.8 -00.5		N 14 31.2 -01.0		270 14.5 -27.5		S 08 14.3 +14.4		09
10	329 54.5 +00.2		N 08 34.3 -00.9		342 45.3 -00.6		N 14 30.2 -01.0		284 47.0 -27.5		S 08 28.7 +14.4		10
11	344 54.7 +00.2		N 08 33.4 -00.9		357 44.7 -00.6		N 14 29.2 -00.9		299 19.5 -27.6		S 08 43.1 +14.4		11
12	359 54.9 +00.2		N 08 32.5 -00.9		12 44.1 -00.5		N 14 28.3 -01.0		313 51.9 -27.7		S 08 57.5 +14.4		12
13	14 55.1 +00.2		N 08 31.6 -01.0		27 43.6 -00.6		N 14 27.3 -01.0		328 24.2 -27.7		S 09 11.9 +14.3		13
14	29 55.3 +00.1		N 08 30.6 -00.9		42 43.0 -00.5		N 14 26.3 -00.9		342 56.5 -27.8		S 09 26.2 +14.3		14
15	44 55.4 +00.2		N 08 29.7 -00.9		57 42.5 -00.6		N 14 25.4 -01.0		357 28.7 -27.9		S 09 40.5 +14.3		15
16	59 55.6 +00.2		N 08 28.8 -00.9		72 41.9 -00.6		N 14 24.4 -01.0		12 00.8 -27.9		S 09 54.8 +14.2		16
17	74 55.8 +00.2		N 08 27.9 -00.9		87 41.3 -00.5		N 14 23.4 -00.9		26 32.9 -28.0		S 10 09.0 +14.2		17
18	89 56.0 +00.2		N 08 27.0 -00.9		102 40.8 -00.6		N 14 22.5 -01.0		41 04.9 -28.1		S 10 23.2 +14.1		18
19	104 56.2 +00.2		N 08 26.1 -00.9		117 40.2 -00.5		N 14 21.5 -01.0		55 36.8 -28.1		S 10 37.3 +14.1		19
20	119 56.4 +00.2		N 08 25.2 -00.9		132 39.7 -00.6		N 14 20.5 -00.9		70 08.7 -28.2		S 10 51.4 +14.1		20
21	134 56.6 +00.2		N 08 24.3 -00.9		147 39.1 -00.6		N 14 19.6 -01.0		84 40.5 -28.2		S 11 05.5 +14.0		21
22	149 56.8 +00.2		N 08 23.4 -00.9		162 38.5 -00.5		N 14 18.6 -01.0		99 12.3 -28.4		S 11 19.5 +14.0		22
23	164 57.0 +00.2		N 08 22.5 -00.9		177 38.0 -00.6		N 14 17.6 -01.0		113 43.9 -28.4		S 11 33.5 +14.0		23
	UT 02 06 10 14 18 22 SD 15'8 15'8 15'8 15'8 15'8 15'8 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 201° 200° 200° 200° 200° 200° Greenwich Culmination Time: 12:00		UT 02 06 10 14 18 22 SD 00'1 00'1 00'1 00'1 00'1 00'1 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 214° 213° 213° 213° 213° 213° Greenwich Culmination Time: 11:09		UT 02 06 10 14 18 22 SD 15'5 15'5 15'6 15'6 15'6 15'6 HP 56'9 57'0 57'1 57'2 57'3 57'3 SHA 159° 157° 155° 153° 151° 149° Greenwich Culmination Time: 15:10								
UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	274 46.4 +01.0		N 20 00.4 +00.3		332 07.6 +02.7		N 01 19.5 -00.1		15 37.0 +02.7		S 15 50.4 +00.0		00
01	289 47.4 +01.1		N 20 00.7 +00.2		347 10.3 +02.7		N 01 19.4 -00.1		30 39.7 +02.6		S 15 50.4 +00.1		01
02	304 48.5 +01.0		N 20 00.9 +00.3		2 13.0 +02.6		N 01 19.3 -00.1		45 42.3 +02.6		S 15 50.5 +00.0		02
03	319 49.5 +01.1		N 20 01.2 +00.3		17 15.6 +02.7		N 01 19.2 -00.1		60 44.9 +02.7		S 15 50.5 +00.1		03
04	334 50.6 +01.0		N 20 01.5 +00.3		32 18.3 +02.7		N 01 19.1 -00.1		75 47.6 +02.6		S 15 50.6 +00.0		04
05	349 51.6 +01.1		N 20 01.8 +00.2		47 21.0 +02.7		N 01 19.0 -00.1		90 50.2 +02.6		S 15 50.6 +00.1		05
06	4 52.7 +01.1		N 20 02.0 +00.3		62 23.7 +02.7		N 01 18.9 -00.1		105 52.8 +02.7		S 15 50.7 +00.1		06
07	19 53.8 +01.0		N 20 02.3 +00.3		77 26.4 +02.7		N 01 18.8 -00.1		120 55.5 +02.6		S 15 50.8 +00.0		07
08	34 54.8 +01.1		N 20 02.6 +00.2		92 29.1 +02.7		N 01 18.7 -00.1		135 58.1 +02.6		S 15 50.8 +00.1		08
09	49 55.9 +01.0		N 20 02.8 +00.3		107 31.8 +02.7		N 01 18.6 -00.1		151 00.7 +02.7		S 15 50.9 +00.0		09
10	64 56.9 +01.1		N 20 03.1 +00.3		122 34.5 +02.7		N 01 18.5 -00.2		166 03.4 +02.6		S 15 50.9 +00.1		10
11	79 58.0 +01.0		N 20 03.4 +00.2		137 37.2 +02.7		N 01 18.3 -00.1		181 06.0 +02.7		S 15 51.0 +00.0		11
12	94 59.0 +01.1		N 20 03.6 +00.3		152 39.9 +02.7		N 01 18.2 -00.1		196 08.7 +02.6		S 15 51.0 +00.1		12
13	110 00.1 +01.1		N 20 03.9 +00.3		167 42.6 +02.7		N 01 18.1 -00.1		211 11.3 +02.6		S 15 51.1 +00.1		13
14	125 01.2 +01.0		N 20 04.2 +00.3		182 45.3 +02.7		N 01 18.0 -00.1		226 13.9 +02.7		S 15 51.2 +00.0		14
15	140 02.2 +01.1		N 20 04.5 +00.2		197 48.0 +02.7		N 01 17.9 -00.1		241 16.6 +02.6		S 15 51.2 +00.1		15
16	155 03.3 +01.0		N 20 04.7 +00.3		212 50.7 +02.7		N 01 17.8 -00.1		256 19.2 +02.6		S 15 51.3 +00.0		16
17	170 04.3 +01.1		N 20 05.0 +00.3		227 53.4 +02.6		N 01 17.7 -00.1		271 21.8 +02.7		S 15 51.3 +00.1		17
18	185 05.4 +01.1		N 20 05.3 +00.2		242 56.0 +02.7		N 01 17.6 -00.1		286 24.5 +02.6		S 15 51.4 +00.0		18
19	200 06.5 +01.0		N 20 05.5 +00.3		257 58.7 +02.7		N 01 17.5 -00.1		301 27.1 +02.6		S 15 51.4 +00.1		19
20	215 07.5 +01.1		N 20 05.8 +00.3		273 01.4 +02.7		N 01 17.4 -00.1		316 29.7 +02.7		S 15 51.5 +00.1		20
21	230 08.6 +01.1		N 20 06.1 +00.2		288 04.1 +02.7		N 01 17.3 -00.1		331 32.4 +02.6		S 15 51.6 +00.0		21
22	245 09.7 +01.0		N 20 06.3 +00.3		303 06.8 +02.7		N 01 17.2 -00.1		346 35.0 +02.6		S 15 51.6 +00.1		22
23	260 10.7 +01.1		N 20 06.6 +00.3		318 09.5 +02.7		N 01 17.1 -00.2		1 37.6 +02.7		S 15 51.7 +00.0		23
	UT 02 06 10 14 18 22 SD 00'1 00'1 00'1 00'1 00'1 00'1 HP 00'2 00'2 00'2 00'2 00'2 00'2 SHA 296° 295° 295° 295° 295° 295° Greenwich Culmination Time: 05:40		UT 02 06 10 14 18 22 SD 00'4 00'4 00'4 00'4 00'4 00'4 HP 00'0 00'0 00'0 00'0 00'0 00'0 SHA 353° 353° 353° 353° 353° 353° Greenwich Culmination Time: 01:51		UT 02 06 10 14 18 22 SD 00'2 00'2 00'2 00'2 00'2 00'2 HP 00'0 00'0 00'0 00'0 00'0 00'0 SHA 036° 036° 036° 037° 037° 037° Greenwich Culmination Time: 22:53								

UT	Sun				Venus				Moon A: 15%				UT
	GHA <small>° ' "</small>	ddGHA	Dec <small>° ' "</small>	dDec	GHA <small>° ' "</small>	ddGHA	Dec <small>° ' "</small>	dDec	GHA <small>° ' "</small>	ddGHA	Dec <small>° ' "</small>	dDec	
00	179 57.2 +00.2		N 08 21.6 -00.9		192 37.4 -00.5		N 14 16.6 -00.9		128 15.5 -28.5	S 11 47.5 +13.9		00	
01	194 57.4 +00.2		N 08 20.7 -00.9		207 36.9 -00.6		N 14 15.7 -01.0		142 47.0 -28.5	S 12 01.4 +13.8		01	
02	209 57.6 +00.2		N 08 19.8 -00.9		222 36.3 -00.5		N 14 14.7 -01.0		157 18.5 -28.7	S 12 15.2 +13.8		02	
03	224 57.8 +00.2		N 08 18.9 -00.9		237 35.8 -00.6		N 14 13.7 -01.0		171 49.8 -28.7	S 12 29.0 +13.8		03	
04	239 58.0 +00.2		N 08 18.0 -00.9		252 35.2 -00.5		N 14 12.7 -00.9		186 21.1 -28.8	S 12 42.8 +13.7		04	
05	254 58.2 +00.2		N 08 17.1 -00.9		267 34.7 -00.6		N 14 11.8 -01.0		200 52.3 -28.8	S 12 56.5 +13.6		05	
06	269 58.4 +00.2		N 08 16.2 -00.9		282 34.1 -00.6		N 14 10.8 -01.0		215 23.5 -29.0	S 13 10.1 +13.6		06	
07	284 58.6 +00.2		N 08 15.3 -00.9		297 33.5 -00.5		N 14 09.8 -01.0		229 54.5 -29.0	S 13 23.7 +13.5		07	
08	299 58.8 +00.2		N 08 14.4 -00.9		312 33.0 -00.6		N 14 08.8 -01.0		244 25.5 -29.1	S 13 37.2 +13.5		08	
09	314 59.0 +00.2		N 08 13.5 -01.0		327 32.4 -00.5		N 14 07.8 -00.9		258 56.4 -29.2	S 13 50.7 +13.5		09	
10	329 59.2 +00.2		N 08 12.5 -00.9		342 31.9 -00.6		N 14 06.9 -01.0		273 27.2 -29.3	S 14 04.2 +13.3		10	
11	344 59.4 +00.2		N 08 11.6 -00.9		357 31.3 -00.5		N 14 05.9 -01.0		287 57.9 -29.4	S 14 17.5 +13.3		11	
12	359 59.6 +00.2		N 08 10.7 -00.9		12 30.8 -00.6		N 14 04.9 -01.0		302 28.5 -29.4	S 14 30.8 +13.3		12	
13	14 59.8 +00.2		N 08 09.8 -00.9		27 30.2 -00.5		N 14 03.9 -01.0		316 59.1 -29.6	S 14 44.1 +13.1		13	
14	29 60.0 +00.2		N 08 08.9 -00.9		42 29.7 -00.6		N 14 02.9 -01.0		331 29.5 -29.6	S 14 57.2 +13.2		14	
15	45 00.2 +00.2		N 08 08.0 -00.9		57 29.1 -00.5		N 14 01.9 -00.9		345 59.9 -29.7	S 15 10.4 +13.0		15	
16	60 00.4 +00.2		N 08 07.1 -00.9		72 28.6 -00.6		N 14 01.0 -01.0		0 30.2 -29.8	S 15 23.4 +13.0		16	
17	75 00.6 +00.2		N 08 06.2 -00.9		87 28.0 -00.5		N 13 60.0 -01.0		15 00.4 -29.9	S 15 36.4 +12.9		17	
18	90 00.8 +00.2		N 08 05.3 -00.9		102 27.5 -00.6		N 13 59.0 -01.0		29 30.5 -30.0	S 15 49.3 +12.8		18	
19	105 01.0 +00.2		N 08 04.4 -00.9		117 26.9 -00.5		N 13 58.0 -01.0		44 00.5 -30.1	S 16 02.1 +12.8		19	
20	120 01.2 +00.2		N 08 03.5 -01.0		132 26.4 -00.6		N 13 57.0 -01.0		58 30.4 -30.2	S 16 14.9 +12.7		20	
21	135 01.4 +00.2		N 08 02.5 -00.9		147 25.8 -00.5		N 13 56.0 -01.0		73 00.2 -30.3	S 16 27.6 +12.6		21	
22	150 01.6 +00.2		N 08 01.6 -00.9		162 25.3 -00.6		N 13 55.0 -01.0		87 29.9 -30.3	S 16 40.2 +12.6		22	
23	165 01.8 +00.2		N 08 00.7 -00.9		177 24.7 -00.5		N 13 54.0 -00.9		101 59.6 -30.5	S 16 52.8 +12.4		23	
	UT 02 06 10 14 18 22		SD 15°8 15°8 15°8 15°8 15°8 15°8		UT 02 06 10 14 18 22		SD 00°1 00°1 00°1 00°1 00°1 00°1		UT 02 06 10 14 18 22		SD 15°6 15°7 15°7 15°7 15°7 15°8		
	HP 00°1 00°1 00°1 00°1 00°1 00°1		HP 00°1 00°1 00°1 00°1 00°1 00°1		HP 00°1 00°1 00°1 00°1 00°1 00°1		HP 57°4 57°5 57°6 57°7 57°8 57°9		HP 00°0 00°0 00°0 00°0 00°0 00°0		HP 00°0 00°0 00°0 00°0 00°0 00°0		
	SHA 200° 200° 199° 199° 199° 199°		SHA 212° 212° 212° 212° 212° 211°		SHA 212° 212° 212° 212° 212° 211°		SHA 147° 145° 143° 141° 139° 136°		SHA 147° 145° 143° 141° 139° 136°		SHA 037° 037° 037° 037° 037° 037°		
	Greenwich Culmination Time: 12:00		Greenwich Culmination Time: 11:09		Greenwich Culmination Time: 15:57				Greenwich Culmination Time: 15:57				
UT	Mars				Jupiter				Saturn				UT
	GHA <small>° ' "</small>	ddGHA	Dec <small>° ' "</small>	dDec	GHA <small>° ' "</small>	ddGHA	Dec <small>° ' "</small>	dDec	GHA <small>° ' "</small>	ddGHA	Dec <small>° ' "</small>	dDec	
00	275 11.8 +01.0		N 20 06.9 +00.2		333 12.2 +02.7		N 01 16.9 -00.1		16 40.3 +02.6	S 15 51.7 +00.1		00	
01	290 12.8 +01.1		N 20 07.1 +00.3		348 14.9 +02.7		N 01 16.8 -00.1		31 42.9 +02.6	S 15 51.8 +00.0		01	
02	305 13.9 +01.1		N 20 07.4 +00.3		3 17.6 +02.7		N 01 16.7 -00.1		46 45.5 +02.7	S 15 51.8 +00.1		02	
03	320 15.0 +01.0		N 20 07.7 +00.2		18 20.3 +02.7		N 01 16.6 -00.1		61 48.2 +02.6	S 15 51.9 +00.1		03	
04	335 16.0 +01.1		N 20 07.9 +00.3		33 23.0 +02.7		N 01 16.5 -00.1		76 50.8 +02.6	S 15 52.0 +00.0		04	
05	350 17.1 +01.1		N 20 08.2 +00.3		48 25.7 +02.7		N 01 16.4 -00.1		91 53.4 +02.7	S 15 52.0 +00.1		05	
06	5 18.2 +01.0		N 20 08.5 +00.2		63 28.4 +02.7		N 01 16.3 -00.1		106 56.1 +02.6	S 15 52.1 +00.0		06	
07	20 19.2 +01.1		N 20 08.7 +00.3		78 31.1 +02.7		N 01 16.2 -00.1		121 58.7 +02.6	S 15 52.1 +00.1		07	
08	35 20.3 +01.1		N 20 09.0 +00.3		93 33.8 +02.7		N 01 16.1 -00.1		137 01.3 +02.7	S 15 52.2 +00.0		08	
09	50 21.4 +01.0		N 20 09.3 +00.2		108 36.5 +02.7		N 01 16.0 -00.1		152 04.0 +02.6	S 15 52.2 +00.1		09	
10	65 22.4 +01.1		N 20 09.5 +00.3		123 39.2 +02.7		N 01 15.9 -00.2		167 06.6 +02.6	S 15 52.3 +00.0		10	
11	80 23.5 +01.1		N 20 09.8 +00.2		138 41.9 +02.7		N 01 15.7 -00.1		182 09.2 +02.7	S 15 52.3 +00.1		11	
12	95 24.6 +01.0		N 20 10.0 +00.3		153 44.6 +02.7		N 01 15.6 -00.1		197 11.9 +02.6	S 15 52.4 +00.1		12	
13	110 25.6 +01.1		N 20 10.3 +00.3		168 47.3 +02.7		N 01 15.5 -00.1		212 14.5 +02.6	S 15 52.5 +00.0		13	
14	125 26.7 +01.1		N 20 10.6 +00.2		183 50.0 +02.7		N 01 15.4 -00.1		227 17.1 +02.7	S 15 52.5 +00.1		14	
15	140 27.8 +01.1		N 20 10.8 +00.3		198 52.7 +02.7		N 01 15.3 -00.1		242 19.8 +02.6	S 15 52.6 +00.0		15	
16	155 28.9 +01.0		N 20 11.1 +00.3		213 55.4 +02.7		N 01 15.2 -00.1		257 22.4 +02.6	S 15 52.6 +00.1		16	
17	170 29.9 +01.1		N 20 11.4 +00.2		228 58.1 +02.7		N 01 15.1 -00.1		272 25.0 +02.7	S 15 52.7 +00.0		17	
18	185 31.0 +01.1		N 20 11.6 +00.3		244 00.8 +02.7		N 01 15.0 -00.1		287 27.7 +02.6	S 15 52.7 +00.1		18	
19	200 32.1 +01.0		N 20 11.9 +00.3		259 03.5 +02.7		N 01 14.9 -00.1		302 30.3 +02.6	S 15 52.8 +00.1		19	
20	215 33.1 +01.1		N 20 12.2 +00.2		274 06.2 +02.7		N 01 14.8 -00.2		317 32.9 +02.7	S 15 52.9 +00.0		20	
21	230 34.2 +01.1		N 20 12.4 +00.3		289 08.9 +02.7		N 01 14.6 -00.1		332 35.6 +02.6	S 15 52.9 +00.1		21	
22	245 35.3 +01.1		N 20 12.7 +00.2		304 11.6 +02.7		N 01 14.5 -00.1		347 38.2 +02.6	S 15 53.0 +00.0		22	
23	260 36.4 +01.0		N 20 12.9 +00.3		319 14.3 +02.7		N 01 14.4 -00.1		2 40.8 +02.7	S 15 53.0 +00.1		23	
	UT 02 06 10 14 18 22		SD 00°1 00°1 00°1 00°1 00°1 00°1		UT 02 06 10 14 18 22		SD 00°4 00°4 00°4 00°4 00°4 00°4		UT 02 06 10 14 18 22		SD 00°2 00°2 00°2 00°2 00°2 00°2		
	HP 00°2 00°2 00°2 00°2 00°2 00°2		HP 00°0 00°0 00°0 00°0 00°0 00°0		HP 00°0 00°0 00°0 00°0 00°0 00°0		HP 353° 353° 353° 353° 353° 353°		HP 00°0 00°0 00°0 00°0 00°0 00°0		HP 00°0 00°0 00°0 00°0 00°0 00°0		
	SHA 295° 295° 295° 295° 295° 295°		SHA 353° 353° 353° 353° 353° 353°		SHA 353° 353° 353° 353° 353° 353°				SHA 037° 037° 037° 037° 037° 037°		SHA 037° 037° 037° 037° 037° 037°		
	Greenwich Culmination Time: 05:38		Greenwich Culmination Time: 01:46		Greenwich Culmination Time: 22:49				Greenwich Culmination Time: 22:49				

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> A: 19%				UT		
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec			
00	180	02.0 +00.2	N 07 59.8 -00.9		192	24.2 -00.6	N 13 53.1 -01.0		116	29.1 -30.6	S 17 05.2 +12.4		00		
01	195	02.2 +00.2	N 07 58.9 -00.9		207	23.6 -00.5	N 13 52.1 -01.0		130	58.5 -30.6	S 17 17.6 +12.3		01		
02	210	02.4 +00.2	N 07 58.0 -00.9		222	23.1 -00.6	N 13 51.1 -01.0		145	27.9 -30.8	S 17 29.9 +12.3		02		
03	225	02.6 +00.2	N 07 57.1 -00.9		237	22.5 -00.5	N 13 50.1 -01.0		159	57.1 -30.8	S 17 42.2 +12.1		03		
04	240	02.8 +00.2	N 07 56.2 -00.9		252	22.0 -00.6	N 13 49.1 -01.0		174	26.3 -31.0	S 17 54.3 +12.0		04		
05	255	03.0 +00.2	N 07 55.3 -00.9		267	21.4 -00.5	N 13 48.1 -01.0		188	55.3 -31.1	S 18 06.3 +12.0		05		
06	270	03.2 +00.2	N 07 54.4 -01.0		282	20.9 -00.5	N 13 47.1 -01.0		203	24.2 -31.1	S 18 18.3 +11.9		06		
07	285	03.4 +00.2	N 07 53.4 -00.9		297	20.4 -00.6	N 13 46.1 -01.0		217	53.1 -31.3	S 18 30.2 +11.8		07		
08	300	03.6 +00.2	N 07 52.5 -00.9		312	19.8 -00.5	N 13 45.1 -01.0		232	21.8 -31.4	S 18 42.0 +11.7		08		
09	315	03.8 +00.2	N 07 51.6 -00.9		327	19.3 -00.6	N 13 44.1 -01.0		246	50.4 -31.4	S 18 53.7 +11.6		09		
10	330	04.0 +00.2	N 07 50.7 -00.9		342	18.7 -00.5	N 13 43.1 -01.0		261	19.0 -31.6	S 19 05.3 +11.5		10		
11	345	04.2 +00.2	N 07 49.8 -00.9		357	18.2 -00.6	N 13 42.1 -01.0		275	47.4 -31.7	S 19 16.8 +11.4		11		
12	0	04.4 +00.2	N 07 48.9 -00.9		12	17.6 -00.5	N 13 41.1 -01.0		290	15.7 -31.8	S 19 28.2 +11.3		12		
13	15	04.6 +00.2	N 07 48.0 -01.0		27	17.1 -00.5	N 13 40.1 -01.0		304	43.9 -31.9	S 19 39.5 +11.2		13		
14	30	04.8 +00.2	N 07 47.0 -00.9		42	16.6 -00.6	N 13 39.1 -01.0		319	12.0 -32.0	S 19 50.7 +11.1		14		
15	45	05.0 +00.2	N 07 46.1 -00.9		57	16.0 -00.5	N 13 38.1 -01.0		333	40.0 -32.1	S 20 01.8 +11.0		15		
16	60	05.2 +00.2	N 07 45.2 -00.9		72	15.5 -00.6	N 13 37.1 -01.0		348	07.9 -32.2	S 20 12.8 +10.9		16		
17	75	05.4 +00.2	N 07 44.3 -00.9		87	14.9 -00.5	N 13 36.1 -01.0		2	35.7 -32.3	S 20 23.7 +10.8		17		
18	90	05.6 +00.2	N 07 43.4 -00.9		102	14.4 -00.6	N 13 35.1 -01.0		17	03.4 -32.4	S 20 34.5 +10.7		18		
19	105	05.8 +00.2	N 07 42.5 -00.9		117	13.8 -00.5	N 13 34.1 -01.0		31	31.0 -32.5	S 20 45.2 +10.5		19		
20	120	06.0 +00.2	N 07 41.6 -01.0		132	13.3 -00.5	N 13 33.1 -01.0		45	58.5 -32.7	S 20 55.7 +10.5		20		
21	135	06.2 +00.2	N 07 40.6 -00.9		147	12.8 -00.6	N 13 32.1 -01.0		60	25.8 -32.7	S 21 06.2 +10.4		21		
22	150	06.4 +00.2	N 07 39.7 -00.9		162	12.2 -00.5	N 13 31.1 -01.0		74	53.1 -32.9	S 21 16.6 +10.2		22		
23	165	06.6 +00.2	N 07 38.8 -00.9		177	11.7 -00.5	N 13 30.1 -01.0		89	20.2 -32.9	S 21 26.8 +10.1		23		
	UT 02 06 10 14 18 22					UT 02 06 10 14 18 22					UT 02 06 10 14 18 22				
	SD 15'8 15'9 15'9 15'9 15'9 15'9					SD 00'1 00'1 00'1 00'1 00'1 00'1					SD 15'8 15'8 15'8 15'9 15'9 15'9				
	HP 00'1 00'1 00'1 00'1 00'1 00'1					HP 00'1 00'1 00'1 00'1 00'1 00'1					HP 58'0 58'1 58'2 58'2 58'3 58'4				
	SHA 199° 199° 199° 198° 198° 198°					SHA 211° 211° 211° 211° 210° 210°					SHA 134° 132° 130° 128° 125° 123°				
	Greenwich Culmination Time: 11:59					Greenwich Culmination Time: 11:10					Greenwich Culmination Time: 16:49				

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT		
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec			
00	275	37.4 +01.1	N 20 13.2 +00.3		334	17.0 +02.7	N 01 14.3 -00.1		17	43.5 +02.6	S 15 53.1 +00.0		00		
01	290	38.5 +01.1	N 20 13.5 +00.2		349	19.7 +02.7	N 01 14.2 -00.1		32	46.1 +02.6	S 15 53.1 +00.1		01		
02	305	39.6 +01.1	N 20 13.7 +00.3		4	22.4 +02.7	N 01 14.1 -00.1		47	48.7 +02.7	S 15 53.2 +00.0		02		
03	320	40.7 +01.0	N 20 14.0 +00.2		19	25.1 +02.7	N 01 14.0 -00.1		62	51.4 +02.6	S 15 53.2 +00.1		03		
04	335	41.7 +01.1	N 20 14.2 +00.3		34	27.8 +02.7	N 01 13.9 -00.1		77	54.0 +02.6	S 15 53.3 +00.1		04		
05	350	42.8 +01.1	N 20 14.5 +00.3		49	30.5 +02.7	N 01 13.8 -00.1		92	56.6 +02.7	S 15 53.4 +00.0		05		
06	5	43.9 +01.1	N 20 14.8 +00.2		64	33.2 +02.7	N 01 13.7 -00.2		107	59.3 +02.6	S 15 53.4 +00.1		06		
07	20	45.0 +01.0	N 20 15.0 +00.3		79	35.9 +02.7	N 01 13.5 -00.1		123	01.9 +02.6	S 15 53.5 +00.0		07		
08	35	46.0 +01.1	N 20 15.3 +00.2		94	38.6 +02.7	N 01 13.4 -00.1		138	04.5 +02.7	S 15 53.5 +00.1		08		
09	50	47.1 +01.1	N 20 15.5 +00.3		109	41.3 +02.7	N 01 13.3 -00.1		153	07.2 +02.6	S 15 53.6 +00.0		09		
10	65	48.2 +01.1	N 20 15.8 +00.3		124	44.0 +02.7	N 01 13.2 -00.1		168	09.8 +02.6	S 15 53.6 +00.1		10		
11	80	49.3 +01.1	N 20 16.1 +00.2		139	46.7 +02.7	N 01 13.1 -00.1		183	12.4 +02.7	S 15 53.7 +00.0		11		
12	95	50.4 +01.0	N 20 16.3 +00.3		154	49.4 +02.7	N 01 13.0 -00.1		198	15.1 +02.6	S 15 53.7 +00.1		12		
13	110	51.4 +01.1	N 20 16.6 +00.2		169	52.1 +02.7	N 01 12.9 -00.1		213	17.7 +02.6	S 15 53.8 +00.1		13		
14	125	52.5 +01.1	N 20 16.8 +00.3		184	54.8 +02.7	N 01 12.8 -00.2		228	20.3 +02.7	S 15 53.9 +00.0		14		
15	140	53.6 +01.1	N 20 17.1 +00.2		199	57.5 +02.7	N 01 12.6 -00.1		243	23.0 +02.6	S 15 53.9 +00.1		15		
16	155	54.7 +01.1	N 20 17.3 +00.3		215	00.2 +02.8	N 01 12.5 -00.1		258	25.6 +02.6	S 15 54.0 +00.0		16		
17	170	55.8 +01.0	N 20 17.6 +00.3		230	03.0 +02.7	N 01 12.4 -00.1		273	28.2 +02.7	S 15 54.0 +00.1		17		
18	185	56.8 +01.1	N 20 17.9 +00.2		245	05.7 +02.7	N 01 12.3 -00.1		288	30.9 +02.6	S 15 54.1 +00.0		18		
19	200	57.9 +01.1	N 20 18.1 +00.3		260	08.4 +02.7	N 01 12.2 -00.1		303	33.5 +02.6	S 15 54.1 +00.1		19		
20	215	59.0 +01.1	N 20 18.4 +00.2		275	11.1 +02.7	N 01 12.1 -00.1		318	36.1 +02.6	S 15 54.2 +00.0		20		
21	231	00.1 +01.1	N 20 18.6 +00.3		290	13.8 +02.7	N 01 12.0 -00.1		333	38.7 +02.7	S 15 54.2 +00.1		21		
22	246	01.2 +01.1	N 20 18.9 +00.2		305	16.5 +02.7	N 01 11.9 -00.1		348	41.4 +02.6	S 15 54.3 +00.1		22		
23	261	02.3 +01.0	N 20 19.1 +00.3		320	19.2 +02.7	N 01 11.8 -00.2		3	44.0 +02.6	S 15 54.4 +00.0		23		
	UT 02 06 10 14 18 22					UT 02 06 10 14 18 22					UT 02 06 10 14 18 22				
	SD 00'1 00'1 00'1 00'1 00'1 00'1					SD 00'4 00'4 00'4 00'4 00'4 00'4					SD 00'2 00'2 00'2 00'2 00'2 00'2				
	HP 00'2 00'2 00'2 00'2 00'2 00'2					HP 00'0 00'0 00'0 00'0 00'0 00'0					HP 00'0 00'0 00'0 00'0 00'0 00'0				
	SHA 294° 294° 294° 294° 294° 294°					SHA 353° 353° 353° 353° 353° 353°					SHA 037° 037° 037° 037° 037° 037°				
	Greenwich Culmination Time: 05:37					Greenwich Culmination Time: 01:42					Greenwich Culmination Time: 22:45				

Warning: This page has been generated by a computer program. Complex computer programs usually have bugs and may produce wrong data. The data on this page is believed to be accurate but no warranty is given for its correctness. Use it only for training and exercising!

