

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> A: 67%				UT
	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	
00	179 13.8 -00.3	S	23 03.5 -00.2		219 12.0 -00.6	S	18 46.2 +00.6		301 02.0 -25.0	N	12 37.6 -12.7		00
01	194 13.5 -00.3	S	23 03.3 -00.2		234 11.4 -00.7	S	18 46.8 +00.7		315 37.0 -24.8	N	12 24.9 -12.8		01
02	209 13.2 -00.3	S	23 03.1 -00.2		249 10.7 -00.7	S	18 47.5 +00.6		330 12.2 -24.9	N	12 12.1 -12.8		02
03	224 12.9 -00.3	S	23 02.9 -00.2		264 10.0 -00.6	S	18 48.1 +00.7		344 47.3 -24.7	N	11 59.3 -12.8		03
04	239 12.6 -00.3	S	23 02.7 -00.2		279 09.4 -00.7	S	18 48.8 +00.6		359 22.6 -24.8	N	11 46.5 -12.9		04
05	254 12.3 -00.3	S	23 02.5 -00.2		294 08.7 -00.7	S	18 49.4 +00.7		13 57.8 -24.7	N	11 33.6 -13.0		05
06	269 12.0 -00.3	S	23 02.3 -00.2		309 08.0 -00.7	S	18 50.1 +00.7		28 33.1 -24.6	N	11 20.6 -13.0		06
07	284 11.7 -00.3	S	23 02.1 -00.2		324 07.3 -00.6	S	18 50.8 +00.6		43 08.5 -24.6	N	11 07.6 -13.0		07
08	299 11.4 -00.2	S	23 01.9 -00.2		339 06.7 -00.7	S	18 51.4 +00.7		57 43.9 -24.5	N	10 54.6 -13.0		08
09	314 11.2 -00.3	S	23 01.7 -00.2		354 06.0 -00.7	S	18 52.1 +00.6		72 19.4 -24.5	N	10 41.6 -13.1		09
10	329 10.9 -00.3	S	23 01.5 -00.2		9 05.3 -00.7	S	18 52.7 +00.7		86 54.9 -24.5	N	10 28.5 -13.1		10
11	344 10.6 -00.3	S	23 01.3 -00.2		24 04.6 -00.6	S	18 53.4 +00.6		101 30.4 -24.4	N	10 15.4 -13.2		11
12	359 10.3 -00.3	S	23 01.1 -00.2		39 04.0 -00.7	S	18 54.0 +00.7		116 06.0 -24.4	N	10 02.2 -13.2		12
13	14 10.0 -00.3	S	23 00.9 -00.2		54 03.3 -00.7	S	18 54.7 +00.6		130 41.6 -24.4	N	09 49.0 -13.2		13
14	29 09.7 -00.3	S	23 00.7 -00.2		69 02.6 -00.7	S	18 55.3 +00.7		145 17.2 -24.3	N	09 35.8 -13.3		14
15	44 09.4 -00.3	S	23 00.5 -00.2		84 01.9 -00.6	S	18 56.0 +00.6		159 52.9 -24.2	N	09 22.5 -13.3		15
16	59 09.1 -00.3	S	23 00.3 -00.2		99 01.3 -00.7	S	18 56.6 +00.7		174 28.7 -24.3	N	09 09.2 -13.3		16
17	74 08.8 -00.3	S	23 00.1 -00.2		114 00.6 -00.7	S	18 57.3 +00.6		189 04.4 -24.2	N	08 55.9 -13.4		17
18	89 08.5 -00.3	S	22 59.9 -00.2		128 59.9 -00.7	S	18 57.9 +00.6		203 40.2 -24.1	N	08 42.5 -13.4		18
19	104 08.2 -00.3	S	22 59.7 -00.2		143 59.2 -00.6	S	18 58.5 +00.7		218 16.1 -24.2	N	08 29.1 -13.4		19
20	119 07.9 -00.3	S	22 59.5 -00.2		158 58.6 -00.7	S	18 59.2 +00.6		232 51.9 -24.1	N	08 15.7 -13.5		20
21	134 07.6 -00.3	S	22 59.3 -00.2		173 57.9 -00.7	S	18 59.8 +00.7		247 27.8 -24.1	N	08 02.2 -13.4		21
22	149 07.3 -00.3	S	22 59.1 -00.2		188 57.2 -00.7	S	19 00.5 +00.6		262 03.7 -24.0	N	07 48.8 -13.5		22
23	164 07.0 -00.3	S	22 58.9 -00.2		203 56.5 -00.7	S	19 01.1 +00.7		276 39.7 -24.0	N	07 35.3 -13.6		23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 16'3 16'3 16'3 16'3 16'3 16'3				SD 00'1 00'1 00'1 00'1 00'1 00'1				SD 14'8 14'8 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 54'2 54'1 54'1 54'1 54'1 54'1				
	SHA 079° 079° 079° 078° 078° 078°				SHA 119° 119° 119° 118° 118° 118°				SHA 200° 198° 196° 195° 193° 191°				
	Greenwich Culmination Time: 12:03				Greenwich Culmination Time: 09:23				Greenwich Culmination Time: 04:02				

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	
00	193 05.8 +00.4	S	23 57.7 +00.0		66 27.9 +02.5	N	12 15.8 +00.1		124 22.4 +02.2	S	11 50.3 +00.0		00
01	208 06.2 +00.5	S	23 57.7 +00.1		81 30.4 +02.5	N	12 15.9 +00.0		139 24.6 +02.3	S	11 50.3 -00.1		01
02	223 06.7 +00.4	S	23 57.8 +00.1		96 32.9 +02.4	N	12 15.9 +00.0		154 26.9 +02.2	S	11 50.2 -00.1		02
03	238 07.1 +00.5	S	23 57.9 +00.0		111 35.3 +02.5	N	12 15.9 +00.0		169 29.1 +02.3	S	11 50.1 -00.1		03
04	253 07.6 +00.4	S	23 57.9 +00.1		126 37.8 +02.4	N	12 15.9 +00.0		184 31.4 +02.2	S	11 50.0 -00.1		04
05	268 08.0 +00.4	S	23 58.0 +00.0		141 40.2 +02.5	N	12 15.9 +00.0		199 33.6 +02.3	S	11 49.9 -00.1		05
06	283 08.4 +00.5	S	23 58.0 +00.1		156 42.7 +02.5	N	12 15.9 +00.0		214 35.9 +02.3	S	11 49.8 +00.0		06
07	298 08.9 +00.4	S	23 58.1 +00.1		171 45.2 +02.4	N	12 15.9 +00.1		229 38.2 +02.2	S	11 49.8 -00.1		07
08	313 09.3 +00.4	S	23 58.2 +00.0		186 47.6 +02.5	N	12 16.0 +00.0		244 40.4 +02.3	S	11 49.7 -00.1		08
09	328 09.7 +00.5	S	23 58.2 +00.1		201 50.1 +02.4	N	12 16.0 +00.0		259 42.7 +02.2	S	11 49.6 -00.1		09
10	343 10.2 +00.4	S	23 58.3 +00.0		216 52.5 +02.5	N	12 16.0 +00.0		274 44.9 +02.3	S	11 49.5 -00.1		10
11	358 10.6 +00.4	S	23 58.3 +00.1		231 55.0 +02.5	N	12 16.0 +00.0		289 47.2 +02.2	S	11 49.4 -00.1		11
12	13 11.0 +00.5	S	23 58.4 +00.1		246 57.5 +02.4	N	12 16.0 +00.0		304 49.4 +02.3	S	11 49.3 +00.0		12
13	28 11.5 +00.4	S	23 58.5 +00.0		261 59.9 +02.5	N	12 16.0 +00.1		319 51.7 +02.2	S	11 49.3 -00.1		13
14	43 11.9 +00.4	S	23 58.5 +00.1		277 02.4 +02.4	N	12 16.1 +00.0		334 53.9 +02.3	S	11 49.2 -00.1		14
15	58 12.3 +00.5	S	23 58.6 +00.0		292 04.8 +02.5	N	12 16.1 +00.0		349 56.2 +02.2	S	11 49.1 -00.1		15
16	73 12.8 +00.4	S	23 58.6 +00.1		307 07.3 +02.4	N	12 16.1 +00.0		4 58.4 +02.3	S	11 49.0 -00.1		16
17	88 13.2 +00.5	S	23 58.7 +00.0		322 09.7 +02.5	N	12 16.1 +00.0		20 00.7 +02.2	S	11 48.9 -00.1		17
18	103 13.7 +00.4	S	23 58.7 +00.1		337 12.2 +02.4	N	12 16.1 +00.0		35 02.9 +02.3	S	11 48.8 +00.0		18
19	118 14.1 +00.4	S	23 58.8 +00.0		352 14.6 +02.5	N	12 16.1 +00.1		50 05.2 +02.2	S	11 48.8 -00.1		19
20	133 14.5 +00.5	S	23 58.8 +00.1		7 17.1 +02.4	N	12 16.2 +00.0		65 07.4 +02.3	S	11 48.7 -00.1		20
21	148 15.0 +00.4	S	23 58.9 +00.0		22 19.5 +02.5	N	12 16.2 +00.0		80 09.7 +02.3	S	11 48.6 -00.1		21
22	163 15.4 +00.4	S	23 58.9 +00.1		37 22.0 +02.5	N	12 16.2 +00.0		95 12.0 +02.2	S	11 48.5 -00.1		22
23	178 15.8 +00.5	S	23 59.0 +00.1		52 24.5 +02.4	N	12 16.2 +00.0		110 14.2 +02.3	S	11 48.4 -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 00'0 00'0 00'0 00'0 00'0 00'0				SD 00'4 00'4 00'4 00'4 00'4 00'4				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				
	SHA 093° 093° 093° 092° 092° 092°				SHA 326° 326° 326° 326° 326° 326°				SHA 024° 024° 024° 024° 024° 024°				
	Greenwich Culmination Time: 11:07				Greenwich Culmination Time: 19:30				Greenwich Culmination Time: 15:40				

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 06.7 -00.3	S	22 58.7 -00.2	218 55.8 -00.6	S	19 01.8 +00.6	291 15.7 -24.0	N	07 21.7 -13.5	00			
01	194 06.4 -00.3	S	22 58.5 -00.3	233 55.2 -00.7	S	19 02.4 +00.6	305 51.7 -24.0	N	07 08.2 -13.6	01			
02	209 06.1 -00.2	S	22 58.2 -00.2	248 54.5 -00.7	S	19 03.0 +00.7	320 27.7 -23.9	N	06 54.6 -13.6	02			
03	224 05.9 -00.3	S	22 58.0 -00.2	263 53.8 -00.7	S	19 03.7 +00.6	335 03.8 -23.9	N	06 41.0 -13.7	03			
04	239 05.6 -00.3	S	22 57.8 -00.2	278 53.1 -00.7	S	19 04.3 +00.6	349 39.9 -23.9	N	06 27.3 -13.6	04			
05	254 05.3 -00.3	S	22 57.6 -00.2	293 52.4 -00.7	S	19 04.9 +00.7	4 16.0 -23.9	N	06 13.7 -13.7	05			
06	269 05.0 -00.3	S	22 57.4 -00.2	308 51.7 -00.6	S	19 05.6 +00.6	18 52.1 -23.9	N	05 60.0 -13.7	06			
07	284 04.7 -00.3	S	22 57.2 -00.2	323 51.1 -00.7	S	19 06.2 +00.6	33 28.2 -23.8	N	05 46.3 -13.7	07			
08	299 04.4 -00.3	S	22 57.0 -00.3	338 50.4 -00.7	S	19 06.8 +00.7	48 04.4 -23.8	N	05 32.6 -13.8	08			
09	314 04.1 -00.3	S	22 56.7 -00.2	353 49.7 -00.7	S	19 07.5 +00.6	62 40.6 -23.8	N	05 18.8 -13.8	09			
10	329 03.8 -00.3	S	22 56.5 -00.2	8 49.0 -00.7	S	19 08.1 +00.6	77 16.8 -23.8	N	05 05.0 -13.7	10			
11	344 03.5 -00.3	S	22 56.3 -00.2	23 48.3 -00.7	S	19 08.7 +00.7	91 53.0 -23.8	N	04 51.3 -13.9	11			
12	359 03.2 -00.3	S	22 56.1 -00.2	38 47.6 -00.7	S	19 09.4 +00.6	106 29.2 -23.8	N	04 37.4 -13.8	12			
13	14 02.9 -00.3	S	22 55.9 -00.3	53 46.9 -00.7	S	19 10.0 +00.6	121 05.4 -23.7	N	04 23.6 -13.8	13			
14	29 02.6 -00.3	S	22 55.6 -00.2	68 46.2 -00.6	S	19 10.6 +00.7	135 41.7 -23.8	N	04 09.8 -13.9	14			
15	44 02.3 -00.2	S	22 55.4 -00.2	83 45.6 -00.7	S	19 11.3 +00.6	150 17.9 -23.7	N	03 55.9 -13.9	15			
16	59 02.1 -00.3	S	22 55.2 -00.2	98 44.9 -00.7	S	19 11.9 +00.6	164 54.2 -23.7	N	03 42.0 -13.9	16			
17	74 01.8 -00.3	S	22 55.0 -00.3	113 44.2 -00.7	S	19 12.5 +00.6	179 30.5 -23.7	N	03 28.1 -13.9	17			
18	89 01.5 -00.3	S	22 54.7 -00.2	128 43.5 -00.7	S	19 13.1 +00.7	194 06.8 -23.7	N	03 14.2 -13.9	18			
19	104 01.2 -00.3	S	22 54.5 -00.2	143 42.8 -00.7	S	19 13.8 +00.6	208 43.1 -23.7	N	03 00.3 -13.9	19			
20	119 00.9 -00.3	S	22 54.3 -00.2	158 42.1 -00.7	S	19 14.4 +00.6	223 19.4 -23.7	N	02 46.4 -14.0	20			
21	134 00.6 -00.3	S	22 54.1 -00.3	173 41.4 -00.7	S	19 15.0 +00.6	237 55.7 -23.7	N	02 32.4 -13.9	21			
22	149 00.3 -00.3	S	22 53.8 -00.2	188 40.7 -00.7	S	19 15.6 +00.6	252 32.0 -23.7	N	02 18.5 -14.0	22			
23	164 00.0 -00.3	S	22 53.6 -00.2	203 40.0 -00.7	S	19 16.2 +00.7	267 08.3 -23.7	N	02 04.5 -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 16'3 16'3 16'3 16'3 16'3 16'3			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 54'1 54'2 54'2 54'2 54'2 54'3						
	SHA 078° 078° 078° 077° 077° 077°			SHA 118° 117° 117° 117° 117° 117°			SHA 189° 187° 186° 184° 182° 180°						
	Greenwich Culmination Time: 12:03			Greenwich Culmination Time: 09:24			Greenwich Culmination Time: 04:42						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	193 16.3 +00.4	S	23 59.1 +00.0	67 26.9 +02.5	N	12 16.2 +00.0	125 16.5 +02.2	S	11 48.3 +00.0	00			
01	208 16.7 +00.4	S	23 59.1 +00.1	82 29.4 +02.4	N	12 16.2 +00.1	140 18.7 +02.3	S	11 48.3 -00.1	01			
02	223 17.1 +00.5	S	23 59.2 +00.0	97 31.8 +02.5	N	12 16.3 +00.0	155 21.0 +02.2	S	11 48.2 -00.1	02			
03	238 17.6 +00.4	S	23 59.2 +00.1	112 34.3 +02.4	N	12 16.3 +00.0	170 23.2 +02.3	S	11 48.1 -00.1	03			
04	253 18.0 +00.4	S	23 59.3 +00.0	127 36.7 +02.5	N	12 16.3 +00.0	185 25.5 +02.2	S	11 48.0 -00.1	04			
05	268 18.4 +00.5	S	23 59.3 +00.1	142 39.2 +02.4	N	12 16.3 +00.0	200 27.7 +02.3	S	11 47.9 -00.1	05			
06	283 18.9 +00.4	S	23 59.4 +00.0	157 41.6 +02.5	N	12 16.3 +00.0	215 30.0 +02.2	S	11 47.8 +00.0	06			
07	298 19.3 +00.4	S	23 59.4 +00.1	172 44.1 +02.4	N	12 16.3 +00.1	230 32.2 +02.3	S	11 47.8 -00.1	07			
08	313 19.7 +00.5	S	23 59.5 +00.0	187 46.5 +02.5	N	12 16.4 +00.0	245 34.5 +02.2	S	11 47.7 -00.1	08			
09	328 20.2 +00.4	S	23 59.5 +00.0	202 49.0 +02.4	N	12 16.4 +00.0	260 36.7 +02.3	S	11 47.6 -00.1	09			
10	343 20.6 +00.4	S	23 59.5 +00.1	217 51.4 +02.5	N	12 16.4 +00.0	275 39.0 +02.2	S	11 47.5 -00.1	10			
11	358 21.0 +00.5	S	23 59.6 +00.0	232 53.9 +02.4	N	12 16.4 +00.0	290 41.2 +02.3	S	11 47.4 -00.1	11			
12	13 21.5 +00.4	S	23 59.6 +00.1	247 56.3 +02.5	N	12 16.4 +00.1	305 43.5 +02.2	S	11 47.3 -00.1	12			
13	28 21.9 +00.4	S	23 59.7 +00.0	262 58.8 +02.4	N	12 16.5 +00.0	320 45.7 +02.3	S	11 47.2 +00.0	13			
14	43 22.3 +00.5	S	23 59.7 +00.1	278 01.2 +02.5	N	12 16.5 +00.0	335 48.0 +02.2	S	11 47.2 -00.1	14			
15	58 22.8 +00.4	S	23 59.8 +00.0	293 03.7 +02.4	N	12 16.5 +00.0	350 50.2 +02.3	S	11 47.1 -00.1	15			
16	73 23.2 +00.4	S	23 59.8 +00.1	308 06.1 +02.5	N	12 16.5 +00.0	5 52.5 +02.2	S	11 47.0 -00.1	16			
17	88 23.6 +00.5	S	23 59.9 +00.0	323 08.6 +02.4	N	12 16.5 +00.1	20 54.7 +02.3	S	11 46.9 -00.1	17			
18	103 24.1 +00.4	S	23 59.9 +00.1	338 11.0 +02.4	N	12 16.6 +00.0	35 57.0 +02.2	S	11 46.8 -00.1	18			
19	118 24.5 +00.4	S	23 60.0 +00.0	353 13.4 +02.5	N	12 16.6 +00.0	50 59.2 +02.3	S	11 46.7 +00.0	19			
20	133 24.9 +00.4	S	24 00.0 +00.0	8 15.9 +02.4	N	12 16.6 +00.0	66 01.5 +02.2	S	11 46.7 -00.1	20			
21	148 25.3 +00.5	S	24 00.0 +00.1	23 18.3 +02.5	N	12 16.6 +00.0	81 03.7 +02.3	S	11 46.6 -00.1	21			
22	163 25.8 +00.4	S	24 00.1 +00.0	38 20.8 +02.4	N	12 16.6 +00.1	96 06.0 +02.2	S	11 46.5 -00.1	22			
23	178 26.2 +00.4	S	24 00.1 +00.1	53 23.2 +02.5	N	12 16.7 +00.0	111 08.2 +02.3	S	11 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 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'4 00'4 00'4 00'4 00'4 00'4			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						
	SHA 092° 092° 092° 092° 092° 091°			SHA 326° 326° 326° 326° 326° 326°			SHA 024° 024° 024° 024° 024° 024°						
	Greenwich Culmination Time: 11:06			Greenwich Culmination Time: 19:27			Greenwich Culmination Time: 15:36						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 59.7 -00.3	S	22 53.4 -00.3	218 39.3 -00.7	S	19 16.9 +00.6	281 44.6 -23.7	N	01 50.5 -14.0	00			
01	193 59.4 -00.3	S	22 53.1 -00.2	233 38.6 -00.7	S	19 17.5 +00.6	296 20.9 -23.7	N	01 36.5 -14.0	01			
02	208 59.1 -00.2	S	22 52.9 -00.2	248 37.9 -00.7	S	19 18.1 +00.6	310 57.2 -23.7	N	01 22.5 -14.0	02			
03	223 58.9 -00.3	S	22 52.7 -00.2	263 37.2 -00.6	S	19 18.7 +00.6	325 33.5 -23.7	N	01 08.5 -14.0	03			
04	238 58.6 -00.3	S	22 52.5 -00.3	278 36.6 -00.7	S	19 19.3 +00.7	340 09.8 -23.8	N	00 54.5 -14.1	04			
05	253 58.3 -00.3	S	22 52.2 -00.2	293 35.9 -00.7	S	19 20.0 +00.6	354 46.0 -23.7	N	00 40.4 -14.0	05			
06	268 58.0 -00.3	S	22 52.0 -00.3	308 35.2 -00.7	S	19 20.6 +00.6	9 22.3 -23.7	N	00 26.4 -14.1	06			
07	283 57.7 -00.3	S	22 51.7 -00.2	323 34.5 -00.7	S	19 21.2 +00.6	23 58.6 -23.8	N	00 12.3 -14.0	07			
08	298 57.4 -00.3	S	22 51.5 -00.2	338 33.8 -00.7	S	19 21.8 +00.6	38 34.8 -23.7	S	00 01.7 +14.1	08			
09	313 57.1 -00.3	S	22 51.3 -00.3	353 33.1 -00.7	S	19 22.4 +00.6	53 11.1 -23.8	S	00 15.8 +14.0	09			
10	328 56.8 -00.3	S	22 51.0 -00.2	8 32.4 -00.7	S	19 23.0 +00.6	67 47.3 -23.8	S	00 29.8 +14.1	10			
11	343 56.5 -00.2	S	22 50.8 -00.2	23 31.7 -00.7	S	19 23.6 +00.6	82 23.5 -23.7	S	00 43.9 +14.1	11			
12	358 56.3 -00.3	S	22 50.6 -00.3	38 31.0 -00.7	S	19 24.2 +00.6	96 59.8 -23.8	S	00 58.0 +14.1	12			
13	13 56.0 -00.3	S	22 50.3 -00.2	53 30.3 -00.7	S	19 24.8 +00.7	111 36.0 -23.9	S	01 12.1 +14.0	13			
14	28 55.7 -00.3	S	22 50.1 -00.3	68 29.6 -00.7	S	19 25.5 +00.6	126 12.1 -23.8	S	01 26.1 +14.1	14			
15	43 55.4 -00.3	S	22 49.8 -00.2	83 28.9 -00.7	S	19 26.1 +00.6	140 48.3 -23.9	S	01 40.2 +14.1	15			
16	58 55.1 -00.3	S	22 49.6 -00.2	98 28.2 -00.7	S	19 26.7 +00.6	155 24.4 -23.9	S	01 54.3 +14.1	16			
17	73 54.8 -00.3	S	22 49.4 -00.3	113 27.5 -00.7	S	19 27.3 +00.6	170 00.5 -23.9	S	02 08.4 +14.1	17			
18	88 54.5 -00.3	S	22 49.1 -00.2	128 26.8 -00.7	S	19 27.9 +00.6	184 36.6 -23.9	S	02 22.5 +14.0	18			
19	103 54.2 -00.3	S	22 48.9 -00.3	143 26.1 -00.7	S	19 28.5 +00.6	199 12.7 -23.9	S	02 36.5 +14.1	19			
20	118 53.9 -00.2	S	22 48.6 -00.2	158 25.4 -00.7	S	19 29.1 +00.6	213 48.8 -24.0	S	02 50.6 +14.1	20			
21	133 53.7 -00.3	S	22 48.4 -00.3	173 24.7 -00.7	S	19 29.7 +00.6	228 24.8 -24.0	S	03 04.7 +14.1	21			
22	148 53.4 -00.3	S	22 48.1 -00.2	188 24.0 -00.8	S	19 30.3 +00.6	243 00.8 -24.0	S	03 18.8 +14.0	22			
23	163 53.1 -00.3	S	22 47.9 -00.3	203 23.2 -00.7	S	19 30.9 +00.6	257 36.8 -24.1	S	03 32.8 +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 16'3 16'3 16'3 16'3 16'3 16'3			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 54'6						
	SHA 077° 077° 076° 076° 076° 076°			SHA 116° 116° 116° 116° 116° 115°			SHA 179° 177° 175° 174° 172° 170°						
	Greenwich Culmination Time: 12:04			Greenwich Culmination Time: 09:25			Greenwich Culmination Time: 05:21						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	193 26.6 +00.5	S	24 00.2 +00.0	68 25.7 +02.4	N	12 16.7 +00.0	126 10.5 +02.2	S	11 46.3 -00.1	00			
01	208 27.1 +00.4	S	24 00.2 +00.1	83 28.1 +02.5	N	12 16.7 +00.0	141 12.7 +02.3	S	11 46.2 -00.1	01			
02	223 27.5 +00.4	S	24 00.3 +00.0	98 30.6 +02.4	N	12 16.7 +00.0	156 15.0 +02.2	S	11 46.1 +00.0	02			
03	238 27.9 +00.5	S	24 00.3 +00.0	113 33.0 +02.4	N	12 16.7 +00.1	171 17.2 +02.3	S	11 46.1 -00.1	03			
04	253 28.4 +00.4	S	24 00.3 +00.1	128 35.4 +02.5	N	12 16.8 +00.0	186 19.5 +02.2	S	11 46.0 -00.1	04			
05	268 28.8 +00.4	S	24 00.4 +00.0	143 37.9 +02.4	N	12 16.8 +00.0	201 21.7 +02.3	S	11 45.9 -00.1	05			
06	283 29.2 +00.5	S	24 00.4 +00.0	158 40.3 +02.5	N	12 16.8 +00.0	216 24.0 +02.2	S	11 45.8 -00.1	06			
07	298 29.7 +00.4	S	24 00.4 +00.1	173 42.8 +02.4	N	12 16.8 +00.0	231 26.2 +02.3	S	11 45.7 -00.1	07			
08	313 30.1 +00.4	S	24 00.5 +00.0	188 45.2 +02.5	N	12 16.8 +00.1	246 28.5 +02.2	S	11 45.6 -00.1	08			
09	328 30.5 +00.5	S	24 00.5 +00.1	203 47.7 +02.4	N	12 16.9 +00.0	261 30.7 +02.3	S	11 45.5 +00.0	09			
10	343 31.0 +00.4	S	24 00.6 +00.0	218 50.1 +02.4	N	12 16.9 +00.0	276 33.0 +02.2	S	11 45.5 -00.1	10			
11	358 31.4 +00.4	S	24 00.6 +00.0	233 52.5 +02.5	N	12 16.9 +00.0	291 35.2 +02.3	S	11 45.4 -00.1	11			
12	13 31.8 +00.4	S	24 00.6 +00.1	248 55.0 +02.4	N	12 16.9 +00.1	306 37.5 +02.2	S	11 45.3 -00.1	12			
13	28 32.2 +00.5	S	24 00.7 +00.0	263 57.4 +02.5	N	12 17.0 +00.0	321 39.7 +02.3	S	11 45.2 -00.1	13			
14	43 32.7 +00.4	S	24 00.7 +00.0	278 59.9 +02.4	N	12 17.0 +00.0	336 42.0 +02.2	S	11 45.1 -00.1	14			
15	58 33.1 +00.4	S	24 00.7 +00.1	294 02.3 +02.4	N	12 17.0 +00.0	351 44.2 +02.3	S	11 45.0 -00.1	15			
16	73 33.5 +00.5	S	24 00.8 +00.0	309 04.7 +02.5	N	12 17.0 +00.0	6 46.5 +02.2	S	11 44.9 +00.0	16			
17	88 34.0 +00.4	S	24 00.8 +00.0	324 07.2 +02.4	N	12 17.0 +00.1	21 48.7 +02.2	S	11 44.9 -00.1	17			
18	103 34.4 +00.4	S	24 00.8 +00.1	339 09.6 +02.5	N	12 17.1 +00.0	36 50.9 +02.3	S	11 44.8 -00.1	18			
19	118 34.8 +00.4	S	24 00.9 +00.0	354 12.1 +02.4	N	12 17.1 +00.0	51 53.2 +02.2	S	11 44.7 -00.1	19			
20	133 35.2 +00.5	S	24 00.9 +00.0	9 14.5 +02.4	N	12 17.1 +00.0	66 55.4 +02.3	S	11 44.6 -00.1	20			
21	148 35.7 +00.4	S	24 00.9 +00.1	24 16.9 +02.5	N	12 17.1 +00.1	81 57.7 +02.2	S	11 44.5 -00.1	21			
22	163 36.1 +00.4	S	24 01.0 +00.0	39 19.4 +02.4	N	12 17.2 +00.0	96 59.9 +02.3	S	11 44.4 -00.1	22			
23	178 36.5 +00.5	S	24 01.0 +00.0	54 21.8 +02.4	N	12 17.2 +00.0	112 02.2 +02.2	S	11 44.3 +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 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'4 00'4 00'4 00'4 00'4 00'4			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						
	SHA 091° 091° 091° 091° 091° 091°			SHA 326° 326° 326° 326° 326° 326°			SHA 024° 024° 024° 024° 024° 024°						
	Greenwich Culmination Time: 11:05			Greenwich Culmination Time: 19:23			Greenwich Culmination Time: 15:32						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 52.8 -00.3	S	22 47.6 -00.2	218 22.5 -00.7	S	19 31.5 +00.6	272 12.7 -24.1	S	03 46.9 +14.1	00			
01	193 52.5 -00.3	S	22 47.4 -00.3	233 21.8 -00.7	S	19 32.1 +00.6	286 48.6 -24.1	S	04 01.0 +14.0	01			
02	208 52.2 -00.3	S	22 47.1 -00.2	248 21.1 -00.7	S	19 32.7 +00.6	301 24.5 -24.2	S	04 15.0 +14.1	02			
03	223 51.9 -00.2	S	22 46.9 -00.3	263 20.4 -00.7	S	19 33.3 +00.6	316 00.3 -24.2	S	04 29.1 +14.0	03			
04	238 51.7 -00.3	S	22 46.6 -00.2	278 19.7 -00.7	S	19 33.9 +00.6	330 36.1 -24.2	S	04 43.1 +14.1	04			
05	253 51.4 -00.3	S	22 46.4 -00.3	293 19.0 -00.7	S	19 34.5 +00.6	345 11.9 -24.2	S	04 57.2 +14.0	05			
06	268 51.1 -00.3	S	22 46.1 -00.2	308 18.3 -00.7	S	19 35.1 +00.6	359 47.7 -24.3	S	05 11.2 +14.0	06			
07	283 50.8 -00.3	S	22 45.9 -00.3	323 17.6 -00.7	S	19 35.7 +00.5	14 23.4 -24.4	S	05 25.2 +14.0	07			
08	298 50.5 -00.3	S	22 45.6 -00.2	338 16.9 -00.7	S	19 36.2 +00.6	28 59.0 -24.4	S	05 39.2 +14.0	08			
09	313 50.2 -00.3	S	22 45.4 -00.3	353 16.2 -00.7	S	19 36.8 +00.6	43 34.6 -24.4	S	05 53.2 +14.0	09			
10	328 49.9 -00.2	S	22 45.1 -00.3	8 15.5 -00.7	S	19 37.4 +00.6	58 10.2 -24.4	S	06 07.2 +14.0	10			
11	343 49.7 -00.3	S	22 44.8 -00.2	23 14.8 -00.8	S	19 38.0 +00.6	72 45.8 -24.6	S	06 21.2 +13.9	11			
12	358 49.4 -00.3	S	22 44.6 -00.3	38 14.0 -00.7	S	19 38.6 +00.6	87 21.2 -24.5	S	06 35.1 +14.0	12			
13	13 49.1 -00.3	S	22 44.3 -00.2	53 13.3 -00.7	S	19 39.2 +00.6	101 56.7 -24.6	S	06 49.1 +13.9	13			
14	28 48.8 -00.3	S	22 44.1 -00.3	68 12.6 -00.7	S	19 39.8 +00.6	116 32.1 -24.7	S	07 03.0 +13.9	14			
15	43 48.5 -00.3	S	22 43.8 -00.3	83 11.9 -00.7	S	19 40.4 +00.5	131 07.4 -24.7	S	07 16.9 +13.9	15			
16	58 48.2 -00.2	S	22 43.5 -00.2	98 11.2 -00.7	S	19 40.9 +00.6	145 42.7 -24.7	S	07 30.8 +13.9	16			
17	73 48.0 -00.3	S	22 43.3 -00.3	113 10.5 -00.7	S	19 41.5 +00.6	160 18.0 -24.8	S	07 44.7 +13.9	17			
18	88 47.7 -00.3	S	22 43.0 -00.2	128 09.8 -00.7	S	19 42.1 +00.6	174 53.2 -24.9	S	07 58.6 +13.8	18			
19	103 47.4 -00.3	S	22 42.8 -00.3	143 09.1 -00.8	S	19 42.7 +00.6	189 28.3 -24.9	S	08 12.4 +13.8	19			
20	118 47.1 -00.3	S	22 42.5 -00.3	158 08.3 -00.7	S	19 43.3 +00.6	204 03.4 -24.9	S	08 26.2 +13.8	20			
21	133 46.8 -00.3	S	22 42.2 -00.2	173 07.6 -00.7	S	19 43.9 +00.5	218 38.5 -25.0	S	08 40.0 +13.8	21			
22	148 46.5 -00.2	S	22 42.0 -00.3	188 06.9 -00.7	S	19 44.4 +00.6	233 13.5 -25.1	S	08 53.8 +13.8	22			
23	163 46.3 -00.3	S	22 41.7 -00.3	203 06.2 -00.7	S	19 45.0 +00.6	247 48.4 -25.2	S	09 07.6 +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 16'3 16'3 16'3 16'3 16'3 16'3			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						
	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 54'8 54'9 54'9 55'0						
	SHA 076° 075° 075° 075° 075° 075°			SHA 115° 115° 115° 115° 114° 114°			SHA 168° 166° 165° 163° 161° 159°						
	Greenwich Culmination Time: 12:04			Greenwich Culmination Time: 09:26			Greenwich Culmination Time: 06:00						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	193 37.0 +00.4	S	24 01.0 +00.1	69 24.2 +02.5	N	12 17.2 +00.0	127 04.4 +02.3	S	11 44.3 -00.1	00			
01	208 37.4 +00.4	S	24 01.1 +00.0	84 26.7 +02.4	N	12 17.2 +00.0	142 06.7 +02.2	S	11 44.2 -00.1	01			
02	223 37.8 +00.5	S	24 01.1 +00.0	99 29.1 +02.4	N	12 17.2 +00.1	157 08.9 +02.3	S	11 44.1 -00.1	02			
03	238 38.3 +00.4	S	24 01.1 +00.1	114 31.5 +02.5	N	12 17.3 +00.0	172 11.2 +02.2	S	11 44.0 -00.1	03			
04	253 38.7 +00.4	S	24 01.2 +00.0	129 34.0 +02.4	N	12 17.3 +00.0	187 13.4 +02.3	S	11 43.9 -00.1	04			
05	268 39.1 +00.4	S	24 01.2 +00.0	144 36.4 +02.4	N	12 17.3 +00.0	202 15.7 +02.2	S	11 43.8 -00.1	05			
06	283 39.5 +00.5	S	24 01.2 +00.0	159 38.8 +02.5	N	12 17.3 +00.1	217 17.9 +02.3	S	11 43.7 +00.0	06			
07	298 40.0 +00.4	S	24 01.2 +00.1	174 41.3 +02.4	N	12 17.4 +00.0	232 20.2 +02.2	S	11 43.7 -00.1	07			
08	313 40.4 +00.4	S	24 01.3 +00.0	189 43.7 +02.4	N	12 17.4 +00.0	247 22.4 +02.2	S	11 43.6 -00.1	08			
09	328 40.8 +00.4	S	24 01.3 +00.0	204 46.1 +02.5	N	12 17.4 +00.0	262 24.6 +02.3	S	11 43.5 -00.1	09			
10	343 41.2 +00.5	S	24 01.3 +00.0	219 48.6 +02.4	N	12 17.4 +00.1	277 26.9 +02.2	S	11 43.4 -00.1	10			
11	358 41.7 +00.4	S	24 01.3 +00.1	234 51.0 +02.4	N	12 17.5 +00.0	292 29.1 +02.3	S	11 43.3 -00.1	11			
12	13 42.1 +00.4	S	24 01.4 +00.0	249 53.4 +02.5	N	12 17.5 +00.0	307 31.4 +02.2	S	11 43.2 -00.1	12			
13	28 42.5 +00.5	S	24 01.4 +00.0	264 55.9 +02.4	N	12 17.5 +00.0	322 33.6 +02.3	S	11 43.1 +00.0	13			
14	43 43.0 +00.4	S	24 01.4 +00.0	279 58.3 +02.4	N	12 17.5 +00.1	337 35.9 +02.2	S	11 43.1 -00.1	14			
15	58 43.4 +00.4	S	24 01.4 +00.1	295 00.7 +02.5	N	12 17.6 +00.0	352 38.1 +02.3	S	11 43.0 -00.1	15			
16	73 43.8 +00.4	S	24 01.5 +00.0	310 03.2 +02.4	N	12 17.6 +00.0	7 40.4 +02.2	S	11 42.9 -00.1	16			
17	88 44.2 +00.5	S	24 01.5 +00.0	325 05.6 +02.4	N	12 17.6 +00.0	22 42.6 +02.3	S	11 42.8 -00.1	17			
18	103 44.7 +00.4	S	24 01.5 +00.0	340 08.0 +02.5	N	12 17.6 +00.1	37 44.9 +02.2	S	11 42.7 -00.1	18			
19	118 45.1 +00.4	S	24 01.5 +00.1	355 10.5 +02.4	N	12 17.7 +00.0	52 47.1 +02.2	S	11 42.6 -00.1	19			
20	133 45.5 +00.4	S	24 01.6 +00.0	10 12.9 +02.4	N	12 17.7 +00.0	67 49.3 +02.3	S	11 42.5 -00.1	20			
21	148 45.9 +00.5	S	24 01.6 +00.0	25 15.3 +02.4	N	12 17.7 +00.0	82 51.6 +02.2	S	11 42.4 +00.0	21			
22	163 46.4 +00.4	S	24 01.6 +00.0	40 17.7 +02.5	N	12 17.7 +00.1	97 53.8 +02.3	S	11 42.4 -00.1	22			
23	178 46.8 +00.4	S	24 01.6 +00.0	55 20.2 +02.4	N	12 17.8 +00.0	112 56.1 +02.2	S	11 42.3 -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 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'4 00'4 00'4 00'4 00'4 00'4			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						
	SHA 090° 090° 090° 090° 090° 090°			SHA 326° 326° 326° 326° 326° 326°			SHA 024° 024° 024° 024° 024° 024°						
	Greenwich Culmination Time: 11:05			Greenwich Culmination Time: 19:19			Greenwich Culmination Time: 15:29						

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UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 46.0 -00.3	S	22 41.4 -00.2	218 05.5 -00.7	S	19 45.6 +00.6	262 23.2 -25.2	S	09 21.3 +13.8	00			
01	193 45.7 -00.3	S	22 41.2 -00.3	233 04.8 -00.8	S	19 46.2 +00.5	276 58.0 -25.2	S	09 35.1 +13.7	01			
02	208 45.4 -00.3	S	22 40.9 -00.3	248 04.0 -00.7	S	19 46.7 +00.6	291 32.8 -25.4	S	09 48.8 +13.6	02			
03	223 45.1 -00.3	S	22 40.6 -00.3	263 03.3 -00.7	S	19 47.3 +00.6	306 07.4 -25.3	S	10 02.4 +13.7	03			
04	238 44.8 -00.2	S	22 40.3 -00.2	278 02.6 -00.7	S	19 47.9 +00.6	320 42.1 -25.5	S	10 16.1 +13.6	04			
05	253 44.6 -00.3	S	22 40.1 -00.3	293 01.9 -00.7	S	19 48.5 +00.5	335 16.6 -25.5	S	10 29.7 +13.6	05			
06	268 44.3 -00.3	S	22 39.8 -00.3	308 01.2 -00.8	S	19 49.0 +00.6	349 51.1 -25.6	S	10 43.3 +13.5	06			
07	283 44.0 -00.3	S	22 39.5 -00.2	323 00.4 -00.7	S	19 49.6 +00.6	4 25.5 -25.7	S	10 56.8 +13.6	07			
08	298 43.7 -00.3	S	22 39.3 -00.3	337 59.7 -00.7	S	19 50.2 +00.6	18 59.8 -25.7	S	11 10.4 +13.5	08			
09	313 43.4 -00.2	S	22 39.0 -00.3	352 59.0 -00.7	S	19 50.8 +00.5	33 34.1 -25.8	S	11 23.9 +13.4	09			
10	328 43.2 -00.3	S	22 38.7 -00.3	7 58.3 -00.7	S	19 51.3 +00.6	48 08.3 -25.9	S	11 37.3 +13.5	10			
11	343 42.9 -00.3	S	22 38.4 -00.2	22 57.6 -00.8	S	19 51.9 +00.6	62 42.4 -26.0	S	11 50.8 +13.4	11			
12	358 42.6 -00.3	S	22 38.2 -00.3	37 56.8 -00.7	S	19 52.5 +00.5	77 16.4 -26.0	S	12 04.2 +13.3	12			
13	13 42.3 -00.3	S	22 37.9 -00.3	52 56.1 -00.7	S	19 53.0 +00.6	91 50.4 -26.1	S	12 17.5 +13.4	13			
14	28 42.0 -00.3	S	22 37.6 -00.3	67 55.4 -00.7	S	19 53.6 +00.6	106 24.3 -26.2	S	12 30.9 +13.3	14			
15	43 41.7 -00.2	S	22 37.3 -00.3	82 54.7 -00.8	S	19 54.2 +00.5	120 58.1 -26.2	S	12 44.2 +13.2	15			
16	58 41.5 -00.3	S	22 37.0 -00.2	97 53.9 -00.7	S	19 54.7 +00.6	135 31.9 -26.4	S	12 57.4 +13.2	16			
17	73 41.2 -00.3	S	22 36.8 -00.3	112 53.2 -00.7	S	19 55.3 +00.5	150 05.5 -26.4	S	13 10.6 +13.2	17			
18	88 40.9 -00.3	S	22 36.5 -00.3	127 52.5 -00.7	S	19 55.8 +00.6	164 39.1 -26.5	S	13 23.8 +13.1	18			
19	103 40.6 -00.2	S	22 36.2 -00.3	142 51.8 -00.8	S	19 56.4 +00.6	179 12.6 -26.6	S	13 36.9 +13.1	19			
20	118 40.4 -00.3	S	22 35.9 -00.3	157 51.0 -00.7	S	19 57.0 +00.5	193 46.0 -26.7	S	13 50.0 +13.1	20			
21	133 40.1 -00.3	S	22 35.6 -00.3	172 50.3 -00.7	S	19 57.5 +00.6	208 19.3 -26.8	S	14 03.1 +13.0	21			
22	148 39.8 -00.3	S	22 35.3 -00.2	187 49.6 -00.7	S	19 58.1 +00.5	222 52.5 -26.9	S	14 16.1 +13.0	22			
23	163 39.5 -00.3	S	22 35.1 -00.3	202 48.9 -00.8	S	19 58.6 +00.6	237 25.6 -26.9	S	14 29.1 +12.9	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'3 16'3 16'3 16'3 16'3 16'3			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 15'0 15'0 15'1 15'1 15'1 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 55'1 55'2 55'3 55'4 55'5 55'7						
	SHA 075° 074° 074° 074° 074° 074°			SHA 114° 114° 113° 113° 113° 113°			SHA 157° 156° 154° 152° 150° 148°						
	Greenwich Culmination Time: 12:05			Greenwich Culmination Time: 09:28			Greenwich Culmination Time: 06:41						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	193 47.2 +00.5	S	24 01.6 +00.1	70 22.6 +02.4	N	12 17.8 +00.0	127 58.3 +02.3	S	11 42.2 -00.1	00			
01	208 47.7 +00.4	S	24 01.7 +00.0	85 25.0 +02.5	N	12 17.8 +00.0	143 00.6 +02.2	S	11 42.1 -00.1	01			
02	223 48.1 +00.4	S	24 01.7 +00.0	100 27.5 +02.4	N	12 17.8 +00.1	158 02.8 +02.3	S	11 42.0 -00.1	02			
03	238 48.5 +00.4	S	24 01.7 +00.0	115 29.9 +02.4	N	12 17.9 +00.0	173 05.1 +02.2	S	11 41.9 -00.1	03			
04	253 48.9 +00.5	S	24 01.7 +00.0	130 32.3 +02.4	N	12 17.9 +00.0	188 07.3 +02.2	S	11 41.8 -00.1	04			
05	268 49.4 +00.4	S	24 01.7 +00.1	145 34.7 +02.5	N	12 17.9 +00.0	203 09.5 +02.3	S	11 41.7 +00.0	05			
06	283 49.8 +00.4	S	24 01.8 +00.0	160 37.2 +02.4	N	12 17.9 +00.1	218 11.8 +02.2	S	11 41.7 -00.1	06			
07	298 50.2 +00.4	S	24 01.8 +00.0	175 39.6 +02.4	N	12 18.0 +00.0	233 14.0 +02.3	S	11 41.6 -00.1	07			
08	313 50.6 +00.5	S	24 01.8 +00.0	190 42.0 +02.4	N	12 18.0 +00.0	248 16.3 +02.2	S	11 41.5 -00.1	08			
09	328 51.1 +00.4	S	24 01.8 +00.0	205 44.4 +02.5	N	12 18.0 +00.1	263 18.5 +02.3	S	11 41.4 -00.1	09			
10	343 51.5 +00.4	S	24 01.8 +00.0	220 46.9 +02.4	N	12 18.1 +00.0	278 20.8 +02.2	S	11 41.3 -00.1	10			
11	358 51.9 +00.4	S	24 01.8 +00.1	235 49.3 +02.4	N	12 18.1 +00.0	293 23.0 +02.3	S	11 41.2 -00.1	11			
12	13 52.3 +00.5	S	24 01.9 +00.0	250 51.7 +02.4	N	12 18.1 +00.0	308 25.3 +02.2	S	11 41.1 -00.1	12			
13	28 52.8 +00.4	S	24 01.9 +00.0	265 54.1 +02.5	N	12 18.1 +00.1	323 27.5 +02.2	S	11 41.0 +00.0	13			
14	43 53.2 +00.4	S	24 01.9 +00.0	280 56.6 +02.4	N	12 18.2 +00.0	338 29.7 +02.3	S	11 41.0 -00.1	14			
15	58 53.6 +00.4	S	24 01.9 +00.0	295 59.0 +02.4	N	12 18.2 +00.0	353 32.0 +02.2	S	11 40.9 -00.1	15			
16	73 54.0 +00.5	S	24 01.9 +00.0	311 01.4 +02.4	N	12 18.2 +00.1	8 34.2 +02.3	S	11 40.8 -00.1	16			
17	88 54.5 +00.4	S	24 01.9 +00.0	326 03.8 +02.4	N	12 18.3 +00.0	23 36.5 +02.2	S	11 40.7 -00.1	17			
18	103 54.9 +00.4	S	24 01.9 +00.0	341 06.2 +02.5	N	12 18.3 +00.0	38 38.7 +02.3	S	11 40.6 -00.1	18			
19	118 55.3 +00.4	S	24 01.9 +00.1	356 08.7 +02.4	N	12 18.3 +00.0	53 41.0 +02.2	S	11 40.5 -00.1	19			
20	133 55.7 +00.5	S	24 02.0 +00.0	11 11.1 +02.4	N	12 18.3 +00.1	68 43.2 +02.2	S	11 40.4 -00.1	20			
21	148 56.2 +00.4	S	24 02.0 +00.0	26 13.5 +02.4	N	12 18.4 +00.0	83 45.4 +02.3	S	11 40.3 +00.0	21			
22	163 56.6 +00.4	S	24 02.0 +00.0	41 15.9 +02.4	N	12 18.4 +00.0	98 47.7 +02.2	S	11 40.3 -00.1	22			
23	178 57.0 +00.4	S	24 02.0 +00.0	56 18.3 +02.5	N	12 18.4 +00.0	113 49.9 +02.3	S	11 40.2 -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 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'4 00'4 00'4 00'4 00'4 00'4			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						
	SHA 090° 089° 089° 089° 089° 089°			SHA 326° 326° 326° 326° 326° 326°			SHA 024° 024° 024° 024° 024° 024°						
	Greenwich Culmination Time: 11:04			Greenwich Culmination Time: 19:15			Greenwich Culmination Time: 15:25						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 39.2 -00.2	S 22 34.8 -00.3	217 48.1 -00.7	S 19 59.2 +00.5	251 58.7 -27.1	S 14 42.0 +12.8	00						
01	193 39.0 -00.3	S 22 34.5 -00.3	232 47.4 -00.7	S 19 59.7 +00.6	266 31.6 -27.1	S 14 54.8 +12.9	01						
02	208 38.7 -00.3	S 22 34.2 -00.3	247 46.7 -00.8	S 20 00.3 +00.5	281 04.5 -27.2	S 15 07.7 +12.7	02						
03	223 38.4 -00.3	S 22 33.9 -00.3	262 45.9 -00.7	S 20 00.8 +00.6	295 37.3 -27.3	S 15 20.4 +12.7	03						
04	238 38.1 -00.3	S 22 33.6 -00.3	277 45.2 -00.7	S 20 01.4 +00.6	310 10.0 -27.5	S 15 33.1 +12.7	04						
05	253 37.8 -00.2	S 22 33.3 -00.3	292 44.5 -00.8	S 20 02.0 +00.5	324 42.5 -27.5	S 15 45.8 +12.6	05						
06	268 37.6 -00.3	S 22 33.0 -00.3	307 43.7 -00.7	S 20 02.5 +00.6	339 15.0 -27.6	S 15 58.4 +12.6	06						
07	283 37.3 -00.3	S 22 32.7 -00.2	322 43.0 -00.7	S 20 03.1 +00.5	353 47.4 -27.7	S 16 11.0 +12.5	07						
08	298 37.0 -00.3	S 22 32.5 -00.3	337 42.3 -00.8	S 20 03.6 +00.5	8 19.7 -27.8	S 16 23.5 +12.4	08						
09	313 36.7 -00.2	S 22 32.2 -00.3	352 41.5 -00.7	S 20 04.1 +00.6	22 51.9 -27.9	S 16 35.9 +12.4	09						
10	328 36.5 -00.3	S 22 31.9 -00.3	7 40.8 -00.7	S 20 04.7 +00.5	37 24.0 -28.1	S 16 48.3 +12.3	10						
11	343 36.2 -00.3	S 22 31.6 -00.3	22 40.1 -00.8	S 20 05.2 +00.6	51 55.9 -28.1	S 17 00.6 +12.3	11						
12	358 35.9 -00.3	S 22 31.3 -00.3	37 39.3 -00.7	S 20 05.8 +00.5	66 27.8 -28.2	S 17 12.9 +12.2	12						
13	13 35.6 -00.2	S 22 31.0 -00.3	52 38.6 -00.7	S 20 06.3 +00.6	80 59.6 -28.4	S 17 25.1 +12.1	13						
14	28 35.4 -00.3	S 22 30.7 -00.3	67 37.9 -00.8	S 20 06.9 +00.5	95 31.2 -28.4	S 17 37.2 +12.1	14						
15	43 35.1 -00.3	S 22 30.4 -00.3	82 37.1 -00.7	S 20 07.4 +00.6	110 02.8 -28.6	S 17 49.3 +12.0	15						
16	58 34.8 -00.3	S 22 30.1 -00.3	97 36.4 -00.7	S 20 08.0 +00.5	124 34.2 -28.6	S 18 01.3 +11.9	16						
17	73 34.5 -00.2	S 22 29.8 -00.3	112 35.7 -00.8	S 20 08.5 +00.5	139 05.6 -28.8	S 18 13.2 +11.9	17						
18	88 34.3 -00.3	S 22 29.5 -00.3	127 34.9 -00.7	S 20 09.0 +00.6	153 36.8 -28.9	S 18 25.1 +11.8	18						
19	103 34.0 -00.3	S 22 29.2 -00.3	142 34.2 -00.7	S 20 09.6 +00.5	168 07.9 -29.0	S 18 36.9 +11.7	19						
20	118 33.7 -00.3	S 22 28.9 -00.3	157 33.5 -00.8	S 20 10.1 +00.5	182 38.9 -29.1	S 18 48.6 +11.7	20						
21	133 33.4 -00.2	S 22 28.6 -00.3	172 32.7 -00.7	S 20 10.6 +00.6	197 09.8 -29.2	S 19 00.3 +11.6	21						
22	148 33.2 -00.3	S 22 28.3 -00.3	187 32.0 -00.8	S 20 11.2 +00.5	211 40.6 -29.3	S 19 11.9 +11.5	22						
23	163 32.9 -00.3	S 22 28.0 -00.3	202 31.2 -00.7	S 20 11.7 +00.6	226 11.3 -29.5	S 19 23.4 +11.4	23						
UT	02 06 10 14 18 22	SD 16'3 16'3 16'3 16'3 16'3 16'3	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 15'2 15'2 15'3 15'3 15'3 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 55'8 55'9 56'0 56'2 56'3 56'4		HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 073° 073° 073° 073° 073° 073°		SHA 113° 112° 112° 112° 112° 112°		SHA 146° 144° 142° 140° 138° 136°		SHA 024° 024° 024° 024° 024° 024°						
	Greenwich Culmination Time: 12:05		Greenwich Culmination Time: 09:29		Greenwich Culmination Time: 07:25								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	193 57.4 +00.5	S 24 02.0 +00.0	71 20.8 +02.4	N 12 18.4 +00.1	128 52.2 +02.2	S 11 40.1 -00.1	00						
01	208 57.9 +00.4	S 24 02.0 +00.0	86 23.2 +02.4	N 12 18.5 +00.0	143 54.4 +02.2	S 11 40.0 -00.1	01						
02	223 58.3 +00.4	S 24 02.0 +00.0	101 25.6 +02.4	N 12 18.5 +00.0	158 56.6 +02.3	S 11 39.9 -00.1	02						
03	238 58.7 +00.4	S 24 02.0 +00.0	116 28.0 +02.4	N 12 18.5 +00.1	173 58.9 +02.2	S 11 39.8 -00.1	03						
04	253 59.1 +00.5	S 24 02.0 +00.0	131 30.4 +02.5	N 12 18.6 +00.0	189 01.1 +02.3	S 11 39.7 -00.1	04						
05	268 59.6 +00.4	S 24 02.0 +00.1	146 32.9 +02.4	N 12 18.6 +00.0	204 03.4 +02.2	S 11 39.6 +00.0	05						
06	283 60.0 +00.4	S 24 02.1 +00.0	161 35.3 +02.4	N 12 18.6 +00.1	219 05.6 +02.3	S 11 39.6 -00.1	06						
07	299 00.4 +00.4	S 24 02.1 +00.0	176 37.7 +02.4	N 12 18.7 +00.0	234 07.9 +02.2	S 11 39.5 -00.1	07						
08	314 00.8 +00.5	S 24 02.1 +00.0	191 40.1 +02.4	N 12 18.7 +00.0	249 10.1 +02.2	S 11 39.4 -00.1	08						
09	329 01.3 +00.4	S 24 02.1 +00.0	206 42.5 +02.4	N 12 18.7 +00.0	264 12.3 +02.3	S 11 39.3 -00.1	09						
10	344 01.7 +00.4	S 24 02.1 +00.0	221 44.9 +02.5	N 12 18.7 +00.1	279 14.6 +02.2	S 11 39.2 -00.1	10						
11	359 02.1 +00.4	S 24 02.1 +00.0	236 47.4 +02.4	N 12 18.8 +00.0	294 16.8 +02.3	S 11 39.1 -00.1	11						
12	14 02.5 +00.4	S 24 02.1 +00.0	251 49.8 +02.4	N 12 18.8 +00.0	309 19.1 +02.2	S 11 39.0 -00.1	12						
13	29 02.9 +00.5	S 24 02.1 +00.0	266 52.2 +02.4	N 12 18.8 +00.1	324 21.3 +02.2	S 11 38.9 -00.1	13						
14	44 03.4 +00.4	S 24 02.1 +00.0	281 54.6 +02.4	N 12 18.9 +00.0	339 23.5 +02.3	S 11 38.8 +00.0	14						
15	59 03.8 +00.4	S 24 02.1 +00.0	296 57.0 +02.4	N 12 18.9 +00.0	354 25.8 +02.2	S 11 38.8 -00.1	15						
16	74 04.2 +00.4	S 24 02.1 +00.0	311 59.4 +02.4	N 12 18.9 +00.1	9 28.0 +02.3	S 11 38.7 -00.1	16						
17	89 04.6 +00.5	S 24 02.1 +00.0	327 01.8 +02.5	N 12 19.0 +00.0	24 30.3 +02.2	S 11 38.6 -00.1	17						
18	104 05.1 +00.4	S 24 02.1 +00.0	342 04.3 +02.4	N 12 19.0 +00.0	39 32.5 +02.2	S 11 38.5 -00.1	18						
19	119 05.5 +00.4	S 24 02.1 +00.0	357 06.7 +02.4	N 12 19.0 +00.1	54 34.7 +02.3	S 11 38.4 -00.1	19						
20	134 05.9 +00.4	S 24 02.1 +00.0	12 09.1 +02.4	N 12 19.1 +00.0	69 37.0 +02.2	S 11 38.3 -00.1	20						
21	149 06.3 +00.4	S 24 02.1 +00.0	27 11.5 +02.4	N 12 19.1 +00.0	84 39.2 +02.3	S 11 38.2 -00.1	21						
22	164 06.7 +00.5	S 24 02.1 +00.0	42 13.9 +02.4	N 12 19.1 +00.0	99 41.5 +02.2	S 11 38.1 -00.1	22						
23	179 07.2 +00.4	S 24 02.1 +00.0	57 16.3 +02.4	N 12 19.1 +00.1	114 43.7 +02.2	S 11 38.0 +00.0	23						
UT	02 06 10 14 18 22	SD 00'0 00'0 00'0 00'0 00'0 00'0	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 00'1 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						
	SHA 089° 089° 089° 088° 088° 088°		SHA 326° 326° 326° 326° 326° 326°		SHA 024° 024° 024° 024° 024° 024°		SHA 024° 024° 024° 024° 024° 024°						
	Greenwich Culmination Time: 11:03		Greenwich Culmination Time: 19:11		Greenwich Culmination Time: 15:22								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 32.6 -00.3	S	22 27.7 -00.3	217 30.5 -00.7	S	20 12.3 +00.5	240 41.8 -29.5	S	19 34.8 +11.3	00			
01	193 32.3 -00.2	S	22 27.4 -00.3	232 29.8 -00.8	S	20 12.8 +00.5	255 12.3 -29.7	S	19 46.1 +11.3	01			
02	208 32.1 -00.3	S	22 27.1 -00.3	247 29.0 -00.7	S	20 13.3 +00.5	269 42.6 -29.8	S	19 57.4 +11.2	02			
03	223 31.8 -00.3	S	22 26.8 -00.4	262 28.3 -00.8	S	20 13.8 +00.6	284 12.8 -29.9	S	20 08.6 +11.1	03			
04	238 31.5 -00.3	S	22 26.4 -00.3	277 27.5 -00.7	S	20 14.4 +00.5	298 42.9 -30.1	S	20 19.7 +11.0	04			
05	253 31.2 -00.2	S	22 26.1 -00.3	292 26.8 -00.7	S	20 14.9 +00.5	313 12.8 -30.2	S	20 30.7 +10.9	05			
06	268 31.0 -00.3	S	22 25.8 -00.3	307 26.1 -00.8	S	20 15.4 +00.6	327 42.6 -30.2	S	20 41.6 +10.8	06			
07	283 30.7 -00.3	S	22 25.5 -00.3	322 25.3 -00.7	S	20 16.0 +00.5	342 12.4 -30.4	S	20 52.4 +10.8	07			
08	298 30.4 -00.2	S	22 25.2 -00.3	337 24.6 -00.8	S	20 16.5 +00.5	356 42.0 -30.6	S	21 03.2 +10.6	08			
09	313 30.2 -00.3	S	22 24.9 -00.3	352 23.8 -00.7	S	20 17.0 +00.5	11 11.4 -30.6	S	21 13.8 +10.6	09			
10	328 29.9 -00.3	S	22 24.6 -00.3	7 23.1 -00.8	S	20 17.5 +00.6	25 40.8 -30.8	S	21 24.4 +10.4	10			
11	343 29.6 -00.3	S	22 24.3 -00.3	22 22.3 -00.7	S	20 18.1 +00.5	40 10.0 -30.9	S	21 34.8 +10.4	11			
12	358 29.3 -00.2	S	22 24.0 -00.4	37 21.6 -00.7	S	20 18.6 +00.5	54 39.1 -31.0	S	21 45.2 +10.3	12			
13	13 29.1 -00.3	S	22 23.6 -00.3	52 20.9 -00.8	S	20 19.1 +00.5	69 08.1 -31.2	S	21 55.5 +10.2	13			
14	28 28.8 -00.3	S	22 23.3 -00.3	67 20.1 -00.7	S	20 19.6 +00.5	83 36.9 -31.3	S	22 05.7 +10.0	14			
15	43 28.5 -00.2	S	22 23.0 -00.3	82 19.4 -00.8	S	20 20.1 +00.6	98 05.6 -31.4	S	22 15.7 +10.0	15			
16	58 28.3 -00.3	S	22 22.7 -00.3	97 18.6 -00.7	S	20 20.7 +00.5	112 34.2 -31.5	S	22 25.7 +09.8	16			
17	73 28.0 -00.3	S	22 22.4 -00.3	112 17.9 -00.8	S	20 21.2 +00.5	127 02.7 -31.6	S	22 35.5 +09.8	17			
18	88 27.7 -00.3	S	22 22.1 -00.4	127 17.1 -00.7	S	20 21.7 +00.5	141 31.1 -31.8	S	22 45.3 +09.6	18			
19	103 27.4 -00.2	S	22 21.7 -00.3	142 16.4 -00.8	S	20 22.2 +00.5	155 59.3 -31.9	S	22 54.9 +09.6	19			
20	118 27.2 -00.3	S	22 21.4 -00.3	157 15.6 -00.7	S	20 22.7 +00.5	170 27.4 -32.1	S	23 04.5 +09.4	20			
21	133 26.9 -00.3	S	22 21.1 -00.3	172 14.9 -00.8	S	20 23.2 +00.6	184 55.3 -32.1	S	23 13.9 +09.3	21			
22	148 26.6 -00.2	S	22 20.8 -00.3	187 14.1 -00.7	S	20 23.8 +00.5	199 23.2 -32.3	S	23 23.2 +09.2	22			
23	163 26.4 -00.3	S	22 20.5 -00.4	202 13.4 -00.8	S	20 24.3 +00.5	213 50.9 -32.5	S	23 32.4 +09.1	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'3 16'3 16'3 16'3 16'3 16'3			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 15'4 15'4 15'5 15'5 15'6 15'6						
	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 56'6 56'7 56'8 57'0 57'1 57'3						
	SHA 072° 072° 072° 072° 072° 071°			SHA 111° 111° 111° 111° 110° 110°			SHA 134° 131° 129° 127° 125° 122°						
	Greenwich Culmination Time: 12:06			Greenwich Culmination Time: 09:30			Greenwich Culmination Time: 08:13						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	194 07.6 +00.4	S	24 02.1 +00.0	72 18.7 +02.4	N	12 19.2 +00.0	129 45.9 +02.3	S	11 38.0 -00.1	00			
01	209 08.0 +00.4	S	24 02.1 +00.0	87 21.1 +02.4	N	12 19.2 +00.0	144 48.2 +02.2	S	11 37.9 -00.1	01			
02	224 08.4 +00.5	S	24 02.1 +00.0	102 23.5 +02.5	N	12 19.2 +00.1	159 50.4 +02.3	S	11 37.8 -00.1	02			
03	239 08.9 +00.4	S	24 02.1 +00.0	117 26.0 +02.4	N	12 19.3 +00.0	174 52.7 +02.2	S	11 37.7 -00.1	03			
04	254 09.3 +00.4	S	24 02.1 +00.0	132 28.4 +02.4	N	12 19.3 +00.0	189 54.9 +02.2	S	11 37.6 -00.1	04			
05	269 09.7 +00.4	S	24 02.1 +00.0	147 30.8 +02.4	N	12 19.3 +00.1	204 57.1 +02.3	S	11 37.5 -00.1	05			
06	284 10.1 +00.4	S	24 02.1 +00.0	162 33.2 +02.4	N	12 19.4 +00.0	219 59.4 +02.2	S	11 37.4 -00.1	06			
07	299 10.5 +00.5	S	24 02.1 +00.0	177 35.6 +02.4	N	12 19.4 +00.0	235 01.6 +02.2	S	11 37.3 -00.1	07			
08	314 11.0 +00.4	S	24 02.1 +00.0	192 38.0 +02.4	N	12 19.4 +00.1	250 03.8 +02.3	S	11 37.2 +00.0	08			
09	329 11.4 +00.4	S	24 02.1 +00.0	207 40.4 +02.4	N	12 19.5 +00.0	265 06.1 +02.2	S	11 37.2 -00.1	09			
10	344 11.8 +00.4	S	24 02.1 +00.0	222 42.8 +02.4	N	12 19.5 +00.0	280 08.3 +02.3	S	11 37.1 -00.1	10			
11	359 12.2 +00.5	S	24 02.1 +00.0	237 45.2 +02.4	N	12 19.5 +00.1	295 10.6 +02.2	S	11 37.0 -00.1	11			
12	14 12.7 +00.4	S	24 02.1 +00.0	252 47.6 +02.4	N	12 19.6 +00.0	310 12.8 +02.2	S	11 36.9 -00.1	12			
13	29 13.1 +00.4	S	24 02.1 -00.1	267 50.0 +02.4	N	12 19.6 +00.0	325 15.0 +02.3	S	11 36.8 -00.1	13			
14	44 13.5 +00.4	S	24 02.0 +00.0	282 52.4 +02.4	N	12 19.6 +00.1	340 17.3 +02.2	S	11 36.7 -00.1	14			
15	59 13.9 +00.4	S	24 02.0 +00.0	297 54.8 +02.5	N	12 19.7 +00.0	355 19.5 +02.3	S	11 36.6 -00.1	15			
16	74 14.3 +00.5	S	24 02.0 +00.0	312 57.3 +02.4	N	12 19.7 +00.0	10 21.8 +02.2	S	11 36.5 -00.1	16			
17	89 14.8 +00.4	S	24 02.0 +00.0	327 59.7 +02.4	N	12 19.7 +00.1	25 24.0 +02.2	S	11 36.4 +00.0	17			
18	104 15.2 +00.4	S	24 02.0 +00.0	343 02.1 +02.4	N	12 19.8 +00.0	40 26.2 +02.3	S	11 36.4 -00.1	18			
19	119 15.6 +00.4	S	24 02.0 +00.0	358 04.5 +02.4	N	12 19.8 +00.0	55 28.5 +02.2	S	11 36.3 -00.1	19			
20	134 16.0 +00.4	S	24 02.0 +00.0	13 06.9 +02.4	N	12 19.8 +00.1	70 30.7 +02.2	S	11 36.2 -00.1	20			
21	149 16.4 +00.5	S	24 02.0 +00.0	28 09.3 +02.4	N	12 19.9 +00.0	85 32.9 +02.3	S	11 36.1 -00.1	21			
22	164 16.9 +00.4	S	24 02.0 +00.0	43 11.7 +02.4	N	12 19.9 +00.0	100 35.2 +02.2	S	11 36.0 -00.1	22			
23	179 17.3 +00.4	S	24 02.0 -00.1	58 14.1 +02.4	N	12 19.9 +00.1	115 37.4 +02.3	S	11 35.9 -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 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'4 00'4 00'4 00'4 00'4 00'4			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						
	SHA 088° 088° 088° 088° 087° 087°			SHA 326° 326° 326° 326° 326° 326°			SHA 024° 024° 024° 024° 024° 024°						
	Greenwich Culmination Time: 11:03			Greenwich Culmination Time: 19:07			Greenwich Culmination Time: 15:18						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 26.1 -00.3	S	22 20.1 -00.3	217 12.6 -00.7	S	20 24.8 +00.5	228 18.4 -32.5	S	23 41.5 +08.9				
01	193 25.8 -00.2	S	22 19.8 -00.3	232 11.9 -00.8	S	20 25.3 +00.5	242 45.9 -32.7	S	23 50.4 +08.9				
02	208 25.6 -00.3	S	22 19.5 -00.3	247 11.1 -00.7	S	20 25.8 +00.5	257 13.2 -32.8	S	23 59.3 +08.7				
03	223 25.3 -00.3	S	22 19.2 -00.4	262 10.4 -00.8	S	20 26.3 +00.5	271 40.4 -32.9	S	24 08.0 +08.6				
04	238 25.0 -00.2	S	22 18.8 -00.3	277 09.6 -00.7	S	20 26.8 +00.5	286 07.5 -33.1	S	24 16.6 +08.4				
05	253 24.8 -00.3	S	22 18.5 -00.3	292 08.9 -00.8	S	20 27.3 +00.5	300 34.4 -33.2	S	24 25.0 +08.4				
06	268 24.5 -00.3	S	22 18.2 -00.4	307 08.1 -00.7	S	20 27.8 +00.5	315 01.2 -33.3	S	24 33.4 +08.2				
07	283 24.2 -00.3	S	22 17.8 -00.3	322 07.4 -00.8	S	20 28.3 +00.5	329 27.9 -33.4	S	24 41.6 +08.0				
08	298 23.9 -00.2	S	22 17.5 -00.3	337 06.6 -00.7	S	20 28.8 +00.5	343 54.5 -33.6	S	24 49.6 +08.0				
09	313 23.7 -00.3	S	22 17.2 -00.3	352 05.9 -00.8	S	20 29.3 +00.5	358 20.9 -33.7	S	24 57.6 +07.8				
10	328 23.4 -00.3	S	22 16.9 -00.4	7 05.1 -00.8	S	20 29.8 +00.5	12 47.2 -33.8	S	25 05.4 +07.7				
11	343 23.1 -00.2	S	22 16.5 -00.3	22 04.3 -00.7	S	20 30.3 +00.5	27 13.4 -34.0	S	25 13.1 +07.5				
12	358 22.9 -00.3	S	22 16.2 -00.3	37 03.6 -00.8	S	20 30.8 +00.5	41 39.4 -34.0	S	25 20.6 +07.4				
13	13 22.6 -00.3	S	22 15.9 -00.4	52 02.8 -00.7	S	20 31.3 +00.5	56 05.4 -34.2	S	25 28.0 +07.2				
14	28 22.3 -00.2	S	22 15.5 -00.3	67 02.1 -00.8	S	20 31.8 +00.5	70 31.2 -34.4	S	25 35.2 +07.1				
15	43 22.1 -00.3	S	22 15.2 -00.3	82 01.3 -00.7	S	20 32.3 +00.5	84 56.8 -34.4	S	25 42.3 +07.0				
16	58 21.8 -00.2	S	22 14.9 -00.4	97 00.6 -00.8	S	20 32.8 +00.5	99 22.4 -34.6	S	25 49.3 +06.8				
17	73 21.6 -00.3	S	22 14.5 -00.3	111 59.8 -00.8	S	20 33.3 +00.5	113 47.8 -34.6	S	25 56.1 +06.7				
18	88 21.3 -00.3	S	22 14.2 -00.4	126 59.0 -00.7	S	20 33.8 +00.5	128 13.2 -34.8	S	26 02.8 +06.5				
19	103 21.0 -00.2	S	22 13.8 -00.3	141 58.3 -00.8	S	20 34.3 +00.5	142 38.4 -35.0	S	26 09.3 +06.4				
20	118 20.8 -00.3	S	22 13.5 -00.3	156 57.5 -00.7	S	20 34.8 +00.5	157 03.4 -35.0	S	26 15.7 +06.2				
21	133 20.5 -00.3	S	22 13.2 -00.4	171 56.8 -00.8	S	20 35.3 +00.5	171 28.4 -35.1	S	26 21.9 +06.0				
22	148 20.2 -00.2	S	22 12.8 -00.3	186 56.0 -00.7	S	20 35.8 +00.5	185 53.3 -35.3	S	26 27.9 +05.9				
23	163 20.0 -00.3	S	22 12.5 -00.4	201 55.3 -00.8	S	20 36.3 +00.5	200 18.0 -35.4	S	26 33.8 +05.8				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'3 16'3 16'3 16'3 16'3 16'3			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 15'6 15'7 15'7 15'8 15'8 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 57'4 57'6 57'7 57'9 58'0 58'2						
	SHA 071° 071° 071° 071° 071° 070°			SHA 110° 110° 110° 109° 109° 109°			SHA 120° 118° 115° 113° 110° 108°						
	Greenwich Culmination Time: 12:06			Greenwich Culmination Time: 09:31			Greenwich Culmination Time: 09:06						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	194 17.7 +00.4	S	24 01.9 +00.0	73 16.5 +02.4	N	12 20.0 +00.0	130 39.7 +02.2	S	11 35.8 -00.1				
01	209 18.1 +00.4	S	24 01.9 +00.0	88 18.9 +02.4	N	12 20.0 +00.0	145 41.9 +02.2	S	11 35.7 -00.1				
02	224 18.5 +00.5	S	24 01.9 +00.0	103 21.3 +02.4	N	12 20.0 +00.1	160 44.1 +02.3	S	11 35.6 -00.1				
03	239 19.0 +00.4	S	24 01.9 +00.0	118 23.7 +02.4	N	12 20.1 +00.0	175 46.4 +02.2	S	11 35.5 +00.0				
04	254 19.4 +00.4	S	24 01.9 +00.0	133 26.1 +02.4	N	12 20.1 +00.0	190 48.6 +02.2	S	11 35.5 -00.1				
05	269 19.8 +00.4	S	24 01.9 +00.0	148 28.5 +02.4	N	12 20.1 +00.1	205 50.8 +02.3	S	11 35.4 -00.1				
06	284 20.2 +00.4	S	24 01.9 +00.0	163 30.9 +02.4	N	12 20.2 +00.0	220 53.1 +02.2	S	11 35.3 -00.1				
07	299 20.6 +00.5	S	24 01.9 -00.1	178 33.3 +02.4	N	12 20.2 +00.1	235 55.3 +02.2	S	11 35.2 -00.1				
08	314 21.1 +00.4	S	24 01.8 +00.0	193 35.7 +02.4	N	12 20.3 +00.0	250 57.5 +02.3	S	11 35.1 -00.1				
09	329 21.5 +00.4	S	24 01.8 +00.0	208 38.1 +02.4	N	12 20.3 +00.0	265 59.8 +02.2	S	11 35.0 -00.1				
10	344 21.9 +00.4	S	24 01.8 +00.0	223 40.5 +02.4	N	12 20.3 +00.1	281 02.0 +02.3	S	11 34.9 -00.1				
11	359 22.3 +00.4	S	24 01.8 +00.0	238 42.9 +02.4	N	12 20.4 +00.0	296 04.3 +02.2	S	11 34.8 -00.1				
12	14 22.7 +00.5	S	24 01.8 +00.0	253 45.3 +02.4	N	12 20.4 +00.0	311 06.5 +02.2	S	11 34.7 -00.1				
13	29 23.2 +00.4	S	24 01.8 -00.1	268 47.7 +02.4	N	12 20.4 +00.1	326 08.7 +02.3	S	11 34.6 +00.0				
14	44 23.6 +00.4	S	24 01.7 +00.0	283 50.1 +02.4	N	12 20.5 +00.0	341 11.0 +02.2	S	11 34.6 -00.1				
15	59 24.0 +00.4	S	24 01.7 +00.0	298 52.5 +02.4	N	12 20.5 +00.0	356 13.2 +02.2	S	11 34.5 -00.1				
16	74 24.4 +00.4	S	24 01.7 +00.0	313 54.9 +02.4	N	12 20.5 +00.1	11 15.4 +02.3	S	11 34.4 -00.1				
17	89 24.8 +00.5	S	24 01.7 +00.0	328 57.3 +02.4	N	12 20.6 +00.0	26 17.7 +02.2	S	11 34.3 -00.1				
18	104 25.3 +00.4	S	24 01.7 -00.1	343 59.7 +02.4	N	12 20.6 +00.0	41 19.9 +02.2	S	11 34.2 -00.1				
19	119 25.7 +00.4	S	24 01.6 +00.0	359 02.1 +02.4	N	12 20.6 +00.1	56 22.1 +02.3	S	11 34.1 -00.1				
20	134 26.1 +00.4	S	24 01.6 +00.0	14 04.5 +02.4	N	12 20.7 +00.0	71 24.4 +02.2	S	11 34.0 -00.1				
21	149 26.5 +00.4	S	24 01.6 +00.0	29 06.9 +02.4	N	12 20.7 +00.1	86 26.6 +02.2	S	11 33.9 -00.1				
22	164 26.9 +00.4	S	24 01.6 +00.0	44 09.3 +02.4	N	12 20.8 +00.0	101 28.8 +02.3	S	11 33.8 -00.1				
23	179 27.3 +00.5	S	24 01.6 -00.1	59 11.7 +02.4	N	12 20.8 +00.0	116 31.1 +02.2	S	11 33.7 -00.1				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'4 00'4 00'4 00'4 00'4 00'4			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						
	SHA 087° 087° 087° 087° 087° 086°			SHA 326° 326° 326° 326° 326° 326°			SHA 024° 024° 024° 024° 024° 024°						
	Greenwich Culmination Time: 11:02			Greenwich Culmination Time: 19:03			Greenwich Culmination Time: 15:15						

UT	Sun				Venus				Moon				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	178 19.7 -00.3	S	22 12.1 -00.3	216 54.5 -00.8	S	20 36.8 +00.4	214 42.6 -35.5	S	26 39.6 +05.6											
01	193 19.4 -00.2	S	22 11.8 -00.3	231 53.7 -00.7	S	20 37.2 +00.5	229 07.1 -35.6	S	26 45.2 +05.4											
02	208 19.2 -00.3	S	22 11.5 -00.4	246 53.0 -00.8	S	20 37.7 +00.5	243 31.5 -35.7	S	26 50.6 +05.2											
03	223 18.9 -00.3	S	22 11.1 -00.3	261 52.2 -00.8	S	20 38.2 +00.5	257 55.8 -35.8	S	26 55.8 +05.1											
04	238 18.6 -00.2	S	22 10.8 -00.4	276 51.4 -00.7	S	20 38.7 +00.5	272 20.0 -36.0	S	27 00.9 +04.9											
05	253 18.4 -00.3	S	22 10.4 -00.3	291 50.7 -00.8	S	20 39.2 +00.5	286 44.0 -36.0	S	27 05.8 +04.8											
06	268 18.1 -00.2	S	22 10.1 -00.4	306 49.9 -00.7	S	20 39.7 +00.4	301 08.0 -36.1	S	27 10.6 +04.6											
07	283 17.9 -00.3	S	22 09.7 -00.3	321 49.2 -00.8	S	20 40.1 +00.5	315 31.9 -36.3	S	27 15.2 +04.4											
08	298 17.6 -00.3	S	22 09.4 -00.4	336 48.4 -00.8	S	20 40.6 +00.5	329 55.6 -36.3	S	27 19.6 +04.2											
09	313 17.3 -00.2	S	22 09.0 -00.3	351 47.6 -00.7	S	20 41.1 +00.5	344 19.3 -36.4	S	27 23.8 +04.1											
10	328 17.1 -00.3	S	22 08.7 -00.4	6 46.9 -00.8	S	20 41.6 +00.5	358 42.9 -36.6	S	27 27.9 +03.9											
11	343 16.8 -00.2	S	22 08.3 -00.3	21 46.1 -00.8	S	20 42.1 +00.4	13 06.3 -36.6	S	27 31.8 +03.7											
12	358 16.6 -00.3	S	22 08.0 -00.4	36 45.3 -00.7	S	20 42.5 +00.5	27 29.7 -36.7	S	27 35.5 +03.5											
13	13 16.3 -00.3	S	22 07.6 -00.3	51 44.6 -00.8	S	20 43.0 +00.5	41 53.0 -36.8	S	27 39.0 +03.3											
14	28 16.0 -00.2	S	22 07.3 -00.4	66 43.8 -00.8	S	20 43.5 +00.5	56 16.2 -36.9	S	27 42.3 +03.2											
15	43 15.8 -00.3	S	22 06.9 -00.3	81 43.0 -00.7	S	20 44.0 +00.4	70 39.3 -37.0	S	27 45.5 +03.0											
16	58 15.5 -00.3	S	22 06.6 -00.4	96 42.3 -00.8	S	20 44.4 +00.5	85 02.3 -37.0	S	27 48.5 +02.8											
17	73 15.2 -00.2	S	22 06.2 -00.3	111 41.5 -00.8	S	20 44.9 +00.5	99 25.3 -37.2	S	27 51.3 +02.6											
18	88 15.0 -00.3	S	22 05.9 -00.4	126 40.7 -00.7	S	20 45.4 +00.4	113 48.1 -37.2	S	27 53.9 +02.4											
19	103 14.7 -00.2	S	22 05.5 -00.3	141 40.0 -00.8	S	20 45.8 +00.5	128 10.9 -37.3	S	27 56.3 +02.3											
20	118 14.5 -00.3	S	22 05.2 -00.4	156 39.2 -00.8	S	20 46.3 +00.5	142 33.6 -37.3	S	27 58.6 +02.0											
21	133 14.2 -00.2	S	22 04.8 -00.4	171 38.4 -00.7	S	20 46.8 +00.4	156 56.3 -37.5	S	28 00.6 +01.9											
22	148 14.0 -00.3	S	22 04.4 -00.3	186 37.7 -00.8	S	20 47.2 +00.5	171 18.8 -37.5	S	28 02.5 +01.7											
23	163 13.7 -00.3	S	22 04.1 -00.4	201 36.9 -00.8	S	20 47.7 +00.5	185 41.3 -37.6	S	28 04.2 +01.4											
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT						
SD	16'3	16'3	16'3	16'3	16'3	16'3	SD	00'1	00'1	00'1	00'1	00'1	00'1	SD	15'9	15'9	16'0	16'0	16'0	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	58'3	58'4	58'6	58'7	58'9	59'0
SHA	070°	070°	070°	070°	069°	069°	SHA	109°	109°	108°	108°	108°	108°	SHA	105°	103°	100°	098°	095°	092°
Greenwich Culmination Time: 12:06							Greenwich Culmination Time: 09:32							Greenwich Culmination Time: 10:05						

UT	Mars				Jupiter				Saturn				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	194 27.8 +00.4	S	24 01.5 +00.0	74 14.1 +02.3	N	12 20.8 +00.1	131 33.3 +02.2	S	11 33.6 +00.0											
01	209 28.2 +00.4	S	24 01.5 +00.0	89 16.4 +02.4	N	12 20.9 +00.0	146 35.5 +02.3	S	11 33.6 -00.1											
02	224 28.6 +00.4	S	24 01.5 +00.0	104 18.8 +02.4	N	12 20.9 +00.0	161 37.8 +02.2	S	11 33.5 -00.1											
03	239 29.0 +00.4	S	24 01.5 -00.1	119 21.2 +02.4	N	12 20.9 +00.1	176 40.0 +02.2	S	11 33.4 -00.1											
04	254 29.4 +00.5	S	24 01.4 +00.0	134 23.6 +02.4	N	12 21.0 +00.0	191 42.2 +02.3	S	11 33.3 -00.1											
05	269 29.9 +00.4	S	24 01.4 +00.0	149 26.0 +02.4	N	12 21.0 +00.1	206 44.5 +02.2	S	11 33.2 -00.1											
06	284 30.3 +00.4	S	24 01.4 +00.0	164 28.4 +02.4	N	12 21.1 +00.0	221 46.7 +02.3	S	11 33.1 -00.1											
07	299 30.7 +00.4	S	24 01.4 -00.1	179 30.8 +02.4	N	12 21.1 +00.0	236 49.0 +02.2	S	11 33.0 -00.1											
08	314 31.1 +00.4	S	24 01.3 +00.0	194 33.2 +02.4	N	12 21.1 +00.1	251 51.2 +02.2	S	11 32.9 -00.1											
09	329 31.5 +00.4	S	24 01.3 +00.0	209 35.6 +02.4	N	12 21.2 +00.0	266 53.4 +02.3	S	11 32.8 -00.1											
10	344 31.9 +00.5	S	24 01.3 +00.0	224 38.0 +02.4	N	12 21.2 +00.1	281 55.7 +02.2	S	11 32.7 -00.1											
11	359 32.4 +00.4	S	24 01.3 -00.1	239 40.4 +02.4	N	12 21.3 +00.0	296 57.9 +02.2	S	11 32.6 +00.0											
12	14 32.8 +00.4	S	24 01.2 +00.0	254 42.8 +02.3	N	12 21.3 +00.0	312 00.1 +02.3	S	11 32.6 -00.1											
13	29 33.2 +00.4	S	24 01.2 +00.0	269 45.1 +02.4	N	12 21.3 +00.1	327 02.4 +02.2	S	11 32.5 -00.1											
14	44 33.6 +00.4	S	24 01.2 +00.0	284 47.5 +02.4	N	12 21.4 +00.0	342 04.6 +02.2	S	11 32.4 -00.1											
15	59 34.0 +00.4	S	24 01.2 -00.1	299 49.9 +02.4	N	12 21.4 +00.0	357 06.8 +02.3	S	11 32.3 -00.1											
16	74 34.4 +00.5	S	24 01.1 +00.0	314 52.3 +02.4	N	12 21.4 +00.1	12 09.1 +02.2	S	11 32.2 -00.1											
17	89 34.9 +00.4	S	24 01.1 +00.0	329 54.7 +02.4	N	12 21.5 +00.0	27 11.3 +02.2	S	11 32.1 -00.1											
18	104 35.3 +00.4	S	24 01.1 -00.1	344 57.1 +02.4	N	12 21.5 +00.1	42 13.5 +02.3	S	11 32.0 -00.1											
19	119 35.7 +00.4	S	24 01.0 +00.0	359 59.5 +02.4	N	12 21.6 +00.0	57 15.8 +02.2	S	11 31.9 -00.1											
20	134 36.1 +00.4	S	24 01.0 +00.0	15 01.9 +02.4	N	12 21.6 +00.0	72 18.0 +02.2	S	11 31.8 -00.1											
21	149 36.5 +00.5	S	24 01.0 -00.1	30 04.3 +02.3	N	12 21.6 +00.1	87 20.2 +02.2	S	11 31.7 -00.1											
22	164 37.0 +00.4	S	24 00.9 +00.0	45 06.6 +02.4	N	12 21.7 +00.0	102 22.4 +02.3	S	11 31.6 +00.0											
23	179 37.4 +00.4	S	24 00.9 +00.0	60 09.0 +02.4	N	12 21.7 +00.1	117 24.7 +02.2	S	11 31.6 -00.1											
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT						
SD	00'0	00'0	00'0	00'0	00'0	00'0	SD	00'4	00'4	00'4	00'4	00'4	00'4	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
SHA	086°	086°	086°	086°	086°	086°	SHA	326°	326°	326°	326°	326°	326°	SHA	024°	023°	023°	023°	023°	023°
Greenwich Culmination Time: 11:01							Greenwich Culmination Time: 19:00							Greenwich Culmination Time: 15:11						