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> <small>A: 23%</small>				UT									
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec										
	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "										
00	180	06.8	+00.2	N 07 37.9	-00.9	192	11.2	-00.6	N 13 29.1	-01.0	103	47.3	-33.1	S 21 36.9	+10.0	00						
01	195	07.0	+00.2	N 07 37.0	-00.9	207	10.6	-00.5	N 13 28.1	-01.0	118	14.2	-33.2	S 21 46.9	+09.9	01						
02	210	07.2	+00.2	N 07 36.1	-00.9	222	10.1	-00.6	N 13 27.1	-01.0	132	41.0	-33.3	S 21 56.8	+09.8	02						
03	225	07.4	+00.2	N 07 35.2	-01.0	237	09.5	-00.5	N 13 26.1	-01.0	147	07.7	-33.4	S 22 06.6	+09.6	03						
04	240	07.6	+00.2	N 07 34.2	-00.9	252	09.0	-00.5	N 13 25.1	-01.1	161	34.3	-33.5	S 22 16.2	+09.5	04						
05	255	07.8	+00.2	N 07 33.3	-00.9	267	08.5	-00.6	N 13 24.0	-01.0	176	00.8	-33.6	S 22 25.7	+09.4	05						
06	270	08.0	+00.2	N 07 32.4	-00.9	282	07.9	-00.5	N 13 23.0	-01.0	190	27.2	-33.7	S 22 35.1	+09.3	06						
07	285	08.2	+00.3	N 07 31.5	-00.9	297	07.4	-00.5	N 13 22.0	-01.0	204	53.5	-33.8	S 22 44.4	+09.1	07						
08	300	08.5	+00.2	N 07 30.6	-01.0	312	06.9	-00.6	N 13 21.0	-01.0	219	19.7	-34.0	S 22 53.5	+09.0	08						
09	315	08.7	+00.2	N 07 29.6	-00.9	327	06.3	-00.5	N 13 20.0	-01.0	233	45.7	-34.0	S 23 02.5	+08.8	09						
10	330	08.9	+00.2	N 07 28.7	-00.9	342	05.8	-00.5	N 13 19.0	-01.0	248	11.7	-34.2	S 23 11.3	+08.8	10						
11	345	09.1	+00.2	N 07 27.8	-00.9	357	05.3	-00.6	N 13 18.0	-01.0	262	37.5	-34.2	S 23 20.1	+08.6	11						
12		0	09.3	+00.2	N 07 26.9	-00.9	12	04.7	-00.5	N 13 17.0	-01.1	277	03.3	-34.4	S 23 28.7	+08.4	12					
13		15	09.5	+00.2	N 07 26.0	-00.9	27	04.2	-00.5	N 13 15.9	-01.0	291	28.9	-34.4	S 23 37.1	+08.3	13					
14		30	09.7	+00.2	N 07 25.1	-01.0	42	03.7	-00.6	N 13 14.9	-01.0	305	54.5	-34.6	S 23 45.4	+08.2	14					
15		45	09.9	+00.2	N 07 24.1	-00.9	57	03.1	-00.5	N 13 13.9	-01.0	320	19.9	-34.7	S 23 53.6	+08.1	15					
16		60	10.1	+00.2	N 07 23.2	-00.9	72	02.6	-00.5	N 13 12.9	-01.0	334	45.2	-34.8	S 24 01.7	+07.9	16					
17		75	10.3	+00.2	N 07 22.3	-00.9	87	02.1	-00.6	N 13 11.9	-01.0	349	10.4	-34.9	S 24 09.6	+07.7	17					
18		90	10.5	+00.2	N 07 21.4	-00.9	102	01.5	-00.5	N 13 10.9	-01.1	3	35.5	-35.0	S 24 17.3	+07.6	18					
19		105	10.7	+00.2	N 07 20.5	-01.0	117	01.0	-00.5	N 13 09.8	-01.0	18	00.5	-35.0	S 24 24.9	+07.5	19					
20		120	10.9	+00.2	N 07 19.5	-00.9	132	00.5	-00.6	N 13 08.8	-01.0	32	25.5	-35.2	S 24 32.4	+07.3	20					
21		135	11.1	+00.2	N 07 18.6	-00.9	146	59.9	-00.5	N 13 07.8	-01.0	46	50.3	-35.3	S 24 39.7	+07.1	21					
22		150	11.3	+00.2	N 07 17.7	-00.9	161	59.4	-00.5	N 13 06.8	-01.0	61	15.0	-35.4	S 24 46.8	+07.0	22					
23		165	11.5	+00.2	N 07 16.8	-00.9	176	58.9	-00.5	N 13 05.8	-01.1	75	39.6	-35.5	S 24 53.8	+06.8	23					
	UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	
	SD	15'9	15'9	15'9	15'9	15'9	15'9	SD	00'1	00'1	00'1	00'1	00'1	00'1	SD	15'9	16'0	16'0	16'0	16'0	16'1	16'1
	HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	58'5	58'6	58'7	58'8	58'9	59'0	59'0
	SHA	198°	198°	198°	197°	197°	197°	SHA	210°	210°	210°	209°	209°	209°	SHA	120°	118°	116°	113°	111°	108°	108°
	Greenwich Culmination Time: 11:59							Greenwich Culmination Time: 11:11							Greenwich Culmination Time: 17:45							

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT									
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec										
	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "										
00	276	03.3	+01.1	N 20 19.4	+00.2	335	21.9	+02.7	N 01 11.6	-00.1	18	46.6	+02.7	S 15 54.4	+00.1	00						
01	291	04.4	+01.1	N 20 19.6	+00.3	350	24.6	+02.7	N 01 11.5	-00.1	33	49.3	+02.6	S 15 54.5	+00.0	01						
02	306	05.5	+01.1	N 20 19.9	+00.3	5	27.3	+02.7	N 01 11.4	-00.1	48	51.9	+02.6	S 15 54.5	+00.1	02						
03	321	06.6	+01.1	N 20 20.2	+00.2	20	30.0	+02.7	N 01 11.3	-00.1	63	54.5	+02.7	S 15 54.6	+00.0	03						
04	336	07.7	+01.1	N 20 20.4	+00.3	35	32.7	+02.7	N 01 11.2	-00.1	78	57.2	+02.6	S 15 54.6	+00.1	04						
05	351	08.8	+01.1	N 20 20.7	+00.2	50	35.4	+02.7	N 01 11.1	-00.1	93	59.8	+02.6	S 15 54.7	+00.0	05						
06	6	09.9	+01.0	N 20 20.9	+00.3	65	38.1	+02.7	N 01 11.0	-00.2	109	02.4	+02.7	S 15 54.7	+00.1	06						
07	21	10.9	+01.1	N 20 21.2	+00.2	80	40.8	+02.8	N 01 10.8	-00.1	124	05.1	+02.6	S 15 54.8	+00.1	07						
08	36	12.0	+01.1	N 20 21.4	+00.3	95	43.6	+02.7	N 01 10.7	-00.1	139	07.7	+02.6	S 15 54.9	+00.0	08						
09	51	13.1	+01.1	N 20 21.7	+00.2	110	46.3	+02.7	N 01 10.6	-00.1	154	10.3	+02.6	S 15 54.9	+00.1	09						
10	66	14.2	+01.1	N 20 21.9	+00.3	125	49.0	+02.7	N 01 10.5	-00.1	169	12.9	+02.7	S 15 55.0	+00.0	10						
11	81	15.3	+01.1	N 20 22.2	+00.2	140	51.7	+02.7	N 01 10.4	-00.1	184	15.6	+02.6	S 15 55.0	+00.1	11						
12	96	16.4	+01.1	N 20 22.4	+00.3	155	54.4	+02.7	N 01 10.3	-00.1	199	18.2	+02.6	S 15 55.1	+00.0	12						
13	111	17.5	+01.1	N 20 22.7	+00.2	170	57.1	+02.7	N 01 10.2	-00.1	214	20.8	+02.7	S 15 55.1	+00.1	13						
14	126	18.6	+01.1	N 20 22.9	+00.3	185	59.8	+02.7	N 01 10.1	-00.2	229	23.5	+02.6	S 15 55.2	+00.0	14						
15	141	19.7	+01.1	N 20 23.2	+00.2	201	02.5	+02.7	N 01 09.9	-00.1	244	26.1	+02.6	S 15 55.2	+00.1	15						
16	156	20.8	+01.1	N 20 23.4	+00.3	216	05.2	+02.7	N 01 09.8	-00.1	259	28.7	+02.7	S 15 55.3	+00.0	16						
17	171	21.9	+01.0	N 20 23.7	+00.2	231	07.9	+02.7	N 01 09.7	-00.1	274	31.4	+02.6	S 15 55.3	+00.1	17						
18	186	22.9	+01.1	N 20 23.9	+00.3	246	10.6	+02.8	N 01 09.6	-00.1	289	34.0	+02.6	S 15 55.4	+00.1	18						
19	201	24.0	+01.1	N 20 24.2	+00.2	261	13.4	+02.7	N 01 09.5	-00.1	304	36.6	+02.6	S 15 55.5	+00.0	19						
20	216	25.1	+01.1	N 20 24.4	+00.3	276	16.1	+02.7	N 01 09.4	-00.1	319	39.2	+02.7	S 15 55.5	+00.1	20						
21	231	26.2	+01.1	N 20 24.7	+00.2	291	18.8	+02.7	N 01 09.3	-00.2	334	41.9	+02.6	S 15 55.6	+00.0	21						
22	246	27.3	+01.1	N 20 24.9	+00.3	306	21.5	+02.7	N 01 09.1	-00.1	349	44.5	+02.6	S 15 55.6	+00.1	22						
23	261	28.4	+01.1	N 20 25.2	+00.2	321	24.2	+02.7	N 01 09.0	-00.1	4	47.1	+02.7	S 15 55.7	+00.0	23						
	UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	
	SD	00'1	00'1	00'1	00'1	00'1	00'1	SD	00'4	00'4	00'4	00'4	00'4	00'4	SD	00'2	00'2	00'2	00'2	00'2	00'2	00'2
	HP	00'2	00'2	00'2	00'2	00'2	00'2	HP	00'0	00'0	00'0	00'0	00'0	00'0	HP	00'0	00'0	00'0	00'0	00'0	00'0	00'0
	SHA	294°	294°	294°	294°	294°	293°	SHA	353°	353°	353°	353°	353°	353°	SHA	037°	037°	037°	037°	037°	037°	037°
	Greenwich Culmination Time: 05:35							Greenwich Culmination Time: 01:38							Greenwich Culmination Time: 22:40							

<i>Sun</i>					<i>Venus</i>					<i>Moon</i> A: 27%					
UT	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	UT		
	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "			
00	180 11.7 +00.2	N 07 15.9 -01.0			191 58.4 -00.6	N 13 04.7 -01.0			90 04.1 -35.6	S 25 00.6 +06.7			00		
01	195 11.9 +00.2	N 07 14.9 -00.9			206 57.8 -00.5	N 13 03.7 -01.0			104 28.5 -35.7	S 25 07.3 +06.6			01		
02	210 12.1 +00.3	N 07 14.0 -00.9			221 57.3 -00.5	N 13 02.7 -01.0			118 52.8 -35.7	S 25 13.9 +06.3			02		
03	225 12.4 +00.2	N 07 13.1 -00.9			236 56.8 -00.6	N 13 01.7 -01.0			133 17.1 -35.9	S 25 20.2 +06.2			03		
04	240 12.6 +00.2	N 07 12.2 -00.9			251 56.2 -00.5	N 13 00.7 -01.1			147 41.2 -36.0	S 25 26.4 +06.1			04		
05	255 12.8 +00.2	N 07 11.3 -01.0			266 55.7 -00.5	N 12 59.6 -01.0			162 05.2 -36.0	S 25 32.5 +05.9			05		
06	270 13.0 +00.2	N 07 10.3 -00.9			281 55.2 -00.5	N 12 58.6 -01.0			176 29.2 -36.2	S 25 38.4 +05.7			06		
07	285 13.2 +00.2	N 07 09.4 -00.9			296 54.7 -00.6	N 12 57.6 -01.0			190 53.0 -36.2	S 25 44.1 +05.5			07		
08	300 13.4 +00.2	N 07 08.5 -00.9			311 54.1 -00.5	N 12 56.6 -01.1			205 16.8 -36.3	S 25 49.6 +05.4			08		
09	315 13.6 +00.2	N 07 07.6 -01.0			326 53.6 -00.5	N 12 55.5 -01.0			219 40.5 -36.4	S 25 55.0 +05.2			09		
10	330 13.8 +00.2	N 07 06.6 -00.9			341 53.1 -00.5	N 12 54.5 -01.0			234 04.1 -36.5	S 26 00.2 +05.1			10		
11	345 14.0 +00.2	N 07 05.7 -00.9			356 52.6 -00.6	N 12 53.5 -01.1			248 27.6 -36.5	S 26 05.3 +04.9			11		
12	0 14.2 +00.2	N 07 04.8 -00.9			11 52.0 -00.5	N 12 52.4 -01.0			262 51.1 -36.7	S 26 10.2 +04.7			12		
13	15 14.4 +00.2	N 07 03.9 -01.0			26 51.5 -00.5	N 12 51.4 -01.0			277 14.4 -36.7	S 26 14.9 +04.5			13		
14	30 14.6 +00.2	N 07 02.9 -00.9			41 51.0 -00.5	N 12 50.4 -01.1			291 37.7 -36.8	S 26 19.4 +04.3			14		
15	45 14.8 +00.2	N 07 02.0 -00.9			56 50.5 -00.6	N 12 49.3 -01.0			306 00.9 -36.9	S 26 23.7 +04.2			15		
16	60 15.0 +00.3	N 07 01.1 -00.9			71 49.9 -00.5	N 12 48.3 -01.0			320 24.0 -36.9	S 26 27.9 +04.0			16		
17	75 15.3 +00.2	N 07 00.2 -00.9			86 49.4 -00.5	N 12 47.3 -01.1			334 47.1 -37.1	S 26 31.9 +03.8			17		
18	90 15.5 +00.2	N 06 59.3 -01.0			101 48.9 -00.5	N 12 46.2 -01.0			349 10.0 -37.1	S 26 35.7 +03.7			18		
19	105 15.7 +00.2	N 06 58.3 -00.9			116 48.4 -00.5	N 12 45.2 -01.0			3 32.9 -37.1	S 26 39.4 +03.5			19		
20	120 15.9 +00.2	N 06 57.4 -00.9			131 47.9 -00.6	N 12 44.2 -01.1			17 55.8 -37.2	S 26 42.9 +03.2			20		
21	135 16.1 +00.2	N 06 56.5 -00.9			146 47.3 -00.5	N 12 43.1 -01.0			32 18.6 -37.3	S 26 46.1 +03.1			21		
22	150 16.3 +00.2	N 06 55.6 -01.0			161 46.8 -00.5	N 12 42.1 -01.0			46 41.3 -37.4	S 26 49.2 +02.9			22		
23	165 16.5 +00.2	N 06 54.6 -00.9			176 46.3 -00.5	N 12 41.1 -01.1			61 03.9 -37.4	S 26 52.1 +02.8			23		

UT	02	06	10	14	18	22	
SD	15'9"	15'9"	15'9"	15'9"	15'9"	15'9"	
HP	00'1"	00'1"	00'1"	00'1"	00'1"	00'1"	
SHA	197°	197°	197°	197°	196°	196°	
Greenwich Culmination Time: 11:59							

UT	02	06	10	14	18	22	
SD	00'1"	00'1"	00'1"	00'1"	00'1"	00'1"	
HP	00'1"	00'1"	00'1"	00'1"	00'1"	00'1"	
SHA	209°	209°	208°	208°	208°	208°	
Greenwich Culmination Time: 11:12							

UT	02	06	10	14	18	22	
SD	16'1"	16'1"	16'1"	16'1"	16'2"	16'2"	
HP	59'0"	59'1"	59'2"	59'3"	59'4"	59'4"	
SHA	106°	103°	101°	098°	095°	093°	
Greenwich Culmination Time: 18:45							

<i>Mars</i>					<i>Jupiter</i>					<i>Saturn</i>					
UT	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	UT		
	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "			
00	276 29.5 +01.1	N 20 25.4 +00.3			336 26.9 +02.7	N 01 08.9 -00.1			19 49.8 +02.6	S 15 55.7 +00.1			00		
01	291 30.6 +01.1	N 20 25.7 +00.2			351 29.6 +02.7	N 01 08.8 -00.1			34 52.4 +02.6	S 15 55.8 +00.0			01		
02	306 31.7 +01.1	N 20 25.9 +00.3			6 32.3 +02.7	N 01 08.7 -00.1			49 55.0 +02.7	S 15 55.8 +00.1			02		
03	321 32.8 +01.1	N 20 26.2 +00.2			21 35.0 +02.8	N 01 08.6 -00.1			64 57.7 +02.6	S 15 55.9 +00.0			03		
04	336 33.9 +01.1	N 20 26.4 +00.3			36 37.8 +02.7	N 01 08.5 -00.2			80 00.3 +02.6	S 15 55.9 +00.1			04		
05	351 35.0 +01.1	N 20 26.7 +00.2			51 40.5 +02.7	N 01 08.3 -00.1			95 02.9 +02.6	S 15 56.0 +00.1			05		
06	6 36.1 +01.1	N 20 26.9 +00.3			66 43.2 +02.7	N 01 08.2 -00.1			110 05.5 +02.7	S 15 56.1 +00.0			06		
07	21 37.2 +01.1	N 20 27.2 +00.2			81 45.9 +02.7	N 01 08.1 -00.1			125 08.2 +02.6	S 15 56.1 +00.1			07		
08	36 38.3 +01.1	N 20 27.4 +00.3			96 48.6 +02.7	N 01 08.0 -00.1			140 10.8 +02.6	S 15 56.2 +00.0			08		
09	51 39.4 +01.1	N 20 27.7 +00.2			111 51.3 +02.7	N 01 07.9 -00.1			155 13.4 +02.7	S 15 56.2 +00.1			09		
10	66 40.5 +01.1	N 20 27.9 +00.3			126 54.0 +02.8	N 01 07.8 -00.1			170 16.1 +02.6	S 15 56.3 +00.0			10		
11	81 41.6 +01.1	N 20 28.2 +00.2			141 56.8 +02.7	N 01 07.7 -00.2			185 18.7 +02.6	S 15 56.3 +00.1			11		
12	96 42.7 +01.1	N 20 28.4 +00.3			156 59.5 +02.7	N 01 07.5 -00.1			200 21.3 +02.6	S 15 56.4 +00.0			12		
13	111 43.8 +01.1	N 20 28.7 +00.2			172 02.2 +02.7	N 01 07.4 -00.1			215 23.9 +02.7	S 15 56.4 +00.1			13		
14	126 44.9 +01.1	N 20 28.9 +00.3			187 04.9 +02.7	N 01 07.3 -00.1			230 26.6 +02.6	S 15 56.5 +00.0			14		
15	141 46.0 +01.1	N 20 29.2 +00.2			202 07.6 +02.7	N 01 07.2 -00.1			245 29.2 +02.6	S 15 56.5 +00.1			15		
16	156 47.1 +01.1	N 20 29.4 +00.3			217 10.3 +02.7	N 01 07.1 -00.1			260 31.8 +02.6	S 15 56.6 +00.1			16		
17	171 48.2 +01.1	N 20 29.7 +00.2			232 13.0 +02.8	N 01 07.0 -00.2			275 34.4 +02.7	S 15 56.7 +00.0			17		
18	186 49.3 +01.1	N 20 29.9 +00.2			247 15.8 +02.7	N 01 06.8 -00.1			290 37.1 +02.6	S 15 56.7 +00.1			18		
19	201 50.4 +01.1	N 20 30.1 +00.3			262 18.5 +02.7	N 01 06.7 -00.1			305 39.7 +02.6	S 15 56.8 +00.0			19		
20	216 51.5 +01.1	N 20 30.4 +00.2			277 21.2 +02.7	N 01 06.6 -00.1			320 42.3 +02.7	S 15 56.8 +00.1			20		
21	231 52.6 +01.1	N 20 30.6 +00.3			292 23.9 +02.7	N 01 06.5 -00.1			335 45.0 +02.6	S 15 56.9 +00.0			21		
22	246 53.7 +01.2	N 20 30.9 +00.2			307 26.6 +02.7	N 01 06.4 -00.1			350 47.6 +02.6	S 15 56.9 +00.1			22		
23	261 54.9 +01.1	N 20 31.1 +00.3			322 29.3 +02.7	N 01 06.3 -00.1			5 50.2 +02.6	S 15 57.0 +00.0			23		

UT	02	06	10	14	18	22	
SD	00'1"	00'1"	00'1"	00'1"	00'1"	00'1"	
HP	00'2"	00'2"	00'2"	00'2"	00'2"	00'2"	
SHA	293°	293°	293°	293°	293°	293°	
Greenwich Culmination Time: 05:33							

UT	02	06	10	14	18	22	
SD	00'4"	00'4"	00'4"	00'4"	00'4"	00'4"	
HP	00'0"	00'0"	00'0"	00'0"	00'0"	00'0"	
SHA	353°	353°	353°	353°	353°	353°	
Greenwich Culmination Time: 01:33							

UT	02	06	10	14	18	22	
SD	00'2"	00'2"	00'2"	00'2"	00'2"	00'2"	
HP	00'0"	00'0"	00'0"	00'0"	00'0"	00'0"	
SHA	037°	037°	037°	037°	037°	037°	
Greenwich Culmination Time: 22:36							

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	
00	180 16.7 +00.2	N 06	53.7 -00.9	191 45.8 -00.5	N 12	40.0 -01.0	75 26.5 -37.4	S 26	54.9 +02.5	00			
01	195 16.9 +00.2	N 06	52.8 -00.9	206 45.3 -00.6	N 12	39.0 -01.0	89 49.1 -37.5	S 26	57.4 +02.4	01			
02	210 17.1 +00.2	N 06	51.9 -01.0	221 44.7 -00.5	N 12	38.0 -01.1	104 11.6 -37.6	S 26	59.8 +02.1	02			
03	225 17.3 +00.3	N 06	50.9 -00.9	236 44.2 -00.5	N 12	36.9 -01.0	118 34.0 -37.6	S 27	01.9 +02.0	03			
04	240 17.6 +00.2	N 06	50.0 -00.9	251 43.7 -00.5	N 12	35.9 -01.1	132 56.4 -37.7	S 27	03.9 +01.8	04			
05	255 17.8 +00.2	N 06	49.1 -01.0	266 43.2 -00.5	N 12	34.8 -01.0	147 18.7 -37.7	S 27	05.7 +01.6	05			
06	270 18.0 +00.2	N 06	48.1 -00.9	281 42.7 -00.6	N 12	33.8 -01.0	161 41.0 -37.8	S 27	07.3 +01.5	06			
07	285 18.2 +00.2	N 06	47.2 -00.9	296 42.1 -00.5	N 12	32.8 -01.1	176 03.2 -37.8	S 27	08.8 +01.2	07			
08	300 18.4 +00.2	N 06	46.3 -00.9	311 41.6 -00.5	N 12	31.7 -01.0	190 25.4 -37.8	S 27	10.0 +01.0	08			
09	315 18.6 +00.2	N 06	45.4 -01.0	326 41.1 -00.5	N 12	30.7 -01.1	204 47.6 -37.9	S 27	11.0 +00.9	09			
10	330 18.8 +00.2	N 06	44.4 -00.9	341 40.6 -00.5	N 12	29.6 -01.0	219 09.7 -37.9	S 27	11.9 +00.6	10			
11	345 19.0 +00.2	N 06	43.5 -00.9	356 40.1 -00.5	N 12	28.6 -01.0	233 31.8 -37.9	S 27	12.5 +00.5	11			
12	0 19.2 +00.2	N 06	42.6 -00.9	11 39.6 -00.6	N 12	27.6 -01.1	247 53.9 -37.9	S 27	13.0 +00.2	12			
13	15 19.4 +00.3	N 06	41.7 -01.0	26 39.0 -00.5	N 12	26.5 -01.0	262 16.0 -38.0	S 27	13.2 +00.1	13			
14	30 19.7 +00.2	N 06	40.7 -00.9	41 38.5 -00.5	N 12	25.5 -01.1	276 38.0 -38.0	S 27	13.3 -00.1	14			
15	45 19.9 +00.2	N 06	39.8 -00.9	56 38.0 -00.5	N 12	24.4 -01.0	290 60.0 -38.1	S 27	13.2 -00.3	15			
16	60 20.1 +00.2	N 06	38.9 -01.0	71 37.5 -00.5	N 12	23.4 -01.1	305 21.9 -38.0	S 27	12.9 -00.6	16			
17	75 20.3 +00.2	N 06	37.9 -00.9	86 37.0 -00.5	N 12	22.3 -01.0	319 43.9 -38.1	S 27	12.3 -00.7	17			
18	90 20.5 +00.2	N 06	37.0 -00.9	101 36.5 -00.5	N 12	21.3 -01.1	334 05.8 -38.0	S 27	11.6 -00.9	18			
19	105 20.7 +00.2	N 06	36.1 -00.9	116 36.0 -00.5	N 12	20.2 -01.0	348 27.8 -38.1	S 27	10.7 -01.1	19			
20	120 20.9 +00.2	N 06	35.2 -01.0	131 35.5 -00.6	N 12	19.2 -01.1	2 49.7 -38.1	S 27	09.6 -01.2	20			
21	135 21.1 +00.2	N 06	34.2 -00.9	146 34.9 -00.5	N 12	18.1 -01.0	17 11.6 -38.1	S 27	08.4 -01.5	21			
22	150 21.3 +00.2	N 06	33.3 -00.9	161 34.4 -00.5	N 12	17.1 -01.1	31 33.5 -38.1	S 27	06.9 -01.7	22			
23	165 21.5 +00.3	N 06	32.4 -01.0	176 33.9 -00.5	N 12	16.0 -01.0	45 55.4 -38.1	S 27	05.2 -01.9	23			
UT 02 06 10 14 18 22 SD 15'9 15'9 15'9 15'9 15'9 15'9 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 196° 196° 196° 196° 196° 195° Greenwich Culmination Time: 11:58				UT 02 06 10 14 18 22 SD 00'1 00'1 00'1 00'1 00'1 00'1 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 208° 207° 207° 207° 207° 207° Greenwich Culmination Time: 11:13				UT 02 06 10 14 18 22 SD 16'2 16'2 16'2 16'3 16'3 16'3 HP 59'5 59'6 59'6 59'7 59'8 59'8 SHA 090° 087° 085° 082° 079° 077° Greenwich Culmination Time: 19:48					
UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	
00	276 56.0 +01.1	N 20	31.4 +00.2	337 32.0 +02.8	N 01	06.2 -00.2	20 52.8 +02.7	S 15	57.0 +00.1	00			
01	291 57.1 +01.1	N 20	31.6 +00.3	352 34.8 +02.7	N 01	06.0 -00.1	35 55.5 +02.6	S 15	57.1 +00.0	01			
02	306 58.2 +01.1	N 20	31.9 +00.2	7 37.5 +02.7	N 01	05.9 -00.1	50 58.1 +02.6	S 15	57.1 +00.1	02			
03	321 59.3 +01.1	N 20	32.1 +00.2	22 40.2 +02.7	N 01	05.8 -00.1	66 00.7 +02.7	S 15	57.2 +00.0	03			
04	337 00.4 +01.1	N 20	32.3 +00.3	37 42.9 +02.7	N 01	05.7 -00.1	81 03.4 +02.6	S 15	57.2 +00.1	04			
05	352 01.5 +01.1	N 20	32.6 +00.2	52 45.6 +02.7	N 01	05.6 -00.1	96 06.0 +02.6	S 15	57.3 +00.0	05			
06	7 02.6 +01.1	N 20	32.8 +00.3	67 48.3 +02.8	N 01	05.5 -00.2	111 08.6 +02.6	S 15	57.3 +00.1	06			
07	22 03.7 +01.1	N 20	33.1 +00.2	82 51.1 +02.7	N 01	05.3 -00.1	126 11.2 +02.7	S 15	57.4 +00.1	07			
08	37 04.8 +01.1	N 20	33.3 +00.3	97 53.8 +02.7	N 01	05.2 -00.1	141 13.9 +02.6	S 15	57.5 +00.0	08			
09	52 05.9 +01.2	N 20	33.6 +00.2	112 56.5 +02.7	N 01	05.1 -00.1	156 16.5 +02.6	S 15	57.5 +00.1	09			
10	67 07.1 +01.1	N 20	33.8 +00.2	127 59.2 +02.7	N 01	05.0 -00.1	171 19.1 +02.6	S 15	57.6 +00.0	10			
11	82 08.2 +01.1	N 20	34.0 +00.3	143 01.9 +02.8	N 01	04.9 -00.1	186 21.7 +02.7	S 15	57.6 +00.1	11			
12	97 09.3 +01.1	N 20	34.3 +00.2	158 04.7 +02.7	N 01	04.8 -00.2	201 24.4 +02.6	S 15	57.7 +00.0	12			
13	112 10.4 +01.1	N 20	34.5 +00.3	173 07.4 +02.7	N 01	04.6 -00.1	216 27.0 +02.6	S 15	57.7 +00.1	13			
14	127 11.5 +01.1	N 20	34.8 +00.2	188 10.1 +02.7	N 01	04.5 -00.1	231 29.6 +02.6	S 15	57.8 +00.0	14			
15	142 12.6 +01.1	N 20	35.0 +00.2	203 12.8 +02.7	N 01	04.4 -00.1	246 32.2 +02.7	S 15	57.8 +00.1	15			
16	157 13.7 +01.2	N 20	35.2 +00.3	218 15.5 +02.8	N 01	04.3 -00.1	261 34.9 +02.6	S 15	57.9 +00.0	16			
17	172 14.9 +01.1	N 20	35.5 +00.2	233 18.3 +02.7	N 01	04.2 -00.2	276 37.5 +02.6	S 15	57.9 +00.1	17			
18	187 16.0 +01.1	N 20	35.7 +00.3	248 21.0 +02.7	N 01	04.0 -00.1	291 40.1 +02.6	S 15	58.0 +00.0	18			
19	202 17.1 +01.1	N 20	36.0 +00.2	263 23.7 +02.7	N 01	03.9 -00.1	306 42.7 +02.7	S 15	58.0 +00.1	19			
20	217 18.2 +01.1	N 20	36.2 +00.2	278 26.4 +02.7	N 01	03.8 -00.1	321 45.4 +02.6	S 15	58.1 +00.0	20			
21	232 19.3 +01.1	N 20	36.4 +00.3	293 29.1 +02.8	N 01	03.7 -00.1	336 48.0 +02.6	S 15	58.1 +00.1	21			
22	247 20.4 +01.2	N 20	36.7 +00.2	308 31.9 +02.7	N 01	03.6 -00.1	351 50.6 +02.7	S 15	58.2 +00.1	22			
23	262 21.6 +01.1	N 20	36.9 +00.3	323 34.6 +02.7	N 01	03.5 -00.2	6 53.3 +02.6	S 15	58.3 +00.0	23			
UT 02 06 10 14 18 22 SD 00'1 00'1 00'1 00'1 00'1 00'1 HP 00'2 00'2 00'2 00'2 00'2 00'2 SHA 293° 293° 293° 293° 292° 292° Greenwich Culmination Time: 05:31				UT 02 06 10 14 18 22 SD 00'4 00'4 00'4 00'4 00'4 00'4 HP 00'0 00'0 00'0 00'0 00'0 00'0 SHA 353° 353° 353° 354° 354° 354° Greenwich Culmination Time: 01:29				UT 02 06 10 14 18 22 SD 00'2 00'2 00'2 00'2 00'2 00'2 HP 00'0 00'0 00'0 00'0 00'0 00'0 SHA 037° 037° 037° 037° 037° 037° Greenwich Culmination Time: 22:32					

Table with columns for Sun, Venus, Moon, Mars, Jupiter, and Saturn. Each planet section includes UT, GHA, ddGHA, Dec, dDec, and a summary row with UT, 02, 06, 10, 14, 18, 22, SD, HP, and SHA values. Greenwich Culmination Time is provided for each planet.

Table with columns for Sun, Venus, Moon, Mars, Jupiter, and Saturn. Each column contains UT, GHA, ddGHA, Dec, dDec, and a summary row with SD, HP, SHA, and Greenwich Culmination Time.

Sun					Venus					Moon					A: 43%																							
UT	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	UT																									
	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "																										
00	180 32.0 +00.2		N 05 46.6 -00.9		191 09.3 -00.5		N 11 23.9 -01.1		30 36.3 -35.3		S 21 55.4 -10.6		00																									
01	195 32.2 +00.2		N 05 45.7 -01.0		206 08.8 -00.5		N 11 22.8 -01.1		45 01.0 -35.3		S 21 44.8 -10.6		01																									
02	210 32.4 +00.3		N 05 44.7 -00.9		221 08.3 -00.5		N 11 21.7 -01.1		59 25.7 -35.1		S 21 34.2 -10.8		02																									
03	225 32.7 +00.2		N 05 43.8 -01.0		236 07.8 -00.5		N 11 20.6 -01.1		73 50.6 -35.1		S 21 23.4 -11.0		03																									
04	240 32.9 +00.2		N 05 42.8 -00.9		251 07.3 -00.5		N 11 19.5 -01.0		88 15.5 -34.9		S 21 12.4 -11.0		04																									
05	255 33.1 +00.2		N 05 41.9 -00.9		266 06.8 -00.5		N 11 18.5 -01.1		102 40.6 -34.9		S 21 01.4 -11.3		05																									
06	270 33.3 +00.2		N 05 41.0 -01.0		281 06.3 -00.4		N 11 17.4 -01.1		117 05.7 -34.8		S 20 50.1 -11.3		06																									
07	285 33.5 +00.2		N 05 40.0 -00.9		296 05.9 -00.5		N 11 16.3 -01.1		131 30.9 -34.7		S 20 38.8 -11.5		07																									
08	300 33.7 +00.3		N 05 39.1 -01.0		311 05.4 -00.5		N 11 15.2 -01.1		145 56.2 -34.5		S 20 27.3 -11.6		08																									
09	315 34.0 +00.2		N 05 38.1 -00.9		326 04.9 -00.5		N 11 14.1 -01.1		160 21.7 -34.5		S 20 15.7 -11.7		09																									
10	330 34.2 +00.2		N 05 37.2 -00.9		341 04.4 -00.5		N 11 13.0 -01.0		174 47.2 -34.4		S 20 04.0 -11.9		10																									
11	345 34.4 +00.2		N 05 36.3 -01.0		356 03.9 -00.5		N 11 12.0 -01.1		189 12.8 -34.3		S 19 52.1 -12.0		11																									
12	0 34.6 +00.2		N 05 35.3 -00.9		11 03.4 -00.5		N 11 10.9 -01.1		203 38.5 -34.2		S 19 40.1 -12.1		12																									
13	15 34.8 +00.2		N 05 34.4 -01.0		26 02.9 -00.5		N 11 09.8 -01.1		218 04.3 -34.1		S 19 28.0 -12.2		13																									
14	30 35.0 +00.3		N 05 33.4 -00.9		41 02.4 -00.5		N 11 08.7 -01.1		232 30.2 -34.0		S 19 15.8 -12.4		14																									
15	45 35.3 +00.2		N 05 32.5 -00.9		56 01.9 -00.5		N 11 07.6 -01.1		246 56.2 -33.9		S 19 03.4 -12.5		15																									
16	60 35.5 +00.2		N 05 31.6 -01.0		71 01.4 -00.4		N 11 06.5 -01.1		261 22.3 -33.7		S 18 50.9 -12.5		16																									
17	75 35.7 +00.2		N 05 30.6 -00.9		86 01.0 -00.5		N 11 05.4 -01.1		275 48.6 -33.7		S 18 38.4 -12.7		17																									
18	90 35.9 +00.2		N 05 29.7 -01.0		101 00.5 -00.5		N 11 04.3 -01.0		290 14.9 -33.6		S 18 25.7 -12.8		18																									
19	105 36.1 +00.2		N 05 28.7 -00.9		115 60.0 -00.5		N 11 03.3 -01.1		304 41.3 -33.5		S 18 12.9 -13.0		19																									
20	120 36.3 +00.3		N 05 27.8 -00.9		130 59.5 -00.5		N 11 02.2 -01.1		319 07.8 -33.4		S 17 59.9 -13.0		20																									
21	135 36.6 +00.2		N 05 26.9 -01.0		145 59.0 -00.5		N 11 01.1 -01.1		333 34.4 -33.3		S 17 46.9 -13.1		21																									
22	150 36.8 +00.2		N 05 25.9 -00.9		160 58.5 -00.5		N 10 60.0 -01.1		348 01.1 -33.3		S 17 33.8 -13.2		22																									
23	165 37.0 +00.2		N 05 25.0 -01.0		175 58.0 -00.5		N 10 58.9 -01.1		2 27.8 -33.1		S 17 20.6 -13.4		23																									
UT	02	06	10	14	18	22																																
SD	15'9	15'9	15'9	15'9	15'9	15'9	00'1	00'1	00'1	00'1	00'1	00'1	SD 16'4	16'4	16'4	16'4	16'4	16'3																				
HP	00'1	00'1	00'1	00'1	00'1	00'1	00'1	00'1	00'1	00'1	00'1	HP 00'1	00'1	00'1	00'1	00'1	00'1																					
SHA	193°	193°	193°	193°	193°	193°	204°	204°	204°	203°	203°	203°	SHA 042°	040°	037°	035°	032°	030°																				
Greenwich Culmination Time: 11:57													Greenwich Culmination Time: 11:15													Greenwich Culmination Time: 22:49												
Mars					Jupiter					Saturn																												
UT	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	UT																									
	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "																										
00	278 17.0 +01.1		N 20 48.3 +00.3		340 48.1 +02.7		N 00 57.6 -00.1		24 01.8 +02.6		S 16 00.8 +00.1		00																									
01	293 18.1 +01.2		N 20 48.6 +00.2		355 50.8 +02.8		N 00 57.5 -00.1		39 04.4 +02.6		S 16 00.9 +00.0		01																									
02	308 19.3 +01.1		N 20 48.8 +00.2		10 53.6 +02.7		N 00 57.4 -00.2		54 07.0 +02.7		S 16 00.9 +00.1		02																									
03	323 20.4 +01.2		N 20 49.0 +00.3		25 56.3 +02.7		N 00 57.2 -00.1		69 09.7 +02.6		S 16 01.0 +00.0		03																									
04	338 21.6 +01.1		N 20 49.3 +00.2		40 59.0 +02.8		N 00 57.1 -00.1		84 12.3 +02.6		S 16 01.0 +00.1		04																									
05	353 22.7 +01.1		N 20 49.5 +00.2		56 01.8 +02.7		N 00 57.0 -00.1		99 14.9 +02.6		S 16 01.1 +00.0		05																									
06	8 23.8 +01.2		N 20 49.7 +00.2		71 04.5 +02.7		N 00 56.9 -00.1		114 17.5 +02.6		S 16 01.1 +00.1		06																									
07	23 25.0 +01.1		N 20 49.9 +00.3		86 07.2 +02.7		N 00 56.8 -00.2		129 20.1 +02.7		S 16 01.2 +00.0		07																									
08	38 26.1 +01.2		N 20 50.2 +00.2		101 09.9 +02.8		N 00 56.6 -00.1		144 22.8 +02.6		S 16 01.2 +00.1		08																									
09	53 27.3 +01.1		N 20 50.4 +00.2		116 12.7 +02.7		N 00 56.5 -00.1		159 25.4 +02.6		S 16 01.3 +00.0		09																									
10	68 28.4 +01.2		N 20 50.6 +00.2		131 15.4 +02.7		N 00 56.4 -00.1		174 28.0 +02.6		S 16 01.3 +00.1		10																									
11	83 29.6 +01.1		N 20 50.8 +00.3		146 18.1 +02.8		N 00 56.3 -00.1		189 30.6 +02.6		S 16 01.4 +00.0		11																									
12	98 30.7 +01.2		N 20 51.1 +00.2		161 20.9 +02.7		N 00 56.2 -00.2		204 33.2 +02.7		S 16 01.4 +00.1		12																									
13	113 31.9 +01.1		N 20 51.3 +00.2		176 23.6 +02.7		N 00 56.0 -00.1		219 35.9 +02.6		S 16 01.5 +00.0		13																									
14	128 33.0 +01.2		N 20 51.5 +00.2		191 26.3 +02.8		N 00 55.9 -00.1		234 38.5 +02.6		S 16 01.5 +00.1		14																									
15	143 34.2 +01.1		N 20 51.7 +00.3		206 29.1 +02.7		N 00 55.8 -00.1		249 41.1 +02.6		S 16 01.6 +00.0		15																									
16	158 35.3 +01.2		N 20 52.0 +00.2		221 31.8 +02.7		N 00 55.7 -00.2		264 43.7 +02.6		S 16 01.6 +00.1		16																									
17	173 36.5 +01.1		N 20 52.2 +00.2		236 34.5 +02.8		N 00 55.5 -00.1		279 46.3 +02.7		S 16 01.7 +00.0		17																									
18	188 37.6 +01.2		N 20 52.4 +00.2		251 37.3 +02.7		N 00 55.4 -00.1		294 49.0 +02.6		S 16 01.7 +00.1		18																									
19	203 38.8 +01.2		N 20 52.6 +00.3		266 40.0 +02.7		N 00 55.3 -00.1		309 51.6 +02.6		S 16 01.8 +00.0		19																									
20	218 40.0 +01.1		N 20 52.9 +00.2		281 42.7 +02.8		N 00 55.2 -00.1		324 54.2 +02.6		S 16 01.8 +00.1		20																									
21	233 41.1 +01.2		N 20 53.1 +00.2		296 45.5 +02.7		N 00 55.1 -00.2		339 56.8 +02.6		S 16 01.9 +00.0		21																									
22	248 42.3 +01.1		N 20 53.3 +00.2		311 48.2 +02.7		N 00 54.9 -00.1		354 59.4 +02.7		S 16 01.9 +00.1		22																									
23	263 43.4 +01.2		N 20 53.5 +00.2		326 50.9 +02.8		N 00 54.8 -00.1		10 02.1 +02.6		S 16 02.0 +00.0		23																									
UT	02	06	10	14	18	22																																
SD	00'1	00'1	00'1	00'1	00'1	00'1	00'4	00'4	00'4	00'4	00'4	SD 00'2	00'2	00'2	00'2	00'2	00'2																					
HP	00'2	00'2	00'2	00'2	00'2	00'2	00'0	00'0	00'0	00'0	00'0	HP 00'0	00'0	00'0	00'0	00'0	00'0																					
SHA	291°	291°	291°	291°	291°	291°	354°	354°	354°	354°	354°	SHA 037°	037°	037°	037°	037°	037°																					
Greenwich Culmination Time: 05:26													Greenwich Culmination Time: 01:16													Greenwich Culmination Time: 22:19												

Warning: This page has been generated by a computer program. Complex computer programs usually have bugs and may produce wrong data. The data on this page is believed to be accurate but no warranty is given for its correctness. Use it only for training and exercising!

UT	Sun				Venus				Moon				UT
	GHA °	ddGHA '	Dec °	dDec '	GHA °	ddGHA '	Dec °	dDec '	GHA °	ddGHA '	Dec °	dDec '	
00	180	37.2 +00.2	N 05 24.0	-00.9	190	57.5 -00.4	N 10 57.8	-01.1	16	54.7 -33.0	S 17 07.2	-13.4	00
01	195	37.4 +00.3	N 05 23.1	-00.9	205	57.1 -00.5	N 10 56.7	-01.1	31	21.7 -32.9	S 16 53.8	-13.5	01
02	210	37.7 +00.2	N 05 22.2	-01.0	220	56.6 -00.5	N 10 55.6	-01.1	45	48.8 -32.8	S 16 40.3	-13.7	02
03	225	37.9 +00.2	N 05 21.2	-00.9	235	56.1 -00.5	N 10 54.5	-01.1	60	16.0 -32.7	S 16 26.6	-13.7	03
04	240	38.1 +00.2	N 05 20.3	-01.0	250	55.6 -00.5	N 10 53.4	-01.1	74	43.3 -32.7	S 16 12.9	-13.8	04
05	255	38.3 +00.2	N 05 19.3	-00.9	265	55.1 -00.5	N 10 52.3	-01.1	89	10.6 -32.5	S 15 59.1	-13.9	05
06	270	38.5 +00.2	N 05 18.4	-01.0	280	54.6 -00.4	N 10 51.2	-01.0	103	38.1 -32.4	S 15 45.2	-14.0	06
07	285	38.7 +00.3	N 05 17.4	-00.9	295	54.2 -00.5	N 10 50.2	-01.1	118	05.7 -32.4	S 15 31.2	-14.0	07
08	300	39.0 +00.2	N 05 16.5	-00.9	310	53.7 -00.5	N 10 49.1	-01.1	132	33.3 -32.2	S 15 17.2	-14.2	08
09	315	39.2 +00.2	N 05 15.6	-01.0	325	53.2 -00.5	N 10 48.0	-01.1	147	01.1 -32.2	S 15 03.0	-14.2	09
10	330	39.4 +00.2	N 05 14.6	-00.9	340	52.7 -00.5	N 10 46.9	-01.1	161	28.9 -32.0	S 14 48.8	-14.3	10
11	345	39.6 +00.2	N 05 13.7	-01.0	355	52.2 -00.5	N 10 45.8	-01.1	175	56.9 -32.0	S 14 34.5	-14.4	11
12	0	39.8 +00.3	N 05 12.7	-00.9	10	51.7 -00.4	N 10 44.7	-01.1	190	24.9 -31.9	S 14 20.1	-14.5	12
13	15	40.1 +00.2	N 05 11.8	-01.0	25	51.3 -00.5	N 10 43.6	-01.1	204	53.0 -31.8	S 14 05.6	-14.5	13
14	30	40.3 +00.2	N 05 10.8	-00.9	40	50.8 -00.5	N 10 42.5	-01.1	219	21.2 -31.7	S 13 51.1	-14.7	14
15	45	40.5 +00.2	N 05 09.9	-01.0	55	50.3 -00.5	N 10 41.4	-01.1	233	49.5 -31.6	S 13 36.4	-14.6	15
16	60	40.7 +00.2	N 05 08.9	-00.9	70	49.8 -00.5	N 10 40.3	-01.1	248	17.9 -31.5	S 13 21.8	-14.8	16
17	75	40.9 +00.2	N 05 08.0	-00.9	85	49.3 -00.4	N 10 39.2	-01.1	262	46.4 -31.5	S 13 07.0	-14.8	17
18	90	41.1 +00.3	N 05 07.1	-01.0	100	48.9 -00.5	N 10 38.1	-01.1	277	14.9 -31.3	S 12 52.2	-14.9	18
19	105	41.4 +00.2	N 05 06.1	-00.9	115	48.4 -00.5	N 10 37.0	-01.1	291	43.6 -31.3	S 12 37.3	-14.9	19
20	120	41.6 +00.2	N 05 05.2	-01.0	130	47.9 -00.5	N 10 35.9	-01.1	306	12.3 -31.2	S 12 22.4	-15.1	20
21	135	41.8 +00.2	N 05 04.2	-00.9	145	47.4 -00.5	N 10 34.8	-01.1	320	41.1 -31.1	S 12 07.3	-15.0	21
22	150	42.0 +00.2	N 05 03.3	-01.0	160	46.9 -00.4	N 10 33.7	-01.1	335	10.0 -31.0	S 11 52.3	-15.1	22
23	165	42.2 +00.3	N 05 02.3	-00.9	175	46.5 -00.5	N 10 32.6	-01.1	349	39.0 -30.9	S 11 37.2	-15.2	23

UT	02	06	10	14	18	22
SD	15'9	15'9	15'9	15'9	15'9	15'9
HP	00'1	00'1	00'1	00'1	00'1	00'1
SHA	193°	192°	192°	192°	192°	192°
Greenwich Culmination Time:	11:57					

UT	02	06	10	14	18	22
SD	00'1	00'1	00'1	00'1	00'1	00'1
HP	00'1	00'1	00'1	00'1	00'1	00'1
SHA	203°	203°	202°	202°	202°	202°
Greenwich Culmination Time:	11:16					

UT	02	06	10	14	18	22
SD	16'3	16'3	16'3	16'3	16'3	16'2
HP	59'9	59'9	59'8	59'8	59'7	59'6
SHA	028°	025°	023°	021°	018°	016°
Greenwich Culmination Time:	23:42					

UT	Mars				Jupiter				Saturn				UT
	GHA °	ddGHA '	Dec °	dDec '	GHA °	ddGHA '	Dec °	dDec '	GHA °	ddGHA '	Dec °	dDec '	
00	278	44.6 +01.1	N 20 53.7	+00.3	341	53.7 +02.7	N 00 54.7	-00.1	25	04.7 +02.6	S 16 02.0	+00.1	00
01	293	45.7 +01.2	N 20 54.0	+00.2	356	56.4 +02.7	N 00 54.6	-00.2	40	07.3 +02.6	S 16 02.1	+00.0	01
02	308	46.9 +01.1	N 20 54.2	+00.2	11	59.1 +02.8	N 00 54.4	-00.1	55	09.9 +02.6	S 16 02.1	+00.1	02
03	323	48.0 +01.2	N 20 54.4	+00.2	27	01.9 +02.7	N 00 54.3	-00.1	70	12.5 +02.7	S 16 02.2	+00.0	03
04	338	49.2 +01.2	N 20 54.6	+00.3	42	04.6 +02.7	N 00 54.2	-00.1	85	15.2 +02.6	S 16 02.2	+00.1	04
05	353	50.4 +01.1	N 20 54.9	+00.2	57	07.3 +02.8	N 00 54.1	-00.1	100	17.8 +02.6	S 16 02.3	+00.0	05
06	8	51.5 +01.2	N 20 55.1	+00.2	72	10.1 +02.7	N 00 54.0	-00.2	115	20.4 +02.6	S 16 02.3	+00.1	06
07	23	52.7 +01.1	N 20 55.3	+00.2	87	12.8 +02.7	N 00 53.8	-00.1	130	23.0 +02.6	S 16 02.4	+00.0	07
08	38	53.8 +01.2	N 20 55.5	+00.2	102	15.5 +02.8	N 00 53.7	-00.1	145	25.6 +02.7	S 16 02.4	+00.1	08
09	53	55.0 +01.2	N 20 55.7	+00.3	117	18.3 +02.7	N 00 53.6	-00.1	160	28.3 +02.6	S 16 02.5	+00.0	09
10	68	56.2 +01.1	N 20 56.0	+00.2	132	21.0 +02.7	N 00 53.5	-00.2	175	30.9 +02.6	S 16 02.5	+00.1	10
11	83	57.3 +01.2	N 20 56.2	+00.2	147	23.7 +02.8	N 00 53.3	-00.1	190	33.5 +02.6	S 16 02.6	+00.0	11
12	98	58.5 +01.1	N 20 56.4	+00.2	162	26.5 +02.7	N 00 53.2	-00.1	205	36.1 +02.6	S 16 02.6	+00.1	12
13	113	59.6 +01.2	N 20 56.6	+00.2	177	29.2 +02.7	N 00 53.1	-00.1	220	38.7 +02.6	S 16 02.7	+00.0	13
14	129	00.8 +01.2	N 20 56.8	+00.3	192	31.9 +02.8	N 00 53.0	-00.2	235	41.3 +02.7	S 16 02.7	+00.1	14
15	144	02.0 +01.1	N 20 57.1	+00.2	207	34.7 +02.7	N 00 52.8	-00.1	250	44.0 +02.6	S 16 02.8	+00.0	15
16	159	03.1 +01.2	N 20 57.3	+00.2	222	37.4 +02.8	N 00 52.7	-00.1	265	46.6 +02.6	S 16 02.8	+00.1	16
17	174	04.3 +01.2	N 20 57.5	+00.2	237	40.2 +02.7	N 00 52.6	-00.1	280	49.2 +02.6	S 16 02.9	+00.0	17
18	189	05.5 +01.1	N 20 57.7	+00.2	252	42.9 +02.7	N 00 52.5	-00.2	295	51.8 +02.6	S 16 02.9	+00.1	18
19	204	06.6 +01.2	N 20 57.9	+00.3	267	45.6 +02.8	N 00 52.3	-00.1	310	54.4 +02.6	S 16 03.0	+00.0	19
20	219	07.8 +01.2	N 20 58.2	+00.2	282	48.4 +02.7	N 00 52.2	-00.1	325	57.0 +02.7	S 16 03.0	+00.1	20
21	234	09.0 +01.1	N 20 58.4	+00.2	297	51.1 +02.7	N 00 52.1	-00.1	340	59.7 +02.6	S 16 03.1	+00.0	21
22	249	10.1 +01.2	N 20 58.6	+00.2	312	53.8 +02.8	N 00 52.0	-00.1	356	02.3 +02.6	S 16 03.1	+00.1	22
23	264	11.3 +01.2	N 20 58.8	+00.2	327	56.6 +02.7	N 00 51.9	-00.2	11	04.9 +02.6	S 16 03.2	+00.0	23

UT	02	06	10	14	18	22
SD	00'1	00'1	00'1	00'1	00'1	00'1
HP	00'2	00'2	00'2	00'2	00'2	00'2
SHA	291°	291°	291°	290°	290°	290°
Greenwich Culmination Time:	05:24					

UT	02	06	10	14	18	22
SD	00'4	00'4	00'4	00'4	00'4	00'4
HP	00'0	00'0	00'0	00'0	00'0	00'0
SHA	354°	354°	354°	354°	354°	354°
Greenwich Culmination Time:	01:12					

UT	02	06	10	14	18	22
SD	00'2	00'2	00'2	00'2	00'2	00'2
HP	00'0	00'0	00'0	00'0	00'0	00'0
SHA	037°	037°	037°	037°	037°	037°
Greenwich Culmination Time:	22:15					

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> A: 50%				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	180	42.5	+00.2	N 05 01.4	-01.0	190	46.0	-00.5	N 10 31.5	-01.2	4	08.1	-30.9	S 11 22.0	-15.2	00				
01	195	42.7	+00.2	N 05 00.4	-00.9	205	45.5	-00.5	N 10 30.3	-01.1	18	37.2	-30.7	S 11 06.8	-15.3	01				
02	210	42.9	+00.2	N 04 59.5	-01.0	220	45.0	-00.4	N 10 29.2	-01.1	33	06.5	-30.7	S 10 51.5	-15.4	02				
03	225	43.1	+00.2	N 04 58.5	-00.9	235	44.6	-00.5	N 10 28.1	-01.1	47	35.8	-30.6	S 10 36.1	-15.3	03				
04	240	43.3	+00.3	N 04 57.6	-00.9	250	44.1	-00.5	N 10 27.0	-01.1	62	05.2	-30.6	S 10 20.8	-15.5	04				
05	255	43.6	+00.2	N 04 56.7	-01.0	265	43.6	-00.5	N 10 25.9	-01.1	76	34.6	-30.4	S 10 05.3	-15.4	05				
06	270	43.8	+00.2	N 04 55.7	-00.9	280	43.1	-00.5	N 10 24.8	-01.1	91	04.2	-30.4	S 09 49.9	-15.5	06				
07	285	44.0	+00.2	N 04 54.8	-01.0	295	42.6	-00.4	N 10 23.7	-01.1	105	33.8	-30.3	S 09 34.4	-15.6	07				
08	300	44.2	+00.2	N 04 53.8	-00.9	310	42.2	-00.5	N 10 22.6	-01.1	120	03.5	-30.3	S 09 18.8	-15.6	08				
09	315	44.4	+00.3	N 04 52.9	-01.0	325	41.7	-00.5	N 10 21.5	-01.1	134	33.2	-30.1	S 09 03.2	-15.6	09				
10	330	44.7	+00.2	N 04 51.9	-00.9	340	41.2	-00.4	N 10 20.4	-01.1	149	03.1	-30.1	S 08 47.6	-15.6	10				
11	345	44.9	+00.2	N 04 51.0	-01.0	355	40.8	-00.5	N 10 19.3	-01.1	163	33.0	-30.0	S 08 32.0	-15.7	11				
12	0	45.1	+00.2	N 04 50.0	-00.9	10	40.3	-00.5	N 10 18.2	-01.1	178	03.0	-30.0	S 08 16.3	-15.8	12				
13	15	45.3	+00.2	N 04 49.1	-01.0	25	39.8	-00.5	N 10 17.1	-01.2	192	33.0	-29.9	S 08 00.5	-15.7	13				
14	30	45.5	+00.3	N 04 48.1	-00.9	40	39.3	-00.4	N 10 15.9	-01.1	207	03.1	-29.8	S 07 44.8	-15.8	14				
15	45	45.8	+00.2	N 04 47.2	-01.0	55	38.9	-00.5	N 10 14.8	-01.1	221	33.3	-29.7	S 07 29.0	-15.8	15				
16	60	46.0	+00.2	N 04 46.2	-00.9	70	38.4	-00.5	N 10 13.7	-01.1	236	03.6	-29.7	S 07 13.2	-15.8	16				
17	75	46.2	+00.2	N 04 45.3	-01.0	85	37.9	-00.5	N 10 12.6	-01.1	250	33.9	-29.6	S 06 57.4	-15.9	17				
18	90	46.4	+00.2	N 04 44.3	-00.9	100	37.4	-00.4	N 10 11.5	-01.1	265	04.3	-29.6	S 06 41.5	-15.8	18				
19	105	46.6	+00.3	N 04 43.4	-01.0	115	37.0	-00.5	N 10 10.4	-01.1	279	34.7	-29.5	S 06 25.7	-15.9	19				
20	120	46.9	+00.2	N 04 42.4	-00.9	130	36.5	-00.5	N 10 09.3	-01.1	294	05.2	-29.4	S 06 09.8	-15.9	20				
21	135	47.1	+00.2	N 04 41.5	-01.0	145	36.0	-00.4	N 10 08.2	-01.2	308	35.8	-29.4	S 05 53.9	-16.0	21				
22	150	47.3	+00.2	N 04 40.5	-00.9	160	35.6	-00.5	N 10 07.0	-01.1	323	06.4	-29.3	S 05 37.9	-15.9	22				
23	165	47.5	+00.2	N 04 39.6	-01.0	175	35.1	-00.5	N 10 05.9	-01.1	337	37.1	-29.3	S 05 22.0	-16.0	23				
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT	02	06	10	14	18	22
SD	15°9	15°9	15°9	15°9	15°9	15°9	SD	00°1	00°1	00°1	00°1	00°1	00°1	SD	16°2	16°2	16°2	16°2	16°1	16°1
HP	00°1	00°1	00°1	00°1	00°1	00°1	HP	00°1	00°1	00°1	00°1	00°1	00°1	HP	59°5	59°5	59°4	59°3	59°2	59°1
SHA	192°	191°	191°	191°	191°	191°	SHA	202°	201°	201°	201°	201°	201°	SHA	014°	012°	010°	007°	005°	003°
Greenwich Culmination Time: 11:56							Greenwich Culmination Time: 11:17							Greenwich Culmination Time: -1:00						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	279	12.5	+01.1	N 20 59.0	+00.2	342	59.3	+02.8	N 00 51.7	-00.1	26	07.5	+02.6	S 16 03.2	+00.1	00				
01	294	13.6	+01.2	N 20 59.2	+00.3	358	02.1	+02.7	N 00 51.6	-00.1	41	10.1	+02.6	S 16 03.3	+00.0	01				
02	309	14.8	+01.2	N 20 59.5	+00.2	13	04.8	+02.7	N 00 51.5	-00.1	56	12.7	+02.7	S 16 03.3	+00.1	02				
03	324	16.0	+01.1	N 20 59.7	+00.2	28	07.5	+02.8	N 00 51.4	-00.2	71	15.4	+02.6	S 16 03.4	+00.0	03				
04	339	17.1	+01.2	N 20 59.9	+00.2	43	10.3	+02.7	N 00 51.2	-00.1	86	18.0	+02.6	S 16 03.4	+00.1	04				
05	354	18.3	+01.2	N 21 00.1	+00.2	58	13.0	+02.7	N 00 51.1	-00.1	101	20.6	+02.6	S 16 03.5	+00.0	05				
06	9	19.5	+01.2	N 21 00.3	+00.2	73	15.7	+02.8	N 00 51.0	-00.1	116	23.2	+02.6	S 16 03.5	+00.1	06				
07	24	20.7	+01.1	N 21 00.5	+00.3	88	18.5	+02.7	N 00 50.9	-00.2	131	25.8	+02.6	S 16 03.6	+00.0	07				
08	39	21.8	+01.2	N 21 00.8	+00.2	103	21.2	+02.8	N 00 50.7	-00.1	146	28.4	+02.7	S 16 03.6	+00.1	08				
09	54	23.0	+01.2	N 21 01.0	+00.2	118	24.0	+02.7	N 00 50.6	-00.1	161	31.1	+02.6	S 16 03.7	+00.0	09				
10	69	24.2	+01.2	N 21 01.2	+00.2	133	26.7	+02.7	N 00 50.5	-00.1	176	33.7	+02.6	S 16 03.7	+00.1	10				
11	84	25.4	+01.1	N 21 01.4	+00.2	148	29.4	+02.8	N 00 50.4	-00.2	191	36.3	+02.6	S 16 03.8	+00.0	11				
12	99	26.5	+01.2	N 21 01.6	+00.2	163	32.2	+02.7	N 00 50.2	-00.1	206	38.9	+02.6	S 16 03.8	+00.1	12				
13	114	27.7	+01.2	N 21 01.8	+00.3	178	34.9	+02.8	N 00 50.1	-00.1	221	41.5	+02.6	S 16 03.9	+00.0	13				
14	129	28.9	+01.2	N 21 02.1	+00.2	193	37.7	+02.7	N 00 50.0	-00.1	236	44.1	+02.7	S 16 03.9	+00.1	14				
15	144	30.1	+01.1	N 21 02.3	+00.2	208	40.4	+02.7	N 00 49.9	-00.2	251	46.8	+02.6	S 16 04.0	+00.0	15				
16	159	31.2	+01.2	N 21 02.5	+00.2	223	43.1	+02.8	N 00 49.7	-00.1	266	49.4	+02.6	S 16 04.0	+00.1	16				
17	174	32.4	+01.2	N 21 02.7	+00.2	238	45.9	+02.7	N 00 49.6	-00.1	281	52.0	+02.6	S 16 04.1	+00.0	17				
18	189	33.6	+01.2	N 21 02.9	+00.2	253	48.6	+02.8	N 00 49.5	-00.1	296	54.6	+02.6	S 16 04.1	+00.1	18				
19	204	34.8	+01.2	N 21 03.1	+00.2	268	51.4	+02.7	N 00 49.4	-00.2	311	57.2	+02.6	S 16 04.2	+00.0	19				
20	219	36.0	+01.1	N 21 03.3	+00.2	283	54.1	+02.7	N 00 49.2	-00.1	326	59.8	+02.6	S 16 04.2	+00.1	20				
21	234	37.1	+01.2	N 21 03.5	+00.3	298	56.8	+02.8	N 00 49.1	-00.1	342	02.4	+02.7	S 16 04.3	+00.0	21				
22	249	38.3	+01.2	N 21 03.8	+00.2	313	59.6	+02.7	N 00 49.0	-00.1	357	05.1	+02.6	S 16 04.3	+00.1	22				
23	264	39.5	+01.2	N 21 04.0	+00.2	329	02.3	+02.8	N 00 48.9	-00.2	12	07.7	+02.6	S 16 04.4	+00.0	23				
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT	02	06	10	14	18	22
SD	00°1	00°1	00°1	00°1	00°1	00°1	SD	00°4	00°4	00°4	00°4	00°4	00°4	SD	00°2	00°2	00°2	00°2	00°2	00°2
HP	00°2	00°2	00°2	00°2	00°2	00°2	HP	00°0	00°0	00°0	00°0	00°0	00°0	HP	00°0	00°0	00°0	00°0	00°0	00°0
SHA	290°	290°	290°	290°	290°	290°	SHA	354°	354°	354°	354°	354°	354°	SHA	037°	037°	037°	037°	037°	037°
Greenwich Culmination Time: 05:22							Greenwich Culmination Time: 01:07							Greenwich Culmination Time: 22:11						