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 13.4 -00.2	S	22 03.7 -00.3	216 36.1 -00.8	S	20 48.2 +00.4	200 03.7 -37.6	S	28 05.6 +01.3	00			
01	193 13.2 -00.3	S	22 03.4 -00.4	231 35.3 -00.7	S	20 48.6 +00.5	214 26.1 -37.7	S	28 06.9 +01.1	01			
02	208 12.9 -00.2	S	22 03.0 -00.4	246 34.6 -00.8	S	20 49.1 +00.5	228 48.4 -37.7	S	28 08.0 +00.9	02			
03	223 12.7 -00.3	S	22 02.6 -00.3	261 33.8 -00.8	S	20 49.6 +00.4	243 10.7 -37.8	S	28 08.9 +00.7	03			
04	238 12.4 -00.3	S	22 02.3 -00.4	276 33.0 -00.7	S	20 50.0 +00.5	257 32.9 -37.9	S	28 09.6 +00.5	04			
05	253 12.1 -00.2	S	22 01.9 -00.4	291 32.3 -00.8	S	20 50.5 +00.4	271 55.0 -37.9	S	28 10.1 +00.3	05			
06	268 11.9 -00.3	S	22 01.5 -00.3	306 31.5 -00.8	S	20 50.9 +00.5	286 17.1 -38.0	S	28 10.4 +00.2	06			
07	283 11.6 -00.2	S	22 01.2 -00.4	321 30.7 -00.8	S	20 51.4 +00.4	300 39.1 -38.0	S	28 10.6 -00.1	07			
08	298 11.4 -00.3	S	22 00.8 -00.3	336 29.9 -00.7	S	20 51.8 +00.5	315 01.1 -38.0	S	28 10.5 -00.3	08			
09	313 11.1 -00.2	S	22 00.5 -00.4	351 29.2 -00.8	S	20 52.3 +00.5	329 23.1 -38.1	S	28 10.2 -00.5	09			
10	328 10.9 -00.3	S	22 00.1 -00.4	6 28.4 -00.8	S	20 52.8 +00.4	343 45.0 -38.1	S	28 09.7 -00.7	10			
11	343 10.6 -00.2	S	21 59.7 -00.4	21 27.6 -00.8	S	20 53.2 +00.5	358 06.9 -38.1	S	28 09.0 -00.9	11			
12	358 10.4 -00.3	S	21 59.3 -00.3	36 26.8 -00.7	S	20 53.7 +00.4	12 28.8 -38.2	S	28 08.1 -01.1	12			
13	13 10.1 -00.3	S	21 59.0 -00.4	51 26.1 -00.8	S	20 54.1 +00.5	26 50.6 -38.2	S	28 07.0 -01.2	13			
14	28 09.8 -00.2	S	21 58.6 -00.4	66 25.3 -00.8	S	20 54.6 +00.4	41 12.4 -38.2	S	28 05.8 -01.5	14			
15	43 09.6 -00.3	S	21 58.2 -00.3	81 24.5 -00.8	S	20 55.0 +00.5	55 34.2 -38.2	S	28 04.3 -01.7	15			
16	58 09.3 -00.2	S	21 57.9 -00.4	96 23.7 -00.8	S	20 55.5 +00.4	69 56.0 -38.3	S	28 02.6 -01.9	16			
17	73 09.1 -00.3	S	21 57.5 -00.4	111 22.9 -00.7	S	20 55.9 +00.5	84 17.7 -38.3	S	28 00.7 -02.1	17			
18	88 08.8 -00.2	S	21 57.1 -00.4	126 22.2 -00.8	S	20 56.4 +00.4	98 39.4 -38.2	S	27 58.6 -02.3	18			
19	103 08.6 -00.3	S	21 56.7 -00.3	141 21.4 -00.8	S	20 56.8 +00.4	113 01.2 -38.3	S	27 56.3 -02.5	19			
20	118 08.3 -00.2	S	21 56.4 -00.4	156 20.6 -00.8	S	20 57.2 +00.5	127 22.9 -38.3	S	27 53.8 -02.7	20			
21	133 08.1 -00.3	S	21 56.0 -00.4	171 19.8 -00.7	S	20 57.7 +00.4	141 44.6 -38.3	S	27 51.1 -02.9	21			
22	148 07.8 -00.2	S	21 55.6 -00.4	186 19.1 -00.8	S	20 58.1 +00.5	156 06.3 -38.3	S	27 48.2 -03.1	22			
23	163 07.6 -00.3	S	21 55.2 -00.3	201 18.3 -00.8	S	20 58.6 +00.4	170 28.0 -38.3	S	27 45.1 -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 16'3 16'3 16'3 16'3 16'3 16'3			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 16'1 16'1 16'2 16'2 16'2 16'3						
	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 59'1 59'2 59'4 59'5 59'6 59'7						
	SHA 069° 069° 069° 069° 068° 068°			SHA 107° 107° 107° 107° 107° 106°			SHA 090° 087° 084° 082° 079° 076°						
	Greenwich Culmination Time: 12:07			Greenwich Culmination Time: 09:34			Greenwich Culmination Time: 11:07						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	194 37.8 +00.4	S	24 00.9 -00.1	75 11.4 +02.4	N	12 21.8 +00.0	132 26.9 +02.2	S	11 31.5 -00.1	00			
01	209 38.2 +00.4	S	24 00.8 +00.0	90 13.8 +02.4	N	12 21.8 +00.0	147 29.1 +02.3	S	11 31.4 -00.1	01			
02	224 38.6 +00.4	S	24 00.8 +00.0	105 16.2 +02.4	N	12 21.8 +00.1	162 31.4 +02.2	S	11 31.3 -00.1	02			
03	239 39.0 +00.5	S	24 00.8 -00.1	120 18.6 +02.4	N	12 21.9 +00.0	177 33.6 +02.2	S	11 31.2 -00.1	03			
04	254 39.5 +00.4	S	24 00.7 +00.0	135 21.0 +02.3	N	12 21.9 +00.1	192 35.8 +02.3	S	11 31.1 -00.1	04			
05	269 39.9 +00.4	S	24 00.7 +00.0	150 23.3 +02.4	N	12 22.0 +00.0	207 38.1 +02.2	S	11 31.0 -00.1	05			
06	284 40.3 +00.4	S	24 00.7 -00.1	165 25.7 +02.4	N	12 22.0 +00.0	222 40.3 +02.2	S	11 30.9 -00.1	06			
07	299 40.7 +00.4	S	24 00.6 +00.0	180 28.1 +02.4	N	12 22.0 +00.1	237 42.5 +02.3	S	11 30.8 -00.1	07			
08	314 41.1 +00.4	S	24 00.6 +00.0	195 30.5 +02.4	N	12 22.1 +00.0	252 44.8 +02.2	S	11 30.7 -00.1	08			
09	329 41.5 +00.5	S	24 00.6 -00.1	210 32.9 +02.4	N	12 22.1 +00.1	267 47.0 +02.2	S	11 30.6 -00.1	09			
10	344 42.0 +00.4	S	24 00.5 +00.0	225 35.3 +02.3	N	12 22.2 +00.0	282 49.2 +02.3	S	11 30.5 -00.1	10			
11	359 42.4 +00.4	S	24 00.5 -00.1	240 37.6 +02.4	N	12 22.2 +00.1	297 51.5 +02.2	S	11 30.4 +00.0	11			
12	14 42.8 +00.4	S	24 00.4 +00.0	255 40.0 +02.4	N	12 22.3 +00.0	312 53.7 +02.2	S	11 30.4 -00.1	12			
13	29 43.2 +00.4	S	24 00.4 +00.0	270 42.4 +02.4	N	12 22.3 +00.0	327 55.9 +02.3	S	11 30.3 -00.1	13			
14	44 43.6 +00.4	S	24 00.4 -00.1	285 44.8 +02.4	N	12 22.3 +00.1	342 58.2 +02.2	S	11 30.2 -00.1	14			
15	59 44.0 +00.4	S	24 00.3 +00.0	300 47.2 +02.4	N	12 22.4 +00.0	358 00.4 +02.2	S	11 30.1 -00.1	15			
16	74 44.4 +00.5	S	24 00.3 -00.1	315 49.6 +02.3	N	12 22.4 +00.1	13 02.6 +02.2	S	11 30.0 -00.1	16			
17	89 44.9 +00.4	S	24 00.2 +00.0	330 51.9 +02.4	N	12 22.5 +00.0	28 04.8 +02.3	S	11 29.9 -00.1	17			
18	104 45.3 +00.4	S	24 00.2 +00.0	345 54.3 +02.4	N	12 22.5 +00.0	43 07.1 +02.2	S	11 29.8 -00.1	18			
19	119 45.7 +00.4	S	24 00.2 -00.1	0 56.7 +02.4	N	12 22.5 +00.1	58 09.3 +02.2	S	11 29.7 -00.1	19			
20	134 46.1 +00.4	S	24 00.1 +00.0	15 59.1 +02.4	N	12 22.6 +00.0	73 11.5 +02.3	S	11 29.6 -00.1	20			
21	149 46.5 +00.4	S	24 00.1 -00.1	31 01.5 +02.3	N	12 22.6 +00.1	88 13.8 +02.2	S	11 29.5 -00.1	21			
22	164 46.9 +00.5	S	24 00.0 +00.0	46 03.8 +02.4	N	12 22.7 +00.0	103 16.0 +02.2	S	11 29.4 -00.1	22			
23	179 47.4 +00.4	S	23 60.0 -00.1	61 06.2 +02.4	N	12 22.7 +00.1	118 18.2 +02.3	S	11 29.3 -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 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'4 00'4 00'4 00'4 00'4 00'4			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						
	SHA 086° 085° 085° 085° 085° 085°			SHA 326° 326° 326° 326° 326° 326°			SHA 023° 023° 023° 023° 023° 023°						
	Greenwich Culmination Time: 11:01			Greenwich Culmination Time: 18:56			Greenwich Culmination Time: 15:07						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 07.3 -00.2	S 21 54.9 -00.4	216 17.5 -00.8	S 20 59.0 +00.5	184 49.7 -38.2	S 27 41.8 -03.6	00						
01	193 07.1 -00.3	S 21 54.5 -00.4	231 16.7 -00.8	S 20 59.5 +00.4	199 11.5 -38.3	S 27 38.2 -03.7	01						
02	208 06.8 -00.3	S 21 54.1 -00.4	246 15.9 -00.7	S 20 59.9 +00.4	213 33.2 -38.3	S 27 34.5 -03.9	02						
03	223 06.5 -00.2	S 21 53.7 -00.4	261 15.2 -00.8	S 21 00.3 +00.5	227 54.9 -38.2	S 27 30.6 -04.1	03						
04	238 06.3 -00.3	S 21 53.3 -00.3	276 14.4 -00.8	S 21 00.8 +00.4	242 16.7 -38.2	S 27 26.5 -04.3	04						
05	253 06.0 -00.2	S 21 53.0 -00.4	291 13.6 -00.8	S 21 01.2 +00.4	256 38.5 -38.2	S 27 22.2 -04.6	05						
06	268 05.8 -00.3	S 21 52.6 -00.4	306 12.8 -00.8	S 21 01.6 +00.5	271 00.3 -38.2	S 27 17.6 -04.7	06						
07	283 05.5 -00.2	S 21 52.2 -00.4	321 12.0 -00.8	S 21 02.1 +00.4	285 22.1 -38.1	S 27 12.9 -04.9	07						
08	298 05.3 -00.3	S 21 51.8 -00.4	336 11.2 -00.7	S 21 02.5 +00.4	299 44.0 -38.1	S 27 08.0 -05.1	08						
09	313 05.0 -00.2	S 21 51.4 -00.3	351 10.5 -00.8	S 21 02.9 +00.5	314 05.9 -38.1	S 27 02.9 -05.3	09						
10	328 04.8 -00.3	S 21 51.1 -00.4	6 09.7 -00.8	S 21 03.4 +00.4	328 27.8 -38.1	S 26 57.6 -05.5	10						
11	343 04.5 -00.2	S 21 50.7 -00.4	21 08.9 -00.8	S 21 03.8 +00.4	342 49.7 -38.0	S 26 52.1 -05.7	11						
12	358 04.3 -00.3	S 21 50.3 -00.4	36 08.1 -00.8	S 21 04.2 +00.4	357 11.7 -37.9	S 26 46.4 -06.0	12						
13	13 04.0 -00.2	S 21 49.9 -00.4	51 07.3 -00.8	S 21 04.6 +00.5	11 33.8 -37.9	S 26 40.4 -06.1	13						
14	28 03.8 -00.3	S 21 49.5 -00.4	66 06.5 -00.8	S 21 05.1 +00.4	25 55.9 -37.9	S 26 34.3 -06.2	14						
15	43 03.5 -00.2	S 21 49.1 -00.4	81 05.7 -00.7	S 21 05.5 +00.4	40 18.0 -37.8	S 26 28.1 -06.5	15						
16	58 03.3 -00.3	S 21 48.7 -00.4	96 05.0 -00.8	S 21 05.9 +00.4	54 40.2 -37.8	S 26 21.6 -06.7	16						
17	73 03.0 -00.2	S 21 48.3 -00.4	111 04.2 -00.8	S 21 06.3 +00.5	69 02.4 -37.7	S 26 14.9 -06.9	17						
18	88 02.8 -00.3	S 21 47.9 -00.3	126 03.4 -00.8	S 21 06.8 +00.4	83 24.7 -37.7	S 26 08.0 -07.0	18						
19	103 02.5 -00.2	S 21 47.6 -00.4	141 02.6 -00.8	S 21 07.2 +00.4	97 47.0 -37.6	S 26 01.0 -07.3	19						
20	118 02.3 -00.2	S 21 47.2 -00.4	156 01.8 -00.8	S 21 07.6 +00.4	112 09.4 -37.5	S 25 53.7 -07.4	20						
21	133 02.1 -00.3	S 21 46.8 -00.4	171 01.0 -00.8	S 21 08.0 +00.4	126 31.9 -37.5	S 25 46.3 -07.7	21						
22	148 01.8 -00.2	S 21 46.4 -00.4	186 00.2 -00.8	S 21 08.4 +00.5	140 54.4 -37.4	S 25 38.6 -07.8	22						
23	163 01.6 -00.3	S 21 46.0 -00.4	200 59.4 -00.7	S 21 08.9 +00.4	155 17.0 -37.4	S 25 30.8 -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 16'3 16'3 16'3 16'3 16'3 16'3		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 16'3 16'3 16'3 16'4 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 59'8 59'9 60'0 60'1 60'1 60'2								
	SHA 068° 068° 068° 067° 067° 067°		SHA 106° 106° 106° 106° 105° 105°		SHA 073° 071° 068° 065° 063° 060°								
	Greenwich Culmination Time: 12:07		Greenwich Culmination Time: 09:35		Greenwich Culmination Time: 12:11								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	194 47.8 +00.4	S 23 59.9 +00.0	76 08.6 +02.4	N 12 22.8 +00.0	133 20.5 +02.2	S 11 29.2 +00.0	00						
01	209 48.2 +00.4	S 23 59.9 +00.0	91 11.0 +02.3	N 12 22.8 +00.0	148 22.7 +02.2	S 11 29.2 -00.1	01						
02	224 48.6 +00.4	S 23 59.9 -00.1	106 13.3 +02.4	N 12 22.8 +00.1	163 24.9 +02.3	S 11 29.1 -00.1	02						
03	239 49.0 +00.4	S 23 59.8 +00.0	121 15.7 +02.4	N 12 22.9 +00.0	178 27.2 +02.2	S 11 29.0 -00.1	03						
04	254 49.4 +00.5	S 23 59.8 -00.1	136 18.1 +02.4	N 12 22.9 +00.1	193 29.4 +02.2	S 11 28.9 -00.1	04						
05	269 49.9 +00.4	S 23 59.7 +00.0	151 20.5 +02.3	N 12 23.0 +00.0	208 31.6 +02.2	S 11 28.8 -00.1	05						
06	284 50.3 +00.4	S 23 59.7 -00.1	166 22.8 +02.4	N 12 23.0 +00.1	223 33.8 +02.3	S 11 28.7 -00.1	06						
07	299 50.7 +00.4	S 23 59.6 +00.0	181 25.2 +02.4	N 12 23.1 +00.0	238 36.1 +02.2	S 11 28.6 -00.1	07						
08	314 51.1 +00.4	S 23 59.6 -00.1	196 27.6 +02.4	N 12 23.1 +00.1	253 38.3 +02.2	S 11 28.5 -00.1	08						
09	329 51.5 +00.4	S 23 59.5 +00.0	211 30.0 +02.3	N 12 23.2 +00.0	268 40.5 +02.3	S 11 28.4 -00.1	09						
10	344 51.9 +00.4	S 23 59.5 -00.1	226 32.3 +02.4	N 12 23.2 +00.0	283 42.8 +02.2	S 11 28.3 -00.1	10						
11	359 52.3 +00.5	S 23 59.4 +00.0	241 34.7 +02.4	N 12 23.2 +00.1	298 45.0 +02.2	S 11 28.2 -00.1	11						
12	14 52.8 +00.4	S 23 59.4 -00.1	256 37.1 +02.4	N 12 23.3 +00.0	313 47.2 +02.2	S 11 28.1 -00.1	12						
13	29 53.2 +00.4	S 23 59.3 +00.0	271 39.5 +02.3	N 12 23.3 +00.1	328 49.4 +02.3	S 11 28.0 -00.1	13						
14	44 53.6 +00.4	S 23 59.3 -00.1	286 41.8 +02.4	N 12 23.4 +00.0	343 51.7 +02.2	S 11 27.9 +00.0	14						
15	59 54.0 +00.4	S 23 59.2 +00.0	301 44.2 +02.4	N 12 23.4 +00.1	358 53.9 +02.2	S 11 27.9 -00.1	15						
16	74 54.4 +00.4	S 23 59.2 -00.1	316 46.6 +02.4	N 12 23.5 +00.0	13 56.1 +02.3	S 11 27.8 -00.1	16						
17	89 54.8 +00.4	S 23 59.1 +00.0	331 49.0 +02.3	N 12 23.5 +00.1	28 58.4 +02.2	S 11 27.7 -00.1	17						
18	104 55.2 +00.5	S 23 59.1 -00.1	346 51.3 +02.4	N 12 23.6 +00.0	44 00.6 +02.2	S 11 27.6 -00.1	18						
19	119 55.7 +00.4	S 23 59.0 +00.0	1 53.7 +02.4	N 12 23.6 +00.0	59 02.8 +02.2	S 11 27.5 -00.1	19						
20	134 56.1 +00.4	S 23 59.0 -00.1	16 56.1 +02.3	N 12 23.6 +00.1	74 05.0 +02.3	S 11 27.4 -00.1	20						
21	149 56.5 +00.4	S 23 58.9 +00.0	31 58.4 +02.4	N 12 23.7 +00.0	89 07.3 +02.2	S 11 27.3 -00.1	21						
22	164 56.9 +00.4	S 23 58.9 -00.1	47 00.8 +02.4	N 12 23.7 +00.1	104 09.5 +02.2	S 11 27.2 -00.1	22						
23	179 57.3 +00.4	S 23 58.8 +00.0	62 03.2 +02.4	N 12 23.8 +00.0	119 11.7 +02.3	S 11 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 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'4 00'4 00'4 00'4 00'4 00'4		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								
	SHA 085° 085° 084° 084° 084° 084°		SHA 326° 326° 326° 326° 326° 326°		SHA 023° 023° 023° 023° 023° 023°								
	Greenwich Culmination Time: 11:00		Greenwich Culmination Time: 18:52		Greenwich Culmination Time: 15:04								

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 01.3 -00.2	S 21 45.6 -00.4	215 58.7 -00.8	S 21 09.3 +00.4	169 39.6 -37.2	S 25 22.8 -08.1	00						
01	193 01.1 -00.3	S 21 45.2 -00.4	230 57.9 -00.8	S 21 09.7 +00.4	184 02.4 -37.2	S 25 14.7 -08.4	01						
02	208 00.8 -00.2	S 21 44.8 -00.4	245 57.1 -00.8	S 21 10.1 +00.4	198 25.2 -37.2	S 25 06.3 -08.5	02						
03	223 00.6 -00.3	S 21 44.4 -00.4	260 56.3 -00.8	S 21 10.5 +00.4	212 48.0 -37.0	S 24 57.8 -08.7	03						
04	238 00.3 -00.2	S 21 44.0 -00.4	275 55.5 -00.8	S 21 10.9 +00.4	227 11.0 -37.0	S 24 49.1 -08.9	04						
05	253 00.1 -00.3	S 21 43.6 -00.4	290 54.7 -00.8	S 21 11.3 +00.5	241 34.0 -36.9	S 24 40.2 -09.1	05						
06	267 59.8 -00.2	S 21 43.2 -00.4	305 53.9 -00.8	S 21 11.8 +00.4	255 57.1 -36.8	S 24 31.1 -09.3	06						
07	282 59.6 -00.2	S 21 42.8 -00.4	320 53.1 -00.8	S 21 12.2 +00.4	270 20.3 -36.8	S 24 21.8 -09.4	07						
08	297 59.4 -00.3	S 21 42.4 -00.4	335 52.3 -00.8	S 21 12.6 +00.4	284 43.5 -36.6	S 24 12.4 -09.6	08						
09	312 59.1 -00.2	S 21 42.0 -00.4	350 51.5 -00.8	S 21 13.0 +00.4	299 06.9 -36.6	S 24 02.8 -09.7	09						
10	327 58.9 -00.3	S 21 41.6 -00.4	5 50.7 -00.8	S 21 13.4 +00.4	313 30.3 -36.5	S 23 53.1 -09.9	10						
11	342 58.6 -00.2	S 21 41.2 -00.4	20 49.9 -00.7	S 21 13.8 +00.4	327 53.8 -36.4	S 23 43.2 -10.1	11						
12	357 58.4 -00.3	S 21 40.8 -00.4	35 49.2 -00.8	S 21 14.2 +00.4	342 17.4 -36.3	S 23 33.1 -10.3	12						
13	12 58.1 -00.2	S 21 40.4 -00.4	50 48.4 -00.8	S 21 14.6 +00.4	356 41.1 -36.2	S 23 22.8 -10.4	13						
14	27 57.9 -00.3	S 21 40.0 -00.4	65 47.6 -00.8	S 21 15.0 +00.4	11 04.9 -36.2	S 23 12.4 -10.6	14						
15	42 57.6 -00.2	S 21 39.6 -00.4	80 46.8 -00.8	S 21 15.4 +00.4	25 28.7 -36.0	S 23 01.8 -10.7	15						
16	57 57.4 -00.2	S 21 39.2 -00.4	95 46.0 -00.8	S 21 15.8 +00.4	39 52.7 -36.0	S 22 51.1 -10.9	16						
17	72 57.2 -00.3	S 21 38.8 -00.5	110 45.2 -00.8	S 21 16.2 +00.4	54 16.7 -35.8	S 22 40.2 -11.0	17						
18	87 56.9 -00.2	S 21 38.3 -00.4	125 44.4 -00.8	S 21 16.6 +00.4	68 40.9 -35.8	S 22 29.2 -11.2	18						
19	102 56.7 -00.3	S 21 37.9 -00.4	140 43.6 -00.8	S 21 17.0 +00.4	83 05.1 -35.6	S 22 18.0 -11.4	19						
20	117 56.4 -00.2	S 21 37.5 -00.4	155 42.8 -00.8	S 21 17.4 +00.4	97 29.5 -35.6	S 22 06.6 -11.5	20						
21	132 56.2 -00.2	S 21 37.1 -00.4	170 42.0 -00.8	S 21 17.8 +00.4	111 53.9 -35.5	S 21 55.1 -11.6	21						
22	147 56.0 -00.3	S 21 36.7 -00.4	185 41.2 -00.8	S 21 18.2 +00.4	126 18.4 -35.3	S 21 43.5 -11.8	22						
23	162 55.7 -00.2	S 21 36.3 -00.4	200 40.4 -00.8	S 21 18.6 +00.4	140 43.1 -35.3	S 21 31.7 -12.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'3 16'3 16'3 16'3 16'3 16'3		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 16'4 16'4 16'4 16'5 16'5 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 60'3 60'3 60'4 60'4 60'4 60'5								
	SHA 067° 067° 067° 066° 066° 066°		SHA 105° 105° 104° 104° 104° 104°		SHA 057° 055° 052° 050° 047° 044°								
	Greenwich Culmination Time: 12:08		Greenwich Culmination Time: 09:36		Greenwich Culmination Time: 13:13								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	194 57.7 +00.4	S 23 58.8 -00.1	77 05.6 +02.3	N 12 23.8 +00.1	134 14.0 +02.2	S 11 27.0 -00.1	00						
01	209 58.1 +00.5	S 23 58.7 +00.0	92 07.9 +02.4	N 12 23.9 +00.0	149 16.2 +02.2	S 11 26.9 -00.1	01						
02	224 58.6 +00.4	S 23 58.7 -00.1	107 10.3 +02.4	N 12 23.9 +00.1	164 18.4 +02.2	S 11 26.8 -00.1	02						
03	239 59.0 +00.4	S 23 58.6 -00.1	122 12.7 +02.3	N 12 24.0 +00.0	179 20.6 +02.3	S 11 26.7 -00.1	03						
04	254 59.4 +00.4	S 23 58.5 +00.0	137 15.0 +02.4	N 12 24.0 +00.1	194 22.9 +02.2	S 11 26.6 +00.0	04						
05	269 59.8 +00.4	S 23 58.5 -00.1	152 17.4 +02.4	N 12 24.1 +00.0	209 25.1 +02.2	S 11 26.6 -00.1	05						
06	285 00.2 +00.4	S 23 58.4 +00.0	167 19.8 +02.3	N 12 24.1 +00.0	224 27.3 +02.2	S 11 26.5 -00.1	06						
07	300 00.6 +00.4	S 23 58.4 -00.1	182 22.1 +02.4	N 12 24.1 +00.1	239 29.5 +02.3	S 11 26.4 -00.1	07						
08	315 01.0 +00.5	S 23 58.3 +00.0	197 24.5 +02.4	N 12 24.2 +00.0	254 31.8 +02.2	S 11 26.3 -00.1	08						
09	330 01.5 +00.4	S 23 58.3 -00.1	212 26.9 +02.3	N 12 24.2 +00.1	269 34.0 +02.2	S 11 26.2 -00.1	09						
10	345 01.9 +00.4	S 23 58.2 -00.1	227 29.2 +02.4	N 12 24.3 +00.0	284 36.2 +02.3	S 11 26.1 -00.1	10						
11	0 02.3 +00.4	S 23 58.1 +00.0	242 31.6 +02.4	N 12 24.3 +00.1	299 38.5 +02.2	S 11 26.0 -00.1	11						
12	15 02.7 +00.4	S 23 58.1 -00.1	257 34.0 +02.3	N 12 24.4 +00.0	314 40.7 +02.2	S 11 25.9 -00.1	12						
13	30 03.1 +00.4	S 23 58.0 +00.0	272 36.3 +02.4	N 12 24.4 +00.1	329 42.9 +02.2	S 11 25.8 -00.1	13						
14	45 03.5 +00.4	S 23 58.0 -00.1	287 38.7 +02.4	N 12 24.5 +00.0	344 45.1 +02.3	S 11 25.7 -00.1	14						
15	60 03.9 +00.5	S 23 57.9 -00.1	302 41.1 +02.3	N 12 24.5 +00.1	359 47.4 +02.2	S 11 25.6 -00.1	15						
16	75 04.4 +00.4	S 23 57.8 +00.0	317 43.4 +02.4	N 12 24.6 +00.0	14 49.6 +02.2	S 11 25.5 -00.1	16						
17	90 04.8 +00.4	S 23 57.8 -00.1	332 45.8 +02.4	N 12 24.6 +00.1	29 51.8 +02.2	S 11 25.4 -00.1	17						
18	105 05.2 +00.4	S 23 57.7 -00.1	347 48.2 +02.3	N 12 24.7 +00.0	44 54.0 +02.3	S 11 25.3 -00.1	18						
19	120 05.6 +00.4	S 23 57.6 +00.0	2 50.5 +02.4	N 12 24.7 +00.1	59 56.3 +02.2	S 11 25.2 -00.1	19						
20	135 06.0 +00.4	S 23 57.6 -00.1	17 52.9 +02.3	N 12 24.8 +00.0	74 58.5 +02.2	S 11 25.1 -00.1	20						
21	150 06.4 +00.4	S 23 57.5 +00.0	32 55.2 +02.4	N 12 24.8 +00.1	90 00.7 +02.2	S 11 25.0 +00.0	21						
22	165 06.8 +00.4	S 23 57.5 -00.1	47 57.6 +02.4	N 12 24.9 +00.0	105 02.9 +02.3	S 11 25.0 -00.1	22						
23	180 07.2 +00.5	S 23 57.4 -00.1	62 60.0 +02.3	N 12 24.9 +00.1	120 05.2 +02.2	S 11 24.9 -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 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'4 00'4 00'4 00'4 00'4 00'4		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								
	SHA 084° 084° 084° 083° 083° 083°		SHA 326° 326° 326° 326° 326° 326°		SHA 023° 023° 023° 023° 023° 023°								
	Greenwich Culmination Time: 10:59		Greenwich Culmination Time: 18:48		Greenwich Culmination Time: 15:00								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 55.5 -00.3	S	21 35.9 -00.4	215 39.6 -00.8	S	21 19.0 +00.4	155 07.8 -35.2	S	21 19.7 -12.0	00			
01	192 55.2 -00.2	S	21 35.5 -00.4	230 38.8 -00.8	S	21 19.4 +00.3	169 32.6 -35.1	S	21 07.7 -12.3	01			
02	207 55.0 -00.2	S	21 35.1 -00.5	245 38.0 -00.8	S	21 19.7 +00.4	183 57.5 -34.9	S	20 55.4 -12.3	02			
03	222 54.8 -00.3	S	21 34.6 -00.4	260 37.2 -00.8	S	21 20.1 +00.4	198 22.6 -34.9	S	20 43.1 -12.5	03			
04	237 54.5 -00.2	S	21 34.2 -00.4	275 36.4 -00.8	S	21 20.5 +00.4	212 47.7 -34.8	S	20 30.6 -12.6	04			
05	252 54.3 -00.3	S	21 33.8 -00.4	290 35.6 -00.8	S	21 20.9 +00.4	227 12.9 -34.7	S	20 18.0 -12.8	05			
06	267 54.0 -00.2	S	21 33.4 -00.4	305 34.8 -00.8	S	21 21.3 +00.4	241 38.2 -34.5	S	20 05.2 -12.9	06			
07	282 53.8 -00.2	S	21 33.0 -00.4	320 34.0 -00.8	S	21 21.7 +00.4	256 03.7 -34.5	S	19 52.3 -13.0	07			
08	297 53.6 -00.3	S	21 32.6 -00.5	335 33.2 -00.8	S	21 22.1 +00.3	270 29.2 -34.4	S	19 39.3 -13.1	08			
09	312 53.3 -00.2	S	21 32.1 -00.4	350 32.4 -00.8	S	21 22.4 +00.4	284 54.8 -34.2	S	19 26.2 -13.3	09			
10	327 53.1 -00.3	S	21 31.7 -00.4	5 31.6 -00.8	S	21 22.8 +00.4	299 20.6 -34.2	S	19 12.9 -13.4	10			
11	342 52.8 -00.2	S	21 31.3 -00.4	20 30.8 -00.8	S	21 23.2 +00.4	313 46.4 -34.1	S	18 59.5 -13.5	11			
12	357 52.6 -00.2	S	21 30.9 -00.5	35 30.0 -00.8	S	21 23.6 +00.4	328 12.3 -33.9	S	18 46.0 -13.6	12			
13	12 52.4 -00.3	S	21 30.4 -00.4	50 29.2 -00.8	S	21 24.0 +00.3	342 38.4 -33.9	S	18 32.4 -13.8	13			
14	27 52.1 -00.2	S	21 30.0 -00.4	65 28.4 -00.8	S	21 24.3 +00.4	357 04.5 -33.8	S	18 18.6 -13.8	14			
15	42 51.9 -00.2	S	21 29.6 -00.4	80 27.6 -00.8	S	21 24.7 +00.4	11 30.7 -33.6	S	18 04.8 -14.0	15			
16	57 51.7 -00.3	S	21 29.2 -00.4	95 26.8 -00.8	S	21 25.1 +00.4	25 57.1 -33.6	S	17 50.8 -14.0	16			
17	72 51.4 -00.2	S	21 28.8 -00.5	110 26.0 -00.8	S	21 25.5 +00.3	40 23.5 -33.5	S	17 36.8 -14.2	17			
18	87 51.2 -00.2	S	21 28.3 -00.4	125 25.2 -00.8	S	21 25.8 +00.4	54 50.0 -33.3	S	17 22.6 -14.3	18			
19	102 51.0 -00.3	S	21 27.9 -00.4	140 24.4 -00.8	S	21 26.2 +00.4	69 16.7 -33.3	S	17 08.3 -14.4	19			
20	117 50.7 -00.2	S	21 27.5 -00.5	155 23.6 -00.9	S	21 26.6 +00.3	83 43.4 -33.2	S	16 53.9 -14.5	20			
21	132 50.5 -00.2	S	21 27.0 -00.4	170 22.7 -00.8	S	21 26.9 +00.4	98 10.2 -33.0	S	16 39.4 -14.5	21			
22	147 50.3 -00.3	S	21 26.6 -00.4	185 21.9 -00.8	S	21 27.3 +00.4	112 37.2 -33.0	S	16 24.9 -14.7	22			
23	162 50.0 -00.2	S	21 26.2 -00.4	200 21.1 -00.8	S	21 27.7 +00.3	127 04.2 -32.9	S	16 10.2 -14.8	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'3 16'3 16'3 16'3 16'3 16'3			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 16'5 16'5 16'5 16'5 16'5 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 60'5 60'5 60'5 60'5 60'5 60'5						
	SHA 066° 066° 065° 065° 065° 065°			SHA 104° 103° 103° 103° 103° 102°			SHA 042° 039° 037° 035° 032° 030°						
	Greenwich Culmination Time: 12:08			Greenwich Culmination Time: 09:37			Greenwich Culmination Time: 14:12						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	195 07.7 +00.4	S	23 57.3 +00.0	78 02.3 +02.4	N	12 25.0 +00.0	135 07.4 +02.2	S	11 24.8 -00.1	00			
01	210 08.1 +00.4	S	23 57.3 -00.1	93 04.7 +02.4	N	12 25.0 +00.1	150 09.6 +02.2	S	11 24.7 -00.1	01			
02	225 08.5 +00.4	S	23 57.2 -00.1	108 07.1 +02.3	N	12 25.1 +00.0	165 11.8 +02.3	S	11 24.6 -00.1	02			
03	240 08.9 +00.4	S	23 57.1 +00.0	123 09.4 +02.4	N	12 25.1 +00.0	180 14.1 +02.2	S	11 24.5 -00.1	03			
04	255 09.3 +00.4	S	23 57.1 -00.1	138 11.8 +02.3	N	12 25.1 +00.1	195 16.3 +02.2	S	11 24.4 -00.1	04			
05	270 09.7 +00.4	S	23 57.0 -00.1	153 14.1 +02.4	N	12 25.2 +00.0	210 18.5 +02.2	S	11 24.3 -00.1	05			
06	285 10.1 +00.5	S	23 56.9 +00.0	168 16.5 +02.4	N	12 25.2 +00.1	225 20.7 +02.3	S	11 24.2 -00.1	06			
07	300 10.6 +00.4	S	23 56.9 -00.1	183 18.9 +02.3	N	12 25.3 +00.0	240 23.0 +02.2	S	11 24.1 -00.1	07			
08	315 11.0 +00.4	S	23 56.8 -00.1	198 21.2 +02.4	N	12 25.3 +00.1	255 25.2 +02.2	S	11 24.0 -00.1	08			
09	330 11.4 +00.4	S	23 56.7 -00.1	213 23.6 +02.3	N	12 25.4 +00.0	270 27.4 +02.2	S	11 23.9 -00.1	09			
10	345 11.8 +00.4	S	23 56.6 +00.0	228 25.9 +02.4	N	12 25.4 +00.1	285 29.6 +02.3	S	11 23.8 -00.1	10			
11	0 12.2 +00.4	S	23 56.6 -00.1	243 28.3 +02.4	N	12 25.5 +00.0	300 31.9 +02.2	S	11 23.7 -00.1	11			
12	15 12.6 +00.4	S	23 56.5 -00.1	258 30.7 +02.3	N	12 25.5 +00.1	315 34.1 +02.2	S	11 23.6 -00.1	12			
13	30 13.0 +00.4	S	23 56.4 +00.0	273 33.0 +02.4	N	12 25.6 +00.0	330 36.3 +02.2	S	11 23.5 -00.1	13			
14	45 13.4 +00.5	S	23 56.4 -00.1	288 35.4 +02.3	N	12 25.6 +00.1	345 38.5 +02.3	S	11 23.4 +00.0	14			
15	60 13.9 +00.4	S	23 56.3 -00.1	303 37.7 +02.4	N	12 25.7 +00.0	0 40.8 +02.2	S	11 23.4 -00.1	15			
16	75 14.3 +00.4	S	23 56.2 -00.1	318 40.1 +02.3	N	12 25.7 +00.1	15 43.0 +02.2	S	11 23.3 -00.1	16			
17	90 14.7 +00.4	S	23 56.1 +00.0	333 42.4 +02.4	N	12 25.8 +00.0	30 45.2 +02.2	S	11 23.2 -00.1	17			
18	105 15.1 +00.4	S	23 56.1 -00.1	348 44.8 +02.3	N	12 25.8 +00.1	45 47.4 +02.3	S	11 23.1 -00.1	18			
19	120 15.5 +00.4	S	23 56.0 -00.1	3 47.1 +02.4	N	12 25.9 +00.0	60 49.7 +02.2	S	11 23.0 -00.1	19			
20	135 15.9 +00.4	S	23 55.9 +00.0	18 49.5 +02.4	N	12 25.9 +00.1	75 51.9 +02.2	S	11 22.9 -00.1	20			
21	150 16.3 +00.4	S	23 55.9 -00.1	33 51.9 +02.3	N	12 26.0 +00.0	90 54.1 +02.2	S	11 22.8 -00.1	21			
22	165 16.7 +00.5	S	23 55.8 -00.1	48 54.2 +02.4	N	12 26.0 +00.1	105 56.3 +02.3	S	11 22.7 -00.1	22			
23	180 17.2 +00.4	S	23 55.7 -00.1	63 56.6 +02.3	N	12 26.1 +00.0	120 58.6 +02.2	S	11 22.6 -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 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'4 00'4 00'4 00'4 00'4 00'4			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						
	SHA 083° 083° 083° 083° 083° 082°			SHA 326° 326° 326° 326° 326° 326°			SHA 023° 023° 023° 023° 023° 023°						
	Greenwich Culmination Time: 10:59			Greenwich Culmination Time: 18:44			Greenwich Culmination Time: 14:57						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 49.8 -00.2	S 21 25.8 -00.5	215 20.3 -00.8	S 21 28.0 +00.4	141 31.3 -32.8	S 15 55.4 -14.9	00						
01	192 49.6 -00.3	S 21 25.3 -00.4	230 19.5 -00.8	S 21 28.4 +00.4	155 58.5 -32.6	S 15 40.5 -14.9	01						
02	207 49.3 -00.2	S 21 24.9 -00.4	245 18.7 -00.8	S 21 28.8 +00.3	170 25.9 -32.6	S 15 25.6 -15.1	02						
03	222 49.1 -00.2	S 21 24.5 -00.5	260 17.9 -00.8	S 21 29.1 +00.4	184 53.3 -32.5	S 15 10.5 -15.1	03						
04	237 48.9 -00.3	S 21 24.0 -00.4	275 17.1 -00.8	S 21 29.5 +00.4	199 20.8 -32.4	S 14 55.4 -15.2	04						
05	252 48.6 -00.2	S 21 23.6 -00.4	290 16.3 -00.8	S 21 29.9 +00.3	213 48.4 -32.3	S 14 40.2 -15.3	05						
06	267 48.4 -00.2	S 21 23.2 -00.5	305 15.5 -00.8	S 21 30.2 +00.4	228 16.1 -32.3	S 14 24.9 -15.4	06						
07	282 48.2 -00.3	S 21 22.7 -00.4	320 14.7 -00.8	S 21 30.6 +00.3	242 43.8 -32.1	S 14 09.5 -15.4	07						
08	297 47.9 -00.2	S 21 22.3 -00.4	335 13.9 -00.8	S 21 30.9 +00.4	257 11.7 -32.0	S 13 54.1 -15.5	08						
09	312 47.7 -00.2	S 21 21.9 -00.5	350 13.1 -00.9	S 21 31.3 +00.4	271 39.7 -32.0	S 13 38.6 -15.7	09						
10	327 47.5 -00.3	S 21 21.4 -00.4	5 12.2 -00.8	S 21 31.7 +00.3	286 07.7 -31.8	S 13 22.9 -15.6	10						
11	342 47.2 -00.2	S 21 21.0 -00.5	20 11.4 -00.8	S 21 32.0 +00.4	300 35.9 -31.8	S 13 07.3 -15.8	11						
12	357 47.0 -00.2	S 21 20.5 -00.4	35 10.6 -00.8	S 21 32.4 +00.3	315 04.1 -31.7	S 12 51.5 -15.8	12						
13	12 46.8 -00.2	S 21 20.1 -00.4	50 09.8 -00.8	S 21 32.7 +00.4	329 32.4 -31.6	S 12 35.7 -15.8	13						
14	27 46.6 -00.3	S 21 19.7 -00.5	65 09.0 -00.8	S 21 33.1 +00.3	344 00.8 -31.5	S 12 19.9 -16.0	14						
15	42 46.3 -00.2	S 21 19.2 -00.4	80 08.2 -00.8	S 21 33.4 +00.4	358 29.3 -31.5	S 12 03.9 -16.0	15						
16	57 46.1 -00.2	S 21 18.8 -00.5	95 07.4 -00.8	S 21 33.8 +00.3	12 57.8 -31.3	S 11 47.9 -16.0	16						
17	72 45.9 -00.3	S 21 18.3 -00.4	110 06.6 -00.8	S 21 34.1 +00.4	27 26.5 -31.3	S 11 31.9 -16.2	17						
18	87 45.6 -00.2	S 21 17.9 -00.5	125 05.8 -00.9	S 21 34.5 +00.3	41 55.2 -31.2	S 11 15.7 -16.1	18						
19	102 45.4 -00.2	S 21 17.4 -00.4	140 04.9 -00.8	S 21 34.8 +00.4	56 24.0 -31.1	S 10 59.6 -16.3	19						
20	117 45.2 -00.2	S 21 17.0 -00.4	155 04.1 -00.8	S 21 35.2 +00.3	70 52.9 -31.0	S 10 43.3 -16.2	20						
21	132 45.0 -00.3	S 21 16.6 -00.5	170 03.3 -00.8	S 21 35.5 +00.3	85 21.9 -31.0	S 10 27.1 -16.4	21						
22	147 44.7 -00.2	S 21 16.1 -00.4	185 02.5 -00.8	S 21 35.8 +00.4	99 50.9 -30.9	S 10 10.7 -16.3	22						
23	162 44.5 -00.2	S 21 15.7 -00.5	200 01.7 -00.8	S 21 36.2 +00.3	114 20.0 -30.8	S 09 54.4 -16.5	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'3 16'3 16'3 16'3 16'3 16'3		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 16'5 16'5 16'5 16'4 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 60'4 60'4 60'4 60'3 60'3 60'2								
	SHA 065° 065° 064° 064° 064° 064°		SHA 102° 102° 102° 102° 101° 101°		SHA 027° 025° 023° 020° 018° 016°								
	Greenwich Culmination Time: 12:08		Greenwich Culmination Time: 09:39		Greenwich Culmination Time: 15:06								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	195 17.6 +00.4	S 23 55.6 -00.1	78 58.9 +02.4	N 12 26.1 +00.1	136 00.8 +02.2	S 11 22.5 -00.1	00						
01	210 18.0 +00.4	S 23 55.5 +00.0	94 01.3 +02.3	N 12 26.2 +00.0	151 03.0 +02.2	S 11 22.4 -00.1	01						
02	225 18.4 +00.4	S 23 55.5 -00.1	109 03.6 +02.4	N 12 26.2 +00.1	166 05.2 +02.3	S 11 22.3 -00.1	02						
03	240 18.8 +00.4	S 23 55.4 -00.1	124 06.0 +02.3	N 12 26.3 +00.1	181 07.5 +02.2	S 11 22.2 -00.1	03						
04	255 19.2 +00.4	S 23 55.3 -00.1	139 08.3 +02.4	N 12 26.4 +00.0	196 09.7 +02.2	S 11 22.1 -00.1	04						
05	270 19.6 +00.4	S 23 55.2 +00.0	154 10.7 +02.3	N 12 26.4 +00.1	211 11.9 +02.2	S 11 22.0 -00.1	05						
06	285 20.0 +00.5	S 23 55.2 -00.1	169 13.0 +02.4	N 12 26.5 +00.0	226 14.1 +02.2	S 11 21.9 -00.1	06						
07	300 20.5 +00.4	S 23 55.1 -00.1	184 15.4 +02.3	N 12 26.5 +00.1	241 16.3 +02.3	S 11 21.8 -00.1	07						
08	315 20.9 +00.4	S 23 55.0 -00.1	199 17.7 +02.4	N 12 26.6 +00.0	256 18.6 +02.2	S 11 21.7 -00.1	08						
09	330 21.3 +00.4	S 23 54.9 -00.1	214 20.1 +02.3	N 12 26.6 +00.1	271 20.8 +02.2	S 11 21.6 -00.1	09						
10	345 21.7 +00.4	S 23 54.8 +00.0	229 22.4 +02.4	N 12 26.7 +00.0	286 23.0 +02.2	S 11 21.5 -00.1	10						
11	0 22.1 +00.4	S 23 54.8 -00.1	244 24.8 +02.3	N 12 26.7 +00.1	301 25.2 +02.3	S 11 21.4 +00.0	11						
12	15 22.5 +00.4	S 23 54.7 -00.1	259 27.1 +02.4	N 12 26.8 +00.0	316 27.5 +02.2	S 11 21.4 -00.1	12						
13	30 22.9 +00.4	S 23 54.6 -00.1	274 29.5 +02.3	N 12 26.8 +00.1	331 29.7 +02.2	S 11 21.3 -00.1	13						
14	45 23.3 +00.4	S 23 54.5 -00.1	289 31.8 +02.4	N 12 26.9 +00.0	346 31.9 +02.2	S 11 21.2 -00.1	14						
15	60 23.7 +00.5	S 23 54.4 -00.1	304 34.2 +02.3	N 12 26.9 +00.1	1 34.1 +02.3	S 11 21.1 -00.1	15						
16	75 24.2 +00.4	S 23 54.3 +00.0	319 36.5 +02.4	N 12 27.0 +00.0	16 36.4 +02.2	S 11 21.0 -00.1	16						
17	90 24.6 +00.4	S 23 54.3 -00.1	334 38.9 +02.3	N 12 27.0 +00.1	31 38.6 +02.2	S 11 20.9 -00.1	17						
18	105 25.0 +00.4	S 23 54.2 -00.1	349 41.2 +02.4	N 12 27.1 +00.0	46 40.8 +02.2	S 11 20.8 -00.1	18						
19	120 25.4 +00.4	S 23 54.1 -00.1	4 43.6 +02.3	N 12 27.1 +00.1	61 43.0 +02.2	S 11 20.7 -00.1	19						
20	135 25.8 +00.4	S 23 54.0 -00.1	19 45.9 +02.4	N 12 27.2 +00.0	76 45.2 +02.3	S 11 20.6 -00.1	20						
21	150 26.2 +00.4	S 23 53.9 -00.1	34 48.3 +02.3	N 12 27.2 +00.1	91 47.5 +02.2	S 11 20.5 -00.1	21						
22	165 26.6 +00.4	S 23 53.8 +00.0	49 50.6 +02.4	N 12 27.3 +00.1	106 49.7 +02.2	S 11 20.4 -00.1	22						
23	180 27.0 +00.5	S 23 53.8 -00.1	64 53.0 +02.3	N 12 27.4 +00.0	121 51.9 +02.2	S 11 20.3 -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 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'4 00'4 00'4 00'4 00'4 00'4		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								
	SHA 082° 082° 082° 082° 082° 082°		SHA 326° 326° 326° 326° 326° 326°		SHA 023° 023° 023° 023° 023° 023°								
	Greenwich Culmination Time: 10:58		Greenwich Culmination Time: 18:41		Greenwich Culmination Time: 14:53								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 44.3 -00.3	S	21 15.2 -00.4	215 00.9 -00.8	S	21 36.5 +00.4	128 49.2 -30.7	S	09 37.9 -16.4	00			
01	192 44.0 -00.2	S	21 14.8 -00.5	230 00.1 -00.9	S	21 36.9 +00.3	143 18.5 -30.7	S	09 21.5 -16.5	01			
02	207 43.8 -00.2	S	21 14.3 -00.4	244 59.2 -00.8	S	21 37.2 +00.3	157 47.8 -30.6	S	09 05.0 -16.6	02			
03	222 43.6 -00.2	S	21 13.9 -00.5	259 58.4 -00.8	S	21 37.5 +00.4	172 17.2 -30.5	S	08 48.4 -16.6	03			
04	237 43.4 -00.3	S	21 13.4 -00.4	274 57.6 -00.8	S	21 37.9 +00.3	186 46.7 -30.5	S	08 31.8 -16.6	04			
05	252 43.1 -00.2	S	21 13.0 -00.5	289 56.8 -00.8	S	21 38.2 +00.3	201 16.2 -30.4	S	08 15.2 -16.7	05			
06	267 42.9 -00.2	S	21 12.5 -00.4	304 56.0 -00.8	S	21 38.5 +00.4	215 45.8 -30.3	S	07 58.5 -16.7	06			
07	282 42.7 -00.2	S	21 12.1 -00.5	319 55.2 -00.9	S	21 38.9 +00.3	230 15.5 -30.2	S	07 41.8 -16.7	07			
08	297 42.5 -00.3	S	21 11.6 -00.4	334 54.3 -00.8	S	21 39.2 +00.3	244 45.3 -30.2	S	07 25.1 -16.7	08			
09	312 42.2 -00.2	S	21 11.2 -00.5	349 53.5 -00.8	S	21 39.5 +00.4	259 15.1 -30.2	S	07 08.4 -16.8	09			
10	327 42.0 -00.2	S	21 10.7 -00.4	4 52.7 -00.8	S	21 39.9 +00.3	273 44.9 -30.1	S	06 51.6 -16.8	10			
11	342 41.8 -00.2	S	21 10.3 -00.5	19 51.9 -00.8	S	21 40.2 +00.3	288 14.8 -30.0	S	06 34.8 -16.8	11			
12	357 41.6 -00.2	S	21 09.8 -00.5	34 51.1 -00.8	S	21 40.5 +00.4	302 44.8 -30.0	S	06 18.0 -16.9	12			
13	12 41.4 -00.3	S	21 09.3 -00.4	49 50.3 -00.9	S	21 40.9 +00.3	317 14.8 -29.9	S	06 01.1 -16.9	13			
14	27 41.1 -00.2	S	21 08.9 -00.5	64 49.4 -00.8	S	21 41.2 +00.3	331 44.9 -29.8	S	05 44.2 -16.9	14			
15	42 40.9 -00.2	S	21 08.4 -00.4	79 48.6 -00.8	S	21 41.5 +00.3	346 15.1 -29.8	S	05 27.3 -16.9	15			
16	57 40.7 -00.2	S	21 08.0 -00.5	94 47.8 -00.8	S	21 41.8 +00.4	0 45.3 -29.8	S	05 10.4 -16.9	16			
17	72 40.5 -00.3	S	21 07.5 -00.4	109 47.0 -00.8	S	21 42.2 +00.3	15 15.5 -29.7	S	04 53.5 -16.9	17			
18	87 40.2 -00.2	S	21 07.1 -00.5	124 46.2 -00.9	S	21 42.5 +00.3	29 45.8 -29.6	S	04 36.6 -17.0	18			
19	102 40.0 -00.2	S	21 06.6 -00.5	139 45.3 -00.8	S	21 42.8 +00.3	44 16.2 -29.6	S	04 19.6 -16.9	19			
20	117 39.8 -00.2	S	21 06.1 -00.4	154 44.5 -00.8	S	21 43.1 +00.3	58 46.6 -29.6	S	04 02.7 -17.0	20			
21	132 39.6 -00.2	S	21 05.7 -00.5	169 43.7 -00.8	S	21 43.4 +00.4	73 17.0 -29.5	S	03 45.7 -17.0	21			
22	147 39.4 -00.3	S	21 05.2 -00.5	184 42.9 -00.8	S	21 43.8 +00.3	87 47.5 -29.4	S	03 28.7 -17.0	22			
23	162 39.1 -00.2	S	21 04.7 -00.4	199 42.1 -00.9	S	21 44.1 +00.3	102 18.1 -29.5	S	03 11.7 -16.9	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'3 16'3 16'3 16'3 16'3 16'3			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 16'4 16'4 16'4 16'3 16'3 16'3						
	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 60'2 60'1 60'1 60'0 59'9 59'8						
	SHA 064° 064° 063° 063° 063° 063°			SHA 101° 101° 101° 100° 100° 100°			SHA 014° 012° 009° 007° 005° 003°						
	Greenwich Culmination Time: 12:09			Greenwich Culmination Time: 09:40			Greenwich Culmination Time: 15:56						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	195 27.5 +00.4	S	23 53.7 -00.1	79 55.3 +02.4	N	12 27.4 +00.1	136 54.1 +02.2	S	11 20.2 -00.1	00			
01	210 27.9 +00.4	S	23 53.6 -00.1	94 57.7 +02.3	N	12 27.5 +00.0	151 56.3 +02.3	S	11 20.1 -00.1	01			
02	225 28.3 +00.4	S	23 53.5 -00.1	109 60.0 +02.3	N	12 27.5 +00.1	166 58.6 +02.2	S	11 20.0 -00.1	02			
03	240 28.7 +00.4	S	23 53.4 -00.1	125 02.3 +02.4	N	12 27.6 +00.0	182 00.8 +02.2	S	11 19.9 -00.1	03			
04	255 29.1 +00.4	S	23 53.3 -00.1	140 04.7 +02.3	N	12 27.6 +00.1	197 03.0 +02.2	S	11 19.8 -00.1	04			
05	270 29.5 +00.4	S	23 53.2 -00.1	155 07.0 +02.4	N	12 27.7 +00.0	212 05.2 +02.3	S	11 19.7 -00.1	05			
06	285 29.9 +00.4	S	23 53.1 -00.1	170 09.4 +02.3	N	12 27.7 +00.1	227 07.5 +02.2	S	11 19.6 -00.1	06			
07	300 30.3 +00.4	S	23 53.0 +00.0	185 11.7 +02.4	N	12 27.8 +00.0	242 09.7 +02.2	S	11 19.5 -00.1	07			
08	315 30.7 +00.5	S	23 53.0 -00.1	200 14.1 +02.3	N	12 27.8 +00.1	257 11.9 +02.2	S	11 19.4 -00.1	08			
09	330 31.2 +00.4	S	23 52.9 -00.1	215 16.4 +02.3	N	12 27.9 +00.0	272 14.1 +02.2	S	11 19.3 -00.1	09			
10	345 31.6 +00.4	S	23 52.8 -00.1	230 18.7 +02.4	N	12 27.9 +00.1	287 16.3 +02.3	S	11 19.2 +00.0	10			
11	0 32.0 +00.4	S	23 52.7 -00.1	245 21.1 +02.3	N	12 28.0 +00.1	302 18.6 +02.2	S	11 19.2 -00.1	11			
12	15 32.4 +00.4	S	23 52.6 -00.1	260 23.4 +02.4	N	12 28.1 +00.0	317 20.8 +02.2	S	11 19.1 -00.1	12			
13	30 32.8 +00.4	S	23 52.5 -00.1	275 25.8 +02.3	N	12 28.1 +00.1	332 23.0 +02.2	S	11 19.0 -00.1	13			
14	45 33.2 +00.4	S	23 52.4 -00.1	290 28.1 +02.3	N	12 28.2 +00.0	347 25.2 +02.2	S	11 18.9 -00.1	14			
15	60 33.6 +00.4	S	23 52.3 -00.1	305 30.4 +02.4	N	12 28.2 +00.1	2 27.4 +02.3	S	11 18.8 -00.1	15			
16	75 34.0 +00.4	S	23 52.2 -00.1	320 32.8 +02.3	N	12 28.3 +00.0	17 29.7 +02.2	S	11 18.7 -00.1	16			
17	90 34.4 +00.5	S	23 52.1 -00.1	335 35.1 +02.4	N	12 28.3 +00.1	32 31.9 +02.2	S	11 18.6 -00.1	17			
18	105 34.9 +00.4	S	23 52.0 -00.1	350 37.5 +02.3	N	12 28.4 +00.0	47 34.1 +02.2	S	11 18.5 -00.1	18			
19	120 35.3 +00.4	S	23 51.9 -00.1	5 39.8 +02.3	N	12 28.4 +00.1	62 36.3 +02.2	S	11 18.4 -00.1	19			
20	135 35.7 +00.4	S	23 51.8 -00.1	20 42.1 +02.4	N	12 28.5 +00.1	77 38.5 +02.3	S	11 18.3 -00.1	20			
21	150 36.1 +00.4	S	23 51.7 -00.1	35 44.5 +02.3	N	12 28.6 +00.0	92 40.8 +02.2	S	11 18.2 -00.1	21			
22	165 36.5 +00.4	S	23 51.6 -00.1	50 46.8 +02.4	N	12 28.6 +00.1	107 43.0 +02.2	S	11 18.1 -00.1	22			
23	180 36.9 +00.4	S	23 51.5 -00.1	65 49.2 +02.3	N	12 28.7 +00.0	122 45.2 +02.2	S	11 18.0 -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 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			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						
	SHA 081° 081° 081° 081° 081° 081°			SHA 326° 326° 326° 326° 326° 326°			SHA 023° 023° 023° 023° 023° 023°						
	Greenwich Culmination Time: 10:57			Greenwich Culmination Time: 18:37			Greenwich Culmination Time: 14:50						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 38.9 -00.2	S 21 04.3 -00.5	214 41.2 -00.8	S 21 44.4 +00.3	116 48.6 -29.4	S 02 54.8 -17.0	00						
01	192 38.7 -00.2	S 21 03.8 -00.5	229 40.4 -00.8	S 21 44.7 +00.3	131 19.2 -29.3	S 02 37.8 -17.0	01						
02	207 38.5 -00.2	S 21 03.3 -00.4	244 39.6 -00.8	S 21 45.0 +00.3	145 49.9 -29.3	S 02 20.8 -17.0	02						
03	222 38.3 -00.3	S 21 02.9 -00.5	259 38.8 -00.9	S 21 45.3 +00.3	160 20.6 -29.3	S 02 03.8 -17.0	03						
04	237 38.0 -00.2	S 21 02.4 -00.5	274 37.9 -00.8	S 21 45.6 +00.4	174 51.3 -29.2	S 01 46.8 -17.0	04						
05	252 37.8 -00.2	S 21 01.9 -00.4	289 37.1 -00.8	S 21 46.0 +00.3	189 22.1 -29.2	S 01 29.8 -16.9	05						
06	267 37.6 -00.2	S 21 01.5 -00.5	304 36.3 -00.8	S 21 46.3 +00.3	203 52.9 -29.2	S 01 12.9 -17.0	06						
07	282 37.4 -00.2	S 21 01.0 -00.5	319 35.5 -00.9	S 21 46.6 +00.3	218 23.7 -29.1	S 00 55.9 -17.0	07						
08	297 37.2 -00.2	S 21 00.5 -00.4	334 34.6 -00.8	S 21 46.9 +00.3	232 54.6 -29.1	S 00 38.9 -16.9	08						
09	312 37.0 -00.3	S 21 00.1 -00.5	349 33.8 -00.8	S 21 47.2 +00.3	247 25.5 -29.1	S 00 22.0 -16.9	09						
10	327 36.7 -00.2	S 20 59.6 -00.5	4 33.0 -00.8	S 21 47.5 +00.3	261 56.4 -29.1	S 00 05.1 -17.0	10						
11	342 36.5 -00.2	S 20 59.1 -00.4	19 32.2 -00.9	S 21 47.8 +00.3	276 27.3 -29.0	N 00 11.9 +16.9	11						
12	357 36.3 -00.2	S 20 58.7 -00.5	34 31.3 -00.8	S 21 48.1 +00.3	290 58.3 -29.0	N 00 28.8 +16.9	12						
13	12 36.1 -00.2	S 20 58.2 -00.5	49 30.5 -00.8	S 21 48.4 +00.3	305 29.3 -29.0	N 00 45.7 +16.8	13						
14	27 35.9 -00.2	S 20 57.7 -00.5	64 29.7 -00.8	S 21 48.7 +00.3	320 00.3 -29.0	N 01 02.5 +16.9	14						
15	42 35.7 -00.3	S 20 57.2 -00.4	79 28.9 -00.9	S 21 49.0 +00.3	334 31.3 -28.9	N 01 19.4 +16.8	15						
16	57 35.4 -00.2	S 20 56.8 -00.5	94 28.0 -00.8	S 21 49.3 +00.3	349 02.4 -28.9	N 01 36.2 +16.8	16						
17	72 35.2 -00.2	S 20 56.3 -00.5	109 27.2 -00.8	S 21 49.6 +00.3	3 33.5 -28.9	N 01 53.0 +16.8	17						
18	87 35.0 -00.2	S 20 55.8 -00.5	124 26.4 -00.8	S 21 49.9 +00.3	18 04.6 -28.9	N 02 09.8 +16.8	18						
19	102 34.8 -00.2	S 20 55.3 -00.5	139 25.6 -00.9	S 21 50.2 +00.3	32 35.7 -28.9	N 02 26.6 +16.7	19						
20	117 34.6 -00.2	S 20 54.8 -00.4	154 24.7 -00.8	S 21 50.5 +00.3	47 06.8 -28.9	N 02 43.3 +16.7	20						
21	132 34.4 -00.2	S 20 54.4 -00.5	169 23.9 -00.8	S 21 50.8 +00.3	61 37.9 -28.8	N 03 00.0 +16.7	21						
22	147 34.2 -00.2	S 20 53.9 -00.5	184 23.1 -00.9	S 21 51.1 +00.2	76 09.1 -28.9	N 03 16.7 +16.6	22						
23	162 34.0 -00.3	S 20 53.4 -00.5	199 22.2 -00.8	S 21 51.3 +00.3	90 40.2 -28.8	N 03 33.3 +16.6	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'3 16'3 16'3 16'3 16'3 16'3		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 16'3 16'3 16'2 16'2 16'2 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 59'7 59'6 59'6 59'5 59'4 59'3								
	SHA 063° 062° 062° 062° 062° 062°		SHA 100° 099° 099° 099° 099° 099°		SHA 001° 359° 357° 354° 352° 350°								
	Greenwich Culmination Time: 12:09		Greenwich Culmination Time: 09:41		Greenwich Culmination Time: 16:45								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	195 37.3 +00.4	S 23 51.4 +00.0	80 51.5 +02.3	N 12 28.7 +00.1	137 47.4 +02.2	S 11 17.9 -00.1	00						
01	210 37.7 +00.4	S 23 51.4 -00.1	95 53.8 +02.4	N 12 28.8 +00.0	152 49.6 +02.3	S 11 17.8 -00.1	01						
02	225 38.1 +00.5	S 23 51.3 -00.1	110 56.2 +02.3	N 12 28.8 +00.1	167 51.9 +02.2	S 11 17.7 -00.1	02						
03	240 38.6 +00.4	S 23 51.2 -00.1	125 58.5 +02.3	N 12 28.9 +00.1	182 54.1 +02.2	S 11 17.6 -00.1	03						
04	255 39.0 +00.4	S 23 51.1 -00.1	141 00.8 +02.4	N 12 29.0 +00.0	197 56.3 +02.2	S 11 17.5 -00.1	04						
05	270 39.4 +00.4	S 23 51.0 -00.1	156 03.2 +02.3	N 12 29.0 +00.1	212 58.5 +02.2	S 11 17.4 -00.1	05						
06	285 39.8 +00.4	S 23 50.9 -00.1	171 05.5 +02.4	N 12 29.1 +00.0	228 00.7 +02.2	S 11 17.3 -00.1	06						
07	300 40.2 +00.4	S 23 50.8 -00.1	186 07.9 +02.3	N 12 29.1 +00.1	243 02.9 +02.3	S 11 17.2 -00.1	07						
08	315 40.6 +00.4	S 23 50.7 -00.1	201 10.2 +02.3	N 12 29.2 +00.0	258 05.2 +02.2	S 11 17.1 -00.1	08						
09	330 41.0 +00.4	S 23 50.6 -00.2	216 12.5 +02.4	N 12 29.2 +00.1	273 07.4 +02.2	S 11 17.0 -00.1	09						
10	345 41.4 +00.4	S 23 50.4 -00.1	231 14.9 +02.3	N 12 29.3 +00.1	288 09.6 +02.2	S 11 16.9 -00.1	10						
11	0 41.8 +00.5	S 23 50.3 -00.1	246 17.2 +02.3	N 12 29.4 +00.0	303 11.8 +02.2	S 11 16.8 -00.1	11						
12	15 42.3 +00.4	S 23 50.2 -00.1	261 19.5 +02.4	N 12 29.4 +00.1	318 14.0 +02.3	S 11 16.7 -00.1	12						
13	30 42.7 +00.4	S 23 50.1 -00.1	276 21.9 +02.3	N 12 29.5 +00.0	333 16.3 +02.2	S 11 16.6 -00.1	13						
14	45 43.1 +00.4	S 23 50.0 -00.1	291 24.2 +02.3	N 12 29.5 +00.1	348 18.5 +02.2	S 11 16.5 -00.1	14						
15	60 43.5 +00.4	S 23 49.9 -00.1	306 26.5 +02.4	N 12 29.6 +00.0	3 20.7 +02.2	S 11 16.4 +00.0	15						
16	75 43.9 +00.4	S 23 49.8 -00.1	321 28.9 +02.3	N 12 29.6 +00.1	18 22.9 +02.2	S 11 16.4 -00.1	16						
17	90 44.3 +00.4	S 23 49.7 -00.1	336 31.2 +02.3	N 12 29.7 +00.1	33 25.1 +02.3	S 11 16.3 -00.1	17						
18	105 44.7 +00.4	S 23 49.6 -00.1	351 33.5 +02.4	N 12 29.8 +00.0	48 27.4 +02.2	S 11 16.2 -00.1	18						
19	120 45.1 +00.4	S 23 49.5 -00.1	6 35.9 +02.3	N 12 29.8 +00.1	63 29.6 +02.2	S 11 16.1 -00.1	19						
20	135 45.5 +00.5	S 23 49.4 -00.1	21 38.2 +02.3	N 12 29.9 +00.0	78 31.8 +02.2	S 11 16.0 -00.1	20						
21	150 46.0 +00.4	S 23 49.3 -00.1	36 40.5 +02.3	N 12 29.9 +00.1	93 34.0 +02.2	S 11 15.9 -00.1	21						
22	165 46.4 +00.4	S 23 49.2 -00.1	51 42.8 +02.4	N 12 30.0 +00.1	108 36.2 +02.2	S 11 15.8 -00.1	22						
23	180 46.8 +00.4	S 23 49.1 -00.1	66 45.2 +02.3	N 12 30.1 +00.0	123 38.4 +02.3	S 11 15.7 -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 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		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								
	SHA 081° 080° 080° 080° 080° 080°		SHA 326° 326° 326° 326° 326° 326°		SHA 023° 023° 023° 023° 023° 023°								
	Greenwich Culmination Time: 10:57		Greenwich Culmination Time: 18:33		Greenwich Culmination Time: 14:46								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 33.7 -00.2	S 20 52.9 -00.5	214 21.4 -00.8	S 21 51.6 +00.3	105 11.4 -28.8	N 03 49.9 +16.6	00						
01	192 33.5 -00.2	S 20 52.4 -00.4	229 20.6 -00.8	S 21 51.9 +00.3	119 42.6 -28.9	N 04 06.5 +16.6	01						
02	207 33.3 -00.2	S 20 52.0 -00.5	244 19.8 -00.9	S 21 52.2 +00.3	134 13.7 -28.8	N 04 23.1 +16.5	02						
03	222 33.1 -00.2	S 20 51.5 -00.5	259 18.9 -00.8	S 21 52.5 +00.3	148 44.9 -28.8	N 04 39.6 +16.5	03						
04	237 32.9 -00.2	S 20 51.0 -00.5	274 18.1 -00.8	S 21 52.8 +00.3	163 16.1 -28.8	N 04 56.1 +16.4	04						
05	252 32.7 -00.2	S 20 50.5 -00.5	289 17.3 -00.9	S 21 53.1 +00.3	177 47.3 -28.8	N 05 12.5 +16.4	05						
06	267 32.5 -00.2	S 20 50.0 -00.5	304 16.4 -00.8	S 21 53.4 +00.2	192 18.5 -28.8	N 05 28.9 +16.3	06						
07	282 32.3 -00.2	S 20 49.5 -00.4	319 15.6 -00.8	S 21 53.6 +00.3	206 49.7 -28.8	N 05 45.2 +16.3	07						
08	297 32.1 -00.3	S 20 49.1 -00.5	334 14.8 -00.9	S 21 53.9 +00.3	221 20.9 -28.9	N 06 01.5 +16.3	08						
09	312 31.8 -00.2	S 20 48.6 -00.5	349 13.9 -00.8	S 21 54.2 +00.3	235 52.0 -28.8	N 06 17.8 +16.2	09						
10	327 31.6 -00.2	S 20 48.1 -00.5	4 13.1 -00.8	S 21 54.5 +00.3	250 23.2 -28.8	N 06 34.0 +16.2	10						
11	342 31.4 -00.2	S 20 47.6 -00.5	19 12.3 -00.9	S 21 54.8 +00.2	264 54.4 -28.8	N 06 50.2 +16.1	11						
12	357 31.2 -00.2	S 20 47.1 -00.5	34 11.4 -00.8	S 21 55.0 +00.3	279 25.6 -28.9	N 07 06.3 +16.1	12						
13	12 31.0 -00.2	S 20 46.6 -00.5	49 10.6 -00.8	S 21 55.3 +00.3	293 56.7 -28.8	N 07 22.4 +16.0	13						
14	27 30.8 -00.2	S 20 46.1 -00.5	64 09.8 -00.9	S 21 55.6 +00.3	308 27.9 -28.9	N 07 38.4 +16.0	14						
15	42 30.6 -00.2	S 20 45.6 -00.5	79 08.9 -00.8	S 21 55.9 +00.2	322 59.0 -28.9	N 07 54.4 +15.9	15						
16	57 30.4 -00.2	S 20 45.1 -00.5	94 08.1 -00.8	S 21 56.1 +00.3	337 30.1 -28.8	N 08 10.3 +15.9	16						
17	72 30.2 -00.2	S 20 44.6 -00.4	109 07.3 -00.9	S 21 56.4 +00.3	352 01.3 -28.9	N 08 26.2 +15.8	17						
18	87 30.0 -00.2	S 20 44.2 -00.5	124 06.4 -00.8	S 21 56.7 +00.2	6 32.4 -29.0	N 08 42.0 +15.7	18						
19	102 29.8 -00.2	S 20 43.7 -00.5	139 05.6 -00.8	S 21 56.9 +00.3	21 03.4 -28.9	N 08 57.7 +15.7	19						
20	117 29.6 -00.2	S 20 43.2 -00.5	154 04.8 -00.9	S 21 57.2 +00.3	35 34.5 -28.9	N 09 13.4 +15.6	20						
21	132 29.4 -00.2	S 20 42.7 -00.5	169 03.9 -00.8	S 21 57.5 +00.2	50 05.6 -29.0	N 09 29.0 +15.6	21						
22	147 29.2 -00.3	S 20 42.2 -00.5	184 03.1 -00.8	S 21 57.7 +00.3	64 36.6 -29.0	N 09 44.6 +15.5	22						
23	162 28.9 -00.2	S 20 41.7 -00.5	199 02.3 -00.9	S 21 58.0 +00.3	79 07.6 -29.0	N 10 00.1 +15.5	23						
UT	02 06 10 14 18 22	SD 16'3 16'3 16'3 16'3 16'3 16'3	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 16'1 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 59'2 59'1 59'0 58'9 58'8 58'7		HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 062° 061° 061° 061° 061° 061°		SHA 098° 098° 098° 098° 097° 097°		SHA 348° 346° 344° 342° 340° 338°		SHA 023° 023° 023° 023° 023° 023°						
	Greenwich Culmination Time: 12:09		Greenwich Culmination Time: 09:43		Greenwich Culmination Time: 17:32								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	195 47.2 +00.4	S 23 49.0 -00.1	81 47.5 +02.3	N 12 30.1 +00.1	138 40.7 +02.2	S 11 15.6 -00.1	00						
01	210 47.6 +00.4	S 23 48.9 -00.1	96 49.8 +02.4	N 12 30.2 +00.0	153 42.9 +02.2	S 11 15.5 -00.1	01						
02	225 48.0 +00.4	S 23 48.8 -00.2	111 52.2 +02.3	N 12 30.2 +00.1	168 45.1 +02.2	S 11 15.4 -00.1	02						
03	240 48.4 +00.4	S 23 48.6 -00.1	126 54.5 +02.3	N 12 30.3 +00.0	183 47.3 +02.2	S 11 15.3 -00.1	03						
04	255 48.8 +00.4	S 23 48.5 -00.1	141 56.8 +02.3	N 12 30.3 +00.1	198 49.5 +02.2	S 11 15.2 -00.1	04						
05	270 49.2 +00.5	S 23 48.4 -00.1	156 59.1 +02.4	N 12 30.4 +00.1	213 51.7 +02.3	S 11 15.1 -00.1	05						
06	285 49.7 +00.4	S 23 48.3 -00.1	172 01.5 +02.3	N 12 30.5 +00.0	228 54.0 +02.2	S 11 15.0 -00.1	06						
07	300 50.1 +00.4	S 23 48.2 -00.1	187 03.8 +02.3	N 12 30.5 +00.1	243 56.2 +02.2	S 11 14.9 -00.1	07						
08	315 50.5 +00.4	S 23 48.1 -00.1	202 06.1 +02.4	N 12 30.6 +00.0	258 58.4 +02.2	S 11 14.8 -00.1	08						
09	330 50.9 +00.4	S 23 48.0 -00.1	217 08.5 +02.3	N 12 30.6 +00.1	274 00.6 +02.2	S 11 14.7 -00.1	09						
10	345 51.3 +00.4	S 23 47.9 -00.1	232 10.8 +02.3	N 12 30.7 +00.1	289 02.8 +02.2	S 11 14.6 -00.1	10						
11	0 51.7 +00.4	S 23 47.8 -00.2	247 13.1 +02.3	N 12 30.8 +00.0	304 05.0 +02.3	S 11 14.5 -00.1	11						
12	15 52.1 +00.4	S 23 47.6 -00.1	262 15.4 +02.4	N 12 30.8 +00.1	319 07.3 +02.2	S 11 14.4 -00.1	12						
13	30 52.5 +00.4	S 23 47.5 -00.1	277 17.8 +02.3	N 12 30.9 +00.0	334 09.5 +02.2	S 11 14.3 -00.1	13						
14	45 52.9 +00.4	S 23 47.4 -00.1	292 20.1 +02.3	N 12 30.9 +00.1	349 11.7 +02.2	S 11 14.2 -00.1	14						
15	60 53.3 +00.5	S 23 47.3 -00.1	307 22.4 +02.3	N 12 31.0 +00.1	4 13.9 +02.2	S 11 14.1 -00.1	15						
16	75 53.8 +00.4	S 23 47.2 -00.1	322 24.7 +02.4	N 12 31.1 +00.0	19 16.1 +02.2	S 11 14.0 -00.1	16						
17	90 54.2 +00.4	S 23 47.1 -00.2	337 27.1 +02.3	N 12 31.1 +00.1	34 18.3 +02.3	S 11 13.9 -00.1	17						
18	105 54.6 +00.4	S 23 46.9 -00.1	352 29.4 +02.3	N 12 31.2 +00.0	49 20.6 +02.2	S 11 13.8 -00.1	18						
19	120 55.0 +00.4	S 23 46.8 -00.1	7 31.7 +02.3	N 12 31.2 +00.1	64 22.8 +02.2	S 11 13.7 -00.1	19						
20	135 55.4 +00.4	S 23 46.7 -00.1	22 34.0 +02.4	N 12 31.3 +00.1	79 25.0 +02.2	S 11 13.6 -00.1	20						
21	150 55.8 +00.4	S 23 46.6 -00.1	37 36.4 +02.3	N 12 31.4 +00.0	94 27.2 +02.2	S 11 13.5 -00.1	21						
22	165 56.2 +00.4	S 23 46.5 -00.1	52 38.7 +02.3	N 12 31.4 +00.1	109 29.4 +02.2	S 11 13.4 -00.1	22						
23	180 56.6 +00.4	S 23 46.4 -00.2	67 41.0 +02.3	N 12 31.5 +00.1	124 31.6 +02.3	S 11 13.3 -00.1	23						
UT	02 06 10 14 18 22	SD 00'0 00'0 00'0 00'0 00'0 00'0	UT	02 06 10 14 18 22	SD 00'3 00'3 00'3 00'3 00'3 00'3	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		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 080° 080° 080° 079° 079° 079°		SHA 326° 326° 326° 326° 326° 326°		SHA 023° 023° 023° 023° 023° 023°		SHA 023° 023° 023° 023° 023° 023°						
	Greenwich Culmination Time: 10:56		Greenwich Culmination Time: 18:29		Greenwich Culmination Time: 14:43								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 28.7 -00.2	S 20 41.2 -00.5	214 01.4 -00.8	S 21 58.3 +00.2	93 38.6 -29.1	N 10 15.6 +15.3	00						
01	192 28.5 -00.2	S 20 40.7 -00.5	229 00.6 -00.8	S 21 58.5 +00.3	108 09.5 -29.0	N 10 30.9 +15.4	01						
02	207 28.3 -00.2	S 20 40.2 -00.5	243 59.8 -00.9	S 21 58.8 +00.2	122 40.5 -29.1	N 10 46.3 +15.2	02						
03	222 28.1 -00.2	S 20 39.7 -00.5	258 58.9 -00.8	S 21 59.0 +00.3	137 11.4 -29.1	N 11 01.5 +15.2	03						
04	237 27.9 -00.2	S 20 39.2 -00.5	273 58.1 -00.8	S 21 59.3 +00.3	151 42.3 -29.1	N 11 16.7 +15.1	04						
05	252 27.7 -00.2	S 20 38.7 -00.5	288 57.3 -00.9	S 21 59.6 +00.2	166 13.2 -29.2	N 11 31.8 +15.0	05						
06	267 27.5 -00.2	S 20 38.2 -00.5	303 56.4 -00.8	S 21 59.8 +00.3	180 44.0 -29.2	N 11 46.8 +15.0	06						
07	282 27.3 -00.2	S 20 37.7 -00.5	318 55.6 -00.9	S 22 00.1 +00.2	195 14.8 -29.2	N 12 01.8 +14.9	07						
08	297 27.1 -00.2	S 20 37.2 -00.5	333 54.7 -00.8	S 22 00.3 +00.3	209 45.6 -29.3	N 12 16.7 +14.8	08						
09	312 26.9 -00.2	S 20 36.7 -00.5	348 53.9 -00.8	S 22 00.6 +00.2	224 16.3 -29.2	N 12 31.5 +14.8	09						
10	327 26.7 -00.2	S 20 36.2 -00.5	3 53.1 -00.9	S 22 00.8 +00.3	238 47.1 -29.4	N 12 46.3 +14.6	10						
11	342 26.5 -00.2	S 20 35.7 -00.5	18 52.2 -00.8	S 22 01.1 +00.2	253 17.7 -29.3	N 13 00.9 +14.6	11						
12	357 26.3 -00.2	S 20 35.2 -00.5	33 51.4 -00.8	S 22 01.3 +00.3	267 48.4 -29.4	N 13 15.5 +14.5	12						
13	12 26.1 -00.2	S 20 34.7 -00.6	48 50.6 -00.9	S 22 01.6 +00.2	282 19.0 -29.4	N 13 30.0 +14.5	13						
14	27 25.9 -00.2	S 20 34.1 -00.5	63 49.7 -00.8	S 22 01.8 +00.3	296 49.6 -29.5	N 13 44.5 +14.3	14						
15	42 25.7 -00.2	S 20 33.6 -00.5	78 48.9 -00.9	S 22 02.1 +00.2	311 20.1 -29.5	N 13 58.8 +14.3	15						
16	57 25.5 -00.2	S 20 33.1 -00.5	93 48.0 -00.8	S 22 02.3 +00.3	325 50.6 -29.5	N 14 13.1 +14.2	16						
17	72 25.3 -00.2	S 20 32.6 -00.5	108 47.2 -00.8	S 22 02.6 +00.2	340 21.1 -29.6	N 14 27.3 +14.1	17						
18	87 25.1 -00.2	S 20 32.1 -00.5	123 46.4 -00.9	S 22 02.8 +00.3	354 51.5 -29.6	N 14 41.4 +14.0	18						
19	102 24.9 -00.2	S 20 31.6 -00.5	138 45.5 -00.8	S 22 03.1 +00.2	9 21.9 -29.6	N 14 55.4 +13.9	19						
20	117 24.7 -00.2	S 20 31.1 -00.5	153 44.7 -00.9	S 22 03.3 +00.2	23 52.3 -29.7	N 15 09.3 +13.9	20						
21	132 24.5 -00.2	S 20 30.6 -00.5	168 43.8 -00.8	S 22 03.5 +00.3	38 22.6 -29.8	N 15 23.2 +13.7	21						
22	147 24.3 -00.2	S 20 30.1 -00.5	183 43.0 -00.8	S 22 03.8 +00.2	52 52.8 -29.8	N 15 36.9 +13.7	22						
23	162 24.1 -00.2	S 20 29.6 -00.6	198 42.2 -00.9	S 22 04.0 +00.2	67 23.0 -29.8	N 15 50.6 +13.5	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'3 16'3 16'3 16'3 16'3 16'3		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 16'0 15'9 15'9 15'9 15'8 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 58'5 58'4 58'3 58'2 58'1 58'0								
	SHA 060° 060° 060° 060° 060° 060°		SHA 097° 097° 097° 096° 096° 096°		SHA 336° 334° 331° 329° 327° 325°								
	Greenwich Culmination Time: 12:10		Greenwich Culmination Time: 09:44		Greenwich Culmination Time: 18:21								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	195 57.0 +00.5	S 23 46.2 -00.1	82 43.3 +02.3	N 12 31.6 +00.0	139 33.9 +02.2	S 11 13.2 -00.1	00						
01	210 57.5 +00.4	S 23 46.1 -00.1	97 45.6 +02.4	N 12 31.6 +00.1	154 36.1 +02.2	S 11 13.1 -00.1	01						
02	225 57.9 +00.4	S 23 46.0 -00.1	112 48.0 +02.3	N 12 31.7 +00.0	169 38.3 +02.2	S 11 13.0 -00.1	02						
03	240 58.3 +00.4	S 23 45.9 -00.1	127 50.3 +02.3	N 12 31.7 +00.1	184 40.5 +02.2	S 11 12.9 -00.1	03						
04	255 58.7 +00.4	S 23 45.8 -00.2	142 52.6 +02.3	N 12 31.8 +00.1	199 42.7 +02.2	S 11 12.8 -00.1	04						
05	270 59.1 +00.4	S 23 45.6 -00.1	157 54.9 +02.3	N 12 31.9 +00.0	214 44.9 +02.2	S 11 12.7 -00.1	05						
06	285 59.5 +00.4	S 23 45.5 -00.1	172 57.2 +02.4	N 12 31.9 +00.1	229 47.1 +02.3	S 11 12.6 -00.1	06						
07	300 59.9 +00.4	S 23 45.4 -00.1	187 59.6 +02.3	N 12 32.0 +00.1	244 49.4 +02.2	S 11 12.5 -00.1	07						
08	316 00.3 +00.4	S 23 45.3 -00.2	203 01.9 +02.3	N 12 32.1 +00.0	259 51.6 +02.2	S 11 12.4 -00.1	08						
09	331 00.7 +00.4	S 23 45.1 -00.1	218 04.2 +02.3	N 12 32.1 +00.1	274 53.8 +02.2	S 11 12.3 -00.1	09						
10	346 01.1 +00.5	S 23 45.0 -00.1	233 06.5 +02.3	N 12 32.2 +00.0	289 56.0 +02.2	S 11 12.2 -00.1	10						
11	1 01.6 +00.4	S 23 44.9 -00.1	248 08.8 +02.4	N 12 32.2 +00.1	304 58.2 +02.2	S 11 12.1 -00.1	11						
12	16 02.0 +00.4	S 23 44.8 -00.1	263 11.2 +02.3	N 12 32.3 +00.1	320 00.4 +02.3	S 11 12.0 +00.0	12						
13	31 02.4 +00.4	S 23 44.7 -00.2	278 13.5 +02.3	N 12 32.4 +00.0	335 02.7 +02.2	S 11 12.0 -00.1	13						
14	46 02.8 +00.4	S 23 44.5 -00.1	293 15.8 +02.3	N 12 32.4 +00.1	350 04.9 +02.2	S 11 11.9 -00.1	14						
15	61 03.2 +00.4	S 23 44.4 -00.1	308 18.1 +02.3	N 12 32.5 +00.1	5 07.1 +02.2	S 11 11.8 -00.1	15						
16	76 03.6 +00.4	S 23 44.3 -00.2	323 20.4 +02.3	N 12 32.6 +00.0	20 09.3 +02.2	S 11 11.7 -00.1	16						
17	91 04.0 +00.4	S 23 44.1 -00.1	338 22.7 +02.4	N 12 32.6 +00.1	35 11.5 +02.2	S 11 11.6 -00.1	17						
18	106 04.4 +00.4	S 23 44.0 -00.1	353 25.1 +02.3	N 12 32.7 +00.0	50 13.7 +02.2	S 11 11.5 -00.1	18						
19	121 04.8 +00.4	S 23 43.9 -00.1	8 27.4 +02.3	N 12 32.7 +00.1	65 15.9 +02.3	S 11 11.4 -00.1	19						
20	136 05.2 +00.5	S 23 43.8 -00.2	23 29.7 +02.3	N 12 32.8 +00.1	80 18.2 +02.2	S 11 11.3 -00.1	20						
21	151 05.7 +00.4	S 23 43.6 -00.1	38 32.0 +02.3	N 12 32.9 +00.0	95 20.4 +02.2	S 11 11.2 -00.1	21						
22	166 06.1 +00.4	S 23 43.5 -00.1	53 34.3 +02.3	N 12 32.9 +00.1	110 22.6 +02.2	S 11 11.1 -00.1	22						
23	181 06.5 +00.4	S 23 43.4 -00.2	68 36.6 +02.3	N 12 33.0 +00.1	125 24.8 +02.2	S 11 11.0 -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 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		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								
	SHA 079° 079° 079° 079° 078° 078°		SHA 326° 326° 326° 326° 326° 326°		SHA 023° 023° 023° 023° 023° 023°								
	Greenwich Culmination Time: 10:55		Greenwich Culmination Time: 18:26		Greenwich Culmination Time: 14:39								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 23.9 -00.2	S 20 29.0 -00.5	213 41.3 -00.8	S 22 04.2 +00.3	81 53.2 -29.9	N 16 04.1 +13.5	00						
01	192 23.7 -00.2	S 20 28.5 -00.5	228 40.5 -00.9	S 22 04.5 +00.2	96 23.3 -29.9	N 16 17.6 +13.4	01						
02	207 23.5 -00.2	S 20 28.0 -00.5	243 39.6 -00.8	S 22 04.7 +00.3	110 53.4 -29.9	N 16 31.0 +13.3	02						
03	222 23.3 -00.2	S 20 27.5 -00.5	258 38.8 -00.9	S 22 05.0 +00.2	125 23.5 -30.1	N 16 44.3 +13.2	03						
04	237 23.1 -00.2	S 20 27.0 -00.5	273 37.9 -00.8	S 22 05.2 +00.2	139 53.4 -30.0	N 16 57.5 +13.1	04						
05	252 22.9 -00.1	S 20 26.5 -00.6	288 37.1 -00.8	S 22 05.4 +00.2	154 23.4 -30.1	N 17 10.6 +12.9	05						
06	267 22.8 -00.2	S 20 25.9 -00.5	303 36.3 -00.9	S 22 05.6 +00.3	168 53.3 -30.2	N 17 23.5 +12.9	06						
07	282 22.6 -00.2	S 20 25.4 -00.5	318 35.4 -00.8	S 22 05.9 +00.2	183 23.1 -30.2	N 17 36.4 +12.8	07						
08	297 22.4 -00.2	S 20 24.9 -00.5	333 34.6 -00.9	S 22 06.1 +00.2	197 52.9 -30.2	N 17 49.2 +12.7	08						
09	312 22.2 -00.2	S 20 24.4 -00.5	348 33.7 -00.8	S 22 06.3 +00.3	212 22.7 -30.3	N 18 01.9 +12.6	09						
10	327 22.0 -00.2	S 20 23.9 -00.5	3 32.9 -00.9	S 22 06.6 +00.2	226 52.4 -30.4	N 18 14.5 +12.5	10						
11	342 21.8 -00.2	S 20 23.4 -00.6	18 32.0 -00.8	S 22 06.8 +00.2	241 22.0 -30.4	N 18 27.0 +12.4	11						
12	357 21.6 -00.2	S 20 22.8 -00.5	33 31.2 -00.9	S 22 07.0 +00.2	255 51.6 -30.4	N 18 39.4 +12.3	12						
13	12 21.4 -00.2	S 20 22.3 -00.5	48 30.3 -00.8	S 22 07.2 +00.2	270 21.2 -30.6	N 18 51.7 +12.1	13						
14	27 21.2 -00.2	S 20 21.8 -00.5	63 29.5 -00.8	S 22 07.4 +00.3	284 50.6 -30.5	N 19 03.8 +12.1	14						
15	42 21.0 -00.2	S 20 21.3 -00.6	78 28.7 -00.9	S 22 07.7 +00.2	299 20.1 -30.6	N 19 15.9 +11.9	15						
16	57 20.8 -00.2	S 20 20.7 -00.5	93 27.8 -00.8	S 22 07.9 +00.2	313 49.5 -30.7	N 19 27.8 +11.9	16						
17	72 20.6 -00.2	S 20 20.2 -00.5	108 27.0 -00.9	S 22 08.1 +00.2	328 18.8 -30.7	N 19 39.7 +11.7	17						
18	87 20.4 -00.2	S 20 19.7 -00.5	123 26.1 -00.8	S 22 08.3 +00.2	342 48.1 -30.8	N 19 51.4 +11.6	18						
19	102 20.2 -00.1	S 20 19.2 -00.6	138 25.3 -00.9	S 22 08.5 +00.3	357 17.3 -30.8	N 20 03.0 +11.5	19						
20	117 20.1 -00.2	S 20 18.6 -00.5	153 24.4 -00.8	S 22 08.8 +00.2	11 46.5 -30.9	N 20 14.5 +11.4	20						
21	132 19.9 -00.2	S 20 18.1 -00.5	168 23.6 -00.9	S 22 09.0 +00.2	26 15.6 -31.0	N 20 25.9 +11.3	21						
22	147 19.7 -00.2	S 20 17.6 -00.6	183 22.7 -00.8	S 22 09.2 +00.2	40 44.6 -30.9	N 20 37.2 +11.1	22						
23	162 19.5 -00.2	S 20 17.0 -00.5	198 21.9 -00.9	S 22 09.4 +00.2	55 13.7 -31.1	N 20 48.3 +11.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'3 16'3 16'3 16'3 16'3 16'3		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 15'8 15'7 15'7 15'7 15'7 15'6								
	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 57'9 57'8 57'7 57'6 57'5 57'4								
	SHA 059° 059° 059° 059° 059° 059°		SHA 096° 095° 095° 095° 095° 095°		SHA 323° 321° 319° 316° 314° 312°								
	Greenwich Culmination Time: 12:10		Greenwich Culmination Time: 09:45		Greenwich Culmination Time: 19:11								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	196 06.9 +00.4	S 23 43.2 -00.1	83 38.9 +02.4	N 12 33.1 +00.0	140 27.0 +02.2	S 11 10.9 -00.1	00						
01	211 07.3 +00.4	S 23 43.1 -00.1	98 41.3 +02.3	N 12 33.1 +00.1	155 29.2 +02.2	S 11 10.8 -00.1	01						
02	226 07.7 +00.4	S 23 43.0 -00.1	113 43.6 +02.3	N 12 33.2 +00.1	170 31.4 +02.2	S 11 10.7 -00.1	02						
03	241 08.1 +00.4	S 23 42.9 -00.2	128 45.9 +02.3	N 12 33.3 +00.0	185 33.6 +02.3	S 11 10.6 -00.1	03						
04	256 08.5 +00.4	S 23 42.7 -00.1	143 48.2 +02.3	N 12 33.3 +00.1	200 35.9 +02.2	S 11 10.5 -00.1	04						
05	271 08.9 +00.5	S 23 42.6 -00.1	158 50.5 +02.3	N 12 33.4 +00.0	215 38.1 +02.2	S 11 10.4 -00.1	05						
06	286 09.4 +00.4	S 23 42.5 -00.2	173 52.8 +02.3	N 12 33.4 +00.1	230 40.3 +02.2	S 11 10.3 -00.1	06						
07	301 09.8 +00.4	S 23 42.3 -00.1	188 55.1 +02.3	N 12 33.5 +00.1	245 42.5 +02.2	S 11 10.2 -00.1	07						
08	316 10.2 +00.4	S 23 42.2 -00.1	203 57.4 +02.4	N 12 33.6 +00.0	260 44.7 +02.2	S 11 10.1 -00.1	08						
09	331 10.6 +00.4	S 23 42.1 -00.2	218 59.8 +02.3	N 12 33.6 +00.1	275 46.9 +02.2	S 11 10.0 -00.1	09						
10	346 11.0 +00.4	S 23 41.9 -00.1	234 02.1 +02.3	N 12 33.7 +00.1	290 49.1 +02.3	S 11 09.9 -00.1	10						
11	1 11.4 +00.4	S 23 41.8 -00.1	249 04.4 +02.3	N 12 33.8 +00.0	305 51.4 +02.2	S 11 09.8 -00.1	11						
12	16 11.8 +00.4	S 23 41.7 -00.2	264 06.7 +02.3	N 12 33.8 +00.1	320 53.6 +02.2	S 11 09.7 -00.1	12						
13	31 12.2 +00.4	S 23 41.5 -00.1	279 09.0 +02.3	N 12 33.9 +00.1	335 55.8 +02.2	S 11 09.6 -00.1	13						
14	46 12.6 +00.4	S 23 41.4 -00.2	294 11.3 +02.3	N 12 34.0 +00.0	350 58.0 +02.2	S 11 09.5 -00.1	14						
15	61 13.0 +00.5	S 23 41.2 -00.1	309 13.6 +02.3	N 12 34.0 +00.1	6 00.2 +02.2	S 11 09.4 -00.1	15						
16	76 13.5 +00.4	S 23 41.1 -00.1	324 15.9 +02.3	N 12 34.1 +00.1	21 02.4 +02.2	S 11 09.3 -00.1	16						
17	91 13.9 +00.4	S 23 41.0 -00.2	339 18.2 +02.3	N 12 34.2 +00.0	36 04.6 +02.2	S 11 09.2 -00.1	17						
18	106 14.3 +00.4	S 23 40.8 -00.1	354 20.5 +02.4	N 12 34.2 +00.1	51 06.8 +02.3	S 11 09.1 -00.1	18						
19	121 14.7 +00.4	S 23 40.7 -00.1	9 22.9 +02.3	N 12 34.3 +00.1	66 09.1 +02.2	S 11 09.0 -00.1	19						
20	136 15.1 +00.4	S 23 40.6 -00.2	24 25.2 +02.3	N 12 34.4 +00.0	81 11.3 +02.2	S 11 08.9 -00.1	20						
21	151 15.5 +00.4	S 23 40.4 -00.1	39 27.5 +02.3	N 12 34.4 +00.1	96 13.5 +02.2	S 11 08.8 -00.1	21						
22	166 15.9 +00.4	S 23 40.3 -00.2	54 29.8 +02.3	N 12 34.5 +00.1	111 15.7 +02.2	S 11 08.7 -00.1	22						
23	181 16.3 +00.4	S 23 40.1 -00.1	69 32.1 +02.3	N 12 34.6 +00.0	126 17.9 +02.2	S 11 08.6 -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 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		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								
	SHA 078° 078° 078° 078° 078° 077°		SHA 326° 326° 326° 326° 326° 326°		SHA 023° 023° 023° 022° 022° 022°								
	Greenwich Culmination Time: 10:55		Greenwich Culmination Time: 18:22		Greenwich Culmination Time: 14:36								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 19.3 -00.2	S	20 16.5 -00.5	213 21.0 -00.8	S	22 09.6 +00.2	69 42.6 -31.1	N	20 59.4 +10.9	00			
01	192 19.1 -00.2	S	20 16.0 -00.5	228 20.2 -00.9	S	22 09.8 +00.2	84 11.5 -31.2	N	21 10.3 +10.8	01			
02	207 18.9 -00.2	S	20 15.5 -00.6	243 19.3 -00.8	S	22 10.0 +00.2	98 40.3 -31.2	N	21 21.1 +10.7	02			
03	222 18.7 -00.2	S	20 14.9 -00.5	258 18.5 -00.8	S	22 10.2 +00.2	113 09.1 -31.2	N	21 31.8 +10.5	03			
04	237 18.5 -00.1	S	20 14.4 -00.5	273 17.7 -00.9	S	22 10.4 +00.2	127 37.9 -31.4	N	21 42.3 +10.5	04			
05	252 18.4 -00.2	S	20 13.9 -00.6	288 16.8 -00.8	S	22 10.6 +00.2	142 06.5 -31.3	N	21 52.8 +10.3	05			
06	267 18.2 -00.2	S	20 13.3 -00.5	303 16.0 -00.9	S	22 10.8 +00.2	156 35.2 -31.5	N	22 03.1 +10.2	06			
07	282 18.0 -00.2	S	20 12.8 -00.5	318 15.1 -00.8	S	22 11.0 +00.2	171 03.7 -31.5	N	22 13.3 +10.0	07			
08	297 17.8 -00.2	S	20 12.3 -00.6	333 14.3 -00.9	S	22 11.2 +00.2	185 32.2 -31.5	N	22 23.3 +10.0	08			
09	312 17.6 -00.2	S	20 11.7 -00.5	348 13.4 -00.8	S	22 11.4 +00.2	200 00.7 -31.6	N	22 33.3 +09.8	09			
10	327 17.4 -00.2	S	20 11.2 -00.5	3 12.6 -00.9	S	22 11.6 +00.2	214 29.1 -31.6	N	22 43.1 +09.7	10			
11	342 17.2 -00.1	S	20 10.7 -00.6	18 11.7 -00.8	S	22 11.8 +00.2	228 57.5 -31.7	N	22 52.8 +09.5	11			
12	357 17.1 -00.2	S	20 10.1 -00.5	33 10.9 -00.9	S	22 12.0 +00.2	243 25.8 -31.8	N	23 02.3 +09.4	12			
13	12 16.9 -00.2	S	20 09.6 -00.6	48 10.0 -00.8	S	22 12.2 +00.2	257 54.0 -31.8	N	23 11.7 +09.3	13			
14	27 16.7 -00.2	S	20 09.0 -00.5	63 09.2 -00.9	S	22 12.4 +00.2	272 22.2 -31.9	N	23 21.0 +09.2	14			
15	42 16.5 -00.2	S	20 08.5 -00.5	78 08.3 -00.8	S	22 12.6 +00.2	286 50.3 -31.9	N	23 30.2 +09.0	15			
16	57 16.3 -00.2	S	20 08.0 -00.6	93 07.5 -00.9	S	22 12.8 +00.2	301 18.4 -32.0	N	23 39.2 +08.9	16			
17	72 16.1 -00.2	S	20 07.4 -00.5	108 06.6 -00.8	S	22 13.0 +00.2	315 46.4 -32.0	N	23 48.1 +08.7	17			
18	87 15.9 -00.1	S	20 06.9 -00.6	123 05.8 -00.9	S	22 13.2 +00.2	330 14.4 -32.1	N	23 56.8 +08.7	18			
19	102 15.8 -00.2	S	20 06.3 -00.5	138 04.9 -00.8	S	22 13.4 +00.2	344 42.3 -32.1	N	24 05.5 +08.5	19			
20	117 15.6 -00.2	S	20 05.8 -00.6	153 04.1 -00.9	S	22 13.6 +00.2	359 10.2 -32.2	N	24 14.0 +08.3	20			
21	132 15.4 -00.2	S	20 05.2 -00.5	168 03.2 -00.8	S	22 13.8 +00.1	13 38.0 -32.2	N	24 22.3 +08.2	21			
22	147 15.2 -00.2	S	20 04.7 -00.5	183 02.4 -00.9	S	22 13.9 +00.2	28 05.8 -32.3	N	24 30.5 +08.1	22			
23	162 15.0 -00.1	S	20 04.2 -00.6	198 01.5 -00.8	S	22 14.1 +00.2	42 33.5 -32.3	N	24 38.6 +07.9	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'3 16'3 16'3 16'3 16'3 16'3			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 15'6 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 57'3 57'2 57'1 57'0 56'9 56'8						
	SHA 058° 058° 058° 058° 058° 057°			SHA 094° 094° 094° 094° 093° 093°			SHA 310° 307° 305° 303° 301° 298°						
	Greenwich Culmination Time: 12:10			Greenwich Culmination Time: 09:47			Greenwich Culmination Time: 20:03						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	196 16.7 +00.4	S	23 40.0 -00.1	84 34.4 +02.3	N	12 34.6 +00.1	141 20.1 +02.2	S	11 08.5 -00.1	00			
01	211 17.1 +00.5	S	23 39.9 -00.2	99 36.7 +02.3	N	12 34.7 +00.1	156 22.3 +02.2	S	11 08.4 -00.1	01			
02	226 17.6 +00.4	S	23 39.7 -00.1	114 39.0 +02.3	N	12 34.8 +00.0	171 24.5 +02.2	S	11 08.3 -00.1	02			
03	241 18.0 +00.4	S	23 39.6 -00.2	129 41.3 +02.3	N	12 34.8 +00.1	186 26.7 +02.3	S	11 08.2 -00.1	03			
04	256 18.4 +00.4	S	23 39.4 -00.1	144 43.6 +02.3	N	12 34.9 +00.1	201 29.0 +02.2	S	11 08.1 -00.1	04			
05	271 18.8 +00.4	S	23 39.3 -00.2	159 45.9 +02.3	N	12 35.0 +00.0	216 31.2 +02.2	S	11 08.0 -00.1	05			
06	286 19.2 +00.4	S	23 39.1 -00.1	174 48.2 +02.3	N	12 35.0 +00.1	231 33.4 +02.2	S	11 07.9 -00.1	06			
07	301 19.6 +00.4	S	23 39.0 -00.1	189 50.5 +02.3	N	12 35.1 +00.1	246 35.6 +02.2	S	11 07.8 -00.1	07			
08	316 20.0 +00.4	S	23 38.9 -00.2	204 52.8 +02.3	N	12 35.2 +00.0	261 37.8 +02.2	S	11 07.7 -00.1	08			
09	331 20.4 +00.4	S	23 38.7 -00.1	219 55.1 +02.3	N	12 35.2 +00.1	276 40.0 +02.2	S	11 07.6 -00.1	09			
10	346 20.8 +00.5	S	23 38.6 -00.2	234 57.4 +02.3	N	12 35.3 +00.1	291 42.2 +02.2	S	11 07.5 -00.1	10			
11	1 21.3 +00.4	S	23 38.4 -00.1	249 59.7 +02.3	N	12 35.4 +00.0	306 44.4 +02.3	S	11 07.4 -00.1	11			
12	16 21.7 +00.4	S	23 38.3 -00.2	265 02.0 +02.3	N	12 35.4 +00.1	321 46.7 +02.2	S	11 07.3 -00.1	12			
13	31 22.1 +00.4	S	23 38.1 -00.1	280 04.3 +02.3	N	12 35.5 +00.1	336 48.9 +02.2	S	11 07.2 -00.1	13			
14	46 22.5 +00.4	S	23 38.0 -00.2	295 06.6 +02.3	N	12 35.6 +00.0	351 51.1 +02.2	S	11 07.1 -00.1	14			
15	61 22.9 +00.4	S	23 37.8 -00.1	310 08.9 +02.3	N	12 35.6 +00.1	6 53.3 +02.2	S	11 07.0 -00.1	15			
16	76 23.3 +00.4	S	23 37.7 -00.2	325 11.2 +02.3	N	12 35.7 +00.1	21 55.5 +02.2	S	11 06.9 -00.1	16			
17	91 23.7 +00.4	S	23 37.5 -00.1	340 13.5 +02.3	N	12 35.8 +00.0	36 57.7 +02.2	S	11 06.8 -00.1	17			
18	106 24.1 +00.4	S	23 37.4 -00.2	355 15.8 +02.3	N	12 35.8 +00.1	51 59.9 +02.2	S	11 06.7 -00.1	18			
19	121 24.5 +00.4	S	23 37.2 -00.1	10 18.1 +02.3	N	12 35.9 +00.1	67 02.1 +02.2	S	11 06.6 -00.1	19			
20	136 24.9 +00.5	S	23 37.1 -00.2	25 20.4 +02.3	N	12 36.0 +00.1	82 04.3 +02.2	S	11 06.5 -00.1	20			
21	151 25.4 +00.4	S	23 36.9 -00.1	40 22.7 +02.3	N	12 36.1 +00.0	97 06.5 +02.3	S	11 06.4 -00.1	21			
22	166 25.8 +00.4	S	23 36.8 -00.2	55 25.0 +02.3	N	12 36.1 +00.1	112 08.8 +02.2	S	11 06.3 -00.1	22			
23	181 26.2 +00.4	S	23 36.6 -00.1	70 27.3 +02.3	N	12 36.2 +00.1	127 11.0 +02.2	S	11 06.2 -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 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			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						
	SHA 077° 077° 077° 077° 077° 077°			SHA 326° 326° 326° 326° 326° 326°			SHA 022° 022° 022° 022° 022° 022°						
	Greenwich Culmination Time: 10:54			Greenwich Culmination Time: 18:18			Greenwich Culmination Time: 14:32						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 14.9 -00.2	S	20 03.6 -00.5	213 00.7 -00.9	S	22 14.3 +00.2	57 01.2 -32.3	N	24 46.5 +07.8	00			
01	192 14.7 -00.2	S	20 03.1 -00.6	227 59.8 -00.9	S	22 14.5 +00.2	71 28.9 -32.5	N	24 54.3 +07.7	01			
02	207 14.5 -00.2	S	20 02.5 -00.5	242 58.9 -00.8	S	22 14.7 +00.1	85 56.4 -32.4	N	25 02.0 +07.5	02			
03	222 14.3 -00.2	S	20 02.0 -00.6	257 58.1 -00.9	S	22 14.8 +00.2	100 24.0 -32.5	N	25 09.5 +07.3	03			
04	237 14.1 -00.1	S	20 01.4 -00.5	272 57.2 -00.8	S	22 15.0 +00.2	114 51.5 -32.6	N	25 16.8 +07.3	04			
05	252 14.0 -00.2	S	20 00.9 -00.6	287 56.4 -00.9	S	22 15.2 +00.2	129 18.9 -32.6	N	25 24.1 +07.0	05			
06	267 13.8 -00.2	S	20 00.3 -00.5	302 55.5 -00.8	S	22 15.4 +00.2	143 46.3 -32.6	N	25 31.1 +07.0	06			
07	282 13.6 -00.2	S	19 59.8 -00.6	317 54.7 -00.9	S	22 15.6 +00.1	158 13.7 -32.7	N	25 38.1 +06.8	07			
08	297 13.4 -00.2	S	19 59.2 -00.5	332 53.8 -00.8	S	22 15.7 +00.2	172 41.0 -32.7	N	25 44.9 +06.6	08			
09	312 13.2 -00.1	S	19 58.7 -00.6	347 53.0 -00.9	S	22 15.9 +00.2	187 08.3 -32.8	N	25 51.5 +06.5	09			
10	327 13.1 -00.2	S	19 58.1 -00.5	2 52.1 -00.8	S	22 16.1 +00.1	201 35.5 -32.8	N	25 58.0 +06.4	10			
11	342 12.9 -00.2	S	19 57.6 -00.6	17 51.3 -00.9	S	22 16.2 +00.2	216 02.7 -32.8	N	26 04.4 +06.2	11			
12	357 12.7 -00.2	S	19 57.0 -00.5	32 50.4 -00.8	S	22 16.4 +00.2	230 29.9 -32.9	N	26 10.6 +06.0	12			
13	12 12.5 -00.1	S	19 56.5 -00.6	47 49.6 -00.9	S	22 16.6 +00.2	244 57.0 -32.9	N	26 16.6 +05.9	13			
14	27 12.4 -00.2	S	19 55.9 -00.5	62 48.7 -00.9	S	22 16.8 +00.1	259 24.1 -33.0	N	26 22.5 +05.8	14			
15	42 12.2 -00.2	S	19 55.4 -00.6	77 47.8 -00.8	S	22 16.9 +00.2	273 51.1 -33.0	N	26 28.3 +05.6	15			
16	57 12.0 -00.2	S	19 54.8 -00.6	92 47.0 -00.9	S	22 17.1 +00.2	288 18.1 -33.0	N	26 33.9 +05.4	16			
17	72 11.8 -00.2	S	19 54.2 -00.5	107 46.1 -00.8	S	22 17.3 +00.1	302 45.1 -33.0	N	26 39.3 +05.4	17			
18	87 11.6 -00.1	S	19 53.7 -00.6	122 45.3 -00.9	S	22 17.4 +00.2	317 12.1 -33.1	N	26 44.7 +05.1	18			
19	102 11.5 -00.2	S	19 53.1 -00.5	137 44.4 -00.8	S	22 17.6 +00.1	331 39.0 -33.1	N	26 49.8 +05.0	19			
20	117 11.3 -00.2	S	19 52.6 -00.6	152 43.6 -00.9	S	22 17.7 +00.2	346 05.9 -33.1	N	26 54.8 +04.9	20			
21	132 11.1 -00.1	S	19 52.0 -00.5	167 42.7 -00.8	S	22 17.9 +00.2	0 32.8 -33.2	N	26 59.7 +04.7	21			
22	147 11.0 -00.2	S	19 51.5 -00.6	182 41.9 -00.9	S	22 18.1 +00.1	14 59.6 -33.2	N	27 04.4 +04.5	22			
23	162 10.8 -00.2	S	19 50.9 -00.6	197 41.0 -00.9	S	22 18.2 +00.2	29 26.4 -33.2	N	27 08.9 +04.4	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'3 16'3 16'3 16'3 16'3 16'3			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 15'5 15'4 15'4 15'4 15'4 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 56'6 56'5 56'4 56'4 56'3						
	SHA 057° 057° 057° 057° 057° 056°			SHA 093° 093° 093° 092° 092° 092°			SHA 296° 294° 291° 289° 287° 284°						
	Greenwich Culmination Time: 12:11			Greenwich Culmination Time: 09:48			Greenwich Culmination Time: 20:57						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	196 26.6 +00.4	S	23 36.5 -00.2	85 29.6 +02.3	N	12 36.3 +00.0	142 13.2 +02.2	S	11 06.1 -00.1	00			
01	211 27.0 +00.4	S	23 36.3 -00.1	100 31.9 +02.3	N	12 36.3 +00.1	157 15.4 +02.2	S	11 06.0 -00.1	01			
02	226 27.4 +00.4	S	23 36.2 -00.2	115 34.2 +02.3	N	12 36.4 +00.1	172 17.6 +02.2	S	11 05.9 -00.1	02			
03	241 27.8 +00.4	S	23 36.0 -00.1	130 36.5 +02.3	N	12 36.5 +00.0	187 19.8 +02.2	S	11 05.8 -00.1	03			
04	256 28.2 +00.4	S	23 35.9 -00.2	145 38.8 +02.3	N	12 36.5 +00.1	202 22.0 +02.2	S	11 05.7 -00.1	04			
05	271 28.6 +00.5	S	23 35.7 -00.1	160 41.1 +02.3	N	12 36.6 +00.1	217 24.2 +02.2	S	11 05.6 -00.1	05			
06	286 29.1 +00.4	S	23 35.6 -00.2	175 43.4 +02.3	N	12 36.7 +00.0	232 26.4 +02.2	S	11 05.5 -00.1	06			
07	301 29.5 +00.4	S	23 35.4 -00.1	190 45.7 +02.3	N	12 36.7 +00.1	247 28.6 +02.3	S	11 05.4 -00.1	07			
08	316 29.9 +00.4	S	23 35.3 -00.2	205 48.0 +02.3	N	12 36.8 +00.1	262 30.9 +02.2	S	11 05.3 -00.1	08			
09	331 30.3 +00.4	S	23 35.1 -00.2	220 50.3 +02.3	N	12 36.9 +00.1	277 33.1 +02.2	S	11 05.2 -00.1	09			
10	346 30.7 +00.4	S	23 34.9 -00.1	235 52.6 +02.3	N	12 37.0 +00.0	292 35.3 +02.2	S	11 05.1 -00.1	10			
11	1 31.1 +00.4	S	23 34.8 -00.2	250 54.9 +02.3	N	12 37.0 +00.1	307 37.5 +02.2	S	11 05.0 -00.1	11			
12	16 31.5 +00.4	S	23 34.6 -00.1	265 57.2 +02.3	N	12 37.1 +00.1	322 39.7 +02.2	S	11 04.9 -00.1	12			
13	31 31.9 +00.4	S	23 34.5 -00.2	280 59.5 +02.3	N	12 37.2 +00.0	337 41.9 +02.2	S	11 04.8 -00.1	13			
14	46 32.3 +00.4	S	23 34.3 -00.1	296 01.8 +02.3	N	12 37.2 +00.1	352 44.1 +02.2	S	11 04.7 -00.1	14			
15	61 32.7 +00.5	S	23 34.2 -00.2	311 04.1 +02.3	N	12 37.3 +00.1	7 46.3 +02.2	S	11 04.6 -00.1	15			
16	76 33.2 +00.4	S	23 34.0 -00.2	326 06.4 +02.3	N	12 37.4 +00.1	22 48.5 +02.2	S	11 04.5 -00.1	16			
17	91 33.6 +00.4	S	23 33.8 -00.1	341 08.7 +02.3	N	12 37.5 +00.0	37 50.7 +02.3	S	11 04.4 -00.1	17			
18	106 34.0 +00.4	S	23 33.7 -00.2	356 11.0 +02.3	N	12 37.5 +00.1	52 53.0 +02.2	S	11 04.3 -00.1	18			
19	121 34.4 +00.4	S	23 33.5 -00.1	11 13.3 +02.2	N	12 37.6 +00.1	67 55.2 +02.2	S	11 04.2 -00.1	19			
20	136 34.8 +00.4	S	23 33.4 -00.2	26 15.5 +02.3	N	12 37.7 +00.0	82 57.4 +02.2	S	11 04.1 -00.1	20			
21	151 35.2 +00.4	S	23 33.2 -00.2	41 17.8 +02.3	N	12 37.7 +00.1	97 59.6 +02.2	S	11 04.0 -00.1	21			
22	166 35.6 +00.4	S	23 33.0 -00.1	56 20.1 +02.3	N	12 37.8 +00.1	113 01.8 +02.2	S	11 03.9 -00.1	22			
23	181 36.0 +00.4	S	23 32.9 -00.2	71 22.4 +02.3	N	12 37.9 +00.0	128 04.0 +02.2	S	11 03.8 -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 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			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						
	SHA 077° 076° 076° 076° 076° 076°			SHA 326° 326° 326° 326° 326° 326°			SHA 022° 022° 022° 022° 022° 022°						
	Greenwich Culmination Time: 10:53			Greenwich Culmination Time: 18:15			Greenwich Culmination Time: 14:28						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 10.6 -00.2	S 19 50.3 -00.5	212 40.1 -00.8	S 22 18.4 +00.1	43 53.2 -33.2	N 27 13.3 +04.2	00						
01	192 10.4 -00.1	S 19 49.8 -00.6	227 39.3 -00.9	S 22 18.5 +00.2	58 20.0 -33.2	N 27 17.5 +04.1	01						
02	207 10.3 -00.2	S 19 49.2 -00.5	242 38.4 -00.8	S 22 18.7 +00.1	72 46.8 -33.3	N 27 21.6 +03.9	02						
03	222 10.1 -00.2	S 19 48.7 -00.6	257 37.6 -00.9	S 22 18.8 +00.2	87 13.5 -33.3	N 27 25.5 +03.8	03						
04	237 09.9 -00.2	S 19 48.1 -00.6	272 36.7 -00.8	S 22 19.0 +00.1	101 40.2 -33.3	N 27 29.3 +03.6	04						
05	252 09.7 -00.1	S 19 47.5 -00.5	287 35.9 -00.9	S 22 19.1 +00.2	116 06.9 -33.3	N 27 32.9 +03.5	05						
06	267 09.6 -00.2	S 19 47.0 -00.6	302 35.0 -00.9	S 22 19.3 +00.1	130 33.6 -33.4	N 27 36.4 +03.3	06						
07	282 09.4 -00.2	S 19 46.4 -00.6	317 34.1 -00.8	S 22 19.4 +00.2	145 00.2 -33.3	N 27 39.7 +03.1	07						
08	297 09.2 -00.1	S 19 45.8 -00.5	332 33.3 -00.9	S 22 19.6 +00.1	159 26.9 -33.3	N 27 42.8 +03.0	08						
09	312 09.1 -00.2	S 19 45.3 -00.6	347 32.4 -00.8	S 22 19.7 +00.2	173 53.6 -33.4	N 27 45.8 +02.9	09						
10	327 08.9 -00.2	S 19 44.7 -00.6	2 31.6 -00.9	S 22 19.9 +00.1	188 20.2 -33.4	N 27 48.7 +02.7	10						
11	342 08.7 -00.1	S 19 44.1 -00.5	17 30.7 -00.8	S 22 20.0 +00.2	202 46.8 -33.4	N 27 51.4 +02.5	11						
12	357 08.6 -00.2	S 19 43.6 -00.6	32 29.9 -00.9	S 22 20.2 +00.1	217 13.4 -33.3	N 27 53.9 +02.4	12						
13	12 08.4 -00.2	S 19 43.0 -00.6	47 29.0 -00.9	S 22 20.3 +00.1	231 40.1 -33.4	N 27 56.3 +02.2	13						
14	27 08.2 -00.2	S 19 42.4 -00.5	62 28.1 -00.8	S 22 20.4 +00.2	246 06.7 -33.4	N 27 58.5 +02.0	14						
15	42 08.0 -00.1	S 19 41.9 -00.6	77 27.3 -00.9	S 22 20.6 +00.1	260 33.3 -33.4	N 28 00.5 +01.9	15						
16	57 07.9 -00.2	S 19 41.3 -00.6	92 26.4 -00.8	S 22 20.7 +00.1	274 59.9 -33.4	N 28 02.4 +01.8	16						
17	72 07.7 -00.2	S 19 40.7 -00.6	107 25.6 -00.9	S 22 20.8 +00.2	289 26.5 -33.3	N 28 04.2 +01.6	17						
18	87 07.5 -00.1	S 19 40.1 -00.5	122 24.7 -00.9	S 22 21.0 +00.1	303 53.2 -33.4	N 28 05.8 +01.4	18						
19	102 07.4 -00.2	S 19 39.6 -00.6	137 23.8 -00.8	S 22 21.1 +00.2	318 19.8 -33.4	N 28 07.2 +01.3	19						
20	117 07.2 -00.2	S 19 39.0 -00.6	152 23.0 -00.9	S 22 21.3 +00.1	332 46.4 -33.3	N 28 08.5 +01.1	20						
21	132 07.0 -00.1	S 19 38.4 -00.6	167 22.1 -00.8	S 22 21.4 +00.1	347 13.1 -33.4	N 28 09.6 +00.9	21						
22	147 06.9 -00.2	S 19 37.8 -00.5	182 21.3 -00.9	S 22 21.5 +00.1	1 39.7 -33.3	N 28 10.5 +00.8	22						
23	162 06.7 -00.2	S 19 37.3 -00.6	197 20.4 -00.9	S 22 21.6 +00.2	16 06.4 -33.3	N 28 11.3 +00.7	23						
UT	02 06 10 14 18 22	UT	02 06 10 14 18 22	UT	02 06 10 14 18 22								
SD	16'3 16'3 16'3 16'3 16'3 16'3	SD	00'1 00'1 00'1 00'1 00'1 00'1	SD	15'3 15'3 15'3 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	56'2 56'1 56'0 55'9 55'9 55'8								
SHA	056° 056° 056° 056° 056° 055°	SHA	092° 091° 091° 091° 091° 091°	SHA	282° 279° 277° 275° 272° 270°								
Greenwich Culmination Time: 12:11			Greenwich Culmination Time: 09:49			Greenwich Culmination Time: 21:53							