UT	Sun				Venus				Moon A: 54%				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 47.7 +00.3	N 04	38.6 -00.9	190 34.6 -00.5	N 10	04.8 -01.1	352 07.8 -29.2	S 05	06.0 -15.9				
01	195 48.0 +00.2	N 04	37.7 -01.0	205 34.1 -00.4	N 10	03.7 -01.1	6 38.6 -29.1	S 04	50.1 -16.0				
02	210 48.2 +00.2	N 04	36.7 -00.9	220 33.7 -00.5	N 10	02.6 -01.1	21 09.5 -29.1	S 04	34.1 -16.0				
03	225 48.4 +00.2	N 04	35.8 -01.0	235 33.2 -00.5	N 10	01.5 -01.2	35 40.4 -29.1	S 04	18.1 -16.0				
04	240 48.6 +00.2	N 04	34.8 -00.9	250 32.7 -00.4	N 10	00.3 -01.1	50 11.3 -29.0	S 04	02.1 -16.0				
05	255 48.8 +00.3	N 04	33.9 -01.0	265 32.3 -00.5	N 09	59.2 -01.1	64 42.3 -28.9	S 03	46.1 -16.0				
06	270 49.1 +00.2	N 04	32.9 -00.9	280 31.8 -00.5	N 09	58.1 -01.1	79 13.4 -28.9	S 03	30.1 -16.0				
07	285 49.3 +00.2	N 04	32.0 -01.0	295 31.3 -00.4	N 09	57.0 -01.1	93 44.5 -28.8	S 03	14.1 -16.0				
08	300 49.5 +00.2	N 04	31.0 -00.9	310 30.9 -00.5	N 09	55.9 -01.2	108 15.7 -28.8	S 02	58.1 -16.0				
09	315 49.7 +00.2	N 04	30.1 -01.0	325 30.4 -00.5	N 09	54.7 -01.1	122 46.9 -28.8	S 02	42.1 -16.0				
10	330 49.9 +00.3	N 04	29.1 -00.9	340 29.9 -00.4	N 09	53.6 -01.1	137 18.1 -28.7	S 02	26.1 -16.0				
11	345 50.2 +00.2	N 04	28.2 -01.0	355 29.5 -00.5	N 09	52.5 -01.1	151 49.4 -28.7	S 02	10.1 -16.0				
12	0 50.4 +00.2	N 04	27.2 -00.9	10 29.0 -00.5	N 09	51.4 -01.1	166 20.7 -28.6	S 01	54.1 -15.9				
13	15 50.6 +00.2	N 04	26.3 -01.0	25 28.5 -00.4	N 09	50.3 -01.2	180 52.1 -28.6	S 01	38.2 -16.0				
14	30 50.8 +00.2	N 04	25.3 -00.9	40 28.1 -00.5	N 09	49.1 -01.1	195 23.5 -28.5	S 01	22.2 -16.0				
15	45 51.0 +00.3	N 04	24.4 -01.0	55 27.6 -00.5	N 09	48.0 -01.1	209 55.0 -28.5	S 01	06.2 -15.9				
16	60 51.3 +00.2	N 04	23.4 -00.9	70 27.1 -00.4	N 09	46.9 -01.1	224 26.5 -28.4	S 00	50.3 -16.0				
17	75 51.5 +00.2	N 04	22.5 -01.0	85 26.7 -00.5	N 09	45.8 -01.2	238 58.1 -28.5	S 00	34.3 -15.9				
18	90 51.7 +00.2	N 04	21.5 -00.9	100 26.2 -00.5	N 09	44.6 -01.1	253 29.6 -28.4	S 00	18.4 -15.9				
19	105 51.9 +00.3	N 04	20.6 -01.0	115 25.7 -00.4	N 09	43.5 -01.1	268 01.2 -28.3	S 00	02.5 -15.9				
20	120 52.2 +00.2	N 04	19.6 -00.9	130 25.3 -00.5	N 09	42.4 -01.1	282 32.9 -28.3	N 00	13.4 +15.8				
21	135 52.4 +00.2	N 04	18.7 -01.0	145 24.8 -00.5	N 09	41.3 -01.2	297 04.6 -28.3	N 00	29.2 +15.9				
22	150 52.6 +00.2	N 04	17.7 -00.9	160 24.3 -00.4	N 09	40.1 -01.1	311 36.3 -28.3	N 00	45.1 +15.8				
23	165 52.8 +00.2	N 04	16.8 -01.0	175 23.9 -00.5	N 09	39.0 -01.1	326 08.0 -28.2	N 01	00.9 +15.8				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 15'9 15'9 15'9 15'9 15'9 15'9			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 16'1 16'0 16'0 16'0 15'9 15'9						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 59'0 58'9 58'7 58'6 58'5 58'4						
	SHA 191° 191° 190° 190° 190° 190°			SHA 200° 200° 200° 200° 200° 200°			SHA 001° 359° 357° 355° 353° 351°						
	Greenwich Culmination Time: 11:56			Greenwich Culmination Time: 11:18			Greenwich Culmination Time: 00:32						
UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	279 40.7 +01.2	N 21	04.2 +00.2	344 05.1 +02.7	N 00	48.7 -00.1	27 10.3 +02.6	S 16	04.4 +00.1				
01	294 41.9 +01.1	N 21	04.4 +00.2	359 07.8 +02.7	N 00	48.6 -00.1	42 12.9 +02.6	S 16	04.5 +00.0				
02	309 43.0 +01.2	N 21	04.6 +00.2	14 10.5 +02.8	N 00	48.5 -00.1	57 15.5 +02.6	S 16	04.5 +00.1				
03	324 44.2 +01.2	N 21	04.8 +00.2	29 13.3 +02.7	N 00	48.4 -00.2	72 18.1 +02.7	S 16	04.6 +00.0				
04	339 45.4 +01.2	N 21	05.0 +00.2	44 16.0 +02.8	N 00	48.2 -00.1	87 20.8 +02.6	S 16	04.6 +00.1				
05	354 46.6 +01.2	N 21	05.2 +00.3	59 18.8 +02.7	N 00	48.1 -00.1	102 23.4 +02.6	S 16	04.7 +00.0				
06	9 47.8 +01.2	N 21	05.5 +00.2	74 21.5 +02.7	N 00	48.0 -00.1	117 26.0 +02.6	S 16	04.7 +00.1				
07	24 49.0 +01.2	N 21	05.7 +00.2	89 24.2 +02.8	N 00	47.9 -00.2	132 28.6 +02.6	S 16	04.8 +00.0				
08	39 50.2 +01.1	N 21	05.9 +00.2	104 27.0 +02.7	N 00	47.7 -00.1	147 31.2 +02.6	S 16	04.8 +00.0				
09	54 51.3 +01.2	N 21	06.1 +00.2	119 29.7 +02.8	N 00	47.6 -00.1	162 33.8 +02.6	S 16	04.8 +00.1				
10	69 52.5 +01.2	N 21	06.3 +00.2	134 32.5 +02.7	N 00	47.5 -00.1	177 36.4 +02.6	S 16	04.9 +00.0				
11	84 53.7 +01.2	N 21	06.5 +00.2	149 35.2 +02.8	N 00	47.4 -00.2	192 39.0 +02.7	S 16	04.9 +00.1				
12	99 54.9 +01.2	N 21	06.7 +00.2	164 38.0 +02.7	N 00	47.2 -00.1	207 41.7 +02.6	S 16	05.0 +00.0				
13	114 56.1 +01.2	N 21	06.9 +00.2	179 40.7 +02.7	N 00	47.1 -00.1	222 44.3 +02.6	S 16	05.0 +00.1				
14	129 57.3 +01.2	N 21	07.1 +00.2	194 43.4 +02.8	N 00	47.0 -00.1	237 46.9 +02.6	S 16	05.1 +00.0				
15	144 58.5 +01.2	N 21	07.3 +00.3	209 46.2 +02.7	N 00	46.9 -00.2	252 49.5 +02.6	S 16	05.1 +00.1				
16	159 59.7 +01.2	N 21	07.6 +00.2	224 48.9 +02.8	N 00	46.7 -00.1	267 52.1 +02.6	S 16	05.2 +00.0				
17	175 00.9 +01.1	N 21	07.8 +00.2	239 51.7 +02.7	N 00	46.6 -00.1	282 54.7 +02.6	S 16	05.2 +00.1				
18	190 02.0 +01.2	N 21	08.0 +00.2	254 54.4 +02.8	N 00	46.5 -00.2	297 57.3 +02.7	S 16	05.3 +00.0				
19	205 03.2 +01.2	N 21	08.2 +00.2	269 57.2 +02.7	N 00	46.3 -00.1	312 60.0 +02.6	S 16	05.3 +00.1				
20	220 04.4 +01.2	N 21	08.4 +00.2	284 59.9 +02.8	N 00	46.2 -00.1	328 02.6 +02.6	S 16	05.4 +00.0				
21	235 05.6 +01.2	N 21	08.6 +00.2	300 02.7 +02.7	N 00	46.1 -00.1	343 05.2 +02.6	S 16	05.4 +00.1				
22	250 06.8 +01.2	N 21	08.8 +00.2	315 05.4 +02.7	N 00	46.0 -00.2	358 07.8 +02.6	S 16	05.5 +00.0				
23	265 08.0 +01.2	N 21	09.0 +00.2	330 08.1 +02.8	N 00	45.8 -00.1	13 10.4 +02.6	S 16	05.5 +00.1				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'4 00'4 00'4 00'4 00'4 00'4			SD 00'2 00'2 00'2 00'2 00'2 00'2						
	HP 00'2 00'2 00'2 00'2 00'2 00'2			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 290° 290° 289° 289° 289° 289°			SHA 354° 354° 354° 354° 354° 354°			SHA 037° 037° 037° 037° 037° 037°						
	Greenwich Culmination Time: 05:20			Greenwich Culmination Time: 01:03			Greenwich Culmination Time: 22:07						

		Sun				Venus				Moon				A: 57%						
UT	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	UT							
	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "								
00	180	53.0 +00.3	N 04 15.8	-00.9	190	23.4 -00.4	N 09 37.9	-01.2	340	39.8 -28.2	N 01 16.7	+15.8	00							
01	195	53.3 +00.2	N 04 14.9	-01.0	205	23.0 -00.5	N 09 36.7	-01.1	355	11.6 -28.2	N 01 32.5	+15.8	01							
02	210	53.5 +00.2	N 04 13.9	-00.9	220	22.5 -00.5	N 09 35.6	-01.1	9	43.4 -28.1	N 01 48.3	+15.7	02							
03	225	53.7 +00.2	N 04 13.0	-01.0	235	22.0 -00.4	N 09 34.5	-01.1	24	15.3 -28.1	N 02 04.0	+15.7	03							
04	240	53.9 +00.3	N 04 12.0	-00.9	250	21.6 -00.5	N 09 33.4	-01.2	38	47.2 -28.1	N 02 19.7	+15.7	04							
05	255	54.2 +00.2	N 04 11.1	-01.0	265	21.1 -00.5	N 09 32.2	-01.1	53	19.1 -28.1	N 02 35.4	+15.6	05							
06	270	54.4 +00.2	N 04 10.1	-00.9	280	20.6 -00.4	N 09 31.1	-01.1	67	51.0 -28.0	N 02 51.0	+15.6	06							
07	285	54.6 +00.2	N 04 09.2	-01.0	295	20.2 -00.5	N 09 30.0	-01.2	82	23.0 -28.1	N 03 06.6	+15.6	07							
08	300	54.8 +00.2	N 04 08.2	-00.9	310	19.7 -00.4	N 09 28.8	-01.1	96	54.9 -28.0	N 03 22.2	+15.6	08							
09	315	55.0 +00.3	N 04 07.3	-01.0	325	19.3 -00.5	N 09 27.7	-01.1	111	26.9 -27.9	N 03 37.8	+15.5	09							
10	330	55.3 +00.2	N 04 06.3	-01.0	340	18.8 -00.5	N 09 26.6	-01.2	125	59.0 -28.0	N 03 53.3	+15.4	10							
11	345	55.5 +00.2	N 04 05.3	-00.9	355	18.3 -00.4	N 09 25.4	-01.1	140	31.0 -28.0	N 04 08.7	+15.5	11							
12	0	55.7 +00.2	N 04 04.4	-01.0	10	17.9 -00.5	N 09 24.3	-01.1	155	03.0 -27.9	N 04 24.2	+15.4	12							
13	15	55.9 +00.2	N 04 03.4	-00.9	25	17.4 -00.4	N 09 23.2	-01.2	169	35.1 -27.9	N 04 39.6	+15.3	13							
14	30	56.1 +00.3	N 04 02.5	-01.0	40	17.0 -00.5	N 09 22.0	-01.1	184	07.2 -27.9	N 04 54.9	+15.4	14							
15	45	56.4 +00.2	N 04 01.5	-00.9	55	16.5 -00.5	N 09 20.9	-01.1	198	39.3 -27.9	N 05 10.3	+15.2	15							
16	60	56.6 +00.2	N 04 00.6	-01.0	70	16.0 -00.4	N 09 19.8	-01.2	213	11.4 -27.9	N 05 25.5	+15.3	16							
17	75	56.8 +00.2	N 03 59.6	-00.9	85	15.6 -00.5	N 09 18.6	-01.1	227	43.5 -27.9	N 05 40.8	+15.1	17							
18	90	57.0 +00.3	N 03 58.7	-01.0	100	15.1 -00.4	N 09 17.5	-01.1	242	15.6 -27.8	N 05 55.9	+15.2	18							
19	105	57.3 +00.2	N 03 57.7	-00.9	115	14.7 -00.5	N 09 16.4	-01.2	256	47.8 -27.9	N 06 11.1	+15.1	19							
20	120	57.5 +00.2	N 03 56.8	-01.0	130	14.2 -00.4	N 09 15.2	-01.1	271	19.9 -27.8	N 06 26.2	+15.0	20							
21	135	57.7 +00.2	N 03 55.8	-01.0	145	13.8 -00.5	N 09 14.1	-01.1	285	52.1 -27.9	N 06 41.2	+15.0	21							
22	150	57.9 +00.2	N 03 54.8	-00.9	160	13.3 -00.5	N 09 13.0	-01.2	300	24.2 -27.8	N 06 56.2	+15.0	22							
23	165	58.1 +00.3	N 03 53.9	-01.0	175	12.8 -00.4	N 09 11.8	-01.1	314	56.4 -27.8	N 07 11.2	+14.9	23							
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22							
SD	15'9	15'9	15'9	15'9	15'9	15'9	SD	00'1	00'1	00'1	00'1	00'1	00'1							
HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	00'1	00'1	00'1	00'1	00'1	00'1							
SHA	190°	190°	190°	189°	189°	189°	SHA	199°	199°	199°	199°	199°	198°							
Greenwich Culmination Time: 11:56							Greenwich Culmination Time: 11:18							Greenwich Culmination Time: 01:19						

		Mars				Jupiter				Saturn										
UT	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	UT							
	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "								
00	280	09.2 +01.2	N 21 09.2	+00.2	345	10.9 +02.7	N 00 45.7	-00.1	28	13.0 +02.6	S 16 05.6	+00.0	00							
01	295	10.4 +01.2	N 21 09.4	+00.2	0	13.6 +02.8	N 00 45.6	-00.1	43	15.6 +02.6	S 16 05.6	+00.1	01							
02	310	11.6 +01.2	N 21 09.6	+00.2	15	16.4 +02.7	N 00 45.5	-00.2	58	18.2 +02.7	S 16 05.7	+00.0	02							
03	325	12.8 +01.2	N 21 09.8	+00.3	30	19.1 +02.8	N 00 45.3	-00.1	73	20.9 +02.6	S 16 05.7	+00.1	03							
04	340	14.0 +01.2	N 21 10.1	+00.2	45	21.9 +02.7	N 00 45.2	-00.1	88	23.5 +02.6	S 16 05.8	+00.0	04							
05	355	15.2 +01.2	N 21 10.3	+00.2	60	24.6 +02.8	N 00 45.1	-00.1	103	26.1 +02.6	S 16 05.8	+00.1	05							
06	10	16.4 +01.2	N 21 10.5	+00.2	75	27.4 +02.7	N 00 45.0	-00.2	118	28.7 +02.6	S 16 05.9	+00.0	06							
07	25	17.6 +01.2	N 21 10.7	+00.2	90	30.1 +02.7	N 00 44.8	-00.1	133	31.3 +02.6	S 16 05.9	+00.1	07							
08	40	18.8 +01.2	N 21 10.9	+00.2	105	32.8 +02.8	N 00 44.7	-00.1	148	33.9 +02.6	S 16 06.0	+00.0	08							
09	55	20.0 +01.2	N 21 11.1	+00.2	120	35.6 +02.7	N 00 44.6	-00.1	163	36.5 +02.6	S 16 06.0	+00.0	09							
10	70	21.2 +01.2	N 21 11.3	+00.2	135	38.3 +02.8	N 00 44.5	-00.2	178	39.1 +02.6	S 16 06.0	+00.1	10							
11	85	22.4 +01.2	N 21 11.5	+00.2	150	41.1 +02.7	N 00 44.3	-00.1	193	41.7 +02.7	S 16 06.1	+00.0	11							
12	100	23.6 +01.2	N 21 11.7	+00.2	165	43.8 +02.8	N 00 44.2	-00.1	208	44.4 +02.6	S 16 06.1	+00.1	12							
13	115	24.8 +01.2	N 21 11.9	+00.2	180	46.6 +02.7	N 00 44.1	-00.2	223	47.0 +02.6	S 16 06.2	+00.0	13							
14	130	26.0 +01.2	N 21 12.1	+00.2	195	49.3 +02.8	N 00 43.9	-00.1	238	49.6 +02.6	S 16 06.2	+00.1	14							
15	145	27.2 +01.2	N 21 12.3	+00.2	210	52.1 +02.7	N 00 43.8	-00.1	253	52.2 +02.6	S 16 06.3	+00.0	15							
16	160	28.4 +01.2	N 21 12.5	+00.2	225	54.8 +02.8	N 00 43.7	-00.1	268	54.8 +02.6	S 16 06.3	+00.1	16							
17	175	29.6 +01.2	N 21 12.7	+00.2	240	57.6 +02.7	N 00 43.6	-00.2	283	57.4 +02.6	S 16 06.4	+00.0	17							
18	190	30.8 +01.2	N 21 12.9	+00.2	256	60.3 +02.8	N 00 43.4	-00.1	299	60.0 +02.6	S 16 06.4	+00.1	18							
19	205	32.0 +01.2	N 21 13.1	+00.2	271	63.1 +02.7	N 00 43.3	-00.1	314	62.6 +02.6	S 16 06.5	+00.0	19							
20	220	33.2 +01.2	N 21 13.3	+00.2	286	65.8 +02.8	N 00 43.2	-00.1	329	65.2 +02.6	S 16 06.5	+00.1	20							
21	235	34.4 +01.3	N 21 13.5	+00.2	301	68.6 +02.7	N 00 43.1	-00.2	344	67.8 +02.7	S 16 06.6	+00.0	21							
22	250	35.7 +01.2	N 21 13.7	+00.2	316	71.3 +02.7	N 00 42.9	-00.1	359	70.5 +02.6	S 16 06.6	+00.1	22							
23	265	36.9 +01.2	N 21 13.9	+00.2	331	74.0 +02.8	N 00 42.8	-00.1	14	73.1 +02.6	S 16 06.7	+00.0	23							
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22							
SD	00'1	00'1	00'1	00'1	00'1	00'1	SD	00'4	00'4	00'4	00'4	00'4	00'4							
HP	00'2	00'2	00'2	00'2	00'2	00'2	HP	00'0	00'0	00'0	00'0	00'0	00'0							
SHA	289°	289°	289°	289°	289°	289°	SHA	354°	354°	354°	354°	354°	354°							
Greenwich Culmination Time: 05:18							Greenwich Culmination Time: 00:59							Greenwich Culmination Time: 22:03						

Sun					Venus					Moon					
UT	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	UT		
	° ′		° ′		° ′		° ′		° ′		° ′				
00	180	58.4 +00.2	N 03	52.9 -00.9	190	12.4 -00.5	N 09	10.7 -01.2	329	28.6 -27.8	N 07	26.1 +14.8	00		
01	195	58.6 +00.2	N 03	52.0 -01.0	205	11.9 -00.4	N 09	09.5 -01.1	344	00.8 -27.9	N 07	40.9 +14.8	01		
02	210	58.8 +00.2	N 03	51.0 -00.9	220	11.5 -00.5	N 09	08.4 -01.1	358	32.9 -27.8	N 07	55.7 +14.7	02		
03	225	59.0 +00.3	N 03	50.1 -01.0	235	11.0 -00.4	N 09	07.3 -01.2	13	05.1 -27.8	N 08	10.4 +14.7	03		
04	240	59.3 +00.2	N 03	49.1 -00.9	250	10.6 -00.5	N 09	06.1 -01.1	27	37.3 -27.8	N 08	25.1 +14.6	04		
05	255	59.5 +00.2	N 03	48.2 -01.0	265	10.1 -00.4	N 09	05.0 -01.2	42	09.5 -27.8	N 08	39.7 +14.6	05		
06	270	59.7 +00.2	N 03	47.2 -01.0	280	09.7 -00.5	N 09	03.8 -01.1	56	41.7 -27.9	N 08	54.3 +14.5	06		
07	285	59.9 +00.3	N 03	46.2 -00.9	295	09.2 -00.5	N 09	02.7 -01.1	71	13.8 -27.8	N 09	08.8 +14.4	07		
08	301	00.2 +00.2	N 03	45.3 -01.0	310	08.7 -00.4	N 09	01.6 -01.2	85	46.0 -27.8	N 09	23.2 +14.4	08		
09	316	00.4 +00.2	N 03	44.3 -00.9	325	08.3 -00.5	N 09	00.4 -01.1	100	18.2 -27.8	N 09	37.6 +14.3	09		
10	331	00.6 +00.2	N 03	43.4 -01.0	340	07.8 -00.4	N 08	59.3 -01.2	114	50.4 -27.9	N 09	51.9 +14.3	10		
11	346	00.8 +00.2	N 03	42.4 -00.9	355	07.4 -00.5	N 08	58.1 -01.1	129	22.5 -27.8	N 10	06.2 +14.2	11		
12	1	01.0 +00.3	N 03	41.5 -01.0	10	06.9 -00.4	N 08	57.0 -01.2	143	54.7 -27.9	N 10	20.4 +14.1	12		
13	16	01.3 +00.2	N 03	40.5 -00.9	25	06.5 -00.5	N 08	55.8 -01.1	158	26.8 -27.8	N 10	34.5 +14.1	13		
14	31	01.5 +00.2	N 03	39.6 -01.0	40	06.0 -00.4	N 08	54.7 -01.2	172	59.0 -27.9	N 10	48.6 +14.0	14		
15	46	01.7 +00.2	N 03	38.6 -01.0	55	05.6 -00.5	N 08	53.5 -01.1	187	31.1 -27.9	N 11	02.6 +13.9	15		
16	61	01.9 +00.3	N 03	37.6 -00.9	70	05.1 -00.4	N 08	52.4 -01.1	202	03.2 -27.9	N 11	16.5 +13.8	16		
17	76	02.2 +00.2	N 03	36.7 -01.0	85	04.7 -00.5	N 08	51.3 -01.2	216	35.3 -27.9	N 11	30.3 +13.8	17		
18	91	02.4 +00.2	N 03	35.7 -00.9	100	04.2 -00.4	N 08	50.1 -01.1	231	07.4 -27.9	N 11	44.1 +13.8	18		
19	106	02.6 +00.2	N 03	34.8 -01.0	115	03.8 -00.5	N 08	49.0 -01.2	245	39.5 -27.9	N 11	57.9 +13.6	19		
20	121	02.8 +00.3	N 03	33.8 -01.0	130	03.3 -00.4	N 08	47.8 -01.1	260	11.6 -27.9	N 12	11.5 +13.6	20		
21	136	03.1 +00.2	N 03	32.8 -00.9	145	02.9 -00.5	N 08	46.7 -01.2	274	43.7 -28.0	N 12	25.1 +13.5	21		
22	151	03.3 +00.2	N 03	31.9 -01.0	160	02.4 -00.4	N 08	45.5 -01.1	289	15.7 -28.0	N 12	38.6 +13.4	22		
23	166	03.5 +00.2	N 03	30.9 -00.9	175	02.0 -00.5	N 08	44.4 -01.2	303	47.7 -27.9	N 12	52.0 +13.4	23		
UT 02 06 10 14 18 22 SD 15'9 15'9 15'9 15'9 15'9 15'9 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 189° 189° 189° 188° 188° 188° Greenwich Culmination Time: 11:55					UT 02 06 10 14 18 22 SD 00'1 00'1 00'1 00'1 00'1 00'1 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 198° 198° 198° 198° 197° 197° Greenwich Culmination Time: 11:19					UT 02 06 10 14 18 22 SD 15'7 15'6 15'6 15'5 15'5 15'5 HP 57'4 57'3 57'2 57'0 56'9 56'8 SHA 336° 334° 332° 330° 328° 326° Greenwich Culmination Time: 02:05					

Mars					Jupiter					Saturn					
UT	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	UT		
	° ′		° ′		° ′		° ′		° ′		° ′				
00	280	38.1 +01.2	N 21	14.1 +00.2	346	16.8 +02.7	N 00	42.7 -00.2	29	15.7 +02.6	S 16	06.7 +00.1	00		
01	295	39.3 +01.2	N 21	14.3 +00.2	1	19.5 +02.8	N 00	42.5 -00.1	44	18.3 +02.6	S 16	06.8 +00.0	01		
02	310	40.5 +01.2	N 21	14.5 +00.2	16	22.3 +02.7	N 00	42.4 -00.1	59	20.9 +02.6	S 16	06.8 +00.0	02		
03	325	41.7 +01.2	N 21	14.7 +00.3	31	25.0 +02.8	N 00	42.3 -00.1	74	23.5 +02.6	S 16	06.8 +00.1	03		
04	340	42.9 +01.2	N 21	15.0 +00.2	46	27.8 +02.7	N 00	42.2 -00.2	89	26.1 +02.6	S 16	06.9 +00.0	04		
05	355	44.1 +01.2	N 21	15.2 +00.2	61	30.5 +02.8	N 00	42.0 -00.1	104	28.7 +02.6	S 16	06.9 +00.1	05		
06	10	45.3 +01.3	N 21	15.4 +00.2	76	33.3 +02.7	N 00	41.9 -00.1	119	31.3 +02.6	S 16	07.0 +00.0	06		
07	25	46.6 +01.2	N 21	15.6 +00.2	91	36.0 +02.8	N 00	41.8 -00.2	134	33.9 +02.7	S 16	07.0 +00.1	07		
08	40	47.8 +01.2	N 21	15.8 +00.2	106	38.8 +02.7	N 00	41.6 -00.1	149	36.6 +02.6	S 16	07.1 +00.0	08		
09	55	49.0 +01.2	N 21	16.0 +00.2	121	41.5 +02.8	N 00	41.5 -00.1	164	39.2 +02.6	S 16	07.1 +00.1	09		
10	70	50.2 +01.2	N 21	16.2 +00.2	136	44.3 +02.7	N 00	41.4 -00.1	179	41.8 +02.6	S 16	07.2 +00.0	10		
11	85	51.4 +01.2	N 21	16.4 +00.2	151	47.0 +02.8	N 00	41.3 -00.2	194	44.4 +02.6	S 16	07.2 +00.1	11		
12	100	52.6 +01.2	N 21	16.6 +00.2	166	49.8 +02.7	N 00	41.1 -00.1	209	47.0 +02.6	S 16	07.3 +00.0	12		
13	115	53.8 +01.3	N 21	16.8 +00.2	181	52.5 +02.8	N 00	41.0 -00.1	224	49.6 +02.6	S 16	07.3 +00.1	13		
14	130	55.1 +01.2	N 21	17.0 +00.2	196	55.3 +02.7	N 00	40.9 -00.2	239	52.2 +02.6	S 16	07.4 +00.0	14		
15	145	56.3 +01.2	N 21	17.2 +00.2	211	58.0 +02.8	N 00	40.7 -00.1	254	54.8 +02.6	S 16	07.4 +00.0	15		
16	160	57.5 +01.2	N 21	17.4 +00.2	227	00.8 +02.7	N 00	40.6 -00.1	269	57.4 +02.6	S 16	07.4 +00.1	16		
17	175	58.7 +01.2	N 21	17.6 +00.2	242	03.5 +02.8	N 00	40.5 -00.1	285	00.0 +02.6	S 16	07.5 +00.0	17		
18	190	59.9 +01.3	N 21	17.8 +00.2	257	06.3 +02.7	N 00	40.4 -00.2	300	02.6 +02.6	S 16	07.5 +00.1	18		
19	206	01.2 +01.2	N 21	18.0 +00.2	272	09.0 +02.8	N 00	40.2 -00.1	315	05.2 +02.7	S 16	07.6 +00.0	19		
20	221	02.4 +01.2	N 21	18.2 +00.2	287	11.8 +02.7	N 00	40.1 -00.1	330	07.9 +02.6	S 16	07.6 +00.1	20		
21	236	03.6 +01.2	N 21	18.4 +00.1	302	14.5 +02.8	N 00	40.0 -00.1	345	10.5 +02.6	S 16	07.7 +00.0	21		
22	251	04.8 +01.3	N 21	18.5 +00.2	317	17.3 +02.7	N 00	39.9 -00.2	0	13.1 +02.6	S 16	07.7 +00.1	22		
23	266	06.1 +01.2	N 21	18.7 +00.2	332	20.0 +02.8	N 00	39.7 -00.1	15	15.7 +02.6	S 16	07.8 +00.0	23		
UT 02 06 10 14 18 22 SD 00'1 00'1 00'1 00'1 00'1 00'1 HP 00'2 00'2 00'2 00'2 00'2 00'2 SHA 289° 289° 288° 288° 288° 288° Greenwich Culmination Time: 05:17					UT 02 06 10 14 18 22 SD 00'4 00'4 00'4 00'4 00'4 00'4 HP 00'0 00'0 00'0 00'0 00'0 00'0 SHA 354° 354° 354° 354° 354° 354° Greenwich Culmination Time: 00:54					UT 02 06 10 14 18 22 SD 00'2 00'2 00'2 00'2 00'2 00'2 HP 00'0 00'0 00'0 00'0 00'0 00'0 SHA 037° 037° 037° 037° 037° 037° Greenwich Culmination Time: 21:59					

Table with 5 columns: Sun, Venus, Moon, Mars, Jupiter, Saturn. Each column contains astronomical data for 24 hours (00-23 UT). Sub-columns include GHA, ddGHA, Dec, dDec. Includes a summary row at the bottom of each section with UT 02 06 10 14 18 22 and various data points like SD, HP, SHA, and Greenwich Culmination Time.

UT	Sun				Venus				Moon				UT		
	GHA ° ' ''	ddGHA	Dec ° ' ''	dDec	GHA ° ' ''	ddGHA	Dec ° ' ''	dDec	GHA ° ' ''	ddGHA	Dec ° ' ''	dDec			
00	181 09.1 +00.2	N 03	06.9 -00.9	189 50.8 -00.4	N 08	15.5 -01.2	307 01.6 -28.6	N 18	01.2 +11.2	00					
01	196 09.3 +00.2	N 03	06.0 -01.0	204 50.4 -00.5	N 08	14.3 -01.1	321 33.0 -28.6	N 18	12.4 +11.1	01					
02	211 09.5 +00.3	N 03	05.0 -00.9	219 49.9 -00.4	N 08	13.2 -01.2	336 04.4 -28.7	N 18	23.5 +11.0	02					
03	226 09.8 +00.2	N 03	04.1 -01.0	234 49.5 -00.5	N 08	12.0 -01.1	350 35.7 -28.6	N 18	34.5 +10.9	03					
04	241 10.0 +00.2	N 03	03.1 -01.0	249 49.0 -00.4	N 08	10.9 -01.2	5 07.1 -28.8	N 18	45.4 +10.9	04					
05	256 10.2 +00.2	N 03	02.1 -00.9	264 48.6 -00.4	N 08	09.7 -01.2	19 38.3 -28.7	N 18	56.3 +10.7	05					
06	271 10.4 +00.2	N 03	01.2 -01.0	279 48.2 -00.5	N 08	08.5 -01.1	34 09.6 -28.8	N 19	07.0 +10.6	06					
07	286 10.6 +00.3	N 03	00.2 -00.9	294 47.7 -00.4	N 08	07.4 -01.2	48 40.8 -28.8	N 19	17.6 +10.5	07					
08	301 10.9 +00.2	N 02	59.3 -01.0	309 47.3 -00.5	N 08	06.2 -01.1	63 12.0 -28.9	N 19	28.1 +10.4	08					
09	316 11.1 +00.2	N 02	58.3 -01.0	324 46.8 -00.4	N 08	05.1 -01.2	77 43.1 -28.8	N 19	38.5 +10.4	09					
10	331 11.3 +00.2	N 02	57.3 -00.9	339 46.4 -00.4	N 08	03.9 -01.2	92 14.3 -29.0	N 19	48.9 +10.2	10					
11	346 11.5 +00.3	N 02	56.4 -01.0	354 46.0 -00.5	N 08	02.7 -01.1	106 45.3 -28.9	N 19	59.1 +10.1	11					
12	1 11.8 +00.2	N 02	55.4 -00.9	9 45.5 -00.4	N 08	01.6 -01.2	121 16.4 -29.0	N 20	09.2 +10.0	12					
13	16 12.0 +00.2	N 02	54.5 -01.0	24 45.1 -00.5	N 08	00.4 -01.2	135 47.4 -29.0	N 20	19.2 +09.9	13					
14	31 12.2 +00.2	N 02	53.5 -01.0	39 44.6 -00.4	N 07	59.2 -01.1	150 18.4 -29.1	N 20	29.1 +09.8	14					
15	46 12.4 +00.3	N 02	52.5 -00.9	54 44.2 -00.4	N 07	58.1 -01.2	164 49.3 -29.1	N 20	38.9 +09.7	15					
16	61 12.7 +00.2	N 02	51.6 -01.0	69 43.8 -00.5	N 07	56.9 -01.2	179 20.2 -29.1	N 20	48.6 +09.6	16					
17	76 12.9 +00.2	N 02	50.6 -01.0	84 43.3 -00.4	N 07	55.7 -01.1	193 51.1 -29.1	N 20	58.2 +09.5	17					
18	91 13.1 +00.2	N 02	49.6 -00.9	99 42.9 -00.5	N 07	54.6 -01.2	208 22.0 -29.2	N 21	07.7 +09.4	18					
19	106 13.3 +00.3	N 02	48.7 -01.0	114 42.4 -00.4	N 07	53.4 -01.2	222 52.8 -29.3	N 21	17.1 +09.3	19					
20	121 13.6 +00.2	N 02	47.7 -00.9	129 42.0 -00.4	N 07	52.2 -01.1	237 23.5 -29.2	N 21	26.4 +09.1	20					
21	136 13.8 +00.2	N 02	46.8 -01.0	144 41.6 -00.5	N 07	51.1 -01.2	251 54.3 -29.3	N 21	35.5 +09.1	21					
22	151 14.0 +00.2	N 02	45.8 -01.0	159 41.1 -00.4	N 07	49.9 -01.2	266 25.0 -29.3	N 21	44.6 +08.9	22					
23	166 14.2 +00.2	N 02	44.8 -00.9	174 40.7 -00.4	N 07	48.7 -01.1	280 55.7 -29.4	N 21	53.5 +08.8	23					
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22						UT 02 06 10 14 18 22				
	SD 15'9 15'9 15'9 15'9 15'9 15'9				SD 00'1 00'1 00'1 00'1 00'1 00'1				SD 15'2 15'2 15'2 15'1 15'1 15'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 55'9 55'8 55'7 55'5 55'4 55'3						
	SHA 187° 187° 187° 187° 187° 186°				SHA 196° 196° 195° 195° 195° 195°				SHA 312° 310° 308° 306° 304° 302°						
	Greenwich Culmination Time: 11:55				Greenwich Culmination Time: 11:20				Greenwich Culmination Time: 03:38						

UT	Mars				Jupiter				Saturn				UT		
	GHA ° ' ''	ddGHA	Dec ° ' ''	dDec	GHA ° ' ''	ddGHA	Dec ° ' ''	dDec	GHA ° ' ''	ddGHA	Dec ° ' ''	dDec			
00	281 36.8 +01.3	N 21	23.6 +00.2	348 28.8 +02.8	N 00	36.5 -00.1	31 20.8 +02.6	S 16	08.9 +00.0	00					
01	296 38.1 +01.2	N 21	23.8 +00.2	3 31.6 +02.7	N 00	36.4 -00.2	46 23.4 +02.6	S 16	08.9 +00.1	01					
02	311 39.3 +01.3	N 21	24.0 +00.2	18 34.3 +02.8	N 00	36.2 -00.1	61 26.0 +02.6	S 16	09.0 +00.0	02					
03	326 40.6 +01.2	N 21	24.2 +00.2	33 37.1 +02.8	N 00	36.1 -00.1	76 28.6 +02.6	S 16	09.0 +00.1	03					
04	341 41.8 +01.2	N 21	24.4 +00.2	48 39.9 +02.7	N 00	36.0 -00.2	91 31.2 +02.6	S 16	09.1 +00.0	04					
05	356 43.0 +01.3	N 21	24.6 +00.2	63 42.6 +02.8	N 00	35.8 -00.1	106 33.8 +02.6	S 16	09.1 +00.1	05					
06	11 44.3 +01.2	N 21	24.8 +00.2	78 45.4 +02.7	N 00	35.7 -00.1	121 36.4 +02.6	S 16	09.2 +00.0	06					
07	26 45.5 +01.3	N 21	25.0 +00.2	93 48.1 +02.8	N 00	35.6 -00.1	136 39.0 +02.7	S 16	09.2 +00.1	07					
08	41 46.8 +01.2	N 21	25.2 +00.2	108 50.9 +02.7	N 00	35.5 -00.2	151 41.7 +02.6	S 16	09.3 +00.0	08					
09	56 48.0 +01.3	N 21	25.4 +00.2	123 53.6 +02.8	N 00	35.3 -00.1	166 44.3 +02.6	S 16	09.3 +00.0	09					
10	71 49.3 +01.2	N 21	25.6 +00.1	138 56.4 +02.7	N 00	35.2 -00.1	181 46.9 +02.6	S 16	09.3 +00.1	10					
11	86 50.5 +01.2	N 21	25.7 +00.2	153 59.1 +02.8	N 00	35.1 -00.2	196 49.5 +02.6	S 16	09.4 +00.0	11					
12	101 51.7 +01.3	N 21	25.9 +00.2	169 01.9 +02.8	N 00	34.9 -00.1	211 52.1 +02.6	S 16	09.4 +00.1	12					
13	116 53.0 +01.2	N 21	26.1 +00.2	184 04.7 +02.7	N 00	34.8 -00.1	226 54.7 +02.6	S 16	09.5 +00.0	13					
14	131 54.2 +01.3	N 21	26.3 +00.2	199 07.4 +02.8	N 00	34.7 -00.2	241 57.3 +02.6	S 16	09.5 +00.1	14					
15	146 55.5 +01.2	N 21	26.5 +00.2	214 10.2 +02.7	N 00	34.5 -00.1	256 59.9 +02.6	S 16	09.6 +00.0	15					
16	161 56.7 +01.3	N 21	26.7 +00.2	229 12.9 +02.8	N 00	34.4 -00.1	272 02.5 +02.6	S 16	09.6 +00.1	16					
17	176 58.0 +01.2	N 21	26.9 +00.2	244 15.7 +02.7	N 00	34.3 -00.1	287 05.1 +02.6	S 16	09.7 +00.0	17					
18	191 59.2 +01.3	N 21	27.1 +00.2	259 18.4 +02.8	N 00	34.2 -00.2	302 07.7 +02.6	S 16	09.7 +00.0	18					
19	207 00.5 +01.2	N 21	27.3 +00.2	274 21.2 +02.7	N 00	34.0 -00.1	317 10.3 +02.6	S 16	09.7 +00.1	19					
20	222 01.7 +01.3	N 21	27.5 +00.1	289 23.9 +02.8	N 00	33.9 -00.1	332 12.9 +02.6	S 16	09.8 +00.0	20					
21	237 03.0 +01.2	N 21	27.6 +00.2	304 26.7 +02.8	N 00	33.8 -00.2	347 15.5 +02.6	S 16	09.8 +00.1	21					
22	252 04.2 +01.3	N 21	27.8 +00.2	319 29.5 +02.7	N 00	33.6 -00.1	2 18.1 +02.6	S 16	09.9 +00.0	22					
23	267 05.5 +01.3	N 21	28.0 +00.2	334 32.2 +02.8	N 00	33.5 -00.1	17 20.7 +02.6	S 16	09.9 +00.1	23					
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22					UT 02 06 10 14 18 22					
	SD 00'1 00'1 00'1 00'1 00'1 00'1				SD 00'4 00'4 00'4 00'4 00'4 00'4				SD 00'2 00'2 00'2 00'2 00'2 00'2						
	HP 00'2 00'2 00'2 00'2 00'2 00'2				HP 00'0 00'0 00'0 00'0 00'0 00'0				HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 288° 288° 287° 287° 287° 287°				SHA 355° 355° 355° 355° 355° 355°				SHA 037° 037° 037° 037° 037° 037°						
	Greenwich Culmination Time: 05:13				Greenwich Culmination Time: 00:45				Greenwich Culmination Time: 21:50						

Table for Sun, Venus, and Moon. Columns include UT, GHA, ddGHA, Dec, dDec for each celestial body. Includes summary rows for UT 02, 06, 10, 14, 18, 22 and Greenwich Culmination Time.

Table for Mars, Jupiter, and Saturn. Columns include UT, GHA, ddGHA, Dec, dDec for each celestial body. Includes summary rows for UT 02, 06, 10, 14, 18, 22 and Greenwich Culmination Time.

UT	Sun				Venus				Moon A: 73%				UT			
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec				
00	181	19.8	+00.2	N 02 20.7	-00.9	189	29.8	-00.4	N 07 19.4	-01.2	283	31.1	-30.2	N 24 59.8	+05.9	00
01	196	20.0	+00.3	N 02 19.8	-01.0	204	29.4	-00.4	N 07 18.2	-01.2	298	00.9	-30.2	N 25 05.7	+05.8	01
02	211	20.3	+00.2	N 02 18.8	-01.0	219	29.0	-00.5	N 07 17.0	-01.1	312	30.7	-30.3	N 25 11.5	+05.6	02
03	226	20.5	+00.2	N 02 17.8	-00.9	234	28.5	-00.4	N 07 15.9	-01.2	327	00.4	-30.3	N 25 17.1	+05.6	03
04	241	20.7	+00.2	N 02 16.9	-01.0	249	28.1	-00.4	N 07 14.7	-01.2	341	30.1	-30.3	N 25 22.7	+05.4	04
05	256	20.9	+00.3	N 02 15.9	-01.0	264	27.7	-00.5	N 07 13.5	-01.2	355	59.8	-30.4	N 25 28.1	+05.3	05
06	271	21.2	+00.2	N 02 14.9	-00.9	279	27.2	-00.4	N 07 12.3	-01.2	10	29.4	-30.3	N 25 33.4	+05.1	06
07	286	21.4	+00.2	N 02 14.0	-01.0	294	26.8	-00.4	N 07 11.1	-01.1	24	59.1	-30.4	N 25 38.5	+05.1	07
08	301	21.6	+00.2	N 02 13.0	-01.0	309	26.4	-00.4	N 07 10.0	-01.2	39	28.7	-30.4	N 25 43.6	+04.9	08
09	316	21.8	+00.3	N 02 12.0	-00.9	324	26.0	-00.5	N 07 08.8	-01.2	53	58.3	-30.5	N 25 48.5	+04.7	09
10	331	22.1	+00.2	N 02 11.1	-01.0	339	25.5	-00.4	N 07 07.6	-01.2	68	27.8	-30.5	N 25 53.2	+04.7	10
11	346	22.3	+00.2	N 02 10.1	-01.0	354	25.1	-00.4	N 07 06.4	-01.2	82	57.3	-30.5	N 25 57.9	+04.5	11
12	1	22.5	+00.2	N 02 09.1	-00.9	9	24.7	-00.5	N 07 05.2	-01.2	97	26.8	-30.5	N 26 02.4	+04.4	12
13	16	22.7	+00.2	N 02 08.2	-01.0	24	24.2	-00.4	N 07 04.0	-01.1	111	56.3	-30.5	N 26 06.8	+04.3	13
14	31	22.9	+00.3	N 02 07.2	-01.0	39	23.8	-00.4	N 07 02.9	-01.2	126	25.8	-30.6	N 26 11.1	+04.1	14
15	46	23.2	+00.2	N 02 06.2	-00.9	54	23.4	-00.4	N 07 01.7	-01.2	140	55.2	-30.6	N 26 15.2	+04.0	15
16	61	23.4	+00.2	N 02 05.3	-01.0	69	23.0	-00.5	N 07 00.5	-01.2	155	24.6	-30.6	N 26 19.2	+03.9	16
17	76	23.6	+00.2	N 02 04.3	-01.0	84	22.5	-00.4	N 06 59.3	-01.2	169	54.0	-30.6	N 26 23.1	+03.8	17
18	91	23.8	+00.3	N 02 03.3	-00.9	99	22.1	-00.4	N 06 58.1	-01.2	184	23.4	-30.7	N 26 26.9	+03.6	18
19	106	24.1	+00.2	N 02 02.4	-01.0	114	21.7	-00.5	N 06 56.9	-01.1	198	52.7	-30.6	N 26 30.5	+03.5	19
20	121	24.3	+00.2	N 02 01.4	-01.0	129	21.2	-00.4	N 06 55.8	-01.2	213	22.1	-30.7	N 26 34.0	+03.4	20
21	136	24.5	+00.2	N 02 00.4	-00.9	144	20.8	-00.4	N 06 54.6	-01.2	227	51.4	-30.7	N 26 37.4	+03.2	21
22	151	24.7	+00.3	N 01 59.5	-01.0	159	20.4	-00.4	N 06 53.4	-01.2	242	20.7	-30.7	N 26 40.6	+03.1	22
23	166	25.0	+00.2	N 01 58.5	-01.0	174	20.0	-00.5	N 06 52.2	-01.2	256	50.0	-30.7	N 26 43.7	+03.0	23
	UT 02 06 10 14 18 22					UT 02 06 10 14 18 22					UT 02 06 10 14 18 22					
	SD 15'9 15'9 15'9 15'9 15'9 15'9					SD 00'1 00'1 00'1 00'1 00'1 00'1					SD 14'9 14'9 14'9 14'9 14'8 14'8					
	HP 00'1 00'1 00'1 00'1 00'1 00'1					HP 00'1 00'1 00'1 00'1 00'1 00'1					HP 54'7 54'7 54'6 54'5 54'5 54'4					
	SHA 185° 185° 185° 185° 185° 185°					SHA 193° 193° 193° 193° 193° 193°					SHA 287° 284° 282° 280° 278° 276°					
	Greenwich Culmination Time: 11:54					Greenwich Culmination Time: 11:22					Greenwich Culmination Time: 05:16					
	Mars				Jupiter				Saturn							
UT	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	UT			
00	282	37.1	+01.2	N 21 32.7	+00.2	350	41.2	+02.7	N 00 30.2	-00.1	33	25.7	+02.6	S 16 11.0	+00.0	00
01	297	38.3	+01.3	N 21 32.9	+00.2	5	43.9	+02.8	N 00 30.1	-00.1	48	28.3	+02.6	S 16 11.0	+00.1	01
02	312	39.6	+01.3	N 21 33.1	+00.1	20	46.7	+02.7	N 00 30.0	-00.2	63	30.9	+02.6	S 16 11.1	+00.0	02
03	327	40.9	+01.2	N 21 33.2	+00.2	35	49.4	+02.8	N 00 29.8	-00.1	78	33.5	+02.6	S 16 11.1	+00.1	03
04	342	42.1	+01.3	N 21 33.4	+00.2	50	52.2	+02.8	N 00 29.7	-00.1	93	36.1	+02.6	S 16 11.2	+00.0	04
05	357	43.4	+01.3	N 21 33.6	+00.2	65	55.0	+02.7	N 00 29.6	-00.2	108	38.7	+02.6	S 16 11.2	+00.1	05
06	12	44.7	+01.3	N 21 33.8	+00.2	80	57.7	+02.8	N 00 29.4	-00.1	123	41.3	+02.6	S 16 11.3	+00.0	06
07	27	46.0	+01.2	N 21 34.0	+00.2	96	00.5	+02.7	N 00 29.3	-00.1	138	43.9	+02.6	S 16 11.3	+00.0	07
08	42	47.2	+01.3	N 21 34.2	+00.1	111	03.2	+02.8	N 00 29.2	-00.2	153	46.5	+02.6	S 16 11.3	+00.1	08
09	57	48.5	+01.3	N 21 34.3	+00.2	126	06.0	+02.8	N 00 29.0	-00.1	168	49.1	+02.6	S 16 11.4	+00.0	09
10	72	49.8	+01.3	N 21 34.5	+00.2	141	08.8	+02.7	N 00 28.9	-00.1	183	51.7	+02.6	S 16 11.4	+00.1	10
11	87	51.1	+01.2	N 21 34.7	+00.2	156	11.5	+02.8	N 00 28.8	-00.1	198	54.3	+02.6	S 16 11.5	+00.0	11
12	102	52.3	+01.3	N 21 34.9	+00.2	171	14.3	+02.7	N 00 28.7	-00.2	213	56.9	+02.6	S 16 11.5	+00.1	12
13	117	53.6	+01.3	N 21 35.1	+00.1	186	17.0	+02.8	N 00 28.5	-00.1	228	59.5	+02.6	S 16 11.6	+00.0	13
14	132	54.9	+01.3	N 21 35.2	+00.2	201	19.8	+02.8	N 00 28.4	-00.1	244	02.1	+02.6	S 16 11.6	+00.0	14
15	147	56.2	+01.3	N 21 35.4	+00.2	216	22.6	+02.7	N 00 28.3	-00.2	259	04.7	+02.6	S 16 11.6	+00.1	15
16	162	57.5	+01.2	N 21 35.6	+00.2	231	25.3	+02.8	N 00 28.1	-00.1	274	07.3	+02.6	S 16 11.7	+00.0	16
17	177	58.7	+01.3	N 21 35.8	+00.2	246	28.1	+02.7	N 00 28.0	-00.1	289	09.9	+02.6	S 16 11.7	+00.1	17
18	193	00.0	+01.3	N 21 36.0	+00.2	261	30.8	+02.8	N 00 27.9	-00.2	304	12.5	+02.6	S 16 11.8	+00.0	18
19	208	01.3	+01.3	N 21 36.2	+00.1	276	33.6	+02.8	N 00 27.7	-00.1	319	15.1	+02.6	S 16 11.8	+00.1	19
20	223	02.6	+01.3	N 21 36.3	+00.2	291	36.4	+02.7	N 00 27.6	-00.1	334	17.7	+02.6	S 16 11.9	+00.0	20
21	238	03.9	+01.3	N 21 36.5	+00.2	306	39.1	+02.8	N 00 27.5	-00.2	349	20.3	+02.6	S 16 11.9	+00.0	21
22	253	05.2	+01.2	N 21 36.7	+00.2	321	41.9	+02.7	N 00 27.3	-00.1	4	22.9	+02.6	S 16 11.9	+00.1	22
23	268	06.4	+01.3	N 21 36.9	+00.2	336	44.6	+02.8	N 00 27.2	-00.1	19	25.5	+02.6	S 16 12.0	+00.0	23
	UT 02 06 10 14 18 22					UT 02 06 10 14 18 22					UT 02 06 10 14 18 22					
	SD 00'1 00'1 00'1 00'1 00'1 00'1					SD 00'4 00'4 00'4 00'4 00'4 00'4					SD 00'2 00'2 00'2 00'2 00'2 00'2					
	HP 00'2 00'2 00'2 00'2 00'2 00'2					HP 00'0 00'0 00'0 00'0 00'0 00'0					HP 00'0 00'0 00'0 00'0 00'0 00'0					
	SHA 287° 287° 287° 286° 286° 286°					SHA 355° 355° 355° 355° 355° 355°					SHA 038° 038° 038° 038° 038° 038°					
	Greenwich Culmination Time: 05:09					Greenwich Culmination Time: 00:37					Greenwich Culmination Time: 21:42					

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	181 25.2 +00.2		N 01 57.5 -00.9		189 19.5 -00.4		N 06 51.0 -01.2		271 19.3 -30.8		N 26 46.7 +02.8		00
01	196 25.4 +00.2		N 01 56.6 -01.0		204 19.1 -00.4		N 06 49.8 -01.2		285 48.5 -30.7		N 26 49.5 +02.8		01
02	211 25.6 +00.3		N 01 55.6 -01.0		219 18.7 -00.4		N 06 48.6 -01.2		300 17.8 -30.8		N 26 52.3 +02.6		02
03	226 25.9 +00.2		N 01 54.6 -00.9		234 18.3 -00.5		N 06 47.4 -01.1		314 47.0 -30.8		N 26 54.9 +02.4		03
04	241 26.1 +00.2		N 01 53.7 -01.0		249 17.8 -00.4		N 06 46.3 -01.2		329 16.2 -30.8		N 26 57.3 +02.3		04
05	256 26.3 +00.2		N 01 52.7 -01.0		264 17.4 -00.4		N 06 45.1 -01.2		343 45.4 -30.8		N 26 59.6 +02.2		05
06	271 26.5 +00.2		N 01 51.7 -00.9		279 17.0 -00.4		N 06 43.9 -01.2		358 14.6 -30.8		N 27 01.8 +02.1		06
07	286 26.7 +00.3		N 01 50.8 -01.0		294 16.6 -00.5		N 06 42.7 -01.2		12 43.8 -30.8		N 27 03.9 +01.9		07
08	301 27.0 +00.2		N 01 49.8 -01.0		309 16.1 -00.4		N 06 41.5 -01.2		27 13.0 -30.8		N 27 05.8 +01.8		08
09	316 27.2 +00.2		N 01 48.8 -00.9		324 15.7 -00.4		N 06 40.3 -01.2		41 42.2 -30.9		N 27 07.6 +01.7		09
10	331 27.4 +00.2		N 01 47.9 -01.0		339 15.3 -00.4		N 06 39.1 -01.2		56 11.3 -30.8		N 27 09.3 +01.5		10
11	346 27.6 +00.3		N 01 46.9 -01.0		354 14.9 -00.5		N 06 37.9 -01.2		70 40.5 -30.9		N 27 10.8 +01.5		11
12	1 27.9 +00.2		N 01 45.9 -00.9		9 14.4 -00.4		N 06 36.7 -01.2		85 09.6 -30.8		N 27 12.3 +01.2		12
13	16 28.1 +00.2		N 01 45.0 -01.0		24 14.0 -00.4		N 06 35.5 -01.1		99 38.8 -30.9		N 27 13.5 +01.2		13
14	31 28.3 +00.2		N 01 44.0 -01.0		39 13.6 -00.4		N 06 34.4 -01.2		114 07.9 -30.8		N 27 14.7 +01.0		14
15	46 28.5 +00.3		N 01 43.0 -01.0		54 13.2 -00.5		N 06 33.2 -01.2		128 37.1 -30.9		N 27 15.7 +00.9		15
16	61 28.8 +00.2		N 01 42.0 -00.9		69 12.7 -00.4		N 06 32.0 -01.2		143 06.2 -30.8		N 27 16.6 +00.7		16
17	76 29.0 +00.2		N 01 41.1 -01.0		84 12.3 -00.4		N 06 30.8 -01.2		157 35.4 -30.9		N 27 17.3 +00.6		17
18	91 29.2 +00.2		N 01 40.1 -01.0		99 11.9 -00.4		N 06 29.6 -01.2		172 04.5 -30.9		N 27 17.9 +00.5		18
19	106 29.4 +00.2		N 01 39.1 -00.9		114 11.5 -00.4		N 06 28.4 -01.2		186 33.6 -30.8		N 27 18.4 +00.4		19
20	121 29.6 +00.3		N 01 38.2 -01.0		129 11.1 -00.5		N 06 27.2 -01.2		201 02.8 -30.9		N 27 18.8 +00.2		20
21	136 29.9 +00.2		N 01 37.2 -01.0		144 10.6 -00.4		N 06 26.0 -01.2		215 31.9 -30.8		N 27 19.0 +00.1		21
22	151 30.1 +00.2		N 01 36.2 -00.9		159 10.2 -00.4		N 06 24.8 -01.2		230 01.1 -30.9		N 27 19.1 -00.1		22
23	166 30.3 +00.2		N 01 35.3 -01.0		174 09.8 -00.4		N 06 23.6 -01.2		244 30.2 -30.8		N 27 19.0 -00.1		23
UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22					
SD 15'9 15'9 15'9 15'9 15'9 15'9				SD 00'1 00'1 00'1 00'1 00'1 00'1				SD 14'8 14'8 14'8 14'8 14'8 14'8					
HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 54'4 54'3 54'3 54'3 54'2 54'2					
SHA 184° 184° 184° 184° 184° 184°				SHA 192° 192° 192° 192° 192° 191°				SHA 273° 271° 269° 267° 264° 262°					
Greenwich Culmination Time: 11:54				Greenwich Culmination Time: 11:23				Greenwich Culmination Time: 06:07					

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	283 07.7 +01.3		N 21 37.1 +00.1		351 47.4 +02.8		N 00 27.1 -00.2		34 28.1 +02.5		S 16 12.0 +00.1		00
01	298 09.0 +01.3		N 21 37.2 +00.2		6 50.2 +02.7		N 00 26.9 -00.1		49 30.6 +02.6		S 16 12.1 +00.0		01
02	313 10.3 +01.3		N 21 37.4 +00.2		21 52.9 +02.8		N 00 26.8 -00.1		64 33.2 +02.6		S 16 12.1 +00.0		02
03	328 11.6 +01.3		N 21 37.6 +00.2		36 55.7 +02.8		N 00 26.7 -00.2		79 35.8 +02.6		S 16 12.1 +00.1		03
04	343 12.9 +01.3		N 21 37.8 +00.2		51 58.5 +02.7		N 00 26.5 -00.1		94 38.4 +02.6		S 16 12.2 +00.0		04
05	358 14.2 +01.3		N 21 38.0 +00.1		67 01.2 +02.8		N 00 26.4 -00.1		109 41.0 +02.6		S 16 12.2 +00.1		05
06	13 15.5 +01.3		N 21 38.1 +00.2		82 04.0 +02.7		N 00 26.3 -00.1		124 43.6 +02.6		S 16 12.3 +00.0		06
07	28 16.8 +01.2		N 21 38.3 +00.2		97 06.7 +02.8		N 00 26.2 -00.2		139 46.2 +02.6		S 16 12.3 +00.1		07
08	43 18.0 +01.3		N 21 38.5 +00.2		112 09.5 +02.8		N 00 26.0 -00.1		154 48.8 +02.6		S 16 12.4 +00.0		08
09	58 19.3 +01.3		N 21 38.7 +00.1		127 12.3 +02.7		N 00 25.9 -00.1		169 51.4 +02.6		S 16 12.4 +00.0		09
10	73 20.6 +01.3		N 21 38.8 +00.2		142 15.0 +02.8		N 00 25.8 -00.2		184 54.0 +02.6		S 16 12.4 +00.1		10
11	88 21.9 +01.3		N 21 39.0 +00.2		157 17.8 +02.7		N 00 25.6 -00.1		199 56.6 +02.6		S 16 12.5 +00.0		11
12	103 23.2 +01.3		N 21 39.2 +00.2		172 20.5 +02.8		N 00 25.5 -00.1		214 59.2 +02.6		S 16 12.5 +00.1		12
13	118 24.5 +01.3		N 21 39.4 +00.2		187 23.3 +02.8		N 00 25.4 -00.2		230 01.8 +02.6		S 16 12.6 +00.0		13
14	133 25.8 +01.3		N 21 39.6 +00.1		202 26.1 +02.7		N 00 25.2 -00.1		245 04.4 +02.6		S 16 12.6 +00.0		14
15	148 27.1 +01.3		N 21 39.7 +00.2		217 28.8 +02.8		N 00 25.1 -00.1		260 07.0 +02.6		S 16 12.6 +00.1		15
16	163 28.4 +01.3		N 21 39.9 +00.2		232 31.6 +02.8		N 00 25.0 -00.2		275 09.6 +02.6		S 16 12.7 +00.0		16
17	178 29.7 +01.3		N 21 40.1 +00.2		247 34.4 +02.7		N 00 24.8 -00.1		290 12.2 +02.6		S 16 12.7 +00.1		17
18	193 31.0 +01.3		N 21 40.3 +00.1		262 37.1 +02.8		N 00 24.7 -00.1		305 14.8 +02.6		S 16 12.8 +00.0		18
19	208 32.3 +01.3		N 21 40.4 +00.2		277 39.9 +02.7		N 00 24.6 -00.2		320 17.4 +02.6		S 16 12.8 +00.0		19
20	223 33.6 +01.3		N 21 40.6 +00.2		292 42.6 +02.8		N 00 24.4 -00.1		335 20.0 +02.5		S 16 12.8 +00.1		20
21	238 34.9 +01.3		N 21 40.8 +00.2		307 45.4 +02.8		N 00 24.3 -00.1		350 22.5 +02.6		S 16 12.9 +00.0		21
22	253 36.2 +01.3		N 21 41.0 +00.1		322 48.2 +02.7		N 00 24.2 -00.2		5 25.1 +02.6		S 16 12.9 +00.1		22
23	268 37.5 +01.3		N 21 41.1 +00.2		337 50.9 +02.8		N 00 24.0 -00.1		20 27.7 +02.6		S 16 13.0 +00.0		23
UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22					
SD 00'1 00'1 00'1 00'1 00'1 00'1				SD 00'4 00'4 00'4 00'4 00'4 00'4				SD 00'2 00'2 00'2 00'2 00'2 00'2					
HP 00'2 00'2 00'2 00'2 00'2 00'2				HP 00'0 00'0 00'0 00'0 00'0 00'0				HP 00'0 00'0 00'0 00'0 00'0 00'0					
SHA 286° 286° 286° 286° 286° 286°				SHA 355° 355° 355° 355° 355° 355°				SHA 038° 038° 038° 038° 038° 038°					
Greenwich Culmination Time: 05:07				Greenwich Culmination Time: 00:32				Greenwich Culmination Time: 21:38					

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	181 30.5 +00.3	N 01 34.3 -01.0	189 09.4 -00.5	N 06 22.4 -01.2	258 59.4 -30.8	N 27 18.9 -00.3	00						
01	196 30.8 +00.2	N 01 33.3 -00.9	204 08.9 -00.4	N 06 21.2 -01.2	273 28.6 -30.8	N 27 18.6 -00.5	01						
02	211 31.0 +00.2	N 01 32.4 -01.0	219 08.5 -00.4	N 06 20.0 -01.2	287 57.8 -30.9	N 27 18.1 -00.5	02						
03	226 31.2 +00.2	N 01 31.4 -01.0	234 08.1 -00.4	N 06 18.8 -01.2	302 26.9 -30.8	N 27 17.6 -00.7	03						
04	241 31.4 +00.3	N 01 30.4 -00.9	249 07.7 -00.4	N 06 17.6 -01.2	316 56.1 -30.8	N 27 16.9 -00.9	04						
05	256 31.7 +00.2	N 01 29.5 -01.0	264 07.3 -00.5	N 06 16.4 -01.2	331 25.3 -30.8	N 27 16.0 -00.9	05						
06	271 31.9 +00.2	N 01 28.5 -01.0	279 06.8 -00.4	N 06 15.2 -01.1	345 54.5 -30.7	N 27 15.1 -01.1	06						
07	286 32.1 +00.2	N 01 27.5 -01.0	294 06.4 -00.4	N 06 14.1 -01.2	0 23.8 -30.8	N 27 14.0 -01.2	07						
08	301 32.3 +00.2	N 01 26.5 -00.9	309 06.0 -00.4	N 06 12.9 -01.2	14 53.0 -30.7	N 27 12.8 -01.4	08						
09	316 32.5 +00.3	N 01 25.6 -01.0	324 05.6 -00.4	N 06 11.7 -01.2	29 22.3 -30.8	N 27 11.4 -01.5	09						
10	331 32.8 +00.2	N 01 24.6 -01.0	339 05.2 -00.5	N 06 10.5 -01.2	43 51.5 -30.7	N 27 09.9 -01.6	10						
11	346 33.0 +00.2	N 01 23.6 -00.9	354 04.7 -00.4	N 06 09.3 -01.2	58 20.8 -30.7	N 27 08.3 -01.7	11						
12	1 33.2 +00.2	N 01 22.7 -01.0	9 04.3 -00.4	N 06 08.1 -01.2	72 50.1 -30.7	N 27 06.6 -01.9	12						
13	16 33.4 +00.3	N 01 21.7 -01.0	24 03.9 -00.4	N 06 06.9 -01.2	87 19.4 -30.6	N 27 04.7 -02.0	13						
14	31 33.7 +00.2	N 01 20.7 -00.9	39 03.5 -00.4	N 06 05.7 -01.2	101 48.8 -30.7	N 27 02.7 -02.1	14						
15	46 33.9 +00.2	N 01 19.8 -01.0	54 03.1 -00.4	N 06 04.5 -01.2	116 18.1 -30.6	N 27 00.6 -02.3	15						
16	61 34.1 +00.2	N 01 18.8 -01.0	69 02.7 -00.5	N 06 03.3 -01.2	130 47.5 -30.6	N 26 58.3 -02.4	16						
17	76 34.3 +00.2	N 01 17.8 -01.0	84 02.2 -00.4	N 06 02.1 -01.2	145 16.9 -30.6	N 26 55.9 -02.5	17						
18	91 34.5 +00.3	N 01 16.8 -00.9	99 01.8 -00.4	N 06 00.9 -01.2	159 46.3 -30.6	N 26 53.4 -02.7	18						
19	106 34.8 +00.2	N 01 15.9 -01.0	114 01.4 -00.4	N 05 59.7 -01.2	174 15.7 -30.5	N 26 50.7 -02.7	19						
20	121 35.0 +00.2	N 01 14.9 -01.0	129 01.0 -00.4	N 05 58.5 -01.2	188 45.2 -30.5	N 26 48.0 -02.9	20						
21	136 35.2 +00.2	N 01 13.9 -00.9	144 00.6 -00.5	N 05 57.3 -01.2	203 14.7 -30.5	N 26 45.1 -03.1	21						
22	151 35.4 +00.3	N 01 13.0 -01.0	159 00.1 -00.4	N 05 56.1 -01.2	217 44.2 -30.5	N 26 42.0 -03.1	22						
23	166 35.7 +00.2	N 01 12.0 -01.0	173 59.7 -00.4	N 05 54.9 -01.2	232 13.7 -30.4	N 26 38.9 -03.3	23						
UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22					
SD 15'9 15'9 15'9 15'9 15'9 15'9				SD 00'1 00'1 00'1 00'1 00'1 00'1				SD 14'8 14'8 14'8 14'8 14'8 14'8					
HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 54'2 54'2 54'2 54'2 54'2 54'2					
SHA 184° 183° 183° 183° 183° 183°				SHA 191° 191° 191° 191° 190° 190°				SHA 260° 258° 256° 253° 251° 249°					
Greenwich Culmination Time: 11:53				Greenwich Culmination Time: 11:23				Greenwich Culmination Time: 06:58					
UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	283 38.8 +01.3	N 21 41.3 +00.2	352 53.7 +02.8	N 00 23.9 -00.1	35 30.3 +02.6	S 16 13.0 +00.1	00						
01	298 40.1 +01.3	N 21 41.5 +00.2	7 56.5 +02.7	N 00 23.8 -00.2	50 32.9 +02.6	S 16 13.1 +00.0	01						
02	313 41.4 +01.3	N 21 41.7 +00.1	22 59.2 +02.8	N 00 23.6 -00.1	65 35.5 +02.6	S 16 13.1 +00.0	02						
03	328 42.7 +01.3	N 21 41.8 +00.2	38 02.0 +02.8	N 00 23.5 -00.1	80 38.1 +02.6	S 16 13.1 +00.1	03						
04	343 44.0 +01.3	N 21 42.0 +00.2	53 04.8 +02.7	N 00 23.4 -00.2	95 40.7 +02.6	S 16 13.2 +00.0	04						
05	358 45.3 +01.3	N 21 42.2 +00.2	68 07.5 +02.8	N 00 23.2 -00.1	110 43.3 +02.6	S 16 13.2 +00.1	05						
06	13 46.6 +01.3	N 21 42.4 +00.1	83 10.3 +02.7	N 00 23.1 -00.1	125 45.9 +02.6	S 16 13.3 +00.0	06						
07	28 47.9 +01.4	N 21 42.5 +00.2	98 13.0 +02.8	N 00 23.0 -00.2	140 48.5 +02.6	S 16 13.3 +00.0	07						
08	43 49.3 +01.3	N 21 42.7 +00.2	113 15.8 +02.8	N 00 22.8 -00.1	155 51.1 +02.6	S 16 13.3 +00.1	08						
09	58 50.6 +01.3	N 21 42.9 +00.2	128 18.6 +02.7	N 00 22.7 -00.1	170 53.7 +02.6	S 16 13.4 +00.0	09						
10	73 51.9 +01.3	N 21 43.1 +00.1	143 21.3 +02.8	N 00 22.6 -00.2	185 56.3 +02.5	S 16 13.4 +00.1	10						
11	88 53.2 +01.3	N 21 43.2 +00.2	158 24.1 +02.8	N 00 22.4 -00.1	200 58.8 +02.6	S 16 13.5 +00.0	11						
12	103 54.5 +01.3	N 21 43.4 +00.2	173 26.9 +02.7	N 00 22.3 -00.1	216 01.4 +02.6	S 16 13.5 +00.0	12						
13	118 55.8 +01.3	N 21 43.6 +00.2	188 29.6 +02.8	N 00 22.2 -00.2	231 04.0 +02.6	S 16 13.5 +00.1	13						
14	133 57.1 +01.3	N 21 43.8 +00.1	203 32.4 +02.8	N 00 22.0 -00.1	246 06.6 +02.6	S 16 13.6 +00.0	14						
15	148 58.4 +01.3	N 21 43.9 +00.2	218 35.2 +02.7	N 00 21.9 -00.1	261 09.2 +02.6	S 16 13.6 +00.1	15						
16	163 59.7 +01.4	N 21 44.1 +00.2	233 37.9 +02.8	N 00 21.8 -00.2	276 11.8 +02.6	S 16 13.7 +00.0	16						
17	179 01.1 +01.3	N 21 44.3 +00.1	248 40.7 +02.8	N 00 21.6 -00.1	291 14.4 +02.6	S 16 13.7 +00.0	17						
18	194 02.4 +01.3	N 21 44.4 +00.2	263 43.5 +02.7	N 00 21.5 -00.1	306 17.0 +02.6	S 16 13.7 +00.1	18						
19	209 03.7 +01.3	N 21 44.6 +00.2	278 46.2 +02.8	N 00 21.4 -00.2	321 19.6 +02.6	S 16 13.8 +00.0	19						
20	224 05.0 +01.3	N 21 44.8 +00.2	293 49.0 +02.8	N 00 21.2 -00.1	336 22.2 +02.6	S 16 13.8 +00.1	20						
21	239 06.3 +01.3	N 21 45.0 +00.1	308 51.8 +02.7	N 00 21.1 -00.1	351 24.8 +02.6	S 16 13.9 +00.0	21						
22	254 07.6 +01.4	N 21 45.1 +00.2	323 54.5 +02.8	N 00 21.0 -00.2	6 27.4 +02.5	S 16 13.9 +00.0	22						
23	269 09.0 +01.3	N 21 45.3 +00.2	338 57.3 +02.7	N 00 20.8 -00.1	21 29.9 +02.6	S 16 13.9 +00.1	23						
UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22					
SD 00'1 00'1 00'1 00'1 00'1 00'1				SD 00'4 00'4 00'4 00'4 00'4 00'4				SD 00'2 00'2 00'2 00'2 00'2 00'2					
HP 00'2 00'2 00'2 00'2 00'2 00'2				HP 00'0 00'0 00'0 00'0 00'0 00'0				HP 00'0 00'0 00'0 00'0 00'0 00'0					
SHA 286° 286° 286° 285° 285° 285°				SHA 355° 355° 355° 355° 355° 355°				SHA 038° 038° 038° 038° 038° 038°					
Greenwich Culmination Time: 05:04				Greenwich Culmination Time: 00:28				Greenwich Culmination Time: 21:34					