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	196 36.4 +00.5	S 23 32.7 -00.1	86 24.7 +02.3	N 12 37.9 +00.1	143 06.2 +02.2	S 11 03.7 -00.1	00						
01	211 36.9 +00.4	S 23 32.6 -00.2	101 27.0 +02.3	N 12 38.0 +00.1	158 08.4 +02.2	S 11 03.6 -00.1	01						
02	226 37.3 +00.4	S 23 32.4 -00.2	116 29.3 +02.3	N 12 38.1 +00.1	173 10.6 +02.2	S 11 03.5 -00.1	02						
03	241 37.7 +00.4	S 23 32.2 -00.1	131 31.6 +02.3	N 12 38.2 +00.0	188 12.8 +02.2	S 11 03.4 -00.1	03						
04	256 38.1 +00.4	S 23 32.1 -00.2	146 33.9 +02.3	N 12 38.2 +00.1	203 15.0 +02.2	S 11 03.3 -00.1	04						
05	271 38.5 +00.4	S 23 31.9 -00.2	161 36.2 +02.3	N 12 38.3 +00.1	218 17.2 +02.3	S 11 03.2 -00.1	05						
06	286 38.9 +00.4	S 23 31.7 -00.1	176 38.5 +02.2	N 12 38.4 +00.1	233 19.5 +02.2	S 11 03.1 -00.1	06						
07	301 39.3 +00.4	S 23 31.6 -00.2	191 40.7 +02.3	N 12 38.5 +00.0	248 21.7 +02.2	S 11 03.0 -00.1	07						
08	316 39.7 +00.4	S 23 31.4 -00.2	206 43.0 +02.3	N 12 38.5 +00.1	263 23.9 +02.2	S 11 02.9 -00.1	08						
09	331 40.1 +00.5	S 23 31.2 -00.1	221 45.3 +02.3	N 12 38.6 +00.1	278 26.1 +02.2	S 11 02.8 -00.1	09						
10	346 40.6 +00.4	S 23 31.1 -00.2	236 47.6 +02.3	N 12 38.7 +00.0	293 28.3 +02.2	S 11 02.7 -00.1	10						
11	1 41.0 +00.4	S 23 30.9 -00.2	251 49.9 +02.3	N 12 38.7 +00.1	308 30.5 +02.2	S 11 02.6 -00.1	11						
12	16 41.4 +00.4	S 23 30.7 -00.1	266 52.2 +02.3	N 12 38.8 +00.1	323 32.7 +02.2	S 11 02.5 -00.1	12						
13	31 41.8 +00.4	S 23 30.6 -00.2	281 54.5 +02.3	N 12 38.9 +00.1	338 34.9 +02.2	S 11 02.4 -00.1	13						
14	46 42.2 +00.4	S 23 30.4 -00.2	296 56.8 +02.2	N 12 39.0 +00.0	353 37.1 +02.2	S 11 02.3 -00.1	14						
15	61 42.6 +00.4	S 23 30.2 -00.1	311 59.0 +02.3	N 12 39.0 +00.1	8 39.3 +02.2	S 11 02.2 -00.1	15						
16	76 43.0 +00.4	S 23 30.1 -00.2	327 01.3 +02.3	N 12 39.1 +00.1	23 41.5 +02.2	S 11 02.1 -00.1	16						
17	91 43.4 +00.4	S 23 29.9 -00.2	342 03.6 +02.3	N 12 39.2 +00.1	38 43.7 +02.2	S 11 02.0 -00.1	17						
18	106 43.8 +00.5	S 23 29.7 -00.1	357 05.9 +02.3	N 12 39.3 +00.0	53 45.9 +02.2	S 11 01.9 -00.1	18						
19	121 44.3 +00.4	S 23 29.6 -00.2	12 08.2 +02.3	N 12 39.3 +00.1	68 48.1 +02.3	S 11 01.8 -00.2	19						
20	136 44.7 +00.4	S 23 29.4 -00.2	27 10.5 +02.3	N 12 39.4 +00.1	83 50.4 +02.2	S 11 01.6 -00.1	20						
21	151 45.1 +00.4	S 23 29.2 -00.2	42 12.8 +02.2	N 12 39.5 +00.0	98 52.6 +02.2	S 11 01.5 -00.1	21						
22	166 45.5 +00.4	S 23 29.0 -00.1	57 15.0 +02.3	N 12 39.5 +00.1	113 54.8 +02.2	S 11 01.4 -00.1	22						
23	181 45.9 +00.4	S 23 28.9 -00.2	72 17.3 +02.3	N 12 39.6 +00.1	128 57.0 +02.2	S 11 01.3 -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	00'0 00'0 00'0 00'0 00'0 00'0	SD	00'3 00'3 00'3 00'3 00'3 00'3	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								
SHA	076° 076° 075° 075° 075° 075°	SHA	326° 326° 326° 326° 326° 325°	SHA	022° 022° 022° 022° 022° 022°								
Greenwich Culmination Time: 10:53			Greenwich Culmination Time: 18:11			Greenwich Culmination Time: 14:25							

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 06.5 -00.1	S 19 36.7 -00.6	212 19.5 -00.8	S 22 21.8 +00.1	30 33.1 -33.3	N 28 12.0 +00.5	00						
01	192 06.4 -00.2	S 19 36.1 -00.6	227 18.7 -00.9	S 22 21.9 +00.1	44 59.8 -33.3	N 28 12.5 +00.3	01						
02	207 06.2 -00.1	S 19 35.5 -00.5	242 17.8 -00.8	S 22 22.0 +00.2	59 26.5 -33.3	N 28 12.8 +00.2	02						
03	222 06.1 -00.2	S 19 35.0 -00.6	257 17.0 -00.9	S 22 22.2 +00.1	73 53.2 -33.2	N 28 13.0 +00.0	03						
04	237 05.9 -00.2	S 19 34.4 -00.6	272 16.1 -00.9	S 22 22.3 +00.1	88 20.0 -33.2	N 28 13.0 -00.1	04						
05	252 05.7 -00.1	S 19 33.8 -00.6	287 15.2 -00.8	S 22 22.4 +00.1	102 46.8 -33.2	N 28 12.9 -00.3	05						
06	267 05.6 -00.2	S 19 33.2 -00.6	302 14.4 -00.9	S 22 22.5 +00.1	117 13.6 -33.2	N 28 12.6 -00.4	06						
07	282 05.4 -00.2	S 19 32.6 -00.5	317 13.5 -00.9	S 22 22.6 +00.2	131 40.4 -33.1	N 28 12.2 -00.6	07						
08	297 05.2 -00.1	S 19 32.1 -00.6	332 12.6 -00.8	S 22 22.8 +00.1	146 07.3 -33.2	N 28 11.6 -00.7	08						
09	312 05.1 -00.2	S 19 31.5 -00.6	347 11.8 -00.9	S 22 22.9 +00.1	160 34.1 -33.0	N 28 10.9 -00.9	09						
10	327 04.9 -00.1	S 19 30.9 -00.6	2 10.9 -00.8	S 22 23.0 +00.1	175 01.1 -33.1	N 28 10.0 -01.1	10						
11	342 04.8 -00.2	S 19 30.3 -00.6	17 10.1 -00.9	S 22 23.1 +00.1	189 28.0 -33.0	N 28 08.9 -01.2	11						
12	357 04.6 -00.2	S 19 29.7 -00.6	32 09.2 -00.9	S 22 23.2 +00.1	203 55.0 -33.0	N 28 07.7 -01.3	12						
13	12 04.4 -00.1	S 19 29.1 -00.5	47 08.3 -00.8	S 22 23.3 +00.2	218 22.0 -32.9	N 28 06.4 -01.6	13						
14	27 04.3 -00.2	S 19 28.6 -00.6	62 07.5 -00.9	S 22 23.5 +00.1	232 49.1 -33.0	N 28 04.8 -01.6	14						
15	42 04.1 -00.1	S 19 28.0 -00.6	77 06.6 -00.9	S 22 23.6 +00.1	247 16.1 -32.8	N 28 03.2 -01.8	15						
16	57 04.0 -00.2	S 19 27.4 -00.6	92 05.7 -00.8	S 22 23.7 +00.1	261 43.3 -32.9	N 28 01.4 -02.0	16						
17	72 03.8 -00.2	S 19 26.8 -00.6	107 04.9 -00.9	S 22 23.8 +00.1	276 10.4 -32.7	N 27 59.4 -02.1	17						
18	87 03.6 -00.1	S 19 26.2 -00.6	122 04.0 -00.8	S 22 23.9 +00.1	290 37.7 -32.8	N 27 57.3 -02.2	18						
19	102 03.5 -00.2	S 19 25.6 -00.6	137 03.2 -00.9	S 22 24.0 +00.1	305 04.9 -32.7	N 27 55.1 -02.4	19						
20	117 03.3 -00.1	S 19 25.0 -00.5	152 02.3 -00.9	S 22 24.1 +00.1	319 32.2 -32.6	N 27 52.7 -02.6	20						
21	132 03.2 -00.2	S 19 24.5 -00.6	167 01.4 -00.8	S 22 24.2 +00.1	333 59.6 -32.6	N 27 50.1 -02.7	21						
22	147 03.0 -00.2	S 19 23.9 -00.6	182 00.6 -00.9	S 22 24.3 +00.1	348 27.0 -32.6	N 27 47.4 -02.8	22						
23	162 02.8 -00.1	S 19 23.3 -00.6	196 59.7 -00.9	S 22 24.4 +00.1	2 54.4 -32.5	N 27 44.6 -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 16'3 16'3 16'3 16'3 16'3 16'2		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 15'2 15'2 15'1 15'1 15'1 15'1								
	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 55'7 55'6 55'6 55'5 55'4 55'3								
	SHA 055° 055° 055° 055° 054° 054°		SHA 090° 090° 090° 090° 089° 089°		SHA 268° 265° 263° 260° 258° 256°								
	Greenwich Culmination Time: 12:11		Greenwich Culmination Time: 09:51		Greenwich Culmination Time: 22:47								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	196 46.3 +00.4	S 23 28.7 -00.2	87 19.6 +02.3	N 12 39.7 +00.1	143 59.2 +02.2	S 11 01.2 -00.1	00						
01	211 46.7 +00.4	S 23 28.5 -00.1	102 21.9 +02.3	N 12 39.8 +00.0	159 01.4 +02.2	S 11 01.1 -00.1	01						
02	226 47.1 +00.4	S 23 28.4 -00.2	117 24.2 +02.3	N 12 39.8 +00.1	174 03.6 +02.2	S 11 01.0 -00.1	02						
03	241 47.5 +00.5	S 23 28.2 -00.2	132 26.5 +02.2	N 12 39.9 +00.1	189 05.8 +02.2	S 11 00.9 -00.1	03						
04	256 48.0 +00.4	S 23 28.0 -00.2	147 28.7 +02.3	N 12 40.0 +00.1	204 08.0 +02.2	S 11 00.8 -00.1	04						
05	271 48.4 +00.4	S 23 27.8 -00.1	162 31.0 +02.3	N 12 40.1 +00.0	219 10.2 +02.2	S 11 00.7 -00.1	05						
06	286 48.8 +00.4	S 23 27.7 -00.2	177 33.3 +02.3	N 12 40.1 +00.1	234 12.4 +02.2	S 11 00.6 -00.1	06						
07	301 49.2 +00.4	S 23 27.5 -00.2	192 35.6 +02.3	N 12 40.2 +00.1	249 14.6 +02.2	S 11 00.5 -00.1	07						
08	316 49.6 +00.4	S 23 27.3 -00.2	207 37.9 +02.2	N 12 40.3 +00.1	264 16.8 +02.2	S 11 00.4 -00.1	08						
09	331 50.0 +00.4	S 23 27.1 -00.2	222 40.1 +02.3	N 12 40.4 +00.0	279 19.0 +02.2	S 11 00.3 -00.1	09						
10	346 50.4 +00.4	S 23 26.9 -00.1	237 42.4 +02.3	N 12 40.4 +00.1	294 21.2 +02.3	S 11 00.2 -00.1	10						
11	1 50.8 +00.4	S 23 26.8 -00.2	252 44.7 +02.3	N 12 40.5 +00.1	309 23.5 +02.2	S 11 00.1 -00.1	11						
12	16 51.2 +00.5	S 23 26.6 -00.2	267 47.0 +02.3	N 12 40.6 +00.1	324 25.7 +02.2	S 11 00.0 -00.1	12						
13	31 51.7 +00.4	S 23 26.4 -00.2	282 49.3 +02.2	N 12 40.7 +00.0	339 27.9 +02.2	S 10 59.9 -00.1	13						
14	46 52.1 +00.4	S 23 26.2 -00.1	297 51.5 +02.3	N 12 40.7 +00.1	354 30.1 +02.2	S 10 59.8 -00.1	14						
15	61 52.5 +00.4	S 23 26.1 -00.2	312 53.8 +02.3	N 12 40.8 +00.1	9 32.3 +02.2	S 10 59.7 -00.1	15						
16	76 52.9 +00.4	S 23 25.9 -00.2	327 56.1 +02.3	N 12 40.9 +00.1	24 34.5 +02.2	S 10 59.6 -00.1	16						
17	91 53.3 +00.4	S 23 25.7 -00.2	342 58.4 +02.3	N 12 41.0 +00.0	39 36.7 +02.2	S 10 59.5 -00.1	17						
18	106 53.7 +00.4	S 23 25.5 -00.2	358 00.7 +02.2	N 12 41.0 +00.1	54 38.9 +02.2	S 10 59.4 -00.1	18						
19	121 54.1 +00.4	S 23 25.3 -00.1	13 02.9 +02.3	N 12 41.1 +00.1	69 41.1 +02.2	S 10 59.3 -00.1	19						
20	136 54.5 +00.4	S 23 25.2 -00.2	28 05.2 +02.3	N 12 41.2 +00.1	84 43.3 +02.2	S 10 59.2 -00.1	20						
21	151 54.9 +00.5	S 23 25.0 -00.2	43 07.5 +02.3	N 12 41.3 +00.0	99 45.5 +02.2	S 10 59.1 -00.1	21						
22	166 55.4 +00.4	S 23 24.8 -00.2	58 09.8 +02.2	N 12 41.3 +00.1	114 47.7 +02.2	S 10 59.0 -00.1	22						
23	181 55.8 +00.4	S 23 24.6 -00.2	73 12.0 +02.3	N 12 41.4 +00.1	129 49.9 +02.2	S 10 58.9 -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 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		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								
	SHA 075° 075° 075° 074° 074° 074°		SHA 325° 325° 325° 325° 325° 325°		SHA 022° 022° 022° 022° 022° 022°								
	Greenwich Culmination Time: 10:52		Greenwich Culmination Time: 18:07		Greenwich Culmination Time: 14:21								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 02.7 -00.2	S	19 22.7 -00.6	211 58.8 -00.8	S	22 24.5 +00.1	17 21.9 -32.4	N	27 41.6 -03.1				
01	192 02.5 -00.1	S	19 22.1 -00.6	226 58.0 -00.9	S	22 24.6 +00.1	31 49.5 -32.4	N	27 38.5 -03.3				
02	207 02.4 -00.2	S	19 21.5 -00.6	241 57.1 -00.9	S	22 24.7 +00.1	46 17.1 -32.4	N	27 35.2 -03.4				
03	222 02.2 -00.1	S	19 20.9 -00.6	256 56.2 -00.8	S	22 24.8 +00.1	60 44.7 -32.3	N	27 31.8 -03.6				
04	237 02.1 -00.2	S	19 20.3 -00.6	271 55.4 -00.9	S	22 24.9 +00.1	75 12.4 -32.2	N	27 28.2 -03.7				
05	252 01.9 -00.1	S	19 19.7 -00.6	286 54.5 -00.9	S	22 25.0 +00.1	89 40.2 -32.2	N	27 24.5 -03.8				
06	267 01.8 -00.2	S	19 19.1 -00.6	301 53.6 -00.8	S	22 25.1 +00.1	104 08.0 -32.1	N	27 20.7 -04.0				
07	282 01.6 -00.2	S	19 18.5 -00.6	316 52.8 -00.9	S	22 25.2 +00.1	118 35.9 -32.0	N	27 16.7 -04.2				
08	297 01.4 -00.1	S	19 17.9 -00.6	331 51.9 -00.8	S	22 25.3 +00.1	133 03.9 -32.0	N	27 12.5 -04.2				
09	312 01.3 -00.2	S	19 17.3 -00.6	346 51.1 -00.9	S	22 25.4 +00.1	147 31.9 -31.9	N	27 08.3 -04.4				
10	327 01.1 -00.1	S	19 16.7 -00.6	1 50.2 -00.9	S	22 25.5 +00.1	161 60.0 -31.9	N	27 03.9 -04.6				
11	342 01.0 -00.2	S	19 16.1 -00.6	16 49.3 -00.8	S	22 25.6 +00.1	176 28.1 -31.8	N	26 59.3 -04.6				
12	357 00.8 -00.1	S	19 15.5 -00.6	31 48.5 -00.9	S	22 25.7 +00.0	190 56.3 -31.7	N	26 54.7 -04.9				
13	12 00.7 -00.2	S	19 14.9 -00.6	46 47.6 -00.9	S	22 25.7 +00.1	205 24.6 -31.6	N	26 49.8 -04.9				
14	27 00.5 -00.1	S	19 14.3 -00.6	61 46.7 -00.8	S	22 25.8 +00.1	219 53.0 -31.6	N	26 44.9 -05.1				
15	42 00.4 -00.2	S	19 13.7 -00.6	76 45.9 -00.9	S	22 25.9 +00.1	234 21.4 -31.5	N	26 39.8 -05.2				
16	57 00.2 -00.1	S	19 13.1 -00.6	91 45.0 -00.9	S	22 26.0 +00.1	248 49.9 -31.5	N	26 34.6 -05.3				
17	72 00.1 -00.2	S	19 12.5 -00.6	106 44.1 -00.8	S	22 26.1 +00.1	263 18.4 -31.4	N	26 29.3 -05.5				
18	86 59.9 -00.1	S	19 11.9 -00.6	121 43.3 -00.9	S	22 26.2 +00.0	277 47.0 -31.3	N	26 23.8 -05.6				
19	101 59.8 -00.2	S	19 11.3 -00.6	136 42.4 -00.9	S	22 26.2 +00.1	292 15.7 -31.2	N	26 18.2 -05.7				
20	116 59.6 -00.1	S	19 10.7 -00.6	151 41.5 -00.8	S	22 26.3 +00.1	306 44.5 -31.1	N	26 12.5 -05.9				
21	131 59.5 -00.2	S	19 10.1 -00.6	166 40.7 -00.9	S	22 26.4 +00.1	321 13.4 -31.1	N	26 06.6 -06.0				
22	146 59.3 -00.1	S	19 09.5 -00.6	181 39.8 -00.9	S	22 26.5 +00.0	335 42.3 -31.0	N	26 00.6 -06.1				
23	161 59.2 -00.2	S	19 08.9 -00.6	196 38.9 -00.8	S	22 26.5 +00.1	350 11.3 -31.0	N	25 54.5 -06.2				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 15'1 15'0 15'0 15'0 15'0 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 55'3 55'2 55'1 55'1 55'0 54'9						
	SHA 054° 054° 054° 054° 053° 053°			SHA 089° 089° 089° 088° 088° 088°			SHA 253° 251° 249° 246° 244° 242°						
	Greenwich Culmination Time: 12:11			Greenwich Culmination Time: 09:52			Greenwich Culmination Time: 23:40						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	196 56.2 +00.4	S	23 24.4 -00.2	88 14.3 +02.3	N	12 41.5 +00.1	144 52.1 +02.2	S	10 58.8 -00.1				
01	211 56.6 +00.4	S	23 24.2 -00.1	103 16.6 +02.3	N	12 41.6 +00.1	159 54.3 +02.2	S	10 58.7 -00.1				
02	226 57.0 +00.4	S	23 24.1 -00.2	118 18.9 +02.2	N	12 41.7 +00.0	174 56.5 +02.2	S	10 58.6 -00.1				
03	241 57.4 +00.4	S	23 23.9 -00.2	133 21.1 +02.3	N	12 41.7 +00.1	189 58.7 +02.2	S	10 58.5 -00.1				
04	256 57.8 +00.4	S	23 23.7 -00.2	148 23.4 +02.3	N	12 41.8 +00.1	205 00.9 +02.3	S	10 58.4 -00.1				
05	271 58.2 +00.5	S	23 23.5 -00.2	163 25.7 +02.3	N	12 41.9 +00.1	220 03.2 +02.2	S	10 58.3 -00.1				
06	286 58.7 +00.4	S	23 23.3 -00.2	178 28.0 +02.2	N	12 42.0 +00.0	235 05.4 +02.2	S	10 58.2 -00.1				
07	301 59.1 +00.4	S	23 23.1 -00.2	193 30.2 +02.3	N	12 42.0 +00.1	250 07.6 +02.2	S	10 58.1 -00.1				
08	316 59.5 +00.4	S	23 22.9 -00.1	208 32.5 +02.3	N	12 42.1 +00.1	265 09.8 +02.2	S	10 58.0 -00.1				
09	331 59.9 +00.4	S	23 22.8 -00.2	223 34.8 +02.3	N	12 42.2 +00.1	280 12.0 +02.2	S	10 57.9 -00.1				
10	347 00.3 +00.4	S	23 22.6 -00.2	238 37.1 +02.2	N	12 42.3 +00.0	295 14.2 +02.2	S	10 57.8 -00.1				
11	2 00.7 +00.4	S	23 22.4 -00.2	253 39.3 +02.3	N	12 42.3 +00.1	310 16.4 +02.2	S	10 57.7 -00.1				
12	17 01.1 +00.4	S	23 22.2 -00.2	268 41.6 +02.3	N	12 42.4 +00.1	325 18.6 +02.2	S	10 57.6 -00.1				
13	32 01.5 +00.4	S	23 22.0 -00.2	283 43.9 +02.2	N	12 42.5 +00.1	340 20.8 +02.2	S	10 57.5 -00.1				
14	47 01.9 +00.5	S	23 21.8 -00.2	298 46.1 +02.3	N	12 42.6 +00.1	355 23.0 +02.2	S	10 57.4 -00.1				
15	62 02.4 +00.4	S	23 21.6 -00.2	313 48.4 +02.3	N	12 42.7 +00.0	10 25.2 +02.2	S	10 57.3 -00.1				
16	77 02.8 +00.4	S	23 21.4 -00.2	328 50.7 +02.3	N	12 42.7 +00.1	25 27.4 +02.2	S	10 57.2 -00.1				
17	92 03.2 +00.4	S	23 21.2 -00.2	343 53.0 +02.2	N	12 42.8 +00.1	40 29.6 +02.2	S	10 57.1 -00.1				
18	107 03.6 +00.4	S	23 21.0 -00.1	358 55.2 +02.3	N	12 42.9 +00.1	55 31.8 +02.2	S	10 57.0 -00.1				
19	122 04.0 +00.4	S	23 20.9 -00.2	13 57.5 +02.3	N	12 43.0 +00.0	70 34.0 +02.2	S	10 56.9 -00.2				
20	137 04.4 +00.4	S	23 20.7 -00.2	28 59.8 +02.2	N	12 43.0 +00.1	85 36.2 +02.2	S	10 56.7 -00.1				
21	152 04.8 +00.4	S	23 20.5 -00.2	44 02.0 +02.3	N	12 43.1 +00.1	100 38.4 +02.2	S	10 56.6 -00.1				
22	167 05.2 +00.5	S	23 20.3 -00.2	59 04.3 +02.3	N	12 43.2 +00.1	115 40.6 +02.2	S	10 56.5 -00.1				
23	182 05.7 +00.4	S	23 20.1 -00.2	74 06.6 +02.2	N	12 43.3 +00.1	130 42.8 +02.2	S	10 56.4 -00.1				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			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						
	SHA 074° 074° 074° 074° 073° 073°			SHA 325° 325° 325° 325° 325° 325°			SHA 022° 022° 022° 022° 022° 022°						
	Greenwich Culmination Time: 10:51			Greenwich Culmination Time: 18:04			Greenwich Culmination Time: 14:18						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 59.0 -00.1	S	19 08.3 -00.6	211 38.1 -00.9	S	22 26.6 +00.1	4 40.3 -30.8	N	25 48.3 -06.4	00			
01	191 58.9 -00.2	S	19 07.7 -00.6	226 37.2 -00.9	S	22 26.7 +00.1	19 09.5 -30.8	N	25 41.9 -06.5	01			
02	206 58.7 -00.1	S	19 07.1 -00.6	241 36.3 -00.8	S	22 26.8 +00.0	33 38.7 -30.7	N	25 35.4 -06.6	02			
03	221 58.6 -00.2	S	19 06.5 -00.6	256 35.5 -00.9	S	22 26.8 +00.1	48 08.0 -30.6	N	25 28.8 -06.7	03			
04	236 58.4 -00.1	S	19 05.9 -00.6	271 34.6 -00.9	S	22 26.9 +00.1	62 37.4 -30.5	N	25 22.1 -06.9	04			
05	251 58.3 -00.2	S	19 05.3 -00.6	286 33.7 -00.8	S	22 27.0 +00.0	77 06.9 -30.5	N	25 15.2 -06.9	05			
06	266 58.1 -00.1	S	19 04.7 -00.6	301 32.9 -00.9	S	22 27.0 +00.1	91 36.4 -30.4	N	25 08.3 -07.1	06			
07	281 58.0 -00.2	S	19 04.1 -00.6	316 32.0 -00.9	S	22 27.1 +00.1	106 06.0 -30.3	N	25 01.2 -07.2	07			
08	296 57.8 -00.1	S	19 03.5 -00.7	331 31.1 -00.8	S	22 27.2 +00.0	120 35.7 -30.2	N	24 54.0 -07.3	08			
09	311 57.7 -00.1	S	19 02.8 -00.6	346 30.3 -00.9	S	22 27.2 +00.1	135 05.5 -30.1	N	24 46.7 -07.5	09			
10	326 57.6 -00.2	S	19 02.2 -00.6	1 29.4 -00.9	S	22 27.3 +00.1	149 35.4 -30.1	N	24 39.2 -07.5	10			
11	341 57.4 -00.1	S	19 01.6 -00.6	16 28.5 -00.9	S	22 27.4 +00.0	164 05.3 -30.0	N	24 31.7 -07.7	11			
12	356 57.3 -00.2	S	19 01.0 -00.6	31 27.6 -00.8	S	22 27.4 +00.1	178 35.3 -29.8	N	24 24.0 -07.7	12			
13	11 57.1 -00.1	S	19 00.4 -00.6	46 26.8 -00.9	S	22 27.5 +00.0	193 05.5 -29.9	N	24 16.3 -07.9	13			
14	26 57.0 -00.2	S	18 59.8 -00.6	61 25.9 -00.9	S	22 27.5 +00.1	207 35.6 -29.7	N	24 08.4 -08.0	14			
15	41 56.8 -00.1	S	18 59.2 -00.7	76 25.0 -00.8	S	22 27.6 +00.0	222 05.9 -29.6	N	24 00.4 -08.1	15			
16	56 56.7 -00.2	S	18 58.5 -00.6	91 24.2 -00.9	S	22 27.6 +00.1	236 36.3 -29.6	N	23 52.3 -08.2	16			
17	71 56.5 -00.1	S	18 57.9 -00.6	106 23.3 -00.9	S	22 27.7 +00.1	251 06.7 -29.5	N	23 44.1 -08.3	17			
18	86 56.4 -00.1	S	18 57.3 -00.6	121 22.4 -00.8	S	22 27.8 +00.0	265 37.2 -29.4	N	23 35.8 -08.4	18			
19	101 56.3 -00.2	S	18 56.7 -00.6	136 21.6 -00.9	S	22 27.8 +00.1	280 07.8 -29.3	N	23 27.4 -08.6	19			
20	116 56.1 -00.1	S	18 56.1 -00.6	151 20.7 -00.9	S	22 27.9 +00.0	294 38.5 -29.2	N	23 18.8 -08.6	20			
21	131 56.0 -00.2	S	18 55.5 -00.7	166 19.8 -00.8	S	22 27.9 +00.1	309 09.3 -29.1	N	23 10.2 -08.7	21			
22	146 55.8 -00.1	S	18 54.8 -00.6	181 19.0 -00.9	S	22 28.0 +00.0	323 40.2 -29.1	N	23 01.5 -08.8	22			
23	161 55.7 -00.1	S	18 54.2 -00.6	196 18.1 -00.9	S	22 28.0 +00.1	338 11.1 -29.0	N	22 52.7 -09.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 15'0 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 54'9 54'8 54'8 54'7 54'7 54'6						
	SHA 053° 053° 053° 053° 052° 052°			SHA 088° 087° 087° 087° 087° 087°			SHA 240° 238° 235° 233° 231° 229°						
	Greenwich Culmination Time: 12:12			Greenwich Culmination Time: 09:54			Greenwich Culmination Time: -1:00						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	197 06.1 +00.4	S	23 19.9 -00.2	89 08.8 +02.3	N	12 43.4 +00.0	145 45.0 +02.2	S	10 56.3 -00.1	00			
01	212 06.5 +00.4	S	23 19.7 -00.2	104 11.1 +02.3	N	12 43.4 +00.1	160 47.2 +02.2	S	10 56.2 -00.1	01			
02	227 06.9 +00.4	S	23 19.5 -00.2	119 13.4 +02.3	N	12 43.5 +00.1	175 49.4 +02.2	S	10 56.1 -00.1	02			
03	242 07.3 +00.4	S	23 19.3 -00.2	134 15.7 +02.2	N	12 43.6 +00.1	190 51.6 +02.2	S	10 56.0 -00.1	03			
04	257 07.7 +00.4	S	23 19.1 -00.2	149 17.9 +02.3	N	12 43.7 +00.1	205 53.8 +02.2	S	10 55.9 -00.1	04			
05	272 08.1 +00.4	S	23 18.9 -00.2	164 20.2 +02.3	N	12 43.8 +00.0	220 56.0 +02.3	S	10 55.8 -00.1	05			
06	287 08.5 +00.5	S	23 18.7 -00.2	179 22.5 +02.2	N	12 43.8 +00.1	235 58.3 +02.2	S	10 55.7 -00.1	06			
07	302 09.0 +00.4	S	23 18.5 -00.2	194 24.7 +02.3	N	12 43.9 +00.1	251 00.5 +02.2	S	10 55.6 -00.1	07			
08	317 09.4 +00.4	S	23 18.3 -00.2	209 27.0 +02.3	N	12 44.0 +00.1	266 02.7 +02.2	S	10 55.5 -00.1	08			
09	332 09.8 +00.4	S	23 18.1 -00.2	224 29.3 +02.2	N	12 44.1 +00.1	281 04.9 +02.2	S	10 55.4 -00.1	09			
10	347 10.2 +00.4	S	23 17.9 -00.2	239 31.5 +02.3	N	12 44.2 +00.0	296 07.1 +02.2	S	10 55.3 -00.1	10			
11	2 10.6 +00.4	S	23 17.7 -00.2	254 33.8 +02.2	N	12 44.2 +00.1	311 09.3 +02.2	S	10 55.2 -00.1	11			
12	17 11.0 +00.4	S	23 17.5 -00.2	269 36.0 +02.3	N	12 44.3 +00.1	326 11.5 +02.2	S	10 55.1 -00.1	12			
13	32 11.4 +00.4	S	23 17.3 -00.2	284 38.3 +02.3	N	12 44.4 +00.1	341 13.7 +02.2	S	10 55.0 -00.1	13			
14	47 11.8 +00.5	S	23 17.1 -00.2	299 40.6 +02.2	N	12 44.5 +00.1	356 15.9 +02.2	S	10 54.9 -00.1	14			
15	62 12.3 +00.4	S	23 16.9 -00.2	314 42.8 +02.3	N	12 44.6 +00.0	11 18.1 +02.2	S	10 54.8 -00.1	15			
16	77 12.7 +00.4	S	23 16.7 -00.2	329 45.1 +02.3	N	12 44.6 +00.1	26 20.3 +02.2	S	10 54.7 -00.1	16			
17	92 13.1 +00.4	S	23 16.5 -00.2	344 47.4 +02.2	N	12 44.7 +00.1	41 22.5 +02.2	S	10 54.6 -00.1	17			
18	107 13.5 +00.4	S	23 16.3 -00.2	359 49.6 +02.3	N	12 44.8 +00.1	56 24.7 +02.2	S	10 54.5 -00.1	18			
19	122 13.9 +00.4	S	23 16.1 -00.2	14 51.9 +02.3	N	12 44.9 +00.1	71 26.9 +02.2	S	10 54.4 -00.1	19			
20	137 14.3 +00.4	S	23 15.9 -00.2	29 54.2 +02.2	N	12 45.0 +00.0	86 29.1 +02.2	S	10 54.3 -00.1	20			
21	152 14.7 +00.5	S	23 15.7 -00.2	44 56.4 +02.3	N	12 45.0 +00.1	101 31.3 +02.2	S	10 54.2 -00.1	21			
22	167 15.2 +00.4	S	23 15.5 -00.2	59 58.7 +02.2	N	12 45.1 +00.1	116 33.5 +02.2	S	10 54.1 -00.1	22			
23	182 15.6 +00.4	S	23 15.3 -00.2	75 00.9 +02.3	N	12 45.2 +00.1	131 35.7 +02.2	S	10 54.0 -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 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			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						
	SHA 073° 073° 073° 073° 073° 073°			SHA 325° 325° 325° 325° 325° 325°			SHA 022° 022° 022° 022° 022° 022°						
	Greenwich Culmination Time: 10:51			Greenwich Culmination Time: 18:00			Greenwich Culmination Time: 14:14						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 55.6 -00.2	S 18 53.6 -00.6	211 17.2 -00.8	S 22 28.1 +00.0	352 42.1 -28.8	N 22 43.7 -09.0	00						
01	191 55.4 -00.1	S 18 53.0 -00.6	226 16.4 -00.9	S 22 28.1 +00.0	7 13.3 -28.9	N 22 34.7 -09.1	01						
02	206 55.3 -00.2	S 18 52.4 -00.7	241 15.5 -00.9	S 22 28.1 +00.1	21 44.4 -28.7	N 22 25.6 -09.2	02						
03	221 55.1 -00.1	S 18 51.7 -00.6	256 14.6 -00.9	S 22 28.2 +00.0	36 15.7 -28.6	N 22 16.4 -09.3	03						
04	236 55.0 -00.1	S 18 51.1 -00.6	271 13.7 -00.8	S 22 28.2 +00.1	50 47.1 -28.6	N 22 07.1 -09.4	04						
05	251 54.9 -00.2	S 18 50.5 -00.6	286 12.9 -00.9	S 22 28.3 +00.0	65 18.5 -28.4	N 21 57.7 -09.5	05						
06	266 54.7 -00.1	S 18 49.9 -00.7	301 12.0 -00.9	S 22 28.3 +00.0	79 50.1 -28.4	N 21 48.2 -09.6	06						
07	281 54.6 -00.2	S 18 49.2 -00.6	316 11.1 -00.8	S 22 28.3 +00.1	94 21.7 -28.3	N 21 38.6 -09.7	07						
08	296 54.4 -00.1	S 18 48.6 -00.6	331 10.3 -00.9	S 22 28.4 +00.0	108 53.4 -28.3	N 21 28.9 -09.8	08						
09	311 54.3 -00.1	S 18 48.0 -00.6	346 09.4 -00.9	S 22 28.4 +00.1	123 25.1 -28.1	N 21 19.1 -09.8	09						
10	326 54.2 -00.2	S 18 47.4 -00.7	1 08.5 -00.8	S 22 28.5 +00.0	137 57.0 -28.1	N 21 09.3 -10.0	10						
11	341 54.0 -00.1	S 18 46.7 -00.6	16 07.7 -00.9	S 22 28.5 +00.0	152 28.9 -28.0	N 20 59.3 -10.0	11						
12	356 53.9 -00.1	S 18 46.1 -00.6	31 06.8 -00.9	S 22 28.5 +00.0	167 00.9 -27.9	N 20 49.3 -10.1	12						
13	11 53.8 -00.2	S 18 45.5 -00.6	46 05.9 -00.9	S 22 28.5 +00.1	181 33.0 -27.8	N 20 39.2 -10.2	13						
14	26 53.6 -00.1	S 18 44.9 -00.7	61 05.0 -00.8	S 22 28.6 +00.0	196 05.2 -27.7	N 20 29.0 -10.3	14						
15	41 53.5 -00.1	S 18 44.2 -00.6	76 04.2 -00.9	S 22 28.6 +00.0	210 37.5 -27.7	N 20 18.7 -10.4	15						
16	56 53.4 -00.2	S 18 43.6 -00.6	91 03.3 -00.9	S 22 28.6 +00.1	225 09.8 -27.5	N 20 08.3 -10.4	16						
17	71 53.2 -00.1	S 18 43.0 -00.7	106 02.4 -00.8	S 22 28.7 +00.0	239 42.3 -27.5	N 19 57.9 -10.5	17						
18	86 53.1 -00.2	S 18 42.3 -00.6	121 01.6 -00.9	S 22 28.7 +00.0	254 14.8 -27.5	N 19 47.4 -10.7	18						
19	101 52.9 -00.1	S 18 41.7 -00.6	136 00.7 -00.9	S 22 28.7 +00.0	268 47.3 -27.3	N 19 36.7 -10.6	19						
20	116 52.8 -00.1	S 18 41.1 -00.7	150 59.8 -00.9	S 22 28.7 +00.1	283 20.0 -27.3	N 19 26.1 -10.8	20						
21	131 52.7 -00.1	S 18 40.4 -00.6	165 58.9 -00.8	S 22 28.8 +00.0	297 52.7 -27.1	N 19 15.3 -10.8	21						
22	146 52.6 -00.2	S 18 39.8 -00.6	180 58.1 -00.9	S 22 28.8 +00.0	312 25.6 -27.1	N 19 04.5 -10.9	22						
23	161 52.4 -00.1	S 18 39.2 -00.7	195 57.2 -00.9	S 22 28.8 +00.0	326 58.5 -27.1	N 18 53.6 -11.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'2 16'2 16'2 16'2 16'2 16'2		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 14'9 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 54'6 54'5 54'5 54'4 54'4 54'3								
	SHA 052° 052° 052° 052° 051° 051°		SHA 086° 086° 086° 086° 085° 085°		SHA 227° 225° 223° 221° 219° 217°								
	Greenwich Culmination Time: 12:12		Greenwich Culmination Time: 09:55		Greenwich Culmination Time: 00:30								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	197 16.0 +00.4	S 23 15.1 -00.2	90 03.2 +02.3	N 12 45.3 +00.1	146 37.9 +02.2	S 10 53.9 -00.1	00						
01	212 16.4 +00.4	S 23 14.9 -00.2	105 05.5 +02.2	N 12 45.4 +00.0	161 40.1 +02.2	S 10 53.8 -00.1	01						
02	227 16.8 +00.4	S 23 14.7 -00.2	120 07.7 +02.3	N 12 45.4 +00.1	176 42.3 +02.2	S 10 53.7 -00.1	02						
03	242 17.2 +00.4	S 23 14.5 -00.2	135 10.0 +02.2	N 12 45.5 +00.1	191 44.5 +02.2	S 10 53.6 -00.2	03						
04	257 17.6 +00.4	S 23 14.3 -00.2	150 12.2 +02.3	N 12 45.6 +00.1	206 46.7 +02.2	S 10 53.4 -00.1	04						
05	272 18.0 +00.5	S 23 14.1 -00.2	165 14.5 +02.3	N 12 45.7 +00.1	221 48.9 +02.2	S 10 53.3 -00.1	05						
06	287 18.5 +00.4	S 23 13.9 -00.2	180 16.8 +02.2	N 12 45.8 +00.0	236 51.1 +02.2	S 10 53.2 -00.1	06						
07	302 18.9 +00.4	S 23 13.7 -00.3	195 19.0 +02.3	N 12 45.8 +00.1	251 53.3 +02.2	S 10 53.1 -00.1	07						
08	317 19.3 +00.4	S 23 13.4 -00.2	210 21.3 +02.2	N 12 45.9 +00.1	266 55.5 +02.2	S 10 53.0 -00.1	08						
09	332 19.7 +00.4	S 23 13.2 -00.2	225 23.5 +02.3	N 12 46.0 +00.1	281 57.7 +02.2	S 10 52.9 -00.1	09						
10	347 20.1 +00.4	S 23 13.0 -00.2	240 25.8 +02.3	N 12 46.1 +00.1	296 59.9 +02.2	S 10 52.8 -00.1	10						
11	2 20.5 +00.4	S 23 12.8 -00.2	255 28.1 +02.2	N 12 46.2 +00.1	312 02.1 +02.2	S 10 52.7 -00.1	11						
12	17 20.9 +00.5	S 23 12.6 -00.2	270 30.3 +02.3	N 12 46.3 +00.0	327 04.3 +02.2	S 10 52.6 -00.1	12						
13	32 21.4 +00.4	S 23 12.4 -00.2	285 32.6 +02.2	N 12 46.3 +00.1	342 06.5 +02.2	S 10 52.5 -00.1	13						
14	47 21.8 +00.4	S 23 12.2 -00.2	300 34.8 +02.3	N 12 46.4 +00.1	357 08.7 +02.2	S 10 52.4 -00.1	14						
15	62 22.2 +00.4	S 23 12.0 -00.2	315 37.1 +02.2	N 12 46.5 +00.1	12 10.9 +02.2	S 10 52.3 -00.1	15						
16	77 22.6 +00.4	S 23 11.8 -00.2	330 39.3 +02.3	N 12 46.6 +00.1	27 13.1 +02.2	S 10 52.2 -00.1	16						
17	92 23.0 +00.4	S 23 11.6 -00.3	345 41.6 +02.3	N 12 46.7 +00.1	42 15.3 +02.2	S 10 52.1 -00.1	17						
18	107 23.4 +00.4	S 23 11.3 -00.2	0 43.9 +02.2	N 12 46.8 +00.0	57 17.5 +02.2	S 10 52.0 -00.1	18						
19	122 23.8 +00.5	S 23 11.1 -00.2	15 46.1 +02.3	N 12 46.8 +00.1	72 19.7 +02.2	S 10 51.9 -00.1	19						
20	137 24.3 +00.4	S 23 10.9 -00.2	30 48.4 +02.2	N 12 46.9 +00.1	87 21.9 +02.2	S 10 51.8 -00.1	20						
21	152 24.7 +00.4	S 23 10.7 -00.2	45 50.6 +02.3	N 12 47.0 +00.1	102 24.1 +02.2	S 10 51.7 -00.1	21						
22	167 25.1 +00.4	S 23 10.5 -00.2	60 52.9 +02.2	N 12 47.1 +00.1	117 26.3 +02.2	S 10 51.6 -00.1	22						
23	182 25.5 +00.4	S 23 10.3 -00.2	75 55.1 +02.3	N 12 47.2 +00.1	132 28.5 +02.2	S 10 51.5 -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 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		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								
	SHA 072° 072° 072° 072° 072° 072°		SHA 325° 325° 325° 325° 325° 325°		SHA 022° 022° 022° 022° 022° 022°								
	Greenwich Culmination Time: 10:50		Greenwich Culmination Time: 17:57		Greenwich Culmination Time: 14:11								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 52.3 -00.1	S 18 38.5 -00.6	210 56.3 -00.8	S 22 28.8 +00.0	341 31.4 -26.9	N 18 42.6 -11.1	00						
01	191 52.2 -00.2	S 18 37.9 -00.6	225 55.5 -00.9	S 22 28.8 +00.1	356 04.5 -26.9	N 18 31.5 -11.1	01						
02	206 52.0 -00.1	S 18 37.3 -00.7	240 54.6 -00.9	S 22 28.9 +00.0	10 37.6 -26.8	N 18 20.4 -11.2	02						
03	221 51.9 -00.1	S 18 36.6 -00.6	255 53.7 -00.9	S 22 28.9 +00.0	25 10.8 -26.7	N 18 09.2 -11.3	03						
04	236 51.8 -00.2	S 18 36.0 -00.6	270 52.8 -00.8	S 22 28.9 +00.0	39 44.1 -26.7	N 17 57.9 -11.3	04						
05	251 51.6 -00.1	S 18 35.4 -00.7	285 52.0 -00.9	S 22 28.9 +00.0	54 17.4 -26.6	N 17 46.6 -11.4	05						
06	266 51.5 -00.1	S 18 34.7 -00.6	300 51.1 -00.9	S 22 28.9 +00.0	68 50.8 -26.5	N 17 35.2 -11.5	06						
07	281 51.4 -00.2	S 18 34.1 -00.7	315 50.2 -00.8	S 22 28.9 +00.0	83 24.3 -26.4	N 17 23.7 -11.5	07						
08	296 51.2 -00.1	S 18 33.4 -00.6	330 49.4 -00.9	S 22 28.9 +00.0	97 57.9 -26.4	N 17 12.2 -11.7	08						
09	311 51.1 -00.1	S 18 32.8 -00.6	345 48.5 -00.9	S 22 28.9 +00.0	112 31.5 -26.3	N 17 00.5 -11.6	09						
10	326 51.0 -00.1	S 18 32.2 -00.7	0 47.6 -00.9	S 22 28.9 +00.0	127 05.2 -26.2	N 16 48.9 -11.7	10						
11	341 50.9 -00.2	S 18 31.5 -00.6	15 46.7 -00.8	S 22 28.9 +00.1	141 39.0 -26.2	N 16 37.2 -11.8	11						
12	356 50.7 -00.1	S 18 30.9 -00.7	30 45.9 -00.9	S 22 29.0 +00.0	156 12.8 -26.1	N 16 25.4 -11.9	12						
13	11 50.6 -00.1	S 18 30.2 -00.6	45 45.0 -00.9	S 22 29.0 +00.0	170 46.7 -26.0	N 16 13.5 -11.9	13						
14	26 50.5 -00.2	S 18 29.6 -00.6	60 44.1 -00.8	S 22 29.0 +00.0	185 20.7 -26.0	N 16 01.6 -12.0	14						
15	41 50.3 -00.1	S 18 29.0 -00.7	75 43.3 -00.9	S 22 29.0 +00.0	199 54.7 -25.8	N 15 49.6 -12.0	15						
16	56 50.2 -00.1	S 18 28.3 -00.6	90 42.4 -00.9	S 22 29.0 +00.0	214 28.9 -25.9	N 15 37.6 -12.1	16						
17	71 50.1 -00.1	S 18 27.7 -00.7	105 41.5 -00.9	S 22 29.0 +00.0	229 03.0 -25.7	N 15 25.5 -12.1	17						
18	86 50.0 -00.2	S 18 27.0 -00.6	120 40.6 -00.8	S 22 29.0 +00.0	243 37.3 -25.7	N 15 13.4 -12.2	18						
19	101 49.8 -00.1	S 18 26.4 -00.7	135 39.8 -00.9	S 22 29.0 -00.1	258 11.6 -25.7	N 15 01.2 -12.3	19						
20	116 49.7 -00.1	S 18 25.7 -00.6	150 38.9 -00.9	S 22 28.9 +00.0	272 45.9 -25.5	N 14 48.9 -12.3	20						
21	131 49.6 -00.1	S 18 25.1 -00.7	165 38.0 -00.8	S 22 28.9 +00.0	287 20.4 -25.5	N 14 36.6 -12.3	21						
22	146 49.5 -00.2	S 18 24.4 -00.6	180 37.2 -00.9	S 22 28.9 +00.0	301 54.9 -25.5	N 14 24.3 -12.4	22						
23	161 49.3 -00.1	S 18 23.8 -00.7	195 36.3 -00.9	S 22 28.9 +00.0	316 29.4 -25.4	N 14 11.9 -12.5	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'2 16'2 16'2 16'2 16'2 16'2		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 14'8 14'8 14'8 14'8 14'8 14'7								
	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 54'2 54'2 54'1								
	SHA 051° 051° 051° 050° 050° 050°		SHA 085° 085° 085° 084° 084° 084°		SHA 215° 213° 211° 209° 207° 205°								
	Greenwich Culmination Time: 12:12		Greenwich Culmination Time: 09:56		Greenwich Culmination Time: 01:16								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	197 25.9 +00.4	S 23 10.1 -00.3	90 57.4 +02.2	N 12 47.3 +00.0	147 30.7 +02.2	S 10 51.4 -00.1	00						
01	212 26.3 +00.4	S 23 09.8 -00.2	105 59.6 +02.3	N 12 47.3 +00.1	162 32.9 +02.2	S 10 51.3 -00.1	01						
02	227 26.7 +00.4	S 23 09.6 -00.2	121 01.9 +02.2	N 12 47.4 +00.1	177 35.1 +02.2	S 10 51.2 -00.1	02						
03	242 27.1 +00.5	S 23 09.4 -00.2	136 04.1 +02.3	N 12 47.5 +00.1	192 37.3 +02.2	S 10 51.1 -00.1	03						
04	257 27.6 +00.4	S 23 09.2 -00.2	151 06.4 +02.3	N 12 47.6 +00.1	207 39.5 +02.2	S 10 51.0 -00.1	04						
05	272 28.0 +00.4	S 23 09.0 -00.2	166 08.7 +02.2	N 12 47.7 +00.1	222 41.7 +02.2	S 10 50.9 -00.1	05						
06	287 28.4 +00.4	S 23 08.8 -00.3	181 10.9 +02.3	N 12 47.8 +00.0	237 43.9 +02.2	S 10 50.8 -00.2	06						
07	302 28.8 +00.4	S 23 08.5 -00.2	196 13.2 +02.2	N 12 47.8 +00.1	252 46.1 +02.2	S 10 50.6 -00.1	07						
08	317 29.2 +00.4	S 23 08.3 -00.2	211 15.4 +02.3	N 12 47.9 +00.1	267 48.3 +02.2	S 10 50.5 -00.1	08						
09	332 29.6 +00.4	S 23 08.1 -00.2	226 17.7 +02.2	N 12 48.0 +00.1	282 50.5 +02.2	S 10 50.4 -00.1	09						
10	347 30.0 +00.5	S 23 07.9 -00.2	241 19.9 +02.3	N 12 48.1 +00.1	297 52.7 +02.2	S 10 50.3 -00.1	10						
11	2 30.5 +00.4	S 23 07.7 -00.3	256 22.2 +02.2	N 12 48.2 +00.1	312 54.9 +02.2	S 10 50.2 -00.1	11						
12	17 30.9 +00.4	S 23 07.4 -00.2	271 24.4 +02.3	N 12 48.3 +00.0	327 57.1 +02.2	S 10 50.1 -00.1	12						
13	32 31.3 +00.4	S 23 07.2 -00.2	286 26.7 +02.2	N 12 48.3 +00.1	342 59.3 +02.2	S 10 50.0 -00.1	13						
14	47 31.7 +00.4	S 23 07.0 -00.2	301 28.9 +02.3	N 12 48.4 +00.1	358 01.5 +02.2	S 10 49.9 -00.1	14						
15	62 32.1 +00.4	S 23 06.8 -00.2	316 31.2 +02.2	N 12 48.5 +00.1	13 03.7 +02.2	S 10 49.8 -00.1	15						
16	77 32.5 +00.5	S 23 06.6 -00.3	331 33.4 +02.3	N 12 48.6 +00.1	28 05.9 +02.2	S 10 49.7 -00.1	16						
17	92 33.0 +00.4	S 23 06.3 -00.2	346 35.7 +02.2	N 12 48.7 +00.1	43 08.1 +02.2	S 10 49.6 -00.1	17						
18	107 33.4 +00.4	S 23 06.1 -00.2	1 37.9 +02.3	N 12 48.8 +00.1	58 10.3 +02.2	S 10 49.5 -00.1	18						
19	122 33.8 +00.4	S 23 05.9 -00.2	16 40.2 +02.2	N 12 48.9 +00.0	73 12.5 +02.2	S 10 49.4 -00.1	19						
20	137 34.2 +00.4	S 23 05.7 -00.3	31 42.4 +02.3	N 12 48.9 +00.1	88 14.7 +02.2	S 10 49.3 -00.1	20						
21	152 34.6 +00.4	S 23 05.4 -00.2	46 44.7 +02.2	N 12 49.0 +00.1	103 16.9 +02.2	S 10 49.2 -00.1	21						
22	167 35.0 +00.4	S 23 05.2 -00.2	61 46.9 +02.2	N 12 49.1 +00.1	118 19.1 +02.2	S 10 49.1 -00.1	22						
23	182 35.4 +00.5	S 23 05.0 -00.2	76 49.1 +02.3	N 12 49.2 +00.1	133 21.3 +02.2	S 10 49.0 -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 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		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								
	SHA 072° 071° 071° 071° 071° 071°		SHA 325° 325° 325° 325° 325° 325°		SHA 022° 022° 022° 022° 022° 022°								
	Greenwich Culmination Time: 10:49		Greenwich Culmination Time: 17:53		Greenwich Culmination Time: 14:07								

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UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 49.2 -00.1	S 18 23.1 -00.6	210 35.4 -00.9	S 22 28.9 +00.0	331 04.0 -25.3	N 13 59.4 -12.5	00						
01	191 49.1 -00.1	S 18 22.5 -00.7	225 34.5 -00.8	S 22 28.9 +00.0	345 38.7 -25.3	N 13 46.9 -12.6	01						
02	206 49.0 -00.2	S 18 21.8 -00.6	240 33.7 -00.9	S 22 28.9 +00.0	0 13.4 -25.2	N 13 34.3 -12.6	02						
03	221 48.8 -00.1	S 18 21.2 -00.7	255 32.8 -00.9	S 22 28.9 +00.0	14 48.2 -25.2	N 13 21.7 -12.6	03						
04	236 48.7 -00.1	S 18 20.5 -00.6	270 31.9 -00.9	S 22 28.9 +00.0	29 23.0 -25.1	N 13 09.1 -12.7	04						
05	251 48.6 -00.1	S 18 19.9 -00.7	285 31.0 -00.8	S 22 28.9 -00.1	43 57.9 -25.0	N 12 56.4 -12.8	05						
06	266 48.5 -00.1	S 18 19.2 -00.6	300 30.2 -00.9	S 22 28.8 +00.0	58 32.9 -25.0	N 12 43.6 -12.7	06						
07	281 48.4 -00.2	S 18 18.6 -00.7	315 29.3 -00.9	S 22 28.8 +00.0	73 07.9 -25.0	N 12 30.9 -12.9	07						
08	296 48.2 -00.1	S 18 17.9 -00.6	330 28.4 -00.8	S 22 28.8 +00.0	87 42.9 -24.9	N 12 18.0 -12.8	08						
09	311 48.1 -00.1	S 18 17.3 -00.7	345 27.6 -00.9	S 22 28.8 +00.0	102 18.0 -24.8	N 12 05.2 -12.9	09						
10	326 48.0 -00.1	S 18 16.6 -00.6	0 26.7 -00.9	S 22 28.8 -00.1	116 53.2 -24.8	N 11 52.3 -13.0	10						
11	341 47.9 -00.1	S 18 16.0 -00.7	15 25.8 -00.9	S 22 28.7 +00.0	131 28.4 -24.8	N 11 39.3 -13.0	11						
12	356 47.8 -00.2	S 18 15.3 -00.6	30 24.9 -00.8	S 22 28.7 +00.0	146 03.6 -24.6	N 11 26.3 -13.0	12						
13	11 47.6 -00.1	S 18 14.7 -00.7	45 24.1 -00.9	S 22 28.7 +00.0	160 39.0 -24.7	N 11 13.3 -13.1	13						
14	26 47.5 -00.1	S 18 14.0 -00.6	60 23.2 -00.9	S 22 28.7 -00.1	175 14.3 -24.6	N 11 00.2 -13.1	14						
15	41 47.4 -00.1	S 18 13.4 -00.7	75 22.3 -00.9	S 22 28.6 +00.0	189 49.7 -24.6	N 10 47.1 -13.2	15						
16	56 47.3 -00.1	S 18 12.7 -00.7	90 21.4 -00.8	S 22 28.6 +00.0	204 25.1 -24.5	N 10 33.9 -13.1	16						
17	71 47.2 -00.2	S 18 12.0 -00.6	105 20.6 -00.9	S 22 28.6 -00.1	219 00.6 -24.4	N 10 20.8 -13.3	17						
18	86 47.0 -00.1	S 18 11.4 -00.7	120 19.7 -00.9	S 22 28.5 +00.0	233 36.2 -24.5	N 10 07.5 -13.2	18						
19	101 46.9 -00.1	S 18 10.7 -00.6	135 18.8 -00.8	S 22 28.5 +00.0	248 11.7 -24.4	N 09 54.3 -13.3	19						
20	116 46.8 -00.1	S 18 10.1 -00.7	150 18.0 -00.9	S 22 28.5 +00.0	262 47.3 -24.3	N 09 41.0 -13.3	20						
21	131 46.7 -00.1	S 18 09.4 -00.7	165 17.1 -00.9	S 22 28.5 -00.1	277 23.0 -24.3	N 09 27.7 -13.4	21						
22	146 46.6 -00.1	S 18 08.7 -00.6	180 16.2 -00.9	S 22 28.4 +00.0	291 58.7 -24.3	N 09 14.3 -13.3	22						
23	161 46.5 -00.2	S 18 08.1 -00.7	195 15.3 -00.8	S 22 28.4 -00.1	306 34.4 -24.2	N 09 01.0 -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 16'2 16'2 16'2 16'2 16'2 16'2		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 54'1 54'1 54'1 54'0 54'0 54'0								
	SHA 050° 050° 050° 049° 049° 049°		SHA 084° 083° 083° 083° 083° 083°		SHA 203° 202° 200° 198° 196° 194°								
	Greenwich Culmination Time: 12:12		Greenwich Culmination Time: 09:58		Greenwich Culmination Time: 01:59								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	197 35.9 +00.4	S 23 04.8 -00.3	91 51.4 +02.2	N 12 49.3 +00.1	148 23.5 +02.2	S 10 48.9 -00.1	00						
01	212 36.3 +00.4	S 23 04.5 -00.2	106 53.6 +02.3	N 12 49.4 +00.0	163 25.7 +02.2	S 10 48.8 -00.1	01						
02	227 36.7 +00.4	S 23 04.3 -00.2	121 55.9 +02.2	N 12 49.4 +00.1	178 27.9 +02.2	S 10 48.7 -00.1	02						
03	242 37.1 +00.4	S 23 04.1 -00.2	136 58.1 +02.3	N 12 49.5 +00.1	193 30.1 +02.2	S 10 48.6 -00.1	03						
04	257 37.5 +00.4	S 23 03.9 -00.3	152 00.4 +02.2	N 12 49.6 +00.1	208 32.3 +02.2	S 10 48.5 -00.2	04						
05	272 37.9 +00.4	S 23 03.6 -00.2	167 02.6 +02.3	N 12 49.7 +00.1	223 34.5 +02.2	S 10 48.3 -00.1	05						
06	287 38.3 +00.5	S 23 03.4 -00.2	182 04.9 +02.2	N 12 49.8 +00.1	238 36.7 +02.2	S 10 48.2 -00.1	06						
07	302 38.8 +00.4	S 23 03.2 -00.3	197 07.1 +02.3	N 12 49.9 +00.1	253 38.9 +02.2	S 10 48.1 -00.1	07						
08	317 39.2 +00.4	S 23 02.9 -00.2	212 09.4 +02.2	N 12 50.0 +00.1	268 41.1 +02.2	S 10 48.0 -00.1	08						
09	332 39.6 +00.4	S 23 02.7 -00.2	227 11.6 +02.2	N 12 50.1 +00.0	283 43.3 +02.2	S 10 47.9 -00.1	09						
10	347 40.0 +00.4	S 23 02.5 -00.2	242 13.8 +02.3	N 12 50.1 +00.1	298 45.5 +02.2	S 10 47.8 -00.1	10						
11	2 40.4 +00.4	S 23 02.3 -00.3	257 16.1 +02.2	N 12 50.2 +00.1	313 47.7 +02.2	S 10 47.7 -00.1	11						
12	17 40.8 +00.5	S 23 02.0 -00.2	272 18.3 +02.3	N 12 50.3 +00.1	328 49.9 +02.2	S 10 47.6 -00.1	12						
13	32 41.3 +00.4	S 23 01.8 -00.2	287 20.6 +02.2	N 12 50.4 +00.1	343 52.1 +02.2	S 10 47.5 -00.1	13						
14	47 41.7 +00.4	S 23 01.6 -00.3	302 22.8 +02.3	N 12 50.5 +00.1	358 54.3 +02.2	S 10 47.4 -00.1	14						
15	62 42.1 +00.4	S 23 01.3 -00.2	317 25.1 +02.2	N 12 50.6 +00.1	13 56.5 +02.2	S 10 47.3 -00.1	15						
16	77 42.5 +00.4	S 23 01.1 -00.2	332 27.3 +02.2	N 12 50.7 +00.0	28 58.7 +02.2	S 10 47.2 -00.1	16						
17	92 42.9 +00.4	S 23 00.9 -00.3	347 29.5 +02.3	N 12 50.7 +00.1	44 00.9 +02.2	S 10 47.1 -00.1	17						
18	107 43.3 +00.5	S 23 00.6 -00.2	2 31.8 +02.2	N 12 50.8 +00.1	59 03.1 +02.2	S 10 47.0 -00.1	18						
19	122 43.8 +00.4	S 23 00.4 -00.2	17 34.0 +02.3	N 12 50.9 +00.1	74 05.3 +02.2	S 10 46.9 -00.1	19						
20	137 44.2 +00.4	S 23 00.2 -00.3	32 36.3 +02.2	N 12 51.0 +00.1	89 07.5 +02.2	S 10 46.8 -00.1	20						
21	152 44.6 +00.4	S 22 59.9 -00.2	47 38.5 +02.2	N 12 51.1 +00.1	104 09.7 +02.2	S 10 46.7 -00.1	21						
22	167 45.0 +00.4	S 22 59.7 -00.2	62 40.7 +02.3	N 12 51.2 +00.1	119 11.9 +02.2	S 10 46.6 -00.1	22						
23	182 45.4 +00.4	S 22 59.5 -00.3	77 43.0 +02.2	N 12 51.3 +00.1	134 14.1 +02.2	S 10 46.5 -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 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		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								
	SHA 071° 071° 070° 070° 070° 070°		SHA 325° 325° 325° 325° 325° 325°		SHA 022° 022° 022° 022° 022° 022°								
	Greenwich Culmination Time: 10:49		Greenwich Culmination Time: 17:49		Greenwich Culmination Time: 14:04								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 46.3 -00.1	S	18 07.4 -00.6	210 14.5 -00.9	S	22 28.3 +00.0	321 10.2 -24.2	N	08 47.6 -13.5	00			
01	191 46.2 -00.1	S	18 06.8 -00.7	225 13.6 -00.9	S	22 28.3 +00.0	335 46.0 -24.2	N	08 34.1 -13.5	01			
02	206 46.1 -00.1	S	18 06.1 -00.7	240 12.7 -00.9	S	22 28.3 -00.1	350 21.8 -24.1	N	08 20.6 -13.4	02			
03	221 46.0 -00.1	S	18 05.4 -00.6	255 11.8 -00.8	S	22 28.2 +00.0	4 57.7 -24.1	N	08 07.2 -13.6	03			
04	236 45.9 -00.1	S	18 04.8 -00.7	270 11.0 -00.9	S	22 28.2 -00.1	19 33.6 -24.0	N	07 53.6 -13.5	04			
05	251 45.8 -00.1	S	18 04.1 -00.7	285 10.1 -00.9	S	22 28.1 +00.0	34 09.6 -24.1	N	07 40.1 -13.6	05			
06	266 45.7 -00.2	S	18 03.4 -00.6	300 09.2 -00.8	S	22 28.1 +00.0	48 45.5 -24.0	N	07 26.5 -13.6	06			
07	281 45.5 -00.1	S	18 02.8 -00.7	315 08.4 -00.9	S	22 28.1 -00.1	63 21.5 -23.9	N	07 12.9 -13.6	07			
08	296 45.4 -00.1	S	18 02.1 -00.7	330 07.5 -00.9	S	22 28.0 +00.0	77 57.6 -24.0	N	06 59.3 -13.7	08			
09	311 45.3 -00.1	S	18 01.4 -00.6	345 06.6 -00.9	S	22 28.0 -00.1	92 33.6 -23.9	N	06 45.6 -13.6	09			
10	326 45.2 -00.1	S	18 00.8 -00.7	0 05.7 -00.8	S	22 27.9 +00.0	107 09.7 -23.9	N	06 32.0 -13.7	10			
11	341 45.1 -00.1	S	18 00.1 -00.7	15 04.9 -00.9	S	22 27.9 -00.1	121 45.8 -23.8	N	06 18.3 -13.8	11			
12	356 45.0 -00.1	S	17 59.4 -00.6	30 04.0 -00.9	S	22 27.8 +00.0	136 22.0 -23.9	N	06 04.5 -13.7	12			
13	11 44.9 -00.1	S	17 58.8 -00.7	45 03.1 -00.9	S	22 27.8 -00.1	150 58.1 -23.8	N	05 50.8 -13.7	13			
14	26 44.8 -00.1	S	17 58.1 -00.7	60 02.2 -00.8	S	22 27.7 -00.1	165 34.3 -23.8	N	05 37.1 -13.8	14			
15	41 44.7 -00.2	S	17 57.4 -00.7	75 01.4 -00.9	S	22 27.6 +00.0	180 10.5 -23.7	N	05 23.3 -13.8	15			
16	56 44.5 -00.1	S	17 56.7 -00.6	90 00.5 -00.9	S	22 27.6 -00.1	194 46.8 -23.8	N	05 09.5 -13.8	16			
17	71 44.4 -00.1	S	17 56.1 -00.7	104 59.6 -00.9	S	22 27.5 +00.0	209 23.0 -23.7	N	04 55.7 -13.9	17			
18	86 44.3 -00.1	S	17 55.4 -00.7	119 58.7 -00.8	S	22 27.5 -00.1	223 59.3 -23.7	N	04 41.8 -13.8	18			
19	101 44.2 -00.1	S	17 54.7 -00.6	134 57.9 -00.9	S	22 27.4 +00.0	238 35.6 -23.7	N	04 28.0 -13.9	19			
20	116 44.1 -00.1	S	17 54.1 -00.7	149 57.0 -00.9	S	22 27.4 -00.1	253 11.9 -23.7	N	04 14.1 -13.8	20			
21	131 44.0 -00.1	S	17 53.4 -00.7	164 56.1 -00.8	S	22 27.3 -00.1	267 48.2 -23.7	N	04 00.3 -13.9	21			
22	146 43.9 -00.1	S	17 52.7 -00.7	179 55.3 -00.9	S	22 27.2 +00.0	282 24.5 -23.6	N	03 46.4 -13.9	22			
23	161 43.8 -00.1	S	17 52.0 -00.6	194 54.4 -00.9	S	22 27.2 -00.1	297 00.9 -23.7	N	03 32.5 -13.9	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22				UT 02 06 10 14 18 22					
	SD 16'2 16'2 16'2 16'2 16'2 16'2			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 54'0					
	SHA 049° 049° 049° 048° 048° 048°			SHA 082° 082° 082° 082° 081° 081°				SHA 193° 191° 189° 187° 185° 184°					
	Greenwich Culmination Time: 12:13			Greenwich Culmination Time: 09:59				Greenwich Culmination Time: 02:39					

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	197 45.8 +00.5	S	22 59.2 -00.2	92 45.2 +02.3	N	12 51.4 +00.0	149 16.3 +02.2	S	10 46.4 -00.1	00			
01	212 46.3 +00.4	S	22 59.0 -00.3	107 47.5 +02.2	N	12 51.4 +00.1	164 18.5 +02.2	S	10 46.3 -00.2	01			
02	227 46.7 +00.4	S	22 58.7 -00.2	122 49.7 +02.2	N	12 51.5 +00.1	179 20.7 +02.2	S	10 46.1 -00.1	02			
03	242 47.1 +00.4	S	22 58.5 -00.2	137 51.9 +02.3	N	12 51.6 +00.1	194 22.9 +02.2	S	10 46.0 -00.1	03			
04	257 47.5 +00.4	S	22 58.3 -00.3	152 54.2 +02.2	N	12 51.7 +00.1	209 25.1 +02.2	S	10 45.9 -00.1	04			
05	272 47.9 +00.4	S	22 58.0 -00.2	167 56.4 +02.3	N	12 51.8 +00.1	224 27.3 +02.2	S	10 45.8 -00.1	05			
06	287 48.3 +00.4	S	22 57.8 -00.2	182 58.7 +02.2	N	12 51.9 +00.1	239 29.5 +02.2	S	10 45.7 -00.1	06			
07	302 48.7 +00.5	S	22 57.6 -00.3	198 00.9 +02.2	N	12 52.0 +00.1	254 31.7 +02.2	S	10 45.6 -00.1	07			
08	317 49.2 +00.4	S	22 57.3 -00.2	213 03.1 +02.3	N	12 52.1 +00.1	269 33.9 +02.2	S	10 45.5 -00.1	08			
09	332 49.6 +00.4	S	22 57.1 -00.3	228 05.4 +02.2	N	12 52.2 +00.0	284 36.1 +02.2	S	10 45.4 -00.1	09			
10	347 50.0 +00.4	S	22 56.8 -00.2	243 07.6 +02.2	N	12 52.2 +00.1	299 38.3 +02.2	S	10 45.3 -00.1	10			
11	2 50.4 +00.4	S	22 56.6 -00.3	258 09.8 +02.3	N	12 52.3 +00.1	314 40.5 +02.1	S	10 45.2 -00.1	11			
12	17 50.8 +00.5	S	22 56.3 -00.2	273 12.1 +02.2	N	12 52.4 +00.1	329 42.6 +02.2	S	10 45.1 -00.1	12			
13	32 51.3 +00.4	S	22 56.1 -00.2	288 14.3 +02.3	N	12 52.5 +00.1	344 44.8 +02.2	S	10 45.0 -00.1	13			
14	47 51.7 +00.4	S	22 55.9 -00.3	303 16.6 +02.2	N	12 52.6 +00.1	359 47.0 +02.2	S	10 44.9 -00.1	14			
15	62 52.1 +00.4	S	22 55.6 -00.2	318 18.8 +02.2	N	12 52.7 +00.1	14 49.2 +02.2	S	10 44.8 -00.1	15			
16	77 52.5 +00.4	S	22 55.4 -00.3	333 21.0 +02.3	N	12 52.8 +00.1	29 51.4 +02.2	S	10 44.7 -00.1	16			
17	92 52.9 +00.4	S	22 55.1 -00.2	348 23.3 +02.2	N	12 52.9 +00.1	44 53.6 +02.2	S	10 44.6 -00.1	17			
18	107 53.3 +00.5	S	22 54.9 -00.3	3 25.5 +02.2	N	12 53.0 +00.0	59 55.8 +02.2	S	10 44.5 -00.1	18			
19	122 53.8 +00.4	S	22 54.6 -00.2	18 27.7 +02.3	N	12 53.0 +00.1	74 58.0 +02.2	S	10 44.4 -00.1	19			
20	137 54.2 +00.4	S	22 54.4 -00.2	33 30.0 +02.2	N	12 53.1 +00.1	90 00.2 +02.2	S	10 44.3 -00.2	20			
21	152 54.6 +00.4	S	22 54.2 -00.3	48 32.2 +02.2	N	12 53.2 +00.1	105 02.4 +02.2	S	10 44.1 -00.1	21			
22	167 55.0 +00.4	S	22 53.9 -00.2	63 34.4 +02.3	N	12 53.3 +00.1	120 04.6 +02.2	S	10 44.0 -00.1	22			
23	182 55.4 +00.4	S	22 53.7 -00.3	78 36.7 +02.2	N	12 53.4 +00.1	135 06.8 +02.2	S	10 43.9 -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 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3				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					
	SHA 070° 070° 070° 070° 069° 069°			SHA 325° 325° 325° 325° 325° 325°				SHA 022° 021° 021° 021° 021° 021°					
	Greenwich Culmination Time: 10:48			Greenwich Culmination Time: 17:46				Greenwich Culmination Time: 14:00					

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 43.7 -00.1	S	17 51.4 -00.7	209 53.5 -00.9	S	22 27.1 -00.1	311 37.2 -23.6	N	03 18.6 -14.0	00			
01	191 43.6 -00.1	S	17 50.7 -00.7	224 52.6 -00.8	S	22 27.0 +00.0	326 13.6 -23.6	N	03 04.6 -13.9	01			
02	206 43.5 -00.1	S	17 50.0 -00.7	239 51.8 -00.9	S	22 27.0 -00.1	340 50.0 -23.6	N	02 50.7 -14.0	02			
03	221 43.4 -00.1	S	17 49.3 -00.6	254 50.9 -00.9	S	22 26.9 -00.1	355 26.4 -23.6	N	02 36.7 -13.9	03			
04	236 43.3 -00.2	S	17 48.7 -00.7	269 50.0 -00.9	S	22 26.8 +00.0	10 02.8 -23.6	N	02 22.8 -14.0	04			
05	251 43.1 -00.1	S	17 48.0 -00.7	284 49.1 -00.8	S	22 26.8 -00.1	24 39.2 -23.6	N	02 08.8 -14.0	05			
06	266 43.0 -00.1	S	17 47.3 -00.7	299 48.3 -00.9	S	22 26.7 -00.1	39 15.6 -23.6	N	01 54.8 -14.0	06			
07	281 42.9 -00.1	S	17 46.6 -00.7	314 47.4 -00.9	S	22 26.6 -00.1	53 52.0 -23.6	N	01 40.8 -14.0	07			
08	296 42.8 -00.1	S	17 45.9 -00.6	329 46.5 -00.8	S	22 26.5 +00.0	68 28.4 -23.6	N	01 26.8 -14.0	08			
09	311 42.7 -00.1	S	17 45.3 -00.7	344 45.7 -00.9	S	22 26.5 -00.1	83 04.8 -23.5	N	01 12.8 -14.0	09			
10	326 42.6 -00.1	S	17 44.6 -00.7	359 44.8 -00.9	S	22 26.4 -00.1	97 41.3 -23.6	N	00 58.8 -14.0	10			
11	341 42.5 -00.1	S	17 43.9 -00.7	14 43.9 -00.9	S	22 26.3 -00.1	112 17.7 -23.6	N	00 44.8 -14.0	11			
12	356 42.4 -00.1	S	17 43.2 -00.7	29 43.0 -00.8	S	22 26.2 -00.1	126 54.1 -23.6	N	00 30.8 -14.0	12			
13	11 42.3 -00.1	S	17 42.5 -00.7	44 42.2 -00.9	S	22 26.1 +00.0	141 30.5 -23.5	N	00 16.8 -14.1	13			
14	26 42.2 -00.1	S	17 41.8 -00.6	59 41.3 -00.9	S	22 26.1 -00.1	156 07.0 -23.6	N	00 02.7 -14.0	14			
15	41 42.1 -00.1	S	17 41.2 -00.7	74 40.4 -00.9	S	22 26.0 -00.1	170 43.4 -23.6	S	00 11.3 +14.0	15			
16	56 42.0 -00.1	S	17 40.5 -00.7	89 39.5 -00.8	S	22 25.9 -00.1	185 19.8 -23.6	S	00 25.3 +14.0	16			
17	71 41.9 -00.1	S	17 39.8 -00.7	104 38.7 -00.9	S	22 25.8 -00.1	199 56.2 -23.6	S	00 39.3 +14.1	17			
18	86 41.8 -00.1	S	17 39.1 -00.7	119 37.8 -00.9	S	22 25.7 -00.1	214 32.6 -23.6	S	00 53.4 +14.0	18			
19	101 41.7 -00.1	S	17 38.4 -00.7	134 36.9 -00.8	S	22 25.6 +00.0	229 09.0 -23.6	S	01 07.4 +14.0	19			
20	116 41.6 -00.1	S	17 37.7 -00.7	149 36.1 -00.9	S	22 25.6 -00.1	243 45.4 -23.7	S	01 21.4 +14.1	20			
21	131 41.5 -00.1	S	17 37.0 -00.6	164 35.2 -00.9	S	22 25.5 -00.1	258 21.7 -23.6	S	01 35.5 +14.0	21			
22	146 41.4 -00.1	S	17 36.4 -00.7	179 34.3 -00.9	S	22 25.4 -00.1	272 58.1 -23.7	S	01 49.5 +14.0	22			
23	161 41.3 -00.1	S	17 35.7 -00.7	194 33.4 -00.8	S	22 25.3 -00.1	287 34.4 -23.7	S	02 03.5 +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 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 14'7 14'7 14'7 14'7 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 54'0 54'1 54'1 54'1 54'1 54'2						
	SHA 048° 048° 048° 047° 047° 047°			SHA 081° 081° 081° 080° 080° 080°			SHA 182° 180° 179° 177° 175° 173°						
	Greenwich Culmination Time: 12:13			Greenwich Culmination Time: 10:01			Greenwich Culmination Time: 03:18						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	197 55.8 +00.5	S	22 53.4 -00.2	93 38.9 +02.2	N	12 53.5 +00.1	150 09.0 +02.2	S	10 43.8 -00.1	00			
01	212 56.3 +00.4	S	22 53.2 -00.3	108 41.1 +02.3	N	12 53.6 +00.1	165 11.2 +02.2	S	10 43.7 -00.1	01			
02	227 56.7 +00.4	S	22 52.9 -00.2	123 43.4 +02.2	N	12 53.7 +00.1	180 13.4 +02.2	S	10 43.6 -00.1	02			
03	242 57.1 +00.4	S	22 52.7 -00.3	138 45.6 +02.2	N	12 53.8 +00.0	195 15.6 +02.2	S	10 43.5 -00.1	03			
04	257 57.5 +00.4	S	22 52.4 -00.2	153 47.8 +02.3	N	12 53.8 +00.1	210 17.8 +02.2	S	10 43.4 -00.1	04			
05	272 57.9 +00.4	S	22 52.2 -00.3	168 50.1 +02.2	N	12 53.9 +00.1	225 20.0 +02.2	S	10 43.3 -00.1	05			
06	287 58.3 +00.5	S	22 51.9 -00.2	183 52.3 +02.2	N	12 54.0 +00.1	240 22.2 +02.2	S	10 43.2 -00.1	06			
07	302 58.8 +00.4	S	22 51.7 -00.3	198 54.5 +02.2	N	12 54.1 +00.1	255 24.4 +02.2	S	10 43.1 -00.1	07			
08	317 59.2 +00.4	S	22 51.4 -00.2	213 56.7 +02.3	N	12 54.2 +00.1	270 26.6 +02.2	S	10 43.0 -00.1	08			
09	332 59.6 +00.4	S	22 51.2 -00.3	228 59.0 +02.2	N	12 54.3 +00.1	285 28.8 +02.2	S	10 42.9 -00.1	09			
10	348 00.0 +00.4	S	22 50.9 -00.2	244 01.2 +02.2	N	12 54.4 +00.1	300 31.0 +02.2	S	10 42.8 -00.1	10			
11	3 00.4 +00.5	S	22 50.7 -00.3	259 03.4 +02.3	N	12 54.5 +00.1	315 33.2 +02.2	S	10 42.7 -00.1	11			
12	18 00.9 +00.4	S	22 50.4 -00.2	274 05.7 +02.2	N	12 54.6 +00.1	330 35.4 +02.2	S	10 42.6 -00.1	12			
13	33 01.3 +00.4	S	22 50.2 -00.3	289 07.9 +02.2	N	12 54.7 +00.1	345 37.6 +02.2	S	10 42.5 -00.2	13			
14	48 01.7 +00.4	S	22 49.9 -00.2	304 10.1 +02.2	N	12 54.8 +00.0	0 39.8 +02.1	S	10 42.3 -00.1	14			
15	63 02.1 +00.4	S	22 49.7 -00.3	319 12.3 +02.3	N	12 54.8 +00.1	15 41.9 +02.2	S	10 42.2 -00.1	15			
16	78 02.5 +00.4	S	22 49.4 -00.2	334 14.6 +02.2	N	12 54.9 +00.1	30 44.1 +02.2	S	10 42.1 -00.1	16			
17	93 02.9 +00.5	S	22 49.2 -00.3	349 16.8 +02.2	N	12 55.0 +00.1	45 46.3 +02.2	S	10 42.0 -00.1	17			
18	108 03.4 +00.4	S	22 48.9 -00.3	4 19.0 +02.3	N	12 55.1 +00.1	60 48.5 +02.2	S	10 41.9 -00.1	18			
19	123 03.8 +00.4	S	22 48.6 -00.2	19 21.3 +02.2	N	12 55.2 +00.1	75 50.7 +02.2	S	10 41.8 -00.1	19			
20	138 04.2 +00.4	S	22 48.4 -00.3	34 23.5 +02.2	N	12 55.3 +00.1	90 52.9 +02.2	S	10 41.7 -00.1	20			
21	153 04.6 +00.4	S	22 48.1 -00.2	49 25.7 +02.2	N	12 55.4 +00.1	105 55.1 +02.2	S	10 41.6 -00.1	21			
22	168 05.0 +00.5	S	22 47.9 -00.3	64 27.9 +02.3	N	12 55.5 +00.1	120 57.3 +02.2	S	10 41.5 -00.1	22			
23	183 05.5 +00.4	S	22 47.6 -00.2	79 30.2 +02.2	N	12 55.6 +00.1	135 59.5 +02.2	S	10 41.4 -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 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			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						
	SHA 069° 069° 069° 069° 069° 068°			SHA 325° 325° 325° 325° 325° 325°			SHA 021° 021° 021° 021° 021° 021°						
	Greenwich Culmination Time: 10:47			Greenwich Culmination Time: 17:42			Greenwich Culmination Time: 13:57						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 41.2 -00.1	S	17 35.0 -00.7	209 32.6 -00.9	S	22 25.2 -00.1	302 10.7 -23.6	S	02 17.5 +14.1	00			
01	191 41.1 -00.1	S	17 34.3 -00.7	224 31.7 -00.9	S	22 25.1 -00.1	316 47.1 -23.7	S	02 31.6 +14.0	01			
02	206 41.0 -00.1	S	17 33.6 -00.7	239 30.8 -00.9	S	22 25.0 -00.1	331 23.4 -23.8	S	02 45.6 +14.0	02			
03	221 40.9 -00.1	S	17 32.9 -00.7	254 29.9 -00.8	S	22 24.9 -00.1	345 59.6 -23.7	S	02 59.6 +14.0	03			
04	236 40.8 -00.1	S	17 32.2 -00.7	269 29.1 -00.9	S	22 24.8 -00.1	0 35.9 -23.8	S	03 13.6 +14.0	04			
05	251 40.7 -00.1	S	17 31.5 -00.7	284 28.2 -00.9	S	22 24.7 -00.1	15 12.1 -23.7	S	03 27.6 +14.0	05			
06	266 40.6 -00.1	S	17 30.8 -00.7	299 27.3 -00.8	S	22 24.6 -00.1	29 48.4 -23.8	S	03 41.6 +14.0	06			
07	281 40.5 -00.1	S	17 30.1 -00.6	314 26.5 -00.9	S	22 24.5 -00.1	44 24.6 -23.9	S	03 55.6 +13.9	07			
08	296 40.4 -00.1	S	17 29.5 -00.7	329 25.6 -00.9	S	22 24.4 -00.1	59 00.7 -23.8	S	04 09.5 +14.0	08			
09	311 40.3 -00.1	S	17 28.8 -00.7	344 24.7 -00.9	S	22 24.3 -00.1	73 36.9 -23.9	S	04 23.5 +13.9	09			
10	326 40.2 -00.1	S	17 28.1 -00.7	359 23.8 -00.8	S	22 24.2 -00.1	88 13.0 -23.9	S	04 37.4 +14.0	10			
11	341 40.1 +00.0	S	17 27.4 -00.7	14 23.0 -00.9	S	22 24.1 -00.1	102 49.1 -23.9	S	04 51.4 +13.9	11			
12	356 40.1 -00.1	S	17 26.7 -00.7	29 22.1 -00.9	S	22 24.0 -00.1	117 25.2 -24.0	S	05 05.3 +13.9	12			
13	11 40.0 -00.1	S	17 26.0 -00.7	44 21.2 -00.9	S	22 23.9 -00.1	132 01.2 -24.0	S	05 19.2 +13.9	13			
14	26 39.9 -00.1	S	17 25.3 -00.7	59 20.3 -00.8	S	22 23.8 -00.1	146 37.2 -24.0	S	05 33.1 +13.9	14			
15	41 39.8 -00.1	S	17 24.6 -00.7	74 19.5 -00.9	S	22 23.7 -00.2	161 13.2 -24.1	S	05 47.0 +13.9	15			
16	56 39.7 -00.1	S	17 23.9 -00.7	89 18.6 -00.9	S	22 23.5 -00.1	175 49.1 -24.1	S	06 00.9 +13.9	16			
17	71 39.6 -00.1	S	17 23.2 -00.7	104 17.7 -00.8	S	22 23.4 -00.1	190 25.0 -24.1	S	06 14.8 +13.8	17			
18	86 39.5 -00.1	S	17 22.5 -00.7	119 16.9 -00.9	S	22 23.3 -00.1	205 00.9 -24.1	S	06 28.6 +13.8	18			
19	101 39.4 -00.1	S	17 21.8 -00.7	134 16.0 -00.9	S	22 23.2 -00.1	219 36.8 -24.2	S	06 42.4 +13.8	19			
20	116 39.3 -00.1	S	17 21.1 -00.7	149 15.1 -00.9	S	22 23.1 -00.1	234 12.6 -24.3	S	06 56.2 +13.8	20			
21	131 39.2 -00.1	S	17 20.4 -00.7	164 14.2 -00.8	S	22 23.0 -00.2	248 48.3 -24.3	S	07 10.0 +13.8	21			
22	146 39.1 -00.1	S	17 19.7 -00.7	179 13.4 -00.9	S	22 22.8 -00.1	263 24.0 -24.3	S	07 23.8 +13.8	22			
23	161 39.0 -00.1	S	17 19.0 -00.7	194 12.5 -00.9	S	22 22.7 -00.1	277 59.7 -24.3	S	07 37.6 +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 16'2 16'2 16'2 16'2 16'2 16'2			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 54'3 54'3 54'4 54'4 54'5						
	SHA 047° 047° 047° 046° 046° 046°			SHA 080° 079° 079° 079° 079° 079°			SHA 172° 170° 168° 166° 165° 163°						
	Greenwich Culmination Time: 12:13			Greenwich Culmination Time: 10:02			Greenwich Culmination Time: 03:57						
UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	198 05.9 +00.4	S	22 47.4 -00.3	94 32.4 +02.2	N	12 55.7 +00.1	151 01.7 +02.2	S	10 41.3 -00.1	00			
01	213 06.3 +00.4	S	22 47.1 -00.3	109 34.6 +02.2	N	12 55.8 +00.1	166 03.9 +02.2	S	10 41.2 -00.1	01			
02	228 06.7 +00.4	S	22 46.8 -00.2	124 36.8 +02.3	N	12 55.9 +00.1	181 06.1 +02.2	S	10 41.1 -00.1	02			
03	243 07.1 +00.5	S	22 46.6 -00.3	139 39.1 +02.2	N	12 56.0 +00.0	196 08.3 +02.2	S	10 41.0 -00.1	03			
04	258 07.6 +00.4	S	22 46.3 -00.2	154 41.3 +02.2	N	12 56.0 +00.1	211 10.5 +02.2	S	10 40.9 -00.1	04			
05	273 08.0 +00.4	S	22 46.1 -00.3	169 43.5 +02.2	N	12 56.1 +00.1	226 12.7 +02.2	S	10 40.8 -00.2	05			
06	288 08.4 +00.4	S	22 45.8 -00.2	184 45.7 +02.3	N	12 56.2 +00.1	241 14.9 +02.2	S	10 40.6 -00.1	06			
07	303 08.8 +00.4	S	22 45.6 -00.3	199 48.0 +02.2	N	12 56.3 +00.1	256 17.1 +02.2	S	10 40.5 -00.1	07			
08	318 09.2 +00.5	S	22 45.3 -00.3	214 50.2 +02.2	N	12 56.4 +00.1	271 19.3 +02.2	S	10 40.4 -00.1	08			
09	333 09.7 +00.4	S	22 45.0 -00.2	229 52.4 +02.2	N	12 56.5 +00.1	286 21.5 +02.2	S	10 40.3 -00.1	09			
10	348 10.1 +00.4	S	22 44.8 -00.3	244 54.6 +02.3	N	12 56.6 +00.1	301 23.7 +02.1	S	10 40.2 -00.1	10			
11	3 10.5 +00.4	S	22 44.5 -00.3	259 56.9 +02.2	N	12 56.7 +00.1	316 25.8 +02.2	S	10 40.1 -00.1	11			
12	18 10.9 +00.4	S	22 44.2 -00.2	274 59.1 +02.2	N	12 56.8 +00.1	331 28.0 +02.2	S	10 40.0 -00.1	12			
13	33 11.3 +00.5	S	22 44.0 -00.3	290 01.3 +02.2	N	12 56.9 +00.1	346 30.2 +02.2	S	10 39.9 -00.1	13			
14	48 11.8 +00.4	S	22 43.7 -00.2	305 03.5 +02.2	N	12 57.0 +00.1	1 32.4 +02.2	S	10 39.8 -00.1	14			
15	63 12.2 +00.4	S	22 43.5 -00.3	320 05.7 +02.3	N	12 57.1 +00.1	16 34.6 +02.2	S	10 39.7 -00.1	15			
16	78 12.6 +00.4	S	22 43.2 -00.3	335 08.0 +02.2	N	12 57.2 +00.1	31 36.8 +02.2	S	10 39.6 -00.1	16			
17	93 13.0 +00.4	S	22 42.9 -00.2	350 10.2 +02.2	N	12 57.3 +00.0	46 39.0 +02.2	S	10 39.5 -00.1	17			
18	108 13.4 +00.5	S	22 42.7 -00.3	5 12.4 +02.2	N	12 57.3 +00.1	61 41.2 +02.2	S	10 39.4 -00.1	18			
19	123 13.9 +00.4	S	22 42.4 -00.3	20 14.6 +02.2	N	12 57.4 +00.1	76 43.4 +02.2	S	10 39.3 -00.1	19			
20	138 14.3 +00.4	S	22 42.1 -00.2	35 16.8 +02.3	N	12 57.5 +00.1	91 45.6 +02.2	S	10 39.2 -00.1	20			
21	153 14.7 +00.4	S	22 41.9 -00.3	50 19.1 +02.2	N	12 57.6 +00.1	106 47.8 +02.2	S	10 39.1 -00.2	21			
22	168 15.1 +00.4	S	22 41.6 -00.3	65 21.3 +02.2	N	12 57.7 +00.1	121 50.0 +02.2	S	10 38.9 -00.1	22			
23	183 15.5 +00.5	S	22 41.3 -00.2	80 23.5 +02.2	N	12 57.8 +00.1	136 52.2 +02.2	S	10 38.8 -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 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			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						
	SHA 068° 068° 068° 068° 068° 068°			SHA 325° 325° 325° 325° 325° 325°			SHA 021° 021° 021° 021° 021° 021°						
	Greenwich Culmination Time: 10:47			Greenwich Culmination Time: 17:39			Greenwich Culmination Time: 13:53						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 38.9 +00.0	S	17 18.3 -00.7	209 11.6 -00.8	S	22 22.6 -00.1	292 35.4 -24.4	S	07 51.3 +13.7	00			
01	191 38.9 -00.1	S	17 17.6 -00.7	224 10.8 -00.9	S	22 22.5 -00.1	307 11.0 -24.5	S	08 05.0 +13.7	01			
02	206 38.8 -00.1	S	17 16.9 -00.7	239 09.9 -00.9	S	22 22.4 -00.2	321 46.5 -24.5	S	08 18.7 +13.7	02			
03	221 38.7 -00.1	S	17 16.2 -00.7	254 09.0 -00.9	S	22 22.2 -00.1	336 22.0 -24.5	S	08 32.4 +13.6	03			
04	236 38.6 -00.1	S	17 15.5 -00.7	269 08.1 -00.8	S	22 22.1 -00.1	350 57.5 -24.6	S	08 46.0 +13.6	04			
05	251 38.5 -00.1	S	17 14.8 -00.7	284 07.3 -00.9	S	22 22.0 -00.1	5 32.9 -24.7	S	08 59.6 +13.6	05			
06	266 38.4 -00.1	S	17 14.1 -00.7	299 06.4 -00.9	S	22 21.9 -00.2	20 08.2 -24.7	S	09 13.2 +13.6	06			
07	281 38.3 -00.1	S	17 13.4 -00.7	314 05.5 -00.8	S	22 21.7 -00.1	34 43.5 -24.7	S	09 26.8 +13.5	07			
08	296 38.2 -00.1	S	17 12.7 -00.7	329 04.7 -00.9	S	22 21.6 -00.1	49 18.8 -24.8	S	09 40.3 +13.6	08			
09	311 38.1 +00.0	S	17 12.0 -00.8	344 03.8 -00.9	S	22 21.5 -00.2	63 54.0 -24.8	S	09 53.9 +13.4	09			
10	326 38.1 -00.1	S	17 11.2 -00.7	359 02.9 -00.9	S	22 21.3 -00.1	78 29.2 -24.9	S	10 07.3 +13.5	10			
11	341 38.0 -00.1	S	17 10.5 -00.7	14 02.0 -00.8	S	22 21.2 -00.1	93 04.3 -25.0	S	10 20.8 +13.4	11			
12	356 37.9 -00.1	S	17 09.8 -00.7	29 01.2 -00.9	S	22 21.1 -00.2	107 39.3 -25.0	S	10 34.2 +13.4	12			
13	11 37.8 -00.1	S	17 09.1 -00.7	44 00.3 -00.9	S	22 20.9 -00.1	122 14.3 -25.1	S	10 47.6 +13.4	13			
14	26 37.7 -00.1	S	17 08.4 -00.7	58 59.4 -00.8	S	22 20.8 -00.1	136 49.2 -25.1	S	11 01.0 +13.3	14			
15	41 37.6 -00.1	S	17 07.7 -00.7	73 58.6 -00.9	S	22 20.7 -00.2	151 24.1 -25.2	S	11 14.3 +13.3	15			
16	56 37.5 +00.0	S	17 07.0 -00.7	88 57.7 -00.9	S	22 20.5 -00.1	165 58.9 -25.3	S	11 27.6 +13.3	16			
17	71 37.5 -00.1	S	17 06.3 -00.7	103 56.8 -00.8	S	22 20.4 -00.2	180 33.6 -25.3	S	11 40.9 +13.2	17			
18	86 37.4 -00.1	S	17 05.6 -00.7	118 56.0 -00.9	S	22 20.2 -00.1	195 08.3 -25.4	S	11 54.1 +13.2	18			
19	101 37.3 -00.1	S	17 04.9 -00.8	133 55.1 -00.9	S	22 20.1 -00.2	209 42.9 -25.5	S	12 07.3 +13.2	19			
20	116 37.2 -00.1	S	17 04.1 -00.7	148 54.2 -00.9	S	22 19.9 -00.1	224 17.4 -25.5	S	12 20.5 +13.1	20			
21	131 37.1 -00.1	S	17 03.4 -00.7	163 53.3 -00.8	S	22 19.8 -00.2	238 51.9 -25.6	S	12 33.6 +13.1	21			
22	146 37.0 +00.0	S	17 02.7 -00.7	178 52.5 -00.9	S	22 19.6 -00.1	253 26.3 -25.7	S	12 46.7 +13.0	22			
23	161 37.0 -00.1	S	17 02.0 -00.7	193 51.6 -00.9	S	22 19.5 -00.1	268 00.6 -25.7	S	12 59.7 +13.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 14'9 14'9 14'9 14'9 14'9 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 54'5 54'6 54'7 54'7 54'8 54'9						
	SHA 046° 046° 046° 045° 045° 045°			SHA 078° 078° 078° 078° 077° 077°			SHA 161° 159° 157° 156° 154° 152°						
	Greenwich Culmination Time: 12:13			Greenwich Culmination Time: 10:03			Greenwich Culmination Time: 04:37						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	198 16.0 +00.4	S	22 41.1 -00.3	95 25.7 +02.2	N	12 57.9 +00.1	151 54.4 +02.2	S	10 38.7 -00.1	00			
01	213 16.4 +00.4	S	22 40.8 -00.3	110 27.9 +02.3	N	12 58.0 +00.1	166 56.6 +02.2	S	10 38.6 -00.1	01			
02	228 16.8 +00.4	S	22 40.5 -00.2	125 30.2 +02.2	N	12 58.1 +00.1	181 58.8 +02.1	S	10 38.5 -00.1	02			
03	243 17.2 +00.4	S	22 40.3 -00.3	140 32.4 +02.2	N	12 58.2 +00.1	197 00.9 +02.2	S	10 38.4 -00.1	03			
04	258 17.6 +00.5	S	22 40.0 -00.3	155 34.6 +02.2	N	12 58.3 +00.1	212 03.1 +02.2	S	10 38.3 -00.1	04			
05	273 18.1 +00.4	S	22 39.7 -00.3	170 36.8 +02.2	N	12 58.4 +00.1	227 05.3 +02.2	S	10 38.2 -00.1	05			
06	288 18.5 +00.4	S	22 39.4 -00.2	185 39.0 +02.2	N	12 58.5 +00.1	242 07.5 +02.2	S	10 38.1 -00.1	06			
07	303 18.9 +00.4	S	22 39.2 -00.3	200 41.2 +02.3	N	12 58.6 +00.1	257 09.7 +02.2	S	10 38.0 -00.1	07			
08	318 19.3 +00.4	S	22 38.9 -00.3	215 43.5 +02.2	N	12 58.7 +00.1	272 11.9 +02.2	S	10 37.9 -00.1	08			
09	333 19.7 +00.5	S	22 38.6 -00.2	230 45.7 +02.2	N	12 58.8 +00.1	287 14.1 +02.2	S	10 37.8 -00.1	09			
10	348 20.2 +00.4	S	22 38.4 -00.3	245 47.9 +02.2	N	12 58.9 +00.1	302 16.3 +02.2	S	10 37.7 -00.1	10			
11	3 20.6 +00.4	S	22 38.1 -00.3	260 50.1 +02.2	N	12 59.0 +00.0	317 18.5 +02.2	S	10 37.6 -00.1	11			
12	18 21.0 +00.4	S	22 37.8 -00.3	275 52.3 +02.2	N	12 59.0 +00.1	332 20.7 +02.2	S	10 37.5 -00.2	12			
13	33 21.4 +00.4	S	22 37.5 -00.2	290 54.5 +02.2	N	12 59.1 +00.1	347 22.9 +02.2	S	10 37.3 -00.1	13			
14	48 21.8 +00.5	S	22 37.3 -00.3	305 56.7 +02.3	N	12 59.2 +00.1	2 25.1 +02.2	S	10 37.2 -00.1	14			
15	63 22.3 +00.4	S	22 37.0 -00.3	320 59.0 +02.2	N	12 59.3 +00.1	17 27.3 +02.2	S	10 37.1 -00.1	15			
16	78 22.7 +00.4	S	22 36.7 -00.2	336 01.2 +02.2	N	12 59.4 +00.1	32 29.5 +02.2	S	10 37.0 -00.1	16			
17	93 23.1 +00.4	S	22 36.5 -00.3	351 03.4 +02.2	N	12 59.5 +00.1	47 31.7 +02.1	S	10 36.9 -00.1	17			
18	108 23.5 +00.5	S	22 36.2 -00.3	6 05.6 +02.2	N	12 59.6 +00.1	62 33.8 +02.2	S	10 36.8 -00.1	18			
19	123 24.0 +00.4	S	22 35.9 -00.3	21 07.8 +02.2	N	12 59.7 +00.1	77 36.0 +02.2	S	10 36.7 -00.1	19			
20	138 24.4 +00.4	S	22 35.6 -00.3	36 10.0 +02.2	N	12 59.8 +00.1	92 38.2 +02.2	S	10 36.6 -00.1	20			
21	153 24.8 +00.4	S	22 35.3 -00.2	51 12.2 +02.3	N	12 59.9 +00.1	107 40.4 +02.2	S	10 36.5 -00.1	21			
22	168 25.2 +00.4	S	22 35.1 -00.3	66 14.5 +02.2	N	13 00.0 +00.1	122 42.6 +02.2	S	10 36.4 -00.1	22			
23	183 25.6 +00.5	S	22 34.8 -00.3	81 16.7 +02.2	N	13 00.1 +00.1	137 44.8 +02.2	S	10 36.3 -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 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			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						
	SHA 067° 067° 067° 067° 067° 067°			SHA 325° 325° 325° 325° 325° 325°			SHA 021° 021° 021° 021° 021° 021°						
	Greenwich Culmination Time: 10:46			Greenwich Culmination Time: 17:35			Greenwich Culmination Time: 13:50						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 36.9 -00.1	S	17 01.3 -00.7	208 50.7 -00.8	S	22 19.4 -00.2	282 34.9 -25.8	S	13 12.7 +13.0	00			
01	191 36.8 -00.1	S	17 00.6 -00.7	223 49.9 -00.9	S	22 19.2 -00.1	297 09.1 -25.9	S	13 25.7 +12.9	01			
02	206 36.7 -00.1	S	16 59.9 -00.8	238 49.0 -00.9	S	22 19.1 -00.2	311 43.2 -26.0	S	13 38.6 +12.9	02			
03	221 36.6 -00.1	S	16 59.1 -00.7	253 48.1 -00.8	S	22 18.9 -00.2	326 17.2 -26.0	S	13 51.5 +12.8	03			
04	236 36.5 +00.0	S	16 58.4 -00.7	268 47.3 -00.9	S	22 18.7 -00.1	340 51.2 -26.1	S	14 04.3 +12.8	04			
05	251 36.5 -00.1	S	16 57.7 -00.7	283 46.4 -00.9	S	22 18.6 -00.2	355 25.1 -26.2	S	14 17.1 +12.8	05			
06	266 36.4 -00.1	S	16 57.0 -00.7	298 45.5 -00.9	S	22 18.4 -00.1	9 58.9 -26.3	S	14 29.9 +12.7	06			
07	281 36.3 -00.1	S	16 56.3 -00.7	313 44.6 -00.8	S	22 18.3 -00.2	24 32.6 -26.3	S	14 42.6 +12.6	07			
08	296 36.2 -00.1	S	16 55.6 -00.8	328 43.8 -00.9	S	22 18.1 -00.1	39 06.3 -26.5	S	14 55.2 +12.6	08			
09	311 36.1 +00.0	S	16 54.8 -00.7	343 42.9 -00.9	S	22 18.0 -00.2	53 39.8 -26.5	S	15 07.8 +12.6	09			
10	326 36.1 -00.1	S	16 54.1 -00.7	358 42.0 -00.8	S	22 17.8 -00.2	68 13.3 -26.6	S	15 20.4 +12.5	10			
11	341 36.0 -00.1	S	16 53.4 -00.7	13 41.2 -00.9	S	22 17.6 -00.1	82 46.7 -26.7	S	15 32.9 +12.4	11			
12	356 35.9 -00.1	S	16 52.7 -00.7	28 40.3 -00.9	S	22 17.5 -00.2	97 20.0 -26.7	S	15 45.3 +12.4	12			
13	11 35.8 +00.0	S	16 52.0 -00.8	43 39.4 -00.8	S	22 17.3 -00.2	111 53.3 -26.9	S	15 57.7 +12.3	13			
14	26 35.8 -00.1	S	16 51.2 -00.7	58 38.6 -00.9	S	22 17.1 -00.1	126 26.4 -26.9	S	16 10.0 +12.3	14			
15	41 35.7 -00.1	S	16 50.5 -00.7	73 37.7 -00.9	S	22 17.0 -00.2	140 59.5 -27.1	S	16 22.3 +12.2	15			
16	56 35.6 -00.1	S	16 49.8 -00.7	88 36.8 -00.8	S	22 16.8 -00.2	155 32.4 -27.1	S	16 34.5 +12.2	16			
17	71 35.5 +00.0	S	16 49.1 -00.8	103 36.0 -00.9	S	22 16.6 -00.1	170 05.3 -27.2	S	16 46.7 +12.1	17			
18	86 35.5 -00.1	S	16 48.3 -00.7	118 35.1 -00.9	S	22 16.5 -00.2	184 38.1 -27.3	S	16 58.8 +12.1	18			
19	101 35.4 -00.1	S	16 47.6 -00.7	133 34.2 -00.8	S	22 16.3 -00.2	199 10.8 -27.4	S	17 10.9 +12.0	19			
20	116 35.3 -00.1	S	16 46.9 -00.7	148 33.4 -00.9	S	22 16.1 -00.1	213 43.4 -27.5	S	17 22.9 +11.9	20			
21	131 35.2 +00.0	S	16 46.2 -00.8	163 32.5 -00.9	S	22 16.0 -00.2	228 15.9 -27.6	S	17 34.8 +11.8	21			
22	146 35.2 -00.1	S	16 45.4 -00.7	178 31.6 -00.8	S	22 15.8 -00.2	242 48.3 -27.7	S	17 46.6 +11.8	22			
23	161 35.1 -00.1	S	16 44.7 -00.7	193 30.8 -00.9	S	22 15.6 -00.2	257 20.6 -27.8	S	17 58.4 +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 16'2 16'2 16'2 16'2 16'2 16'2			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 55'0 55'1 55'2 55'3 55'4 55'5						
	SHA 045° 045° 044° 044° 044° 044°			SHA 077° 077° 077° 076° 076° 076°			SHA 150° 148° 146° 144° 142° 140°						
	Greenwich Culmination Time: 12:13			Greenwich Culmination Time: 10:05			Greenwich Culmination Time: 05:18						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	198 26.1 +00.4	S	22 34.5 -00.3	96 18.9 +02.2	N	13 00.2 +00.1	152 47.0 +02.2	S	10 36.2 -00.1	00			
01	213 26.5 +00.4	S	22 34.2 -00.2	111 21.1 +02.2	N	13 00.3 +00.1	167 49.2 +02.2	S	10 36.1 -00.1	01			
02	228 26.9 +00.4	S	22 34.0 -00.3	126 23.3 +02.2	N	13 00.4 +00.1	182 51.4 +02.2	S	10 36.0 -00.2	02			
03	243 27.3 +00.5	S	22 33.7 -00.3	141 25.5 +02.2	N	13 00.5 +00.1	197 53.6 +02.2	S	10 35.8 -00.1	03			
04	258 27.8 +00.4	S	22 33.4 -00.3	156 27.7 +02.2	N	13 00.6 +00.1	212 55.8 +02.2	S	10 35.7 -00.1	04			
05	273 28.2 +00.4	S	22 33.1 -00.3	171 29.9 +02.2	N	13 00.7 +00.1	227 58.0 +02.2	S	10 35.6 -00.1	05			
06	288 28.6 +00.4	S	22 32.8 -00.2	186 32.1 +02.3	N	13 00.8 +00.1	243 00.2 +02.1	S	10 35.5 -00.1	06			
07	303 29.0 +00.4	S	22 32.6 -00.3	201 34.4 +02.2	N	13 00.9 +00.1	258 02.3 +02.2	S	10 35.4 -00.1	07			
08	318 29.4 +00.5	S	22 32.3 -00.3	216 36.6 +02.2	N	13 01.0 +00.1	273 04.5 +02.2	S	10 35.3 -00.1	08			
09	333 29.9 +00.4	S	22 32.0 -00.3	231 38.8 +02.2	N	13 01.1 +00.1	288 06.7 +02.2	S	10 35.2 -00.1	09			
10	348 30.3 +00.4	S	22 31.7 -00.3	246 41.0 +02.2	N	13 01.2 +00.1	303 08.9 +02.2	S	10 35.1 -00.1	10			
11	3 30.7 +00.4	S	22 31.4 -00.3	261 43.2 +02.2	N	13 01.3 +00.1	318 11.1 +02.2	S	10 35.0 -00.1	11			
12	18 31.1 +00.5	S	22 31.1 -00.2	276 45.4 +02.2	N	13 01.4 +00.1	333 13.3 +02.2	S	10 34.9 -00.1	12			
13	33 31.6 +00.4	S	22 30.9 -00.3	291 47.6 +02.2	N	13 01.5 +00.1	348 15.5 +02.2	S	10 34.8 -00.1	13			
14	48 32.0 +00.4	S	22 30.6 -00.3	306 49.8 +02.2	N	13 01.6 +00.0	3 17.7 +02.2	S	10 34.7 -00.1	14			
15	63 32.4 +00.4	S	22 30.3 -00.3	321 52.0 +02.2	N	13 01.6 +00.1	18 19.9 +02.2	S	10 34.6 -00.2	15			
16	78 32.8 +00.5	S	22 30.0 -00.3	336 54.2 +02.2	N	13 01.7 +00.1	33 22.1 +02.2	S	10 34.4 -00.1	16			
17	93 33.3 +00.4	S	22 29.7 -00.3	351 56.4 +02.2	N	13 01.8 +00.1	48 24.3 +02.2	S	10 34.3 -00.1	17			
18	108 33.7 +00.4	S	22 29.4 -00.2	6 58.6 +02.3	N	13 01.9 +00.1	63 26.5 +02.1	S	10 34.2 -00.1	18			
19	123 34.1 +00.4	S	22 29.2 -00.3	22 00.9 +02.2	N	13 02.0 +00.1	78 28.6 +02.2	S	10 34.1 -00.1	19			
20	138 34.5 +00.4	S	22 28.9 -00.3	37 03.1 +02.2	N	13 02.1 +00.1	93 30.8 +02.2	S	10 34.0 -00.1	20			
21	153 34.9 +00.5	S	22 28.6 -00.3	52 05.3 +02.2	N	13 02.2 +00.1	108 33.0 +02.2	S	10 33.9 -00.1	21			
22	168 35.4 +00.4	S	22 28.3 -00.3	67 07.5 +02.2	N	13 02.3 +00.1	123 35.2 +02.2	S	10 33.8 -00.1	22			
23	183 35.8 +00.4	S	22 28.0 -00.3	82 09.7 +02.2	N	13 02.4 +00.1	138 37.4 +02.2	S	10 33.7 -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 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			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						
	SHA 067° 067° 066° 066° 066° 066°			SHA 325° 325° 325° 325° 325° 325°			SHA 021° 021° 021° 021° 021° 021°						
	Greenwich Culmination Time: 10:45			Greenwich Culmination Time: 17:32			Greenwich Culmination Time: 13:46						

UT	Sun				Venus				Moon				UT	
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec		
00	176 35.0 -00.1	S 16 44.0 -00.7	208 29.9 -00.9	S 22 15.4 -00.1	271 52.8 -27.9	S 18 10.2 +11.6	00							
01	191 34.9 +00.0	S 16 43.3 -00.8	223 29.0 -00.8	S 22 15.3 -00.2	286 24.9 -28.0	S 18 21.8 +11.6	01							
02	206 34.9 -00.1	S 16 42.5 -00.7	238 28.2 -00.9	S 22 15.1 -00.2	300 56.9 -28.1	S 18 33.4 +11.6	02							
03	221 34.8 -00.1	S 16 41.8 -00.7	253 27.3 -00.9	S 22 14.9 -00.2	315 28.8 -28.2	S 18 45.0 +11.4	03							
04	236 34.7 -00.1	S 16 41.1 -00.7	268 26.4 -00.8	S 22 14.7 -00.2	330 00.6 -28.3	S 18 56.4 +11.4	04							
05	251 34.6 +00.0	S 16 40.4 -00.8	283 25.6 -00.9	S 22 14.5 -00.2	344 32.3 -28.4	S 19 07.8 +11.3	05							
06	266 34.6 -00.1	S 16 39.6 -00.7	298 24.7 -00.9	S 22 14.3 -00.1	359 03.9 -28.5	S 19 19.1 +11.3	06							
07	281 34.5 -00.1	S 16 38.9 -00.7	313 23.8 -00.9	S 22 14.2 -00.2	13 35.4 -28.7	S 19 30.4 +11.1	07							
08	296 34.4 +00.0	S 16 38.2 -00.8	328 22.9 -00.8	S 22 14.0 -00.2	28 06.7 -28.7	S 19 41.5 +11.1	08							
09	311 34.4 -00.1	S 16 37.4 -00.7	343 22.1 -00.9	S 22 13.8 -00.2	42 38.0 -28.8	S 19 52.6 +11.0	09							
10	326 34.3 -00.1	S 16 36.7 -00.7	358 21.2 -00.8	S 22 13.6 -00.2	57 09.2 -29.0	S 20 03.6 +10.9	10							
11	341 34.2 -00.1	S 16 36.0 -00.8	13 20.4 -00.9	S 22 13.4 -00.2	71 40.2 -29.0	S 20 14.5 +10.9	11							
12	356 34.1 +00.0	S 16 35.2 -00.7	28 19.5 -00.9	S 22 13.2 -00.2	86 11.2 -29.2	S 20 25.4 +10.8	12							
13	11 34.1 -00.1	S 16 34.5 -00.7	43 18.6 -00.8	S 22 13.0 -00.2	100 42.0 -29.3	S 20 36.2 +10.6	13							
14	26 34.0 -00.1	S 16 33.8 -00.8	58 17.8 -00.9	S 22 12.8 -00.2	115 12.7 -29.3	S 20 46.8 +10.6	14							
15	41 33.9 +00.0	S 16 33.0 -00.7	73 16.9 -00.9	S 22 12.6 -00.2	129 43.4 -29.5	S 20 57.4 +10.5	15							
16	56 33.9 -00.1	S 16 32.3 -00.7	88 16.0 -00.8	S 22 12.4 -00.2	144 13.9 -29.7	S 21 07.9 +10.5	16							
17	71 33.8 -00.1	S 16 31.6 -00.8	103 15.2 -00.9	S 22 12.2 -00.2	158 44.2 -29.7	S 21 18.4 +10.3	17							
18	86 33.7 +00.0	S 16 30.8 -00.7	118 14.3 -00.9	S 22 12.0 -00.1	173 14.5 -29.8	S 21 28.7 +10.2	18							
19	101 33.7 -00.1	S 16 30.1 -00.7	133 13.4 -00.8	S 22 11.9 -00.2	187 44.7 -30.0	S 21 38.9 +10.2	19							
20	116 33.6 -00.1	S 16 29.4 -00.8	148 12.6 -00.9	S 22 11.7 -00.3	202 14.7 -30.1	S 21 49.1 +10.1	20							
21	131 33.5 +00.0	S 16 28.6 -00.7	163 11.7 -00.9	S 22 11.4 -00.2	216 44.6 -30.2	S 21 59.2 +09.9	21							
22	146 33.5 -00.1	S 16 27.9 -00.8	178 10.8 -00.8	S 22 11.2 -00.2	231 14.4 -30.3	S 22 09.1 +09.9	22							
23	161 33.4 -00.1	S 16 27.1 -00.7	193 10.0 -00.9	S 22 11.0 -00.2	245 44.1 -30.4	S 22 19.0 +09.7	23							
UT 02 06 10 14 18 22	SD 16'2 16'2 16'2 16'2 16'2 16'2	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 044° 044° 043° 043° 043° 043°	Greenwich Culmination Time: 12:13	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 076° 075° 075° 075° 075° 075°	Greenwich Culmination Time: 10:06	UT 02 06 10 14 18 22	SD 15'2 15'2 15'2 15'3 15'3 15'3	HP 55'6 55'8 55'9 56'0 56'2 56'3	SHA 138° 136° 134° 132° 130° 128°	Greenwich Culmination Time: 06:03

UT	Mars				Jupiter				Saturn				UT	
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec		
00	198 36.2 +00.4	S 22 27.7 -00.3	97 11.9 +02.2	N 13 02.5 +00.1	153 39.6 +02.2	S 10 33.6 -00.1	00							
01	213 36.6 +00.5	S 22 27.4 -00.3	112 14.1 +02.2	N 13 02.6 +00.1	168 41.8 +02.2	S 10 33.5 -00.1	01							
02	228 37.1 +00.4	S 22 27.1 -00.3	127 16.3 +02.2	N 13 02.7 +00.1	183 44.0 +02.2	S 10 33.4 -00.1	02							
03	243 37.5 +00.4	S 22 26.8 -00.2	142 18.5 +02.2	N 13 02.8 +00.1	198 46.2 +02.2	S 10 33.3 -00.1	03							
04	258 37.9 +00.4	S 22 26.6 -00.3	157 20.7 +02.2	N 13 02.9 +00.1	213 48.4 +02.2	S 10 33.2 -00.2	04							
05	273 38.3 +00.5	S 22 26.3 -00.3	172 22.9 +02.2	N 13 03.0 +00.1	228 50.6 +02.2	S 10 33.0 -00.1	05							
06	288 38.8 +00.4	S 22 26.0 -00.3	187 25.1 +02.2	N 13 03.1 +00.1	243 52.8 +02.1	S 10 32.9 -00.1	06							
07	303 39.2 +00.4	S 22 25.7 -00.3	202 27.3 +02.2	N 13 03.2 +00.1	258 54.9 +02.2	S 10 32.8 -00.1	07							
08	318 39.6 +00.4	S 22 25.4 -00.3	217 29.5 +02.2	N 13 03.3 +00.1	273 57.1 +02.2	S 10 32.7 -00.1	08							
09	333 40.0 +00.5	S 22 25.1 -00.3	232 31.7 +02.2	N 13 03.4 +00.1	288 59.3 +02.2	S 10 32.6 -00.1	09							
10	348 40.5 +00.4	S 22 24.8 -00.3	247 33.9 +02.2	N 13 03.5 +00.1	304 01.5 +02.2	S 10 32.5 -00.1	10							
11	3 40.9 +00.4	S 22 24.5 -00.3	262 36.1 +02.2	N 13 03.6 +00.1	319 03.7 +02.2	S 10 32.4 -00.1	11							
12	18 41.3 +00.4	S 22 24.2 -00.3	277 38.3 +02.2	N 13 03.7 +00.1	334 05.9 +02.2	S 10 32.3 -00.1	12							
13	33 41.7 +00.5	S 22 23.9 -00.3	292 40.5 +02.2	N 13 03.8 +00.1	349 08.1 +02.2	S 10 32.2 -00.1	13							
14	48 42.2 +00.4	S 22 23.6 -00.3	307 42.7 +02.2	N 13 03.9 +00.1	4 10.3 +02.2	S 10 32.1 -00.1	14							
15	63 42.6 +00.4	S 22 23.3 -00.3	322 44.9 +02.2	N 13 04.0 +00.1	19 12.5 +02.2	S 10 32.0 -00.1	15							
16	78 43.0 +00.4	S 22 23.0 -00.2	337 47.1 +02.2	N 13 04.1 +00.1	34 14.7 +02.1	S 10 31.9 -00.1	16							
17	93 43.4 +00.5	S 22 22.8 -00.3	352 49.3 +02.2	N 13 04.2 +00.1	49 16.8 +02.2	S 10 31.8 -00.2	17							
18	108 43.9 +00.4	S 22 22.5 -00.3	7 51.5 +02.2	N 13 04.3 +00.1	64 19.0 +02.2	S 10 31.6 -00.1	18							
19	123 44.3 +00.4	S 22 22.2 -00.3	22 53.7 +02.2	N 13 04.4 +00.1	79 21.2 +02.2	S 10 31.5 -00.1	19							
20	138 44.7 +00.4	S 22 21.9 -00.3	37 55.9 +02.2	N 13 04.5 +00.1	94 23.4 +02.2	S 10 31.4 -00.1	20							
21	153 45.1 +00.5	S 22 21.6 -00.3	52 58.1 +02.2	N 13 04.6 +00.1	109 25.6 +02.2	S 10 31.3 -00.1	21							
22	168 45.6 +00.4	S 22 21.3 -00.3	68 00.3 +02.2	N 13 04.7 +00.1	124 27.8 +02.2	S 10 31.2 -00.1	22							
23	183 46.0 +00.4	S 22 21.0 -00.3	83 02.5 +02.2	N 13 04.8 +00.1	139 30.0 +02.2	S 10 31.1 -00.1	23							
UT 02 06 10 14 18 22	SD 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 066° 066° 066° 065° 065° 065°	Greenwich Culmination Time: 10:45	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 325° 324° 324° 324° 324° 324°	Greenwich Culmination Time: 17:28	UT 02 06 10 14 18 22	SD 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	SHA 021° 021° 021° 021° 021° 021°	Greenwich Culmination Time: 13:43

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 33.3 +00.0	S 16 26.4 -00.7	208 09.1 -00.9	S 22 10.8 -00.2	260 13.7 -30.6	S 22 28.7 +09.7	00						
01	191 33.3 -00.1	S 16 25.7 -00.8	223 08.2 -00.8	S 22 10.6 -00.2	274 43.1 -30.6	S 22 38.4 +09.6	01						
02	206 33.2 -00.1	S 16 24.9 -00.7	238 07.4 -00.9	S 22 10.4 -00.2	289 12.5 -30.8	S 22 48.0 +09.4	02						
03	221 33.1 +00.0	S 16 24.2 -00.8	253 06.5 -00.9	S 22 10.2 -00.2	303 41.7 -30.9	S 22 57.4 +09.4	03						
04	236 33.1 -00.1	S 16 23.4 -00.7	268 05.6 -00.8	S 22 10.0 -00.2	318 10.8 -31.1	S 23 06.8 +09.3	04						
05	251 33.0 -00.1	S 16 22.7 -00.7	283 04.8 -00.9	S 22 09.8 -00.2	332 39.7 -31.1	S 23 16.1 +09.1	05						
06	266 32.9 +00.0	S 16 22.0 -00.8	298 03.9 -00.9	S 22 09.6 -00.2	347 08.6 -31.3	S 23 25.2 +09.1	06						
07	281 32.9 -00.1	S 16 21.2 -00.7	313 03.0 -00.8	S 22 09.4 -00.2	1 37.3 -31.4	S 23 34.3 +08.9	07						
08	296 32.8 +00.0	S 16 20.5 -00.8	328 02.2 -00.9	S 22 09.2 -00.3	16 05.9 -31.5	S 23 43.2 +08.8	08						
09	311 32.8 -00.1	S 16 19.7 -00.7	343 01.3 -00.8	S 22 08.9 -00.2	30 34.4 -31.7	S 23 52.0 +08.7	09						
10	326 32.7 -00.1	S 16 19.0 -00.8	358 00.5 -00.9	S 22 08.7 -00.2	45 02.7 -31.7	S 24 00.7 +08.6	10						
11	341 32.6 +00.0	S 16 18.2 -00.7	12 59.6 -00.9	S 22 08.5 -00.2	59 31.0 -31.9	S 24 09.3 +08.5	11						
12	356 32.6 -00.1	S 16 17.5 -00.7	27 58.7 -00.8	S 22 08.3 -00.2	73 59.1 -32.0	S 24 17.8 +08.3	12						
13	11 32.5 +00.0	S 16 16.8 -00.8	42 57.9 -00.9	S 22 08.1 -00.2	88 27.1 -32.1	S 24 26.1 +08.3	13						
14	26 32.5 -00.1	S 16 16.0 -00.7	57 57.0 -00.9	S 22 07.9 -00.3	102 55.0 -32.3	S 24 34.4 +08.1	14						
15	41 32.4 -00.1	S 16 15.3 -00.8	72 56.1 -00.8	S 22 07.6 -00.2	117 22.7 -32.4	S 24 42.5 +08.0	15						
16	56 32.3 +00.0	S 16 14.5 -00.7	87 55.3 -00.9	S 22 07.4 -00.2	131 50.3 -32.5	S 24 50.5 +07.9	16						
17	71 32.3 -00.1	S 16 13.8 -00.8	102 54.4 -00.8	S 22 07.2 -00.2	146 17.8 -32.6	S 24 58.4 +07.7	17						
18	86 32.2 +00.0	S 16 13.0 -00.7	117 53.6 -00.9	S 22 07.0 -00.3	160 45.2 -32.7	S 25 06.1 +07.6	18						
19	101 32.2 -00.1	S 16 12.3 -00.8	132 52.7 -00.9	S 22 06.7 -00.2	175 12.5 -32.9	S 25 13.7 +07.5	19						
20	116 32.1 -00.1	S 16 11.5 -00.7	147 51.8 -00.8	S 22 06.5 -00.2	189 39.6 -33.0	S 25 21.2 +07.4	20						
21	131 32.0 +00.0	S 16 10.8 -00.8	162 51.0 -00.9	S 22 06.3 -00.3	204 06.6 -33.1	S 25 28.6 +07.2	21						
22	146 32.0 -00.1	S 16 10.0 -00.7	177 50.1 -00.9	S 22 06.0 -00.2	218 33.5 -33.2	S 25 35.8 +07.1	22						
23	161 31.9 +00.0	S 16 09.3 -00.8	192 49.2 -00.8	S 22 05.8 -00.2	233 00.3 -33.4	S 25 42.9 +06.9	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'2 16'2 16'2 16'2 16'2 16'2		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 15'4 15'4 15'5 15'5 15'5 15'6								
	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 56'4 56'6 56'7 56'9 57'0 57'2								
	SHA 043° 043° 042° 042° 042° 042°		SHA 074° 074° 074° 074° 073° 073°		SHA 125° 123° 121° 119° 116° 114°								
	Greenwich Culmination Time: 12:13		Greenwich Culmination Time: 10:07		Greenwich Culmination Time: 06:53								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	198 46.4 +00.4	S 22 20.7 -00.3	98 04.7 +02.2	N 13 04.9 +00.1	154 32.2 +02.2	S 10 31.0 -00.1	00						
01	213 46.8 +00.5	S 22 20.4 -00.3	113 06.9 +02.2	N 13 05.0 +00.1	169 34.4 +02.2	S 10 30.9 -00.1	01						
02	228 47.3 +00.4	S 22 20.1 -00.3	128 09.1 +02.2	N 13 05.1 +00.1	184 36.6 +02.2	S 10 30.8 -00.1	02						
03	243 47.7 +00.4	S 22 19.8 -00.3	143 11.3 +02.2	N 13 05.2 +00.1	199 38.8 +02.1	S 10 30.7 -00.1	03						
04	258 48.1 +00.4	S 22 19.5 -00.3	158 13.5 +02.2	N 13 05.3 +00.1	214 40.9 +02.2	S 10 30.6 -00.1	04						
05	273 48.5 +00.5	S 22 19.2 -00.3	173 15.7 +02.2	N 13 05.4 +00.1	229 43.1 +02.2	S 10 30.5 -00.2	05						
06	288 49.0 +00.4	S 22 18.9 -00.3	188 17.9 +02.2	N 13 05.5 +00.1	244 45.3 +02.2	S 10 30.3 -00.1	06						
07	303 49.4 +00.4	S 22 18.6 -00.3	203 20.1 +02.2	N 13 05.6 +00.1	259 47.5 +02.2	S 10 30.2 -00.1	07						
08	318 49.8 +00.4	S 22 18.3 -00.3	218 22.3 +02.2	N 13 05.7 +00.1	274 49.7 +02.2	S 10 30.1 -00.1	08						
09	333 50.2 +00.5	S 22 18.0 -00.3	233 24.5 +02.2	N 13 05.8 +00.1	289 51.9 +02.2	S 10 30.0 -00.1	09						
10	348 50.7 +00.4	S 22 17.7 -00.3	248 26.7 +02.2	N 13 05.9 +00.1	304 54.1 +02.2	S 10 29.9 -00.1	10						
11	3 51.1 +00.4	S 22 17.4 -00.3	263 28.9 +02.2	N 13 06.0 +00.1	319 56.3 +02.2	S 10 29.8 -00.1	11						
12	18 51.5 +00.5	S 22 17.1 -00.3	278 31.1 +02.2	N 13 06.1 +00.1	334 58.5 +02.1	S 10 29.7 -00.1	12						
13	33 52.0 +00.4	S 22 16.8 -00.3	293 33.3 +02.2	N 13 06.2 +00.1	350 00.6 +02.2	S 10 29.6 -00.1	13						
14	48 52.4 +00.4	S 22 16.5 -00.4	308 35.5 +02.2	N 13 06.3 +00.1	5 02.8 +02.2	S 10 29.5 -00.1	14						
15	63 52.8 +00.4	S 22 16.1 -00.3	323 37.7 +02.1	N 13 06.4 +00.1	20 05.0 +02.2	S 10 29.4 -00.1	15						
16	78 53.2 +00.5	S 22 15.8 -00.3	338 39.8 +02.2	N 13 06.5 +00.1	35 07.2 +02.2	S 10 29.3 -00.1	16						
17	93 53.7 +00.4	S 22 15.5 -00.3	353 42.0 +02.2	N 13 06.6 +00.1	50 09.4 +02.2	S 10 29.2 -00.2	17						
18	108 54.1 +00.4	S 22 15.2 -00.3	8 44.2 +02.2	N 13 06.7 +00.1	65 11.6 +02.2	S 10 29.0 -00.1	18						
19	123 54.5 +00.4	S 22 14.9 -00.3	23 46.4 +02.2	N 13 06.8 +00.1	80 13.8 +02.2	S 10 28.9 -00.1	19						
20	138 54.9 +00.5	S 22 14.6 -00.3	38 48.6 +02.2	N 13 06.9 +00.1	95 16.0 +02.2	S 10 28.8 -00.1	20						
21	153 55.4 +00.4	S 22 14.3 -00.3	53 50.8 +02.2	N 13 07.0 +00.1	110 18.2 +02.2	S 10 28.7 -00.1	21						
22	168 55.8 +00.4	S 22 14.0 -00.3	68 53.0 +02.2	N 13 07.1 +00.1	125 20.4 +02.1	S 10 28.6 -00.1	22						
23	183 56.2 +00.5	S 22 13.7 -00.3	83 55.2 +02.2	N 13 07.2 +00.2	140 22.5 +02.2	S 10 28.5 -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 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		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								
	SHA 065° 065° 065° 065° 064° 064°		SHA 324° 324° 324° 324° 324° 324°		SHA 021° 021° 021° 021° 021° 021°								
	Greenwich Culmination Time: 10:44		Greenwich Culmination Time: 17:25		Greenwich Culmination Time: 13:39								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT				
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec					
00	176 31.9 -00.1	S	16 08.5 -00.7	207 48.4 -00.9	S	22 05.6 -00.3	247 26.9 -33.5	S	25 49.8 +06.8	00							
01	191 31.8 +00.0	S	16 07.8 -00.8	222 47.5 -00.8	S	22 05.3 -00.2	261 53.4 -33.6	S	25 56.6 +06.7	01							
02	206 31.8 -00.1	S	16 07.0 -00.7	237 46.7 -00.9	S	22 05.1 -00.2	276 19.8 -33.7	S	26 03.3 +06.6	02							
03	221 31.7 -00.1	S	16 06.3 -00.8	252 45.8 -00.9	S	22 04.9 -00.3	290 46.1 -33.8	S	26 09.9 +06.3	03							
04	236 31.6 +00.0	S	16 05.5 -00.7	267 44.9 -00.8	S	22 04.6 -00.2	305 12.3 -34.0	S	26 16.2 +06.3	04							
05	251 31.6 -00.1	S	16 04.8 -00.8	282 44.1 -00.9	S	22 04.4 -00.2	319 38.3 -34.0	S	26 22.5 +06.1	05							
06	266 31.5 +00.0	S	16 04.0 -00.7	297 43.2 -00.8	S	22 04.2 -00.3	334 04.3 -34.2	S	26 28.6 +06.0	06							
07	281 31.5 -00.1	S	16 03.3 -00.8	312 42.4 -00.9	S	22 03.9 -00.2	348 30.1 -34.3	S	26 34.6 +05.8	07							
08	296 31.4 +00.0	S	16 02.5 -00.8	327 41.5 -00.9	S	22 03.7 -00.3	2 55.8 -34.4	S	26 40.4 +05.6	08							
09	311 31.4 -00.1	S	16 01.7 -00.7	342 40.6 -00.8	S	22 03.4 -00.2	17 21.4 -34.6	S	26 46.0 +05.5	09							
10	326 31.3 +00.0	S	16 01.0 -00.8	357 39.8 -00.9	S	22 03.2 -00.2	31 46.8 -34.6	S	26 51.5 +05.4	10							
11	341 31.3 -00.1	S	16 00.2 -00.7	12 38.9 -00.8	S	22 03.0 -00.3	46 12.2 -34.8	S	26 56.9 +05.2	11							
12	356 31.2 -00.1	S	15 59.5 -00.8	27 38.1 -00.9	S	22 02.7 -00.2	60 37.4 -34.8	S	27 02.1 +05.0	12							
13	11 31.1 +00.0	S	15 58.7 -00.7	42 37.2 -00.9	S	22 02.5 -00.3	75 02.6 -35.0	S	27 07.1 +04.9	13							
14	26 31.1 -00.1	S	15 58.0 -00.8	57 36.3 -00.8	S	22 02.2 -00.2	89 27.6 -35.1	S	27 12.0 +04.8	14							
15	41 31.0 +00.0	S	15 57.2 -00.8	72 35.5 -00.9	S	22 02.0 -00.3	103 52.5 -35.2	S	27 16.8 +04.5	15							
16	56 31.0 -00.1	S	15 56.4 -00.7	87 34.6 -00.8	S	22 01.7 -00.2	118 17.3 -35.3	S	27 21.3 +04.4	16							
17	71 30.9 +00.0	S	15 55.7 -00.8	102 33.8 -00.9	S	22 01.5 -00.3	132 42.0 -35.4	S	27 25.7 +04.3	17							
18	86 30.9 -00.1	S	15 54.9 -00.7	117 32.9 -00.9	S	22 01.2 -00.2	147 06.6 -35.5	S	27 30.0 +04.0	18							
19	101 30.8 +00.0	S	15 54.2 -00.8	132 32.0 -00.8	S	22 01.0 -00.3	161 31.1 -35.6	S	27 34.0 +04.0	19							
20	116 30.8 -00.1	S	15 53.4 -00.8	147 31.2 -00.9	S	22 00.7 -00.3	175 55.5 -35.7	S	27 38.0 +03.7	20							
21	131 30.7 +00.0	S	15 52.6 -00.7	162 30.3 -00.8	S	22 00.4 -00.2	190 19.8 -35.8	S	27 41.7 +03.6	21							
22	146 30.7 -00.1	S	15 51.9 -00.8	177 29.5 -00.9	S	22 00.2 -00.3	204 44.0 -35.9	S	27 45.3 +03.4	22							
23	161 30.6 +00.0	S	15 51.1 -00.7	192 28.6 -00.8	S	21 59.9 -00.2	219 08.1 -36.0	S	27 48.7 +03.2	23							
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT			
SD	16'2	16'2	16'2	16'2	16'2	16'2	SD	00'1	00'1	00'1	00'1	00'1	00'1	SD			
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			
SHA	042°	042°	041°	041°	041°	041°	SHA	073°	073°	073°	072°	072°	072°	SHA			
Greenwich Culmination Time: 12:13						Greenwich Culmination Time: 10:09						Greenwich Culmination Time: 07:47					

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT				
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec					
00	198 56.7 +00.4	S	22 13.4 -00.3	98 57.4 +02.2	N	13 07.4 +00.1	155 24.7 +02.2	S	10 28.4 -00.1	00							
01	213 57.1 +00.4	S	22 13.1 -00.3	113 59.6 +02.2	N	13 07.5 +00.1	170 26.9 +02.2	S	10 28.3 -00.1	01							
02	228 57.5 +00.4	S	22 12.8 -00.3	129 01.8 +02.2	N	13 07.6 +00.1	185 29.1 +02.2	S	10 28.2 -00.1	02							
03	243 57.9 +00.5	S	22 12.5 -00.4	144 04.0 +02.1	N	13 07.7 +00.1	200 31.3 +02.2	S	10 28.1 -00.1	03							
04	258 58.4 +00.4	S	22 12.1 -00.3	159 06.1 +02.2	N	13 07.8 +00.1	215 33.5 +02.2	S	10 28.0 -00.1	04							
05	273 58.8 +00.4	S	22 11.8 -00.3	174 08.3 +02.2	N	13 07.9 +00.1	230 35.7 +02.2	S	10 27.9 -00.2	05							
06	288 59.2 +00.5	S	22 11.5 -00.3	189 10.5 +02.2	N	13 08.0 +00.1	245 37.9 +02.2	S	10 27.7 -00.1	06							
07	303 59.7 +00.4	S	22 11.2 -00.3	204 12.7 +02.2	N	13 08.1 +00.1	260 40.1 +02.1	S	10 27.6 -00.1	07							
08	319 00.1 +00.4	S	22 10.9 -00.3	219 14.9 +02.2	N	13 08.2 +00.1	275 42.2 +02.2	S	10 27.5 -00.1	08							
09	334 00.5 +00.4	S	22 10.6 -00.3	234 17.1 +02.2	N	13 08.3 +00.1	290 44.4 +02.2	S	10 27.4 -00.1	09							
10	349 00.9 +00.5	S	22 10.3 -00.3	249 19.3 +02.2	N	13 08.4 +00.1	305 46.6 +02.2	S	10 27.3 -00.1	10							
11	4 01.4 +00.4	S	22 10.0 -00.4	264 21.5 +02.2	N	13 08.5 +00.1	320 48.8 +02.2	S	10 27.2 -00.1	11							
12	19 01.8 +00.4	S	22 09.6 -00.3	279 23.7 +02.1	N	13 08.6 +00.1	335 51.0 +02.2	S	10 27.1 -00.1	12							
13	34 02.2 +00.5	S	22 09.3 -00.3	294 25.8 +02.2	N	13 08.7 +00.1	350 53.2 +02.2	S	10 27.0 -00.1	13							
14	49 02.7 +00.4	S	22 09.0 -00.3	309 28.0 +02.2	N	13 08.8 +00.1	5 55.4 +02.2	S	10 26.9 -00.1	14							
15	64 03.1 +00.4	S	22 08.7 -00.3	324 30.2 +02.2	N	13 08.9 +00.1	20 57.6 +02.1	S	10 26.8 -00.1	15							
16	79 03.5 +00.4	S	22 08.4 -00.3	339 32.4 +02.2	N	13 09.0 +00.1	35 59.7 +02.2	S	10 26.7 -00.2	16							
17	94 03.9 +00.5	S	22 08.1 -00.3	354 34.6 +02.2	N	13 09.1 +00.1	51 01.9 +02.2	S	10 26.5 -00.1	17							
18	109 04.4 +00.4	S	22 07.8 -00.4	9 36.8 +02.2	N	13 09.2 +00.1	66 04.1 +02.2	S	10 26.4 -00.1	18							
19	124 04.8 +00.4	S	22 07.4 -00.3	24 39.0 +02.2	N	13 09.3 +00.1	81 06.3 +02.2	S	10 26.3 -00.1	19							
20	139 05.2 +00.5	S	22 07.1 -00.3	39 41.2 +02.1	N	13 09.4 +00.1	96 08.5 +02.2	S	10 26.2 -00.1	20							
21	154 05.7 +00.4	S	22 06.8 -00.3	54 43.3 +02.2	N	13 09.5 +00.1	111 10.7 +02.2	S	10 26.1 -00.1	21							
22	169 06.1 +00.4	S	22 06.5 -00.3	69 45.5 +02.2	N	13 09.6 +00.1	126 12.9 +02.2	S	10 26.0 -00.1	22							
23	184 06.5 +00.4	S	22 06.2 -00.3	84 47.7 +02.2	N	13 09.7 +00.1	141 15.1 +02.2	S	10 25.9 -00.1	23							
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT			
SD	00'0	00'0	00'0	00'0	00'0	00'0	SD	00'3	00'3	00'3	00'3	00'3	00'3	SD			
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			
SHA	064°	064°	064°	064°	064°	064°	SHA	324°	324°	324°	324°	324°	324°	SHA			
Greenwich Culmination Time: 10:43						Greenwich Culmination Time: 17:21						Greenwich Culmination Time: 13:36					