UT	Sun				Venus				Moon A: 83%				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	
00	181 35.9 +00.2	N 01 11.0 -00.9	188 59.3 -00.4	N 05 53.7 -01.2	246 43.3 -30.4	N 26 35.6 -03.4	00						
01	196 36.1 +00.2	N 01 10.1 -01.0	203 58.9 -00.4	N 05 52.5 -01.3	261 12.9 -30.4	N 26 32.2 -03.6	01						
02	211 36.3 +00.3	N 01 09.1 -01.0	218 58.5 -00.4	N 05 51.2 -01.2	275 42.5 -30.4	N 26 28.6 -03.6	02						
03	226 36.6 +00.2	N 01 08.1 -01.0	233 58.1 -00.4	N 05 50.0 -01.2	290 12.1 -30.3	N 26 25.0 -03.8	03						
04	241 36.8 +00.2	N 01 07.1 -00.9	248 57.7 -00.5	N 05 48.8 -01.2	304 41.8 -30.3	N 26 21.2 -03.9	04						
05	256 37.0 +00.2	N 01 06.2 -01.0	263 57.2 -00.4	N 05 47.6 -01.2	319 11.5 -30.3	N 26 17.3 -04.1	05						
06	271 37.2 +00.2	N 01 05.2 -01.0	278 56.8 -00.4	N 05 46.4 -01.2	333 41.2 -30.2	N 26 13.2 -04.1	06						
07	286 37.4 +00.3	N 01 04.2 -00.9	293 56.4 -00.4	N 05 45.2 -01.2	348 11.0 -30.2	N 26 09.1 -04.3	07						
08	301 37.7 +00.2	N 01 03.3 -01.0	308 56.0 -00.4	N 05 44.0 -01.2	2 40.8 -30.2	N 26 04.8 -04.4	08						
09	316 37.9 +00.2	N 01 02.3 -01.0	323 55.6 -00.4	N 05 42.8 -01.2	17 10.6 -30.1	N 26 00.4 -04.6	09						
10	331 38.1 +00.2	N 01 01.3 -00.9	338 55.2 -00.5	N 05 41.6 -01.2	31 40.5 -30.1	N 25 55.8 -04.6	10						
11	346 38.3 +00.2	N 01 00.4 -01.0	353 54.7 -00.4	N 05 40.4 -01.2	46 10.4 -30.1	N 25 51.2 -04.8	11						
12	1 38.5 +00.3	N 00 59.4 -01.0	8 54.3 -00.4	N 05 39.2 -01.2	60 40.3 -30.0	N 25 46.4 -04.9	12						
13	16 38.8 +00.2	N 00 58.4 -01.0	23 53.9 -00.4	N 05 38.0 -01.2	75 10.3 -30.0	N 25 41.5 -05.0	13						
14	31 39.0 +00.2	N 00 57.4 -00.9	38 53.5 -00.4	N 05 36.8 -01.2	89 40.3 -30.0	N 25 36.5 -05.2	14						
15	46 39.2 +00.2	N 00 56.5 -01.0	53 53.1 -00.4	N 05 35.6 -01.2	104 10.3 -29.9	N 25 31.3 -05.3	15						
16	61 39.4 +00.3	N 00 55.5 -01.0	68 52.7 -00.4	N 05 34.4 -01.2	118 40.4 -29.9	N 25 26.0 -05.3	16						
17	76 39.7 +00.2	N 00 54.5 -00.9	83 52.3 -00.5	N 05 33.2 -01.2	133 10.5 -29.9	N 25 20.7 -05.6	17						
18	91 39.9 +00.2	N 00 53.6 -01.0	98 51.8 -00.4	N 05 32.0 -01.2	147 40.6 -29.8	N 25 15.1 -05.6	18						
19	106 40.1 +00.2	N 00 52.6 -01.0	113 51.4 -00.4	N 05 30.8 -01.3	162 10.8 -29.8	N 25 09.5 -05.7	19						
20	121 40.3 +00.2	N 00 51.6 -01.0	128 51.0 -00.4	N 05 29.5 -01.2	176 41.0 -29.7	N 25 03.8 -05.9	20						
21	136 40.5 +00.3	N 00 50.6 -00.9	143 50.6 -00.4	N 05 28.3 -01.2	191 11.3 -29.7	N 24 57.9 -06.0	21						
22	151 40.8 +00.2	N 00 49.7 -01.0	158 50.2 -00.4	N 05 27.1 -01.2	205 41.6 -29.7	N 24 51.9 -06.1	22						
23	166 41.0 +00.2	N 00 48.7 -01.0	173 49.8 -00.4	N 05 25.9 -01.2	220 11.9 -29.6	N 24 45.8 -06.2	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 15°9' 15°9' 15°9' 15°9' 15°9' 15°9'		SD 00°1' 00°1' 00°1' 00°1' 00°1' 00°1'		SD 14°8' 14°8' 14°8' 14°8' 14°8' 14°8'								
	HP 00°1' 00°1' 00°1' 00°1' 00°1' 00°1'		HP 00°1' 00°1' 00°1' 00°1' 00°1' 00°1'		HP 54°2' 54°2' 54°2' 54°3' 54°3' 54°3'								
	SHA 183° 183° 182° 182° 182° 182°		SHA 190° 190° 190° 189° 189° 189°		SHA 247° 245° 242° 240° 238° 236°								
	Greenwich Culmination Time: 11:53		Greenwich Culmination Time: 11:24		Greenwich Culmination Time: 07:48								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	
00	284 10.3 +01.3	N 21 45.5 +00.2	354 00.0 +02.8	N 00 20.7 -00.1	36 32.5 +02.6	S 16 14.0 +00.0	00						
01	299 11.6 +01.3	N 21 45.7 +00.1	9 02.8 +02.8	N 00 20.6 -00.2	51 35.1 +02.6	S 16 14.0 +00.1	01						
02	314 12.9 +01.4	N 21 45.8 +00.2	24 05.6 +02.7	N 00 20.4 -00.1	66 37.7 +02.6	S 16 14.1 +00.0	02						
03	329 14.3 +01.3	N 21 46.0 +00.2	39 08.3 +02.8	N 00 20.3 -00.1	81 40.3 +02.6	S 16 14.1 +00.0	03						
04	344 15.6 +01.3	N 21 46.2 +00.1	54 11.1 +02.8	N 00 20.2 -00.2	96 42.9 +02.6	S 16 14.1 +00.1	04						
05	359 16.9 +01.3	N 21 46.3 +00.2	69 13.9 +02.7	N 00 20.0 -00.1	111 45.5 +02.6	S 16 14.2 +00.0	05						
06	14 18.2 +01.3	N 21 46.5 +00.2	84 16.6 +02.8	N 00 19.9 -00.1	126 48.1 +02.6	S 16 14.2 +00.1	06						
07	29 19.5 +01.4	N 21 46.7 +00.1	99 19.4 +02.8	N 00 19.8 -00.1	141 50.7 +02.6	S 16 14.3 +00.0	07						
08	44 20.9 +01.3	N 21 46.8 +00.2	114 22.2 +02.7	N 00 19.7 -00.2	156 53.3 +02.5	S 16 14.3 +00.0	08						
09	59 22.2 +01.3	N 21 47.0 +00.2	129 24.9 +02.8	N 00 19.5 -00.1	171 55.8 +02.6	S 16 14.3 +00.1	09						
10	74 23.5 +01.4	N 21 47.2 +00.2	144 27.7 +02.8	N 00 19.4 -00.1	186 58.4 +02.6	S 16 14.4 +00.0	10						
11	89 24.9 +01.3	N 21 47.4 +00.1	159 30.5 +02.7	N 00 19.3 -00.2	202 01.0 +02.6	S 16 14.4 +00.0	11						
12	104 26.2 +01.3	N 21 47.5 +00.2	174 33.2 +02.8	N 00 19.1 -00.1	217 03.6 +02.6	S 16 14.4 +00.1	12						
13	119 27.5 +01.3	N 21 47.7 +00.2	189 36.0 +02.8	N 00 19.0 -00.1	232 06.2 +02.6	S 16 14.5 +00.0	13						
14	134 28.8 +01.4	N 21 47.9 +00.1	204 38.8 +02.7	N 00 18.9 -00.2	247 08.8 +02.6	S 16 14.5 +00.1	14						
15	149 30.2 +01.3	N 21 48.0 +00.2	219 41.5 +02.8	N 00 18.7 -00.1	262 11.4 +02.6	S 16 14.6 +00.0	15						
16	164 31.5 +01.3	N 21 48.2 +00.2	234 44.3 +02.8	N 00 18.6 -00.1	277 14.0 +02.5	S 16 14.6 +00.0	16						
17	179 32.8 +01.4	N 21 48.4 +00.1	249 47.1 +02.7	N 00 18.5 -00.2	292 16.5 +02.6	S 16 14.6 +00.1	17						
18	194 34.2 +01.3	N 21 48.5 +00.2	264 49.8 +02.8	N 00 18.3 -00.1	307 19.1 +02.6	S 16 14.7 +00.0	18						
19	209 35.5 +01.3	N 21 48.7 +00.2	279 52.6 +02.8	N 00 18.2 -00.1	322 21.7 +02.6	S 16 14.7 +00.1	19						
20	224 36.8 +01.4	N 21 48.9 +00.1	294 55.4 +02.7	N 00 18.1 -00.2	337 24.3 +02.6	S 16 14.8 +00.0	20						
21	239 38.2 +01.3	N 21 49.0 +00.2	309 58.1 +02.8	N 00 17.9 -00.1	352 26.9 +02.6	S 16 14.8 +00.0	21						
22	254 39.5 +01.4	N 21 49.2 +00.2	325 00.9 +02.8	N 00 17.8 -00.1	7 29.5 +02.6	S 16 14.8 +00.1	22						
23	269 40.9 +01.3	N 21 49.4 +00.1	340 03.7 +02.7	N 00 17.7 -00.2	22 32.1 +02.6	S 16 14.9 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00°1' 00°1' 00°1' 00°1' 00°1' 00°1'		SD 00°4' 00°4' 00°4' 00°4' 00°4' 00°4'		SD 00°2' 00°2' 00°2' 00°2' 00°2' 00°2'								
	HP 00°2' 00°2' 00°2' 00°2' 00°2' 00°2'		HP 00°0' 00°0' 00°0' 00°0' 00°0' 00°0'		HP 00°0' 00°0' 00°0' 00°0' 00°0' 00°0'								
	SHA 285° 285° 285° 285° 285° 285°		SHA 355° 355° 355° 355° 355° 355°		SHA 038° 038° 038° 038° 038° 038°								
	Greenwich Culmination Time: 05:02		Greenwich Culmination Time: 00:23		Greenwich Culmination Time: 21:30								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> A: 86%				UT
	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	
00	181 41.2 +00.2	N 00	47.7 -00.9	188 49.4 -00.4	N 05	24.7 -01.2	234 42.3 -29.6	N 24	39.6 -06.3	00			
01	196 41.4 +00.3	N 00	46.8 -01.0	203 49.0 -00.5	N 05	23.5 -01.2	249 12.7 -29.5	N 24	33.3 -06.5	01			
02	211 41.7 +00.2	N 00	45.8 -01.0	218 48.5 -00.4	N 05	22.3 -01.2	263 43.2 -29.5	N 24	26.8 -06.5	02			
03	226 41.9 +00.2	N 00	44.8 -01.0	233 48.1 -00.4	N 05	21.1 -01.2	278 13.7 -29.5	N 24	20.3 -06.7	03			
04	241 42.1 +00.2	N 00	43.8 -00.9	248 47.7 -00.4	N 05	19.9 -01.2	292 44.2 -29.4	N 24	13.6 -06.8	04			
05	256 42.3 +00.2	N 00	42.9 -01.0	263 47.3 -00.4	N 05	18.7 -01.3	307 14.8 -29.4	N 24	06.8 -06.9	05			
06	271 42.5 +00.3	N 00	41.9 -01.0	278 46.9 -00.4	N 05	17.4 -01.2	321 45.4 -29.3	N 23	59.9 -07.0	06			
07	286 42.8 +00.2	N 00	40.9 -00.9	293 46.5 -00.4	N 05	16.2 -01.2	336 16.1 -29.3	N 23	52.9 -07.1	07			
08	301 43.0 +00.2	N 00	40.0 -01.0	308 46.1 -00.4	N 05	15.0 -01.2	350 46.8 -29.2	N 23	45.8 -07.3	08			
09	316 43.2 +00.2	N 00	39.0 -01.0	323 45.7 -00.4	N 05	13.8 -01.2	5 17.6 -29.2	N 23	38.5 -07.3	09			
10	331 43.4 +00.2	N 00	38.0 -01.0	338 45.3 -00.5	N 05	12.6 -01.2	19 48.4 -29.2	N 23	31.2 -07.5	10			
11	346 43.6 +00.3	N 00	37.0 -00.9	353 44.8 -00.4	N 05	11.4 -01.2	34 19.2 -29.1	N 23	23.7 -07.6	11			
12	1 43.9 +00.2	N 00	36.1 -01.0	8 44.4 -00.4	N 05	10.2 -01.2	48 50.1 -29.1	N 23	16.1 -07.6	12			
13	16 44.1 +00.2	N 00	35.1 -01.0	23 44.0 -00.4	N 05	09.0 -01.3	63 21.0 -29.0	N 23	08.5 -07.8	13			
14	31 44.3 +00.2	N 00	34.1 -01.0	38 43.6 -00.4	N 05	07.7 -01.2	77 52.0 -29.0	N 23	00.7 -07.9	14			
15	46 44.5 +00.2	N 00	33.1 -00.9	53 43.2 -00.4	N 05	06.5 -01.2	92 23.0 -28.9	N 22	52.8 -08.0	15			
16	61 44.7 +00.3	N 00	32.2 -01.0	68 42.8 -00.4	N 05	05.3 -01.2	106 54.1 -28.9	N 22	44.8 -08.1	16			
17	76 45.0 +00.2	N 00	31.2 -01.0	83 42.4 -00.4	N 05	04.1 -01.2	121 25.2 -28.9	N 22	36.7 -08.3	17			
18	91 45.2 +00.2	N 00	30.2 -00.9	98 42.0 -00.4	N 05	02.9 -01.2	135 56.3 -28.8	N 22	28.4 -08.3	18			
19	106 45.4 +00.2	N 00	29.3 -01.0	113 41.6 -00.4	N 05	01.7 -01.2	150 27.5 -28.7	N 22	20.1 -08.4	19			
20	121 45.6 +00.3	N 00	28.3 -01.0	128 41.2 -00.5	N 05	00.5 -01.3	164 58.8 -28.7	N 22	11.7 -08.5	20			
21	136 45.9 +00.2	N 00	27.3 -01.0	143 40.7 -00.4	N 04	59.2 -01.2	179 30.1 -28.7	N 22	03.2 -08.7	21			
22	151 46.1 +00.2	N 00	26.3 -00.9	158 40.3 -00.4	N 04	58.0 -01.2	194 01.4 -28.6	N 21	54.5 -08.7	22			
23	166 46.3 +00.2	N 00	25.4 -01.0	173 39.9 -00.4	N 04	56.8 -01.2	208 32.8 -28.6	N 21	45.8 -08.9	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 15'9 15'9 15'9 15'9 15'9 15'9			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 14'8 14'8 14'8 14'8 14'9 14'9						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 54'3 54'4 54'4 54'5 54'5 54'6						
	SHA 182° 182° 181° 181° 181° 181°			SHA 189° 189° 188° 188° 188° 188°			SHA 234° 232° 230° 227° 225° 223°						
	Greenwich Culmination Time: 11:53			Greenwich Culmination Time: 11:25			Greenwich Culmination Time: 08:38						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	
00	284 42.2 +01.3	N 21	49.5 +00.2	355 06.4 +02.8	N 00	17.5 -00.1	37 34.7 +02.6	S 16	14.9 +00.1	00			
01	299 43.5 +01.4	N 21	49.7 +00.2	10 09.2 +02.8	N 00	17.4 -00.1	52 37.3 +02.5	S 16	15.0 +00.0	01			
02	314 44.9 +01.3	N 21	49.9 +00.1	25 12.0 +02.7	N 00	17.3 -00.2	67 39.8 +02.6	S 16	15.0 +00.0	02			
03	329 46.2 +01.3	N 21	50.0 +00.2	40 14.7 +02.8	N 00	17.1 -00.1	82 42.4 +02.6	S 16	15.0 +00.1	03			
04	344 47.5 +01.4	N 21	50.2 +00.2	55 17.5 +02.8	N 00	17.0 -00.1	97 45.0 +02.6	S 16	15.1 +00.0	04			
05	359 48.9 +01.3	N 21	50.4 +00.1	70 20.3 +02.7	N 00	16.9 -00.2	112 47.6 +02.6	S 16	15.1 +00.0	05			
06	14 50.2 +01.4	N 21	50.5 +00.2	85 23.0 +02.8	N 00	16.7 -00.1	127 50.2 +02.6	S 16	15.1 +00.1	06			
07	29 51.6 +01.3	N 21	50.7 +00.2	100 25.8 +02.8	N 00	16.6 -00.1	142 52.8 +02.6	S 16	15.2 +00.0	07			
08	44 52.9 +01.4	N 21	50.9 +00.1	115 28.6 +02.7	N 00	16.5 -00.2	157 55.4 +02.5	S 16	15.2 +00.1	08			
09	59 54.3 +01.3	N 21	51.0 +00.2	130 31.3 +02.8	N 00	16.3 -00.1	172 57.9 +02.6	S 16	15.3 +00.0	09			
10	74 55.6 +01.4	N 21	51.2 +00.2	145 34.1 +02.8	N 00	16.2 -00.1	188 00.5 +02.6	S 16	15.3 +00.0	10			
11	89 57.0 +01.3	N 21	51.4 +00.1	160 36.9 +02.7	N 00	16.1 -00.2	203 03.1 +02.6	S 16	15.3 +00.1	11			
12	104 58.3 +01.3	N 21	51.5 +00.2	175 39.6 +02.8	N 00	15.9 -00.1	218 05.7 +02.6	S 16	15.4 +00.0	12			
13	119 59.6 +01.4	N 21	51.7 +00.2	190 42.4 +02.8	N 00	15.8 -00.2	233 08.3 +02.6	S 16	15.4 +00.1	13			
14	135 01.0 +01.3	N 21	51.9 +00.1	205 45.2 +02.7	N 00	15.6 -00.1	248 10.9 +02.6	S 16	15.5 +00.0	14			
15	150 02.3 +01.4	N 21	52.0 +00.2	220 47.9 +02.8	N 00	15.5 -00.1	263 13.5 +02.5	S 16	15.5 +00.0	15			
16	165 03.7 +01.3	N 21	52.2 +00.2	235 50.7 +02.8	N 00	15.4 -00.2	278 16.0 +02.6	S 16	15.5 +00.1	16			
17	180 05.0 +01.4	N 21	52.4 +00.1	250 53.5 +02.7	N 00	15.2 -00.1	293 18.6 +02.6	S 16	15.6 +00.0	17			
18	195 06.4 +01.4	N 21	52.5 +00.2	265 56.2 +02.8	N 00	15.1 -00.1	308 21.2 +02.6	S 16	15.6 +00.0	18			
19	210 07.8 +01.3	N 21	52.7 +00.2	280 59.0 +02.8	N 00	15.0 -00.2	323 23.8 +02.6	S 16	15.6 +00.1	19			
20	225 09.1 +01.4	N 21	52.9 +00.1	296 01.8 +02.8	N 00	14.8 -00.1	338 26.4 +02.6	S 16	15.7 +00.0	20			
21	240 10.5 +01.3	N 21	53.0 +00.2	311 04.6 +02.7	N 00	14.7 -00.1	353 29.0 +02.6	S 16	15.7 +00.1	21			
22	255 11.8 +01.4	N 21	53.2 +00.2	326 07.3 +02.8	N 00	14.6 -00.2	8 31.6 +02.5	S 16	15.8 +00.0	22			
23	270 13.2 +01.3	N 21	53.4 +00.1	341 10.1 +02.8	N 00	14.4 -00.1	23 34.1 +02.6	S 16	15.8 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'4 00'4 00'4 00'4 00'4 00'4			SD 00'2 00'2 00'2 00'2 00'2 00'2						
	HP 00'2 00'2 00'2 00'2 00'2 00'2			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 285° 285° 285° 285° 285° 284°			SHA 355° 355° 355° 355° 355° 355°			SHA 038° 038° 038° 038° 038° 038°						
	Greenwich Culmination Time: 05:00			Greenwich Culmination Time: 00:19			Greenwich Culmination Time: 21:25						

UT	Sun				Venus				Moon A: 90%				UT				
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec					
00	181	46.5 +00.2	N 00	24.4 -01.0	188	39.5 -00.4	N 04	55.6 -01.2	223	04.2 -28.6	N 21	36.9 -08.9	00				
01	196	46.7 +00.3	N 00	23.4 -01.0	203	39.1 -00.4	N 04	54.4 -01.2	237	35.6 -28.5	N 21	28.0 -09.1	01				
02	211	47.0 +00.2	N 00	22.4 -00.9	218	38.7 -00.4	N 04	53.2 -01.3	252	07.1 -28.4	N 21	18.9 -09.1	02				
03	226	47.2 +00.2	N 00	21.5 -01.0	233	38.3 -00.4	N 04	51.9 -01.2	266	38.7 -28.4	N 21	09.8 -09.2	03				
04	241	47.4 +00.2	N 00	20.5 -01.0	248	37.9 -00.4	N 04	50.7 -01.2	281	10.3 -28.4	N 21	00.6 -09.4	04				
05	256	47.6 +00.2	N 00	19.5 -00.9	263	37.5 -00.4	N 04	49.5 -01.2	295	41.9 -28.3	N 20	51.2 -09.4	05				
06	271	47.8 +00.3	N 00	18.6 -01.0	278	37.1 -00.4	N 04	48.3 -01.2	310	13.6 -28.3	N 20	41.8 -09.6	06				
07	286	48.1 +00.2	N 00	17.6 -01.0	293	36.7 -00.4	N 04	47.1 -01.2	324	45.3 -28.2	N 20	32.2 -09.6	07				
08	301	48.3 +00.2	N 00	16.6 -01.0	308	36.3 -00.5	N 04	45.9 -01.3	339	17.1 -28.2	N 20	22.6 -09.7	08				
09	316	48.5 +00.2	N 00	15.6 -00.9	323	35.8 -00.4	N 04	44.6 -01.2	353	48.9 -28.1	N 20	12.9 -09.9	09				
10	331	48.7 +00.2	N 00	14.7 -01.0	338	35.4 -00.4	N 04	43.4 -01.2	8	20.8 -28.1	N 20	03.0 -09.9	10				
11	346	48.9 +00.3	N 00	13.7 -01.0	353	35.0 -00.4	N 04	42.2 -01.2	22	52.7 -28.1	N 19	53.1 -10.0	11				
12	1	49.2 +00.2	N 00	12.7 -01.0	8	34.6 -00.4	N 04	41.0 -01.2	37	24.6 -28.0	N 19	43.1 -10.1	12				
13	16	49.4 +00.2	N 00	11.7 -00.9	23	34.2 -00.4	N 04	39.8 -01.3	51	56.6 -27.9	N 19	33.0 -10.2	13				
14	31	49.6 +00.2	N 00	10.8 -01.0	38	33.8 -00.4	N 04	38.5 -01.2	66	28.7 -28.0	N 19	22.8 -10.3	14				
15	46	49.8 +00.2	N 00	09.8 -01.0	53	33.4 -00.4	N 04	37.3 -01.2	81	00.7 -27.9	N 19	12.5 -10.4	15				
16	61	50.0 +00.3	N 00	08.8 -00.9	68	33.0 -00.4	N 04	36.1 -01.2	95	32.8 -27.8	N 19	02.1 -10.5	16				
17	76	50.3 +00.2	N 00	07.9 -01.0	83	32.6 -00.4	N 04	34.9 -01.2	110	05.0 -27.8	N 18	51.6 -10.5	17				
18	91	50.5 +00.2	N 00	06.9 -01.0	98	32.2 -00.4	N 04	33.7 -01.3	124	37.2 -27.8	N 18	41.1 -10.7	18				
19	106	50.7 +00.2	N 00	05.9 -01.0	113	31.8 -00.4	N 04	32.4 -01.2	139	09.4 -27.7	N 18	30.4 -10.7	19				
20	121	50.9 +00.2	N 00	04.9 -00.9	128	31.4 -00.4	N 04	31.2 -01.2	153	41.7 -27.7	N 18	19.7 -10.8	20				
21	136	51.1 +00.3	N 00	04.0 -01.0	143	31.0 -00.4	N 04	30.0 -01.2	168	14.0 -27.6	N 18	08.9 -10.9	21				
22	151	51.4 +00.2	N 00	03.0 -01.0	158	30.6 -00.4	N 04	28.8 -01.2	182	46.4 -27.6	N 17	58.0 -11.0	22				
23	166	51.6 +00.2	N 00	02.0 -01.0	173	30.2 -00.4	N 04	27.6 -01.3	197	18.8 -27.6	N 17	47.0 -11.1	23				
	UT 02 06 10 14 18 22								UT 02 06 10 14 18 22								
	SD 15'9 15'9 15'9 15'9 15'9 15'9								SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'1 00'1 00'1 00'1 00'1 00'1								HP 00'1 00'1 00'1 00'1 00'1 00'1								
	SHA 181° 181° 181° 180° 180° 180°								SHA 188° 188° 187° 187° 187° 187°								
	Greenwich Culmination Time: 11:52								Greenwich Culmination Time: 11:25								
UT	Mars				Jupiter				Saturn				UT				
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec					
00	285	14.5 +01.4	N 21	53.5 +00.2	356	12.9 +02.7	N 00	14.3 -00.1	38	36.7 +02.6	S 16	15.8 +00.1	00				
01	300	15.9 +01.3	N 21	53.7 +00.1	11	15.6 +02.8	N 00	14.2 -00.2	53	39.3 +02.6	S 16	15.9 +00.0	01				
02	315	17.2 +01.4	N 21	53.8 +00.2	26	18.4 +02.8	N 00	14.0 -00.1	68	41.9 +02.6	S 16	15.9 +00.0	02				
03	330	18.6 +01.4	N 21	54.0 +00.2	41	21.2 +02.7	N 00	13.9 -00.1	83	44.5 +02.6	S 16	15.9 +00.1	03				
04	345	20.0 +01.3	N 21	54.2 +00.1	56	23.9 +02.8	N 00	13.8 -00.2	98	47.1 +02.5	S 16	16.0 +00.0	04				
05	0	21.3 +01.4	N 21	54.3 +00.2	71	26.7 +02.8	N 00	13.6 -00.1	113	49.6 +02.6	S 16	16.0 +00.1	05				
06	15	22.7 +01.3	N 21	54.5 +00.2	86	29.5 +02.7	N 00	13.5 -00.1	128	52.2 +02.6	S 16	16.1 +00.0	06				
07	30	24.0 +01.4	N 21	54.7 +00.1	101	32.2 +02.8	N 00	13.4 -00.2	143	54.8 +02.6	S 16	16.1 +00.0	07				
08	45	25.4 +01.4	N 21	54.8 +00.2	116	35.0 +02.8	N 00	13.2 -00.1	158	57.4 +02.6	S 16	16.1 +00.1	08				
09	60	26.8 +01.3	N 21	55.0 +00.1	131	37.8 +02.7	N 00	13.1 -00.1	173	60.0 +02.6	S 16	16.2 +00.0	09				
10	75	28.1 +01.4	N 21	55.1 +00.2	146	40.5 +02.8	N 00	13.0 -00.2	189	02.6 +02.5	S 16	16.2 +00.0	10				
11	90	29.5 +01.4	N 21	55.3 +00.2	161	43.3 +02.8	N 00	12.8 -00.1	204	05.1 +02.6	S 16	16.2 +00.1	11				
12	105	30.9 +01.3	N 21	55.5 +00.1	176	46.1 +02.7	N 00	12.7 -00.1	219	07.7 +02.6	S 16	16.3 +00.0	12				
13	120	32.2 +01.4	N 21	55.6 +00.2	191	48.8 +02.8	N 00	12.6 -00.2	234	10.3 +02.6	S 16	16.3 +00.0	13				
14	135	33.6 +01.4	N 21	55.8 +00.2	206	51.6 +02.8	N 00	12.4 -00.1	249	12.9 +02.6	S 16	16.3 +00.1	14				
15	150	35.0 +01.3	N 21	56.0 +00.1	221	54.4 +02.8	N 00	12.3 -00.1	264	15.5 +02.6	S 16	16.4 +00.0	15				
16	165	36.3 +01.4	N 21	56.1 +00.2	236	57.2 +02.7	N 00	12.2 -00.2	279	18.1 +02.5	S 16	16.4 +00.1	16				
17	180	37.7 +01.4	N 21	56.3 +00.1	251	59.9 +02.8	N 00	12.0 -00.1	294	20.6 +02.6	S 16	16.5 +00.0	17				
18	195	39.1 +01.3	N 21	56.4 +00.2	267	02.7 +02.8	N 00	11.9 -00.1	309	23.2 +02.6	S 16	16.5 +00.0	18				
19	210	40.4 +01.4	N 21	56.6 +00.2	282	05.5 +02.7	N 00	11.8 -00.2	324	25.8 +02.6	S 16	16.5 +00.1	19				
20	225	41.8 +01.4	N 21	56.8 +00.1	297	08.2 +02.8	N 00	11.6 -00.1	339	28.4 +02.6	S 16	16.6 +00.0	20				
21	240	43.2 +01.4	N 21	56.9 +00.2	312	11.0 +02.8	N 00	11.5 -00.1	354	31.0 +02.5	S 16	16.6 +00.0	21				
22	255	44.6 +01.3	N 21	57.1 +00.1	327	13.8 +02.7	N 00	11.4 -00.2	9	33.5 +02.6	S 16	16.6 +00.1	22				
23	270	45.9 +01.4	N 21	57.2 +00.2	342	16.5 +02.8	N 00	11.2 -00.1	24	36.1 +02.6	S 16	16.7 +00.0	23				
	UT 02 06 10 14 18 22								UT 02 06 10 14 18 22								
	SD 00'1 00'1 00'1 00'1 00'1 00'1								SD 00'4 00'4 00'4 00'4 00'4 00'4								
	HP 00'2 00'2 00'2 00'2 00'2 00'2								HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 284° 284° 284° 284° 284° 284°								SHA 355° 355° 355° 355° 355° 355°								
	Greenwich Culmination Time: 04:58								Greenwich Culmination Time: 00:15								

Warning: This page has been generated by a computer program. Complex computer programs usually have bugs and may produce wrong data. The data on this page is believed to be accurate but no warranty is given for its correctness. Use it only for training and exercising!