UT	Sun				Venus				Moon				UT		
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec			
00	176 30.6 -00.1	S 15 50.4 -00.8	207 27.8 -00.9	S 21 59.7 -00.3	233 32.1 -36.1	S 27 51.9 +03.0	00								
01	191 30.5 +00.0	S 15 49.6 -00.8	222 26.9 -00.9	S 21 59.4 -00.3	247 56.0 -36.2	S 27 54.9 +02.9	01								
02	206 30.5 -00.1	S 15 48.8 -00.7	237 26.0 -00.8	S 21 59.1 -00.2	262 19.8 -36.3	S 27 57.8 +02.7	02								
03	221 30.4 +00.0	S 15 48.1 -00.8	252 25.2 -00.9	S 21 58.9 -00.3	276 43.5 -36.3	S 28 00.5 +02.5	03								
04	236 30.4 -00.1	S 15 47.3 -00.8	267 24.3 -00.8	S 21 58.6 -00.3	291 07.2 -36.5	S 28 03.0 +02.4	04								
05	251 30.3 +00.0	S 15 46.5 -00.7	282 23.5 -00.9	S 21 58.3 -00.2	305 30.7 -36.5	S 28 05.4 +02.1	05								
06	266 30.3 +00.0	S 15 45.8 -00.8	297 22.6 -00.8	S 21 58.1 -00.3	319 54.2 -36.6	S 28 07.5 +02.0	06								
07	281 30.3 -00.1	S 15 45.0 -00.8	312 21.8 -00.9	S 21 57.8 -00.3	334 17.6 -36.7	S 28 09.5 +01.8	07								
08	296 30.2 +00.0	S 15 44.2 -00.7	327 20.9 -00.8	S 21 57.5 -00.2	348 40.9 -36.8	S 28 11.3 +01.6	08								
09	311 30.2 -00.1	S 15 43.5 -00.8	342 20.1 -00.9	S 21 57.3 -00.3	3 04.1 -36.9	S 28 12.9 +01.5	09								
10	326 30.1 +00.0	S 15 42.7 -00.8	357 19.2 -00.9	S 21 57.0 -00.3	17 27.2 -36.9	S 28 14.4 +01.2	10								
11	341 30.1 -00.1	S 15 41.9 -00.7	12 18.3 -00.8	S 21 56.7 -00.2	31 50.3 -37.0	S 28 15.6 +01.1	11								
12	356 30.0 +00.0	S 15 41.2 -00.8	27 17.5 -00.9	S 21 56.5 -00.3	46 13.3 -37.0	S 28 16.7 +00.8	12								
13	11 30.0 -00.1	S 15 40.4 -00.8	42 16.6 -00.8	S 21 56.2 -00.3	60 36.3 -37.2	S 28 17.5 +00.7	13								
14	26 29.9 +00.0	S 15 39.6 -00.7	57 15.8 -00.9	S 21 55.9 -00.3	74 59.1 -37.2	S 28 18.2 +00.5	14								
15	41 29.9 +00.0	S 15 38.9 -00.8	72 14.9 -00.8	S 21 55.6 -00.2	89 21.9 -37.2	S 28 18.7 +00.3	15								
16	56 29.9 -00.1	S 15 38.1 -00.8	87 14.1 -00.9	S 21 55.4 -00.3	103 44.7 -37.3	S 28 19.0 +00.1	16								
17	71 29.8 +00.0	S 15 37.3 -00.7	102 13.2 -00.8	S 21 55.1 -00.3	118 07.4 -37.4	S 28 19.1 -00.1	17								
18	86 29.8 -00.1	S 15 36.6 -00.8	117 12.4 -00.9	S 21 54.8 -00.3	132 30.0 -37.4	S 28 19.0 -00.3	18								
19	101 29.7 +00.0	S 15 35.8 -00.8	132 11.5 -00.9	S 21 54.5 -00.3	146 52.6 -37.5	S 28 18.7 -00.4	19								
20	116 29.7 -00.1	S 15 35.0 -00.8	147 10.6 -00.8	S 21 54.2 -00.3	161 15.1 -37.5	S 28 18.3 -00.7	20								
21	131 29.6 +00.0	S 15 34.2 -00.7	162 09.8 -00.9	S 21 53.9 -00.2	175 37.6 -37.6	S 28 17.6 -00.9	21								
22	146 29.6 +00.0	S 15 33.5 -00.8	177 08.9 -00.8	S 21 53.7 -00.3	190 00.0 -37.6	S 28 16.7 -01.0	22								
23	161 29.6 -00.1	S 15 32.7 -00.8	192 08.1 -00.9	S 21 53.4 -00.3	204 22.4 -37.6	S 28 15.7 -01.3	23								
	UT 02 06 10 14 18 22	SD 16'2 16'2 16'2 16'2 16'2 16'2	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 041° 041° 040° 040° 040° 040°	Greenwich Culmination Time: 12:13	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 072° 071° 071° 071° 071° 071°	Greenwich Culmination Time: 10:10	UT 02 06 10 14 18 22	SD 15'9 15'9 16'0 16'0 16'1 16'1	HP 58'3 58'4 58'6 58'8 58'9 59'1	SHA 097° 094° 091° 089° 086° 083°	Greenwich Culmination Time: 08:47

UT	Mars				Jupiter				Saturn				UT		
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec			
00	199 06.9 +00.5	S 22 05.9 -00.4	99 49.9 +02.2	N 13 09.8 +00.1	156 17.3 +02.1	S 10 25.8 -00.1	00								
01	214 07.4 +00.4	S 22 05.5 -00.3	114 52.1 +02.2	N 13 09.9 +00.1	171 19.4 +02.2	S 10 25.7 -00.1	01								
02	229 07.8 +00.4	S 22 05.2 -00.3	129 54.3 +02.2	N 13 10.0 +00.1	186 21.6 +02.2	S 10 25.6 -00.1	02								
03	244 08.2 +00.5	S 22 04.9 -00.3	144 56.5 +02.1	N 13 10.1 +00.2	201 23.8 +02.2	S 10 25.5 -00.2	03								
04	259 08.7 +00.4	S 22 04.6 -00.3	159 58.6 +02.2	N 13 10.3 +00.1	216 26.0 +02.2	S 10 25.3 -00.1	04								
05	274 09.1 +00.4	S 22 04.3 -00.4	175 00.8 +02.2	N 13 10.4 +00.1	231 28.2 +02.2	S 10 25.2 -00.1	05								
06	289 09.5 +00.5	S 22 03.9 -00.3	190 03.0 +02.2	N 13 10.5 +00.1	246 30.4 +02.2	S 10 25.1 -00.1	06								
07	304 10.0 +00.4	S 22 03.6 -00.3	205 05.2 +02.2	N 13 10.6 +00.1	261 32.6 +02.2	S 10 25.0 -00.1	07								
08	319 10.4 +00.4	S 22 03.3 -00.3	220 07.4 +02.1	N 13 10.7 +00.1	276 34.8 +02.1	S 10 24.9 -00.1	08								
09	334 10.8 +00.5	S 22 03.0 -00.4	235 09.5 +02.2	N 13 10.8 +00.1	291 36.9 +02.2	S 10 24.8 -00.1	09								
10	349 11.3 +00.4	S 22 02.6 -00.3	250 11.7 +02.2	N 13 10.9 +00.1	306 39.1 +02.2	S 10 24.7 -00.1	10								
11	4 11.7 +00.4	S 22 02.3 -00.3	265 13.9 +02.2	N 13 11.0 +00.1	321 41.3 +02.2	S 10 24.6 -00.1	11								
12	19 12.1 +00.4	S 22 02.0 -00.3	280 16.1 +02.2	N 13 11.1 +00.1	336 43.5 +02.2	S 10 24.5 -00.1	12								
13	34 12.5 +00.5	S 22 01.7 -00.4	295 18.3 +02.2	N 13 11.2 +00.1	351 45.7 +02.2	S 10 24.4 -00.1	13								
14	49 13.0 +00.4	S 22 01.3 -00.3	310 20.5 +02.1	N 13 11.3 +00.1	6 47.9 +02.2	S 10 24.3 -00.2	14								
15	64 13.4 +00.4	S 22 01.0 -00.3	325 22.6 +02.2	N 13 11.4 +00.1	21 50.1 +02.2	S 10 24.1 -00.1	15								
16	79 13.8 +00.5	S 22 00.7 -00.3	340 24.8 +02.2	N 13 11.5 +00.1	36 52.3 +02.1	S 10 24.0 -00.1	16								
17	94 14.3 +00.4	S 22 00.4 -00.4	355 27.0 +02.2	N 13 11.6 +00.1	51 54.4 +02.2	S 10 23.9 -00.1	17								
18	109 14.7 +00.4	S 22 00.0 -00.3	10 29.2 +02.2	N 13 11.7 +00.1	66 56.6 +02.2	S 10 23.8 -00.1	18								
19	124 15.1 +00.5	S 21 59.7 -00.3	25 31.4 +02.1	N 13 11.8 +00.1	81 58.8 +02.2	S 10 23.7 -00.1	19								
20	139 15.6 +00.4	S 21 59.4 -00.3	40 33.5 +02.2	N 13 11.9 +00.1	97 01.0 +02.2	S 10 23.6 -00.1	20								
21	154 16.0 +00.4	S 21 59.1 -00.4	55 35.7 +02.2	N 13 12.0 +00.1	112 03.2 +02.2	S 10 23.5 -00.1	21								
22	169 16.4 +00.5	S 21 58.7 -00.3	70 37.9 +02.2	N 13 12.1 +00.2	127 05.4 +02.2	S 10 23.4 -00.1	22								
23	184 16.9 +00.4	S 21 58.4 -00.3	85 40.1 +02.2	N 13 12.3 +00.1	142 07.6 +02.2	S 10 23.3 -00.1	23								
	UT 02 06 10 14 18 22	SD 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 063° 063° 063° 063° 063° 063°	Greenwich Culmination Time: 10:43	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 324° 324° 324° 324° 324° 324°	Greenwich Culmination Time: 17:18	UT 02 06 10 14 18 22	SD 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	SHA 021° 021° 021° 021° 021° 021°	Greenwich Culmination Time: 13:32

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT				
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec					
00	176 29.5 +00.0	S 15 31.9 -00.7	207 07.2 -00.8	S 21 53.1 -00.3	218 44.8 -37.7	S 28 14.4 -01.5	00										
01	191 29.5 -00.1	S 15 31.2 -00.8	222 06.4 -00.9	S 21 52.8 -00.3	233 07.1 -37.8	S 28 12.9 -01.6	01										
02	206 29.4 +00.0	S 15 30.4 -00.8	237 05.5 -00.8	S 21 52.5 -00.3	247 29.3 -37.7	S 28 11.3 -01.9	02										
03	221 29.4 +00.0	S 15 29.6 -00.8	252 04.7 -00.9	S 21 52.2 -00.3	261 51.6 -37.8	S 28 09.4 -02.0	03										
04	236 29.4 -00.1	S 15 28.8 -00.7	267 03.8 -00.8	S 21 51.9 -00.3	276 13.8 -37.8	S 28 07.4 -02.3	04										
05	251 29.3 +00.0	S 15 28.1 -00.8	282 03.0 -00.9	S 21 51.6 -00.3	290 36.0 -37.9	S 28 05.1 -02.4	05										
06	266 29.3 -00.1	S 15 27.3 -00.8	297 02.1 -00.8	S 21 51.3 -00.3	304 58.1 -37.8	S 28 02.7 -02.7	06										
07	281 29.2 +00.0	S 15 26.5 -00.8	312 01.3 -00.9	S 21 51.0 -00.3	319 20.3 -37.9	S 28 00.0 -02.8	07										
08	296 29.2 +00.0	S 15 25.7 -00.8	327 00.4 -00.8	S 21 50.7 -00.3	333 42.4 -37.9	S 27 57.2 -03.1	08										
09	311 29.2 -00.1	S 15 24.9 -00.7	341 59.6 -00.9	S 21 50.4 -00.2	348 04.5 -37.9	S 27 54.1 -03.2	09										
10	326 29.1 +00.0	S 15 24.2 -00.8	356 58.7 -00.8	S 21 50.2 -00.3	2 26.6 -38.0	S 27 50.9 -03.5	10										
11	341 29.1 +00.0	S 15 23.4 -00.8	11 57.9 -00.9	S 21 49.9 -00.3	16 48.6 -37.9	S 27 47.4 -03.6	11										
12	356 29.1 -00.1	S 15 22.6 -00.8	26 57.0 -00.8	S 21 49.6 -00.4	31 10.7 -37.9	S 27 43.8 -03.9	12										
13	11 29.0 +00.0	S 15 21.8 -00.7	41 56.2 -00.9	S 21 49.2 -00.3	45 32.8 -38.0	S 27 39.9 -04.0	13										
14	26 29.0 -00.1	S 15 21.1 -00.8	56 55.3 -00.8	S 21 48.9 -00.3	59 54.8 -37.9	S 27 35.9 -04.3	14										
15	41 28.9 +00.0	S 15 20.3 -00.8	71 54.5 -00.9	S 21 48.6 -00.3	74 16.9 -38.0	S 27 31.6 -04.5	15										
16	56 28.9 +00.0	S 15 19.5 -00.8	86 53.6 -00.8	S 21 48.3 -00.3	88 38.9 -37.9	S 27 27.1 -04.6	16										
17	71 28.9 -00.1	S 15 18.7 -00.8	101 52.8 -00.9	S 21 48.0 -00.3	103 01.0 -37.9	S 27 22.5 -04.9	17										
18	86 28.8 +00.0	S 15 17.9 -00.8	116 51.9 -00.8	S 21 47.7 -00.3	117 23.1 -37.9	S 27 17.6 -05.0	18										
19	101 28.8 +00.0	S 15 17.1 -00.7	131 51.1 -00.9	S 21 47.4 -00.3	131 45.2 -37.9	S 27 12.6 -05.3	19										
20	116 28.8 -00.1	S 15 16.4 -00.8	146 50.2 -00.8	S 21 47.1 -00.3	146 07.3 -37.9	S 27 07.3 -05.4	20										
21	131 28.7 +00.0	S 15 15.6 -00.8	161 49.4 -00.9	S 21 46.8 -00.3	160 29.4 -37.9	S 27 01.9 -05.7	21										
22	146 28.7 +00.0	S 15 14.8 -00.8	176 48.5 -00.8	S 21 46.5 -00.3	174 51.5 -37.8	S 26 56.2 -05.8	22										
23	161 28.7 -00.1	S 15 14.0 -00.8	191 47.7 -00.9	S 21 46.2 -00.3	189 13.7 -37.8	S 26 50.4 -06.1	23										
	UT 02 06 10 14 18 22	SD 16'2 16'2 16'2 16'2 16'2 16'2	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 040° 040° 039° 039° 039° 039°	Greenwich Culmination Time: 12:14		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 070° 070° 070° 070° 070° 069°	Greenwich Culmination Time: 10:12		UT 02 06 10 14 18 22	SD 16'1 16'2 16'2 16'3 16'3 16'3	HP 59'2 59'4 59'5 59'7 59'8 60'0	SHA 081° 078° 075° 073° 070° 067°	Greenwich Culmination Time: 09:49

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT				
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec					
00	199 17.3 +00.4	S 21 58.1 -00.3	100 42.3 +02.1	N 13 12.4 +00.1	157 09.8 +02.1	S 10 23.2 -00.1	00										
01	214 17.7 +00.5	S 21 57.8 -00.4	115 44.4 +02.2	N 13 12.5 +00.1	172 11.9 +02.2	S 10 23.1 -00.2	01										
02	229 18.2 +00.4	S 21 57.4 -00.3	130 46.6 +02.2	N 13 12.6 +00.1	187 14.1 +02.2	S 10 22.9 -00.1	02										
03	244 18.6 +00.4	S 21 57.1 -00.3	145 48.8 +02.2	N 13 12.7 +00.1	202 16.3 +02.2	S 10 22.8 -00.1	03										
04	259 19.0 +00.5	S 21 56.8 -00.4	160 51.0 +02.1	N 13 12.8 +00.1	217 18.5 +02.2	S 10 22.7 -00.1	04										
05	274 19.5 +00.4	S 21 56.4 -00.3	175 53.1 +02.2	N 13 12.9 +00.1	232 20.7 +02.2	S 10 22.6 -00.1	05										
06	289 19.9 +00.4	S 21 56.1 -00.3	190 55.3 +02.2	N 13 13.0 +00.1	247 22.9 +02.2	S 10 22.5 -00.1	06										
07	304 20.3 +00.5	S 21 55.8 -00.4	205 57.5 +02.2	N 13 13.1 +00.1	262 25.1 +02.1	S 10 22.4 -00.1	07										
08	319 20.8 +00.4	S 21 55.4 -00.3	220 59.7 +02.1	N 13 13.2 +00.1	277 27.2 +02.2	S 10 22.3 -00.1	08										
09	334 21.2 +00.4	S 21 55.1 -00.3	236 01.8 +02.2	N 13 13.3 +00.1	292 29.4 +02.2	S 10 22.2 -00.1	09										
10	349 21.6 +00.5	S 21 54.8 -00.4	251 04.0 +02.2	N 13 13.4 +00.1	307 31.6 +02.2	S 10 22.1 -00.1	10										
11	4 22.1 +00.4	S 21 54.4 -00.3	266 06.2 +02.2	N 13 13.5 +00.1	322 33.8 +02.2	S 10 22.0 -00.2	11										
12	19 22.5 +00.4	S 21 54.1 -00.3	281 08.4 +02.1	N 13 13.6 +00.2	337 36.0 +02.2	S 10 21.8 -00.1	12										
13	34 22.9 +00.5	S 21 53.8 -00.4	296 10.5 +02.2	N 13 13.8 +00.1	352 38.2 +02.2	S 10 21.7 -00.1	13										
14	49 23.4 +00.4	S 21 53.4 -00.3	311 12.7 +02.2	N 13 13.9 +00.1	7 40.4 +02.2	S 10 21.6 -00.1	14										
15	64 23.8 +00.4	S 21 53.1 -00.3	326 14.9 +02.2	N 13 14.0 +00.1	22 42.6 +02.1	S 10 21.5 -00.1	15										
16	79 24.2 +00.5	S 21 52.8 -00.4	341 17.1 +02.1	N 13 14.1 +00.1	37 44.7 +02.2	S 10 21.4 -00.1	16										
17	94 24.7 +00.4	S 21 52.4 -00.3	356 19.2 +02.2	N 13 14.2 +00.1	52 46.9 +02.2	S 10 21.3 -00.1	17										
18	109 25.1 +00.4	S 21 52.1 -00.3	11 21.4 +02.2	N 13 14.3 +00.1	67 49.1 +02.2	S 10 21.2 -00.1	18										
19	124 25.5 +00.5	S 21 51.8 -00.4	26 23.6 +02.2	N 13 14.4 +00.1	82 51.3 +02.2	S 10 21.1 -00.1	19										
20	139 26.0 +00.4	S 21 51.4 -00.3	41 25.8 +02.1	N 13 14.5 +00.1	97 53.5 +02.2	S 10 21.0 -00.1	20										
21	154 26.4 +00.4	S 21 51.1 -00.4	56 27.9 +02.2	N 13 14.6 +00.1	112 55.7 +02.2	S 10 20.9 -00.2	21										
22	169 26.8 +00.5	S 21 50.7 -00.3	71 30.1 +02.2	N 13 14.7 +00.1	127 57.9 +02.1	S 10 20.7 -00.1	22										
23	184 27.3 +00.4	S 21 50.4 -00.3	86 32.3 +02.2	N 13 14.8 +00.1	143 00.0 +02.2	S 10 20.6 -00.1	23										
	UT 02 06 10 14 18 22	SD 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 063° 062° 062° 062° 062° 062°	Greenwich Culmination Time: 10:42		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 324° 324° 324° 324° 324° 324°	Greenwich Culmination Time: 17:14		UT 02 06 10 14 18 22	SD 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	SHA 021° 021° 020° 020° 020° 020°	Greenwich Culmination Time: 13:29

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 28.6 +00.0	S 15 13.2 -00.8	206 46.8 -00.8	S 21 45.9 -00.4	203 35.9 -37.8	S 26 44.3 -06.2	00						
01	191 28.6 +00.0	S 15 12.4 -00.7	221 46.0 -00.9	S 21 45.5 -00.3	217 58.1 -37.8	S 26 38.1 -06.5	01						
02	206 28.6 -00.1	S 15 11.7 -00.8	236 45.1 -00.8	S 21 45.2 -00.3	232 20.3 -37.7	S 26 31.6 -06.6	02						
03	221 28.5 +00.0	S 15 10.9 -00.8	251 44.3 -00.9	S 21 44.9 -00.3	246 42.6 -37.7	S 26 25.0 -06.8	03						
04	236 28.5 +00.0	S 15 10.1 -00.8	266 43.4 -00.8	S 21 44.6 -00.3	261 04.9 -37.7	S 26 18.2 -07.1	04						
05	251 28.5 -00.1	S 15 09.3 -00.8	281 42.6 -00.9	S 21 44.3 -00.4	275 27.2 -37.6	S 26 11.1 -07.2	05						
06	266 28.4 +00.0	S 15 08.5 -00.8	296 41.7 -00.8	S 21 43.9 -00.3	289 49.6 -37.6	S 26 03.9 -07.4	06						
07	281 28.4 +00.0	S 15 07.7 -00.8	311 40.9 -00.8	S 21 43.6 -00.3	304 12.0 -37.6	S 25 56.5 -07.6	07						
08	296 28.4 +00.0	S 15 06.9 -00.7	326 40.1 -00.9	S 21 43.3 -00.3	318 34.4 -37.5	S 25 48.9 -07.8	08						
09	311 28.4 -00.1	S 15 06.2 -00.8	341 39.2 -00.8	S 21 43.0 -00.4	332 56.9 -37.4	S 25 41.1 -08.0	09						
10	326 28.3 +00.0	S 15 05.4 -00.8	356 38.4 -00.9	S 21 42.6 -00.3	347 19.5 -37.4	S 25 33.1 -08.2	10						
11	341 28.3 +00.0	S 15 04.6 -00.8	11 37.5 -00.8	S 21 42.3 -00.3	1 42.1 -37.4	S 25 24.9 -08.3	11						
12	356 28.3 -00.1	S 15 03.8 -00.8	26 36.7 -00.9	S 21 42.0 -00.3	16 04.7 -37.3	S 25 16.6 -08.6	12						
13	11 28.2 +00.0	S 15 03.0 -00.8	41 35.8 -00.8	S 21 41.7 -00.4	30 27.4 -37.2	S 25 08.0 -08.7	13						
14	26 28.2 +00.0	S 15 02.2 -00.8	56 35.0 -00.9	S 21 41.3 -00.3	44 50.2 -37.2	S 24 59.3 -08.9	14						
15	41 28.2 +00.0	S 15 01.4 -00.8	71 34.1 -00.8	S 21 41.0 -00.3	59 13.0 -37.1	S 24 50.4 -09.1	15						
16	56 28.2 -00.1	S 15 00.6 -00.8	86 33.3 -00.9	S 21 40.7 -00.4	73 35.9 -37.1	S 24 41.3 -09.3	16						
17	71 28.1 +00.0	S 14 59.8 -00.8	101 32.4 -00.8	S 21 40.3 -00.3	87 58.8 -37.0	S 24 32.0 -09.5	17						
18	86 28.1 +00.0	S 14 59.0 -00.8	116 31.6 -00.8	S 21 40.0 -00.3	102 21.8 -36.9	S 24 22.5 -09.6	18						
19	101 28.1 +00.0	S 14 58.2 -00.8	131 30.8 -00.9	S 21 39.7 -00.4	116 44.9 -36.9	S 24 12.9 -09.8	19						
20	116 28.1 -00.1	S 14 57.4 -00.7	146 29.9 -00.8	S 21 39.3 -00.3	131 08.0 -36.8	S 24 03.1 -10.0	20						
21	131 28.0 +00.0	S 14 56.7 -00.8	161 29.1 -00.9	S 21 39.0 -00.4	145 31.2 -36.8	S 23 53.1 -10.2	21						
22	146 28.0 +00.0	S 14 55.9 -00.8	176 28.2 -00.8	S 21 38.6 -00.3	159 54.4 -36.6	S 23 42.9 -10.3	22						
23	161 28.0 +00.0	S 14 55.1 -00.8	191 27.4 -00.9	S 21 38.3 -00.3	174 17.8 -36.6	S 23 32.6 -10.6	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'2 16'2 16'2 16'2 16'2 16'2		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 16'4 16'4 16'4 16'5 16'5 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 60'1 60'2 60'3 60'4 60'5 60'6								
	SHA 039° 039° 038° 038° 038° 038°		SHA 069° 069° 069° 068° 068° 068°		SHA 065° 062° 059° 057° 054° 051°								
	Greenwich Culmination Time: 12:14		Greenwich Culmination Time: 10:13		Greenwich Culmination Time: 10:52								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	199 27.7 +00.4	S 21 50.1 -00.4	101 34.5 +02.1	N 13 14.9 +00.1	158 02.2 +02.2	S 10 20.5 -00.1	00						
01	214 28.1 +00.5	S 21 49.7 -00.3	116 36.6 +02.2	N 13 15.0 +00.2	173 04.4 +02.2	S 10 20.4 -00.1	01						
02	229 28.6 +00.4	S 21 49.4 -00.4	131 38.8 +02.2	N 13 15.2 +00.1	188 06.6 +02.2	S 10 20.3 -00.1	02						
03	244 29.0 +00.4	S 21 49.0 -00.3	146 41.0 +02.1	N 13 15.3 +00.1	203 08.8 +02.2	S 10 20.2 -00.1	03						
04	259 29.4 +00.5	S 21 48.7 -00.3	161 43.1 +02.2	N 13 15.4 +00.1	218 11.0 +02.2	S 10 20.1 -00.1	04						
05	274 29.9 +00.4	S 21 48.4 -00.4	176 45.3 +02.2	N 13 15.5 +00.1	233 13.2 +02.1	S 10 20.0 -00.1	05						
06	289 30.3 +00.4	S 21 48.0 -00.3	191 47.5 +02.1	N 13 15.6 +00.1	248 15.3 +02.2	S 10 19.9 -00.1	06						
07	304 30.7 +00.5	S 21 47.7 -00.4	206 49.6 +02.2	N 13 15.7 +00.1	263 17.5 +02.2	S 10 19.8 -00.2	07						
08	319 31.2 +00.4	S 21 47.3 -00.3	221 51.8 +02.2	N 13 15.8 +00.1	278 19.7 +02.2	S 10 19.6 -00.1	08						
09	334 31.6 +00.4	S 21 47.0 -00.3	236 54.0 +02.2	N 13 15.9 +00.1	293 21.9 +02.2	S 10 19.5 -00.1	09						
10	349 32.0 +00.5	S 21 46.7 -00.4	251 56.2 +02.1	N 13 16.0 +00.1	308 24.1 +02.2	S 10 19.4 -00.1	10						
11	4 32.5 +00.4	S 21 46.3 -00.3	266 58.3 +02.2	N 13 16.1 +00.1	323 26.3 +02.2	S 10 19.3 -00.1	11						
12	19 32.9 +00.5	S 21 46.0 -00.4	282 00.5 +02.2	N 13 16.2 +00.2	338 28.5 +02.1	S 10 19.2 -00.1	12						
13	34 33.4 +00.4	S 21 45.6 -00.3	297 02.7 +02.1	N 13 16.4 +00.1	353 30.6 +02.2	S 10 19.1 -00.1	13						
14	49 33.8 +00.4	S 21 45.3 -00.4	312 04.8 +02.2	N 13 16.5 +00.1	8 32.8 +02.2	S 10 19.0 -00.1	14						
15	64 34.2 +00.5	S 21 44.9 -00.3	327 07.0 +02.2	N 13 16.6 +00.1	23 35.0 +02.2	S 10 18.9 -00.1	15						
16	79 34.7 +00.4	S 21 44.6 -00.4	342 09.2 +02.1	N 13 16.7 +00.1	38 37.2 +02.2	S 10 18.8 -00.1	16						
17	94 35.1 +00.4	S 21 44.2 -00.3	357 11.3 +02.2	N 13 16.8 +00.1	53 39.4 +02.2	S 10 18.7 -00.2	17						
18	109 35.5 +00.5	S 21 43.9 -00.3	12 13.5 +02.2	N 13 16.9 +00.1	68 41.6 +02.2	S 10 18.5 -00.1	18						
19	124 36.0 +00.4	S 21 43.6 -00.4	27 15.7 +02.1	N 13 17.0 +00.1	83 43.8 +02.1	S 10 18.4 -00.1	19						
20	139 36.4 +00.4	S 21 43.2 -00.3	42 17.8 +02.2	N 13 17.1 +00.1	98 45.9 +02.2	S 10 18.3 -00.1	20						
21	154 36.8 +00.5	S 21 42.9 -00.4	57 20.0 +02.2	N 13 17.2 +00.1	113 48.1 +02.2	S 10 18.2 -00.1	21						
22	169 37.3 +00.4	S 21 42.5 -00.3	72 22.2 +02.1	N 13 17.3 +00.1	128 50.3 +02.2	S 10 18.1 -00.1	22						
23	184 37.7 +00.5	S 21 42.2 -00.4	87 24.3 +02.2	N 13 17.4 +00.2	143 52.5 +02.2	S 10 18.0 -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 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		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								
	SHA 062° 062° 062° 061° 061° 061°		SHA 324° 324° 324° 324° 324° 324°		SHA 020° 020° 020° 020° 020° 020°								
	Greenwich Culmination Time: 10:41		Greenwich Culmination Time: 17:11		Greenwich Culmination Time: 13:25								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 28.0 -00.1	S	14 54.3 -00.8	206 26.5 -00.8	S	21 38.0 -00.4	188 41.2 -36.5	S	23 22.0 -10.6	00			
01	191 27.9 +00.0	S	14 53.5 -00.8	221 25.7 -00.8	S	21 37.6 -00.3	203 04.7 -36.5	S	23 11.4 -10.9	01			
02	206 27.9 +00.0	S	14 52.7 -00.8	236 24.9 -00.9	S	21 37.3 -00.4	217 28.2 -36.4	S	23 00.5 -11.0	02			
03	221 27.9 +00.0	S	14 51.9 -00.8	251 24.0 -00.8	S	21 36.9 -00.3	231 51.8 -36.3	S	22 49.5 -11.2	03			
04	236 27.9 -00.1	S	14 51.1 -00.8	266 23.2 -00.9	S	21 36.6 -00.4	246 15.5 -36.2	S	22 38.3 -11.3	04			
05	251 27.8 +00.0	S	14 50.3 -00.8	281 22.3 -00.8	S	21 36.2 -00.3	260 39.3 -36.1	S	22 27.0 -11.6	05			
06	266 27.8 +00.0	S	14 49.5 -00.8	296 21.5 -00.8	S	21 35.9 -00.4	275 03.2 -36.1	S	22 15.4 -11.6	06			
07	281 27.8 +00.0	S	14 48.7 -00.8	311 20.7 -00.9	S	21 35.5 -00.3	289 27.1 -36.0	S	22 03.8 -11.9	07			
08	296 27.8 -00.1	S	14 47.9 -00.8	326 19.8 -00.8	S	21 35.2 -00.4	303 51.1 -35.9	S	21 51.9 -11.9	08			
09	311 27.7 +00.0	S	14 47.1 -00.8	341 19.0 -00.9	S	21 34.8 -00.3	318 15.2 -35.8	S	21 40.0 -12.2	09			
10	326 27.7 +00.0	S	14 46.3 -00.8	356 18.1 -00.8	S	21 34.5 -00.4	332 39.4 -35.7	S	21 27.8 -12.3	10			
11	341 27.7 +00.0	S	14 45.5 -00.8	11 17.3 -00.8	S	21 34.1 -00.3	347 03.7 -35.6	S	21 15.5 -12.4	11			
12	356 27.7 +00.0	S	14 44.7 -00.8	26 16.5 -00.9	S	21 33.8 -00.4	1 28.1 -35.6	S	21 03.1 -12.6	12			
13	11 27.7 -00.1	S	14 43.9 -00.8	41 15.6 -00.8	S	21 33.4 -00.3	15 52.5 -35.5	S	20 50.5 -12.8	13			
14	26 27.6 +00.0	S	14 43.1 -00.8	56 14.8 -00.9	S	21 33.1 -00.4	30 17.0 -35.4	S	20 37.7 -12.8	14			
15	41 27.6 +00.0	S	14 42.3 -00.8	71 13.9 -00.8	S	21 32.7 -00.3	44 41.6 -35.3	S	20 24.9 -13.1	15			
16	56 27.6 +00.0	S	14 41.5 -00.8	86 13.1 -00.8	S	21 32.4 -00.4	59 06.3 -35.2	S	20 11.8 -13.1	16			
17	71 27.6 +00.0	S	14 40.7 -00.8	101 12.3 -00.9	S	21 32.0 -00.4	73 31.1 -35.1	S	19 58.7 -13.3	17			
18	86 27.6 +00.0	S	14 39.9 -00.8	116 11.4 -00.8	S	21 31.6 -00.3	87 56.0 -35.1	S	19 45.4 -13.5	18			
19	101 27.6 -00.1	S	14 39.1 -00.8	131 10.6 -00.8	S	21 31.3 -00.4	102 20.9 -34.9	S	19 31.9 -13.6	19			
20	116 27.5 +00.0	S	14 38.3 -00.8	146 09.8 -00.9	S	21 30.9 -00.4	116 46.0 -34.9	S	19 18.3 -13.7	20			
21	131 27.5 +00.0	S	14 37.5 -00.8	161 08.9 -00.8	S	21 30.5 -00.3	131 11.1 -34.8	S	19 04.6 -13.8	21			
22	146 27.5 +00.0	S	14 36.7 -00.8	176 08.1 -00.9	S	21 30.2 -00.4	145 36.3 -34.7	S	18 50.8 -14.0	22			
23	161 27.5 +00.0	S	14 35.9 -00.8	191 07.2 -00.8	S	21 29.8 -00.4	160 01.6 -34.6	S	18 36.8 -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 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 16'5 16'6 16'6 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 60'7 60'8 60'9 61'0 61'0 61'1						
	SHA 038° 038° 037° 037° 037° 037°			SHA 068° 068° 067° 067° 067° 067°			SHA 049° 046° 044° 041° 039° 036°						
	Greenwich Culmination Time: 12:14			Greenwich Culmination Time: 10:14			Greenwich Culmination Time: 11:53						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	199 38.2 +00.4	S	21 41.8 -00.3	102 26.5 +02.2	N	13 17.6 +00.1	158 54.7 +02.2	S	10 17.9 -00.1	00			
01	214 38.6 +00.4	S	21 41.5 -00.4	117 28.7 +02.1	N	13 17.7 +00.1	173 56.9 +02.1	S	10 17.8 -00.1	01			
02	229 39.0 +00.5	S	21 41.1 -00.3	132 30.8 +02.2	N	13 17.8 +00.1	188 59.0 +02.2	S	10 17.7 -00.1	02			
03	244 39.5 +00.4	S	21 40.8 -00.4	147 33.0 +02.2	N	13 17.9 +00.1	204 01.2 +02.2	S	10 17.6 -00.2	03			
04	259 39.9 +00.4	S	21 40.4 -00.3	162 35.2 +02.1	N	13 18.0 +00.1	219 03.4 +02.2	S	10 17.4 -00.1	04			
05	274 40.3 +00.5	S	21 40.1 -00.4	177 37.3 +02.2	N	13 18.1 +00.1	234 05.6 +02.2	S	10 17.3 -00.1	05			
06	289 40.8 +00.4	S	21 39.7 -00.3	192 39.5 +02.1	N	13 18.2 +00.1	249 07.8 +02.2	S	10 17.2 -00.1	06			
07	304 41.2 +00.5	S	21 39.4 -00.4	207 41.6 +02.2	N	13 18.3 +00.1	264 10.0 +02.2	S	10 17.1 -00.1	07			
08	319 41.7 +00.4	S	21 39.0 -00.3	222 43.8 +02.2	N	13 18.4 +00.2	279 12.2 +02.1	S	10 17.0 -00.1	08			
09	334 42.1 +00.4	S	21 38.7 -00.4	237 46.0 +02.1	N	13 18.6 +00.1	294 14.3 +02.2	S	10 16.9 -00.1	09			
10	349 42.5 +00.5	S	21 38.3 -00.3	252 48.1 +02.2	N	13 18.7 +00.1	309 16.5 +02.2	S	10 16.8 -00.1	10			
11	4 43.0 +00.4	S	21 38.0 -00.4	267 50.3 +02.2	N	13 18.8 +00.1	324 18.7 +02.2	S	10 16.7 -00.1	11			
12	19 43.4 +00.4	S	21 37.6 -00.3	282 52.5 +02.1	N	13 18.9 +00.1	339 20.9 +02.2	S	10 16.6 -00.1	12			
13	34 43.8 +00.5	S	21 37.3 -00.4	297 54.6 +02.2	N	13 19.0 +00.1	354 23.1 +02.2	S	10 16.5 -00.2	13			
14	49 44.3 +00.4	S	21 36.9 -00.4	312 56.8 +02.1	N	13 19.1 +00.1	9 25.3 +02.2	S	10 16.3 -00.1	14			
15	64 44.7 +00.5	S	21 36.5 -00.3	327 58.9 +02.2	N	13 19.2 +00.1	24 27.5 +02.1	S	10 16.2 -00.1	15			
16	79 45.2 +00.4	S	21 36.2 -00.4	343 01.1 +02.2	N	13 19.3 +00.1	39 29.6 +02.2	S	10 16.1 -00.1	16			
17	94 45.6 +00.4	S	21 35.8 -00.3	358 03.3 +02.1	N	13 19.4 +00.2	54 31.8 +02.2	S	10 16.0 -00.1	17			
18	109 46.0 +00.5	S	21 35.5 -00.4	13 05.4 +02.2	N	13 19.6 +00.1	69 34.0 +02.2	S	10 15.9 -00.1	18			
19	124 46.5 +00.4	S	21 35.1 -00.3	28 07.6 +02.1	N	13 19.7 +00.1	84 36.2 +02.2	S	10 15.8 -00.1	19			
20	139 46.9 +00.5	S	21 34.8 -00.4	43 09.7 +02.2	N	13 19.8 +00.1	99 38.4 +02.2	S	10 15.7 -00.1	20			
21	154 47.4 +00.4	S	21 34.4 -00.4	58 11.9 +02.2	N	13 19.9 +00.1	114 40.6 +02.1	S	10 15.6 -00.1	21			
22	169 47.8 +00.4	S	21 34.0 -00.3	73 14.1 +02.1	N	13 20.0 +00.1	129 42.7 +02.2	S	10 15.5 -00.1	22			
23	184 48.2 +00.5	S	21 33.7 -00.4	88 16.2 +02.2	N	13 20.1 +00.1	144 44.9 +02.2	S	10 15.4 -00.2	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			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						
	SHA 061° 061° 061° 061° 060° 060°			SHA 324° 324° 324° 324° 324° 324°			SHA 020° 020° 020° 020° 020° 020°						
	Greenwich Culmination Time: 10:41			Greenwich Culmination Time: 17:07			Greenwich Culmination Time: 13:22						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 27.5 -00.1	S	14 35.1 -00.8	206 06.4 -00.8	S	21 29.4 -00.3	174 27.0 -34.5	S	18 22.7 -14.2	00			
01	191 27.4 +00.0	S	14 34.3 -00.9	221 05.6 -00.9	S	21 29.1 -00.4	188 52.5 -34.4	S	18 08.5 -14.4	01			
02	206 27.4 +00.0	S	14 33.4 -00.8	236 04.7 -00.8	S	21 28.7 -00.4	203 18.1 -34.3	S	17 54.1 -14.4	02			
03	221 27.4 +00.0	S	14 32.6 -00.8	251 03.9 -00.8	S	21 28.3 -00.3	217 43.8 -34.3	S	17 39.7 -14.6	03			
04	236 27.4 +00.0	S	14 31.8 -00.8	266 03.1 -00.9	S	21 28.0 -00.4	232 09.5 -34.1	S	17 25.1 -14.7	04			
05	251 27.4 +00.0	S	14 31.0 -00.8	281 02.2 -00.8	S	21 27.6 -00.4	246 35.4 -34.1	S	17 10.4 -14.8	05			
06	266 27.4 +00.0	S	14 30.2 -00.8	296 01.4 -00.8	S	21 27.2 -00.4	261 01.3 -34.0	S	16 55.6 -15.0	06			
07	281 27.4 -00.1	S	14 29.4 -00.8	311 00.6 -00.9	S	21 26.8 -00.3	275 27.3 -33.9	S	16 40.6 -15.0	07			
08	296 27.3 +00.0	S	14 28.6 -00.8	325 59.7 -00.8	S	21 26.5 -00.4	289 53.4 -33.8	S	16 25.6 -15.1	08			
09	311 27.3 +00.0	S	14 27.8 -00.8	340 58.9 -00.8	S	21 26.1 -00.4	304 19.6 -33.7	S	16 10.5 -15.3	09			
10	326 27.3 +00.0	S	14 27.0 -00.8	355 58.1 -00.9	S	21 25.7 -00.4	318 45.9 -33.6	S	15 55.2 -15.4	10			
11	341 27.3 +00.0	S	14 26.2 -00.8	10 57.2 -00.8	S	21 25.3 -00.4	333 12.3 -33.6	S	15 39.8 -15.4	11			
12	356 27.3 +00.0	S	14 25.4 -00.8	25 56.4 -00.8	S	21 24.9 -00.4	347 38.7 -33.5	S	15 24.4 -15.6	12			
13	11 27.3 +00.0	S	14 24.6 -00.9	40 55.6 -00.9	S	21 24.5 -00.3	2 05.2 -33.3	S	15 08.8 -15.6	13			
14	26 27.3 +00.0	S	14 23.7 -00.8	55 54.7 -00.8	S	21 24.2 -00.4	16 31.9 -33.3	S	14 53.2 -15.7	14			
15	41 27.3 -00.1	S	14 22.9 -00.8	70 53.9 -00.8	S	21 23.8 -00.4	30 58.6 -33.2	S	14 37.5 -15.9	15			
16	56 27.2 +00.0	S	14 22.1 -00.8	85 53.1 -00.9	S	21 23.4 -00.4	45 25.4 -33.2	S	14 21.6 -15.9	16			
17	71 27.2 +00.0	S	14 21.3 -00.8	100 52.2 -00.8	S	21 23.0 -00.4	59 52.2 -33.0	S	14 05.7 -16.0	17			
18	86 27.2 +00.0	S	14 20.5 -00.8	115 51.4 -00.8	S	21 22.6 -00.4	74 19.2 -33.0	S	13 49.7 -16.1	18			
19	101 27.2 +00.0	S	14 19.7 -00.8	130 50.6 -00.9	S	21 22.2 -00.4	88 46.2 -32.8	S	13 33.6 -16.2	19			
20	116 27.2 +00.0	S	14 18.9 -00.9	145 49.7 -00.8	S	21 21.8 -00.4	103 13.4 -32.8	S	13 17.4 -16.2	20			
21	131 27.2 +00.0	S	14 18.0 -00.8	160 48.9 -00.8	S	21 21.4 -00.3	117 40.6 -32.8	S	13 01.2 -16.4	21			
22	146 27.2 +00.0	S	14 17.2 -00.8	175 48.1 -00.8	S	21 21.1 -00.4	132 07.8 -32.6	S	12 44.8 -16.4	22			
23	161 27.2 +00.0	S	14 16.4 -00.8	190 47.3 -00.9	S	21 20.7 -00.4	146 35.2 -32.6	S	12 28.4 -16.5	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'2 16'2 16'2 16'2 16'2 16'2			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 61'1 61'2 61'2 61'2 61'2 61'2						
	SHA 037° 037° 036° 036° 036° 036°			SHA 066° 066° 066° 066° 066° 065°			SHA 034° 031° 029° 026° 024° 022°						
	Greenwich Culmination Time: 12:14			Greenwich Culmination Time: 10:16			Greenwich Culmination Time: 12:51						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	199 48.7 +00.4	S	21 33.3 -00.3	103 18.4 +02.1	N	13 20.2 +00.1	159 47.1 +02.2	S	10 15.2 -00.1	00			
01	214 49.1 +00.5	S	21 33.0 -00.4	118 20.5 +02.2	N	13 20.3 +00.1	174 49.3 +02.2	S	10 15.1 -00.1	01			
02	229 49.6 +00.4	S	21 32.6 -00.3	133 22.7 +02.2	N	13 20.4 +00.2	189 51.5 +02.2	S	10 15.0 -00.1	02			
03	244 50.0 +00.4	S	21 32.3 -00.4	148 24.9 +02.1	N	13 20.6 +00.1	204 53.7 +02.1	S	10 14.9 -00.1	03			
04	259 50.4 +00.5	S	21 31.9 -00.4	163 27.0 +02.2	N	13 20.7 +00.1	219 55.8 +02.2	S	10 14.8 -00.1	04			
05	274 50.9 +00.4	S	21 31.5 -00.3	178 29.2 +02.1	N	13 20.8 +00.1	234 58.0 +02.2	S	10 14.7 -00.1	05			
06	289 51.3 +00.5	S	21 31.2 -00.4	193 31.3 +02.2	N	13 20.9 +00.1	250 00.2 +02.2	S	10 14.6 -00.1	06			
07	304 51.8 +00.4	S	21 30.8 -00.3	208 33.5 +02.1	N	13 21.0 +00.1	265 02.4 +02.2	S	10 14.5 -00.1	07			
08	319 52.2 +00.4	S	21 30.5 -00.4	223 35.6 +02.2	N	13 21.1 +00.1	280 04.6 +02.2	S	10 14.4 -00.2	08			
09	334 52.6 +00.5	S	21 30.1 -00.4	238 37.8 +02.2	N	13 21.2 +00.1	295 06.8 +02.2	S	10 14.2 -00.1	09			
10	349 53.1 +00.4	S	21 29.7 -00.3	253 40.0 +02.1	N	13 21.3 +00.2	310 09.0 +02.1	S	10 14.1 -00.1	10			
11	4 53.5 +00.5	S	21 29.4 -00.4	268 42.1 +02.2	N	13 21.5 +00.1	325 11.1 +02.2	S	10 14.0 -00.1	11			
12	19 54.0 +00.4	S	21 29.0 -00.4	283 44.3 +02.1	N	13 21.6 +00.1	340 13.3 +02.2	S	10 13.9 -00.1	12			
13	34 54.4 +00.4	S	21 28.6 -00.3	298 46.4 +02.2	N	13 21.7 +00.1	355 15.5 +02.2	S	10 13.8 -00.1	13			
14	49 54.8 +00.5	S	21 28.3 -00.4	313 48.6 +02.1	N	13 21.8 +00.1	10 17.7 +02.2	S	10 13.7 -00.1	14			
15	64 55.3 +00.4	S	21 27.9 -00.4	328 50.7 +02.2	N	13 21.9 +00.1	25 19.9 +02.2	S	10 13.6 -00.1	15			
16	79 55.7 +00.5	S	21 27.5 -00.3	343 52.9 +02.1	N	13 22.0 +00.1	40 22.1 +02.1	S	10 13.5 -00.1	16			
17	94 56.2 +00.4	S	21 27.2 -00.4	358 55.0 +02.2	N	13 22.1 +00.1	55 24.2 +02.2	S	10 13.4 -00.2	17			
18	109 56.6 +00.5	S	21 26.8 -00.4	13 57.2 +02.2	N	13 22.2 +00.2	70 26.4 +02.2	S	10 13.2 -00.1	18			
19	124 57.1 +00.4	S	21 26.4 -00.3	28 59.4 +02.1	N	13 22.4 +00.1	85 28.6 +02.2	S	10 13.1 -00.1	19			
20	139 57.5 +00.4	S	21 26.1 -00.4	44 01.5 +02.2	N	13 22.5 +00.1	100 30.8 +02.2	S	10 13.0 -00.1	20			
21	154 57.9 +00.5	S	21 25.7 -00.4	59 03.7 +02.1	N	13 22.6 +00.1	115 33.0 +02.2	S	10 12.9 -00.1	21			
22	169 58.4 +00.4	S	21 25.3 -00.3	74 05.8 +02.2	N	13 22.7 +00.1	130 35.2 +02.1	S	10 12.8 -00.1	22			
23	184 58.8 +00.5	S	21 25.0 -00.4	89 08.0 +02.1	N	13 22.8 +00.1	145 37.3 +02.2	S	10 12.7 -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 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			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						
	SHA 060° 060° 060° 060° 060° 059°			SHA 324° 324° 324° 324° 324° 324°			SHA 020° 020° 020° 020° 020° 020°						
	Greenwich Culmination Time: 10:40			Greenwich Culmination Time: 17:04			Greenwich Culmination Time: 13:18						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 27.2 +00.0	S 14 15.6 -00.8	205 46.4 -00.8	S 21 20.3 -00.4	161 02.6 -32.4	S 12 11.9 -16.5	00						
01	191 27.2 +00.0	S 14 14.8 -00.8	220 45.6 -00.8	S 21 19.9 -00.4	175 30.2 -32.5	S 11 55.4 -16.7	01						
02	206 27.2 +00.0	S 14 14.0 -00.8	235 44.8 -00.9	S 21 19.5 -00.4	189 57.7 -32.3	S 11 38.7 -16.7	02						
03	221 27.2 -00.1	S 14 13.2 -00.9	250 43.9 -00.8	S 21 19.1 -00.4	204 25.4 -32.2	S 11 22.0 -16.7	03						
04	236 27.1 +00.0	S 14 12.3 -00.8	265 43.1 -00.8	S 21 18.7 -00.4	218 53.2 -32.2	S 11 05.3 -16.8	04						
05	251 27.1 +00.0	S 14 11.5 -00.8	280 42.3 -00.8	S 21 18.3 -00.4	233 21.0 -32.1	S 10 48.5 -16.9	05						
06	266 27.1 +00.0	S 14 10.7 -00.8	295 41.5 -00.9	S 21 17.9 -00.4	247 48.9 -32.1	S 10 31.6 -17.0	06						
07	281 27.1 +00.0	S 14 09.9 -00.8	310 40.6 -00.8	S 21 17.5 -00.4	262 16.8 -31.9	S 10 14.6 -17.0	07						
08	296 27.1 +00.0	S 14 09.1 -00.9	325 39.8 -00.8	S 21 17.1 -00.4	276 44.9 -31.9	S 09 57.6 -17.0	08						
09	311 27.1 +00.0	S 14 08.2 -00.8	340 39.0 -00.9	S 21 16.7 -00.4	291 13.0 -31.9	S 09 40.6 -17.1	09						
10	326 27.1 +00.0	S 14 07.4 -00.8	355 38.1 -00.8	S 21 16.3 -00.5	305 41.1 -31.7	S 09 23.5 -17.2	10						
11	341 27.1 +00.0	S 14 06.6 -00.8	10 37.3 -00.8	S 21 15.8 -00.4	320 09.4 -31.7	S 09 06.3 -17.2	11						
12	356 27.1 +00.0	S 14 05.8 -00.8	25 36.5 -00.8	S 21 15.4 -00.4	334 37.7 -31.7	S 08 49.1 -17.2	12						
13	11 27.1 +00.0	S 14 05.0 -00.9	40 35.7 -00.9	S 21 15.0 -00.4	349 06.0 -31.5	S 08 31.9 -17.3	13						
14	26 27.1 +00.0	S 14 04.1 -00.8	55 34.8 -00.8	S 21 14.6 -00.4	3 34.5 -31.5	S 08 14.6 -17.4	14						
15	41 27.1 +00.0	S 14 03.3 -00.8	70 34.0 -00.8	S 21 14.2 -00.4	18 03.0 -31.5	S 07 57.2 -17.3	15						
16	56 27.1 +00.0	S 14 02.5 -00.8	85 33.2 -00.8	S 21 13.8 -00.4	32 31.5 -31.3	S 07 39.9 -17.4	16						
17	71 27.1 +00.0	S 14 01.7 -00.8	100 32.4 -00.9	S 21 13.4 -00.4	47 00.2 -31.4	S 07 22.5 -17.5	17						
18	86 27.1 +00.0	S 14 00.9 -00.9	115 31.5 -00.8	S 21 13.0 -00.4	61 28.8 -31.2	S 07 05.0 -17.5	18						
19	101 27.1 +00.0	S 14 00.0 -00.8	130 30.7 -00.8	S 21 12.6 -00.5	75 57.6 -31.2	S 06 47.5 -17.5	19						
20	116 27.1 +00.0	S 13 59.2 -00.8	145 29.9 -00.8	S 21 12.1 -00.4	90 26.4 -31.2	S 06 30.0 -17.5	20						
21	131 27.1 +00.0	S 13 58.4 -00.8	160 29.1 -00.8	S 21 11.7 -00.4	104 55.2 -31.1	S 06 12.5 -17.6	21						
22	146 27.1 +00.0	S 13 57.6 -00.9	175 28.3 -00.9	S 21 11.3 -00.4	119 24.1 -31.0	S 05 54.9 -17.5	22						
23	161 27.1 +00.0	S 13 56.7 -00.8	190 27.4 -00.8	S 21 10.9 -00.4	133 53.1 -31.0	S 05 37.4 -17.7	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'2 16'2 16'2 16'2 16'2 16'2		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 61'2 61'2 61'1 61'1 61'1 61'0								
	SHA 036° 036° 035° 035° 035° 035°		SHA 065° 065° 065° 064° 064° 064°		SHA 019° 017° 015° 012° 010° 008°								
	Greenwich Culmination Time: 12:14		Greenwich Culmination Time: 10:17		Greenwich Culmination Time: 13:45								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	199 59.3 +00.4	S 21 24.6 -00.4	104 10.1 +02.2	N 13 22.9 +00.1	160 39.5 +02.2	S 10 12.6 -00.1	00						
01	214 59.7 +00.5	S 21 24.2 -00.3	119 12.3 +02.1	N 13 23.0 +00.2	175 41.7 +02.2	S 10 12.5 -00.1	01						
02	230 00.2 +00.4	S 21 23.9 -00.4	134 14.4 +02.2	N 13 23.2 +00.1	190 43.9 +02.2	S 10 12.4 -00.1	02						
03	245 00.6 +00.4	S 21 23.5 -00.4	149 16.6 +02.1	N 13 23.3 +00.1	205 46.1 +02.2	S 10 12.3 -00.2	03						
04	260 01.0 +00.5	S 21 23.1 -00.3	164 18.7 +02.2	N 13 23.4 +00.1	220 48.3 +02.1	S 10 12.1 -00.1	04						
05	275 01.5 +00.4	S 21 22.8 -00.4	179 20.9 +02.1	N 13 23.5 +00.1	235 50.4 +02.2	S 10 12.0 -00.1	05						
06	290 01.9 +00.5	S 21 22.4 -00.4	194 23.0 +02.2	N 13 23.6 +00.1	250 52.6 +02.2	S 10 11.9 -00.1	06						
07	305 02.4 +00.4	S 21 22.0 -00.3	209 25.2 +02.1	N 13 23.7 +00.1	265 54.8 +02.2	S 10 11.8 -00.1	07						
08	320 02.8 +00.5	S 21 21.7 -00.4	224 27.3 +02.2	N 13 23.8 +00.2	280 57.0 +02.2	S 10 11.7 -00.1	08						
09	335 03.3 +00.4	S 21 21.3 -00.4	239 29.5 +02.1	N 13 24.0 +00.1	295 59.2 +02.2	S 10 11.6 -00.1	09						
10	350 03.7 +00.4	S 21 20.9 -00.4	254 31.6 +02.2	N 13 24.1 +00.1	311 01.4 +02.1	S 10 11.5 -00.1	10						
11	5 04.1 +00.5	S 21 20.5 -00.3	269 33.8 +02.1	N 13 24.2 +00.1	326 03.5 +02.2	S 10 11.4 -00.1	11						
12	20 04.6 +00.4	S 21 20.2 -00.4	284 35.9 +02.2	N 13 24.3 +00.1	341 05.7 +02.2	S 10 11.3 -00.2	12						
13	35 05.0 +00.5	S 21 19.8 -00.4	299 38.1 +02.1	N 13 24.4 +00.1	356 07.9 +02.2	S 10 11.1 -00.1	13						
14	50 05.5 +00.4	S 21 19.4 -00.4	314 40.2 +02.2	N 13 24.5 +00.1	11 10.1 +02.2	S 10 11.0 -00.1	14						
15	65 05.9 +00.5	S 21 19.0 -00.3	329 42.4 +02.1	N 13 24.6 +00.2	26 12.3 +02.2	S 10 10.9 -00.1	15						
16	80 06.4 +00.4	S 21 18.7 -00.4	344 44.5 +02.2	N 13 24.8 +00.1	41 14.5 +02.1	S 10 10.8 -00.1	16						
17	95 06.8 +00.5	S 21 18.3 -00.4	359 46.7 +02.1	N 13 24.9 +00.1	56 16.6 +02.2	S 10 10.7 -00.1	17						
18	110 07.3 +00.4	S 21 17.9 -00.4	14 48.8 +02.2	N 13 25.0 +00.1	71 18.8 +02.2	S 10 10.6 -00.1	18						
19	125 07.7 +00.4	S 21 17.5 -00.3	29 51.0 +02.1	N 13 25.1 +00.1	86 21.0 +02.2	S 10 10.5 -00.1	19						
20	140 08.1 +00.5	S 21 17.2 -00.4	44 53.1 +02.2	N 13 25.2 +00.1	101 23.2 +02.2	S 10 10.4 -00.1	20						
21	155 08.6 +00.4	S 21 16.8 -00.4	59 55.3 +02.1	N 13 25.3 +00.1	116 25.4 +02.1	S 10 10.3 -00.2	21						
22	170 09.0 +00.5	S 21 16.4 -00.4	74 57.4 +02.2	N 13 25.4 +00.2	131 27.5 +02.2	S 10 10.1 -00.1	22						
23	185 09.5 +00.4	S 21 16.0 -00.3	89 59.6 +02.1	N 13 25.6 +00.1	146 29.7 +02.2	S 10 10.0 -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 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		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								
	SHA 059° 059° 059° 059° 059° 059°		SHA 324° 324° 324° 324° 324° 323°		SHA 020° 020° 020° 020° 020° 020°								
	Greenwich Culmination Time: 10:39		Greenwich Culmination Time: 17:00		Greenwich Culmination Time: 13:15								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 27.1 +00.0	S 13 55.9 -00.8	205 26.6 -00.8	S 21 10.5 -00.5	148 22.1 -30.9	S 05 19.7 -17.6	00						
01	191 27.1 +00.0	S 13 55.1 -00.8	220 25.8 -00.8	S 21 10.0 -00.4	162 51.2 -30.9	S 05 02.1 -17.6	01						
02	206 27.1 +00.0	S 13 54.3 -00.9	235 25.0 -00.9	S 21 09.6 -00.4	177 20.3 -30.8	S 04 44.5 -17.7	02						
03	221 27.1 +00.0	S 13 53.4 -00.8	250 24.1 -00.8	S 21 09.2 -00.4	191 49.5 -30.8	S 04 26.8 -17.7	03						
04	236 27.1 +00.0	S 13 52.6 -00.8	265 23.3 -00.8	S 21 08.8 -00.5	206 18.7 -30.8	S 04 09.1 -17.7	04						
05	251 27.1 +00.0	S 13 51.8 -00.8	280 22.5 -00.8	S 21 08.3 -00.4	220 47.9 -30.7	S 03 51.4 -17.7	05						
06	266 27.1 +00.0	S 13 51.0 -00.9	295 21.7 -00.8	S 21 07.9 -00.4	235 17.2 -30.6	S 03 33.7 -17.7	06						
07	281 27.1 +00.0	S 13 50.1 -00.8	310 20.9 -00.9	S 21 07.5 -00.5	249 46.6 -30.6	S 03 16.0 -17.7	07						
08	296 27.1 +00.0	S 13 49.3 -00.8	325 20.0 -00.8	S 21 07.0 -00.4	264 16.0 -30.6	S 02 58.3 -17.7	08						
09	311 27.1 +00.0	S 13 48.5 -00.9	340 19.2 -00.8	S 21 06.6 -00.4	278 45.4 -30.5	S 02 40.6 -17.7	09						
10	326 27.1 +00.0	S 13 47.6 -00.8	355 18.4 -00.8	S 21 06.2 -00.4	293 14.9 -30.5	S 02 22.9 -17.7	10						
11	341 27.1 +00.0	S 13 46.8 -00.8	10 17.6 -00.8	S 21 05.8 -00.5	307 44.4 -30.5	S 02 05.2 -17.8	11						
12	356 27.1 +00.0	S 13 46.0 -00.9	25 16.8 -00.9	S 21 05.3 -00.4	322 13.9 -30.4	S 01 47.4 -17.7	12						
13	11 27.1 +00.0	S 13 45.1 -00.8	40 15.9 -00.8	S 21 04.9 -00.5	336 43.5 -30.4	S 01 29.7 -17.7	13						
14	26 27.1 +00.0	S 13 44.3 -00.8	55 15.1 -00.8	S 21 04.4 -00.4	351 13.1 -30.3	S 01 12.0 -17.7	14						
15	41 27.1 +00.0	S 13 43.5 -00.8	70 14.3 -00.8	S 21 04.0 -00.4	5 42.8 -30.4	S 00 54.3 -17.7	15						
16	56 27.1 +00.0	S 13 42.7 -00.9	85 13.5 -00.8	S 21 03.6 -00.5	20 12.4 -30.2	S 00 36.6 -17.7	16						
17	71 27.1 +00.0	S 13 41.8 -00.8	100 12.7 -00.8	S 21 03.1 -00.4	34 42.2 -30.3	S 00 18.9 -17.6	17						
18	86 27.1 +00.0	S 13 41.0 -00.8	115 11.9 -00.9	S 21 02.7 -00.5	49 11.9 -30.2	S 00 01.3 -17.7	18						
19	101 27.1 +00.0	S 13 40.2 -00.9	130 11.0 -00.8	S 21 02.2 -00.4	63 41.7 -30.2	N 00 16.4 +17.6	19						
20	116 27.1 +00.1	S 13 39.3 -00.8	145 10.2 -00.8	S 21 01.8 -00.4	78 11.5 -30.2	N 00 34.0 +17.7	20						
21	131 27.2 +00.0	S 13 38.5 -00.8	160 09.4 -00.8	S 21 01.4 -00.5	92 41.3 -30.2	N 00 51.7 +17.6	21						
22	146 27.2 +00.0	S 13 37.7 -00.9	175 08.6 -00.8	S 21 00.9 -00.4	107 11.1 -30.1	N 01 09.3 +17.6	22						
23	161 27.2 +00.0	S 13 36.8 -00.8	190 07.8 -00.8	S 21 00.5 -00.5	121 41.0 -30.1	N 01 26.9 +17.5	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'2 16'2 16'2 16'2 16'2 16'2		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 16'6 16'6 16'6 16'5 16'5 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 60'7 60'6 60'5								
	SHA 035° 035° 034° 034° 034° 034°		SHA 064° 064° 063° 063° 063° 063°		SHA 006° 003° 001° 359° 357° 355°								
	Greenwich Culmination Time: 12:14		Greenwich Culmination Time: 10:18		Greenwich Culmination Time: 14:36								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	200 09.9 +00.5	S 21 15.7 -00.4	105 01.7 +02.2	N 13 25.7 +00.1	161 31.9 +02.2	S 10 09.9 -00.1	00						
01	215 10.4 +00.4	S 21 15.3 -00.4	120 03.9 +02.1	N 13 25.8 +00.1	176 34.1 +02.2	S 10 09.8 -00.1	01						
02	230 10.8 +00.5	S 21 14.9 -00.4	135 06.0 +02.1	N 13 25.9 +00.1	191 36.3 +02.2	S 10 09.7 -00.1	02						
03	245 11.3 +00.4	S 21 14.5 -00.4	150 08.1 +02.2	N 13 26.0 +00.1	206 38.5 +02.1	S 10 09.6 -00.1	03						
04	260 11.7 +00.5	S 21 14.1 -00.3	165 10.3 +02.1	N 13 26.1 +00.2	221 40.6 +02.2	S 10 09.5 -00.1	04						
05	275 12.2 +00.4	S 21 13.8 -00.4	180 12.4 +02.2	N 13 26.3 +00.1	236 42.8 +02.2	S 10 09.4 -00.1	05						
06	290 12.6 +00.4	S 21 13.4 -00.4	195 14.6 +02.1	N 13 26.4 +00.1	251 45.0 +02.2	S 10 09.3 -00.2	06						
07	305 13.0 +00.5	S 21 13.0 -00.4	210 16.7 +02.2	N 13 26.5 +00.1	266 47.2 +02.2	S 10 09.1 -00.1	07						
08	320 13.5 +00.4	S 21 12.6 -00.4	225 18.9 +02.1	N 13 26.6 +00.1	281 49.4 +02.2	S 10 09.0 -00.1	08						
09	335 13.9 +00.5	S 21 12.2 -00.3	240 21.0 +02.2	N 13 26.7 +00.1	296 51.6 +02.1	S 10 08.9 -00.1	09						
10	350 14.4 +00.4	S 21 11.9 -00.4	255 23.2 +02.1	N 13 26.8 +00.2	311 53.7 +02.2	S 10 08.8 -00.1	10						
11	5 14.8 +00.5	S 21 11.5 -00.4	270 25.3 +02.1	N 13 27.0 +00.1	326 55.9 +02.2	S 10 08.7 -00.1	11						
12	20 15.3 +00.4	S 21 11.1 -00.4	285 27.4 +02.2	N 13 27.1 +00.1	341 58.1 +02.2	S 10 08.6 -00.1	12						
13	35 15.7 +00.5	S 21 10.7 -00.4	300 29.6 +02.1	N 13 27.2 +00.1	357 00.3 +02.2	S 10 08.5 -00.1	13						
14	50 16.2 +00.4	S 21 10.3 -00.4	315 31.7 +02.2	N 13 27.3 +00.1	12 02.5 +02.2	S 10 08.4 -00.1	14						
15	65 16.6 +00.5	S 21 09.9 -00.3	330 33.9 +02.1	N 13 27.4 +00.1	27 04.7 +02.1	S 10 08.3 -00.2	15						
16	80 17.1 +00.4	S 21 09.6 -00.4	345 36.0 +02.2	N 13 27.5 +00.1	42 06.8 +02.2	S 10 08.1 -00.1	16						
17	95 17.5 +00.5	S 21 09.2 -00.4	0 38.2 +02.1	N 13 27.6 +00.2	57 09.0 +02.2	S 10 08.0 -00.1	17						
18	110 18.0 +00.4	S 21 08.8 -00.4	15 40.3 +02.1	N 13 27.8 +00.1	72 11.2 +02.2	S 10 07.9 -00.1	18						
19	125 18.4 +00.5	S 21 08.4 -00.4	30 42.4 +02.2	N 13 27.9 +00.1	87 13.4 +02.2	S 10 07.8 -00.1	19						
20	140 18.9 +00.4	S 21 08.0 -00.4	45 44.6 +02.1	N 13 28.0 +00.1	102 15.6 +02.1	S 10 07.7 -00.1	20						
21	155 19.3 +00.5	S 21 07.6 -00.3	60 46.7 +02.2	N 13 28.1 +00.1	117 17.7 +02.2	S 10 07.6 -00.1	21						
22	170 19.8 +00.4	S 21 07.3 -00.4	75 48.9 +02.1	N 13 28.2 +00.1	132 19.9 +02.2	S 10 07.5 -00.1	22						
23	185 20.2 +00.5	S 21 06.9 -00.4	90 51.0 +02.1	N 13 28.3 +00.2	147 22.1 +02.2	S 10 07.4 -00.2	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		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								
	SHA 059° 058° 058° 058° 058° 058°		SHA 323° 323° 323° 323° 323° 323°		SHA 020° 020° 020° 020° 020° 020°								
	Greenwich Culmination Time: 10:39		Greenwich Culmination Time: 16:57		Greenwich Culmination Time: 13:11								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 27.2 +00.0	S 13 36.0 -00.8	205 07.0 -00.9	S 21 00.0 -00.4	136 10.9 -30.1	N 01 44.4 +17.5	00						
01	191 27.2 +00.0	S 13 35.2 -00.9	220 06.1 -00.8	S 20 59.6 -00.5	150 40.8 -30.1	N 02 01.9 +17.5	01						
02	206 27.2 +00.0	S 13 34.3 -00.8	235 05.3 -00.8	S 20 59.1 -00.4	165 10.7 -30.0	N 02 19.4 +17.5	02						
03	221 27.2 +00.0	S 13 33.5 -00.9	250 04.5 -00.8	S 20 58.7 -00.5	179 40.7 -30.1	N 02 36.9 +17.5	03						
04	236 27.2 +00.0	S 13 32.6 -00.8	265 03.7 -00.8	S 20 58.2 -00.4	194 10.6 -30.0	N 02 54.4 +17.4	04						
05	251 27.2 +00.0	S 13 31.8 -00.8	280 02.9 -00.8	S 20 57.8 -00.5	208 40.6 -30.0	N 03 11.8 +17.4	05						
06	266 27.2 +00.0	S 13 31.0 -00.9	295 02.1 -00.8	S 20 57.3 -00.4	223 10.6 -30.0	N 03 29.2 +17.3	06						
07	281 27.2 +00.1	S 13 30.1 -00.8	310 01.3 -00.8	S 20 56.9 -00.5	237 40.6 -30.0	N 03 46.5 +17.3	07						
08	296 27.3 +00.0	S 13 29.3 -00.8	325 00.5 -00.9	S 20 56.4 -00.5	252 10.6 -30.0	N 04 03.8 +17.3	08						
09	311 27.3 +00.0	S 13 28.5 -00.9	339 59.6 -00.8	S 20 55.9 -00.4	266 40.6 -29.9	N 04 21.1 +17.2	09						
10	326 27.3 +00.0	S 13 27.6 -00.8	354 58.8 -00.8	S 20 55.5 -00.5	281 10.7 -30.0	N 04 38.3 +17.2	10						
11	341 27.3 +00.0	S 13 26.8 -00.9	9 58.0 -00.8	S 20 55.0 -00.4	295 40.7 -30.0	N 04 55.5 +17.1	11						
12	356 27.3 +00.0	S 13 25.9 -00.8	24 57.2 -00.8	S 20 54.6 -00.5	310 10.7 -29.9	N 05 12.6 +17.1	12						
13	11 27.3 +00.0	S 13 25.1 -00.8	39 56.4 -00.8	S 20 54.1 -00.5	324 40.8 -30.0	N 05 29.7 +17.1	13						
14	26 27.3 +00.0	S 13 24.3 -00.9	54 55.6 -00.8	S 20 53.6 -00.4	339 10.8 -29.9	N 05 46.8 +17.0	14						
15	41 27.3 +00.0	S 13 23.4 -00.8	69 54.8 -00.8	S 20 53.2 -00.5	353 40.9 -29.9	N 06 03.8 +16.9	15						
16	56 27.3 +00.1	S 13 22.6 -00.9	84 54.0 -00.8	S 20 52.7 -00.5	8 11.0 -30.0	N 06 20.7 +16.9	16						
17	71 27.4 +00.0	S 13 21.7 -00.8	99 53.2 -00.8	S 20 52.2 -00.4	22 41.0 -29.9	N 06 37.6 +16.9	17						
18	86 27.4 +00.0	S 13 20.9 -00.8	114 52.4 -00.9	S 20 51.8 -00.5	37 11.1 -30.0	N 06 54.5 +16.7	18						
19	101 27.4 +00.0	S 13 20.1 -00.9	129 51.5 -00.8	S 20 51.3 -00.5	51 41.1 -29.9	N 07 11.2 +16.8	19						
20	116 27.4 +00.0	S 13 19.2 -00.8	144 50.7 -00.8	S 20 50.8 -00.4	66 11.2 -30.0	N 07 28.0 +16.7	20						
21	131 27.4 +00.0	S 13 18.4 -00.9	159 49.9 -00.8	S 20 50.4 -00.5	80 41.2 -29.9	N 07 44.7 +16.6	21						
22	146 27.4 +00.0	S 13 17.5 -00.8	174 49.1 -00.8	S 20 49.9 -00.5	95 11.3 -30.0	N 08 01.3 +16.5	22						
23	161 27.4 +00.1	S 13 16.7 -00.9	189 48.3 -00.8	S 20 49.4 -00.4	109 41.3 -30.0	N 08 17.8 +16.5	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'2 16'2 16'2 16'2 16'2 16'2		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 16'5 16'4 16'4 16'4 16'3 16'3								
	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 60'4 60'3 60'2 60'1 60'0 59'8								
	SHA 034° 034° 034° 033° 033° 033°		SHA 062° 062° 062° 062° 062° 061°		SHA 353° 350° 348° 346° 344° 342°								
	Greenwich Culmination Time: 12:14		Greenwich Culmination Time: 10:20		Greenwich Culmination Time: 15:26								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	200 20.7 +00.4	S 21 06.5 -00.4	105 53.1 +02.2	N 13 28.5 +00.1	162 24.3 +02.2	S 10 07.2 -00.1	00						
01	215 21.1 +00.5	S 21 06.1 -00.4	120 55.3 +02.1	N 13 28.6 +00.1	177 26.5 +02.2	S 10 07.1 -00.1	01						
02	230 21.6 +00.4	S 21 05.7 -00.4	135 57.4 +02.2	N 13 28.7 +00.1	192 28.7 +02.1	S 10 07.0 -00.1	02						
03	245 22.0 +00.4	S 21 05.3 -00.4	150 59.6 +02.1	N 13 28.8 +00.1	207 30.8 +02.2	S 10 06.9 -00.1	03						
04	260 22.4 +00.5	S 21 04.9 -00.4	166 01.7 +02.1	N 13 28.9 +00.2	222 33.0 +02.2	S 10 06.8 -00.1	04						
05	275 22.9 +00.4	S 21 04.5 -00.4	181 03.8 +02.2	N 13 29.1 +00.1	237 35.2 +02.2	S 10 06.7 -00.1	05						
06	290 23.3 +00.5	S 21 04.1 -00.3	196 06.0 +02.1	N 13 29.2 +00.1	252 37.4 +02.2	S 10 06.6 -00.1	06						
07	305 23.8 +00.4	S 21 03.8 -00.4	211 08.1 +02.2	N 13 29.3 +00.1	267 39.6 +02.1	S 10 06.5 -00.1	07						
08	320 24.2 +00.5	S 21 03.4 -00.4	226 10.3 +02.1	N 13 29.4 +00.1	282 41.7 +02.2	S 10 06.4 -00.2	08						
09	335 24.7 +00.4	S 21 03.0 -00.4	241 12.4 +02.1	N 13 29.5 +00.1	297 43.9 +02.2	S 10 06.2 -00.1	09						
10	350 25.1 +00.5	S 21 02.6 -00.4	256 14.5 +02.2	N 13 29.6 +00.2	312 46.1 +02.2	S 10 06.1 -00.1	10						
11	5 25.6 +00.4	S 21 02.2 -00.4	271 16.7 +02.1	N 13 29.8 +00.1	327 48.3 +02.2	S 10 06.0 -00.1	11						
12	20 26.0 +00.5	S 21 01.8 -00.4	286 18.8 +02.1	N 13 29.9 +00.1	342 50.5 +02.2	S 10 05.9 -00.1	12						
13	35 26.5 +00.4	S 21 01.4 -00.4	301 20.9 +02.2	N 13 30.0 +00.1	357 52.7 +02.1	S 10 05.8 -00.1	13						
14	50 26.9 +00.5	S 21 01.0 -00.4	316 23.1 +02.1	N 13 30.1 +00.1	12 54.8 +02.2	S 10 05.7 -00.1	14						
15	65 27.4 +00.4	S 21 00.6 -00.4	331 25.2 +02.2	N 13 30.2 +00.1	27 57.0 +02.2	S 10 05.6 -00.1	15						
16	80 27.8 +00.5	S 21 00.2 -00.4	346 27.4 +02.1	N 13 30.3 +00.2	42 59.2 +02.2	S 10 05.5 -00.1	16						
17	95 28.3 +00.4	S 20 59.8 -00.4	1 29.5 +02.1	N 13 30.5 +00.1	58 01.4 +02.2	S 10 05.4 -00.2	17						
18	110 28.7 +00.5	S 20 59.4 -00.4	16 31.6 +02.2	N 13 30.6 +00.1	73 03.6 +02.1	S 10 05.2 -00.1	18						
19	125 29.2 +00.5	S 20 59.0 -00.4	31 33.8 +02.1	N 13 30.7 +00.1	88 05.7 +02.2	S 10 05.1 -00.1	19						
20	140 29.7 +00.4	S 20 58.6 -00.3	46 35.9 +02.1	N 13 30.8 +00.1	103 07.9 +02.2	S 10 05.0 -00.1	20						
21	155 30.1 +00.5	S 20 58.3 -00.4	61 38.0 +02.2	N 13 30.9 +00.2	118 10.1 +02.2	S 10 04.9 -00.1	21						
22	170 30.6 +00.4	S 20 57.9 -00.4	76 40.2 +02.1	N 13 31.1 +00.1	133 12.3 +02.2	S 10 04.8 -00.1	22						
23	185 31.0 +00.5	S 20 57.5 -00.4	91 42.3 +02.1	N 13 31.2 +00.1	148 14.5 +02.1	S 10 04.7 -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 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		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								
	SHA 058° 058° 057° 057° 057° 057°		SHA 323° 323° 323° 323° 323° 323°		SHA 020° 020° 020° 020° 020° 020°								
	Greenwich Culmination Time: 10:38		Greenwich Culmination Time: 16:54		Greenwich Culmination Time: 13:08								

UT	Sun				Venus				Moon				UT		
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec			
00	176 27.5 +00.0	S 13 15.8 -00.8	204 47.5 -00.8	S 20 49.0 -00.5	124 11.3 -30.0	N 08 34.3 +16.4	00								
01	191 27.5 +00.0	S 13 15.0 -00.8	219 46.7 -00.8	S 20 48.5 -00.5	138 41.3 -30.0	N 08 50.7 +16.4	01								
02	206 27.5 +00.0	S 13 14.2 -00.9	234 45.9 -00.8	S 20 48.0 -00.5	153 11.3 -30.0	N 09 07.1 +16.3	02								
03	221 27.5 +00.0	S 13 13.3 -00.8	249 45.1 -00.8	S 20 47.5 -00.4	167 41.3 -30.0	N 09 23.4 +16.2	03								
04	236 27.5 +00.0	S 13 12.5 -00.9	264 44.3 -00.8	S 20 47.1 -00.5	182 11.3 -30.0	N 09 39.6 +16.2	04								
05	251 27.5 +00.1	S 13 11.6 -00.8	279 43.5 -00.8	S 20 46.6 -00.5	196 41.3 -30.1	N 09 55.8 +16.1	05								
06	266 27.6 +00.0	S 13 10.8 -00.9	294 42.7 -00.8	S 20 46.1 -00.5	211 11.2 -30.0	N 10 11.9 +16.0	06								
07	281 27.6 +00.0	S 13 09.9 -00.8	309 41.9 -00.8	S 20 45.6 -00.5	225 41.2 -30.1	N 10 27.9 +15.9	07								
08	296 27.6 +00.0	S 13 09.1 -00.9	324 41.1 -00.8	S 20 45.1 -00.4	240 11.1 -30.1	N 10 43.8 +15.9	08								
09	311 27.6 +00.0	S 13 08.2 -00.8	339 40.3 -00.8	S 20 44.7 -00.5	254 41.0 -30.1	N 10 59.7 +15.8	09								
10	326 27.6 +00.1	S 13 07.4 -00.9	354 39.5 -00.8	S 20 44.2 -00.5	269 10.9 -30.2	N 11 15.5 +15.7	10								
11	341 27.7 +00.0	S 13 06.5 -00.8	9 38.7 -00.9	S 20 43.7 -00.5	283 40.7 -30.1	N 11 31.2 +15.6	11								
12	356 27.7 +00.0	S 13 05.7 -00.9	24 37.8 -00.8	S 20 43.2 -00.5	298 10.6 -30.2	N 11 46.8 +15.6	12								
13	11 27.7 +00.0	S 13 04.8 -00.8	39 37.0 -00.8	S 20 42.7 -00.5	312 40.4 -30.2	N 12 02.4 +15.4	13								
14	26 27.7 +00.0	S 13 04.0 -00.9	54 36.2 -00.8	S 20 42.2 -00.5	327 10.2 -30.2	N 12 17.8 +15.4	14								
15	41 27.7 +00.1	S 13 03.1 -00.8	69 35.4 -00.8	S 20 41.7 -00.5	341 40.0 -30.3	N 12 33.2 +15.3	15								
16	56 27.8 +00.0	S 13 02.3 -00.9	84 34.6 -00.8	S 20 41.2 -00.4	356 09.7 -30.3	N 12 48.5 +15.2	16								
17	71 27.8 +00.0	S 13 01.4 -00.8	99 33.8 -00.8	S 20 40.8 -00.5	10 39.4 -30.3	N 13 03.7 +15.2	17								
18	86 27.8 +00.0	S 13 00.6 -00.9	114 33.0 -00.8	S 20 40.3 -00.5	25 09.1 -30.3	N 13 18.9 +15.0	18								
19	101 27.8 +00.1	S 12 59.7 -00.8	129 32.2 -00.8	S 20 39.8 -00.5	39 38.8 -30.4	N 13 33.9 +15.0	19								
20	116 27.9 +00.0	S 12 58.9 -00.9	144 31.4 -00.8	S 20 39.3 -00.5	54 08.4 -30.4	N 13 48.9 +14.8	20								
21	131 27.9 +00.0	S 12 58.0 -00.8	159 30.6 -00.8	S 20 38.8 -00.5	68 38.0 -30.4	N 14 03.7 +14.8	21								
22	146 27.9 +00.0	S 12 57.2 -00.9	174 29.8 -00.8	S 20 38.3 -00.5	83 07.6 -30.4	N 14 18.5 +14.6	22								
23	161 27.9 +00.0	S 12 56.3 -00.8	189 29.0 -00.8	S 20 37.8 -00.5	97 37.2 -30.5	N 14 33.1 +14.6	23								
	UT 02 06 10 14 18 22	SD 16'2 16'2 16'2 16'2 16'2 16'2	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 033° 033° 033° 032° 032° 032°	Greenwich Culmination Time: 12:14	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 061° 061° 061° 061° 060° 060°	Greenwich Culmination Time: 10:21	UT 02 06 10 14 18 22	SD 16'3 16'2 16'2 16'2 16'1 16'1	HP 59'7 59'6 59'4 59'3 59'2 59'0	SHA 340° 337° 335° 333° 331° 329°	Greenwich Culmination Time: 16:15
UT	Mars				Jupiter				Saturn				UT		
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec			
00	200 31.5 +00.4	S 20 57.1 -00.4	106 44.4 +02.2	N 13 31.3 +00.1	163 16.6 +02.2	S 10 04.6 -00.1	00								
01	215 31.9 +00.5	S 20 56.7 -00.4	121 46.6 +02.1	N 13 31.4 +00.1	178 18.8 +02.2	S 10 04.5 -00.2	01								
02	230 32.4 +00.4	S 20 56.3 -00.4	136 48.7 +02.1	N 13 31.5 +00.2	193 21.0 +02.2	S 10 04.3 -00.1	02								
03	245 32.8 +00.5	S 20 55.9 -00.4	151 50.8 +02.2	N 13 31.7 +00.1	208 23.2 +02.2	S 10 04.2 -00.1	03								
04	260 33.3 +00.4	S 20 55.5 -00.4	166 53.0 +02.1	N 13 31.8 +00.1	223 25.4 +02.2	S 10 04.1 -00.1	04								
05	275 33.7 +00.5	S 20 55.1 -00.4	181 55.1 +02.1	N 13 31.9 +00.1	238 27.6 +02.1	S 10 04.0 -00.1	05								
06	290 34.2 +00.4	S 20 54.7 -00.4	196 57.2 +02.2	N 13 32.0 +00.1	253 29.7 +02.2	S 10 03.9 -00.1	06								
07	305 34.6 +00.5	S 20 54.3 -00.4	211 59.4 +02.1	N 13 32.1 +00.1	268 31.9 +02.2	S 10 03.8 -00.1	07								
08	320 35.1 +00.4	S 20 53.9 -00.4	227 01.5 +02.1	N 13 32.2 +00.2	283 34.1 +02.2	S 10 03.7 -00.1	08								
09	335 35.5 +00.5	S 20 53.5 -00.4	242 03.6 +02.2	N 13 32.4 +00.1	298 36.3 +02.2	S 10 03.6 -00.1	09								
10	350 36.0 +00.4	S 20 53.1 -00.4	257 05.8 +02.1	N 13 32.5 +00.1	313 38.5 +02.1	S 10 03.5 -00.2	10								
11	5 36.4 +00.5	S 20 52.7 -00.4	272 07.9 +02.1	N 13 32.6 +00.1	328 40.6 +02.2	S 10 03.3 -00.1	11								
12	20 36.9 +00.4	S 20 52.3 -00.4	287 10.0 +02.2	N 13 32.7 +00.1	343 42.8 +02.2	S 10 03.2 -00.1	12								
13	35 37.3 +00.5	S 20 51.9 -00.4	302 12.2 +02.1	N 13 32.8 +00.2	358 45.0 +02.2	S 10 03.1 -00.1	13								
14	50 37.8 +00.4	S 20 51.5 -00.4	317 14.3 +02.1	N 13 33.0 +00.1	13 47.2 +02.2	S 10 03.0 -00.1	14								
15	65 38.2 +00.5	S 20 51.1 -00.4	332 16.4 +02.2	N 13 33.1 +00.1	28 49.4 +02.1	S 10 02.9 -00.1	15								
16	80 38.7 +00.5	S 20 50.7 -00.4	347 18.6 +02.1	N 13 33.2 +00.1	43 51.5 +02.2	S 10 02.8 -00.1	16								
17	95 39.2 +00.4	S 20 50.3 -00.4	2 20.7 +02.1	N 13 33.3 +00.1	58 53.7 +02.2	S 10 02.7 -00.1	17								
18	110 39.6 +00.5	S 20 49.9 -00.4	17 22.8 +02.1	N 13 33.4 +00.2	73 55.9 +02.2	S 10 02.6 -00.2	18								
19	125 40.1 +00.4	S 20 49.5 -00.5	32 24.9 +02.2	N 13 33.6 +00.1	88 58.1 +02.2	S 10 02.4 -00.1	19								
20	140 40.5 +00.5	S 20 49.0 -00.4	47 27.1 +02.1	N 13 33.7 +00.1	104 00.3 +02.1	S 10 02.3 -00.1	20								
21	155 41.0 +00.4	S 20 48.6 -00.4	62 29.2 +02.1	N 13 33.8 +00.1	119 02.4 +02.2	S 10 02.2 -00.1	21								
22	170 41.4 +00.5	S 20 48.2 -00.4	77 31.3 +02.2	N 13 33.9 +00.1	134 04.6 +02.2	S 10 02.1 -00.1	22								
23	185 41.9 +00.4	S 20 47.8 -00.4	92 33.5 +02.1	N 13 34.0 +00.2	149 06.8 +02.2	S 10 02.0 -00.1	23								
	UT 02 06 10 14 18 22	SD 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 057° 057° 057° 057° 056° 056°	Greenwich Culmination Time: 10:37	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 323° 323° 323° 323° 323° 323°	Greenwich Culmination Time: 16:50	UT 02 06 10 14 18 22	SD 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	SHA 020° 020° 020° 020° 020° 020°	Greenwich Culmination Time: 13:04

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 27.9 +00.1	S	12 55.5 -00.9	204 28.2 -00.8	S	20 37.3 -00.5	112 06.7 -30.5	N	14 47.7 +14.5	00			
01	191 28.0 +00.0	S	12 54.6 -00.8	219 27.4 -00.8	S	20 36.8 -00.5	126 36.2 -30.6	N	15 02.2 +14.4	01			
02	206 28.0 +00.0	S	12 53.8 -00.9	234 26.6 -00.7	S	20 36.3 -00.5	141 05.6 -30.5	N	15 16.6 +14.3	02			
03	221 28.0 +00.0	S	12 52.9 -00.8	249 25.9 -00.8	S	20 35.8 -00.5	155 35.1 -30.7	N	15 30.9 +14.2	03			
04	236 28.0 +00.1	S	12 52.1 -00.9	264 25.1 -00.8	S	20 35.3 -00.5	170 04.4 -30.6	N	15 45.1 +14.0	04			
05	251 28.1 +00.0	S	12 51.2 -00.8	279 24.3 -00.8	S	20 34.8 -00.5	184 33.8 -30.7	N	15 59.1 +14.0	05			
06	266 28.1 +00.0	S	12 50.4 -00.9	294 23.5 -00.8	S	20 34.3 -00.5	199 03.1 -30.7	N	16 13.1 +13.9	06			
07	281 28.1 +00.0	S	12 49.5 -00.9	309 22.7 -00.8	S	20 33.8 -00.5	213 32.4 -30.8	N	16 27.0 +13.8	07			
08	296 28.1 +00.1	S	12 48.6 -00.8	324 21.9 -00.8	S	20 33.3 -00.6	228 01.6 -30.8	N	16 40.8 +13.6	08			
09	311 28.2 +00.0	S	12 47.8 -00.9	339 21.1 -00.8	S	20 32.7 -00.5	242 30.8 -30.8	N	16 54.4 +13.6	09			
10	326 28.2 +00.0	S	12 46.9 -00.8	354 20.3 -00.8	S	20 32.2 -00.5	256 60.0 -30.9	N	17 08.0 +13.5	10			
11	341 28.2 +00.1	S	12 46.1 -00.9	9 19.5 -00.8	S	20 31.7 -00.5	271 29.1 -30.9	N	17 21.5 +13.3	11			
12	356 28.3 +00.0	S	12 45.2 -00.8	24 18.7 -00.8	S	20 31.2 -00.5	285 58.2 -31.0	N	17 34.8 +13.2	12			
13	11 28.3 +00.0	S	12 44.4 -00.9	39 17.9 -00.8	S	20 30.7 -00.5	300 27.2 -30.9	N	17 48.0 +13.2	13			
14	26 28.3 +00.0	S	12 43.5 -00.9	54 17.1 -00.8	S	20 30.2 -00.5	314 56.3 -31.1	N	18 01.2 +13.0	14			
15	41 28.3 +00.1	S	12 42.6 -00.8	69 16.3 -00.8	S	20 29.7 -00.5	329 25.2 -31.1	N	18 14.2 +12.9	15			
16	56 28.4 +00.0	S	12 41.8 -00.9	84 15.5 -00.8	S	20 29.2 -00.6	343 54.1 -31.1	N	18 27.1 +12.8	16			
17	71 28.4 +00.0	S	12 40.9 -00.8	99 14.7 -00.8	S	20 28.6 -00.5	358 23.0 -31.1	N	18 39.9 +12.6	17			
18	86 28.4 +00.1	S	12 40.1 -00.9	114 13.9 -00.8	S	20 28.1 -00.5	12 51.9 -31.2	N	18 52.5 +12.6	18			
19	101 28.5 +00.0	S	12 39.2 -00.8	129 13.1 -00.8	S	20 27.6 -00.5	27 20.7 -31.3	N	19 05.1 +12.4	19			
20	116 28.5 +00.0	S	12 38.4 -00.9	144 12.3 -00.7	S	20 27.1 -00.5	41 49.4 -31.3	N	19 17.5 +12.3	20			
21	131 28.5 +00.0	S	12 37.5 -00.9	159 11.6 -00.8	S	20 26.6 -00.6	56 18.1 -31.3	N	19 29.8 +12.2	21			
22	146 28.5 +00.1	S	12 36.6 -00.8	174 10.8 -00.8	S	20 26.0 -00.5	70 46.8 -31.4	N	19 42.0 +12.1	22			
23	161 28.6 +00.0	S	12 35.8 -00.9	189 10.0 -00.8	S	20 25.5 -00.5	85 15.4 -31.4	N	19 54.1 +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 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'1 00'1 00'1 00'1 00'1 00'1				SD 16'0 16'0 16'0 15'9 15'9 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 58'9 58'7 58'6 58'4 58'3 58'2					
	SHA 032° 032° 032° 031° 031° 031°			SHA 060° 060° 059° 059° 059° 059°				SHA 327° 324° 322° 320° 318° 315°					
	Greenwich Culmination Time: 12:14			Greenwich Culmination Time: 10:22				Greenwich Culmination Time: 17:06					

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	200 42.3 +00.5	S	20 47.4 -00.4	107 35.6 +02.1	N	13 34.2 +00.1	164 09.0 +02.2	S	10 01.9 -00.1	00			
01	215 42.8 +00.4	S	20 47.0 -00.4	122 37.7 +02.1	N	13 34.3 +00.1	179 11.2 +02.2	S	10 01.8 -00.1	01			
02	230 43.2 +00.5	S	20 46.6 -00.4	137 39.8 +02.2	N	13 34.4 +00.1	194 13.4 +02.1	S	10 01.7 -00.1	02			
03	245 43.7 +00.5	S	20 46.2 -00.4	152 42.0 +02.1	N	13 34.5 +00.1	209 15.5 +02.2	S	10 01.6 -00.2	03			
04	260 44.2 +00.4	S	20 45.8 -00.4	167 44.1 +02.1	N	13 34.6 +00.2	224 17.7 +02.2	S	10 01.4 -00.1	04			
05	275 44.6 +00.5	S	20 45.4 -00.4	182 46.2 +02.2	N	13 34.8 +00.1	239 19.9 +02.2	S	10 01.3 -00.1	05			
06	290 45.1 +00.4	S	20 45.0 -00.4	197 48.4 +02.1	N	13 34.9 +00.1	254 22.1 +02.2	S	10 01.2 -00.1	06			
07	305 45.5 +00.5	S	20 44.6 -00.4	212 50.5 +02.1	N	13 35.0 +00.1	269 24.3 +02.1	S	10 01.1 -00.1	07			
08	320 46.0 +00.4	S	20 44.2 -00.4	227 52.6 +02.1	N	13 35.1 +00.2	284 26.4 +02.2	S	10 01.0 -00.1	08			
09	335 46.4 +00.5	S	20 43.8 -00.5	242 54.7 +02.2	N	13 35.3 +00.1	299 28.6 +02.2	S	10 00.9 -00.1	09			
10	350 46.9 +00.4	S	20 43.3 -00.4	257 56.9 +02.1	N	13 35.4 +00.1	314 30.8 +02.2	S	10 00.8 -00.1	10			
11	5 47.3 +00.5	S	20 42.9 -00.4	272 59.0 +02.1	N	13 35.5 +00.1	329 33.0 +02.2	S	10 00.7 -00.2	11			
12	20 47.8 +00.5	S	20 42.5 -00.4	288 01.1 +02.1	N	13 35.6 +00.1	344 35.2 +02.1	S	10 00.5 -00.1	12			
13	35 48.3 +00.4	S	20 42.1 -00.4	303 03.2 +02.2	N	13 35.7 +00.2	359 37.3 +02.2	S	10 00.4 -00.1	13			
14	50 48.7 +00.5	S	20 41.7 -00.4	318 05.4 +02.1	N	13 35.9 +00.1	14 39.5 +02.2	S	10 00.3 -00.1	14			
15	65 49.2 +00.4	S	20 41.3 -00.4	333 07.5 +02.1	N	13 36.0 +00.1	29 41.7 +02.2	S	10 00.2 -00.1	15			
16	80 49.6 +00.5	S	20 40.9 -00.4	348 09.6 +02.1	N	13 36.1 +00.1	44 43.9 +02.2	S	10 00.1 -00.1	16			
17	95 50.1 +00.4	S	20 40.5 -00.4	3 11.7 +02.2	N	13 36.2 +00.1	59 46.1 +02.1	S	09 60.0 -00.1	17			
18	110 50.5 +00.5	S	20 40.1 -00.5	18 13.9 +02.1	N	13 36.3 +00.2	74 48.2 +02.2	S	09 59.9 -00.1	18			
19	125 51.0 +00.5	S	20 39.6 -00.4	33 16.0 +02.1	N	13 36.5 +00.1	89 50.4 +02.2	S	09 59.8 -00.2	19			
20	140 51.5 +00.4	S	20 39.2 -00.4	48 18.1 +02.1	N	13 36.6 +00.1	104 52.6 +02.2	S	09 59.6 -00.1	20			
21	155 51.9 +00.5	S	20 38.8 -00.4	63 20.2 +02.1	N	13 36.7 +00.1	119 54.8 +02.2	S	09 59.5 -00.1	21			
22	170 52.4 +00.4	S	20 38.4 -00.4	78 22.3 +02.2	N	13 36.8 +00.2	134 57.0 +02.1	S	09 59.4 -00.1	22			
23	185 52.8 +00.5	S	20 38.0 -00.4	93 24.5 +02.1	N	13 37.0 +00.1	149 59.1 +02.2	S	09 59.3 -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 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3				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					
	SHA 056° 056° 056° 056° 056° 055°			SHA 323° 323° 323° 323° 323° 323°				SHA 020° 020° 020° 020° 020° 020°					
	Greenwich Culmination Time: 10:36			Greenwich Culmination Time: 16:47				Greenwich Culmination Time: 13:01					

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 28.6 +00.0	S	12 34.9 -00.8	204 09.2 -00.8	S	20 25.0 -00.5	99 44.0 -31.4	N	20 06.0 +11.9	00			
01	191 28.6 +00.1	S	12 34.1 -00.9	219 08.4 -00.8	S	20 24.5 -00.6	114 12.6 -31.5	N	20 17.9 +11.7	01			
02	206 28.7 +00.0	S	12 33.2 -00.9	234 07.6 -00.8	S	20 23.9 -00.5	128 41.1 -31.6	N	20 29.6 +11.6	02			
03	221 28.7 +00.0	S	12 32.3 -00.8	249 06.8 -00.8	S	20 23.4 -00.5	143 09.5 -31.6	N	20 41.2 +11.4	03			
04	236 28.7 +00.1	S	12 31.5 -00.9	264 06.0 -00.8	S	20 22.9 -00.5	157 37.9 -31.6	N	20 52.6 +11.4	04			
05	251 28.8 +00.0	S	12 30.6 -00.9	279 05.2 -00.7	S	20 22.4 -00.6	172 06.3 -31.7	N	21 04.0 +11.2	05			
06	266 28.8 +00.0	S	12 29.7 -00.8	294 04.5 -00.8	S	20 21.8 -00.5	186 34.6 -31.7	N	21 15.2 +11.0	06			
07	281 28.8 +00.1	S	12 28.9 -00.9	309 03.7 -00.8	S	20 21.3 -00.5	201 02.9 -31.8	N	21 26.2 +11.0	07			
08	296 28.9 +00.0	S	12 28.0 -00.9	324 02.9 -00.8	S	20 20.8 -00.6	215 31.1 -31.8	N	21 37.2 +10.8	08			
09	311 28.9 +00.0	S	12 27.1 -00.8	339 02.1 -00.8	S	20 20.2 -00.5	229 59.3 -31.9	N	21 48.0 +10.7	09			
10	326 28.9 +00.1	S	12 26.3 -00.9	354 01.3 -00.8	S	20 19.7 -00.5	244 27.4 -31.9	N	21 58.7 +10.5	10			
11	341 29.0 +00.0	S	12 25.4 -00.8	9 00.5 -00.8	S	20 19.2 -00.6	258 55.5 -31.9	N	22 09.2 +10.5	11			
12	356 29.0 +00.1	S	12 24.6 -00.9	23 59.7 -00.7	S	20 18.6 -00.5	273 23.6 -32.0	N	22 19.7 +10.2	12			
13	11 29.1 +00.0	S	12 23.7 -00.9	38 59.0 -00.8	S	20 18.1 -00.5	287 51.6 -32.0	N	22 29.9 +10.2	13			
14	26 29.1 +00.0	S	12 22.8 -00.8	53 58.2 -00.8	S	20 17.6 -00.6	302 19.6 -32.1	N	22 40.1 +10.0	14			
15	41 29.1 +00.1	S	12 22.0 -00.9	68 57.4 -00.8	S	20 17.0 -00.5	316 47.5 -32.1	N	22 50.1 +09.9	15			
16	56 29.2 +00.0	S	12 21.1 -00.9	83 56.6 -00.8	S	20 16.5 -00.6	331 15.4 -32.2	N	22 60.0 +09.7	16			
17	71 29.2 +00.0	S	12 20.2 -00.8	98 55.8 -00.8	S	20 15.9 -00.5	345 43.2 -32.2	N	23 09.7 +09.7	17			
18	86 29.2 +00.1	S	12 19.4 -00.9	113 55.0 -00.7	S	20 15.4 -00.6	0 11.0 -32.3	N	23 19.4 +09.4	18			
19	101 29.3 +00.0	S	12 18.5 -00.9	128 54.3 -00.8	S	20 14.8 -00.5	14 38.7 -32.2	N	23 28.8 +09.3	19			
20	116 29.3 +00.0	S	12 17.6 -00.9	143 53.5 -00.8	S	20 14.3 -00.5	29 06.5 -32.4	N	23 38.1 +09.2	20			
21	131 29.3 +00.1	S	12 16.7 -00.8	158 52.7 -00.8	S	20 13.8 -00.6	43 34.1 -32.3	N	23 47.3 +09.1	21			
22	146 29.4 +00.0	S	12 15.9 -00.9	173 51.9 -00.8	S	20 13.2 -00.5	58 01.8 -32.5	N	23 56.4 +08.9	22			
23	161 29.4 +00.1	S	12 15.0 -00.9	188 51.1 -00.8	S	20 12.7 -00.6	72 29.3 -32.4	N	24 05.3 +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 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 15'8 15'8 15'7 15'7 15'7 15'6						
	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 58'0 57'9 57'7 57'6 57'5 57'3						
	SHA 031° 031° 031° 030° 030° 030°			SHA 059° 058° 058° 058° 058° 057°			SHA 313° 311° 309° 306° 304° 302°						
	Greenwich Culmination Time: 12:14			Greenwich Culmination Time: 10:23			Greenwich Culmination Time: 17:59						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	200 53.3 +00.4	S	20 37.6 -00.4	108 26.6 +02.1	N	13 37.1 +00.1	165 01.3 +02.2	S	09 59.2 -00.1	00			
01	215 53.7 +00.5	S	20 37.2 -00.5	123 28.7 +02.1	N	13 37.2 +00.1	180 03.5 +02.2	S	09 59.1 -00.1	01			
02	230 54.2 +00.5	S	20 36.7 -00.4	138 30.8 +02.2	N	13 37.3 +00.1	195 05.7 +02.2	S	09 59.0 -00.1	02			
03	245 54.7 +00.4	S	20 36.3 -00.4	153 33.0 +02.1	N	13 37.4 +00.2	210 07.9 +02.1	S	09 58.9 -00.2	03			
04	260 55.1 +00.5	S	20 35.9 -00.4	168 35.1 +02.1	N	13 37.6 +00.1	225 10.0 +02.2	S	09 58.7 -00.1	04			
05	275 55.6 +00.4	S	20 35.5 -00.4	183 37.2 +02.1	N	13 37.7 +00.1	240 12.2 +02.2	S	09 58.6 -00.1	05			
06	290 56.0 +00.5	S	20 35.1 -00.5	198 39.3 +02.1	N	13 37.8 +00.1	255 14.4 +02.2	S	09 58.5 -00.1	06			
07	305 56.5 +00.5	S	20 34.6 -00.4	213 41.4 +02.2	N	13 37.9 +00.2	270 16.6 +02.2	S	09 58.4 -00.1	07			
08	320 57.0 +00.4	S	20 34.2 -00.4	228 43.6 +02.1	N	13 38.1 +00.1	285 18.8 +02.1	S	09 58.3 -00.1	08			
09	335 57.4 +00.5	S	20 33.8 -00.4	243 45.7 +02.1	N	13 38.2 +00.1	300 20.9 +02.2	S	09 58.2 -00.1	09			
10	350 57.9 +00.4	S	20 33.4 -00.4	258 47.8 +02.1	N	13 38.3 +00.1	315 23.1 +02.2	S	09 58.1 -00.1	10			
11	5 58.3 +00.5	S	20 33.0 -00.4	273 49.9 +02.1	N	13 38.4 +00.1	330 25.3 +02.2	S	09 58.0 -00.1	11			
12	20 58.8 +00.5	S	20 32.6 -00.5	288 52.0 +02.2	N	13 38.5 +00.2	345 27.5 +02.2	S	09 57.9 -00.2	12			
13	35 59.3 +00.4	S	20 32.1 -00.4	303 54.2 +02.1	N	13 38.7 +00.1	0 29.7 +02.1	S	09 57.7 -00.1	13			
14	50 59.7 +00.5	S	20 31.7 -00.4	318 56.3 +02.1	N	13 38.8 +00.1	15 31.8 +02.2	S	09 57.6 -00.1	14			
15	66 00.2 +00.4	S	20 31.3 -00.4	333 58.4 +02.1	N	13 38.9 +00.1	30 34.0 +02.2	S	09 57.5 -00.1	15			
16	81 00.6 +00.5	S	20 30.9 -00.5	349 00.5 +02.1	N	13 39.0 +00.2	45 36.2 +02.2	S	09 57.4 -00.1	16			
17	96 01.1 +00.5	S	20 30.4 -00.4	4 02.6 +02.2	N	13 39.2 +00.1	60 38.4 +02.2	S	09 57.3 -00.1	17			
18	111 01.6 +00.4	S	20 30.0 -00.4	19 04.8 +02.1	N	13 39.3 +00.1	75 40.6 +02.1	S	09 57.2 -00.1	18			
19	126 02.0 +00.5	S	20 29.6 -00.4	34 06.9 +02.1	N	13 39.4 +00.1	90 42.7 +02.2	S	09 57.1 -00.1	19			
20	141 02.5 +00.4	S	20 29.2 -00.4	49 09.0 +02.1	N	13 39.5 +00.1	105 44.9 +02.2	S	09 57.0 -00.2	20			
21	156 02.9 +00.5	S	20 28.8 -00.5	64 11.1 +02.1	N	13 39.6 +00.2	120 47.1 +02.2	S	09 56.8 -00.1	21			
22	171 03.4 +00.5	S	20 28.3 -00.4	79 13.2 +02.1	N	13 39.8 +00.1	135 49.3 +02.2	S	09 56.7 -00.1	22			
23	186 03.9 +00.4	S	20 27.9 -00.4	94 15.3 +02.2	N	13 39.9 +00.1	150 51.5 +02.1	S	09 56.6 -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 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			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						
	SHA 055° 055° 055° 055° 055° 055°			SHA 323° 323° 323° 323° 323° 323°			SHA 020° 020° 019° 019° 019° 019°						
	Greenwich Culmination Time: 10:36			Greenwich Culmination Time: 16:43			Greenwich Culmination Time: 12:58						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 29.5 +00.0	S	12 14.1 -00.8	203 50.3 -00.7	S	20 12.1 -00.5	86 56.9 -32.5	N	24 14.1 +08.6	00			
01	191 29.5 +00.0	S	12 13.3 -00.9	218 49.6 -00.8	S	20 11.6 -00.6	101 24.4 -32.5	N	24 22.7 +08.5	01			
02	206 29.5 +00.1	S	12 12.4 -00.9	233 48.8 -00.8	S	20 11.0 -00.5	115 51.9 -32.6	N	24 31.2 +08.3	02			
03	221 29.6 +00.0	S	12 11.5 -00.8	248 48.0 -00.8	S	20 10.5 -00.6	130 19.3 -32.6	N	24 39.5 +08.2	03			
04	236 29.6 +00.1	S	12 10.7 -00.9	263 47.2 -00.8	S	20 09.9 -00.5	144 46.7 -32.7	N	24 47.7 +08.0	04			
05	251 29.7 +00.0	S	12 09.8 -00.9	278 46.4 -00.7	S	20 09.4 -00.6	159 14.0 -32.6	N	24 55.7 +07.9	05			
06	266 29.7 +00.0	S	12 08.9 -00.9	293 45.7 -00.8	S	20 08.8 -00.6	173 41.4 -32.8	N	25 03.6 +07.8	06			
07	281 29.7 +00.1	S	12 08.0 -00.8	308 44.9 -00.8	S	20 08.2 -00.5	188 08.6 -32.7	N	25 11.4 +07.6	07			
08	296 29.8 +00.0	S	12 07.2 -00.9	323 44.1 -00.8	S	20 07.7 -00.6	202 35.9 -32.8	N	25 19.0 +07.4	08			
09	311 29.8 +00.1	S	12 06.3 -00.9	338 43.3 -00.7	S	20 07.1 -00.5	217 03.1 -32.8	N	25 26.4 +07.3	09			
10	326 29.9 +00.0	S	12 05.4 -00.8	353 42.6 -00.8	S	20 06.6 -00.6	231 30.3 -32.9	N	25 33.7 +07.2	10			
11	341 29.9 +00.1	S	12 04.6 -00.9	8 41.8 -00.8	S	20 06.0 -00.6	245 57.4 -32.9	N	25 40.9 +07.0	11			
12	356 30.0 +00.0	S	12 03.7 -00.9	23 41.0 -00.8	S	20 05.4 -00.5	260 24.5 -32.9	N	25 47.9 +06.9	12			
13	11 30.0 +00.0	S	12 02.8 -00.9	38 40.2 -00.7	S	20 04.9 -00.6	274 51.6 -32.9	N	25 54.8 +06.7	13			
14	26 30.0 +00.1	S	12 01.9 -00.8	53 39.5 -00.8	S	20 04.3 -00.5	289 18.7 -33.0	N	26 01.5 +06.5	14			
15	41 30.1 +00.0	S	12 01.1 -00.9	68 38.7 -00.8	S	20 03.8 -00.6	303 45.7 -33.0	N	26 08.0 +06.4	15			
16	56 30.1 +00.1	S	12 00.2 -00.9	83 37.9 -00.8	S	20 03.2 -00.6	318 12.7 -33.0	N	26 14.4 +06.3	16			
17	71 30.2 +00.0	S	11 59.3 -00.9	98 37.1 -00.7	S	20 02.6 -00.5	332 39.7 -33.1	N	26 20.7 +06.1	17			
18	86 30.2 +00.1	S	11 58.4 -00.8	113 36.4 -00.8	S	20 02.1 -00.6	347 06.6 -33.1	N	26 26.8 +05.9	18			
19	101 30.3 +00.0	S	11 57.6 -00.9	128 35.6 -00.8	S	20 01.5 -00.6	1 33.5 -33.1	N	26 32.7 +05.8	19			
20	116 30.3 +00.1	S	11 56.7 -00.9	143 34.8 -00.8	S	20 00.9 -00.6	16 00.4 -33.1	N	26 38.5 +05.7	20			
21	131 30.4 +00.0	S	11 55.8 -00.9	158 34.0 -00.7	S	20 00.3 -00.5	30 27.3 -33.1	N	26 44.2 +05.4	21			
22	146 30.4 +00.1	S	11 54.9 -00.8	173 33.3 -00.8	S	19 59.8 -00.6	44 54.2 -33.2	N	26 49.6 +05.4	22			
23	161 30.5 +00.0	S	11 54.1 -00.9	188 32.5 -00.8	S	19 59.2 -00.6	59 21.0 -33.2	N	26 55.0 +05.2	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 15'6 15'5 15'5 15'5 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 57'2 57'1 56'9 56'8 56'7 56'6						
	SHA 030° 030° 030° 029° 029° 029°			SHA 057° 057° 057° 057° 056° 056°			SHA 299° 297° 295° 292° 290° 288°						
	Greenwich Culmination Time: 12:14			Greenwich Culmination Time: 10:25			Greenwich Culmination Time: 18:53						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	201 04.3 +00.5	S	20 27.5 -00.4	109 17.5 +02.1	N	13 40.0 +00.1	165 53.6 +02.2	S	09 56.5 -00.1	00			
01	216 04.8 +00.4	S	20 27.1 -00.5	124 19.6 +02.1	N	13 40.1 +00.2	180 55.8 +02.2	S	09 56.4 -00.1	01			
02	231 05.2 +00.5	S	20 26.6 -00.4	139 21.7 +02.1	N	13 40.3 +00.1	195 58.0 +02.2	S	09 56.3 -00.1	02			
03	246 05.7 +00.5	S	20 26.2 -00.4	154 23.8 +02.1	N	13 40.4 +00.1	211 00.2 +02.2	S	09 56.2 -00.1	03			
04	261 06.2 +00.4	S	20 25.8 -00.4	169 25.9 +02.1	N	13 40.5 +00.1	226 02.4 +02.1	S	09 56.1 -00.2	04			
05	276 06.6 +00.5	S	20 25.4 -00.5	184 28.0 +02.2	N	13 40.6 +00.2	241 04.5 +02.2	S	09 55.9 -00.1	05			
06	291 07.1 +00.5	S	20 24.9 -00.4	199 30.2 +02.1	N	13 40.8 +00.1	256 06.7 +02.2	S	09 55.8 -00.1	06			
07	306 07.6 +00.4	S	20 24.5 -00.4	214 32.3 +02.1	N	13 40.9 +00.1	271 08.9 +02.2	S	09 55.7 -00.1	07			
08	321 08.0 +00.5	S	20 24.1 -00.5	229 34.4 +02.1	N	13 41.0 +00.1	286 11.1 +02.2	S	09 55.6 -00.1	08			
09	336 08.5 +00.4	S	20 23.6 -00.4	244 36.5 +02.1	N	13 41.1 +00.2	301 13.3 +02.1	S	09 55.5 -00.1	09			
10	351 08.9 +00.5	S	20 23.2 -00.4	259 38.6 +02.1	N	13 41.3 +00.1	316 15.4 +02.2	S	09 55.4 -00.1	10			
11	6 09.4 +00.5	S	20 22.8 -00.4	274 40.7 +02.1	N	13 41.4 +00.1	331 17.6 +02.2	S	09 55.3 -00.1	11			
12	21 09.9 +00.4	S	20 22.4 -00.5	289 42.8 +02.2	N	13 41.5 +00.1	346 19.8 +02.2	S	09 55.2 -00.2	12			
13	36 10.3 +00.5	S	20 21.9 -00.4	304 45.0 +02.1	N	13 41.6 +00.2	1 22.0 +02.2	S	09 55.0 -00.1	13			
14	51 10.8 +00.5	S	20 21.5 -00.4	319 47.1 +02.1	N	13 41.8 +00.1	16 24.2 +02.1	S	09 54.9 -00.1	14			
15	66 11.3 +00.4	S	20 21.1 -00.5	334 49.2 +02.1	N	13 41.9 +00.1	31 26.3 +02.2	S	09 54.8 -00.1	15			
16	81 11.7 +00.5	S	20 20.6 -00.4	349 51.3 +02.1	N	13 42.0 +00.1	46 28.5 +02.2	S	09 54.7 -00.1	16			
17	96 12.2 +00.5	S	20 20.2 -00.4	4 53.4 +02.1	N	13 42.1 +00.2	61 30.7 +02.2	S	09 54.6 -00.1	17			
18	111 12.7 +00.4	S	20 19.8 -00.5	19 55.5 +02.1	N	13 42.3 +00.1	76 32.9 +02.1	S	09 54.5 -00.1	18			
19	126 13.1 +00.5	S	20 19.3 -00.4	34 57.6 +02.1	N	13 42.4 +00.1	91 35.0 +02.2	S	09 54.4 -00.1	19			
20	141 13.6 +00.4	S	20 18.9 -00.4	49 59.7 +02.2	N	13 42.5 +00.1	106 37.2 +02.2	S	09 54.3 -00.2	20			
21	156 14.0 +00.5	S	20 18.5 -00.5	65 01.9 +02.1	N	13 42.6 +00.2	121 39.4 +02.2	S	09 54.1 -00.1	21			
22	171 14.5 +00.5	S	20 18.0 -00.4	80 04.0 +02.1	N	13 42.8 +00.1	136 41.6 +02.2	S	09 54.0 -00.1	22			
23	186 15.0 +00.4	S	20 17.6 -00.4	95 06.1 +02.1	N	13 42.9 +00.1	151 43.8 +02.1	S	09 53.9 -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 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			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						
	SHA 055° 054° 054° 054° 054° 054°			SHA 323° 323° 323° 323° 323° 323°			SHA 019° 019° 019° 019° 019° 019°						
	Greenwich Culmination Time: 10:35			Greenwich Culmination Time: 16:40			Greenwich Culmination Time: 12:54						

UT	Sun				Venus				Moon				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	176 30.5 +00.0	S 11 53.2 -00.9	203 31.7 -00.7	S 19 58.6 -00.5	73 47.8 -33.2	N 27 00.2 +05.0	00													
01	191 30.5 +00.1	S 11 52.3 -00.9	218 31.0 -00.8	S 19 58.1 -00.6	88 14.6 -33.2	N 27 05.2 +04.9	01													
02	206 30.6 +00.0	S 11 51.4 -00.9	233 30.2 -00.8	S 19 57.5 -00.6	102 41.4 -33.3	N 27 10.1 +04.7	02													
03	221 30.6 +00.1	S 11 50.5 -00.8	248 29.4 -00.8	S 19 56.9 -00.6	117 08.1 -33.2	N 27 14.8 +04.5	03													
04	236 30.7 +00.0	S 11 49.7 -00.9	263 28.6 -00.7	S 19 56.3 -00.6	131 34.9 -33.3	N 27 19.3 +04.4	04													
05	251 30.7 +00.1	S 11 48.8 -00.9	278 27.9 -00.8	S 19 55.7 -00.5	146 01.6 -33.3	N 27 23.7 +04.3	05													
06	266 30.8 +00.0	S 11 47.9 -00.9	293 27.1 -00.8	S 19 55.2 -00.6	160 28.3 -33.3	N 27 28.0 +04.1	06													
07	281 30.8 +00.1	S 11 47.0 -00.9	308 26.3 -00.7	S 19 54.6 -00.6	174 55.0 -33.3	N 27 32.1 +03.9	07													
08	296 30.9 +00.0	S 11 46.1 -00.8	323 25.6 -00.8	S 19 54.0 -00.6	189 21.7 -33.3	N 27 36.0 +03.8	08													
09	311 30.9 +00.1	S 11 45.3 -00.9	338 24.8 -00.8	S 19 53.4 -00.6	203 48.4 -33.3	N 27 39.8 +03.6	09													
10	326 31.0 +00.0	S 11 44.4 -00.9	353 24.0 -00.7	S 19 52.8 -00.5	218 15.1 -33.3	N 27 43.4 +03.4	10													
11	341 31.0 +00.1	S 11 43.5 -00.9	8 23.3 -00.8	S 19 52.3 -00.6	232 41.8 -33.3	N 27 46.8 +03.4	11													
12	356 31.1 +00.0	S 11 42.6 -00.9	23 22.5 -00.8	S 19 51.7 -00.6	247 08.5 -33.4	N 27 50.2 +03.1	12													
13	11 31.1 +00.1	S 11 41.7 -00.8	38 21.7 -00.7	S 19 51.1 -00.6	261 35.1 -33.3	N 27 53.3 +03.0	13													
14	26 31.2 +00.0	S 11 40.9 -00.9	53 21.0 -00.8	S 19 50.5 -00.6	276 01.8 -33.3	N 27 56.3 +02.8	14													
15	41 31.2 +00.1	S 11 40.0 -00.9	68 20.2 -00.8	S 19 49.9 -00.6	290 28.5 -33.4	N 27 59.1 +02.7	15													
16	56 31.3 +00.0	S 11 39.1 -00.9	83 19.4 -00.7	S 19 49.3 -00.6	304 55.1 -33.3	N 28 01.8 +02.5	16													
17	71 31.3 +00.1	S 11 38.2 -00.9	98 18.7 -00.8	S 19 48.7 -00.6	319 21.8 -33.3	N 28 04.3 +02.4	17													
18	86 31.4 +00.0	S 11 37.3 -00.8	113 17.9 -00.8	S 19 48.1 -00.6	333 48.5 -33.3	N 28 06.7 +02.2	18													
19	101 31.4 +00.1	S 11 36.5 -00.9	128 17.1 -00.7	S 19 47.5 -00.5	348 15.2 -33.3	N 28 08.9 +02.0	19													
20	116 31.5 +00.0	S 11 35.6 -00.9	143 16.4 -00.8	S 19 47.0 -00.6	2 41.9 -33.3	N 28 10.9 +01.9	20													
21	131 31.5 +00.1	S 11 34.7 -00.9	158 15.6 -00.8	S 19 46.4 -00.6	17 08.6 -33.3	N 28 12.8 +01.8	21													
22	146 31.6 +00.1	S 11 33.8 -00.9	173 14.8 -00.7	S 19 45.8 -00.6	31 35.3 -33.3	N 28 14.6 +01.6	22													
23	161 31.7 +00.0	S 11 32.9 -00.9	188 14.1 -00.8	S 19 45.2 -00.6	46 02.0 -33.2	N 28 16.2 +01.4	23													
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT						
SD	16'2	16'2	16'2	16'2	16'2	16'2	SD	00'1	00'1	00'1	00'1	00'1	00'1	SD						
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						
SHA	029°	029°	029°	028°	028°	028°	SHA	056°	056°	056°	055°	055°	055°	SHA						
Greenwich Culmination Time: 12:13							Greenwich Culmination Time: 10:26							Greenwich Culmination Time: 19:48						

UT	Mars				Jupiter				Saturn				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	201 15.4 +00.5	S 20 17.2 -00.5	110 08.2 +02.1	N 13 43.0 +00.1	166 45.9 +02.2	S 09 53.8 -00.1	00													
01	216 15.9 +00.5	S 20 16.7 -00.4	125 10.3 +02.1	N 13 43.1 +00.2	181 48.1 +02.2	S 09 53.7 -00.1	01													
02	231 16.4 +00.4	S 20 16.3 -00.4	140 12.4 +02.1	N 13 43.3 +00.1	196 50.3 +02.2	S 09 53.6 -00.1	02													
03	246 16.8 +00.5	S 20 15.9 -00.5	155 14.5 +02.1	N 13 43.4 +00.1	211 52.5 +02.2	S 09 53.5 -00.1	03													
04	261 17.3 +00.5	S 20 15.4 -00.4	170 16.6 +02.1	N 13 43.5 +00.1	226 54.7 +02.1	S 09 53.4 -00.2	04													
05	276 17.8 +00.4	S 20 15.0 -00.4	185 18.7 +02.2	N 13 43.6 +00.2	241 56.8 +02.2	S 09 53.2 -00.1	05													
06	291 18.2 +00.5	S 20 14.6 -00.5	200 20.9 +02.1	N 13 43.8 +00.1	256 59.0 +02.2	S 09 53.1 -00.1	06													
07	306 18.7 +00.5	S 20 14.1 -00.4	215 23.0 +02.1	N 13 43.9 +00.1	272 01.2 +02.2	S 09 53.0 -00.1	07													
08	321 19.2 +00.4	S 20 13.7 -00.4	230 25.1 +02.1	N 13 44.0 +00.1	287 03.4 +02.2	S 09 52.9 -00.1	08													
09	336 19.6 +00.5	S 20 13.3 -00.5	245 27.2 +02.1	N 13 44.1 +00.2	302 05.6 +02.1	S 09 52.8 -00.1	09													
10	351 20.1 +00.5	S 20 12.8 -00.4	260 29.3 +02.1	N 13 44.3 +00.1	317 07.7 +02.2	S 09 52.7 -00.1	10													
11	6 20.6 +00.4	S 20 12.4 -00.5	275 31.4 +02.1	N 13 44.4 +00.1	332 09.9 +02.2	S 09 52.6 -00.2	11													
12	21 21.0 +00.5	S 20 11.9 -00.4	290 33.5 +02.1	N 13 44.5 +00.1	347 12.1 +02.2	S 09 52.4 -00.1	12													
13	36 21.5 +00.5	S 20 11.5 -00.4	305 35.6 +02.1	N 13 44.6 +00.2	2 14.3 +02.2	S 09 52.3 -00.1	13													
14	51 22.0 +00.4	S 20 11.1 -00.5	320 37.7 +02.1	N 13 44.8 +00.1	17 16.5 +02.1	S 09 52.2 -00.1	14													
15	66 22.4 +00.5	S 20 10.6 -00.4	335 39.8 +02.1	N 13 44.9 +00.1	32 18.6 +02.2	S 09 52.1 -00.1	15													
16	81 22.9 +00.5	S 20 10.2 -00.4	350 41.9 +02.1	N 13 45.0 +00.1	47 20.8 +02.2	S 09 52.0 -00.1	16													
17	96 23.4 +00.4	S 20 09.8 -00.5	5 44.0 +02.1	N 13 45.1 +00.2	62 23.0 +02.2	S 09 51.9 -00.1	17													
18	111 23.8 +00.5	S 20 09.3 -00.4	20 46.1 +02.2	N 13 45.3 +00.1	77 25.2 +02.1	S 09 51.8 -00.1	18													
19	126 24.3 +00.5	S 20 08.9 -00.5	35 48.3 +02.1	N 13 45.4 +00.1	92 27.3 +02.2	S 09 51.7 -00.2	19													
20	141 24.8 +00.4	S 20 08.4 -00.4	50 50.4 +02.1	N 13 45.5 +00.1	107 29.5 +02.2	S 09 51.5 -00.1	20													
21	156 25.2 +00.5	S 20 08.0 -00.5	65 52.5 +02.1	N 13 45.6 +00.2	122 31.7 +02.2	S 09 51.4 -00.1	21													
22	171 25.7 +00.5	S 20 07.5 -00.4	80 54.6 +02.1	N 13 45.8 +00.1	137 33.9 +02.2	S 09 51.3 -00.1	22													
23	186 26.2 +00.4	S 20 07.1 -00.4	95 56.7 +02.1	N 13 45.9 +00.1	152 36.1 +02.1	S 09 51.2 -00.1	23													
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT						
SD	00'0	00'0	00'0	00'0	00'0	00'0	SD	00'3	00'3	00'3	00'3	00'3	00'3	SD						
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						
SHA	054°	054°	053°	053°	053°	053°	SHA	323°	323°	323°	323°	323°	323°	SHA						
Greenwich Culmination Time: 10:34							Greenwich Culmination Time: 16:37							Greenwich Culmination Time: 12:51						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT		
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec			
00	176 31.7 +00.1	S 11 32.0 -00.9	203 13.3 -00.7	S 19 44.6 -00.6	60 28.8 -33.3	N 28 17.6 +01.2	00								
01	191 31.8 +00.0	S 11 31.1 -00.8	218 12.6 -00.8	S 19 44.0 -00.6	74 55.5 -33.2	N 28 18.8 +01.2	01								
02	206 31.8 +00.1	S 11 30.3 -00.9	233 11.8 -00.8	S 19 43.4 -00.6	89 22.3 -33.2	N 28 20.0 +00.9	02								
03	221 31.9 +00.0	S 11 29.4 -00.9	248 11.0 -00.7	S 19 42.8 -00.6	103 49.1 -33.2	N 28 20.9 +00.8	03								
04	236 31.9 +00.1	S 11 28.5 -00.9	263 10.3 -00.8	S 19 42.2 -00.6	118 15.9 -33.2	N 28 21.7 +00.7	04								
05	251 32.0 +00.0	S 11 27.6 -00.9	278 09.5 -00.7	S 19 41.6 -00.6	132 42.7 -33.2	N 28 22.4 +00.4	05								
06	266 32.0 +00.1	S 11 26.7 -00.9	293 08.8 -00.8	S 19 41.0 -00.6	147 09.5 -33.1	N 28 22.8 +00.4	06								
07	281 32.1 +00.1	S 11 25.8 -00.9	308 08.0 -00.8	S 19 40.4 -00.6	161 36.4 -33.1	N 28 23.2 +00.2	07								
08	296 32.2 +00.0	S 11 24.9 -00.8	323 07.2 -00.7	S 19 39.8 -00.7	176 03.3 -33.1	N 28 23.4 +00.0	08								
09	311 32.2 +00.1	S 11 24.1 -00.9	338 06.5 -00.8	S 19 39.1 -00.6	190 30.2 -33.0	N 28 23.4 -00.1	09								
10	326 32.3 +00.0	S 11 23.2 -00.9	353 05.7 -00.7	S 19 38.5 -00.6	204 57.2 -33.0	N 28 23.3 -00.3	10								
11	341 32.3 +00.1	S 11 22.3 -00.9	8 05.0 -00.8	S 19 37.9 -00.6	219 24.2 -33.0	N 28 23.0 -00.5	11								
12	356 32.4 +00.0	S 11 21.4 -00.9	23 04.2 -00.7	S 19 37.3 -00.6	233 51.2 -33.0	N 28 22.5 -00.5	12								
13	11 32.4 +00.1	S 11 20.5 -00.9	38 03.5 -00.8	S 19 36.7 -00.6	248 18.2 -32.9	N 28 22.0 -00.8	13								
14	26 32.5 +00.1	S 11 19.6 -00.9	53 02.7 -00.8	S 19 36.1 -00.6	262 45.3 -32.9	N 28 21.2 -00.9	14								
15	41 32.6 +00.0	S 11 18.7 -00.9	68 01.9 -00.7	S 19 35.5 -00.6	277 12.4 -32.8	N 28 20.3 -01.0	15								
16	56 32.6 +00.1	S 11 17.8 -00.9	83 01.2 -00.8	S 19 34.9 -00.6	291 39.6 -32.8	N 28 19.3 -01.2	16								
17	71 32.7 +00.0	S 11 16.9 -00.9	98 00.4 -00.7	S 19 34.3 -00.7	306 06.8 -32.8	N 28 18.1 -01.3	17								
18	86 32.7 +00.1	S 11 16.0 -00.8	112 59.7 -00.8	S 19 33.6 -00.6	320 34.0 -32.8	N 28 16.8 -01.5	18								
19	101 32.8 +00.1	S 11 15.2 -00.9	127 58.9 -00.7	S 19 33.0 -00.6	335 01.2 -32.6	N 28 15.3 -01.7	19								
20	116 32.9 +00.0	S 11 14.3 -00.9	142 58.2 -00.8	S 19 32.4 -00.6	349 28.6 -32.7	N 28 13.6 -01.8	20								
21	131 32.9 +00.1	S 11 13.4 -00.9	157 57.4 -00.7	S 19 31.8 -00.6	3 55.9 -32.6	N 28 11.8 -01.9	21								
22	146 33.0 +00.0	S 11 12.5 -00.9	172 56.7 -00.8	S 19 31.2 -00.7	18 23.3 -32.6	N 28 09.9 -02.1	22								
23	161 33.0 +00.1	S 11 11.6 -00.9	187 55.9 -00.7	S 19 30.5 -00.6	32 50.7 -32.5	N 28 07.8 -02.2	23								
	UT 02 06 10 14 18 22	SD 16'2 16'2 16'2 16'2 16'2 16'2	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 028° 028° 028° 028° 027° 027°	Greenwich Culmination Time: 12:13	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 055° 054° 054° 054° 054° 054°	Greenwich Culmination Time: 10:27	UT 02 06 10 14 18 22	SD 15'2 15'2 15'2 15'1 15'1 15'1	HP 55'8 55'7 55'6 55'5 55'4 55'3	SHA 271° 268° 266° 264° 261° 259°	Greenwich Culmination Time: 20:43

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT		
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec			
00	201 26.6 +00.5	S 20 06.7 -00.5	110 58.8 +02.1	N 13 46.0 +00.1	167 38.2 +02.2	S 09 51.1 -00.1	00								
01	216 27.1 +00.5	S 20 06.2 -00.4	126 00.9 +02.1	N 13 46.1 +00.2	182 40.4 +02.2	S 09 51.0 -00.1	01								
02	231 27.6 +00.4	S 20 05.8 -00.5	141 03.0 +02.1	N 13 46.3 +00.1	197 42.6 +02.2	S 09 50.9 -00.1	02								
03	246 28.0 +00.5	S 20 05.3 -00.4	156 05.1 +02.1	N 13 46.4 +00.1	212 44.8 +02.2	S 09 50.8 -00.2	03								
04	261 28.5 +00.5	S 20 04.9 -00.5	171 07.2 +02.1	N 13 46.5 +00.2	227 47.0 +02.1	S 09 50.6 -00.1	04								
05	276 29.0 +00.4	S 20 04.4 -00.4	186 09.3 +02.1	N 13 46.7 +00.1	242 49.1 +02.2	S 09 50.5 -00.1	05								
06	291 29.4 +00.5	S 20 04.0 -00.4	201 11.4 +02.1	N 13 46.8 +00.1	257 51.3 +02.2	S 09 50.4 -00.1	06								
07	306 29.9 +00.5	S 20 03.6 -00.5	216 13.5 +02.1	N 13 46.9 +00.1	272 53.5 +02.2	S 09 50.3 -00.1	07								
08	321 30.4 +00.5	S 20 03.1 -00.4	231 15.6 +02.1	N 13 47.0 +00.2	287 55.7 +02.1	S 09 50.2 -00.1	08								
09	336 30.9 +00.4	S 20 02.7 -00.5	246 17.7 +02.1	N 13 47.2 +00.1	302 57.8 +02.2	S 09 50.1 -00.1	09								
10	351 31.3 +00.5	S 20 02.2 -00.4	261 19.8 +02.1	N 13 47.3 +00.1	318 00.0 +02.2	S 09 50.0 -00.1	10								
11	6 31.8 +00.5	S 20 01.8 -00.5	276 21.9 +02.1	N 13 47.4 +00.1	333 02.2 +02.2	S 09 49.9 -00.2	11								
12	21 32.3 +00.4	S 20 01.3 -00.4	291 24.0 +02.1	N 13 47.5 +00.2	348 04.4 +02.2	S 09 49.7 -00.1	12								
13	36 32.7 +00.5	S 20 00.9 -00.5	306 26.1 +02.1	N 13 47.7 +00.1	3 06.6 +02.1	S 09 49.6 -00.1	13								
14	51 33.2 +00.5	S 20 00.4 -00.4	321 28.2 +02.1	N 13 47.8 +00.1	18 08.7 +02.2	S 09 49.5 -00.1	14								
15	66 33.7 +00.4	S 19 60.0 -00.5	336 30.3 +02.1	N 13 47.9 +00.1	33 10.9 +02.2	S 09 49.4 -00.1	15								
16	81 34.1 +00.5	S 19 59.5 -00.4	351 32.4 +02.1	N 13 48.0 +00.2	48 13.1 +02.2	S 09 49.3 -00.1	16								
17	96 34.6 +00.5	S 19 59.1 -00.5	6 34.5 +02.1	N 13 48.2 +00.1	63 15.3 +02.2	S 09 49.2 -00.1	17								
18	111 35.1 +00.5	S 19 58.6 -00.4	21 36.6 +02.1	N 13 48.3 +00.1	78 17.5 +02.1	S 09 49.1 -00.1	18								
19	126 35.6 +00.4	S 19 58.2 -00.5	36 38.7 +02.1	N 13 48.4 +00.2	93 19.6 +02.2	S 09 49.0 -00.2	19								
20	141 36.0 +00.5	S 19 57.7 -00.4	51 40.8 +02.1	N 13 48.6 +00.1	108 21.8 +02.2	S 09 48.8 -00.1	20								
21	156 36.5 +00.5	S 19 57.3 -00.5	66 42.9 +02.1	N 13 48.7 +00.1	123 24.0 +02.2	S 09 48.7 -00.1	21								
22	171 37.0 +00.4	S 19 56.8 -00.4	81 45.0 +02.1	N 13 48.8 +00.1	138 26.2 +02.1	S 09 48.6 -00.1	22								
23	186 37.4 +00.5	S 19 56.4 -00.5	96 47.1 +02.1	N 13 48.9 +00.2	153 28.3 +02.2	S 09 48.5 -00.1	23								
	UT 02 06 10 14 18 22	SD 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 053° 053° 053° 053° 052° 052°	Greenwich Culmination Time: 10:33	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 323° 322° 322° 322° 322° 322°	Greenwich Culmination Time: 16:33	UT 02 06 10 14 18 22	SD 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	SHA 019° 019° 019° 019° 019° 019°	Greenwich Culmination Time: 12:47

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> A: 37%				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 33.1 +00.1	S	11 10.7 -00.9	202 55.2 -00.8	S	19 29.9 -00.6	47 18.2 -32.4	N	28 05.6 -02.4	00			
01	191 33.2 +00.0	S	11 09.8 -00.9	217 54.4 -00.7	S	19 29.3 -00.6	61 45.8 -32.4	N	28 03.2 -02.5	01			
02	206 33.2 +00.1	S	11 08.9 -00.9	232 53.7 -00.8	S	19 28.7 -00.6	76 13.4 -32.4	N	28 00.7 -02.7	02			
03	221 33.3 +00.0	S	11 08.0 -00.9	247 52.9 -00.7	S	19 28.1 -00.7	90 41.0 -32.3	N	27 58.0 -02.8	03			
04	236 33.3 +00.1	S	11 07.1 -00.9	262 52.2 -00.8	S	19 27.4 -00.6	105 08.7 -32.3	N	27 55.2 -03.0	04			
05	251 33.4 +00.1	S	11 06.2 -00.9	277 51.4 -00.7	S	19 26.8 -00.6	119 36.4 -32.2	N	27 52.2 -03.1	05			
06	266 33.5 +00.0	S	11 05.3 -00.9	292 50.7 -00.8	S	19 26.2 -00.7	134 04.2 -32.1	N	27 49.1 -03.2	06			
07	281 33.5 +00.1	S	11 04.4 -00.8	307 49.9 -00.7	S	19 25.5 -00.6	148 32.1 -32.1	N	27 45.9 -03.4	07			
08	296 33.6 +00.1	S	11 03.6 -00.9	322 49.2 -00.8	S	19 24.9 -00.6	163 00.0 -32.0	N	27 42.5 -03.5	08			
09	311 33.7 +00.0	S	11 02.7 -00.9	337 48.4 -00.7	S	19 24.3 -00.6	177 28.0 -32.0	N	27 39.0 -03.7	09			
10	326 33.7 +00.1	S	11 01.8 -00.9	352 47.7 -00.8	S	19 23.7 -00.7	191 56.0 -31.9	N	27 35.3 -03.8	10			
11	341 33.8 +00.1	S	11 00.9 -00.9	7 46.9 -00.7	S	19 23.0 -00.6	206 24.1 -31.9	N	27 31.5 -03.9	11			
12	356 33.9 +00.0	S	10 60.0 -00.9	22 46.2 -00.8	S	19 22.4 -00.6	220 52.2 -31.7	N	27 27.6 -04.1	12			
13	11 33.9 +00.1	S	10 59.1 -00.9	37 45.4 -00.7	S	19 21.8 -00.7	235 20.5 -31.8	N	27 23.5 -04.2	13			
14	26 34.0 +00.0	S	10 58.2 -00.9	52 44.7 -00.8	S	19 21.1 -00.6	249 48.7 -31.6	N	27 19.3 -04.4	14			
15	41 34.0 +00.1	S	10 57.3 -00.9	67 43.9 -00.7	S	19 20.5 -00.6	264 17.1 -31.6	N	27 14.9 -04.5	15			
16	56 34.1 +00.1	S	10 56.4 -00.9	82 43.2 -00.8	S	19 19.9 -00.7	278 45.5 -31.6	N	27 10.4 -04.6	16			
17	71 34.2 +00.0	S	10 55.5 -00.9	97 42.4 -00.7	S	19 19.2 -00.6	293 13.9 -31.4	N	27 05.8 -04.7	17			
18	86 34.2 +00.1	S	10 54.6 -00.9	112 41.7 -00.7	S	19 18.6 -00.7	307 42.5 -31.4	N	27 01.1 -04.9	18			
19	101 34.3 +00.1	S	10 53.7 -00.9	127 41.0 -00.8	S	19 17.9 -00.6	322 11.1 -31.4	N	26 56.2 -05.1	19			
20	116 34.4 +00.0	S	10 52.8 -00.9	142 40.2 -00.7	S	19 17.3 -00.6	336 39.7 -31.2	N	26 51.1 -05.1	20			
21	131 34.4 +00.1	S	10 51.9 -00.9	157 39.5 -00.8	S	19 16.7 -00.7	351 08.5 -31.2	N	26 46.0 -05.3	21			
22	146 34.5 +00.1	S	10 51.0 -00.9	172 38.0 -00.7	S	19 16.0 -00.6	5 37.3 -31.1	N	26 40.7 -05.4	22			
23	161 34.6 +00.1	S	10 50.1 -00.9	187 38.0 -00.8	S	19 15.4 -00.7	20 06.2 -31.1	N	26 35.3 -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 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 15'1 15'0 15'0 15'0 15'0 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 55'3 55'2 55'1 55'0 55'0 54'9						
	SHA 027° 027° 027° 027° 026° 026°			SHA 053° 053° 053° 053° 053° 052°			SHA 257° 254° 252° 250° 248° 245°						
	Greenwich Culmination Time: 12:13			Greenwich Culmination Time: 10:28			Greenwich Culmination Time: 21:36						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	201 37.9 +00.5	S	19 55.9 -00.4	111 49.2 +02.1	N	13 49.1 +00.1	168 30.5 +02.2	S	09 48.4 -00.1	00			
01	216 38.4 +00.5	S	19 55.5 -00.5	126 51.3 +02.1	N	13 49.2 +00.1	183 32.7 +02.2	S	09 48.3 -00.1	01			
02	231 38.9 +00.4	S	19 55.0 -00.4	141 53.4 +02.1	N	13 49.3 +00.2	198 34.9 +02.2	S	09 48.2 -00.2	02			
03	246 39.3 +00.5	S	19 54.6 -00.5	156 55.5 +02.1	N	13 49.5 +00.1	213 37.1 +02.1	S	09 48.0 -00.1	03			
04	261 39.8 +00.5	S	19 54.1 -00.4	171 57.6 +02.1	N	13 49.6 +00.1	228 39.2 +02.2	S	09 47.9 -00.1	04			
05	276 40.3 +00.4	S	19 53.7 -00.5	186 59.7 +02.1	N	13 49.7 +00.1	243 41.4 +02.2	S	09 47.8 -00.1	05			
06	291 40.7 +00.5	S	19 53.2 -00.4	202 01.8 +02.1	N	13 49.8 +00.2	258 43.6 +02.2	S	09 47.7 -00.1	06			
07	306 41.2 +00.5	S	19 52.8 -00.5	217 03.9 +02.1	N	13 50.0 +00.1	273 45.8 +02.2	S	09 47.6 -00.1	07			
08	321 41.7 +00.5	S	19 52.3 -00.5	232 06.0 +02.1	N	13 50.1 +00.1	288 48.0 +02.1	S	09 47.5 -00.1	08			
09	336 42.2 +00.4	S	19 51.8 -00.4	247 08.1 +02.1	N	13 50.2 +00.2	303 50.1 +02.2	S	09 47.4 -00.1	09			
10	351 42.6 +00.5	S	19 51.4 -00.5	262 10.2 +02.1	N	13 50.4 +00.1	318 52.3 +02.2	S	09 47.3 -00.2	10			
11	6 43.1 +00.5	S	19 50.9 -00.4	277 12.3 +02.1	N	13 50.5 +00.1	333 54.5 +02.2	S	09 47.1 -00.1	11			
12	21 43.6 +00.5	S	19 50.5 -00.5	292 14.4 +02.1	N	13 50.6 +00.1	348 56.7 +02.1	S	09 47.0 -00.1	12			
13	36 44.1 +00.4	S	19 50.0 -00.4	307 16.5 +02.1	N	13 50.7 +00.2	3 58.8 +02.2	S	09 46.9 -00.1	13			
14	51 44.5 +00.5	S	19 49.6 -00.5	322 18.6 +02.1	N	13 50.9 +00.1	19 01.0 +02.2	S	09 46.8 -00.1	14			
15	66 45.0 +00.5	S	19 49.1 -00.4	337 20.7 +02.1	N	13 51.0 +00.1	34 03.2 +02.2	S	09 46.7 -00.1	15			
16	81 45.5 +00.5	S	19 48.7 -00.5	352 22.8 +02.1	N	13 51.1 +00.2	49 05.4 +02.2	S	09 46.6 -00.1	16			
17	96 46.0 +00.4	S	19 48.2 -00.5	7 24.9 +02.1	N	13 51.3 +00.1	64 07.6 +02.1	S	09 46.5 -00.1	17			
18	111 46.4 +00.5	S	19 47.7 -00.4	22 27.0 +02.1	N	13 51.4 +00.1	79 09.7 +02.2	S	09 46.4 -00.2	18			
19	126 46.9 +00.5	S	19 47.3 -00.5	37 29.1 +02.1	N	13 51.5 +00.1	94 11.9 +02.2	S	09 46.2 -00.1	19			
20	141 47.4 +00.5	S	19 46.8 -00.4	52 31.2 +02.1	N	13 51.6 +00.2	109 14.1 +02.2	S	09 46.1 -00.1	20			
21	156 47.9 +00.4	S	19 46.4 -00.5	67 33.3 +02.1	N	13 51.8 +00.1	124 16.3 +02.1	S	09 46.0 -00.1	21			
22	171 48.3 +00.5	S	19 45.9 -00.5	82 35.4 +02.1	N	13 51.9 +00.1	139 18.4 +02.2	S	09 45.9 -00.1	22			
23	186 48.8 +00.5	S	19 45.4 -00.4	97 37.5 +02.1	N	13 52.0 +00.2	154 20.6 +02.2	S	09 45.8 -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 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			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						
	SHA 052° 052° 052° 052° 052° 051°			SHA 322° 322° 322° 322° 322° 322°			SHA 019° 019° 019° 019° 019° 019°						
	Greenwich Culmination Time: 10:33			Greenwich Culmination Time: 16:30			Greenwich Culmination Time: 12:44						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 34.7 +00.0	S 10	49.2 -00.9	202 37.2 -00.7	S 19	14.7 -00.6	34 35.1 -30.9	N 26	29.8 -05.7	00			
01	191 34.7 +00.1	S 10	48.3 -00.9	217 36.5 -00.7	S 19	14.1 -00.7	49 04.2 -31.0	N 26	24.1 -05.8	01			
02	206 34.8 +00.1	S 10	47.4 -00.9	232 35.8 -00.8	S 19	13.4 -00.6	63 33.2 -30.8	N 26	18.3 -05.9	02			
03	221 34.9 +00.0	S 10	46.5 -00.9	247 35.0 -00.7	S 19	12.8 -00.7	78 02.4 -30.7	N 26	12.4 -06.1	03			
04	236 34.9 +00.1	S 10	45.6 -00.9	262 34.3 -00.8	S 19	12.1 -00.6	92 31.7 -30.7	N 26	06.3 -06.1	04			
05	251 35.0 +00.1	S 10	44.7 -00.9	277 33.5 -00.7	S 19	11.5 -00.7	107 01.0 -30.6	N 26	00.2 -06.3	05			
06	266 35.1 +00.0	S 10	43.8 -00.9	292 32.8 -00.7	S 19	10.8 -00.6	121 30.4 -30.6	N 25	53.9 -06.4	06			
07	281 35.1 +00.1	S 10	42.9 -00.9	307 32.1 -00.8	S 19	10.2 -00.7	135 59.8 -30.4	N 25	47.5 -06.6	07			
08	296 35.2 +00.1	S 10	42.0 -00.9	322 31.3 -00.7	S 19	09.5 -00.6	150 29.4 -30.4	N 25	40.9 -06.6	08			
09	311 35.3 +00.0	S 10	41.1 -00.9	337 30.6 -00.8	S 19	08.9 -00.7	164 59.0 -30.3	N 25	34.3 -06.8	09			
10	326 35.3 +00.1	S 10	40.2 -00.9	352 29.8 -00.7	S 19	08.2 -00.6	179 28.7 -30.2	N 25	27.5 -06.9	10			
11	341 35.4 +00.1	S 10	39.3 -00.9	7 29.1 -00.7	S 19	07.6 -00.7	193 58.5 -30.2	N 25	20.6 -07.0	11			
12	356 35.5 +00.1	S 10	38.4 -00.9	22 28.4 -00.8	S 19	06.9 -00.7	208 28.3 -30.0	N 25	13.6 -07.1	12			
13	11 35.6 +00.0	S 10	37.5 -00.9	37 27.6 -00.7	S 19	06.2 -00.6	222 58.3 -30.0	N 25	06.5 -07.3	13			
14	26 35.6 +00.1	S 10	36.6 -00.9	52 26.9 -00.7	S 19	05.6 -00.7	237 28.3 -29.9	N 24	59.2 -07.3	14			
15	41 35.7 +00.1	S 10	35.7 -00.9	67 26.2 -00.8	S 19	04.9 -00.6	251 58.4 -29.9	N 24	51.9 -07.5	15			
16	56 35.8 +00.1	S 10	34.8 -00.9	82 25.4 -00.7	S 19	04.3 -00.7	266 28.5 -29.7	N 24	44.4 -07.6	16			
17	71 35.9 +00.0	S 10	33.9 -00.9	97 24.7 -00.7	S 19	03.6 -00.7	280 58.8 -29.7	N 24	36.8 -07.7	17			
18	86 35.9 +00.1	S 10	33.0 -00.9	112 24.0 -00.8	S 19	02.9 -00.6	295 29.1 -29.6	N 24	29.1 -07.8	18			
19	101 36.0 +00.1	S 10	32.1 -00.9	127 23.2 -00.7	S 19	02.3 -00.7	309 59.5 -29.5	N 24	21.3 -07.9	19			
20	116 36.1 +00.0	S 10	31.2 -01.0	142 22.5 -00.7	S 19	01.6 -00.6	324 30.0 -29.5	N 24	13.4 -08.0	20			
21	131 36.1 +00.1	S 10	30.2 -00.9	157 21.8 -00.8	S 19	01.0 -00.7	339 00.5 -29.3	N 24	05.4 -08.1	21			
22	146 36.2 +00.1	S 10	29.3 -00.9	172 21.0 -00.7	S 19	00.3 -00.7	353 31.2 -29.3	N 23	57.3 -08.3	22			
23	161 36.3 +00.1	S 10	28.4 -00.9	187 20.3 -00.7	S 18	59.6 -00.6	8 01.9 -29.2	N 23	49.0 -08.3	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'2 16'2 16'2 16'2 16'2 16'2			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 54'8 54'7 54'7 54'6 54'6 54'5						
	SHA 026° 026° 026° 026° 025° 025°			SHA 052° 052° 052° 051° 051° 051°			SHA 243° 241° 239° 236° 234° 232°						
	Greenwich Culmination Time: 12:13			Greenwich Culmination Time: 10:30			Greenwich Culmination Time: 22:26						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	201 49.3 +00.5	S 19	45.0 -00.5	112 39.6 +02.1	N 13	52.2 +00.1	169 22.8 +02.2	S 09	45.7 -00.1	00			
01	216 49.8 +00.4	S 19	44.5 -00.4	127 41.7 +02.1	N 13	52.3 +00.1	184 25.0 +02.2	S 09	45.6 -00.2	01			
02	231 50.2 +00.5	S 19	44.1 -00.5	142 43.8 +02.1	N 13	52.4 +00.1	199 27.2 +02.1	S 09	45.4 -00.1	02			
03	246 50.7 +00.5	S 19	43.6 -00.5	157 45.9 +02.0	N 13	52.5 +00.2	214 29.3 +02.2	S 09	45.3 -00.1	03			
04	261 51.2 +00.5	S 19	43.1 -00.4	172 47.9 +02.1	N 13	52.7 +00.1	229 31.5 +02.2	S 09	45.2 -00.1	04			
05	276 51.7 +00.4	S 19	42.7 -00.5	187 50.0 +02.1	N 13	52.8 +00.1	244 33.7 +02.2	S 09	45.1 -00.1	05			
06	291 52.1 +00.5	S 19	42.2 -00.4	202 52.1 +02.1	N 13	52.9 +00.2	259 35.9 +02.1	S 09	45.0 -00.1	06			
07	306 52.6 +00.5	S 19	41.8 -00.5	217 54.2 +02.1	N 13	53.1 +00.1	274 38.0 +02.2	S 09	44.9 -00.1	07			
08	321 53.1 +00.5	S 19	41.3 -00.5	232 56.3 +02.1	N 13	53.2 +00.1	289 40.2 +02.2	S 09	44.8 -00.1	08			
09	336 53.6 +00.4	S 19	40.8 -00.4	247 58.4 +02.1	N 13	53.3 +00.2	304 42.4 +02.2	S 09	44.7 -00.2	09			
10	351 54.0 +00.5	S 19	40.4 -00.5	263 00.5 +02.1	N 13	53.5 +00.1	319 44.6 +02.2	S 09	44.5 -00.1	10			
11	6 54.5 +00.5	S 19	39.9 -00.5	278 02.6 +02.1	N 13	53.6 +00.1	334 46.8 +02.1	S 09	44.4 -00.1	11			
12	21 55.0 +00.5	S 19	39.4 -00.4	293 04.7 +02.1	N 13	53.7 +00.1	349 48.9 +02.2	S 09	44.3 -00.1	12			
13	36 55.5 +00.4	S 19	39.0 -00.5	308 06.8 +02.1	N 13	53.8 +00.2	4 51.1 +02.2	S 09	44.2 -00.1	13			
14	51 55.9 +00.5	S 19	38.5 -00.5	323 08.9 +02.1	N 13	54.0 +00.1	19 53.3 +02.2	S 09	44.1 -00.1	14			
15	66 56.4 +00.5	S 19	38.0 -00.4	338 11.0 +02.0	N 13	54.1 +00.1	34 55.5 +02.1	S 09	44.0 -00.1	15			
16	81 56.9 +00.5	S 19	37.6 -00.5	353 13.0 +02.1	N 13	54.2 +00.2	49 57.6 +02.2	S 09	43.9 -00.1	16			
17	96 57.4 +00.5	S 19	37.1 -00.5	8 15.1 +02.1	N 13	54.4 +00.1	64 59.8 +02.2	S 09	43.8 -00.2	17			
18	111 57.9 +00.4	S 19	36.6 -00.4	23 17.2 +02.1	N 13	54.5 +00.1	80 02.0 +02.2	S 09	43.6 -00.1	18			
19	126 58.3 +00.5	S 19	36.2 -00.5	38 19.3 +02.1	N 13	54.6 +00.2	95 04.2 +02.2	S 09	43.5 -00.1	19			
20	141 58.8 +00.5	S 19	35.7 -00.5	53 21.4 +02.1	N 13	54.8 +00.1	110 06.4 +02.1	S 09	43.4 -00.1	20			
21	156 59.3 +00.5	S 19	35.2 -00.4	68 23.5 +02.1	N 13	54.9 +00.1	125 08.5 +02.2	S 09	43.3 -00.1	21			
22	171 59.8 +00.4	S 19	34.8 -00.5	83 25.6 +02.1	N 13	55.0 +00.1	140 10.7 +02.2	S 09	43.2 -00.1	22			
23	187 00.2 +00.5	S 19	34.3 -00.5	98 27.7 +02.1	N 13	55.1 +00.2	155 12.9 +02.2	S 09	43.1 -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 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			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						
	SHA 051° 051° 051° 051° 051° 051°			SHA 322° 322° 322° 322° 322° 322°			SHA 019° 019° 019° 019° 019° 019°						
	Greenwich Culmination Time: 10:32			Greenwich Culmination Time: 16:27			Greenwich Culmination Time: 12:40						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 36.4 +00.0	S 10 27.5 -00.9	202 19.6 -00.8	S 18 59.0 -00.7	22 32.7 -29.1	N 23 40.7 -08.4	00						
01	191 36.4 +00.1	S 10 26.6 -00.9	217 18.8 -00.7	S 18 58.3 -00.7	37 03.6 -29.0	N 23 32.3 -08.6	01						
02	206 36.5 +00.1	S 10 25.7 -00.9	232 18.1 -00.7	S 18 57.6 -00.7	51 34.6 -29.0	N 23 23.7 -08.6	02						
03	221 36.6 +00.1	S 10 24.8 -00.9	247 17.4 -00.8	S 18 56.9 -00.6	66 05.6 -28.9	N 23 15.1 -08.8	03						
04	236 36.7 +00.0	S 10 23.9 -00.9	262 16.6 -00.7	S 18 56.3 -00.7	80 36.7 -28.8	N 23 06.3 -08.8	04						
05	251 36.7 +00.1	S 10 23.0 -00.9	277 15.9 -00.7	S 18 55.6 -00.7	95 07.9 -28.7	N 22 57.5 -08.9	05						
06	266 36.8 +00.1	S 10 22.1 -00.9	292 15.2 -00.8	S 18 54.9 -00.6	109 39.2 -28.6	N 22 48.6 -09.1	06						
07	281 36.9 +00.1	S 10 21.2 -00.9	307 14.4 -00.7	S 18 54.3 -00.7	124 10.6 -28.6	N 22 39.5 -09.1	07						
08	296 37.0 +00.1	S 10 20.3 -00.9	322 13.7 -00.7	S 18 53.6 -00.7	138 42.0 -28.4	N 22 30.4 -09.3	08						
09	311 37.1 +00.0	S 10 19.4 -00.9	337 13.0 -00.7	S 18 52.9 -00.7	153 13.6 -28.4	N 22 21.1 -09.3	09						
10	326 37.1 +00.1	S 10 18.5 -01.0	352 12.3 -00.8	S 18 52.2 -00.7	167 45.2 -28.4	N 22 11.8 -09.4	10						
11	341 37.2 +00.1	S 10 17.5 -00.9	7 11.5 -00.7	S 18 51.5 -00.6	182 16.8 -28.2	N 22 02.4 -09.5	11						
12	356 37.3 +00.1	S 10 16.6 -00.9	22 10.8 -00.7	S 18 50.9 -00.7	196 48.6 -28.2	N 21 52.9 -09.6	12						
13	11 37.4 +00.0	S 10 15.7 -00.9	37 10.1 -00.7	S 18 50.2 -00.7	211 20.4 -28.0	N 21 43.3 -09.7	13						
14	26 37.4 +00.1	S 10 14.8 -00.9	52 09.4 -00.8	S 18 49.5 -00.7	225 52.4 -28.0	N 21 33.6 -09.8	14						
15	41 37.5 +00.1	S 10 13.9 -00.9	67 08.6 -00.7	S 18 48.8 -00.7	240 24.4 -28.0	N 21 23.8 -09.9	15						
16	56 37.6 +00.1	S 10 13.0 -00.9	82 07.9 -00.7	S 18 48.1 -00.6	254 56.4 -27.8	N 21 13.9 -10.0	16						
17	71 37.7 +00.1	S 10 12.1 -00.9	97 07.2 -00.7	S 18 47.5 -00.7	269 28.6 -27.8	N 21 03.9 -10.0	17						
18	86 37.8 +00.0	S 10 11.2 -00.9	112 06.5 -00.8	S 18 46.8 -00.7	284 00.8 -27.7	N 20 53.9 -10.1	18						
19	101 37.8 +00.1	S 10 10.3 -01.0	127 05.7 -00.7	S 18 46.1 -00.7	298 33.1 -27.6	N 20 43.8 -10.3	19						
20	116 37.9 +00.1	S 10 09.3 -00.9	142 05.0 -00.7	S 18 45.4 -00.7	313 05.5 -27.5	N 20 33.5 -10.3	20						
21	131 38.0 +00.1	S 10 08.4 -00.9	157 04.3 -00.7	S 18 44.7 -00.7	327 38.0 -27.5	N 20 23.2 -10.3	21						
22	146 38.1 +00.1	S 10 07.5 -00.9	172 03.6 -00.8	S 18 44.0 -00.7	342 10.5 -27.4	N 20 12.9 -10.5	22						
23	161 38.2 +00.1	S 10 06.6 -00.9	187 02.8 -00.7	S 18 43.3 -00.7	356 43.1 -27.3	N 20 02.4 -10.6	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'2 16'2 16'2 16'2 16'2 16'2		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 54'5 54'4 54'4 54'3 54'3 54'2								
	SHA 025° 025° 025° 025° 024° 024°		SHA 051° 051° 050° 050° 050° 050°		SHA 230° 228° 226° 224° 222° 220°								
	Greenwich Culmination Time: 12:13		Greenwich Culmination Time: 10:31		Greenwich Culmination Time: 23:13								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	202 00.7 +00.5	S 19 33.8 -00.4	113 29.8 +02.1	N 13 55.3 +00.1	170 15.1 +02.1	S 09 43.0 -00.2	00						
01	217 01.2 +00.5	S 19 33.4 -00.5	128 31.9 +02.0	N 13 55.4 +00.1	185 17.2 +02.2	S 09 42.8 -00.1	01						
02	232 01.7 +00.5	S 19 32.9 -00.5	143 33.9 +02.1	N 13 55.5 +00.2	200 19.4 +02.2	S 09 42.7 -00.1	02						
03	247 02.2 +00.4	S 19 32.4 -00.5	158 36.0 +02.1	N 13 55.7 +00.1	215 21.6 +02.2	S 09 42.6 -00.1	03						
04	262 02.6 +00.5	S 19 31.9 -00.4	173 38.1 +02.1	N 13 55.8 +00.1	230 23.8 +02.2	S 09 42.5 -00.1	04						
05	277 03.1 +00.5	S 19 31.5 -00.5	188 40.2 +02.1	N 13 55.9 +00.2	245 26.0 +02.1	S 09 42.4 -00.1	05						
06	292 03.6 +00.5	S 19 31.0 -00.5	203 42.3 +02.1	N 13 56.1 +00.1	260 28.1 +02.2	S 09 42.3 -00.1	06						
07	307 04.1 +00.5	S 19 30.5 -00.4	218 44.4 +02.1	N 13 56.2 +00.1	275 30.3 +02.2	S 09 42.2 -00.1	07						
08	322 04.6 +00.4	S 19 30.1 -00.5	233 46.5 +02.1	N 13 56.3 +00.2	290 32.5 +02.2	S 09 42.1 -00.2	08						
09	337 05.0 +00.5	S 19 29.6 -00.5	248 48.6 +02.0	N 13 56.5 +00.1	305 34.7 +02.1	S 09 41.9 -00.1	09						
10	352 05.5 +00.5	S 19 29.1 -00.5	263 50.6 +02.1	N 13 56.6 +00.1	320 36.8 +02.2	S 09 41.8 -00.1	10						
11	7 06.0 +00.5	S 19 28.6 -00.4	278 52.7 +02.1	N 13 56.7 +00.1	335 39.0 +02.2	S 09 41.7 -00.1	11						
12	22 06.5 +00.5	S 19 28.2 -00.5	293 54.8 +02.1	N 13 56.8 +00.2	350 41.2 +02.2	S 09 41.6 -00.1	12						
13	37 07.0 +00.4	S 19 27.7 -00.5	308 56.9 +02.1	N 13 57.0 +00.1	5 43.4 +02.2	S 09 41.5 -00.1	13						
14	52 07.4 +00.5	S 19 27.2 -00.4	323 59.0 +02.1	N 13 57.1 +00.1	20 45.6 +02.1	S 09 41.4 -00.1	14						
15	67 07.9 +00.5	S 19 26.8 -00.5	339 01.1 +02.1	N 13 57.2 +00.2	35 47.7 +02.2	S 09 41.3 -00.2	15						
16	82 08.4 +00.5	S 19 26.3 -00.5	354 03.2 +02.0	N 13 57.4 +00.1	50 49.9 +02.2	S 09 41.1 -00.1	16						
17	97 08.9 +00.5	S 19 25.8 -00.5	9 05.2 +02.1	N 13 57.5 +00.1	65 52.1 +02.2	S 09 41.0 -00.1	17						
18	112 09.4 +00.4	S 19 25.3 -00.4	24 07.3 +02.1	N 13 57.6 +00.2	80 54.3 +02.1	S 09 40.9 -00.1	18						
19	127 09.8 +00.5	S 19 24.9 -00.5	39 09.4 +02.1	N 13 57.8 +00.1	95 56.4 +02.2	S 09 40.8 -00.1	19						
20	142 10.3 +00.5	S 19 24.4 -00.5	54 11.5 +02.1	N 13 57.9 +00.1	110 58.6 +02.2	S 09 40.7 -00.1	20						
21	157 10.8 +00.5	S 19 23.9 -00.5	69 13.6 +02.1	N 13 58.0 +00.2	126 00.8 +02.2	S 09 40.6 -00.1	21						
22	172 11.3 +00.5	S 19 23.4 -00.5	84 15.7 +02.0	N 13 58.2 +00.1	141 03.0 +02.2	S 09 40.5 -00.1	22						
23	187 11.8 +00.5	S 19 22.9 -00.4	99 17.7 +02.1	N 13 58.3 +00.1	156 05.2 +02.1	S 09 40.4 -00.2	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		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								
	SHA 051° 050° 050° 050° 050° 050°		SHA 322° 322° 322° 322° 322° 322°		SHA 019° 019° 019° 019° 019° 019°								
	Greenwich Culmination Time: 10:31		Greenwich Culmination Time: 16:23		Greenwich Culmination Time: 12:37								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> A: 47%				UT
	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	
00	176 38.3 +00.0	S	10 05.7 -00.9		202 02.1 -00.7	S	18 42.6 -00.7		11 15.8 -27.2	N	19 51.8 -10.6		00
01	191 38.3 +00.1	S	10 04.8 -00.9		217 01.4 -00.7	S	18 41.9 -00.6		25 48.6 -27.2	N	19 41.2 -10.7		01
02	206 38.4 +00.1	S	10 03.9 -00.9		232 00.7 -00.7	S	18 41.3 -00.7		40 21.4 -27.0	N	19 30.5 -10.8		02
03	221 38.5 +00.1	S	10 03.0 -01.0		246 60.0 -00.8	S	18 40.6 -00.7		54 54.4 -27.1	N	19 19.7 -10.8		03
04	236 38.6 +00.1	S	10 02.0 -00.9		261 59.2 -00.7	S	18 39.9 -00.7		69 27.3 -26.9	N	19 08.9 -11.0		04
05	251 38.7 +00.0	S	10 01.1 -00.9		276 58.5 -00.7	S	18 39.2 -00.7		84 00.4 -26.9	N	18 57.9 -11.0		05
06	266 38.7 +00.1	S	10 00.2 -00.9		291 57.8 -00.7	S	18 38.5 -00.7		98 33.5 -26.8	N	18 46.9 -11.1		06
07	281 38.8 +00.1	S	09 59.3 -00.9		306 57.1 -00.7	S	18 37.8 -00.7		113 06.7 -26.7	N	18 35.8 -11.1		07
08	296 38.9 +00.1	S	09 58.4 -00.9		321 56.4 -00.8	S	18 37.1 -00.7		127 40.0 -26.6	N	18 24.7 -11.2		08
09	311 39.0 +00.1	S	09 57.5 -00.9		336 55.6 -00.7	S	18 36.4 -00.7		142 13.4 -26.6	N	18 13.5 -11.3		09
10	326 39.1 +00.1	S	09 56.6 -01.0		351 54.9 -00.7	S	18 35.7 -00.7		156 46.8 -26.5	N	18 02.2 -11.4		10
11	341 39.2 +00.1	S	09 55.6 -00.9		6 54.2 -00.7	S	18 35.0 -00.7		171 20.3 -26.5	N	17 50.8 -11.4		11
12	356 39.3 +00.0	S	09 54.7 -00.9		21 53.5 -00.7	S	18 34.3 -00.7		185 53.8 -26.4	N	17 39.4 -11.5		12
13	11 39.3 +00.1	S	09 53.8 -00.9		36 52.8 -00.7	S	18 33.6 -00.7		200 27.4 -26.3	N	17 27.9 -11.6		13
14	26 39.4 +00.1	S	09 52.9 -00.9		51 52.1 -00.7	S	18 32.9 -00.7		215 01.1 -26.2	N	17 16.3 -11.6		14
15	41 39.5 +00.1	S	09 52.0 -00.9		66 51.4 -00.8	S	18 32.2 -00.7		229 34.9 -26.2	N	17 04.7 -11.7		15
16	56 39.6 +00.1	S	09 51.1 -01.0		81 50.6 -00.7	S	18 31.5 -00.7		244 08.7 -26.1	N	16 53.0 -11.8		16
17	71 39.7 +00.1	S	09 50.1 -00.9		96 49.9 -00.7	S	18 30.8 -00.8		258 42.6 -26.0	N	16 41.2 -11.8		17
18	86 39.8 +00.1	S	09 49.2 -00.9		111 49.2 -00.7	S	18 30.0 -00.7		273 16.6 -26.0	N	16 29.4 -11.9		18
19	101 39.9 +00.0	S	09 48.3 -00.9		126 48.5 -00.7	S	18 29.3 -00.7		287 50.6 -25.9	N	16 17.5 -12.0		19
20	116 39.9 +00.1	S	09 47.4 -00.9		141 47.8 -00.7	S	18 28.6 -00.7		302 24.7 -25.9	N	16 05.5 -12.0		20
21	131 40.0 +00.1	S	09 46.5 -00.9		156 47.1 -00.7	S	18 27.9 -00.7		316 58.8 -25.8	N	15 53.5 -12.0		21
22	146 40.1 +00.1	S	09 45.6 -01.0		171 46.4 -00.7	S	18 27.2 -00.7		331 33.0 -25.7	N	15 41.5 -12.2		22
23	161 40.2 +00.1	S	09 44.6 -00.9		186 45.7 -00.8	S	18 26.5 -00.7		346 07.3 -25.7	N	15 29.3 -12.2		23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 16'2 16'2 16'2 16'2 16'2 16'2				SD 00'1 00'1 00'1 00'1 00'1 00'1				SD 14'8 14'8 14'8 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 54'2 54'2 54'1 54'1 54'1 54'1				
	SHA 024° 024° 024° 024° 024° 023°				SHA 050° 049° 049° 049° 049° 048°				SHA 218° 216° 214° 212° 210° 208°				
	Greenwich Culmination Time: 12:13				Greenwich Culmination Time: 10:32				Greenwich Culmination Time: 23:57				