Table with columns for Sun, Venus, Moon, Mars, Jupiter, Saturn and rows for UT from 00 to 23. Includes sub-rows for UT 02, 06, 10, 14, 18, 22 and astronomical data like SD, HP, SHA, and Greenwich Culmination Time.

Table with columns for planet names (Sun, Venus, Moon, Mars, Jupiter, Saturn), UT, GHA, ddGHA, Dec, dDec, and UT. Includes sub-headers for planet names and data rows for each hour from 00 to 23. Includes a summary row at the bottom of each planet section with UT, SD, HP, and SHA values.

UT	Sun				Venus				Moon				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	182 02.2 +00.3	S 00	45.7 +01.0	188 10.5 -00.4	N 03	27.4 -01.2	190 23.8 -26.3	N 07	19.8 -14.2	00										
01	197 02.5 +00.2	S 00	46.7 +00.9	203 10.1 -00.4	N 03	26.2 -01.3	204 57.5 -26.4	N 07	05.6 -14.3	01										
02	212 02.7 +00.2	S 00	47.6 +01.0	218 09.7 -00.4	N 03	24.9 -01.2	219 31.1 -26.3	N 06	51.3 -14.3	02										
03	227 02.9 +00.2	S 00	48.6 +01.0	233 09.3 -00.4	N 03	23.7 -01.2	234 04.8 -26.4	N 06	37.0 -14.4	03										
04	242 03.1 +00.2	S 00	49.6 +01.0	248 08.9 -00.4	N 03	22.5 -01.3	248 38.4 -26.3	N 06	22.6 -14.4	04										
05	257 03.3 +00.2	S 00	50.6 +00.9	263 08.5 -00.4	N 03	21.2 -01.2	263 12.1 -26.4	N 06	08.2 -14.4	05										
06	272 03.5 +00.3	S 00	51.5 +01.0	278 08.1 -00.4	N 03	20.0 -01.2	277 45.7 -26.3	N 05	53.8 -14.5	06										
07	287 03.8 +00.2	S 00	52.5 +01.0	293 07.7 -00.4	N 03	18.8 -01.3	292 19.4 -26.4	N 05	39.3 -14.5	07										
08	302 04.0 +00.2	S 00	53.5 +01.0	308 07.3 -00.4	N 03	17.5 -01.2	306 53.0 -26.3	N 05	24.8 -14.5	08										
09	317 04.2 +00.2	S 00	54.5 +00.9	323 06.9 -00.4	N 03	16.3 -01.2	321 26.7 -26.4	N 05	10.3 -14.6	09										
10	332 04.4 +00.2	S 00	55.4 +01.0	338 06.5 -00.4	N 03	15.1 -01.3	336 00.3 -26.3	N 04	55.7 -14.6	10										
11	347 04.6 +00.2	S 00	56.4 +01.0	353 06.1 -00.4	N 03	13.8 -01.2	350 34.0 -26.4	N 04	41.1 -14.6	11										
12	2 04.8 +00.2	S 00	57.4 +01.0	8 05.7 -00.4	N 03	12.6 -01.2	5 07.6 -26.3	N 04	26.5 -14.7	12										
13	17 05.0 +00.3	S 00	58.4 +00.9	23 05.3 -00.4	N 03	11.4 -01.3	19 41.3 -26.4	N 04	11.8 -14.7	13										
14	32 05.3 +00.2	S 00	59.3 +01.0	38 04.9 -00.4	N 03	10.1 -01.2	34 14.9 -26.4	N 03	57.1 -14.8	14										
15	47 05.5 +00.2	S 01	00.3 +01.0	53 04.5 -00.4	N 03	08.9 -01.2	48 48.5 -26.4	N 03	42.3 -14.7	15										
16	62 05.7 +00.2	S 01	01.3 +00.9	68 04.1 -00.4	N 03	07.7 -01.3	63 22.1 -26.3	N 03	27.6 -14.8	16										
17	77 05.9 +00.2	S 01	02.2 +01.0	83 03.7 -00.4	N 03	06.4 -01.2	77 55.8 -26.4	N 03	12.8 -14.8	17										
18	92 06.1 +00.2	S 01	03.2 +01.0	98 03.3 -00.4	N 03	05.2 -01.3	92 29.4 -26.5	N 02	58.0 -14.9	18										
19	107 06.3 +00.3	S 01	04.2 +01.0	113 02.9 -00.4	N 03	03.9 -01.2	107 02.9 -26.4	N 02	43.1 -14.8	19										
20	122 06.6 +00.2	S 01	05.2 +00.9	128 02.5 -00.4	N 03	02.7 -01.2	121 36.5 -26.4	N 02	28.3 -14.9	20										
21	137 06.8 +00.2	S 01	06.1 +01.0	143 02.1 -00.4	N 03	01.5 -01.3	136 10.1 -26.5	N 02	13.4 -14.9	21										
22	152 07.0 +00.2	S 01	07.1 +01.0	158 01.7 -00.4	N 03	00.2 -01.2	150 43.6 -26.4	N 01	58.5 -14.9	22										
23	167 07.2 +00.2	S 01	08.1 +01.0	173 01.3 -00.4	N 02	59.0 -01.2	165 17.2 -26.5	N 01	43.6 -15.0	23										
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT						
SD	15'9	15'9	15'9	15'9	15'9	15'9	SD	00'1	00'1	00'1	00'1	00'1	00'1	SD	15'3	15'3	15'3	15'4	15'4	15'4
HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	56'1	56'2	56'3	56'4	56'5	56'5
SHA	178°	178°	178°	178°	178°	177°	SHA	184°	184°	184°	184°	184°	183°	SHA	186°	184°	182°	180°	178°	176°
Greenwich Culmination Time: 11:51							Greenwich Culmination Time: 11:27							Greenwich Culmination Time: 11:38						

UT	Mars				Jupiter				Saturn				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	286 54.2 +01.4	N 22	04.9 +00.1	359 32.3 +02.8	N 00	04.7 -00.2	41 42.4 +02.6	S 16	18.4 +00.0	00										
01	301 55.6 +01.5	N 22	05.0 +00.2	14 35.1 +02.7	N 00	04.5 -00.1	56 45.0 +02.6	S 16	18.4 +00.1	01										
02	316 57.1 +01.4	N 22	05.2 +00.2	29 37.8 +02.8	N 00	04.4 -00.1	71 47.6 +02.6	S 16	18.5 +00.0	02										
03	331 58.5 +01.4	N 22	05.4 +00.1	44 40.6 +02.8	N 00	04.3 -00.2	86 50.2 +02.5	S 16	18.5 +00.0	03										
04	346 59.9 +01.4	N 22	05.5 +00.2	59 43.4 +02.7	N 00	04.1 -00.1	101 52.7 +02.6	S 16	18.5 +00.1	04										
05	2 01.3 +01.4	N 22	05.7 +00.1	74 46.1 +02.8	N 00	04.0 -00.1	116 55.3 +02.6	S 16	18.6 +00.0	05										
06	17 02.7 +01.4	N 22	05.8 +00.2	89 48.9 +02.8	N 00	03.9 -00.2	131 57.9 +02.6	S 16	18.6 +00.0	06										
07	32 04.1 +01.5	N 22	06.0 +00.1	104 51.7 +02.7	N 00	03.7 -00.1	147 00.5 +02.5	S 16	18.6 +00.1	07										
08	47 05.6 +01.4	N 22	06.1 +00.2	119 54.4 +02.8	N 00	03.6 -00.1	162 03.0 +02.6	S 16	18.7 +00.0	08										
09	62 07.0 +01.4	N 22	06.3 +00.1	134 57.2 +02.8	N 00	03.5 -00.2	177 05.6 +02.6	S 16	18.7 +00.0	09										
10	77 08.4 +01.4	N 22	06.4 +00.2	149 60.0 +02.8	N 00	03.3 -00.1	192 08.2 +02.5	S 16	18.7 +00.1	10										
11	92 09.8 +01.5	N 22	06.6 +00.1	165 02.8 +02.7	N 00	03.2 -00.1	207 10.7 +02.6	S 16	18.8 +00.0	11										
12	107 11.3 +01.4	N 22	06.7 +00.2	180 05.5 +02.8	N 00	03.1 -00.2	222 13.3 +02.6	S 16	18.8 +00.0	12										
13	122 12.7 +01.4	N 22	06.9 +00.1	195 08.3 +02.8	N 00	02.9 -00.1	237 15.9 +02.6	S 16	18.8 +00.1	13										
14	137 14.1 +01.4	N 22	07.0 +00.2	210 11.1 +02.7	N 00	02.8 -00.1	252 18.5 +02.5	S 16	18.9 +00.0	14										
15	152 15.5 +01.5	N 22	07.2 +00.1	225 13.8 +02.8	N 00	02.7 -00.2	267 21.0 +02.6	S 16	18.9 +00.0	15										
16	167 17.0 +01.4	N 22	07.3 +00.2	240 16.6 +02.8	N 00	02.5 -00.1	282 23.6 +02.6	S 16	18.9 +00.1	16										
17	182 18.4 +01.4	N 22	07.5 +00.1	255 19.4 +02.8	N 00	02.4 -00.1	297 26.2 +02.6	S 16	19.0 +00.0	17										
18	197 19.8 +01.4	N 22	07.6 +00.2	270 22.2 +02.7	N 00	02.3 -00.2	312 28.8 +02.5	S 16	19.0 +00.0	18										
19	212 21.2 +01.5	N 22	07.8 +00.1	285 24.9 +02.8	N 00	02.1 -00.1	327 31.3 +02.6	S 16	19.0 +00.1	19										
20	227 22.7 +01.4	N 22	07.9 +00.2	300 27.7 +02.8	N 00	02.0 -00.1	342 33.9 +02.6	S 16	19.1 +00.0	20										
21	242 24.1 +01.4	N 22	08.1 +00.1	315 30.5 +02.7	N 00	01.9 -00.2	357 36.5 +02.5	S 16	19.1 +00.0	21										
22	257 25.5 +01.5	N 22	08.2 +00.2	330 33.2 +02.8	N 00	01.7 -00.1	12 39.0 +02.6	S 16	19.1 +00.1	22										
23	272 27.0 +01.4	N 22	08.4 +00.1	345 36.0 +02.8	N 00	01.6 -00.1	27 41.6 +02.6	S 16	19.2 +00.0	23										
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT						
SD	00'1	00'1	00'1	00'1	00'1	00'1	SD	00'4	00'4	00'4	00'4	00'4	00'4	SD	00'2	00'2	00'2	00'2	00'2	00'2
HP	00'2	00'2	00'2	00'2	00'2	00'2	HP	00'0	00'0	00'0	00'0	00'0	00'0	HP	00'0	00'0	00'0	00'0	00'0	00'0
SHA	283°	283°	283°	283°	283°	283°	SHA	356°	356°	356°	356°	356°	356°	SHA	038°	038°	038°	038°	038°	038°
Greenwich Culmination Time: 04:51							Greenwich Culmination Time: 00:01							Greenwich Culmination Time: 21:09						

Sun					Venus					Moon A: 02%										
UT	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	UT							
	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "								
00	182 07.4 +00.2	S 01	09.1 +00.9		188 00.9 -00.4	N 02	57.8 -01.3		179 50.7 -26.5	N 01	28.6 -15.0		00							
01	197 07.6 +00.2	S 01	10.0 +01.0		203 00.5 -00.4	N 02	56.5 -01.2		194 24.2 -26.5	N 01	13.6 -14.9		01							
02	212 07.8 +00.3	S 01	11.0 +01.0		218 00.1 -00.4	N 02	55.3 -01.3		208 57.7 -26.5	N 00	58.7 -15.1		02							
03	227 08.1 +00.2	S 01	12.0 +01.0		232 59.7 -00.4	N 02	54.0 -01.2		223 31.2 -26.6	N 00	43.6 -15.0		03							
04	242 08.3 +00.2	S 01	13.0 +00.9		247 59.3 -00.4	N 02	52.8 -01.2		238 04.6 -26.6	N 00	28.6 -15.0		04							
05	257 08.5 +00.2	S 01	13.9 +01.0		262 58.9 -00.4	N 02	51.6 -01.3		252 38.0 -26.6	N 00	13.6 -15.0		05							
06	272 08.7 +00.2	S 01	14.9 +01.0		277 58.5 -00.4	N 02	50.3 -01.2		267 11.4 -26.6	S 00	01.4 +15.1		06							
07	287 08.9 +00.2	S 01	15.9 +01.0		292 58.1 -00.4	N 02	49.1 -01.2		281 44.8 -26.6	S 00	16.5 +15.1		07							
08	302 09.1 +00.2	S 01	16.9 +00.9		307 57.7 -00.4	N 02	47.9 -01.3		296 18.2 -26.7	S 00	31.6 +15.0		08							
09	317 09.3 +00.2	S 01	17.8 +01.0		322 57.3 -00.4	N 02	46.6 -01.2		310 51.5 -26.7	S 00	46.6 +15.1		09							
10	332 09.5 +00.3	S 01	18.8 +01.0		337 56.9 -00.4	N 02	45.4 -01.3		325 24.8 -26.7	S 01	01.7 +15.1		10							
11	347 09.8 +00.2	S 01	19.8 +01.0		352 56.5 -00.4	N 02	44.1 -01.2		339 58.1 -26.8	S 01	16.8 +15.1		11							
12	2 10.0 +00.2	S 01	20.8 +00.9		7 56.1 -00.3	N 02	42.9 -01.2		354 31.3 -26.7	S 01	31.9 +15.1		12							
13	17 10.2 +00.2	S 01	21.7 +01.0		22 55.8 -00.4	N 02	41.7 -01.3		9 04.6 -26.8	S 01	47.0 +15.1		13							
14	32 10.4 +00.2	S 01	22.7 +01.0		37 55.4 -00.4	N 02	40.4 -01.2		23 37.8 -26.9	S 02	02.1 +15.2		14							
15	47 10.6 +00.2	S 01	23.7 +00.9		52 55.0 -00.4	N 02	39.2 -01.3		38 10.9 -26.9	S 02	17.3 +15.1		15							
16	62 10.8 +00.2	S 01	24.6 +01.0		67 54.6 -00.4	N 02	37.9 -01.2		52 44.0 -26.9	S 02	32.4 +15.1		16							
17	77 11.0 +00.3	S 01	25.6 +01.0		82 54.2 -00.4	N 02	36.7 -01.2		67 17.1 -26.9	S 02	47.5 +15.1		17							
18	92 11.3 +00.2	S 01	26.6 +01.0		97 53.8 -00.4	N 02	35.5 -01.3		81 50.2 -27.0	S 03	02.6 +15.1		18							
19	107 11.5 +00.2	S 01	27.6 +00.9		112 53.4 -00.4	N 02	34.2 -01.2		96 23.2 -27.0	S 03	17.7 +15.1		19							
20	122 11.7 +00.2	S 01	28.5 +01.0		127 53.0 -00.4	N 02	33.0 -01.3		110 56.2 -27.0	S 03	32.8 +15.1		20							
21	137 11.9 +00.2	S 01	29.5 +01.0		142 52.6 -00.4	N 02	31.7 -01.2		125 29.2 -27.1	S 03	47.9 +15.1		21							
22	152 12.1 +00.2	S 01	30.5 +01.0		157 52.2 -00.4	N 02	30.5 -01.2		140 02.1 -27.2	S 04	03.0 +15.1		22							
23	167 12.3 +00.2	S 01	31.5 +00.9		172 51.8 -00.4	N 02	29.3 -01.3		154 34.9 -27.1	S 04	18.1 +15.1		23							
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22							
SD	15'9	16'0	16'0	16'0	16'0	16'0	SD	00'1	00'1	00'1	00'1	00'1	00'1							
HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	00'1	00'1	00'1	00'1	00'1	00'1							
SHA	177°	177°	177°	177°	177°	177°	SHA	183°	183°	183°	183°	182°	182°							
Greenwich Culmination Time: 11:51							Greenwich Culmination Time: 11:28							Greenwich Culmination Time: 12:22						

Mars					Jupiter					Saturn										
UT	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	UT							
	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "								
00	287 28.4 +01.4	N 22	08.5 +00.2		0 38.8 +02.8	N 00	01.5 -00.2		42 44.2 +02.6	S 16	19.2 +00.0		00							
01	302 29.8 +01.5	N 22	08.7 +00.1		15 41.6 +02.7	N 00	01.3 -00.1		57 46.8 +02.5	S 16	19.2 +00.1		01							
02	317 31.3 +01.4	N 22	08.8 +00.2		30 44.3 +02.8	N 00	01.2 -00.1		72 49.3 +02.6	S 16	19.3 +00.0		02							
03	332 32.7 +01.5	N 22	09.0 +00.1		45 47.1 +02.8	N 00	01.1 -00.2		87 51.9 +02.6	S 16	19.3 +00.0		03							
04	347 34.2 +01.4	N 22	09.1 +00.2		60 49.9 +02.7	N 00	00.9 -00.1		102 54.5 +02.5	S 16	19.3 +00.1		04							
05	2 35.6 +01.4	N 22	09.3 +00.1		75 52.6 +02.8	N 00	00.8 -00.1		117 57.0 +02.6	S 16	19.4 +00.0		05							
06	17 37.0 +01.5	N 22	09.4 +00.2		90 55.4 +02.8	N 00	00.7 -00.2		132 59.6 +02.6	S 16	19.4 +00.0		06							
07	32 38.5 +01.4	N 22	09.6 +00.1		105 58.2 +02.8	N 00	00.5 -00.1		148 02.2 +02.5	S 16	19.4 +00.1		07							
08	47 39.9 +01.4	N 22	09.7 +00.2		121 01.0 +02.7	N 00	00.4 -00.1		163 04.7 +02.6	S 16	19.5 +00.0		08							
09	62 41.3 +01.5	N 22	09.9 +00.1		136 03.7 +02.8	N 00	00.3 -00.2		178 07.3 +02.6	S 16	19.5 +00.0		09							
10	77 42.8 +01.4	N 22	10.0 +00.2		151 06.5 +02.8	N 00	00.1 -00.1		193 09.9 +02.6	S 16	19.5 +00.1		10							
11	92 44.2 +01.5	N 22	10.2 +00.1		166 09.3 +02.7	S 00	00.0 -00.1		208 12.5 +02.5	S 16	19.6 +00.0		11							
12	107 45.7 +01.4	N 22	10.3 +00.1		181 12.0 +02.8	S 00	00.1 +00.2		223 15.0 +02.6	S 16	19.6 +00.0		12							
13	122 47.1 +01.5	N 22	10.4 +00.2		196 14.8 +02.8	S 00	00.3 +00.1		238 17.6 +02.6	S 16	19.6 +00.1		13							
14	137 48.6 +01.4	N 22	10.6 +00.1		211 17.6 +02.8	S 00	00.4 +00.1		253 20.2 +02.5	S 16	19.7 +00.0		14							
15	152 50.0 +01.5	N 22	10.7 +00.2		226 20.4 +02.7	S 00	00.5 +00.2		268 22.7 +02.6	S 16	19.7 +00.0		15							
16	167 51.5 +01.4	N 22	10.9 +00.1		241 23.1 +02.8	S 00	00.7 +00.1		283 25.3 +02.6	S 16	19.7 +00.1		16							
17	182 52.9 +01.5	N 22	11.0 +00.2		256 25.9 +02.8	S 00	00.8 +00.1		298 27.9 +02.5	S 16	19.8 +00.0		17							
18	197 54.4 +01.4	N 22	11.2 +00.1		271 28.7 +02.7	S 00	00.9 +00.2		313 30.4 +02.6	S 16	19.8 +00.0		18							
19	212 55.8 +01.5	N 22	11.3 +00.2		286 31.4 +02.8	S 00	01.1 +00.1		328 33.0 +02.6	S 16	19.8 +00.1		19							
20	227 57.3 +01.4	N 22	11.5 +00.1		301 34.2 +02.8	S 00	01.2 +00.1		343 35.6 +02.5	S 16	19.9 +00.0		20							
21	242 58.7 +01.5	N 22	11.6 +00.2		316 37.0 +02.8	S 00	01.3 +00.2		358 38.1 +02.6	S 16	19.9 +00.0		21							
22	258 00.2 +01.4	N 22	11.8 +00.1		331 39.8 +02.7	S 00	01.5 +00.1		13 40.7 +02.6	S 16	19.9 +00.1		22							
23	273 01.6 +01.5	N 22	11.9 +00.2		346 42.5 +02.8	S 00	01.6 +00.1		28 43.3 +02.5	S 16	20.0 +00.0		23							
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22							
SD	00'1	00'1	00'1	00'1	00'1	00'1	SD	00'4	00'4	00'4	00'4	00'4	00'4							
HP	00'2	00'2	00'2	00'2	00'2	00'2	HP	00'0	00'0	00'0	00'0	00'0	00'0							
SHA	283°	283°	283°	282°	282°	282°	SHA	356°	356°	356°	356°	356°	356°							
Greenwich Culmination Time: 04:49							Greenwich Culmination Time: 23:53							Greenwich Culmination Time: 21:05						

Warning: This page has been generated by a computer program. Complex computer programs usually have bugs and may produce wrong data. The data on this page is believed to be accurate but no warranty is given for its correctness. Use it only for training and exercising!

UT	Sun				Venus				Moon A: 05%				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	
00	182 12.5 +00.2	S 01 32.4 +01.0	187 51.4 -00.4	N 02 28.0 -01.2	169 07.8 -27.3	S 04 33.2 +15.1							
01	197 12.7 +00.3	S 01 33.4 +01.0	202 51.0 -00.4	N 02 26.8 -01.3	183 40.5 -27.2	S 04 48.3 +15.1							
02	212 13.0 +00.2	S 01 34.4 +01.0	217 50.6 -00.4	N 02 25.5 -01.2	198 13.3 -27.3	S 05 03.4 +15.0							
03	227 13.2 +00.2	S 01 35.4 +00.9	232 50.2 -00.4	N 02 24.3 -01.3	212 46.0 -27.4	S 05 18.4 +15.1							
04	242 13.4 +00.2	S 01 36.3 +01.0	247 49.8 -00.4	N 02 23.0 -01.2	227 18.6 -27.4	S 05 33.5 +15.0							
05	257 13.6 +00.2	S 01 37.3 +01.0	262 49.4 -00.4	N 02 21.8 -01.2	241 51.2 -27.4	S 05 48.5 +15.0							
06	272 13.8 +00.2	S 01 38.3 +01.0	277 49.0 -00.4	N 02 20.6 -01.3	256 23.8 -27.5	S 06 03.5 +15.0							
07	287 14.0 +00.2	S 01 39.3 +00.9	292 48.6 -00.4	N 02 19.3 -01.2	270 56.3 -27.5	S 06 18.5 +15.0							
08	302 14.2 +00.2	S 01 40.2 +01.0	307 48.2 -00.3	N 02 18.1 -01.3	285 28.8 -27.6	S 06 33.5 +15.0							
09	317 14.4 +00.3	S 01 41.2 +01.0	322 47.9 -00.4	N 02 16.8 -01.2	300 01.2 -27.7	S 06 48.5 +14.9							
10	332 14.7 +00.2	S 01 42.2 +00.9	337 47.5 -00.4	N 02 15.6 -01.3	314 33.5 -27.7	S 07 03.4 +14.9							
11	347 14.9 +00.2	S 01 43.1 +01.0	352 47.1 -00.4	N 02 14.3 -01.2	329 05.8 -27.7	S 07 18.3 +14.9							
12	2 15.1 +00.2	S 01 44.1 +01.0	7 46.7 -00.4	N 02 13.1 -01.2	343 38.1 -27.8	S 07 33.2 +14.9							
13	17 15.3 +00.2	S 01 45.1 +01.0	22 46.3 -00.4	N 02 11.9 -01.3	358 10.3 -27.9	S 07 48.1 +14.8							
14	32 15.5 +00.2	S 01 46.1 +00.9	37 45.9 -00.4	N 02 10.6 -01.2	12 42.4 -27.9	S 08 02.9 +14.9							
15	47 15.7 +00.2	S 01 47.0 +01.0	52 45.5 -00.4	N 02 09.4 -01.3	27 14.5 -28.0	S 08 17.8 +14.7							
16	62 15.9 +00.2	S 01 48.0 +01.0	67 45.1 -00.4	N 02 08.1 -01.2	41 46.5 -28.0	S 08 32.5 +14.8							
17	77 16.1 +00.2	S 01 49.0 +01.0	82 44.7 -00.4	N 02 06.9 -01.3	56 18.5 -28.1	S 08 47.3 +14.7							
18	92 16.3 +00.3	S 01 50.0 +00.9	97 44.3 -00.4	N 02 05.6 -01.2	70 50.4 -28.2	S 09 02.0 +14.7							
19	107 16.6 +00.2	S 01 50.9 +01.0	112 43.9 -00.4	N 02 04.4 -01.2	85 22.2 -28.2	S 09 16.7 +14.7							
20	122 16.8 +00.2	S 01 51.9 +01.0	127 43.5 -00.4	N 02 03.2 -01.3	99 54.0 -28.3	S 09 31.4 +14.6							
21	137 17.0 +00.2	S 01 52.9 +01.0	142 43.1 -00.4	N 02 01.9 -01.2	114 25.7 -28.3	S 09 46.0 +14.6							
22	152 17.2 +00.2	S 01 53.9 +00.9	157 42.7 -00.4	N 02 00.7 -01.3	128 57.4 -28.4	S 10 00.6 +14.6							
23	167 17.4 +00.2	S 01 54.8 +01.0	172 42.3 -00.4	N 01 59.4 -01.2	143 29.0 -28.5	S 10 15.2 +14.5							
UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22					
SD 16'0 16'0 16'0 16'0 16'0 16'0				SD 00'1 00'1 00'1 00'1 00'1 00'1				SD 15'6 15'6 15'6 15'6 15'7 15'7					
HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 57'2 57'3 57'3 57'4 57'5 57'6					
SHA 176° 176° 176° 176° 176° 176°				SHA 182° 182° 182° 181° 181° 181°				SHA 162° 160° 158° 156° 154° 152°					
Greenwich Culmination Time: 11:50				Greenwich Culmination Time: 11:28				Greenwich Culmination Time: 13:07					
<hr/>													
UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	° ' "	' "	
00	288 03.1 +01.4	N 22 12.1 +00.1	1 45.3 +02.8	S 00 01.7 +00.2	43 45.8 +02.6	S 16 20.0 +00.0							
01	303 04.5 +01.5	N 22 12.2 +00.2	16 48.1 +02.7	S 00 01.9 +00.1	58 48.4 +02.6	S 16 20.0 +00.0							
02	318 06.0 +01.4	N 22 12.4 +00.1	31 50.8 +02.8	S 00 02.0 +00.1	73 51.0 +02.5	S 16 20.0 +00.1							
03	333 07.4 +01.5	N 22 12.5 +00.1	46 53.6 +02.8	S 00 02.1 +00.2	88 53.5 +02.6	S 16 20.1 +00.0							
04	348 08.9 +01.5	N 22 12.6 +00.2	61 56.4 +02.8	S 00 02.3 +00.1	103 56.1 +02.6	S 16 20.1 +00.0							
05	3 10.4 +01.4	N 22 12.8 +00.1	76 59.2 +02.7	S 00 02.4 +00.1	118 58.7 +02.6	S 16 20.1 +00.1							
06	18 11.8 +01.5	N 22 12.9 +00.2	92 01.9 +02.8	S 00 02.5 +00.2	134 01.3 +02.5	S 16 20.2 +00.0							
07	33 13.3 +01.4	N 22 13.1 +00.1	107 04.7 +02.8	S 00 02.7 +00.1	149 03.8 +02.6	S 16 20.2 +00.0							
08	48 14.7 +01.5	N 22 13.2 +00.2	122 07.5 +02.7	S 00 02.8 +00.1	164 06.4 +02.5	S 16 20.2 +00.1							
09	63 16.2 +01.5	N 22 13.4 +00.1	137 10.2 +02.8	S 00 02.9 +00.2	179 08.9 +02.6	S 16 20.3 +00.0							
10	78 17.7 +01.4	N 22 13.5 +00.2	152 13.0 +02.8	S 00 03.1 +00.1	194 11.5 +02.6	S 16 20.3 +00.0							
11	93 19.1 +01.5	N 22 13.7 +00.1	167 15.8 +02.8	S 00 03.2 +00.1	209 14.1 +02.5	S 16 20.3 +00.1							
12	108 20.6 +01.5	N 22 13.8 +00.1	182 18.6 +02.7	S 00 03.3 +00.2	224 16.6 +02.6	S 16 20.4 +00.0							
13	123 22.1 +01.4	N 22 13.9 +00.2	197 21.3 +02.8	S 00 03.5 +00.1	239 19.2 +02.6	S 16 20.4 +00.0							
14	138 23.5 +01.5	N 22 14.1 +00.1	212 24.1 +02.8	S 00 03.6 +00.1	254 21.8 +02.5	S 16 20.4 +00.1							
15	153 25.0 +01.5	N 22 14.2 +00.2	227 26.9 +02.7	S 00 03.7 +00.2	269 24.3 +02.6	S 16 20.5 +00.0							
16	168 26.5 +01.4	N 22 14.4 +00.1	242 29.6 +02.8	S 00 03.9 +00.1	284 26.9 +02.6	S 16 20.5 +00.0							
17	183 27.9 +01.5	N 22 14.5 +00.2	257 32.4 +02.8	S 00 04.0 +00.1	299 29.5 +02.5	S 16 20.5 +00.0							
18	198 29.4 +01.5	N 22 14.7 +00.1	272 35.2 +02.8	S 00 04.1 +00.2	314 32.0 +02.6	S 16 20.5 +00.1							
19	213 30.9 +01.4	N 22 14.8 +00.2	287 38.0 +02.7	S 00 04.3 +00.1	329 34.6 +02.6	S 16 20.6 +00.0							
20	228 32.3 +01.5	N 22 15.0 +00.1	302 40.7 +02.8	S 00 04.4 +00.1	344 37.2 +02.5	S 16 20.6 +00.0							
21	243 33.8 +01.5	N 22 15.1 +00.1	317 43.5 +02.8	S 00 04.5 +00.2	359 39.7 +02.6	S 16 20.6 +00.1							
22	258 35.3 +01.5	N 22 15.2 +00.2	332 46.3 +02.7	S 00 04.7 +00.1	14 42.3 +02.6	S 16 20.7 +00.0							
23	273 36.8 +01.4	N 22 15.4 +00.1	347 49.0 +02.8	S 00 04.8 +00.1	29 44.9 +02.5	S 16 20.7 +00.0							
UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22					
SD 00'1 00'1 00'1 00'1 00'1 00'1				SD 00'4 00'4 00'4 00'4 00'4 00'4				SD 00'2 00'2 00'2 00'2 00'2 00'2					
HP 00'2 00'2 00'2 00'2 00'2 00'2				HP 00'0 00'0 00'0 00'0 00'0 00'0				HP 00'0 00'0 00'0 00'0 00'0 00'0					
SHA 282° 282° 282° 282° 282° 282°				SHA 356° 356° 356° 356° 356° 356°				SHA 038° 038° 038° 038° 038° 038°					
Greenwich Culmination Time: 04:47				Greenwich Culmination Time: 23:48				Greenwich Culmination Time: 21:01					