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	
00	202 12.3 +00.4	S	19 22.5 -00.5		114 19.8 +02.1	N	13 58.4 +00.2		171 07.3 +02.2	S	09 40.2 -00.1		00
01	217 12.7 +00.5	S	19 22.0 -00.5		129 21.9 +02.1	N	13 58.6 +00.1		186 09.5 +02.2	S	09 40.1 -00.1		01
02	232 13.2 +00.5	S	19 21.5 -00.5		144 24.0 +02.1	N	13 58.7 +00.1		201 11.7 +02.2	S	09 40.0 -00.1		02
03	247 13.7 +00.5	S	19 21.0 -00.4		159 26.1 +02.1	N	13 58.8 +00.2		216 13.9 +02.1	S	09 39.9 -00.1		03
04	262 14.2 +00.5	S	19 20.6 -00.5		174 28.2 +02.0	N	13 59.0 +00.1		231 16.0 +02.2	S	09 39.8 -00.1		04
05	277 14.7 +00.5	S	19 20.1 -00.5		189 30.2 +02.1	N	13 59.1 +00.1		246 18.2 +02.2	S	09 39.7 -00.1		05
06	292 15.2 +00.4	S	19 19.6 -00.5		204 32.3 +02.1	N	13 59.2 +00.1		261 20.4 +02.2	S	09 39.6 -00.2		06
07	307 15.6 +00.5	S	19 19.1 -00.5		219 34.4 +02.1	N	13 59.3 +00.2		276 22.6 +02.2	S	09 39.4 -00.1		07
08	322 16.1 +00.5	S	19 18.6 -00.4		234 36.5 +02.1	N	13 59.5 +00.1		291 24.8 +02.1	S	09 39.3 -00.1		08
09	337 16.6 +00.5	S	19 18.2 -00.5		249 38.6 +02.1	N	13 59.6 +00.1		306 26.9 +02.2	S	09 39.2 -00.1		09
10	352 17.1 +00.5	S	19 17.7 -00.5		264 40.7 +02.0	N	13 59.7 +00.2		321 29.1 +02.2	S	09 39.1 -00.1		10
11	7 17.6 +00.5	S	19 17.2 -00.5		279 42.7 +02.1	N	13 59.9 +00.1		336 31.3 +02.2	S	09 39.0 -00.1		11
12	22 18.1 +00.4	S	19 16.7 -00.5		294 44.8 +02.1	N	14 00.0 +00.1		351 33.5 +02.1	S	09 38.9 -00.1		12
13	37 18.5 +00.5	S	19 16.2 -00.5		309 46.9 +02.1	N	14 00.1 +00.2		6 35.6 +02.2	S	09 38.8 -00.1		13
14	52 19.0 +00.5	S	19 15.7 -00.4		324 49.0 +02.1	N	14 00.3 +00.1		21 37.8 +02.2	S	09 38.7 -00.2		14
15	67 19.5 +00.5	S	19 15.3 -00.5		339 51.1 +02.0	N	14 00.4 +00.1		36 40.0 +02.2	S	09 38.5 -00.1		15
16	82 20.0 +00.5	S	19 14.8 -00.5		354 53.1 +02.1	N	14 00.5 +00.2		51 42.2 +02.1	S	09 38.4 -00.1		16
17	97 20.5 +00.5	S	19 14.3 -00.5		9 55.2 +02.1	N	14 00.7 +00.1		66 44.3 +02.2	S	09 38.3 -00.1		17
18	112 21.0 +00.5	S	19 13.8 -00.5		24 57.3 +02.1	N	14 00.8 +00.1		81 46.5 +02.2	S	09 38.2 -00.1		18
19	127 21.5 +00.4	S	19 13.3 -00.5		39 59.4 +02.1	N	14 00.9 +00.2		96 48.7 +02.2	S	09 38.1 -00.1		19
20	142 21.9 +00.5	S	19 12.8 -00.4		55 01.5 +02.0	N	14 01.1 +00.1		111 50.9 +02.2	S	09 38.0 -00.1		20
21	157 22.4 +00.5	S	19 12.4 -00.5		70 03.5 +02.1	N	14 01.2 +00.1		126 53.1 +02.1	S	09 37.9 -00.2		21
22	172 22.9 +00.5	S	19 11.9 -00.5		85 05.6 +02.1	N	14 01.3 +00.2		141 55.2 +02.2	S	09 37.7 -00.1		22
23	187 23.4 +00.5	S	19 11.4 -00.5		100 07.7 +02.1	N	14 01.5 +00.1		156 57.4 +02.2	S	09 37.6 -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 00'0 00'0 00'0 00'0 00'0 00'0				SD 00'3 00'3 00'3 00'3 00'3 00'3				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				
	SHA 050° 050° 049° 049° 049° 049°				SHA 322° 322° 322° 322° 322° 322°				SHA 019° 019° 019° 019° 019° 019°				
	Greenwich Culmination Time: 10:30				Greenwich Culmination Time: 16:20				Greenwich Culmination Time: 12:33				

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 40.3 +00.1	S	09 43.7 -00.9	201 44.9 -00.7	S	18 25.8 -00.7	0 41.6 -25.6	N	15 17.1 -12.2	00			
01	191 40.4 +00.1	S	09 42.8 -00.9	216 44.2 -00.7	S	18 25.1 -00.7	15 16.0 -25.5	N	15 04.9 -12.3	01			
02	206 40.5 +00.1	S	09 41.9 -00.9	231 43.5 -00.7	S	18 24.4 -00.8	29 50.5 -25.5	N	14 52.6 -12.3	02			
03	221 40.6 +00.0	S	09 41.0 -01.0	246 42.8 -00.7	S	18 23.6 -00.7	44 25.0 -25.5	N	14 40.3 -12.5	03			
04	236 40.6 +00.1	S	09 40.0 -00.9	261 42.1 -00.7	S	18 22.9 -00.7	58 59.5 -25.3	N	14 27.8 -12.4	04			
05	251 40.7 +00.1	S	09 39.1 -00.9	276 41.4 -00.7	S	18 22.2 -00.7	73 34.2 -25.3	N	14 15.4 -12.5	05			
06	266 40.8 +00.1	S	09 38.2 -00.9	291 40.7 -00.7	S	18 21.5 -00.7	88 08.9 -25.3	N	14 02.9 -12.6	06			
07	281 40.9 +00.1	S	09 37.3 -00.9	306 40.0 -00.7	S	18 20.8 -00.8	102 43.6 -25.2	N	13 50.3 -12.6	07			
08	296 41.0 +00.1	S	09 36.4 -01.0	321 39.3 -00.7	S	18 20.0 -00.7	117 18.4 -25.2	N	13 37.7 -12.6	08			
09	311 41.1 +00.1	S	09 35.4 -00.9	336 38.6 -00.7	S	18 19.3 -00.7	131 53.2 -25.1	N	13 25.1 -12.8	09			
10	326 41.2 +00.1	S	09 34.5 -00.9	351 37.9 -00.7	S	18 18.6 -00.7	146 28.1 -25.0	N	13 12.3 -12.7	10			
11	341 41.3 +00.1	S	09 33.6 -00.9	6 37.2 -00.8	S	18 17.9 -00.7	161 03.1 -25.0	N	12 59.6 -12.8	11			
12	356 41.4 +00.1	S	09 32.7 -00.9	21 36.4 -00.7	S	18 17.2 -00.8	175 38.1 -25.0	N	12 46.8 -12.9	12			
13	11 41.5 +00.1	S	09 31.8 -01.0	36 35.7 -00.7	S	18 16.4 -00.7	190 13.1 -24.9	N	12 33.9 -12.8	13			
14	26 41.6 +00.0	S	09 30.8 -00.9	51 35.0 -00.7	S	18 15.7 -00.7	204 48.2 -24.8	N	12 21.1 -13.0	14			
15	41 41.6 +00.1	S	09 29.9 -00.9	66 34.3 -00.7	S	18 15.0 -00.7	219 23.4 -24.8	N	12 08.1 -13.0	15			
16	56 41.7 +00.1	S	09 29.0 -00.9	81 33.6 -00.7	S	18 14.3 -00.8	233 58.6 -24.8	N	11 55.1 -13.0	16			
17	71 41.8 +00.1	S	09 28.1 -01.0	96 32.9 -00.7	S	18 13.5 -00.7	248 33.8 -24.7	N	11 42.1 -13.0	17			
18	86 41.9 +00.1	S	09 27.1 -00.9	111 32.2 -00.7	S	18 12.8 -00.7	263 09.1 -24.6	N	11 29.1 -13.2	18			
19	101 42.0 +00.1	S	09 26.2 -00.9	126 31.5 -00.7	S	18 12.1 -00.8	277 44.5 -24.7	N	11 15.9 -13.1	19			
20	116 42.1 +00.1	S	09 25.3 -00.9	141 30.8 -00.7	S	18 11.3 -00.7	292 19.8 -24.5	N	11 02.8 -13.2	20			
21	131 42.2 +00.1	S	09 24.4 -01.0	156 30.1 -00.7	S	18 10.6 -00.7	306 55.3 -24.6	N	10 49.6 -13.2	21			
22	146 42.3 +00.1	S	09 23.4 -00.9	171 29.4 -00.7	S	18 09.9 -00.8	321 30.7 -24.5	N	10 36.4 -13.2	22			
23	161 42.4 +00.1	S	09 22.5 -00.9	186 28.7 -00.7	S	18 09.1 -00.7	336 06.2 -24.4	N	10 23.2 -13.3	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'2 16'2 16'2 16'2 16'2 16'2			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 54'0						
	SHA 023° 023° 023° 023° 023° 022°			SHA 048° 048° 048° 048° 047° 047°			SHA 206° 205° 203° 201° 199° 197°						
	Greenwich Culmination Time: 12:13			Greenwich Culmination Time: 10:33			Greenwich Culmination Time: -1:00						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	202 23.9 +00.5	S	19 10.9 -00.5	115 09.8 +02.1	N	14 01.6 +00.1	171 59.6 +02.2	S	09 37.5 -00.1	00			
01	217 24.4 +00.5	S	19 10.4 -00.5	130 11.9 +02.0	N	14 01.7 +00.2	187 01.8 +02.1	S	09 37.4 -00.1	01			
02	232 24.9 +00.4	S	19 09.9 -00.5	145 13.9 +02.1	N	14 01.9 +00.1	202 03.9 +02.2	S	09 37.3 -00.1	02			
03	247 25.3 +00.5	S	19 09.4 -00.4	160 16.0 +02.1	N	14 02.0 +00.1	217 06.1 +02.2	S	09 37.2 -00.1	03			
04	262 25.8 +00.5	S	19 09.0 -00.5	175 18.1 +02.1	N	14 02.1 +00.2	232 08.3 +02.2	S	09 37.1 -00.1	04			
05	277 26.3 +00.5	S	19 08.5 -00.5	190 20.2 +02.0	N	14 02.3 +00.1	247 10.5 +02.2	S	09 37.0 -00.2	05			
06	292 26.8 +00.5	S	19 08.0 -00.5	205 22.2 +02.1	N	14 02.4 +00.1	262 12.7 +02.1	S	09 36.8 -00.1	06			
07	307 27.3 +00.5	S	19 07.5 -00.5	220 24.3 +02.1	N	14 02.5 +00.2	277 14.8 +02.2	S	09 36.7 -00.1	07			
08	322 27.8 +00.5	S	19 07.0 -00.5	235 26.4 +02.1	N	14 02.7 +00.1	292 17.0 +02.2	S	09 36.6 -00.1	08			
09	337 28.3 +00.5	S	19 06.5 -00.5	250 28.5 +02.0	N	14 02.8 +00.1	307 19.2 +02.2	S	09 36.5 -00.1	09			
10	352 28.8 +00.4	S	19 06.0 -00.5	265 30.5 +02.1	N	14 02.9 +00.2	322 21.4 +02.1	S	09 36.4 -00.1	10			
11	7 29.2 +00.5	S	19 05.5 -00.5	280 32.6 +02.1	N	14 03.1 +00.1	337 23.5 +02.2	S	09 36.3 -00.1	11			
12	22 29.7 +00.5	S	19 05.0 -00.5	295 34.7 +02.1	N	14 03.2 +00.1	352 25.7 +02.2	S	09 36.2 -00.2	12			
13	37 30.2 +00.5	S	19 04.5 -00.4	310 36.8 +02.0	N	14 03.3 +00.2	7 27.9 +02.2	S	09 36.0 -00.1	13			
14	52 30.7 +00.5	S	19 04.1 -00.5	325 38.8 +02.1	N	14 03.5 +00.1	22 30.1 +02.1	S	09 35.9 -00.1	14			
15	67 31.2 +00.5	S	19 03.6 -00.5	340 40.9 +02.1	N	14 03.6 +00.1	37 32.2 +02.2	S	09 35.8 -00.1	15			
16	82 31.7 +00.5	S	19 03.1 -00.5	355 43.0 +02.1	N	14 03.7 +00.2	52 34.4 +02.2	S	09 35.7 -00.1	16			
17	97 32.2 +00.5	S	19 02.6 -00.5	10 45.1 +02.0	N	14 03.9 +00.1	67 36.6 +02.2	S	09 35.6 -00.1	17			
18	112 32.7 +00.4	S	19 02.1 -00.5	25 47.1 +02.1	N	14 04.0 +00.1	82 38.8 +02.2	S	09 35.5 -00.1	18			
19	127 33.1 +00.5	S	19 01.6 -00.5	40 49.2 +02.1	N	14 04.1 +00.2	97 41.0 +02.1	S	09 35.4 -00.1	19			
20	142 33.6 +00.5	S	19 01.1 -00.5	55 51.3 +02.1	N	14 04.3 +00.1	112 43.1 +02.2	S	09 35.3 -00.2	20			
21	157 34.1 +00.5	S	19 00.6 -00.5	70 53.4 +02.0	N	14 04.4 +00.1	127 45.3 +02.2	S	09 35.1 -00.1	21			
22	172 34.6 +00.5	S	19 00.1 -00.5	85 55.4 +02.1	N	14 04.5 +00.2	142 47.5 +02.2	S	09 35.0 -00.1	22			
23	187 35.1 +00.5	S	18 59.6 -00.5	100 57.5 +02.1	N	14 04.7 +00.1	157 49.7 +02.1	S	09 34.9 -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 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			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						
	SHA 049° 049° 049° 049° 048° 048°			SHA 322° 322° 322° 322° 322° 322°			SHA 019° 019° 019° 019° 019° 019°						
	Greenwich Culmination Time: 10:30			Greenwich Culmination Time: 16:17			Greenwich Culmination Time: 12:30						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 42.5 +00.1	S	09 21.6 -00.9	201 28.0 -00.7	S	18 08.4 -00.7	350 41.8 -24.4	N	10 09.9 -13.4	00			
01	191 42.6 +00.1	S	09 20.7 -01.0	216 27.3 -00.7	S	18 07.7 -00.8	5 17.4 -24.4	N	09 56.5 -13.3	01			
02	206 42.7 +00.1	S	09 19.7 -00.9	231 26.6 -00.7	S	18 06.9 -00.7	19 53.0 -24.3	N	09 43.2 -13.4	02			
03	221 42.8 +00.1	S	09 18.8 -00.9	246 25.9 -00.7	S	18 06.2 -00.7	34 28.7 -24.3	N	09 29.8 -13.5	03			
04	236 42.9 +00.1	S	09 17.9 -00.9	261 25.2 -00.7	S	18 05.5 -00.8	49 04.4 -24.3	N	09 16.3 -13.4	04			
05	251 43.0 +00.1	S	09 17.0 -01.0	276 24.5 -00.7	S	18 04.7 -00.7	63 40.1 -24.2	N	09 02.9 -13.5	05			
06	266 43.1 +00.0	S	09 16.0 -00.9	291 23.8 -00.7	S	18 04.0 -00.8	78 15.9 -24.2	N	08 49.4 -13.5	06			
07	281 43.1 +00.1	S	09 15.1 -00.9	306 23.1 -00.7	S	18 03.2 -00.7	92 51.7 -24.1	N	08 35.9 -13.6	07			
08	296 43.2 +00.1	S	09 14.2 -00.9	321 22.4 -00.7	S	18 02.5 -00.8	107 27.6 -24.1	N	08 22.3 -13.6	08			
09	311 43.3 +00.1	S	09 13.3 -01.0	336 21.7 -00.7	S	18 01.7 -00.7	122 03.5 -24.1	N	08 08.7 -13.6	09			
10	326 43.4 +00.1	S	09 12.3 -00.9	351 21.0 -00.7	S	18 01.0 -00.7	136 39.4 -24.1	N	07 55.1 -13.6	10			
11	341 43.5 +00.1	S	09 11.4 -00.9	6 20.3 -00.6	S	18 00.3 -00.8	151 15.3 -24.0	N	07 41.5 -13.7	11			
12	356 43.6 +00.1	S	09 10.5 -01.0	21 19.7 -00.7	S	17 59.5 -00.7	165 51.3 -24.0	N	07 27.8 -13.7	12			
13	11 43.7 +00.1	S	09 09.5 -00.9	36 19.0 -00.7	S	17 58.8 -00.8	180 27.3 -24.0	N	07 14.1 -13.7	13			
14	26 43.8 +00.1	S	09 08.6 -00.9	51 18.3 -00.7	S	17 58.0 -00.7	195 03.3 -23.9	N	07 00.4 -13.7	14			
15	41 43.9 +00.1	S	09 07.7 -00.9	66 17.6 -00.7	S	17 57.3 -00.8	209 39.4 -23.9	N	06 46.7 -13.8	15			
16	56 44.0 +00.1	S	09 06.8 -01.0	81 16.9 -00.7	S	17 56.5 -00.7	224 15.5 -23.9	N	06 32.9 -13.8	16			
17	71 44.1 +00.1	S	09 05.8 -00.9	96 16.2 -00.7	S	17 55.8 -00.8	238 51.6 -23.9	N	06 19.1 -13.8	17			
18	86 44.2 +00.1	S	09 04.9 -00.9	111 15.5 -00.7	S	17 55.0 -00.7	253 27.7 -23.8	N	06 05.3 -13.8	18			
19	101 44.3 +00.1	S	09 04.0 -01.0	126 14.8 -00.7	S	17 54.3 -00.8	268 03.9 -23.9	N	05 51.5 -13.9	19			
20	116 44.4 +00.1	S	09 03.0 -00.9	141 14.1 -00.7	S	17 53.5 -00.7	282 40.0 -23.8	N	05 37.6 -13.8	20			
21	131 44.5 +00.1	S	09 02.1 -00.9	156 13.4 -00.7	S	17 52.8 -00.8	297 16.2 -23.7	N	05 23.8 -13.9	21			
22	146 44.6 +00.1	S	09 01.2 -00.9	171 12.7 -00.7	S	17 52.0 -00.8	311 52.5 -23.8	N	05 09.9 -13.9	22			
23	161 44.7 +00.1	S	09 00.3 -01.0	186 12.0 -00.7	S	17 51.2 -00.7	326 28.7 -23.8	N	04 56.0 -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 16'2 16'2 16'2 16'2 16'2 16'2			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 53'9 53'9						
	SHA 022° 022° 022° 022° 022° 021°			SHA 047° 047° 047° 046° 046° 046°			SHA 195° 194° 192° 190° 188° 187°						
	Greenwich Culmination Time: 12:13			Greenwich Culmination Time: 10:34			Greenwich Culmination Time: 00:38						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	202 35.6 +00.5	S	18 59.1 -00.5	115 59.6 +02.1	N	14 04.8 +00.1	172 51.8 +02.2	S	09 34.8 -00.1	00			
01	217 36.1 +00.5	S	18 58.6 -00.5	131 01.7 +02.0	N	14 04.9 +00.2	187 54.0 +02.2	S	09 34.7 -00.1	01			
02	232 36.6 +00.5	S	18 58.1 -00.5	146 03.7 +02.1	N	14 05.1 +00.1	202 56.2 +02.2	S	09 34.6 -00.1	02			
03	247 37.1 +00.5	S	18 57.6 -00.5	161 05.8 +02.1	N	14 05.2 +00.2	217 58.4 +02.2	S	09 34.5 -00.2	03			
04	262 37.6 +00.4	S	18 57.1 -00.4	176 07.9 +02.1	N	14 05.4 +00.1	233 00.6 +02.1	S	09 34.3 -00.1	04			
05	277 38.0 +00.5	S	18 56.7 -00.5	191 10.0 +02.0	N	14 05.5 +00.1	248 02.7 +02.2	S	09 34.2 -00.1	05			
06	292 38.5 +00.5	S	18 56.2 -00.5	206 12.0 +02.1	N	14 05.6 +00.2	263 04.9 +02.2	S	09 34.1 -00.1	06			
07	307 39.0 +00.5	S	18 55.7 -00.5	221 14.1 +02.1	N	14 05.8 +00.1	278 07.1 +02.2	S	09 34.0 -00.1	07			
08	322 39.5 +00.5	S	18 55.2 -00.5	236 16.2 +02.0	N	14 05.9 +00.1	293 09.3 +02.1	S	09 33.9 -00.1	08			
09	337 40.0 +00.5	S	18 54.7 -00.5	251 18.2 +02.1	N	14 06.0 +00.2	308 11.4 +02.2	S	09 33.8 -00.1	09			
10	352 40.5 +00.5	S	18 54.2 -00.5	266 20.3 +02.1	N	14 06.2 +00.1	323 13.6 +02.2	S	09 33.7 -00.1	10			
11	7 41.0 +00.5	S	18 53.7 -00.5	281 22.4 +02.1	N	14 06.3 +00.1	338 15.8 +02.2	S	09 33.6 -00.2	11			
12	22 41.5 +00.5	S	18 53.2 -00.5	296 24.5 +02.0	N	14 06.4 +00.2	353 18.0 +02.1	S	09 33.4 -00.1	12			
13	37 42.0 +00.5	S	18 52.7 -00.5	311 26.5 +02.1	N	14 06.6 +00.1	8 20.1 +02.2	S	09 33.3 -00.1	13			
14	52 42.5 +00.5	S	18 52.2 -00.5	326 28.6 +02.1	N	14 06.7 +00.1	23 22.3 +02.2	S	09 33.2 -00.1	14			
15	67 43.0 +00.4	S	18 51.7 -00.5	341 30.7 +02.0	N	14 06.8 +00.2	38 24.5 +02.2	S	09 33.1 -00.1	15			
16	82 43.4 +00.5	S	18 51.2 -00.5	356 32.7 +02.1	N	14 07.0 +00.1	53 26.7 +02.2	S	09 33.0 -00.1	16			
17	97 43.9 +00.5	S	18 50.7 -00.5	11 34.8 +02.1	N	14 07.1 +00.1	68 28.9 +02.1	S	09 32.9 -00.1	17			
18	112 44.4 +00.5	S	18 50.2 -00.5	26 36.9 +02.0	N	14 07.2 +00.2	83 31.0 +02.2	S	09 32.8 -00.2	18			
19	127 44.9 +00.5	S	18 49.7 -00.5	41 38.9 +02.1	N	14 07.4 +00.1	98 33.2 +02.2	S	09 32.6 -00.1	19			
20	142 45.4 +00.5	S	18 49.2 -00.5	56 41.0 +02.1	N	14 07.5 +00.1	113 35.4 +02.2	S	09 32.5 -00.1	20			
21	157 45.9 +00.5	S	18 48.7 -00.5	71 43.1 +02.0	N	14 07.6 +00.2	128 37.6 +02.1	S	09 32.4 -00.1	21			
22	172 46.4 +00.5	S	18 48.2 -00.5	86 45.1 +02.1	N	14 07.8 +00.1	143 39.7 +02.2	S	09 32.3 -00.1	22			
23	187 46.9 +00.5	S	18 47.7 -00.5	101 47.2 +02.1	N	14 07.9 +00.2	158 41.9 +02.2	S	09 32.2 -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 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			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						
	SHA 048° 048° 048° 048° 048° 048°			SHA 322° 322° 322° 322° 322° 321°			SHA 018° 018° 018° 018° 018° 018°						
	Greenwich Culmination Time: 10:29			Greenwich Culmination Time: 16:13			Greenwich Culmination Time: 12:26						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 44.8 +00.1	S	08 59.3 -00.9	201 11.3 -00.6	S	17 50.5 -00.8	341 04.9 -23.7	N	04 42.0 -13.9	00			
01	191 44.9 +00.1	S	08 58.4 -00.9	216 10.7 -00.7	S	17 49.7 -00.7	355 41.2 -23.7	N	04 28.1 -14.0	01			
02	206 45.0 +00.1	S	08 57.5 -01.0	231 10.0 -00.7	S	17 49.0 -00.8	10 17.5 -23.7	N	04 14.1 -13.9	02			
03	221 45.1 +00.1	S	08 56.5 -00.9	246 09.3 -00.7	S	17 48.2 -00.7	24 53.8 -23.7	N	04 00.2 -14.0	03			
04	236 45.2 +00.1	S	08 55.6 -00.9	261 08.6 -00.7	S	17 47.5 -00.8	39 30.1 -23.6	N	03 46.2 -14.0	04			
05	251 45.3 +00.1	S	08 54.7 -01.0	276 07.9 -00.7	S	17 46.7 -00.8	54 06.5 -23.7	N	03 32.2 -14.0	05			
06	266 45.4 +00.1	S	08 53.7 -00.9	291 07.2 -00.7	S	17 45.9 -00.7	68 42.8 -23.6	N	03 18.2 -14.1	06			
07	281 45.5 +00.1	S	08 52.8 -00.9	306 06.5 -00.6	S	17 45.2 -00.8	83 19.2 -23.6	N	03 04.1 -14.0	07			
08	296 45.6 +00.1	S	08 51.9 -01.0	321 05.9 -00.7	S	17 44.4 -00.8	97 55.6 -23.7	N	02 50.1 -14.0	08			
09	311 45.7 +00.1	S	08 50.9 -00.9	336 05.2 -00.7	S	17 43.6 -00.7	112 31.9 -23.6	N	02 36.1 -14.1	09			
10	326 45.8 +00.1	S	08 50.0 -00.9	351 04.5 -00.7	S	17 42.9 -00.8	127 08.3 -23.6	N	02 22.0 -14.1	10			
11	341 45.9 +00.1	S	08 49.1 -01.0	6 03.8 -00.7	S	17 42.1 -00.8	141 44.7 -23.6	N	02 07.9 -14.0	11			
12	356 46.0 +00.1	S	08 48.1 -00.9	21 03.1 -00.7	S	17 41.3 -00.7	156 21.1 -23.6	N	01 53.9 -14.1	12			
13	11 46.1 +00.1	S	08 47.2 -00.9	36 02.4 -00.7	S	17 40.6 -00.8	170 57.5 -23.5	N	01 39.8 -14.1	13			
14	26 46.2 +00.2	S	08 46.3 -01.0	51 01.7 -00.6	S	17 39.8 -00.8	185 34.0 -23.6	N	01 25.7 -14.1	14			
15	41 46.4 +00.1	S	08 45.3 -00.9	66 01.1 -00.7	S	17 39.0 -00.7	200 10.4 -23.6	N	01 11.6 -14.1	15			
16	56 46.5 +00.1	S	08 44.4 -00.9	81 00.4 -00.7	S	17 38.3 -00.8	214 46.8 -23.6	N	00 57.5 -14.1	16			
17	71 46.6 +00.1	S	08 43.5 -01.0	95 59.7 -00.7	S	17 37.5 -00.8	229 23.2 -23.6	N	00 43.4 -14.1	17			
18	86 46.7 +00.1	S	08 42.5 -00.9	110 59.0 -00.7	S	17 36.7 -00.7	243 59.6 -23.5	N	00 29.3 -14.1	18			
19	101 46.8 +00.1	S	08 41.6 -00.9	125 58.3 -00.6	S	17 36.0 -00.8	258 36.1 -23.6	N	00 15.2 -14.2	19			
20	116 46.9 +00.1	S	08 40.7 -01.0	140 57.7 -00.7	S	17 35.2 -00.8	273 12.5 -23.6	N	00 01.0 -14.1	20			
21	131 47.0 +00.1	S	08 39.7 -00.9	155 57.0 -00.7	S	17 34.4 -00.8	287 48.9 -23.6	S	00 13.1 +14.1	21			
22	146 47.1 +00.1	S	08 38.8 -00.9	170 56.3 -00.7	S	17 33.6 -00.7	302 25.3 -23.6	S	00 27.2 +14.1	22			
23	161 47.2 +00.1	S	08 37.9 -01.0	185 55.6 -00.7	S	17 32.9 -00.8	317 01.7 -23.6	S	00 41.3 +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 16'2 16'2 16'2 16'2 16'2 16'2			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 53'9 54'0 54'0 54'0 54'0 54'0						
	SHA 021° 021° 021° 021° 021° 021°			SHA 046° 046° 045° 045° 045° 045°			SHA 185° 183° 181° 180° 178° 176°						
	Greenwich Culmination Time: 12:12			Greenwich Culmination Time: 10:35			Greenwich Culmination Time: 01:17						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	202 47.4 +00.5	S	18 47.2 -00.5	116 49.3 +02.1	N	14 08.1 +00.1	173 44.1 +02.2	S	09 32.1 -00.1	00			
01	217 47.9 +00.5	S	18 46.7 -00.5	131 51.4 +02.0	N	14 08.2 +00.1	188 46.3 +02.1	S	09 32.0 -00.1	01			
02	232 48.4 +00.5	S	18 46.2 -00.6	146 53.4 +02.1	N	14 08.3 +00.2	203 48.4 +02.2	S	09 31.9 -00.2	02			
03	247 48.9 +00.5	S	18 45.6 -00.5	161 55.5 +02.1	N	14 08.5 +00.1	218 50.6 +02.2	S	09 31.7 -00.1	03			
04	262 49.4 +00.5	S	18 45.1 -00.5	176 57.6 +02.0	N	14 08.6 +00.1	233 52.8 +02.2	S	09 31.6 -00.1	04			
05	277 49.9 +00.5	S	18 44.6 -00.5	191 59.6 +02.1	N	14 08.7 +00.2	248 55.0 +02.2	S	09 31.5 -00.1	05			
06	292 50.4 +00.4	S	18 44.1 -00.5	207 01.7 +02.1	N	14 08.9 +00.1	263 57.2 +02.1	S	09 31.4 -00.1	06			
07	307 50.8 +00.5	S	18 43.6 -00.5	222 03.8 +02.0	N	14 09.0 +00.1	278 59.3 +02.2	S	09 31.3 -00.1	07			
08	322 51.3 +00.5	S	18 43.1 -00.5	237 05.8 +02.1	N	14 09.1 +00.2	294 01.5 +02.2	S	09 31.2 -00.1	08			
09	337 51.8 +00.5	S	18 42.6 -00.5	252 07.9 +02.1	N	14 09.3 +00.1	309 03.7 +02.2	S	09 31.1 -00.2	09			
10	352 52.3 +00.5	S	18 42.1 -00.5	267 10.0 +02.0	N	14 09.4 +00.1	324 05.9 +02.1	S	09 30.9 -00.1	10			
11	7 52.8 +00.5	S	18 41.6 -00.5	282 12.0 +02.1	N	14 09.5 +00.2	339 08.0 +02.2	S	09 30.8 -00.1	11			
12	22 53.3 +00.5	S	18 41.1 -00.5	297 14.1 +02.0	N	14 09.7 +00.1	354 10.2 +02.2	S	09 30.7 -00.1	12			
13	37 53.8 +00.5	S	18 40.6 -00.5	312 16.1 +02.1	N	14 09.8 +00.2	9 12.4 +02.2	S	09 30.6 -00.1	13			
14	52 54.3 +00.5	S	18 40.1 -00.5	327 18.2 +02.1	N	14 10.0 +00.1	24 14.6 +02.1	S	09 30.5 -00.1	14			
15	67 54.8 +00.5	S	18 39.6 -00.5	342 20.3 +02.0	N	14 10.1 +00.1	39 16.7 +02.2	S	09 30.4 -00.1	15			
16	82 55.3 +00.5	S	18 39.1 -00.5	357 22.3 +02.1	N	14 10.2 +00.2	54 18.9 +02.2	S	09 30.3 -00.1	16			
17	97 55.8 +00.5	S	18 38.6 -00.6	12 24.4 +02.1	N	14 10.4 +00.1	69 21.1 +02.2	S	09 30.2 -00.2	17			
18	112 56.3 +00.5	S	18 38.0 -00.5	27 26.5 +02.0	N	14 10.5 +00.1	84 23.3 +02.2	S	09 30.0 -00.1	18			
19	127 56.8 +00.5	S	18 37.5 -00.5	42 28.5 +02.1	N	14 10.6 +00.2	99 25.5 +02.1	S	09 29.9 -00.1	19			
20	142 57.3 +00.5	S	18 37.0 -00.5	57 30.6 +02.1	N	14 10.8 +00.1	114 27.6 +02.2	S	09 29.8 -00.1	20			
21	157 57.8 +00.5	S	18 36.5 -00.5	72 32.7 +02.0	N	14 10.9 +00.1	129 29.8 +02.2	S	09 29.7 -00.1	21			
22	172 58.3 +00.5	S	18 36.0 -00.5	87 34.7 +02.1	N	14 11.0 +00.2	144 32.0 +02.2	S	09 29.6 -00.1	22			
23	187 58.8 +00.5	S	18 35.5 -00.5	102 36.8 +02.1	N	14 11.2 +00.1	159 34.2 +02.1	S	09 29.5 -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 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			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						
	SHA 047° 047° 047° 047° 047° 047°			SHA 321° 321° 321° 321° 321° 321°			SHA 018° 018° 018° 018° 018° 018°						
	Greenwich Culmination Time: 10:28			Greenwich Culmination Time: 16:10			Greenwich Culmination Time: 12:23						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 47.3 +00.1	S	08 36.9 -00.9	200 54.9 -00.6	S	17 32.1 -00.8	331 38.1 -23.6	S	00 55.4 +14.1	00			
01	191 47.4 +00.1	S	08 36.0 -01.0	215 54.3 -00.7	S	17 31.3 -00.8	346 14.5 -23.6	S	01 09.5 +14.2	01			
02	206 47.5 +00.1	S	08 35.0 -00.9	230 53.6 -00.7	S	17 30.5 -00.8	0 50.9 -23.6	S	01 23.7 +14.1	02			
03	221 47.6 +00.1	S	08 34.1 -00.9	245 52.9 -00.7	S	17 29.7 -00.7	15 27.3 -23.7	S	01 37.8 +14.1	03			
04	236 47.7 +00.1	S	08 33.2 -01.0	260 52.2 -00.6	S	17 29.0 -00.8	30 03.6 -23.6	S	01 51.9 +14.1	04			
05	251 47.8 +00.1	S	08 32.2 -00.9	275 51.6 -00.7	S	17 28.2 -00.8	44 40.0 -23.6	S	02 06.0 +14.1	05			
06	266 47.9 +00.1	S	08 31.3 -00.9	290 50.9 -00.7	S	17 27.4 -00.8	59 16.4 -23.7	S	02 20.1 +14.1	06			
07	281 48.0 +00.2	S	08 30.4 -01.0	305 50.2 -00.7	S	17 26.6 -00.8	73 52.7 -23.7	S	02 34.2 +14.1	07			
08	296 48.2 +00.1	S	08 29.4 -00.9	320 49.5 -00.6	S	17 25.8 -00.8	88 29.0 -23.7	S	02 48.3 +14.1	08			
09	311 48.3 +00.1	S	08 28.5 -01.0	335 48.9 -00.7	S	17 25.0 -00.7	103 05.3 -23.7	S	03 02.4 +14.0	09			
10	326 48.4 +00.1	S	08 27.5 -00.9	350 48.2 -00.7	S	17 24.3 -00.8	117 41.6 -23.7	S	03 16.4 +14.1	10			
11	341 48.5 +00.1	S	08 26.6 -00.9	5 47.5 -00.7	S	17 23.5 -00.8	132 17.9 -23.8	S	03 30.5 +14.0	11			
12	356 48.6 +00.1	S	08 25.7 -01.0	20 46.8 -00.6	S	17 22.7 -00.8	146 54.1 -23.7	S	03 44.5 +14.1	12			
13	11 48.7 +00.1	S	08 24.7 -00.9	35 46.2 -00.7	S	17 21.9 -00.8	161 30.4 -23.8	S	03 58.6 +14.0	13			
14	26 48.8 +00.1	S	08 23.8 -00.9	50 45.5 -00.7	S	17 21.1 -00.8	176 06.6 -23.8	S	04 12.6 +14.1	14			
15	41 48.9 +00.1	S	08 22.9 -01.0	65 44.8 -00.6	S	17 20.3 -00.8	190 42.8 -23.9	S	04 26.7 +14.0	15			
16	56 49.0 +00.1	S	08 21.9 -00.9	80 44.2 -00.7	S	17 19.5 -00.8	205 18.9 -23.8	S	04 40.7 +14.0	16			
17	71 49.1 +00.1	S	08 21.0 -01.0	95 43.5 -00.7	S	17 18.7 -00.8	219 55.1 -23.9	S	04 54.7 +13.9	17			
18	86 49.2 +00.2	S	08 20.0 -00.9	110 42.8 -00.7	S	17 17.9 -00.8	234 31.2 -23.9	S	05 08.6 +14.0	18			
19	101 49.4 +00.1	S	08 19.1 -00.9	125 42.1 -00.6	S	17 17.1 -00.8	249 07.3 -23.9	S	05 22.6 +14.0	19			
20	116 49.5 +00.1	S	08 18.2 -01.0	140 41.5 -00.7	S	17 16.3 -00.7	263 43.4 -24.0	S	05 36.6 +13.9	20			
21	131 49.6 +00.1	S	08 17.2 -00.9	155 40.8 -00.7	S	17 15.6 -00.8	278 19.4 -24.0	S	05 50.5 +13.9	21			
22	146 49.7 +00.1	S	08 16.3 -01.0	170 40.1 -00.6	S	17 14.8 -00.8	292 55.4 -24.0	S	06 04.4 +13.9	22			
23	161 49.8 +00.1	S	08 15.3 -00.9	185 39.5 -00.7	S	17 14.0 -00.8	307 31.4 -24.0	S	06 18.3 +13.9	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 14'7 14'7 14'7 14'7 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 54'0 54'1 54'1 54'1 54'2 54'2						
	SHA 020° 020° 020° 020° 020° 020°			SHA 044° 044° 044° 044° 044° 043°			SHA 174° 173° 171° 169° 167° 166°						
	Greenwich Culmination Time: 12:12			Greenwich Culmination Time: 10:36			Greenwich Culmination Time: 01:56						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	202 59.3 +00.5	S	18 35.0 -00.5	117 38.9 +02.0	N	14 11.3 +00.2	174 36.3 +02.2	S	09 29.4 -00.2	00			
01	217 59.8 +00.5	S	18 34.5 -00.5	132 40.9 +02.1	N	14 11.5 +00.1	189 38.5 +02.2	S	09 29.2 -00.1	01			
02	233 00.3 +00.5	S	18 34.0 -00.5	147 43.0 +02.0	N	14 11.6 +00.1	204 40.7 +02.2	S	09 29.1 -00.1	02			
03	248 00.8 +00.5	S	18 33.5 -00.6	162 45.0 +02.1	N	14 11.7 +00.2	219 42.9 +02.1	S	09 29.0 -00.1	03			
04	263 01.3 +00.5	S	18 32.9 -00.5	177 47.1 +02.1	N	14 11.9 +00.1	234 45.0 +02.2	S	09 28.9 -00.1	04			
05	278 01.8 +00.5	S	18 32.4 -00.5	192 49.2 +02.0	N	14 12.0 +00.1	249 47.2 +02.2	S	09 28.8 -00.1	05			
06	293 02.3 +00.5	S	18 31.9 -00.5	207 51.2 +02.1	N	14 12.1 +00.2	264 49.4 +02.2	S	09 28.7 -00.1	06			
07	308 02.8 +00.5	S	18 31.4 -00.5	222 53.3 +02.0	N	14 12.3 +00.1	279 51.6 +02.2	S	09 28.6 -00.1	07			
08	323 03.3 +00.5	S	18 30.9 -00.5	237 55.3 +02.1	N	14 12.4 +00.1	294 53.8 +02.1	S	09 28.5 -00.2	08			
09	338 03.8 +00.5	S	18 30.4 -00.5	252 57.4 +02.1	N	14 12.5 +00.2	309 55.9 +02.2	S	09 28.3 -00.1	09			
10	353 04.3 +00.5	S	18 29.9 -00.6	267 59.5 +02.0	N	14 12.7 +00.1	324 58.1 +02.2	S	09 28.2 -00.1	10			
11	8 04.8 +00.5	S	18 29.3 -00.5	283 01.5 +02.1	N	14 12.8 +00.2	340 00.3 +02.2	S	09 28.1 -00.1	11			
12	23 05.3 +00.5	S	18 28.8 -00.5	298 03.6 +02.1	N	14 13.0 +00.1	355 02.5 +02.1	S	09 28.0 -00.1	12			
13	38 05.8 +00.5	S	18 28.3 -00.5	313 05.7 +02.0	N	14 13.1 +00.1	10 04.6 +02.2	S	09 27.9 -00.1	13			
14	53 06.3 +00.5	S	18 27.8 -00.5	328 07.7 +02.1	N	14 13.2 +00.2	25 06.8 +02.2	S	09 27.8 -00.1	14			
15	68 06.8 +00.5	S	18 27.3 -00.5	343 09.8 +02.0	N	14 13.4 +00.1	40 09.0 +02.2	S	09 27.7 -00.2	15			
16	83 07.3 +00.5	S	18 26.8 -00.6	358 11.8 +02.1	N	14 13.5 +00.1	55 11.2 +02.1	S	09 27.5 -00.1	16			
17	98 07.8 +00.5	S	18 26.2 -00.5	13 13.9 +02.1	N	14 13.6 +00.2	70 13.3 +02.2	S	09 27.4 -00.1	17			
18	113 08.3 +00.5	S	18 25.7 -00.5	28 16.0 +02.0	N	14 13.8 +00.1	85 15.5 +02.2	S	09 27.3 -00.1	18			
19	128 08.8 +00.5	S	18 25.2 -00.5	43 18.0 +02.1	N	14 13.9 +00.2	100 17.7 +02.2	S	09 27.2 -00.1	19			
20	143 09.3 +00.5	S	18 24.7 -00.5	58 20.1 +02.0	N	14 14.1 +00.1	115 19.9 +02.2	S	09 27.1 -00.1	20			
21	158 09.8 +00.5	S	18 24.2 -00.5	73 22.1 +02.1	N	14 14.2 +00.1	130 22.1 +02.1	S	09 27.0 -00.1	21			
22	173 10.3 +00.5	S	18 23.7 -00.6	88 24.2 +02.0	N	14 14.3 +00.2	145 24.2 +02.2	S	09 26.9 -00.2	22			
23	188 10.8 +00.5	S	18 23.1 -00.5	103 26.2 +02.1	N	14 14.5 +00.1	160 26.4 +02.2	S	09 26.7 -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 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			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						
	SHA 047° 046° 046° 046° 046° 046°			SHA 321° 321° 321° 321° 321° 321°			SHA 018° 018° 018° 018° 018° 018°						
	Greenwich Culmination Time: 10:27			Greenwich Culmination Time: 16:07			Greenwich Culmination Time: 12:19						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 49.9 +00.1	S 08 14.4 -01.0	200 38.8 -00.7	S 17 13.2 -00.8	322 07.4 -24.1	S 06 32.2 +13.9	00						
01	191 50.0 +00.1	S 08 13.4 -00.9	215 38.1 -00.6	S 17 12.4 -00.8	336 43.3 -24.1	S 06 46.1 +13.8	01						
02	206 50.1 +00.1	S 08 12.5 -00.9	230 37.5 -00.7	S 17 11.6 -00.8	351 19.2 -24.1	S 06 59.9 +13.9	02						
03	221 50.2 +00.2	S 08 11.6 -01.0	245 36.8 -00.7	S 17 10.8 -00.8	5 55.1 -24.2	S 07 13.8 +13.8	03						
04	236 50.4 +00.1	S 08 10.6 -00.9	260 36.1 -00.6	S 17 10.0 -00.8	20 30.9 -24.2	S 07 27.6 +13.8	04						
05	251 50.5 +00.1	S 08 09.7 -01.0	275 35.5 -00.7	S 17 09.2 -00.8	35 06.7 -24.3	S 07 41.4 +13.7	05						
06	266 50.6 +00.1	S 08 08.7 -00.9	290 34.8 -00.7	S 17 08.4 -00.8	49 42.4 -24.3	S 07 55.1 +13.8	06						
07	281 50.7 +00.1	S 08 07.8 -01.0	305 34.1 -00.6	S 17 07.6 -00.9	64 18.1 -24.3	S 08 08.9 +13.7	07						
08	296 50.8 +00.1	S 08 06.8 -00.9	320 33.5 -00.7	S 17 06.7 -00.8	78 53.8 -24.4	S 08 22.6 +13.7	08						
09	311 50.9 +00.1	S 08 05.9 -00.9	335 32.8 -00.6	S 17 05.9 -00.8	93 29.4 -24.4	S 08 36.3 +13.6	09						
10	326 51.0 +00.2	S 08 05.0 -01.0	350 32.2 -00.7	S 17 05.1 -00.8	108 05.0 -24.5	S 08 49.9 +13.7	10						
11	341 51.2 +00.1	S 08 04.0 -00.9	5 31.5 -00.7	S 17 04.3 -00.8	122 40.5 -24.5	S 09 03.6 +13.6	11						
12	356 51.3 +00.1	S 08 03.1 -01.0	20 30.8 -00.6	S 17 03.5 -00.8	137 16.0 -24.5	S 09 17.2 +13.5	12						
13	11 51.4 +00.1	S 08 02.1 -00.9	35 30.2 -00.7	S 17 02.7 -00.8	151 51.5 -24.6	S 09 30.7 +13.6	13						
14	26 51.5 +00.1	S 08 01.2 -01.0	50 29.5 -00.7	S 17 01.9 -00.8	166 26.9 -24.6	S 09 44.3 +13.5	14						
15	41 51.6 +00.1	S 08 00.2 -00.9	65 28.8 -00.6	S 17 01.1 -00.8	181 02.3 -24.7	S 09 57.8 +13.5	15						
16	56 51.7 +00.1	S 07 59.3 -00.9	80 28.2 -00.7	S 17 00.3 -00.8	195 37.6 -24.7	S 10 11.3 +13.4	16						
17	71 51.8 +00.2	S 07 58.4 -01.0	95 27.5 -00.6	S 16 59.5 -00.8	210 12.9 -24.8	S 10 24.7 +13.5	17						
18	86 52.0 +00.1	S 07 57.4 -00.9	110 26.9 -00.7	S 16 58.7 -00.9	224 48.1 -24.9	S 10 38.2 +13.4	18						
19	101 52.1 +00.1	S 07 56.5 -01.0	125 26.2 -00.7	S 16 57.8 -00.8	239 23.2 -24.8	S 10 51.6 +13.3	19						
20	116 52.2 +00.1	S 07 55.5 -00.9	140 25.5 -00.6	S 16 57.0 -00.8	253 58.4 -25.0	S 11 04.9 +13.3	20						
21	131 52.3 +00.1	S 07 54.6 -01.0	155 24.9 -00.7	S 16 56.2 -00.8	268 33.4 -25.0	S 11 18.2 +13.3	21						
22	146 52.4 +00.1	S 07 53.6 -00.9	170 24.2 -00.6	S 16 55.4 -00.8	283 08.4 -25.0	S 11 31.5 +13.3	22						
23	161 52.5 +00.2	S 07 52.7 -01.0	185 23.6 -00.7	S 16 54.6 -00.8	297 43.4 -25.1	S 11 44.8 +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 16'1 16'1 16'1 16'1 16'1 16'1		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 54'3 54'3 54'4 54'4 54'5								
	SHA 019° 019° 019° 019° 019° 019°		SHA 043° 043° 043° 043° 042° 042°		SHA 164° 162° 160° 159° 157° 155°								
	Greenwich Culmination Time: 12:12		Greenwich Culmination Time: 10:37		Greenwich Culmination Time: 02:35								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	203 11.3 +00.5	S 18 22.6 -00.5	118 28.3 +02.1	N 14 14.6 +00.1	175 28.6 +02.2	S 09 26.6 -00.1	00						
01	218 11.8 +00.5	S 18 22.1 -00.5	133 30.4 +02.0	N 14 14.7 +00.2	190 30.8 +02.1	S 09 26.5 -00.1	01						
02	233 12.3 +00.5	S 18 21.6 -00.5	148 32.4 +02.1	N 14 14.9 +00.1	205 32.9 +02.2	S 09 26.4 -00.1	02						
03	248 12.8 +00.5	S 18 21.1 -00.6	163 34.5 +02.0	N 14 15.0 +00.2	220 35.1 +02.2	S 09 26.3 -00.1	03						
04	263 13.3 +00.5	S 18 20.5 -00.5	178 36.5 +02.1	N 14 15.2 +00.1	235 37.3 +02.2	S 09 26.2 -00.1	04						
05	278 13.8 +00.5	S 18 20.0 -00.5	193 38.6 +02.0	N 14 15.3 +00.1	250 39.5 +02.1	S 09 26.1 -00.1	05						
06	293 14.3 +00.5	S 18 19.5 -00.5	208 40.6 +02.1	N 14 15.4 +00.2	265 41.6 +02.2	S 09 26.0 -00.2	06						
07	308 14.8 +00.5	S 18 19.0 -00.5	223 42.7 +02.1	N 14 15.6 +00.1	280 43.8 +02.2	S 09 25.8 -00.1	07						
08	323 15.3 +00.5	S 18 18.5 -00.6	238 44.8 +02.0	N 14 15.7 +00.2	295 46.0 +02.2	S 09 25.7 -00.1	08						
09	338 15.8 +00.5	S 18 17.9 -00.5	253 46.8 +02.1	N 14 15.9 +00.1	310 48.2 +02.2	S 09 25.6 -00.1	09						
10	353 16.3 +00.5	S 18 17.4 -00.5	268 48.9 +02.0	N 14 16.0 +00.1	325 50.4 +02.1	S 09 25.5 -00.1	10						
11	8 16.8 +00.5	S 18 16.9 -00.5	283 50.9 +02.1	N 14 16.1 +00.2	340 52.5 +02.2	S 09 25.4 -00.1	11						
12	23 17.3 +00.5	S 18 16.4 -00.6	298 53.0 +02.0	N 14 16.3 +00.1	355 54.7 +02.2	S 09 25.3 -00.1	12						
13	38 17.8 +00.5	S 18 15.8 -00.5	313 55.0 +02.1	N 14 16.4 +00.1	10 56.9 +02.2	S 09 25.2 -00.2	13						
14	53 18.3 +00.5	S 18 15.3 -00.5	328 57.1 +02.0	N 14 16.5 +00.2	25 59.1 +02.1	S 09 25.0 -00.1	14						
15	68 18.8 +00.5	S 18 14.8 -00.5	343 59.1 +02.1	N 14 16.7 +00.1	41 01.2 +02.2	S 09 24.9 -00.1	15						
16	83 19.3 +00.5	S 18 14.3 -00.6	359 01.2 +02.1	N 14 16.8 +00.2	56 03.4 +02.2	S 09 24.8 -00.1	16						
17	98 19.8 +00.5	S 18 13.7 -00.5	14 03.3 +02.0	N 14 17.0 +00.1	71 05.6 +02.2	S 09 24.7 -00.1	17						
18	113 20.3 +00.5	S 18 13.2 -00.5	29 05.3 +02.1	N 14 17.1 +00.1	86 07.8 +02.1	S 09 24.6 -00.1	18						
19	128 20.8 +00.5	S 18 12.7 -00.5	44 07.4 +02.0	N 14 17.2 +00.2	101 09.9 +02.2	S 09 24.5 -00.1	19						
20	143 21.3 +00.5	S 18 12.2 -00.6	59 09.4 +02.1	N 14 17.4 +00.1	116 12.1 +02.2	S 09 24.4 -00.1	20						
21	158 21.8 +00.5	S 18 11.6 -00.5	74 11.5 +02.0	N 14 17.5 +00.2	131 14.3 +02.2	S 09 24.3 -00.2	21						
22	173 22.3 +00.5	S 18 11.1 -00.5	89 13.5 +02.1	N 14 17.7 +00.1	146 16.5 +02.2	S 09 24.1 -00.1	22						
23	188 22.8 +00.5	S 18 10.6 -00.5	104 15.6 +02.0	N 14 17.8 +00.1	161 18.7 +02.1	S 09 24.0 -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 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		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								
	SHA 046° 046° 046° 045° 045° 045°		SHA 321° 321° 321° 321° 321° 321°		SHA 018° 018° 018° 018° 018° 018°								
	Greenwich Culmination Time: 10:26		Greenwich Culmination Time: 16:03		Greenwich Culmination Time: 12:16								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 52.7 +00.1	S	07 51.7 -00.9	200 22.9 -00.6	S	16 53.8 -00.9	312 18.3 -25.2	S	11 58.0 +13.1	00			
01	191 52.8 +00.1	S	07 50.8 -01.0	215 22.3 -00.7	S	16 52.9 -00.8	326 53.1 -25.2	S	12 11.1 +13.2	01			
02	206 52.9 +00.1	S	07 49.8 -00.9	230 21.6 -00.6	S	16 52.1 -00.8	341 27.9 -25.3	S	12 24.3 +13.1	02			
03	221 53.0 +00.1	S	07 48.9 -01.0	245 21.0 -00.7	S	16 51.3 -00.8	356 02.6 -25.3	S	12 37.4 +13.0	03			
04	236 53.1 +00.1	S	07 47.9 -00.9	260 20.3 -00.7	S	16 50.5 -00.8	10 37.3 -25.4	S	12 50.4 +13.0	04			
05	251 53.2 +00.2	S	07 47.0 -00.9	275 19.6 -00.6	S	16 49.7 -00.9	25 11.9 -25.5	S	13 03.4 +13.0	05			
06	266 53.4 +00.1	S	07 46.1 -01.0	290 19.0 -00.7	S	16 48.8 -00.8	39 46.4 -25.5	S	13 16.4 +12.9	06			
07	281 53.5 +00.1	S	07 45.1 -00.9	305 18.3 -00.6	S	16 48.0 -00.8	54 20.9 -25.6	S	13 29.3 +12.9	07			
08	296 53.6 +00.1	S	07 44.2 -01.0	320 17.7 -00.7	S	16 47.2 -00.8	68 55.3 -25.7	S	13 42.2 +12.8	08			
09	311 53.7 +00.1	S	07 43.2 -00.9	335 17.0 -00.6	S	16 46.4 -00.9	83 29.6 -25.7	S	13 55.0 +12.8	09			
10	326 53.8 +00.2	S	07 42.3 -01.0	350 16.4 -00.7	S	16 45.5 -00.8	98 03.9 -25.8	S	14 07.8 +12.7	10			
11	341 54.0 +00.1	S	07 41.3 -00.9	5 15.7 -00.6	S	16 44.7 -00.8	112 38.1 -25.9	S	14 20.5 +12.7	11			
12	356 54.1 +00.1	S	07 40.4 -01.0	20 15.1 -00.7	S	16 43.9 -00.9	127 12.2 -25.9	S	14 33.2 +12.6	12			
13	11 54.2 +00.1	S	07 39.4 -00.9	35 14.4 -00.6	S	16 43.0 -00.8	141 46.3 -26.0	S	14 45.8 +12.6	13			
14	26 54.3 +00.1	S	07 38.5 -01.0	50 13.8 -00.7	S	16 42.2 -00.8	156 20.3 -26.1	S	14 58.4 +12.6	14			
15	41 54.4 +00.2	S	07 37.5 -00.9	65 13.1 -00.6	S	16 41.4 -00.8	170 54.2 -26.2	S	15 11.0 +12.4	15			
16	56 54.6 +00.1	S	07 36.6 -01.0	80 12.5 -00.7	S	16 40.6 -00.9	185 28.0 -26.2	S	15 23.4 +12.5	16			
17	71 54.7 +00.1	S	07 35.6 -00.9	95 11.8 -00.6	S	16 39.7 -00.8	200 01.8 -26.3	S	15 35.9 +12.3	17			
18	86 54.8 +00.1	S	07 34.7 -01.0	110 11.2 -00.7	S	16 38.9 -00.8	214 35.5 -26.4	S	15 48.2 +12.4	18			
19	101 54.9 +00.1	S	07 33.7 -00.9	125 10.5 -00.6	S	16 38.1 -00.9	229 09.1 -26.4	S	16 00.6 +12.2	19			
20	116 55.0 +00.2	S	07 32.8 -01.0	140 09.9 -00.7	S	16 37.2 -00.8	243 42.7 -26.5	S	16 12.8 +12.2	20			
21	131 55.2 +00.1	S	07 31.8 -00.9	155 09.2 -00.6	S	16 36.4 -00.9	258 16.2 -26.7	S	16 25.0 +12.2	21			
22	146 55.3 +00.1	S	07 30.9 -01.0	170 08.9 -00.7	S	16 35.5 -00.8	272 49.5 -26.7	S	16 37.2 +12.1	22			
23	161 55.4 +00.1	S	07 29.9 -00.9	185 07.9 -00.6	S	16 34.7 -00.8	287 22.8 -26.7	S	16 49.3 +12.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'1 16'1 16'1 16'1 16'1 16'1			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 14'9 14'9 14'9 14'9 14'9 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 54'5 54'6 54'7 54'7 54'8 54'9						
	SHA 018° 018° 018° 018° 018° 018°			SHA 042° 042° 042° 041° 041° 041°			SHA 153° 151° 149° 147° 146° 144°						
	Greenwich Culmination Time: 12:12			Greenwich Culmination Time: 10:38			Greenwich Culmination Time: 03:16						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	203 23.3 +00.5	S	18 10.1 -00.6	119 17.6 +02.1	N	14 17.9 +00.2	176 20.8 +02.2	S	09 23.9 -00.1	00			
01	218 23.8 +00.5	S	18 09.5 -00.5	134 19.7 +02.0	N	14 18.1 +00.1	191 23.0 +02.2	S	09 23.8 -00.1	01			
02	233 24.3 +00.5	S	18 09.0 -00.5	149 21.7 +02.1	N	14 18.2 +00.1	206 25.2 +02.2	S	09 23.7 -00.1	02			
03	248 24.8 +00.5	S	18 08.5 -00.5	164 23.8 +02.0	N	14 18.3 +00.2	221 27.4 +02.1	S	09 23.6 -00.1	03			
04	263 25.3 +00.6	S	18 08.0 -00.6	179 25.8 +02.1	N	14 18.5 +00.1	236 29.5 +02.2	S	09 23.5 -00.2	04			
05	278 25.9 +00.5	S	18 07.4 -00.5	194 27.9 +02.0	N	14 18.6 +00.2	251 31.7 +02.2	S	09 23.3 -00.1	05			
06	293 26.4 +00.5	S	18 06.9 -00.5	209 29.9 +02.1	N	14 18.8 +00.1	266 33.9 +02.2	S	09 23.2 -00.1	06			
07	308 26.9 +00.5	S	18 06.4 -00.6	224 32.0 +02.1	N	14 18.9 +00.1	281 36.1 +02.1	S	09 23.1 -00.1	07			
08	323 27.4 +00.5	S	18 05.8 -00.5	239 34.1 +02.0	N	14 19.0 +00.2	296 38.2 +02.2	S	09 23.0 -00.1	08			
09	338 27.9 +00.5	S	18 05.3 -00.5	254 36.1 +02.1	N	14 19.2 +00.1	311 40.4 +02.2	S	09 22.9 -00.1	09			
10	353 28.4 +00.5	S	18 04.8 -00.6	269 38.2 +02.0	N	14 19.3 +00.2	326 42.6 +02.2	S	09 22.8 -00.1	10			
11	8 28.9 +00.5	S	18 04.2 -00.5	284 40.2 +02.1	N	14 19.5 +00.1	341 44.8 +02.2	S	09 22.7 -00.2	11			
12	23 29.4 +00.5	S	18 03.7 -00.5	299 42.3 +02.0	N	14 19.6 +00.1	356 47.0 +02.1	S	09 22.5 -00.1	12			
13	38 29.9 +00.5	S	18 03.2 -00.5	314 44.3 +02.1	N	14 19.7 +00.2	11 49.1 +02.2	S	09 22.4 -00.1	13			
14	53 30.4 +00.5	S	18 02.7 -00.6	329 46.4 +02.0	N	14 19.9 +00.1	26 51.3 +02.2	S	09 22.3 -00.1	14			
15	68 30.9 +00.5	S	18 02.1 -00.5	344 48.4 +02.1	N	14 20.0 +00.2	41 53.5 +02.2	S	09 22.2 -00.1	15			
16	83 31.4 +00.5	S	18 01.6 -00.5	359 50.5 +02.0	N	14 20.2 +00.1	56 55.7 +02.1	S	09 22.1 -00.1	16			
17	98 31.9 +00.5	S	18 01.1 -00.6	14 52.5 +02.1	N	14 20.3 +00.1	71 57.8 +02.2	S	09 22.0 -00.1	17			
18	113 32.4 +00.5	S	18 00.5 -00.5	29 54.6 +02.0	N	14 20.4 +00.2	87 00.0 +02.2	S	09 21.9 -00.1	18			
19	128 32.9 +00.6	S	17 60.0 -00.5	44 56.6 +02.1	N	14 20.6 +00.1	102 02.2 +02.2	S	09 21.8 -00.2	19			
20	143 33.5 +00.5	S	17 59.5 -00.6	59 58.7 +02.0	N	14 20.7 +00.2	117 04.4 +02.1	S	09 21.6 -00.1	20			
21	158 34.0 +00.5	S	17 58.9 -00.5	75 00.7 +02.1	N	14 20.9 +00.1	132 06.5 +02.2	S	09 21.5 -00.1	21			
22	173 34.5 +00.5	S	17 58.4 -00.5	90 02.8 +02.0	N	14 21.0 +00.1	147 08.7 +02.2	S	09 21.4 -00.1	22			
23	188 35.0 +00.5	S	17 57.9 -00.6	105 04.8 +02.0	N	14 21.1 +00.2	162 10.9 +02.2	S	09 21.3 -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 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			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						
	SHA 045° 045° 045° 045° 044° 044°			SHA 321° 321° 321° 321° 321° 321°			SHA 018° 018° 018° 018° 018° 018°						
	Greenwich Culmination Time: 10:26			Greenwich Culmination Time: 16:00			Greenwich Culmination Time: 12:12						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT		
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec			
00	176 55.5 +00.2	S 07 29.0 -01.0	200 07.3 -00.6	S 16 33.9 -00.9	301 56.1 -26.9	S 17 01.3 +11.9	00								
01	191 55.7 +00.1	S 07 28.0 -00.9	215 06.7 -00.7	S 16 33.0 -00.8	316 29.2 -26.9	S 17 13.2 +11.9	01								
02	206 55.8 +00.1	S 07 27.1 -01.0	230 06.0 -00.6	S 16 32.2 -00.8	331 02.3 -27.0	S 17 25.1 +11.9	02								
03	221 55.9 +00.1	S 07 26.1 -00.9	245 05.4 -00.7	S 16 31.4 -00.9	345 35.3 -27.2	S 17 37.0 +11.7	03								
04	236 56.0 +00.1	S 07 25.2 -01.0	260 04.7 -00.6	S 16 30.5 -00.8	0 08.1 -27.1	S 17 48.7 +11.8	04								
05	251 56.1 +00.2	S 07 24.2 -00.9	275 04.1 -00.7	S 16 29.7 -00.9	14 41.0 -27.3	S 18 00.5 +11.6	05								
06	266 56.3 +00.1	S 07 23.3 -01.0	290 03.4 -00.6	S 16 28.8 -00.8	29 13.7 -27.4	S 18 12.1 +11.6	06								
07	281 56.4 +00.1	S 07 22.3 -01.0	305 02.8 -00.6	S 16 28.0 -00.9	43 46.3 -27.4	S 18 23.7 +11.5	07								
08	296 56.5 +00.1	S 07 21.3 -00.9	320 02.2 -00.7	S 16 27.1 -00.8	58 18.9 -27.6	S 18 35.2 +11.4	08								
09	311 56.6 +00.2	S 07 20.4 -01.0	335 01.5 -00.6	S 16 26.3 -00.9	72 51.3 -27.6	S 18 46.6 +11.4	09								
10	326 56.8 +00.1	S 07 19.4 -00.9	350 00.9 -00.7	S 16 25.4 -00.8	87 23.7 -27.8	S 18 58.0 +11.2	10								
11	341 56.9 +00.1	S 07 18.5 -01.0	5 00.2 -00.6	S 16 24.6 -00.8	101 55.9 -27.8	S 19 09.2 +11.3	11								
12	356 57.0 +00.1	S 07 17.5 -00.9	19 59.6 -00.6	S 16 23.8 -00.9	116 28.1 -27.9	S 19 20.5 +11.1	12								
13	11 57.1 +00.2	S 07 16.6 -01.0	34 59.0 -00.7	S 16 22.9 -00.8	131 00.2 -28.0	S 19 31.6 +11.1	13								
14	26 57.3 +00.1	S 07 15.6 -00.9	49 58.3 -00.6	S 16 22.1 -00.9	145 32.2 -28.1	S 19 42.7 +10.9	14								
15	41 57.4 +00.1	S 07 14.7 -01.0	64 57.7 -00.7	S 16 21.2 -00.8	160 04.1 -28.2	S 19 53.6 +11.0	15								
16	56 57.5 +00.1	S 07 13.7 -00.9	79 57.0 -00.6	S 16 20.4 -00.9	174 35.9 -28.3	S 20 04.6 +10.8	16								
17	71 57.6 +00.2	S 07 12.8 -01.0	94 56.4 -00.6	S 16 19.5 -00.8	189 07.6 -28.4	S 20 15.4 +10.7	17								
18	86 57.8 +00.1	S 07 11.8 -00.9	109 55.8 -00.7	S 16 18.7 -00.9	203 39.2 -28.5	S 20 26.1 +10.7	18								
19	101 57.9 +00.1	S 07 10.9 -01.0	124 55.1 -00.6	S 16 17.8 -00.9	218 10.7 -28.5	S 20 36.8 +10.6	19								
20	116 58.0 +00.1	S 07 09.9 -00.9	139 54.5 -00.6	S 16 16.9 -00.8	232 42.2 -28.7	S 20 47.4 +10.5	20								
21	131 58.1 +00.2	S 07 09.0 -01.0	154 53.9 -00.7	S 16 16.1 -00.9	247 13.5 -28.8	S 20 57.9 +10.4	21								
22	146 58.3 +00.1	S 07 08.0 -01.0	169 53.2 -00.6	S 16 15.2 -00.8	261 44.7 -28.9	S 21 08.3 +10.3	22								
23	161 58.4 +00.1	S 07 07.0 -00.9	184 52.6 -00.6	S 16 14.4 -00.9	276 15.8 -29.0	S 21 18.6 +10.3	23								
	UT 02 06 10 14 18 22	SD 16°1 16°1 16°1 16°1 16°1 16°1	HP 00°1 00°1 00°1 00°1 00°1 00°1	SHA 018° 017° 017° 017° 017° 017°	Greenwich Culmination Time: 12:12	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 041° 041° 040° 040° 040° 040°	Greenwich Culmination Time: 10:39	UT 02 06 10 14 18 22	SD 15°0 15°0 15°0 15°1 15°1 15°1	HP 55°0 55°1 55°2 55°2 55°3 55°4	SHA 142° 140° 138° 136° 134° 132°	Greenwich Culmination Time: 03:59

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT		
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec			
00	203 35.5 +00.5	S 17 57.3 -00.5	120 06.8 +02.1	N 14 21.3 +00.1	177 13.1 +02.2	S 09 21.2 -00.1	00								
01	218 36.0 +00.5	S 17 56.8 -00.6	135 08.9 +02.0	N 14 21.4 +00.2	192 15.3 +02.1	S 09 21.1 -00.1	01								
02	233 36.5 +00.5	S 17 56.2 -00.5	150 10.9 +02.1	N 14 21.6 +00.1	207 17.4 +02.2	S 09 21.0 -00.2	02								
03	248 37.0 +00.5	S 17 55.7 -00.5	165 13.0 +02.0	N 14 21.7 +00.1	222 19.6 +02.2	S 09 20.8 -00.1	03								
04	263 37.5 +00.5	S 17 55.2 -00.6	180 15.0 +02.1	N 14 21.8 +00.2	237 21.8 +02.2	S 09 20.7 -00.1	04								
05	278 38.0 +00.5	S 17 54.6 -00.5	195 17.1 +02.0	N 14 22.0 +00.1	252 24.0 +02.1	S 09 20.6 -00.1	05								
06	293 38.5 +00.6	S 17 54.1 -00.5	210 19.1 +02.1	N 14 22.1 +00.2	267 26.1 +02.2	S 09 20.5 -00.1	06								
07	308 39.1 +00.5	S 17 53.6 -00.6	225 21.2 +02.0	N 14 22.3 +00.1	282 28.3 +02.2	S 09 20.4 -00.1	07								
08	323 39.6 +00.5	S 17 53.0 -00.5	240 23.2 +02.1	N 14 22.4 +00.1	297 30.5 +02.2	S 09 20.3 -00.1	08								
09	338 40.1 +00.5	S 17 52.5 -00.5	255 25.3 +02.0	N 14 22.5 +00.2	312 32.7 +02.1	S 09 20.2 -00.1	09								
10	353 40.6 +00.5	S 17 52.0 -00.6	270 27.3 +02.1	N 14 22.7 +00.1	327 34.8 +02.2	S 09 20.1 -00.2	10								
11	8 41.1 +00.5	S 17 51.4 -00.5	285 29.4 +02.0	N 14 22.8 +00.2	342 37.0 +02.2	S 09 19.9 -00.1	11								
12	23 41.6 +00.5	S 17 50.9 -00.6	300 31.4 +02.1	N 14 23.0 +00.1	357 39.2 +02.2	S 09 19.8 -00.1	12								
13	38 42.1 +00.5	S 17 50.3 -00.5	315 33.5 +02.0	N 14 23.1 +00.1	12 41.4 +02.2	S 09 19.7 -00.1	13								
14	53 42.6 +00.5	S 17 49.8 -00.5	330 35.5 +02.0	N 14 23.2 +00.2	27 43.6 +02.1	S 09 19.6 -00.1	14								
15	68 43.1 +00.5	S 17 49.3 -00.6	345 37.5 +02.1	N 14 23.4 +00.1	42 45.7 +02.2	S 09 19.5 -00.1	15								
16	83 43.6 +00.6	S 17 48.7 -00.5	0 39.6 +02.0	N 14 23.5 +00.2	57 47.9 +02.2	S 09 19.4 -00.1	16								
17	98 44.2 +00.5	S 17 48.2 -00.6	15 41.6 +02.1	N 14 23.7 +00.1	72 50.1 +02.2	S 09 19.3 -00.2	17								
18	113 44.7 +00.5	S 17 47.6 -00.5	30 43.7 +02.0	N 14 23.8 +00.1	87 52.3 +02.1	S 09 19.1 -00.1	18								
19	128 45.2 +00.5	S 17 47.1 -00.5	45 45.7 +02.1	N 14 23.9 +00.2	102 54.4 +02.2	S 09 19.0 -00.1	19								
20	143 45.7 +00.5	S 17 46.6 -00.6	60 47.8 +02.0	N 14 24.1 +00.1	117 56.6 +02.2	S 09 18.9 -00.1	20								
21	158 46.2 +00.5	S 17 46.0 -00.5	75 49.8 +02.1	N 14 24.2 +00.2	132 58.8 +02.2	S 09 18.8 -00.1	21								
22	173 46.7 +00.5	S 17 45.5 -00.6	90 51.9 +02.0	N 14 24.4 +00.1	148 01.0 +02.1	S 09 18.7 -00.1	22								
23	188 47.2 +00.5	S 17 44.9 -00.5	105 53.9 +02.0	N 14 24.5 +00.2	163 03.1 +02.2	S 09 18.6 -00.1	23								
	UT 02 06 10 14 18 22	SD 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 044° 044° 044° 044° 044° 044°	Greenwich Culmination Time: 10:25	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 321° 321° 321° 321° 321° 321°	Greenwich Culmination Time: 15:57	UT 02 06 10 14 18 22	SD 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	SHA 018° 018° 018° 018° 018° 018°	Greenwich Culmination Time: 12:09

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 58.5 +00.2	S	07 06.1 -01.0	199 52.0 -00.7	S	16 13.5 -00.8	290 46.8 -29.1	S	21 28.9 +10.1	00			
01	191 58.7 +00.1	S	07 05.1 -00.9	214 51.3 -00.6	S	16 12.7 -00.9	305 17.7 -29.1	S	21 39.0 +10.1	01			
02	206 58.8 +00.1	S	07 04.2 -01.0	229 50.7 -00.6	S	16 11.8 -00.9	319 48.6 -29.3	S	21 49.1 +09.9	02			
03	221 58.9 +00.1	S	07 03.2 -00.9	244 50.1 -00.7	S	16 10.9 -00.8	334 19.3 -29.4	S	21 59.0 +09.9	03			
04	236 59.0 +00.2	S	07 02.3 -01.0	259 49.4 -00.6	S	16 10.1 -00.9	348 49.9 -29.5	S	22 08.9 +09.8	04			
05	251 59.2 +00.1	S	07 01.3 -01.0	274 48.8 -00.6	S	16 09.2 -00.8	3 20.4 -29.6	S	22 18.7 +09.7	05			
06	266 59.3 +00.1	S	07 00.3 -00.9	289 48.2 -00.7	S	16 08.4 -00.9	17 50.8 -29.7	S	22 28.4 +09.6	06			
07	281 59.4 +00.2	S	06 59.4 -01.0	304 47.5 -00.6	S	16 07.5 -00.9	32 21.1 -29.8	S	22 38.0 +09.4	07			
08	296 59.6 +00.1	S	06 58.4 -00.9	319 46.9 -00.6	S	16 06.6 -00.8	46 51.3 -29.9	S	22 47.4 +09.4	08			
09	311 59.7 +00.1	S	06 57.5 -01.0	334 46.3 -00.7	S	16 05.8 -00.9	61 21.4 -30.1	S	22 56.8 +09.3	09			
10	326 59.8 +00.1	S	06 56.5 -00.9	349 45.6 -00.6	S	16 04.9 -00.9	75 51.3 -30.1	S	23 06.1 +09.2	10			
11	341 59.9 +00.2	S	06 55.6 -01.0	4 45.0 -00.6	S	16 04.0 -00.8	90 21.2 -30.2	S	23 15.3 +09.1	11			
12	357 00.1 +00.1	S	06 54.6 -01.0	19 44.4 -00.7	S	16 03.2 -00.9	104 51.0 -30.4	S	23 24.4 +09.0	12			
13	12 00.2 +00.1	S	06 53.6 -00.9	34 43.7 -00.6	S	16 02.3 -00.9	119 20.6 -30.4	S	23 33.4 +08.8	13			
14	27 00.3 +00.2	S	06 52.7 -01.0	49 43.1 -00.6	S	16 01.4 -00.8	133 50.2 -30.6	S	23 42.2 +08.8	14			
15	42 00.5 +00.1	S	06 51.7 -00.9	64 42.5 -00.6	S	16 00.6 -00.9	148 19.6 -30.6	S	23 51.0 +08.7	15			
16	57 00.6 +00.1	S	06 50.8 -01.0	79 41.9 -00.7	S	15 59.7 -00.9	162 49.0 -30.8	S	23 59.7 +08.5	16			
17	72 00.7 +00.2	S	06 49.8 -00.9	94 41.2 -00.6	S	15 58.8 -00.8	177 18.2 -30.9	S	24 08.2 +08.4	17			
18	87 00.9 +00.1	S	06 48.9 -01.0	109 40.6 -00.6	S	15 58.0 -00.9	191 47.3 -31.0	S	24 16.6 +08.4	18			
19	102 01.0 +00.1	S	06 47.9 -01.0	124 40.0 -00.6	S	15 57.1 -00.9	206 16.3 -31.1	S	24 25.0 +08.2	19			
20	117 01.1 +00.1	S	06 46.9 -00.9	139 39.4 -00.7	S	15 56.2 -00.9	220 45.2 -31.2	S	24 33.2 +08.1	20			
21	132 01.2 +00.2	S	06 46.0 -01.0	154 38.7 -00.6	S	15 55.3 -00.8	235 14.0 -31.3	S	24 41.3 +07.9	21			
22	147 01.4 +00.1	S	06 45.0 -00.9	169 38.1 -00.6	S	15 54.5 -00.9	249 42.7 -31.4	S	24 49.2 +07.9	22			
23	162 01.5 +00.1	S	06 44.1 -01.0	184 37.5 -00.6	S	15 53.6 -00.9	264 11.3 -31.6	S	24 57.1 +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 16'1 16'1 16'1 16'1 16'1 16'1			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 15'1 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 55'9 56'0 56'1						
	SHA 017° 016° 016° 016° 016° 016°			SHA 039° 039° 039° 039° 039° 038°			SHA 129° 127° 125° 123° 121° 119°						
	Greenwich Culmination Time: 12:11			Greenwich Culmination Time: 10:40			Greenwich Culmination Time: 04:46						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	203 47.7 +00.6	S	17 44.4 -00.6	120 55.9 +02.1	N	14 24.7 +00.1	178 05.3 +02.2	S	09 18.5 -00.2	00			
01	218 48.3 +00.5	S	17 43.8 -00.5	135 58.0 +02.0	N	14 24.8 +00.1	193 07.5 +02.2	S	09 18.3 -00.1	01			
02	233 48.8 +00.5	S	17 43.3 -00.5	151 00.0 +02.1	N	14 24.9 +00.2	208 09.7 +02.2	S	09 18.2 -00.1	02			
03	248 49.3 +00.5	S	17 42.8 -00.6	166 02.1 +02.0	N	14 25.1 +00.1	223 11.9 +02.1	S	09 18.1 -00.1	03			
04	263 49.8 +00.5	S	17 42.2 -00.5	181 04.1 +02.1	N	14 25.2 +00.2	238 14.0 +02.2	S	09 18.0 -00.1	04			
05	278 50.3 +00.5	S	17 41.7 -00.6	196 06.2 +02.0	N	14 25.4 +00.1	253 16.2 +02.2	S	09 17.9 -00.1	05			
06	293 50.8 +00.5	S	17 41.1 -00.5	211 08.2 +02.0	N	14 25.5 +00.1	268 18.4 +02.2	S	09 17.8 -00.1	06			
07	308 51.3 +00.5	S	17 40.6 -00.6	226 10.2 +02.1	N	14 25.6 +00.2	283 20.6 +02.1	S	09 17.7 -00.1	07			
08	323 51.8 +00.6	S	17 40.0 -00.5	241 12.3 +02.0	N	14 25.8 +00.1	298 22.7 +02.2	S	09 17.6 -00.2	08			
09	338 52.4 +00.5	S	17 39.5 -00.6	256 14.3 +02.1	N	14 25.9 +00.2	313 24.9 +02.2	S	09 17.4 -00.1	09			
10	353 52.9 +00.5	S	17 38.9 -00.5	271 16.4 +02.0	N	14 26.1 +00.1	328 27.1 +02.2	S	09 17.3 -00.1	10			
11	8 53.4 +00.5	S	17 38.4 -00.6	286 18.4 +02.1	N	14 26.2 +00.1	343 29.3 +02.1	S	09 17.2 -00.1	11			
12	23 53.9 +00.5	S	17 37.8 -00.5	301 20.5 +02.0	N	14 26.3 +00.2	358 31.4 +02.2	S	09 17.1 -00.1	12			
13	38 54.4 +00.5	S	17 37.3 -00.5	316 22.5 +02.0	N	14 26.5 +00.1	13 33.6 +02.2	S	09 17.0 -00.1	13			
14	53 54.9 +00.5	S	17 36.8 -00.6	331 24.5 +02.1	N	14 26.6 +00.2	28 35.8 +02.2	S	09 16.9 -00.1	14			
15	68 55.4 +00.6	S	17 36.2 -00.5	346 26.6 +02.0	N	14 26.8 +00.1	43 38.0 +02.2	S	09 16.8 -00.2	15			
16	83 56.0 +00.5	S	17 35.7 -00.6	1 28.6 +02.1	N	14 26.9 +00.2	58 40.2 +02.1	S	09 16.6 -00.1	16			
17	98 56.5 +00.5	S	17 35.1 -00.5	16 30.7 +02.0	N	14 27.1 +00.1	73 42.3 +02.2	S	09 16.5 -00.1	17			
18	113 57.0 +00.5	S	17 34.6 -00.6	31 32.7 +02.0	N	14 27.2 +00.1	88 44.5 +02.2	S	09 16.4 -00.1	18			
19	128 57.5 +00.5	S	17 34.0 -00.5	46 34.7 +02.1	N	14 27.3 +00.2	103 46.7 +02.2	S	09 16.3 -00.1	19			
20	143 58.0 +00.5	S	17 33.5 -00.6	61 36.8 +02.0	N	14 27.5 +00.1	118 48.9 +02.1	S	09 16.2 -00.1	20			
21	158 58.5 +00.6	S	17 32.9 -00.5	76 38.8 +02.1	N	14 27.6 +00.2	133 51.0 +02.2	S	09 16.1 -00.1	21			
22	173 59.1 +00.5	S	17 32.4 -00.6	91 40.9 +02.0	N	14 27.8 +00.1	148 53.2 +02.2	S	09 16.0 -00.2	22			
23	188 59.6 +00.5	S	17 31.8 -00.5	106 42.9 +02.0	N	14 27.9 +00.1	163 55.4 +02.2	S	09 15.8 -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 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			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						
	SHA 043° 043° 043° 043° 043° 043°			SHA 321° 321° 321° 321° 321° 321°			SHA 018° 018° 018° 018° 018° 018°						
	Greenwich Culmination Time: 10:24			Greenwich Culmination Time: 15:54			Greenwich Culmination Time: 12:05						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 01.6 +00.2	S 06 43.1 -01.0	199 36.9 -00.7	S 15 52.7 -00.9	278 39.7 -31.6	S 25 04.8 +07.7	00						
01	192 01.8 +00.1	S 06 42.1 -00.9	214 36.2 -00.6	S 15 51.8 -00.8	293 08.1 -31.8	S 25 12.5 +07.5	01						
02	207 01.9 +00.1	S 06 41.2 -01.0	229 35.6 -00.6	S 15 51.0 -00.9	307 36.3 -31.8	S 25 20.0 +07.3	02						
03	222 02.0 +00.2	S 06 40.2 -00.9	244 35.0 -00.6	S 15 50.1 -00.9	322 04.5 -32.0	S 25 27.3 +07.3	03						
04	237 02.2 +00.1	S 06 39.3 -01.0	259 34.4 -00.6	S 15 49.2 -00.9	336 32.5 -32.1	S 25 34.6 +07.1	04						
05	252 02.3 +00.1	S 06 38.3 -01.0	274 33.8 -00.7	S 15 48.3 -00.9	351 00.4 -32.2	S 25 41.7 +07.0	05						
06	267 02.4 +00.2	S 06 37.3 -00.9	289 33.1 -00.6	S 15 47.4 -00.8	5 28.2 -32.3	S 25 48.7 +06.8	06						
07	282 02.6 +00.1	S 06 36.4 -01.0	304 32.5 -00.6	S 15 46.6 -00.9	19 55.9 -32.4	S 25 55.5 +06.8	07						
08	297 02.7 +00.1	S 06 35.4 -00.9	319 31.9 -00.6	S 15 45.7 -00.9	34 23.5 -32.5	S 26 02.3 +06.6	08						
09	312 02.8 +00.2	S 06 34.5 -01.0	334 31.3 -00.6	S 15 44.8 -00.9	48 51.0 -32.6	S 26 08.9 +06.4	09						
10	327 03.0 +00.1	S 06 33.5 -01.0	349 30.7 -00.7	S 15 43.9 -00.9	63 18.4 -32.7	S 26 15.3 +06.4	10						
11	342 03.1 +00.1	S 06 32.5 -00.9	4 30.0 -00.6	S 15 43.0 -00.9	77 45.7 -32.8	S 26 21.7 +06.2	11						
12	357 03.2 +00.2	S 06 31.6 -01.0	19 29.4 -00.6	S 15 42.1 -00.9	92 12.9 -33.0	S 26 27.9 +06.0	12						
13	12 03.4 +00.1	S 06 30.6 -00.9	34 28.8 -00.6	S 15 41.2 -00.8	106 39.9 -33.0	S 26 33.9 +05.9	13						
14	27 03.5 +00.1	S 06 29.7 -01.0	49 28.2 -00.6	S 15 40.4 -00.9	121 06.9 -33.1	S 26 39.8 +05.8	14						
15	42 03.6 +00.2	S 06 28.7 -01.0	64 27.6 -00.6	S 15 39.5 -00.9	135 33.8 -33.3	S 26 45.6 +05.7	15						
16	57 03.8 +00.1	S 06 27.7 -00.9	79 27.0 -00.7	S 15 38.6 -00.9	150 00.5 -33.3	S 26 51.3 +05.5	16						
17	72 03.9 +00.2	S 06 26.8 -01.0	94 26.3 -00.6	S 15 37.7 -00.9	164 27.2 -33.5	S 26 56.8 +05.3	17						
18	87 04.1 +00.1	S 06 25.8 -01.0	109 25.7 -00.6	S 15 36.8 -00.9	178 53.7 -33.5	S 27 02.1 +05.2	18						
19	102 04.2 +00.1	S 06 24.8 -00.9	124 25.1 -00.6	S 15 35.9 -00.9	193 20.2 -33.6	S 27 07.3 +05.1	19						
20	117 04.3 +00.2	S 06 23.9 -01.0	139 24.5 -00.6	S 15 35.0 -00.9	207 46.6 -33.8	S 27 12.4 +04.9	20						
21	132 04.5 +00.1	S 06 22.9 -00.9	154 23.9 -00.6	S 15 34.1 -00.9	222 12.8 -33.8	S 27 17.3 +04.7	21						
22	147 04.6 +00.1	S 06 22.0 -01.0	169 23.3 -00.6	S 15 33.2 -00.9	236 39.0 -34.0	S 27 22.0 +04.6	22						
23	162 04.7 +00.2	S 06 21.0 -01.0	184 22.7 -00.7	S 15 32.3 -00.8	251 05.0 -34.0	S 27 26.6 +04.5	23						
	UT 02 06 10 14 18 22	SD 16'1 16'1 16'1 16'1 16'1 16'1	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 15'3 15'4 15'4 15'4 15'5 15'5							
	HP 00'1 00'1 00'1 00'1 00'1 00'1	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 56'3 56'4 56'5 56'7 56'8 56'9								
	SHA 016° 016° 015° 015° 015° 015°	UT 02 06 10 14 18 22	SD 038° 038° 038° 038° 037° 037°	UT 02 06 10 14 18 22	SD 116° 114° 112° 109° 107° 104°								
	Greenwich Culmination Time: 12:11	UT 02 06 10 14 18 22	SD 038° 038° 038° 038° 037° 037°	UT 02 06 10 14 18 22	SD 116° 114° 112° 109° 107° 104°								
		Greenwich Culmination Time: 10:41		Greenwich Culmination Time: 05:37									