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	
00	182 17.6 +00.2	S 01 55.8 +01.0	187 41.9 -00.3	N 01 58.2 -01.3	158 00.5 -28.6	S 10 29.7 +14.5							
01	197 17.8 +00.2	S 01 56.8 +00.9	202 41.6 -00.4	N 01 56.9 -01.2	172 31.9 -28.6	S 10 44.2 +14.4							
02	212 18.0 +00.2	S 01 57.7 +01.0	217 41.2 -00.4	N 01 55.7 -01.3	187 03.3 -28.7	S 10 58.6 +14.4							
03	227 18.2 +00.2	S 01 58.7 +01.0	232 40.8 -00.4	N 01 54.4 -01.2	201 34.6 -28.7	S 11 13.0 +14.3							
04	242 18.4 +00.3	S 01 59.7 +01.0	247 40.4 -00.4	N 01 53.2 -01.2	216 05.9 -28.9	S 11 27.3 +14.3							
05	257 18.7 +00.2	S 02 00.7 +00.9	262 40.0 -00.4	N 01 52.0 -01.3	230 37.0 -28.9	S 11 41.6 +14.3							
06	272 18.9 +00.2	S 02 01.6 +01.0	277 39.6 -00.4	N 01 50.7 -01.2	245 08.1 -29.0	S 11 55.9 +14.2							
07	287 19.1 +00.2	S 02 02.6 +01.0	292 39.2 -00.4	N 01 49.5 -01.3	259 39.1 -29.0	S 12 10.1 +14.1							
08	302 19.3 +00.2	S 02 03.6 +01.0	307 38.8 -00.4	N 01 48.2 -01.2	274 10.1 -29.1	S 12 24.2 +14.1							
09	317 19.5 +00.2	S 02 04.6 +00.9	322 38.4 -00.4	N 01 47.0 -01.3	288 41.0 -29.2	S 12 38.3 +14.1							
10	332 19.7 +00.2	S 02 05.5 +01.0	337 38.0 -00.4	N 01 45.7 -01.2	303 11.8 -29.3	S 12 52.4 +14.0							
11	347 19.9 +00.2	S 02 06.5 +01.0	352 37.6 -00.4	N 01 44.5 -01.3	317 42.5 -29.4	S 13 06.4 +13.9							
12	2 20.1 +00.2	S 02 07.5 +00.9	7 37.2 -00.4	N 01 43.2 -01.2	332 13.1 -29.4	S 13 20.3 +13.9							
13	17 20.3 +00.2	S 02 08.4 +01.0	22 36.8 -00.4	N 01 42.0 -01.3	346 43.7 -29.5	S 13 34.2 +13.8							
14	32 20.5 +00.2	S 02 09.4 +01.0	37 36.4 -00.3	N 01 40.7 -01.2	1 14.2 -29.6	S 13 48.0 +13.7							
15	47 20.7 +00.3	S 02 10.4 +01.0	52 36.1 -00.4	N 01 39.5 -01.3	15 44.6 -29.7	S 14 01.7 +13.7							
16	62 21.0 +00.2	S 02 11.4 +00.9	67 35.7 -00.4	N 01 38.2 -01.2	30 14.9 -29.8	S 14 15.4 +13.7							
17	77 21.2 +00.2	S 02 12.3 +01.0	82 35.3 -00.4	N 01 37.0 -01.3	44 45.1 -29.8	S 14 29.1 +13.5							
18	92 21.4 +00.2	S 02 13.3 +01.0	97 34.9 -00.4	N 01 35.7 -01.2	59 15.3 -30.0	S 14 42.6 +13.5							
19	107 21.6 +00.2	S 02 14.3 +01.0	112 34.5 -00.4	N 01 34.5 -01.2	73 45.3 -30.0	S 14 56.1 +13.5							
20	122 21.8 +00.2	S 02 15.3 +00.9	127 34.1 -00.4	N 01 33.3 -01.3	88 15.3 -30.1	S 15 09.6 +13.3							
21	137 22.0 +00.2	S 02 16.2 +01.0	142 33.7 -00.4	N 01 32.0 -01.2	102 45.2 -30.2	S 15 22.9 +13.3							
22	152 22.2 +00.2	S 02 17.2 +01.0	157 33.3 -00.4	N 01 30.8 -01.3	117 15.0 -30.3	S 15 36.2 +13.2							
23	167 22.4 +00.2	S 02 18.2 +00.9	172 32.9 -00.4	N 01 29.5 -01.2	131 44.7 -30.3	S 15 49.4 +13.1							
	UT 02 06 10 14 18 22 SD 16'0 16'0 16'0 16'0 16'0 16'0 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 175° 175° 175° 175° 175° 175° Greenwich Culmination Time: 11:50	UT 02 06 10 14 18 22 SD 00'1 00'1 00'1 00'1 00'1 00'1 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 181° 181° 180° 180° 180° 180° Greenwich Culmination Time: 11:29	UT 02 06 10 14 18 22 SD 15'7 15'7 15'8 15'8 15'8 15'8 HP 57'7 57'8 57'8 57'9 58'0 58'0 SHA 150° 148° 146° 144° 142° 140° Greenwich Culmination Time: 13:54										
UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	
00	288 38.2 +01.5	N 22 15.5 +00.2	2 51.8 +02.8	S 00 04.9 +00.2	44 47.4 +02.6	S 16 20.7 +00.1							
01	303 39.7 +01.5	N 22 15.7 +00.1	17 54.6 +02.8	S 00 05.1 +00.1	59 50.0 +02.6	S 16 20.8 +00.0							
02	318 41.2 +01.5	N 22 15.8 +00.2	32 57.4 +02.7	S 00 05.2 +00.1	74 52.6 +02.5	S 16 20.8 +00.0							
03	333 42.7 +01.5	N 22 16.0 +00.1	48 00.1 +02.8	S 00 05.3 +00.2	89 55.1 +02.6	S 16 20.8 +00.1							
04	348 44.2 +01.4	N 22 16.1 +00.1	63 02.9 +02.8	S 00 05.5 +00.1	104 57.7 +02.5	S 16 20.9 +00.0							
05	3 45.6 +01.5	N 22 16.2 +00.2	78 05.7 +02.7	S 00 05.6 +00.1	120 00.2 +02.6	S 16 20.9 +00.0							
06	18 47.1 +01.5	N 22 16.4 +00.1	93 08.4 +02.8	S 00 05.7 +00.2	135 02.8 +02.6	S 16 20.9 +00.0							
07	33 48.6 +01.5	N 22 16.5 +00.2	108 11.2 +02.8	S 00 05.9 +00.1	150 05.4 +02.5	S 16 20.9 +00.1							
08	48 50.1 +01.5	N 22 16.7 +00.1	123 14.0 +02.8	S 00 06.0 +00.1	165 07.9 +02.6	S 16 21.0 +00.0							
09	63 51.6 +01.4	N 22 16.8 +00.2	138 16.8 +02.7	S 00 06.1 +00.2	180 10.5 +02.6	S 16 21.0 +00.0							
10	78 53.0 +01.5	N 22 17.0 +00.1	153 19.5 +02.8	S 00 06.3 +00.1	195 13.1 +02.5	S 16 21.0 +00.1							
11	93 54.5 +01.5	N 22 17.1 +00.1	168 22.3 +02.8	S 00 06.4 +00.1	210 15.6 +02.6	S 16 21.1 +00.0							
12	108 56.0 +01.5	N 22 17.2 +00.2	183 25.1 +02.7	S 00 06.5 +00.2	225 18.2 +02.6	S 16 21.1 +00.0							
13	123 57.5 +01.5	N 22 17.4 +00.1	198 27.8 +02.8	S 00 06.7 +00.1	240 20.8 +02.5	S 16 21.1 +00.1							
14	138 59.0 +01.5	N 22 17.5 +00.2	213 30.6 +02.8	S 00 06.8 +00.1	255 23.3 +02.6	S 16 21.2 +00.0							
15	154 00.5 +01.5	N 22 17.7 +00.1	228 33.4 +02.8	S 00 06.9 +00.2	270 25.9 +02.5	S 16 21.2 +00.0							
16	169 02.0 +01.5	N 22 17.8 +00.1	243 36.2 +02.7	S 00 07.1 +00.1	285 28.4 +02.6	S 16 21.2 +00.0							
17	184 03.5 +01.5	N 22 17.9 +00.2	258 38.9 +02.8	S 00 07.2 +00.1	300 31.0 +02.6	S 16 21.2 +00.1							
18	199 05.0 +01.4	N 22 18.1 +00.1	273 41.7 +02.8	S 00 07.3 +00.2	315 33.6 +02.5	S 16 21.3 +00.0							
19	214 06.4 +01.5	N 22 18.2 +00.2	288 44.5 +02.7	S 00 07.5 +00.1	330 36.1 +02.6	S 16 21.3 +00.0							
20	229 07.9 +01.5	N 22 18.4 +00.1	303 47.2 +02.8	S 00 07.6 +00.1	345 38.7 +02.5	S 16 21.3 +00.1							
21	244 09.4 +01.5	N 22 18.5 +00.1	318 50.0 +02.8	S 00 07.7 +00.2	0 41.2 +02.6	S 16 21.4 +00.0							
22	259 10.9 +01.5	N 22 18.6 +00.2	333 52.8 +02.8	S 00 07.9 +00.1	15 43.8 +02.6	S 16 21.4 +00.0							
23	274 12.4 +01.5	N 22 18.8 +00.1	348 55.6 +02.7	S 00 08.0 +00.1	30 46.4 +02.5	S 16 21.4 +00.0							
	UT 02 06 10 14 18 22 SD 00'1 00'1 00'1 00'1 00'1 00'1 HP 00'2 00'2 00'2 00'2 00'2 00'2 SHA 282° 282° 282° 282° 282° 282° Greenwich Culmination Time: 04:44	UT 02 06 10 14 18 22 SD 00'4 00'4 00'4 00'4 00'4 00'4 HP 00'0 00'0 00'0 00'0 00'0 00'0 SHA 356° 356° 356° 356° 356° 356° Greenwich Culmination Time: 23:44	UT 02 06 10 14 18 22 SD 00'2 00'2 00'2 00'2 00'2 00'2 HP 00'0 00'0 00'0 00'0 00'0 00'0 SHA 038° 038° 038° 038° 038° 038° Greenwich Culmination Time: 20:57										

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT		
	GHA ° / '	ddGHA / ' / "	Dec ° / '	dDec / ' / "	GHA ° / '	ddGHA / ' / "	Dec ° / '	dDec / ' / "	GHA ° / '	ddGHA / ' / "	Dec ° / '	dDec / ' / "			
00	182 22.6 +00.2	S	02 19.1 +01.0		187 32.5 -00.4	N	01 28.3 -01.3		146 14.4 -30.5	S	16 02.5 +13.1		00		
01	197 22.8 +00.2	S	02 20.1 +01.0		202 32.1 -00.4	N	01 27.0 -01.2		160 43.9 -30.5	S	16 15.6 +13.0		01		
02	212 23.0 +00.2	S	02 21.1 +01.0		217 31.7 -00.4	N	01 25.8 -01.3		175 13.4 -30.7	S	16 28.6 +12.9		02		
03	227 23.2 +00.3	S	02 22.1 +00.9		232 31.3 -00.3	N	01 24.5 -01.2		189 42.7 -30.7	S	16 41.5 +12.8		03		
04	242 23.5 +00.2	S	02 23.0 +01.0		247 31.0 -00.4	N	01 23.3 -01.3		204 12.0 -30.8	S	16 54.3 +12.7		04		
05	257 23.7 +00.2	S	02 24.0 +01.0		262 30.6 -00.4	N	01 22.0 -01.2		218 41.2 -30.9	S	17 07.0 +12.7		05		
06	272 23.9 +00.2	S	02 25.0 +01.0		277 30.2 -00.4	N	01 20.8 -01.3		233 10.3 -31.0	S	17 19.7 +12.6		06		
07	287 24.1 +00.2	S	02 26.0 +00.9		292 29.8 -00.4	N	01 19.5 -01.2		247 39.3 -31.1	S	17 32.3 +12.4		07		
08	302 24.3 +00.2	S	02 26.9 +01.0		307 29.4 -00.4	N	01 18.3 -01.3		262 08.2 -31.2	S	17 44.7 +12.4		08		
09	317 24.5 +00.2	S	02 27.9 +01.0		322 29.0 -00.4	N	01 17.0 -01.2		276 37.0 -31.3	S	17 57.1 +12.3		09		
10	332 24.7 +00.2	S	02 28.9 +00.9		337 28.6 -00.4	N	01 15.8 -01.3		291 05.7 -31.4	S	18 09.4 +12.2		10		
11	347 24.9 +00.2	S	02 29.8 +01.0		352 28.2 -00.4	N	01 14.5 -01.2		305 34.3 -31.5	S	18 21.6 +12.2		11		
12	2 25.1 +00.2	S	02 30.8 +01.0		7 27.8 -00.4	N	01 13.3 -01.3		320 02.8 -31.5	S	18 33.8 +12.0		12		
13	17 25.3 +00.2	S	02 31.8 +01.0		22 27.4 -00.4	N	01 12.0 -01.2		334 31.3 -31.7	S	18 45.8 +11.9		13		
14	32 25.5 +00.2	S	02 32.8 +00.9		37 27.0 -00.4	N	01 10.8 -01.3		348 59.6 -31.8	S	18 57.7 +11.8		14		
15	47 25.7 +00.2	S	02 33.7 +01.0		52 26.6 -00.3	N	01 09.5 -01.2		3 27.8 -31.8	S	19 09.5 +11.7		15		
16	62 25.9 +00.2	S	02 34.7 +01.0		67 26.3 -00.4	N	01 08.3 -01.3		17 56.0 -32.0	S	19 21.2 +11.7		16		
17	77 26.1 +00.3	S	02 35.7 +00.9		82 25.9 -00.4	N	01 07.0 -01.2		32 24.0 -32.1	S	19 32.9 +11.5		17		
18	92 26.4 +00.2	S	02 36.6 +01.0		97 25.5 -00.4	N	01 05.8 -01.3		46 51.9 -32.1	S	19 44.4 +11.4		18		
19	107 26.6 +00.2	S	02 37.6 +01.0		112 25.1 -00.4	N	01 04.5 -01.2		61 19.8 -32.3	S	19 55.8 +11.3		19		
20	122 26.8 +00.2	S	02 38.6 +01.0		127 24.7 -00.4	N	01 03.3 -01.3		75 47.5 -32.3	S	20 07.1 +11.2		20		
21	137 27.0 +00.2	S	02 39.6 +00.9		142 24.3 -00.4	N	01 02.0 -01.2		90 15.2 -32.5	S	20 18.3 +11.1		21		
22	152 27.2 +00.2	S	02 40.5 +01.0		157 23.9 -00.4	N	01 00.8 -01.3		104 42.7 -32.5	S	20 29.4 +10.9		22		
23	167 27.4 +00.2	S	02 41.5 +01.0		172 23.5 -00.4	N	00 59.5 -01.2		119 10.2 -32.7	S	20 40.3 +10.9		23		
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22						
	SD 16'0 16'0 16'0 16'0 16'0 16'0				SD 00'1 00'1 00'1 00'1 00'1 00'1				SD 15'8 15'9 15'9 15'9 15'9 15'9						
	HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 58'1 58'2 58'2 58'3 58'4 58'4						
	SHA 175° 174° 174° 174° 174° 174°				SHA 180° 180° 179° 179° 179° 179°				SHA 137° 135° 133° 131° 128° 126°						
	Greenwich Culmination Time: 11:50					Greenwich Culmination Time: 11:30					Greenwich Culmination Time: 14:45				
UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT		
	GHA ° / '	ddGHA / ' / "	Dec ° / '	dDec / ' / "	GHA ° / '	ddGHA / ' / "	Dec ° / '	dDec / ' / "	GHA ° / '	ddGHA / ' / "	Dec ° / '	dDec / ' / "			
00	289 13.9 +01.5	N	22 18.9 +00.2		3 58.3 +02.8	S	00 08.1 +00.2		45 48.9 +02.6	S	16 21.4 +00.1		00		
01	304 15.4 +01.5	N	22 19.1 +00.1		19 01.1 +02.8	S	00 08.3 +00.1		60 51.5 +02.5	S	16 21.5 +00.0		01		
02	319 16.9 +01.5	N	22 19.2 +00.1		34 03.9 +02.7	S	00 08.4 +00.1		75 54.0 +02.6	S	16 21.5 +00.0		02		
03	334 18.4 +01.5	N	22 19.3 +00.2		49 06.6 +02.8	S	00 08.5 +00.2		90 56.6 +02.6	S	16 21.5 +00.1		03		
04	349 19.9 +01.5	N	22 19.5 +00.1		64 09.4 +02.8	S	00 08.7 +00.1		105 59.2 +02.5	S	16 21.6 +00.0		04		
05	4 21.4 +01.5	N	22 19.6 +00.2		79 12.2 +02.8	S	00 08.8 +00.1		121 01.7 +02.6	S	16 21.6 +00.0		05		
06	19 22.9 +01.5	N	22 19.8 +00.1		94 15.0 +02.7	S	00 08.9 +00.2		136 04.3 +02.5	S	16 21.6 +00.0		06		
07	34 24.4 +01.5	N	22 19.9 +00.1		109 17.7 +02.8	S	00 09.1 +00.1		151 06.8 +02.6	S	16 21.6 +00.1		07		
08	49 25.9 +01.5	N	22 20.0 +00.2		124 20.5 +02.8	S	00 09.2 +00.1		166 09.4 +02.6	S	16 21.7 +00.0		08		
09	64 27.4 +01.5	N	22 20.2 +00.1		139 23.3 +02.7	S	00 09.3 +00.2		181 12.0 +02.5	S	16 21.7 +00.0		09		
10	79 28.9 +01.6	N	22 20.3 +00.2		154 26.0 +02.8	S	00 09.5 +00.1		196 14.5 +02.6	S	16 21.7 +00.1		10		
11	94 30.5 +01.5	N	22 20.5 +00.1		169 28.8 +02.8	S	00 09.6 +00.1		211 17.1 +02.5	S	16 21.8 +00.0		11		
12	109 32.0 +01.5	N	22 20.6 +00.1		184 31.6 +02.7	S	00 09.7 +00.2		226 19.6 +02.6	S	16 21.8 +00.0		12		
13	124 33.5 +01.5	N	22 20.7 +00.2		199 34.3 +02.8	S	00 09.9 +00.1		241 22.2 +02.6	S	16 21.8 +00.1		13		
14	139 35.0 +01.5	N	22 20.9 +00.1		214 37.1 +02.8	S	00 10.0 +00.1		256 24.8 +02.5	S	16 21.9 +00.0		14		
15	154 36.5 +01.5	N	22 21.0 +00.2		229 39.9 +02.8	S	00 10.1 +00.2		271 27.3 +02.6	S	16 21.9 +00.0		15		
16	169 38.0 +01.5	N	22 21.2 +00.1		244 42.7 +02.7	S	00 10.3 +00.1		286 29.9 +02.5	S	16 21.9 +00.0		16		
17	184 39.5 +01.5	N	22 21.3 +00.1		259 45.4 +02.8	S	00 10.4 +00.1		301 32.4 +02.6	S	16 21.9 +00.1		17		
18	199 41.0 +01.5	N	22 21.4 +00.2		274 48.2 +02.8	S	00 10.5 +00.1		316 35.0 +02.6	S	16 22.0 +00.0		18		
19	214 42.5 +01.6	N	22 21.6 +00.1		289 51.0 +02.7	S	00 10.6 +00.2		331 37.6 +02.5	S	16 22.0 +00.0		19		
20	229 44.1 +01.5	N	22 21.7 +00.1		304 53.7 +02.8	S	00 10.8 +00.1		346 40.1 +02.6	S	16 22.0 +00.0		20		
21	244 45.6 +01.5	N	22 21.8 +00.2		319 56.5 +02.8	S	00 10.9 +00.1		1 42.7 +02.5	S	16 22.0 +00.1		21		
22	259 47.1 +01.5	N	22 22.0 +00.1		334 59.3 +02.8	S	00 11.0 +00.2		16 45.2 +02.6	S	16 22.1 +00.0		22		
23	274 48.6 +01.5	N	22 22.1 +00.2		350 02.1 +02.7	S	00 11.2 +00.1		31 47.8 +02.5	S	16 22.1 +00.0		23		
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22						
	SD 00'1 00'1 00'1 00'1 00'1 00'1				SD 00'4 00'4 00'4 00'4 00'4 00'4				SD 00'2 00'2 00'2 00'2 00'2 00'2						
	HP 00'2 00'2 00'2 00'2 00'2 00'2				HP 00'0 00'0 00'0 00'0 00'0 00'0				HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 281° 281° 281° 281° 281° 281°				SHA 356° 356° 356° 356° 356° 356°				SHA 038° 038° 038° 038° 038° 038°						
	Greenwich Culmination Time: 04:42					Greenwich Culmination Time: 23:39					Greenwich Culmination Time: 20:53				

UT	Sun				Venus				Moon				UT	
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec		
00	182 27.6 +00.2	S	02 42.5 +00.9	187 23.1 -00.4	N 00 58.3 -01.3	133 37.5 -32.7	S	20 51.2 +10.7	00					
01	197 27.8 +00.2	S	02 43.4 +01.0	202 22.7 -00.4	N 00 57.0 -01.2	148 04.8 -32.9	S	21 01.9 +10.7	01					
02	212 28.0 +00.2	S	02 44.4 +01.0	217 22.3 -00.3	N 00 55.8 -01.3	162 31.9 -32.9	S	21 12.6 +10.5	02					
03	227 28.2 +00.2	S	02 45.4 +01.0	232 22.0 -00.4	N 00 54.5 -01.2	176 59.0 -33.1	S	21 23.1 +10.4	03					
04	242 28.4 +00.2	S	02 46.4 +00.9	247 21.6 -00.4	N 00 53.3 -01.3	191 25.9 -33.1	S	21 33.5 +10.3	04					
05	257 28.6 +00.2	S	02 47.3 +01.0	262 21.2 -00.4	N 00 52.0 -01.2	205 52.8 -33.3	S	21 43.8 +10.1	05					
06	272 28.8 +00.2	S	02 48.3 +01.0	277 20.8 -00.4	N 00 50.8 -01.3	220 19.5 -33.3	S	21 53.9 +10.0	06					
07	287 29.0 +00.2	S	02 49.3 +00.9	292 20.4 -00.4	N 00 49.5 -01.2	234 46.2 -33.4	S	22 03.9 +09.9	07					
08	302 29.2 +00.2	S	02 50.2 +01.0	307 20.0 -00.4	N 00 48.3 -01.3	249 12.8 -33.6	S	22 13.8 +09.8	08					
09	317 29.4 +00.2	S	02 51.2 +01.0	322 19.6 -00.4	N 00 47.0 -01.2	263 39.2 -33.6	S	22 23.6 +09.6	09					
10	332 29.6 +00.2	S	02 52.2 +00.9	337 19.2 -00.4	N 00 45.8 -01.3	278 05.6 -33.8	S	22 33.2 +09.5	10					
11	347 29.8 +00.2	S	02 53.1 +01.0	352 18.8 -00.4	N 00 44.5 -01.2	292 31.8 -33.8	S	22 42.7 +09.4	11					
12	2 30.0 +00.2	S	02 54.1 +01.0	7 18.4 -00.4	N 00 43.3 -01.3	306 58.0 -33.9	S	22 52.1 +09.3	12					
13	17 30.2 +00.3	S	02 55.1 +01.0	22 18.0 -00.3	N 00 42.0 -01.2	321 24.1 -34.1	S	23 01.4 +09.1	13					
14	32 30.5 +00.2	S	02 56.1 +00.9	37 17.7 -00.4	N 00 40.8 -01.3	335 50.0 -34.1	S	23 10.5 +08.9	14					
15	47 30.7 +00.2	S	02 57.0 +01.0	52 17.3 -00.4	N 00 39.5 -01.2	350 15.9 -34.2	S	23 19.4 +08.9	15					
16	62 30.9 +00.2	S	02 58.0 +01.0	67 16.9 -00.4	N 00 38.3 -01.3	4 41.7 -34.3	S	23 28.3 +08.7	16					
17	77 31.1 +00.2	S	02 59.0 +00.9	82 16.5 -00.4	N 00 37.0 -01.2	19 07.4 -34.4	S	23 37.0 +08.5	17					
18	92 31.3 +00.2	S	02 59.9 +01.0	97 16.1 -00.4	N 00 35.8 -01.3	33 33.0 -34.5	S	23 45.5 +08.4	18					
19	107 31.5 +00.2	S	03 00.9 +01.0	112 15.7 -00.4	N 00 34.5 -01.2	47 58.5 -34.6	S	23 53.9 +08.3	19					
20	122 31.7 +00.2	S	03 01.9 +01.0	127 15.3 -00.4	N 00 33.3 -01.3	62 23.9 -34.7	S	24 02.2 +08.1	20					
21	137 31.9 +00.2	S	03 02.9 +00.9	142 14.9 -00.4	N 00 32.0 -01.2	76 49.2 -34.8	S	24 10.3 +08.0	21					
22	152 32.1 +00.2	S	03 03.8 +01.0	157 14.5 -00.4	N 00 30.8 -01.3	91 14.4 -34.8	S	24 18.3 +07.8	22					
23	167 32.3 +00.2	S	03 04.8 +01.0	172 14.1 -00.4	N 00 29.5 -01.2	105 39.6 -35.0	S	24 26.1 +07.7	23					
UT	02 06 10 14 18 22			UT	02 06 10 14 18 22			UT	02 06 10 14 18 22					
SD	16'0 16'0 16'0	16'0 16'0 16'0	16'0 16'0 16'0	SD	00'1 00'1 00'1	00'1 00'1 00'1	00'1 00'1	SD	15'9 16'0 16'0	16'0 16'0 16'0	16'0 16'0 16'0			
HP	00'1 00'1 00'1	00'1 00'1 00'1	00'1 00'1 00'1	HP	00'1 00'1 00'1	00'1 00'1 00'1	00'1 00'1	HP	58'5 58'5 58'6	58'7 58'7 58'8	58'7 58'8 58'8			
SHA	174° 174° 173°	173° 173° 173°	173° 173° 173°	SHA	179° 178° 178°	178° 178° 178°	178° 178°	SHA	124° 121° 119°	117° 114° 112°	117° 114° 112°			
Greenwich Culmination Time: 11:49				Greenwich Culmination Time: 11:30				Greenwich Culmination Time: 15:40						
UT	Mars				Jupiter				Saturn				UT	
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec		
00	289 50.1 +01.6	N	22 22.3 +00.1	5 04.8 +02.8	S	00 11.3 +00.1	46 50.3 +02.6	S	16 22.1 +00.1	00				
01	304 51.7 +01.5	N	22 22.4 +00.1	20 07.6 +02.8	S	00 11.4 +00.2	61 52.9 +02.6	S	16 22.2 +00.0	01				
02	319 53.2 +01.5	N	22 22.5 +00.2	35 10.4 +02.7	S	00 11.6 +00.1	76 55.5 +02.5	S	16 22.2 +00.0	02				
03	334 54.7 +01.5	N	22 22.7 +00.1	50 13.1 +02.8	S	00 11.7 +00.1	91 58.0 +02.6	S	16 22.2 +00.0	03				
04	349 56.2 +01.5	N	22 22.8 +00.1	65 15.9 +02.8	S	00 11.8 +00.2	107 00.6 +02.5	S	16 22.2 +00.1	04				
05	4 57.7 +01.6	N	22 22.9 +00.2	80 18.7 +02.7	S	00 12.0 +00.1	122 03.1 +02.6	S	16 22.3 +00.0	05				
06	19 59.3 +01.5	N	22 23.1 +00.1	95 21.4 +02.8	S	00 12.1 +00.1	137 05.7 +02.5	S	16 22.3 +00.0	06				
07	35 00.8 +01.5	N	22 23.2 +00.2	110 24.2 +02.8	S	00 12.2 +00.2	152 08.2 +02.6	S	16 22.3 +00.1	07				
08	50 02.3 +01.6	N	22 23.4 +00.1	125 27.0 +02.8	S	00 12.4 +00.1	167 10.8 +02.5	S	16 22.4 +00.0	08				
09	65 03.9 +01.5	N	22 23.5 +00.1	140 29.8 +02.7	S	00 12.5 +00.1	182 13.3 +02.6	S	16 22.4 +00.0	09				
10	80 05.4 +01.5	N	22 23.6 +00.2	155 32.5 +02.8	S	00 12.6 +00.2	197 15.9 +02.6	S	16 22.4 +00.0	10				
11	95 06.9 +01.5	N	22 23.8 +00.1	170 35.3 +02.8	S	00 12.8 +00.1	212 18.5 +02.5	S	16 22.4 +00.1	11				
12	110 08.4 +01.6	N	22 23.9 +00.1	185 38.1 +02.7	S	00 12.9 +00.1	227 21.0 +02.6	S	16 22.5 +00.0	12				
13	125 10.0 +01.5	N	22 24.0 +00.2	200 40.8 +02.8	S	00 13.0 +00.2	242 23.6 +02.5	S	16 22.5 +00.0	13				
14	140 11.5 +01.5	N	22 24.2 +00.1	215 43.6 +02.8	S	00 13.2 +00.1	257 26.1 +02.6	S	16 22.5 +00.0	14				
15	155 13.0 +01.6	N	22 24.3 +00.1	230 46.4 +02.7	S	00 13.3 +00.1	272 28.7 +02.5	S	16 22.5 +00.1	15				
16	170 14.6 +01.5	N	22 24.4 +00.2	245 49.1 +02.8	S	00 13.4 +00.1	287 31.2 +02.6	S	16 22.6 +00.0	16				
17	185 16.1 +01.5	N	22 24.6 +00.1	260 51.9 +02.8	S	00 13.5 +00.2	302 33.8 +02.5	S	16 22.6 +00.0	17				
18	200 17.6 +01.6	N	22 24.7 +00.1	275 54.7 +02.8	S	00 13.7 +00.1	317 36.3 +02.6	S	16 22.6 +00.1	18				
19	215 19.2 +01.5	N	22 24.8 +00.2	290 57.5 +02.7	S	00 13.8 +00.1	332 38.9 +02.5	S	16 22.7 +00.0	19				
20	230 20.7 +01.6	N	22 25.0 +00.1	306 00.2 +02.8	S	00 13.9 +00.2	347 41.4 +02.6	S	16 22.7 +00.0	20				
21	245 22.3 +01.5	N	22 25.1 +00.2	321 03.0 +02.8	S	00 14.1 +00.1	2 44.0 +02.6	S	16 22.7 +00.0	21				
22	260 23.8 +01.5	N	22 25.3 +00.1	336 05.8 +02.7	S	00 14.2 +00.1	17 46.6 +02.5	S	16 22.7 +00.1	22				
23	275 25.3 +01.6	N	22 25.4 +00.1	351 08.5 +02.8	S	00 14.3 +00.2	32 49.1 +02.6	S	16 22.8 +00.0	23				
UT	02 06 10 14 18 22			UT	02 06 10 14 18 22			UT	02 06 10 14 18 22					
SD	00'1 00'1 00'1	00'1 00'1 00'1	00'1 00'1 00'1	SD	00'4 00'4 00'4	00'4 00'4 00'4	00'4 00'4	SD	00'2 00'2 00'2	00'2 00'2 00'2	00'2 00'2 00'2			
HP	00'2 00'2 00'2	00'2 00'2 00'2	00'2 00'2 00'2	HP	00'0 00'0 00'0	00'0 00'0 00'0	00'0 00'0	HP	00'0 00'0 00'0	00'0 00'0 00'0	00'0 00'0 00'0			
SHA	281° 281° 281°	281° 281° 281°	281° 281° 281°	SHA	356° 356° 356°	356° 356° 356°	356° 356°	SHA	038° 038° 038°	038° 038° 038°	038° 038° 038°			
Greenwich Culmination Time: 04:40				Greenwich Culmination Time: 23:35				Greenwich Culmination Time: 20:49						