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	204 00.1 +00.5	S 17 31.3 -00.6	121 44.9 +02.1	N 14 28.0 +00.2	178 57.6 +02.1	S 09 15.7 -00.1	00						
01	219 00.6 +00.5	S 17 30.7 -00.5	136 47.0 +02.0	N 14 28.2 +00.1	193 59.7 +02.2	S 09 15.6 -00.1	01						
02	234 01.1 +00.5	S 17 30.2 -00.6	151 49.0 +02.0	N 14 28.3 +00.2	209 01.9 +02.2	S 09 15.5 -00.1	02						
03	249 01.6 +00.6	S 17 29.6 -00.5	166 51.0 +02.1	N 14 28.5 +00.1	224 04.1 +02.2	S 09 15.4 -00.1	03						
04	264 02.2 +00.5	S 17 29.1 -00.6	181 53.1 +02.0	N 14 28.6 +00.2	239 06.3 +02.2	S 09 15.3 -00.1	04						
05	279 02.7 +00.5	S 17 28.5 -00.5	196 55.1 +02.1	N 14 28.8 +00.1	254 08.5 +02.1	S 09 15.2 -00.1	05						
06	294 03.2 +00.5	S 17 28.0 -00.6	211 57.2 +02.0	N 14 28.9 +00.1	269 10.6 +02.2	S 09 15.1 -00.2	06						
07	309 03.7 +00.5	S 17 27.4 -00.6	226 59.2 +02.0	N 14 29.0 +00.2	284 12.8 +02.2	S 09 14.9 -00.1	07						
08	324 04.2 +00.5	S 17 26.8 -00.5	242 01.2 +02.1	N 14 29.2 +00.1	299 15.0 +02.2	S 09 14.8 -00.1	08						
09	339 04.7 +00.6	S 17 26.3 -00.6	257 03.3 +02.0	N 14 29.3 +00.2	314 17.2 +02.1	S 09 14.7 -00.1	09						
10	354 05.3 +00.5	S 17 25.7 -00.5	272 05.3 +02.0	N 14 29.5 +00.1	329 19.3 +02.2	S 09 14.6 -00.1	10						
11	9 05.8 +00.5	S 17 25.2 -00.6	287 07.3 +02.1	N 14 29.6 +00.2	344 21.5 +02.2	S 09 14.5 -00.1	11						
12	24 06.3 +00.5	S 17 24.6 -00.5	302 09.4 +02.0	N 14 29.8 +00.1	359 23.7 +02.2	S 09 14.4 -00.1	12						
13	39 06.8 +00.5	S 17 24.1 -00.6	317 11.4 +02.1	N 14 29.9 +00.1	14 25.9 +02.2	S 09 14.3 -00.2	13						
14	54 07.3 +00.6	S 17 23.5 -00.5	332 13.5 +02.0	N 14 30.0 +00.2	29 28.1 +02.1	S 09 14.1 -00.1	14						
15	69 07.9 +00.5	S 17 23.0 -00.6	347 15.5 +02.0	N 14 30.2 +00.1	44 30.2 +02.2	S 09 14.0 -00.1	15						
16	84 08.4 +00.5	S 17 22.4 -00.5	2 17.5 +02.1	N 14 30.3 +00.2	59 32.4 +02.2	S 09 13.9 -00.1	16						
17	99 08.9 +00.5	S 17 21.9 -00.6	17 19.6 +02.0	N 14 30.5 +00.1	74 34.6 +02.2	S 09 13.8 -00.1	17						
18	114 09.4 +00.5	S 17 21.3 -00.6	32 21.6 +02.0	N 14 30.6 +00.2	89 36.8 +02.1	S 09 13.7 -00.1	18						
19	129 09.9 +00.5	S 17 20.7 -00.5	47 23.6 +02.1	N 14 30.8 +00.1	104 38.9 +02.2	S 09 13.6 -00.1	19						
20	144 10.4 +00.6	S 17 20.2 -00.6	62 25.7 +02.0	N 14 30.9 +00.1	119 41.1 +02.2	S 09 13.5 -00.1	20						
21	159 11.0 +00.5	S 17 19.6 -00.5	77 27.7 +02.0	N 14 31.0 +00.2	134 43.3 +02.2	S 09 13.4 -00.2	21						
22	174 11.5 +00.5	S 17 19.1 -00.6	92 29.7 +02.1	N 14 31.2 +00.1	149 45.5 +02.1	S 09 13.2 -00.1	22						
23	189 12.0 +00.5	S 17 18.5 -00.5	107 31.8 +02.0	N 14 31.3 +00.2	164 47.6 +02.2	S 09 13.1 -00.1	23						
	UT 02 06 10 14 18 22	SD 00'0 00'0 00'0 00'0 00'0 00'0	UT 02 06 10 14 18 22	SD 00'3 00'3 00'3 00'3 00'3 00'3	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	UT 02 06 10 14 18 22	SD 00'0 00'0 00'0 00'0 00'0 00'0	UT 02 06 10 14 18 22	SD 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 043° 043° 042° 042° 042° 042°	UT 02 06 10 14 18 22	SD 320° 320° 320° 320° 320° 320°	UT 02 06 10 14 18 22	SD 018° 018° 018° 018° 018° 018°								
	Greenwich Culmination Time: 10:23	UT 02 06 10 14 18 22	SD 320° 320° 320° 320° 320° 320°	UT 02 06 10 14 18 22	SD 018° 018° 018° 018° 018° 018°								
		Greenwich Culmination Time: 15:50		Greenwich Culmination Time: 12:02									

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 04.9 +00.1	S	06 20.0 -00.9	199 22.0 -00.6	S	15 31.5 -00.9	265 31.0 -34.1	S	27 31.1 +04.3	00			
01	192 05.0 +00.1	S	06 19.1 -01.0	214 21.4 -00.6	S	15 30.6 -00.9	279 56.9 -34.3	S	27 35.4 +04.1	01			
02	207 05.1 +00.2	S	06 18.1 -01.0	229 20.8 -00.6	S	15 29.7 -00.9	294 22.6 -34.3	S	27 39.5 +04.0	02			
03	222 05.3 +00.1	S	06 17.1 -00.9	244 20.2 -00.6	S	15 28.8 -00.9	308 48.3 -34.4	S	27 43.5 +03.9	03			
04	237 05.4 +00.2	S	06 16.2 -01.0	259 19.6 -00.6	S	15 27.9 -00.9	323 13.9 -34.5	S	27 47.4 +03.6	04			
05	252 05.6 +00.1	S	06 15.2 -01.0	274 19.0 -00.6	S	15 27.0 -00.9	337 39.4 -34.6	S	27 51.0 +03.5	05			
06	267 05.7 +00.1	S	06 14.2 -00.9	289 18.4 -00.6	S	15 26.1 -00.9	352 04.8 -34.7	S	27 54.5 +03.4	06			
07	282 05.8 +00.2	S	06 13.3 -01.0	304 17.8 -00.6	S	15 25.2 -00.9	6 30.1 -34.7	S	27 57.9 +03.2	07			
08	297 06.0 +00.1	S	06 12.3 -01.0	319 17.2 -00.6	S	15 24.3 -00.9	20 55.4 -34.9	S	28 01.1 +03.0	08			
09	312 06.1 +00.1	S	06 11.3 -00.9	334 16.6 -00.7	S	15 23.4 -00.9	35 20.5 -34.9	S	28 04.1 +02.9	09			
10	327 06.2 +00.2	S	06 10.4 -01.0	349 15.9 -00.6	S	15 22.5 -00.9	49 45.6 -35.1	S	28 07.0 +02.7	10			
11	342 06.4 +00.1	S	06 09.4 -00.9	4 15.3 -00.6	S	15 21.6 -00.9	64 10.5 -35.1	S	28 09.7 +02.5	11			
12	357 06.5 +00.2	S	06 08.5 -01.0	19 14.7 -00.6	S	15 20.7 -00.9	78 35.4 -35.1	S	28 12.2 +02.4	12			
13	12 06.7 +00.1	S	06 07.5 -01.0	34 14.1 -00.6	S	15 19.8 -00.9	93 00.3 -35.3	S	28 14.6 +02.2	13			
14	27 06.8 +00.1	S	06 06.5 -00.9	49 13.5 -00.6	S	15 18.9 -01.0	107 25.0 -35.3	S	28 16.8 +02.0	14			
15	42 06.9 +00.2	S	06 05.6 -01.0	64 12.9 -00.6	S	15 17.9 -00.9	121 49.7 -35.4	S	28 18.8 +01.8	15			
16	57 07.1 +00.1	S	06 04.6 -01.0	79 12.3 -00.6	S	15 17.0 -00.9	136 14.3 -35.5	S	28 20.6 +01.7	16			
17	72 07.2 +00.2	S	06 03.6 -00.9	94 11.7 -00.6	S	15 16.1 -00.9	150 38.8 -35.6	S	28 22.3 +01.5	17			
18	87 07.4 +00.1	S	06 02.7 -01.0	109 11.1 -00.6	S	15 15.2 -00.9	165 03.2 -35.6	S	28 23.8 +01.3	18			
19	102 07.5 +00.1	S	06 01.7 -01.0	124 10.5 -00.6	S	15 14.3 -00.9	179 27.6 -35.7	S	28 25.1 +01.2	19			
20	117 07.6 +00.2	S	06 00.7 -00.9	139 09.9 -00.6	S	15 13.4 -00.9	193 51.9 -35.7	S	28 26.3 +01.0	20			
21	132 07.8 +00.1	S	05 59.8 -01.0	154 09.3 -00.6	S	15 12.5 -00.9	208 16.2 -35.8	S	28 27.3 +00.8	21			
22	147 07.9 +00.2	S	05 58.8 -01.0	169 08.7 -00.6	S	15 11.6 -00.9	222 40.4 -35.9	S	28 28.1 +00.6	22			
23	162 08.1 +00.1	S	05 57.8 -00.9	184 08.1 -00.6	S	15 10.7 -00.9	237 04.5 -36.0	S	28 28.7 +00.4	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		UT 02 06 10 14 18 22				
	SD 16'1 16'1 16'1 16'1 16'1 16'1		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 15'6 15'6 15'6 15'7 15'7 15'8		SD 00'1 00'1 00'1 00'1 00'1 00'1		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 57'1 57'2 57'4 57'5 57'7 57'8		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				
	SHA 015° 015° 014° 014° 014° 014°		SHA 037° 037° 037° 036° 036° 036°		SHA 102° 100° 097° 095° 092° 090°		SHA 042° 042° 042° 042° 041° 041°		SHA 018° 018° 018° 018° 017° 017°				
	Greenwich Culmination Time: 12:11		Greenwich Culmination Time: 10:42		Greenwich Culmination Time: 06:32		Greenwich Culmination Time: 10:22		Greenwich Culmination Time: 11:58				

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 08.2 +00.1	S	05 56.9 -01.0	199 07.5 -00.6	S	15 09.8 -01.0	251 28.5 -35.9	S	28 29.1 +00.3				
01	192 08.3 +00.2	S	05 55.9 -01.0	214 06.9 -00.6	S	15 08.8 -00.9	265 52.6 -36.1	S	28 29.4 +00.1				
02	207 08.5 +00.1	S	05 54.9 -00.9	229 06.3 -00.6	S	15 07.9 -00.9	280 16.5 -36.1	S	28 29.5 -00.1				
03	222 08.6 +00.2	S	05 54.0 -01.0	244 05.7 -00.6	S	15 07.0 -00.9	294 40.4 -36.2	S	28 29.4 -00.3				
04	237 08.8 +00.1	S	05 53.0 -01.0	259 05.1 -00.6	S	15 06.1 -00.9	309 04.2 -36.2	S	28 29.1 -00.4				
05	252 08.9 +00.1	S	05 52.0 -00.9	274 04.5 -00.6	S	15 05.2 -00.9	323 28.0 -36.2	S	28 28.7 -00.7				
06	267 09.0 +00.2	S	05 51.1 -01.0	289 03.9 -00.6	S	15 04.3 -00.9	337 51.8 -36.3	S	28 28.0 -00.8				
07	282 09.2 +00.1	S	05 50.1 -01.0	304 03.3 -00.6	S	15 03.4 -01.0	352 15.5 -36.4	S	28 27.2 -01.0				
08	297 09.3 +00.2	S	05 49.1 -01.0	319 02.7 -00.6	S	15 02.4 -00.9	6 39.1 -36.4	S	28 26.2 -01.2				
09	312 09.5 +00.1	S	05 48.1 -00.9	334 02.1 -00.6	S	15 01.5 -00.9	21 02.7 -36.4	S	28 25.0 -01.4				
10	327 09.6 +00.2	S	05 47.2 -01.0	349 01.5 -00.6	S	15 00.6 -00.9	35 26.3 -36.4	S	28 23.6 -01.6				
11	342 09.8 +00.1	S	05 46.2 -01.0	4 00.9 -00.6	S	14 59.7 -00.9	49 49.9 -36.5	S	28 22.0 -01.7				
12	357 09.9 +00.1	S	05 45.2 -00.9	19 00.3 -00.6	S	14 58.8 -01.0	64 13.4 -36.6	S	28 20.3 -02.0				
13	12 10.0 +00.2	S	05 44.3 -01.0	33 59.7 -00.6	S	14 57.8 -00.9	78 36.8 -36.5	S	28 18.3 -02.1				
14	27 10.2 +00.1	S	05 43.3 -01.0	48 59.1 -00.6	S	14 56.9 -00.9	93 00.3 -36.6	S	28 16.2 -02.3				
15	42 10.3 +00.2	S	05 42.3 -00.9	63 58.5 -00.6	S	14 56.0 -00.9	107 23.7 -36.6	S	28 13.9 -02.5				
16	57 10.5 +00.1	S	05 41.4 -01.0	78 57.9 -00.6	S	14 55.1 -01.0	121 47.1 -36.6	S	28 11.4 -02.7				
17	72 10.6 +00.2	S	05 40.4 -01.0	93 57.3 -00.6	S	14 54.1 -00.9	136 10.5 -36.7	S	28 08.7 -02.9				
18	87 10.8 +00.1	S	05 39.4 -00.9	108 56.7 -00.6	S	14 53.2 -00.9	150 33.8 -36.7	S	28 05.8 -03.1				
19	102 10.9 +00.2	S	05 38.5 -01.0	123 56.1 -00.5	S	14 52.3 -00.9	164 57.1 -36.7	S	28 02.7 -03.3				
20	117 11.1 +00.1	S	05 37.5 -01.0	138 55.6 -00.6	S	14 51.4 -01.0	179 20.4 -36.7	S	27 59.4 -03.4				
21	132 11.2 +00.1	S	05 36.5 -01.0	153 55.0 -00.6	S	14 50.4 -00.9	193 43.7 -36.7	S	27 56.0 -03.7				
22	147 11.3 +00.2	S	05 35.5 -00.9	168 54.4 -00.6	S	14 49.5 -00.9	208 07.0 -36.7	S	27 52.3 -03.8				
23	162 11.5 +00.1	S	05 34.6 -01.0	183 53.8 -00.6	S	14 48.6 -01.0	222 30.3 -36.7	S	27 48.5 -04.0				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22				UT 02 06 10 14 18 22					
	SD 16'1 16'1 16'1 16'1 16'1 16'1			SD 00'1 00'1 00'1 00'1 00'1 00'1				SD 15'8 15'8 15'9 15'9 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 58'0 58'1 58'3 58'5 58'6 58'8					
	SHA 014° 014° 014° 013° 013° 013°			SHA 036° 036° 035° 035° 035° 035°				SHA 087° 084° 082° 079° 077° 074°					
	Greenwich Culmination Time: 12:11			Greenwich Culmination Time: 10:43				Greenwich Culmination Time: 07:32					

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	204 25.1 +00.5	S	17 04.5 -00.6	123 22.6 +02.0	N	14 34.9 +00.2	180 42.1 +02.2	S	09 10.3 -00.1				
01	219 25.6 +00.5	S	17 03.9 -00.6	138 24.6 +02.0	N	14 35.1 +00.1	195 44.3 +02.1	S	09 10.2 -00.1				
02	234 26.1 +00.5	S	17 03.3 -00.5	153 26.6 +02.0	N	14 35.2 +00.1	210 46.4 +02.2	S	09 10.1 -00.1				
03	249 26.6 +00.6	S	17 02.8 -00.6	168 28.6 +02.1	N	14 35.3 +00.2	225 48.6 +02.2	S	09 10.0 -00.2				
04	264 27.2 +00.5	S	17 02.2 -00.6	183 30.7 +02.0	N	14 35.5 +00.1	240 50.8 +02.2	S	09 09.8 -00.1				
05	279 27.7 +00.5	S	17 01.6 -00.5	198 32.7 +02.0	N	14 35.6 +00.2	255 53.0 +02.1	S	09 09.7 -00.1				
06	294 28.2 +00.5	S	17 01.1 -00.6	213 34.7 +02.1	N	14 35.8 +00.1	270 55.1 +02.2	S	09 09.6 -00.1				
07	309 28.7 +00.6	S	17 00.5 -00.6	228 36.8 +02.0	N	14 35.9 +00.2	285 57.3 +02.2	S	09 09.5 -00.1				
08	324 29.3 +00.5	S	16 59.9 -00.5	243 38.8 +02.0	N	14 36.1 +00.1	300 59.5 +02.2	S	09 09.4 -00.1				
09	339 29.8 +00.5	S	16 59.4 -00.6	258 40.8 +02.0	N	14 36.2 +00.2	316 01.7 +02.2	S	09 09.3 -00.1				
10	354 30.3 +00.5	S	16 58.8 -00.6	273 42.8 +02.1	N	14 36.4 +00.1	331 03.9 +02.1	S	09 09.2 -00.2				
11	9 30.8 +00.6	S	16 58.2 -00.5	288 44.9 +02.0	N	14 36.5 +00.1	346 06.0 +02.2	S	09 09.0 -00.1				
12	24 31.4 +00.5	S	16 57.7 -00.6	303 46.9 +02.0	N	14 36.6 +00.2	1 08.2 +02.2	S	09 08.9 -00.1				
13	39 31.9 +00.5	S	16 57.1 -00.6	318 48.9 +02.1	N	14 36.8 +00.1	16 10.4 +02.2	S	09 08.8 -00.1				
14	54 32.4 +00.5	S	16 56.5 -00.5	333 51.0 +02.0	N	14 36.9 +00.2	31 12.6 +02.1	S	09 08.7 -00.1				
15	69 32.9 +00.6	S	16 56.0 -00.6	348 53.0 +02.0	N	14 37.1 +00.1	46 14.7 +02.2	S	09 08.6 -00.1				
16	84 33.5 +00.5	S	16 55.4 -00.6	3 55.0 +02.0	N	14 37.2 +00.2	61 16.9 +02.2	S	09 08.5 -00.1				
17	99 34.0 +00.5	S	16 54.8 -00.5	18 57.0 +02.1	N	14 37.4 +00.1	76 19.1 +02.2	S	09 08.4 -00.1				
18	114 34.5 +00.5	S	16 54.3 -00.6	33 59.1 +02.0	N	14 37.5 +00.2	91 21.3 +02.2	S	09 08.3 -00.2				
19	129 35.0 +00.6	S	16 53.7 -00.6	49 01.1 +02.0	N	14 37.7 +00.1	106 23.5 +02.1	S	09 08.1 -00.1				
20	144 35.6 +00.5	S	16 53.1 -00.6	64 03.1 +02.0	N	14 37.8 +00.1	121 25.6 +02.2	S	09 08.0 -00.1				
21	159 36.1 +00.5	S	16 52.5 -00.5	79 05.1 +02.1	N	14 37.9 +00.2	136 27.8 +02.2	S	09 07.9 -00.1				
22	174 36.6 +00.6	S	16 52.0 -00.6	94 07.2 +02.0	N	14 38.1 +00.1	151 30.0 +02.2	S	09 07.8 -00.1				
23	189 37.2 +00.5	S	16 51.4 -00.6	109 09.2 +02.0	N	14 38.2 +00.2	166 32.2 +02.1	S	09 07.7 -00.1				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22				UT 02 06 10 14 18 22					
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3				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					
	SHA 041° 041° 041° 041° 041° 040°			SHA 320° 320° 320° 320° 320° 320°				SHA 017° 017° 017° 017° 017° 017°					
	Greenwich Culmination Time: 10:21			Greenwich Culmination Time: 15:44				Greenwich Culmination Time: 11:55					

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177	11.6 +00.2	S 05 33.6	-01.0	198	53.2 -00.6	S 14 47.6	-00.9	236	53.6 -36.8	S 27 44.5	-04.2	00
01	192	11.8 +00.1	S 05 32.6	-00.9	213	52.6 -00.6	S 14 46.7	-00.9	251	16.8 -36.7	S 27 40.3	-04.5	01
02	207	11.9 +00.2	S 05 31.7	-01.0	228	52.0 -00.6	S 14 45.8	-00.9	265	40.1 -36.8	S 27 35.8	-04.6	02
03	222	12.1 +00.1	S 05 30.7	-01.0	243	51.4 -00.6	S 14 44.9	-01.0	280	03.3 -36.7	S 27 31.2	-04.7	03
04	237	12.2 +00.2	S 05 29.7	-01.0	258	50.8 -00.6	S 14 43.9	-00.9	294	26.6 -36.8	S 27 26.5	-05.0	04
05	252	12.4 +00.1	S 05 28.7	-00.9	273	50.2 -00.5	S 14 43.0	-00.9	308	49.8 -36.7	S 27 21.5	-05.2	05
06	267	12.5 +00.2	S 05 27.8	-01.0	288	49.7 -00.6	S 14 42.1	-01.0	323	13.1 -36.7	S 27 16.3	-05.3	06
07	282	12.7 +00.1	S 05 26.8	-01.0	303	49.1 -00.6	S 14 41.1	-00.9	337	36.4 -36.7	S 27 11.0	-05.6	07
08	297	12.8 +00.1	S 05 25.8	-00.9	318	48.5 -00.6	S 14 40.2	-00.9	351	59.7 -36.7	S 27 05.4	-05.7	08
09	312	12.9 +00.2	S 05 24.9	-01.0	333	47.9 -00.6	S 14 39.3	-01.0	6	23.0 -36.7	S 26 59.7	-05.9	09
10	327	13.1 +00.1	S 05 23.9	-01.0	348	47.3 -00.6	S 14 38.3	-00.9	20	46.3 -36.7	S 26 53.8	-06.1	10
11	342	13.2 +00.2	S 05 22.9	-01.0	3	46.7 -00.6	S 14 37.4	-01.0	35	09.6 -36.7	S 26 47.7	-06.3	11
12	357	13.4 +00.1	S 05 21.9	-00.9	18	46.1 -00.5	S 14 36.4	-00.9	49	32.9 -36.6	S 26 41.4	-06.5	12
13	12	13.5 +00.2	S 05 21.0	-01.0	33	45.6 -00.6	S 14 35.5	-00.9	63	56.3 -36.6	S 26 34.9	-06.7	13
14	27	13.7 +00.1	S 05 20.0	-01.0	48	45.0 -00.6	S 14 34.6	-01.0	78	19.7 -36.6	S 26 28.2	-06.8	14
15	42	13.8 +00.2	S 05 19.0	-00.9	63	44.4 -00.6	S 14 33.6	-00.9	92	43.1 -36.6	S 26 21.4	-07.1	15
16	57	14.0 +00.1	S 05 18.1	-01.0	78	43.8 -00.6	S 14 32.7	-01.0	107	06.5 -36.5	S 26 14.3	-07.2	16
17	72	14.1 +00.2	S 05 17.1	-01.0	93	43.2 -00.6	S 14 31.7	-00.9	121	30.0 -36.5	S 26 07.1	-07.4	17
18	87	14.3 +00.1	S 05 16.1	-01.0	108	42.6 -00.5	S 14 30.8	-00.9	135	53.5 -36.5	S 25 59.7	-07.6	18
19	102	14.4 +00.2	S 05 15.1	-00.9	123	42.1 -00.6	S 14 29.9	-01.0	150	17.0 -36.4	S 25 52.1	-07.8	19
20	117	14.6 +00.1	S 05 14.2	-01.0	138	41.5 -00.6	S 14 28.9	-00.9	164	40.6 -36.5	S 25 44.3	-08.0	20
21	132	14.7 +00.2	S 05 13.2	-01.0	153	40.9 -00.6	S 14 28.0	-01.0	179	04.1 -36.3	S 25 36.3	-08.1	21
22	147	14.9 +00.1	S 05 12.2	-01.0	168	40.3 -00.6	S 14 27.0	-00.9	193	27.8 -36.4	S 25 28.2	-08.3	22
23	162	15.0 +00.2	S 05 11.2	-00.9	183	39.7 -00.5	S 14 26.1	-01.0	207	51.4 -36.3	S 25 19.9	-08.6	23
	UT 02 06 10 14 18 22												
	SD 16'1 16'1 16'1 16'1 16'1 16'1												
	HP 00'1 00'1 00'1 00'1 00'1 00'1												
	SHA 013° 013° 013° 012° 012° 012°												
	Greenwich Culmination Time: 12:11												
	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 035° 034° 034° 034° 034° 034°												
	Greenwich Culmination Time: 10:44												
	UT 02 06 10 14 18 22												
	SD 16'1 16'1 16'1 16'2 16'2 16'3												
	HP 58'9 59'1 59'2 59'4 59'6 59'7												
	SHA 071° 069° 066° 064° 061° 058°												
	Greenwich Culmination Time: 08:33												
UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	204	37.7 +00.5	S 16 50.8	-00.6	124	11.2 +02.0	N 14 38.4	+00.1	181	34.3 +02.2	S 09 07.6	-00.1	00
01	219	38.2 +00.5	S 16 50.2	-00.5	139	13.2 +02.1	N 14 38.5	+00.2	196	36.5 +02.2	S 09 07.5	-00.2	01
02	234	38.7 +00.6	S 16 49.7	-00.6	154	15.3 +02.0	N 14 38.7	+00.1	211	38.7 +02.2	S 09 07.3	-00.1	02
03	249	39.3 +00.5	S 16 49.1	-00.6	169	17.3 +02.0	N 14 38.8	+00.2	226	40.9 +02.2	S 09 07.2	-00.1	03
04	264	39.8 +00.5	S 16 48.5	-00.5	184	19.3 +02.0	N 14 39.0	+00.1	241	43.1 +02.1	S 09 07.1	-00.1	04
05	279	40.3 +00.6	S 16 48.0	-00.6	199	21.3 +02.1	N 14 39.1	+00.1	256	45.2 +02.2	S 09 07.0	-00.1	05
06	294	40.9 +00.5	S 16 47.4	-00.6	214	23.4 +02.0	N 14 39.2	+00.2	271	47.4 +02.2	S 09 06.9	-00.1	06
07	309	41.4 +00.5	S 16 46.8	-00.6	229	25.4 +02.0	N 14 39.4	+00.1	286	49.6 +02.2	S 09 06.8	-00.1	07
08	324	41.9 +00.5	S 16 46.2	-00.5	244	27.4 +02.0	N 14 39.5	+00.2	301	51.8 +02.1	S 09 06.7	-00.1	08
09	339	42.4 +00.6	S 16 45.7	-00.6	259	29.4 +02.0	N 14 39.7	+00.1	316	53.9 +02.2	S 09 06.6	-00.2	09
10	354	43.0 +00.5	S 16 45.1	-00.6	274	31.4 +02.1	N 14 39.8	+00.2	331	56.1 +02.2	S 09 06.4	-00.1	10
11	9	43.5 +00.5	S 16 44.5	-00.6	289	33.5 +02.0	N 14 40.0	+00.1	346	58.3 +02.2	S 09 06.3	-00.1	11
12	24	44.0 +00.6	S 16 43.9	-00.6	304	35.5 +02.0	N 14 40.1	+00.2	2	00.5 +02.2	S 09 06.2	-00.1	12
13	39	44.6 +00.5	S 16 43.3	-00.5	319	37.5 +02.0	N 14 40.3	+00.1	17	02.7 +02.1	S 09 06.1	-00.1	13
14	54	45.1 +00.5	S 16 42.8	-00.6	334	39.5 +02.1	N 14 40.4	+00.2	32	04.8 +02.2	S 09 06.0	-00.1	14
15	69	45.6 +00.6	S 16 42.2	-00.6	349	41.6 +02.0	N 14 40.6	+00.1	47	07.0 +02.2	S 09 05.9	-00.1	15
16	84	46.2 +00.5	S 16 41.6	-00.6	4	43.6 +02.0	N 14 40.7	+00.1	62	09.2 +02.2	S 09 05.8	-00.2	16
17	99	46.7 +00.5	S 16 41.0	-00.5	19	45.6 +02.0	N 14 40.8	+00.2	77	11.4 +02.1	S 09 05.6	-00.1	17
18	114	47.2 +00.5	S 16 40.5	-00.6	34	47.6 +02.0	N 14 41.0	+00.1	92	13.5 +02.2	S 09 05.5	-00.1	18
19	129	47.7 +00.6	S 16 39.9	-00.6	49	49.6 +02.1	N 14 41.1	+00.2	107	15.7 +02.2	S 09 05.4	-00.1	19
20	144	48.3 +00.5	S 16 39.3	-00.6	64	51.7 +02.0	N 14 41.3	+00.1	122	17.9 +02.2	S 09 05.3	-00.1	20
21	159	48.8 +00.5	S 16 38.7	-00.6	79	53.7 +02.0	N 14 41.4	+00.2	137	20.1 +02.2	S 09 05.2	-00.1	21
22	174	49.3 +00.6	S 16 38.1	-00.5	94	55.7 +02.0	N 14 41.6	+00.1	152	22.3 +02.1	S 09 05.1	-00.1	22
23	189	49.9 +00.5	S 16 37.6	-00.6	109	57.7 +02.0	N 14 41.7	+00.2	167	24.4 +02.2	S 09 05.0	-00.1	23
	UT 02 06 10 14 18 22												
	SD 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 040° 040° 040° 040° 040° 040°												
	Greenwich Culmination Time: 10:21												
	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 320° 320° 320° 320° 320° 320°												
	Greenwich Culmination Time: 15:41												
	UT 02 06 10 14 18 22												
	SD 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												
	SHA 017° 017° 017° 017° 017° 017°												
	Greenwich Culmination Time: 11:51												

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 15.2 +00.1	S 05 10.3 -01.0	198 39.2 -00.6	S 14 25.1 -00.9	222 15.1 -36.2	S 25 11.3 -08.6	00						
01	192 15.3 +00.2	S 05 09.3 -01.0	213 38.6 -00.6	S 14 24.2 -01.0	236 38.9 -36.2	S 25 02.7 -08.9	01						
02	207 15.5 +00.1	S 05 08.3 -00.9	228 38.0 -00.6	S 14 23.2 -00.9	251 02.7 -36.2	S 24 53.8 -09.0	02						
03	222 15.6 +00.2	S 05 07.4 -01.0	243 37.4 -00.6	S 14 22.3 -01.0	265 26.5 -36.1	S 24 44.8 -09.3	03						
04	237 15.8 +00.1	S 05 06.4 -01.0	258 36.8 -00.5	S 14 21.3 -00.9	279 50.4 -36.1	S 24 35.5 -09.4	04						
05	252 15.9 +00.2	S 05 05.4 -01.0	273 36.3 -00.6	S 14 20.4 -01.0	294 14.3 -36.0	S 24 26.1 -09.5	05						
06	267 16.1 +00.1	S 05 04.4 -00.9	288 35.7 -00.6	S 14 19.4 -00.9	308 38.3 -36.0	S 24 16.6 -09.8	06						
07	282 16.2 +00.2	S 05 03.5 -01.0	303 35.1 -00.6	S 14 18.5 -01.0	323 02.3 -35.9	S 24 06.8 -09.9	07						
08	297 16.4 +00.1	S 05 02.5 -01.0	318 34.5 -00.5	S 14 17.5 -00.9	337 26.4 -35.9	S 23 56.9 -10.1	08						
09	312 16.5 +00.2	S 05 01.5 -01.0	333 34.0 -00.6	S 14 16.6 -01.0	351 50.5 -35.8	S 23 46.8 -10.2	09						
10	327 16.7 +00.1	S 05 00.5 -00.9	348 33.4 -00.6	S 14 15.6 -00.9	6 14.7 -35.7	S 23 36.6 -10.4	10						
11	342 16.8 +00.2	S 04 59.6 -01.0	3 32.8 -00.6	S 14 14.7 -01.0	20 39.0 -35.7	S 23 26.2 -10.6	11						
12	357 17.0 +00.1	S 04 58.6 -01.0	18 32.2 -00.5	S 14 13.7 -00.9	35 03.3 -35.7	S 23 15.6 -10.8	12						
13	12 17.1 +00.2	S 04 57.6 -01.0	33 31.7 -00.6	S 14 12.8 -01.0	49 27.6 -35.6	S 23 04.8 -10.9	13						
14	27 17.3 +00.1	S 04 56.6 -00.9	48 31.1 -00.6	S 14 11.8 -01.0	63 52.0 -35.5	S 22 53.9 -11.1	14						
15	42 17.4 +00.2	S 04 55.7 -01.0	63 30.5 -00.6	S 14 10.8 -00.9	78 16.5 -35.5	S 22 42.8 -11.2	15						
16	57 17.6 +00.1	S 04 54.7 -01.0	78 29.9 -00.5	S 14 09.9 -01.0	92 41.0 -35.4	S 22 31.6 -11.4	16						
17	72 17.7 +00.2	S 04 53.7 -01.0	93 29.4 -00.6	S 14 08.9 -00.9	107 05.6 -35.3	S 22 20.2 -11.6	17						
18	87 17.9 +00.1	S 04 52.7 -00.9	108 28.8 -00.6	S 14 08.0 -01.0	121 30.3 -35.3	S 22 08.6 -11.7	18						
19	102 18.0 +00.2	S 04 51.8 -01.0	123 28.2 -00.5	S 14 07.0 -00.9	135 55.0 -35.2	S 21 56.9 -11.9	19						
20	117 18.2 +00.1	S 04 50.8 -01.0	138 27.7 -00.6	S 14 06.1 -01.0	150 19.8 -35.2	S 21 45.0 -12.1	20						
21	132 18.3 +00.2	S 04 49.8 -01.0	153 27.1 -00.6	S 14 05.1 -01.0	164 44.6 -35.1	S 21 32.9 -12.1	21						
22	147 18.5 +00.1	S 04 48.8 -00.9	168 26.5 -00.6	S 14 04.1 -00.9	179 09.5 -35.0	S 21 20.8 -12.4	22						
23	162 18.6 +00.2	S 04 47.9 -01.0	183 25.9 -00.5	S 14 03.2 -01.0	193 34.5 -35.0	S 21 08.4 -12.5	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'1 16'1 16'1 16'1 16'1 16'1		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 16'3 16'3 16'4 16'4 16'5 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 60'0 60'1 60'3 60'4 60'5								
	SHA 012° 012° 012° 012° 011° 011°		SHA 033° 033° 033° 033° 033° 032°		SHA 056° 053° 051° 048° 046° 043°								
	Greenwich Culmination Time: 12:10		Greenwich Culmination Time: 10:45		Greenwich Culmination Time: 09:33								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	204 50.4 +00.5	S 16 37.0 -00.6	124 59.7 +02.1	N 14 41.9 +00.1	182 26.6 +02.2	S 09 04.9 -00.2	00						
01	219 50.9 +00.6	S 16 36.4 -00.6	140 01.8 +02.0	N 14 42.0 +00.2	197 28.8 +02.2	S 09 04.7 -00.1	01						
02	234 51.5 +00.5	S 16 35.8 -00.6	155 03.8 +02.0	N 14 42.2 +00.1	212 31.0 +02.1	S 09 04.6 -00.1	02						
03	249 52.0 +00.5	S 16 35.2 -00.5	170 05.8 +02.0	N 14 42.3 +00.1	227 33.1 +02.2	S 09 04.5 -00.1	03						
04	264 52.5 +00.6	S 16 34.7 -00.6	185 07.8 +02.0	N 14 42.4 +00.2	242 35.3 +02.2	S 09 04.4 -00.1	04						
05	279 53.1 +00.5	S 16 34.1 -00.6	200 09.8 +02.1	N 14 42.6 +00.1	257 37.5 +02.2	S 09 04.3 -00.1	05						
06	294 53.6 +00.5	S 16 33.5 -00.6	215 11.9 +02.0	N 14 42.7 +00.2	272 39.7 +02.2	S 09 04.2 -00.1	06						
07	309 54.1 +00.6	S 16 32.9 -00.6	230 13.9 +02.0	N 14 42.9 +00.1	287 41.9 +02.1	S 09 04.1 -00.1	07						
08	324 54.7 +00.5	S 16 32.3 -00.5	245 15.9 +02.0	N 14 43.0 +00.2	302 44.0 +02.2	S 09 04.0 -00.2	08						
09	339 55.2 +00.5	S 16 31.8 -00.6	260 17.9 +02.0	N 14 43.2 +00.1	317 46.2 +02.2	S 09 03.8 -00.1	09						
10	354 55.7 +00.6	S 16 31.2 -00.6	275 19.9 +02.1	N 14 43.3 +00.2	332 48.4 +02.2	S 09 03.7 -00.1	10						
11	9 56.3 +00.5	S 16 30.6 -00.6	290 22.0 +02.0	N 14 43.5 +00.1	347 50.6 +02.1	S 09 03.6 -00.1	11						
12	24 56.8 +00.5	S 16 30.0 -00.6	305 24.0 +02.0	N 14 43.6 +00.2	2 52.7 +02.2	S 09 03.5 -00.1	12						
13	39 57.3 +00.6	S 16 29.4 -00.6	320 26.0 +02.0	N 14 43.8 +00.1	17 54.9 +02.2	S 09 03.4 -00.1	13						
14	54 57.9 +00.5	S 16 28.8 -00.5	335 28.0 +02.0	N 14 43.9 +00.2	32 57.1 +02.2	S 09 03.3 -00.1	14						
15	69 58.4 +00.5	S 16 28.3 -00.6	350 30.0 +02.1	N 14 44.1 +00.1	47 59.3 +02.2	S 09 03.2 -00.2	15						
16	84 58.9 +00.6	S 16 27.7 -00.6	5 32.1 +02.0	N 14 44.2 +00.1	63 01.5 +02.1	S 09 03.0 -00.1	16						
17	99 59.5 +00.5	S 16 27.1 -00.6	20 34.1 +02.0	N 14 44.3 +00.2	78 03.6 +02.2	S 09 02.9 -00.1	17						
18	115 00.0 +00.5	S 16 26.5 -00.6	35 36.1 +02.0	N 14 44.5 +00.1	93 05.8 +02.2	S 09 02.8 -00.1	18						
19	130 00.5 +00.6	S 16 25.9 -00.6	50 38.1 +02.0	N 14 44.6 +00.2	108 08.0 +02.2	S 09 02.7 -00.1	19						
20	145 01.1 +00.5	S 16 25.3 -00.6	65 40.1 +02.0	N 14 44.8 +00.1	123 10.2 +02.2	S 09 02.6 -00.1	20						
21	160 01.6 +00.5	S 16 24.7 -00.5	80 42.1 +02.1	N 14 44.9 +00.2	138 12.4 +02.1	S 09 02.5 -00.1	21						
22	175 02.1 +00.6	S 16 24.2 -00.6	95 44.2 +02.0	N 14 45.1 +00.1	153 14.5 +02.2	S 09 02.4 -00.1	22						
23	190 02.7 +00.5	S 16 23.6 -00.6	110 46.2 +02.0	N 14 45.2 +00.2	168 16.7 +02.2	S 09 02.3 -00.2	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		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								
	SHA 040° 039° 039° 039° 039° 039°		SHA 320° 320° 320° 320° 320° 320°		SHA 017° 017° 017° 017° 017° 017°								
	Greenwich Culmination Time: 10:20		Greenwich Culmination Time: 15:37		Greenwich Culmination Time: 11:48								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 18.8 +00.1	S 04	46.9 -01.0	198 25.4 -00.6	S 14	02.2 -01.0	207 59.5 -34.8	S 20	55.9 -12.6	00			
01	192 18.9 +00.2	S 04	45.9 -01.0	213 24.8 -00.6	S 14	01.2 -00.9	222 24.7 -34.9	S 20	43.3 -12.8	01			
02	207 19.1 +00.2	S 04	44.9 -01.0	228 24.2 -00.5	S 14	00.3 -01.0	236 49.8 -34.7	S 20	30.5 -12.9	02			
03	222 19.3 +00.1	S 04	43.9 -00.9	243 23.7 -00.6	S 13	59.3 -01.0	251 15.1 -34.7	S 20	17.6 -13.1	03			
04	237 19.4 +00.2	S 04	43.0 -01.0	258 23.1 -00.6	S 13	58.3 -00.9	265 40.4 -34.6	S 20	04.5 -13.2	04			
05	252 19.6 +00.1	S 04	42.0 -01.0	273 22.5 -00.5	S 13	57.4 -01.0	280 05.8 -34.6	S 19	51.3 -13.4	05			
06	267 19.7 +00.2	S 04	41.0 -01.0	288 22.0 -00.6	S 13	56.4 -01.0	294 31.2 -34.5	S 19	37.9 -13.5	06			
07	282 19.9 +00.1	S 04	40.0 -00.9	303 21.4 -00.6	S 13	55.4 -00.9	308 56.7 -34.4	S 19	24.4 -13.6	07			
08	297 20.0 +00.2	S 04	39.1 -01.0	318 20.8 -00.5	S 13	54.5 -01.0	323 22.3 -34.3	S 19	10.8 -13.8	08			
09	312 20.2 +00.1	S 04	38.1 -01.0	333 20.3 -00.6	S 13	53.5 -01.0	337 48.0 -34.3	S 18	57.0 -13.9	09			
10	327 20.3 +00.2	S 04	37.1 -01.0	348 19.7 -00.6	S 13	52.5 -00.9	352 13.7 -34.2	S 18	43.1 -14.0	10			
11	342 20.5 +00.1	S 04	36.1 -00.9	3 19.1 -00.5	S 13	51.6 -01.0	6 39.5 -34.2	S 18	29.1 -14.2	11			
12	357 20.6 +00.2	S 04	35.2 -01.0	18 18.6 -00.6	S 13	50.6 -01.0	21 05.3 -34.0	S 18	14.9 -14.3	12			
13	12 20.8 +00.2	S 04	34.2 -01.0	33 18.0 -00.5	S 13	49.6 -00.9	35 31.3 -34.0	S 18	00.6 -14.4	13			
14	27 21.0 +00.1	S 04	33.2 -01.0	48 17.5 -00.6	S 13	48.7 -01.0	49 57.3 -34.0	S 17	46.2 -14.6	14			
15	42 21.1 +00.2	S 04	32.2 -01.0	63 16.9 -00.6	S 13	47.7 -01.0	64 23.3 -33.8	S 17	31.6 -14.6	15			
16	57 21.3 +00.1	S 04	31.2 -00.9	78 16.3 -00.5	S 13	46.7 -01.0	78 49.5 -33.8	S 17	17.0 -14.8	16			
17	72 21.4 +00.2	S 04	30.3 -01.0	93 15.8 -00.6	S 13	45.7 -00.9	93 15.7 -33.8	S 17	02.2 -14.9	17			
18	87 21.6 +00.1	S 04	29.3 -01.0	108 15.2 -00.6	S 13	44.8 -01.0	107 41.9 -33.6	S 16	47.3 -15.0	18			
19	102 21.7 +00.2	S 04	28.3 -01.0	123 14.6 -00.5	S 13	43.8 -01.0	122 08.3 -33.6	S 16	32.3 -15.2	19			
20	117 21.9 +00.1	S 04	27.3 -01.0	138 14.1 -00.6	S 13	42.8 -01.0	136 34.7 -33.5	S 16	17.1 -15.2	20			
21	132 22.0 +00.2	S 04	26.3 -00.9	153 13.5 -00.5	S 13	41.8 -00.9	151 01.2 -33.5	S 16	01.9 -15.4	21			
22	147 22.2 +00.2	S 04	25.4 -01.0	168 13.0 -00.6	S 13	40.9 -01.0	165 27.7 -33.4	S 15	46.5 -15.4	22			
23	162 22.4 +00.1	S 04	24.4 -01.0	183 12.4 -00.5	S 13	39.9 -01.0	179 54.3 -33.3	S 15	31.1 -15.6	23			
UT 02 06 10 14 18 22 SD 16'1 16'1 16'1 16'1 16'1 16'1 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 011° 011° 011° 011° 010° 010° Greenwich Culmination Time: 12:10				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 032° 032° 032° 032° 031° 031° Greenwich Culmination Time: 10:46				UT 02 06 10 14 18 22 SD 16'5 16'5 16'6 16'6 16'6 16'6 HP 60'6 60'7 60'8 60'9 61'0 61'1 SHA 041° 038° 036° 033° 031° 028° Greenwich Culmination Time: 10:32					
UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	205 03.2 +00.6	S 16	23.0 -00.6	125 48.2 +02.0	N 14	45.4 +00.1	183 18.9 +02.2	S 09	02.1 -00.1	00			
01	220 03.8 +00.5	S 16	22.4 -00.6	140 50.2 +02.0	N 14	45.5 +00.2	198 21.1 +02.1	S 09	02.0 -00.1	01			
02	235 04.3 +00.5	S 16	21.8 -00.6	155 52.2 +02.0	N 14	45.7 +00.1	213 23.2 +02.2	S 09	01.9 -00.1	02			
03	250 04.8 +00.6	S 16	21.2 -00.6	170 54.2 +02.0	N 14	45.8 +00.2	228 25.4 +02.2	S 09	01.8 -00.1	03			
04	265 05.4 +00.5	S 16	20.6 -00.5	185 56.2 +02.1	N 14	46.0 +00.1	243 27.6 +02.2	S 09	01.7 -00.1	04			
05	280 05.9 +00.5	S 16	20.1 -00.6	200 58.3 +02.0	N 14	46.1 +00.2	258 29.8 +02.2	S 09	01.6 -00.1	05			
06	295 06.4 +00.6	S 16	19.5 -00.6	216 00.3 +02.0	N 14	46.3 +00.1	273 32.0 +02.1	S 09	01.5 -00.1	06			
07	310 07.0 +00.5	S 16	18.9 -00.6	231 02.3 +02.0	N 14	46.4 +00.1	288 34.1 +02.2	S 09	01.4 -00.2	07			
08	325 07.5 +00.5	S 16	18.3 -00.6	246 04.3 +02.0	N 14	46.5 +00.2	303 36.3 +02.2	S 09	01.2 -00.1	08			
09	340 08.0 +00.6	S 16	17.7 -00.6	261 06.3 +02.0	N 14	46.7 +00.1	318 38.5 +02.2	S 09	01.1 -00.1	09			
10	355 08.6 +00.5	S 16	17.1 -00.6	276 08.3 +02.0	N 14	46.8 +00.2	333 40.7 +02.2	S 09	01.0 -00.1	10			
11	10 09.1 +00.6	S 16	16.5 -00.6	291 10.3 +02.1	N 14	47.0 +00.1	348 42.9 +02.1	S 09	00.9 -00.1	11			
12	25 09.7 +00.5	S 16	15.9 -00.6	306 12.4 +02.0	N 14	47.1 +00.2	3 45.0 +02.2	S 09	00.8 -00.1	12			
13	40 10.2 +00.5	S 16	15.3 -00.6	321 14.4 +02.0	N 14	47.3 +00.1	18 47.2 +02.2	S 09	00.7 -00.1	13			
14	55 10.7 +00.6	S 16	14.7 -00.5	336 16.4 +02.0	N 14	47.4 +00.2	33 49.4 +02.2	S 09	00.6 -00.1	14			
15	70 11.3 +00.5	S 16	14.2 -00.6	351 18.4 +02.0	N 14	47.6 +00.1	48 51.6 +02.1	S 09	00.5 -00.2	15			
16	85 11.8 +00.6	S 16	13.6 -00.6	6 20.4 +02.0	N 14	47.7 +00.2	63 53.7 +02.2	S 09	00.3 -00.1	16			
17	100 12.4 +00.5	S 16	13.0 -00.6	21 22.4 +02.0	N 14	47.9 +00.1	78 55.9 +02.2	S 09	00.2 -00.1	17			
18	115 12.9 +00.5	S 16	12.4 -00.6	36 24.4 +02.1	N 14	48.0 +00.2	93 58.1 +02.2	S 09	00.1 -00.1	18			
19	130 13.4 +00.6	S 16	11.8 -00.6	51 26.5 +02.0	N 14	48.2 +00.1	109 00.3 +02.2	S 09	00.0 -00.1	19			
20	145 14.0 +00.5	S 16	11.2 -00.6	66 28.5 +02.0	N 14	48.3 +00.2	124 02.5 +02.1	S 08	59.9 -00.1	20			
21	160 14.5 +00.6	S 16	10.6 -00.6	81 30.5 +02.0	N 14	48.5 +00.1	139 04.6 +02.2	S 08	59.8 -00.1	21			
22	175 15.1 +00.5	S 16	10.0 -00.6	96 32.5 +02.0	N 14	48.6 +00.2	154 06.8 +02.2	S 08	59.7 -00.2	22			
23	190 15.6 +00.5	S 16	09.4 -00.6	111 34.5 +02.0	N 14	48.8 +00.1	169 09.0 +02.2	S 08	59.5 -00.1	23			
UT 02 06 10 14 18 22 SD 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 039° 039° 039° 038° 038° 038° Greenwich Culmination Time: 10:19				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 320° 320° 320° 320° 319° 319° Greenwich Culmination Time: 15:34				UT 02 06 10 14 18 22 SD 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 SHA 017° 017° 017° 017° 017° 017° Greenwich Culmination Time: 11:45					

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177	22.5 +00.2	S 04 23.4	-01.0	198	11.9 -00.6	S 13 38.9	-01.0	194	21.0 -33.2	S 15 15.5	-15.7	00
01	192	22.7 +00.1	S 04 22.4	-00.9	213	11.3 -00.6	S 13 37.9	-01.0	208	47.8 -33.2	S 14 59.8	-15.8	01
02	207	22.8 +00.2	S 04 21.5	-01.0	228	10.7 -00.5	S 13 36.9	-00.9	223	14.6 -33.1	S 14 44.0	-15.8	02
03	222	23.0 +00.1	S 04 20.5	-01.0	243	10.2 -00.6	S 13 36.0	-01.0	237	41.5 -33.1	S 14 28.2	-16.0	03
04	237	23.1 +00.2	S 04 19.5	-01.0	258	09.6 -00.5	S 13 35.0	-01.0	252	08.4 -33.0	S 14 12.2	-16.1	04
05	252	23.3 +00.2	S 04 18.5	-01.0	273	09.1 -00.6	S 13 34.0	-01.0	266	35.4 -32.9	S 13 56.1	-16.1	05
06	267	23.5 +00.1	S 04 17.5	-00.9	288	08.5 -00.5	S 13 33.0	-01.0	281	02.5 -32.9	S 13 40.0	-16.3	06
07	282	23.6 +00.2	S 04 16.6	-01.0	303	08.0 -00.6	S 13 32.0	-01.0	295	29.6 -32.8	S 13 23.7	-16.4	07
08	297	23.8 +00.1	S 04 15.6	-01.0	318	07.4 -00.6	S 13 31.0	-00.9	309	56.8 -32.7	S 13 07.3	-16.4	08
09	312	23.9 +00.2	S 04 14.6	-01.0	333	06.8 -00.5	S 13 30.1	-01.0	324	24.1 -32.7	S 12 50.9	-16.5	09
10	327	24.1 +00.1	S 04 13.6	-01.0	348	06.3 -00.6	S 13 29.1	-01.0	338	51.4 -32.7	S 12 34.4	-16.6	10
11	342	24.2 +00.2	S 04 12.6	-00.9	3	05.7 -00.5	S 13 28.1	-01.0	353	18.7 -32.5	S 12 17.8	-16.7	11
12	357	24.4 +00.2	S 04 11.7	-01.0	18	05.2 -00.6	S 13 27.1	-01.0	7	46.2 -32.5	S 12 01.1	-16.8	12
13	12	24.6 +00.1	S 04 10.7	-01.0	33	04.6 -00.5	S 13 26.1	-01.0	22	13.7 -32.5	S 11 44.3	-16.8	13
14	27	24.7 +00.2	S 04 09.7	-01.0	48	04.1 -00.6	S 13 25.1	-01.0	36	41.2 -32.4	S 11 27.5	-16.9	14
15	42	24.9 +00.1	S 04 08.7	-01.0	63	03.5 -00.5	S 13 24.1	-01.0	51	08.8 -32.3	S 11 10.6	-17.0	15
16	57	25.0 +00.2	S 04 07.7	-00.9	78	03.0 -00.6	S 13 23.1	-00.9	65	36.5 -32.3	S 10 53.6	-17.1	16
17	72	25.2 +00.2	S 04 06.8	-01.0	93	02.4 -00.5	S 13 22.2	-01.0	80	04.2 -32.2	S 10 36.5	-17.1	17
18	87	25.4 +00.1	S 04 05.8	-01.0	108	01.9 -00.6	S 13 21.2	-01.0	94	32.0 -32.2	S 10 19.4	-17.2	18
19	102	25.5 +00.2	S 04 04.8	-01.0	123	01.3 -00.5	S 13 20.2	-01.0	108	59.8 -32.1	S 10 02.2	-17.3	19
20	117	25.7 +00.1	S 04 03.8	-01.0	138	00.8 -00.6	S 13 19.2	-01.0	123	27.7 -32.0	S 09 44.9	-17.3	20
21	132	25.8 +00.2	S 04 02.8	-00.9	153	00.2 -00.5	S 13 18.2	-01.0	137	55.7 -32.1	S 09 27.6	-17.4	21
22	147	26.0 +00.2	S 04 01.9	-01.0	167	59.7 -00.6	S 13 17.2	-01.0	152	23.6 -31.9	S 09 10.2	-17.5	22
23	162	26.2 +00.1	S 04 00.9	-01.0	182	59.1 -00.5	S 13 16.2	-01.0	166	51.7 -31.9	S 08 52.7	-17.5	23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 16'1 16'1 16'1 16'1 16'1 16'1				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 61'2 61'2 61'3 61'3 61'4 61'4				
	SHA 010° 010° 010° 010° 010° 009°				SHA 031° 031° 031° 030° 030° 030°				SHA 026° 024° 021° 019° 017° 014°				
	Greenwich Culmination Time: 12:10				Greenwich Culmination Time: 10:47				Greenwich Culmination Time: 11:27				

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	205	16.1 +00.6	S 16 08.8	-00.6	126	36.5 +02.0	N 14 48.9	+00.1	184	11.2 +02.2	S 08 59.4	-00.1	00
01	220	16.7 +00.5	S 16 08.2	-00.6	141	38.5 +02.0	N 14 49.0	+00.2	199	13.4 +02.1	S 08 59.3	-00.1	01
02	235	17.2 +00.6	S 16 07.6	-00.6	156	40.5 +02.0	N 14 49.2	+00.1	214	15.5 +02.2	S 08 59.2	-00.1	02
03	250	17.8 +00.5	S 16 07.0	-00.6	171	42.5 +02.1	N 14 49.3	+00.2	229	17.7 +02.2	S 08 59.1	-00.1	03
04	265	18.3 +00.5	S 16 06.4	-00.5	186	44.6 +02.0	N 14 49.5	+00.1	244	19.9 +02.2	S 08 59.0	-00.1	04
05	280	18.8 +00.6	S 16 05.9	-00.6	201	46.6 +02.0	N 14 49.6	+00.2	259	22.1 +02.1	S 08 58.9	-00.1	05
06	295	19.4 +00.5	S 16 05.3	-00.6	216	48.6 +02.0	N 14 49.8	+00.1	274	24.2 +02.2	S 08 58.8	-00.2	06
07	310	19.9 +00.6	S 16 04.7	-00.6	231	50.6 +02.0	N 14 49.9	+00.2	289	26.4 +02.2	S 08 58.6	-00.1	07
08	325	20.5 +00.5	S 16 04.1	-00.6	246	52.6 +02.0	N 14 50.1	+00.1	304	28.6 +02.2	S 08 58.5	-00.1	08
09	340	21.0 +00.5	S 16 03.5	-00.6	261	54.6 +02.0	N 14 50.2	+00.2	319	30.8 +02.2	S 08 58.4	-00.1	09
10	355	21.5 +00.6	S 16 02.9	-00.6	276	56.6 +02.0	N 14 50.4	+00.1	334	33.0 +02.1	S 08 58.3	-00.1	10
11	10	22.1 +00.5	S 16 02.3	-00.6	291	58.6 +02.0	N 14 50.5	+00.2	349	35.1 +02.2	S 08 58.2	-00.1	11
12	25	22.6 +00.6	S 16 01.7	-00.6	307	00.6 +02.0	N 14 50.7	+00.1	4	37.3 +02.2	S 08 58.1	-00.1	12
13	40	23.2 +00.5	S 16 01.1	-00.6	322	02.6 +02.1	N 14 50.8	+00.2	19	39.5 +02.2	S 08 58.0	-00.1	13
14	55	23.7 +00.6	S 16 00.5	-00.6	337	04.7 +02.0	N 14 51.0	+00.1	34	41.7 +02.2	S 08 57.9	-00.2	14
15	70	24.3 +00.5	S 15 59.9	-00.6	352	06.7 +02.0	N 14 51.1	+00.2	49	43.9 +02.1	S 08 57.7	-00.1	15
16	85	24.8 +00.5	S 15 59.3	-00.6	7	08.7 +02.0	N 14 51.3	+00.1	64	46.0 +02.2	S 08 57.6	-00.1	16
17	100	25.3 +00.6	S 15 58.7	-00.6	22	10.7 +02.0	N 14 51.4	+00.2	79	48.2 +02.2	S 08 57.5	-00.1	17
18	115	25.9 +00.5	S 15 58.1	-00.6	37	12.7 +02.0	N 14 51.6	+00.1	94	50.4 +02.2	S 08 57.4	-00.1	18
19	130	26.4 +00.6	S 15 57.5	-00.6	52	14.7 +02.0	N 14 51.7	+00.2	109	52.6 +02.2	S 08 57.3	-00.1	19
20	145	27.0 +00.5	S 15 56.9	-00.6	67	16.7 +02.0	N 14 51.9	+00.1	124	54.8 +02.1	S 08 57.2	-00.1	20
21	160	27.5 +00.6	S 15 56.3	-00.6	82	18.7 +02.0	N 14 52.0	+00.2	139	56.9 +02.2	S 08 57.1	-00.1	21
22	175	28.1 +00.5	S 15 55.7	-00.6	97	20.7 +02.0	N 14 52.2	+00.1	154	59.1 +02.2	S 08 57.0	-00.2	22
23	190	28.6 +00.5	S 15 55.1	-00.6	112	22.7 +02.0	N 14 52.3	+00.1	170	01.3 +02.2	S 08 56.8	-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 00'0 00'0 00'0 00'0 00'0 00'0				SD 00'3 00'3 00'3 00'3 00'3 00'3				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				
	SHA 038° 038° 038° 038° 038° 037°				SHA 319° 319° 319° 319° 319° 319°				SHA 017° 017° 017° 017° 017° 017°				
	Greenwich Culmination Time: 10:18				Greenwich Culmination Time: 15:31				Greenwich Culmination Time: 11:41				

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 26.3 +00.2	S	03 59.9 -01.0	197 58.6 -00.6	S	13 15.2 -01.0	181 19.8 -31.9	S	08 35.2 -17.5	00			
01	192 26.5 +00.1	S	03 58.9 -01.0	212 58.0 -00.5	S	13 14.2 -01.0	195 47.9 -31.8	S	08 17.7 -17.6	01			
02	207 26.6 +00.2	S	03 57.9 -01.0	227 57.5 -00.6	S	13 13.2 -01.0	210 16.1 -31.8	S	08 00.1 -17.7	02			
03	222 26.8 +00.2	S	03 56.9 -00.9	242 56.9 -00.5	S	13 12.2 -01.0	224 44.3 -31.7	S	07 42.4 -17.7	03			
04	237 27.0 +00.1	S	03 56.0 -01.0	257 56.4 -00.5	S	13 11.2 -01.0	239 12.6 -31.7	S	07 24.7 -17.7	04			
05	252 27.1 +00.2	S	03 55.0 -01.0	272 55.9 -00.6	S	13 10.2 -01.0	253 40.9 -31.7	S	07 07.0 -17.8	05			
06	267 27.3 +00.1	S	03 54.0 -01.0	287 55.3 -00.5	S	13 09.2 -01.0	268 09.2 -31.6	S	06 49.2 -17.8	06			
07	282 27.4 +00.2	S	03 53.0 -01.0	302 54.8 -00.6	S	13 08.2 -01.0	282 37.6 -31.5	S	06 31.4 -17.9	07			
08	297 27.6 +00.2	S	03 52.0 -00.9	317 54.2 -00.5	S	13 07.2 -01.0	297 06.1 -31.6	S	06 13.5 -17.9	08			
09	312 27.8 +00.1	S	03 51.1 -01.0	332 53.7 -00.6	S	13 06.2 -01.0	311 34.5 -31.5	S	05 55.6 -17.9	09			
10	327 27.9 +00.2	S	03 50.1 -01.0	347 53.1 -00.5	S	13 05.2 -01.0	326 03.0 -31.4	S	05 37.7 -18.0	10			
11	342 28.1 +00.1	S	03 49.1 -01.0	2 52.6 -00.6	S	13 04.2 -01.0	340 31.6 -31.4	S	05 19.7 -18.0	11			
12	357 28.2 +00.2	S	03 48.1 -01.0	17 52.0 -00.5	S	13 03.2 -01.0	355 00.2 -31.4	S	05 01.7 -18.0	12			
13	12 28.4 +00.2	S	03 47.1 -01.0	32 51.5 -00.5	S	13 02.2 -01.0	9 28.8 -31.3	S	04 43.7 -18.1	13			
14	27 28.6 +00.1	S	03 46.1 -00.9	47 51.0 -00.6	S	13 01.2 -01.0	23 57.5 -31.4	S	04 25.6 -18.1	14			
15	42 28.7 +00.2	S	03 45.2 -01.0	62 50.4 -00.5	S	13 00.2 -01.0	38 26.1 -31.2	S	04 07.5 -18.0	15			
16	57 28.9 +00.2	S	03 44.2 -01.0	77 49.9 -00.6	S	12 59.2 -01.0	52 54.9 -31.3	S	03 49.5 -18.2	16			
17	72 29.1 +00.1	S	03 43.2 -01.0	92 49.3 -00.5	S	12 58.2 -01.0	67 23.6 -31.2	S	03 31.3 -18.1	17			
18	87 29.2 +00.2	S	03 42.2 -01.0	107 48.8 -00.5	S	12 57.2 -01.0	81 52.4 -31.2	S	03 13.2 -18.1	18			
19	102 29.4 +00.1	S	03 41.2 -00.9	122 48.3 -00.6	S	12 56.2 -01.0	96 21.2 -31.2	S	02 55.1 -18.2	19			
20	117 29.5 +00.2	S	03 40.3 -01.0	137 47.7 -00.5	S	12 55.2 -01.0	110 50.0 -31.1	S	02 36.9 -18.2	20			
21	132 29.7 +00.2	S	03 39.3 -01.0	152 47.2 -00.6	S	12 54.2 -01.0	125 18.9 -31.1	S	02 18.7 -18.1	21			
22	147 29.9 +00.1	S	03 38.3 -01.0	167 46.6 -00.5	S	12 53.2 -01.0	139 47.8 -31.1	S	02 00.6 -18.2	22			
23	162 30.0 +00.2	S	03 37.3 -01.0	182 46.1 -00.5	S	12 52.2 -01.0	154 16.7 -31.1	S	01 42.4 -18.2	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22				UT 02 06 10 14 18 22					
	SD 16'1 16'1 16'1 16'1 16'1 16'1			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 61'4 61'4 61'4 61'4 61'4 61'3					
	SHA 009° 009° 009° 009° 009° 008°			SHA 030° 030° 029° 029° 029° 029°				SHA 012° 010° 007° 005° 003° 001°					
	Greenwich Culmination Time: 12:10			Greenwich Culmination Time: 10:48				Greenwich Culmination Time: 12:20					

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	205 29.1 +00.6	S	15 54.5 -00.6	127 24.7 +02.0	N	14 52.4 +00.2	185 03.5 +02.1	S	08 56.7 -00.1	00			
01	220 29.7 +00.5	S	15 53.9 -00.6	142 26.7 +02.1	N	14 52.6 +00.1	200 05.6 +02.2	S	08 56.6 -00.1	01			
02	235 30.2 +00.6	S	15 53.3 -00.6	157 28.8 +02.0	N	14 52.7 +00.2	215 07.8 +02.2	S	08 56.5 -00.1	02			
03	250 30.8 +00.5	S	15 52.7 -00.6	172 30.8 +02.0	N	14 52.9 +00.1	230 10.0 +02.2	S	08 56.4 -00.1	03			
04	265 31.3 +00.6	S	15 52.1 -00.6	187 32.8 +02.0	N	14 53.0 +00.2	245 12.2 +02.2	S	08 56.3 -00.1	04			
05	280 31.9 +00.5	S	15 51.5 -00.6	202 34.8 +02.0	N	14 53.2 +00.1	260 14.4 +02.1	S	08 56.2 -00.1	05			
06	295 32.4 +00.6	S	15 50.9 -00.6	217 36.8 +02.0	N	14 53.3 +00.2	275 16.5 +02.2	S	08 56.1 -00.2	06			
07	310 33.0 +00.5	S	15 50.3 -00.6	232 38.8 +02.0	N	14 53.5 +00.1	290 18.7 +02.2	S	08 55.9 -00.1	07			
08	325 33.5 +00.5	S	15 49.7 -00.6	247 40.8 +02.0	N	14 53.6 +00.2	305 20.9 +02.2	S	08 55.8 -00.1	08			
09	340 34.0 +00.6	S	15 49.1 -00.6	262 42.8 +02.0	N	14 53.8 +00.1	320 23.1 +02.2	S	08 55.7 -00.1	09			
10	355 34.6 +00.5	S	15 48.5 -00.6	277 44.8 +02.0	N	14 53.9 +00.2	335 25.3 +02.1	S	08 55.6 -00.1	10			
11	10 35.1 +00.6	S	15 47.9 -00.6	292 46.8 +02.0	N	14 54.1 +00.1	350 27.4 +02.2	S	08 55.5 -00.1	11			
12	25 35.7 +00.5	S	15 47.3 -00.6	307 48.8 +02.0	N	14 54.2 +00.2	5 29.6 +02.2	S	08 55.4 -00.1	12			
13	40 36.2 +00.6	S	15 46.7 -00.6	322 50.8 +02.0	N	14 54.4 +00.1	20 31.8 +02.2	S	08 55.3 -00.1	13			
14	55 36.8 +00.5	S	15 46.1 -00.6	337 52.8 +02.0	N	14 54.5 +00.2	35 34.0 +02.2	S	08 55.2 -00.2	14			
15	70 37.3 +00.6	S	15 45.5 -00.6	352 54.8 +02.0	N	14 54.7 +00.1	50 36.2 +02.1	S	08 55.0 -00.1	15			
16	85 37.9 +00.5	S	15 44.9 -00.7	7 56.8 +02.0	N	14 54.8 +00.2	65 38.3 +02.2	S	08 54.9 -00.1	16			
17	100 38.4 +00.6	S	15 44.2 -00.6	22 58.8 +02.0	N	14 55.0 +00.1	80 40.5 +02.2	S	08 54.8 -00.1	17			
18	115 39.0 +00.5	S	15 43.6 -00.6	38 00.8 +02.0	N	14 55.1 +00.2	95 42.7 +02.2	S	08 54.7 -00.1	18			
19	130 39.5 +00.6	S	15 43.0 -00.6	53 02.8 +02.0	N	14 55.3 +00.1	110 44.9 +02.2	S	08 54.6 -00.1	19			
20	145 40.1 +00.5	S	15 42.4 -00.6	68 04.8 +02.1	N	14 55.4 +00.2	125 47.1 +02.1	S	08 54.5 -00.1	20			
21	160 40.6 +00.6	S	15 41.8 -00.6	83 06.9 +02.0	N	14 55.6 +00.1	140 49.2 +02.2	S	08 54.4 -00.1	21			
22	175 41.2 +00.5	S	15 41.2 -00.6	98 08.9 +02.0	N	14 55.7 +00.2	155 51.4 +02.2	S	08 54.3 -00.2	22			
23	190 41.7 +00.5	S	15 40.6 -00.6	113 10.9 +02.0	N	14 55.9 +00.1	170 53.6 +02.2	S	08 54.1 -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 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3				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					
	SHA 037° 037° 037° 037° 037° 037°			SHA 319° 319° 319° 319° 319° 319°				SHA 017° 017° 017° 017° 017° 017°					
	Greenwich Culmination Time: 10:17			Greenwich Culmination Time: 15:28				Greenwich Culmination Time: 11:38					

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 30.2 +00.2	S	03 36.3 -01.0	197 45.6 -00.6	S	12 51.2 -01.0	168 45.6 -31.1	S	01 24.2 -18.2	00			
01	192 30.4 +00.1	S	03 35.3 -00.9	212 45.0 -00.5	S	12 50.2 -01.1	183 14.5 -31.0	S	01 06.0 -18.2	01			
02	207 30.5 +00.2	S	03 34.4 -01.0	227 44.5 -00.5	S	12 49.1 -01.0	197 43.5 -31.0	S	00 47.8 -18.2	02			
03	222 30.7 +00.1	S	03 33.4 -01.0	242 44.0 -00.6	S	12 48.1 -01.0	212 12.5 -31.0	S	00 29.6 -18.2	03			
04	237 30.8 +00.2	S	03 32.4 -01.0	257 43.4 -00.5	S	12 47.1 -01.0	226 41.5 -31.0	S	00 11.4 -18.1	04			
05	252 31.0 +00.2	S	03 31.4 -01.0	272 42.9 -00.6	S	12 46.1 -01.0	241 10.5 -31.0	N	00 06.7 +18.2	05			
06	267 31.2 +00.1	S	03 30.4 -01.0	287 42.3 -00.5	S	12 45.1 -01.0	255 39.5 -30.9	N	00 24.9 +18.2	06			
07	282 31.3 +00.2	S	03 29.4 -00.9	302 41.8 -00.5	S	12 44.1 -01.0	270 08.6 -31.0	N	00 43.1 +18.1	07			
08	297 31.5 +00.2	S	03 28.5 -01.0	317 41.3 -00.6	S	12 43.1 -01.0	284 37.6 -30.9	N	01 01.2 +18.1	08			
09	312 31.7 +00.1	S	03 27.5 -01.0	332 40.7 -00.5	S	12 42.1 -01.1	299 06.7 -30.9	N	01 19.3 +18.1	09			
10	327 31.8 +00.2	S	03 26.5 -01.0	347 40.2 -00.5	S	12 41.0 -01.0	313 35.8 -30.9	N	01 37.4 +18.1	10			
11	342 32.0 +00.2	S	03 25.5 -01.0	2 39.7 -00.6	S	12 40.0 -01.0	328 04.9 -30.9	N	01 55.5 +18.1	11			
12	357 32.2 +00.1	S	03 24.5 -01.0	17 39.1 -00.5	S	12 39.0 -01.0	342 34.0 -30.9	N	02 13.6 +18.0	12			
13	12 32.3 +00.2	S	03 23.5 -00.9	32 38.6 -00.5	S	12 38.0 -01.0	357 03.1 -30.9	N	02 31.6 +18.1	13			
14	27 32.5 +00.2	S	03 22.6 -01.0	47 38.1 -00.5	S	12 37.0 -01.0	11 32.2 -30.9	N	02 49.7 +18.0	14			
15	42 32.7 +00.1	S	03 21.6 -01.0	62 37.6 -00.6	S	12 36.0 -01.1	26 01.3 -30.9	N	03 07.7 +17.9	15			
16	57 32.8 +00.2	S	03 20.6 -01.0	77 37.0 -00.5	S	12 34.9 -01.0	40 30.4 -30.9	N	03 25.6 +18.0	16			
17	72 33.0 +00.2	S	03 19.6 -01.0	92 36.5 -00.5	S	12 33.9 -01.0	54 59.5 -30.9	N	03 43.6 +17.9	17			
18	87 33.2 +00.1	S	03 18.6 -01.0	107 36.0 -00.6	S	12 32.9 -01.0	69 28.6 -30.9	N	04 01.5 +17.8	18			
19	102 33.3 +00.2	S	03 17.6 -01.0	122 35.4 -00.5	S	12 31.9 -01.0	83 57.7 -30.9	N	04 19.3 +17.9	19			
20	117 33.5 +00.2	S	03 16.6 -00.9	137 34.9 -00.5	S	12 30.9 -01.1	98 26.8 -30.9	N	04 37.2 +17.8	20			
21	132 33.7 +00.1	S	03 15.7 -01.0	152 34.4 -00.6	S	12 29.8 -01.0	112 55.9 -30.9	N	04 55.0 +17.7	21			
22	147 33.8 +00.2	S	03 14.7 -01.0	167 33.8 -00.5	S	12 28.8 -01.0	127 25.0 -30.9	N	05 12.7 +17.7	22			
23	162 34.0 +00.2	S	03 13.7 -01.0	182 33.3 -00.5	S	12 27.8 -01.0	141 54.1 -30.9	N	05 30.4 +17.7	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22				UT 02 06 10 14 18 22					
	SD 16'1 16'1 16'1 16'1 16'1 16'1			SD 00'1 00'1 00'1 00'1 00'1 00'1				SD 16'7 16'7 16'7 16'7 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 61'3 61'2 61'1 61'1 61'0					
	SHA 008° 008° 008° 008° 008° 008°			SHA 029° 028° 028° 028° 028° 028°				SHA 358° 356° 354° 352° 350° 347°					
	Greenwich Culmination Time: 12:09			Greenwich Culmination Time: 10:49				Greenwich Culmination Time: 13:12					

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	205 42.2 +00.6	S	15 40.0 -00.6	128 12.9 +02.0	N	14 56.0 +00.2	185 55.8 +02.2	S	08 54.0 -00.1	00			
01	220 42.8 +00.5	S	15 39.4 -00.6	143 14.9 +02.0	N	14 56.2 +00.1	200 58.0 +02.1	S	08 53.9 -00.1	01			
02	235 43.3 +00.6	S	15 38.8 -00.6	158 16.9 +02.0	N	14 56.3 +00.2	216 00.1 +02.2	S	08 53.8 -00.1	02			
03	250 43.9 +00.5	S	15 38.2 -00.6	173 18.9 +02.0	N	14 56.5 +00.1	231 02.3 +02.2	S	08 53.7 -00.1	03			
04	265 44.4 +00.6	S	15 37.6 -00.6	188 20.9 +02.0	N	14 56.6 +00.2	246 04.5 +02.2	S	08 53.6 -00.1	04			
05	280 45.0 +00.5	S	15 37.0 -00.6	203 22.9 +02.0	N	14 56.8 +00.1	261 06.7 +02.2	S	08 53.5 -00.1	05			
06	295 45.5 +00.6	S	15 36.4 -00.7	218 24.9 +02.0	N	14 56.9 +00.2	276 08.9 +02.1	S	08 53.4 -00.2	06			
07	310 46.1 +00.5	S	15 35.7 -00.6	233 26.9 +02.0	N	14 57.1 +00.1	291 11.0 +02.2	S	08 53.2 -00.1	07			
08	325 46.6 +00.6	S	15 35.1 -00.6	248 28.9 +02.0	N	14 57.2 +00.2	306 13.2 +02.2	S	08 53.1 -00.1	08			
09	340 47.2 +00.5	S	15 34.5 -00.6	263 30.9 +02.0	N	14 57.4 +00.1	321 15.4 +02.2	S	08 53.0 -00.1	09			
10	355 47.7 +00.6	S	15 33.9 -00.6	278 32.9 +02.0	N	14 57.5 +00.1	336 17.6 +02.2	S	08 52.9 -00.1	10			
11	10 48.3 +00.5	S	15 33.3 -00.6	293 34.9 +02.0	N	14 57.6 +00.2	351 19.8 +02.1	S	08 52.8 -00.1	11			
12	25 48.8 +00.6	S	15 32.7 -00.6	308 36.9 +02.0	N	14 57.8 +00.1	6 21.9 +02.2	S	08 52.7 -00.1	12			
13	40 49.4 +00.5	S	15 32.1 -00.6	323 38.9 +02.0	N	14 57.9 +00.2	21 24.1 +02.2	S	08 52.6 -00.1	13			
14	55 49.9 +00.6	S	15 31.5 -00.6	338 40.9 +02.0	N	14 58.1 +00.1	36 26.3 +02.2	S	08 52.5 -00.1	14			
15	70 50.5 +00.5	S	15 30.9 -00.6	353 42.9 +02.0	N	14 58.2 +00.2	51 28.5 +02.2	S	08 52.4 -00.2	15			
16	85 51.0 +00.6	S	15 30.3 -00.7	8 44.9 +02.0	N	14 58.4 +00.1	66 30.7 +02.1	S	08 52.2 -00.1	16			
17	100 51.6 +00.5	S	15 29.6 -00.6	23 46.9 +02.0	N	14 58.5 +00.2	81 32.8 +02.2	S	08 52.1 -00.1	17			
18	115 52.1 +00.6	S	15 29.0 -00.6	38 48.9 +02.0	N	14 58.7 +00.1	96 35.0 +02.2	S	08 52.0 -00.1	18			
19	130 52.7 +00.5	S	15 28.4 -00.6	53 50.9 +02.0	N	14 58.8 +00.2	111 37.2 +02.2	S	08 51.9 -00.1	19			
20	145 53.2 +00.6	S	15 27.8 -00.6	68 52.9 +02.0	N	14 59.0 +00.1	126 39.4 +02.2	S	08 51.8 -00.1	20			
21	160 53.8 +00.5	S	15 27.2 -00.6	83 54.9 +02.0	N	14 59.1 +00.2	141 41.6 +02.1	S	08 51.7 -00.1	21			
22	175 54.3 +00.6	S	15 26.6 -00.6	98 56.9 +02.0	N	14 59.3 +00.1	156 43.7 +02.2	S	08 51.6 -00.1	22			
23	190 54.9 +00.6	S	15 26.0 -00.6	113 58.9 +02.0	N	14 59.4 +00.2	171 45.9 +02.2	S	08 51.5 -00.2	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22				UT 02 06 10 14 18 22					
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3				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					
	SHA 036° 036° 036° 036° 036° 036°			SHA 319° 319° 319° 319° 319° 319°				SHA 017° 017° 017° 017° 017° 017°					
	Greenwich Culmination Time: 10:16			Greenwich Culmination Time: 15:25				Greenwich Culmination Time: 11:34					

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 34.2 +00.1	S	03 12.7 -01.0	197 32.8 -00.5	S	12 26.8 -01.1	156 23.2 -30.9	N	05 48.1 +17.6	00			
01	192 34.3 +00.2	S	03 11.7 -01.0	212 32.3 -00.6	S	12 25.7 -01.0	170 52.3 -30.9	N	06 05.7 +17.6	01			
02	207 34.5 +00.2	S	03 10.7 -00.9	227 31.7 -00.5	S	12 24.7 -01.0	185 21.4 -31.0	N	06 23.3 +17.5	02			
03	222 34.7 +00.1	S	03 09.8 -01.0	242 31.2 -00.5	S	12 23.7 -01.0	199 50.4 -30.9	N	06 40.8 +17.5	03			
04	237 34.8 +00.2	S	03 08.8 -01.0	257 30.7 -00.5	S	12 22.7 -01.1	214 19.5 -31.0	N	06 58.3 +17.4	04			
05	252 35.0 +00.2	S	03 07.8 -01.0	272 30.2 -00.6	S	12 21.6 -01.0	228 48.5 -31.0	N	07 15.7 +17.3	05			
06	267 35.2 +00.1	S	03 06.8 -01.0	287 29.6 -00.5	S	12 20.6 -01.0	243 17.5 -31.0	N	07 33.0 +17.3	06			
07	282 35.3 +00.2	S	03 05.8 -01.0	302 29.1 -00.5	S	12 19.6 -01.0	257 46.5 -31.0	N	07 50.3 +17.3	07			
08	297 35.5 +00.2	S	03 04.8 -01.0	317 28.6 -00.5	S	12 18.6 -01.1	272 15.5 -31.0	N	08 07.6 +17.1	08			
09	312 35.7 +00.1	S	03 03.8 -00.9	332 28.1 -00.6	S	12 17.5 -01.0	286 44.5 -31.0	N	08 24.7 +17.2	09			
10	327 35.8 +00.2	S	03 02.9 -01.0	347 27.5 -00.5	S	12 16.5 -01.0	301 13.5 -31.1	N	08 41.9 +17.0	10			
11	342 36.0 +00.2	S	03 01.9 -01.0	2 27.0 -00.5	S	12 15.5 -01.1	315 42.4 -31.1	N	08 58.9 +17.0	11			
12	357 36.2 +00.1	S	03 00.9 -01.0	17 26.5 -00.5	S	12 14.4 -01.0	330 11.3 -31.1	N	09 15.9 +16.9	12			
13	12 36.3 +00.2	S	02 59.9 -01.0	32 26.0 -00.5	S	12 13.4 -01.0	344 40.2 -31.1	N	09 32.8 +16.8	13			
14	27 36.5 +00.2	S	02 58.9 -01.0	47 25.5 -00.6	S	12 12.4 -01.1	359 09.1 -31.1	N	09 49.6 +16.8	14			
15	42 36.7 +00.1	S	02 57.9 -01.0	62 24.9 -00.5	S	12 11.3 -01.0	13 38.0 -31.2	N	10 06.4 +16.7	15			
16	57 36.8 +00.2	S	02 56.9 -00.9	77 24.4 -00.5	S	12 10.3 -01.0	28 06.8 -31.2	N	10 23.1 +16.6	16			
17	72 37.0 +00.2	S	02 56.0 -01.0	92 23.9 -00.5	S	12 09.3 -01.1	42 35.6 -31.2	N	10 39.7 +16.6	17			
18	87 37.2 +00.1	S	02 55.0 -01.0	107 23.4 -00.5	S	12 08.2 -01.0	57 04.4 -31.3	N	10 56.3 +16.4	18			
19	102 37.3 +00.2	S	02 54.0 -01.0	122 22.9 -00.6	S	12 07.2 -01.0	71 33.1 -31.2	N	11 12.7 +16.4	19			
20	117 37.5 +00.2	S	02 53.0 -01.0	137 22.3 -00.5	S	12 06.2 -01.1	86 01.9 -31.3	N	11 29.1 +16.3	20			
21	132 37.7 +00.2	S	02 52.0 -01.0	152 21.8 -00.5	S	12 05.1 -01.0	100 30.6 -31.3	N	11 45.4 +16.2	21			
22	147 37.9 +00.1	S	02 51.0 -01.0	167 21.3 -00.5	S	12 04.1 -01.0	114 59.3 -31.4	N	12 01.6 +16.2	22			
23	162 38.0 +00.2	S	02 50.0 -00.9	182 20.8 -00.5	S	12 03.1 -01.1	129 27.9 -31.4	N	12 17.8 +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 16'1 16'1 16'1 16'1 16'1 16'1			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 60'4 60'3					
	SHA 007° 007° 007° 007° 007° 007°			SHA 027° 027° 027° 027° 027° 026°				SHA 345° 343° 341° 338° 336° 334°					
	Greenwich Culmination Time: 12:09			Greenwich Culmination Time: 10:50				Greenwich Culmination Time: 14:03					

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	205 55.5 +00.5	S	15 25.4 -00.7	129 00.9 +02.0	N	14 59.6 +00.1	186 48.1 +02.2	S	08 51.3 -00.1	00			
01	220 56.0 +00.6	S	15 24.7 -00.6	144 02.9 +02.0	N	14 59.7 +00.2	201 50.3 +02.2	S	08 51.2 -00.1	01			
02	235 56.6 +00.5	S	15 24.1 -00.6	159 04.9 +02.0	N	14 59.9 +00.1	216 52.5 +02.1	S	08 51.1 -00.1	02			
03	250 57.1 +00.6	S	15 23.5 -00.6	174 06.9 +02.0	N	15 00.0 +00.2	231 54.6 +02.2	S	08 51.0 -00.1	03			
04	265 57.7 +00.5	S	15 22.9 -00.6	189 08.9 +02.0	N	15 00.2 +00.1	246 56.8 +02.2	S	08 50.9 -00.1	04			
05	280 58.2 +00.6	S	15 22.3 -00.6	204 10.9 +02.0	N	15 00.3 +00.2	261 59.0 +02.2	S	08 50.8 -00.1	05			
06	295 58.8 +00.5	S	15 21.7 -00.6	219 12.9 +02.0	N	15 00.5 +00.1	277 01.2 +02.2	S	08 50.7 -00.1	06			
07	310 59.3 +00.6	S	15 21.1 -00.7	234 14.9 +02.0	N	15 00.6 +00.2	292 03.4 +02.1	S	08 50.6 -00.2	07			
08	325 59.9 +00.5	S	15 20.4 -00.6	249 16.9 +02.0	N	15 00.8 +00.1	307 05.5 +02.2	S	08 50.4 -00.1	08			
09	341 00.4 +00.6	S	15 19.8 -00.6	264 18.9 +02.0	N	15 00.9 +00.2	322 07.7 +02.2	S	08 50.3 -00.1	09			
10	356 01.0 +00.5	S	15 19.2 -00.6	279 20.9 +02.0	N	15 01.1 +00.1	337 09.9 +02.2	S	08 50.2 -00.1	10			
11	11 01.5 +00.6	S	15 18.6 -00.6	294 22.9 +02.0	N	15 01.2 +00.2	352 12.1 +02.2	S	08 50.1 -00.1	11			
12	26 02.1 +00.5	S	15 18.0 -00.6	309 24.9 +02.0	N	15 01.4 +00.1	7 14.3 +02.1	S	08 50.0 -00.1	12			
13	41 02.6 +00.6	S	15 17.4 -00.7	324 26.9 +02.0	N	15 01.5 +00.2	22 16.4 +02.2	S	08 49.9 -00.1	13			
14	56 03.2 +00.6	S	15 16.7 -00.6	339 28.9 +02.0	N	15 01.7 +00.1	37 18.6 +02.2	S	08 49.8 -00.1	14			
15	71 03.8 +00.5	S	15 16.1 -00.6	354 30.9 +01.9	N	15 01.8 +00.2	52 20.8 +02.2	S	08 49.7 -00.2	15			
16	86 04.3 +00.6	S	15 15.5 -00.6	9 32.8 +02.0	N	15 02.0 +00.1	67 23.0 +02.2	S	08 49.5 -00.1	16			
17	101 04.9 +00.5	S	15 14.9 -00.6	24 34.8 +02.0	N	15 02.1 +00.2	82 25.2 +02.1	S	08 49.4 -00.1	17			
18	116 05.4 +00.6	S	15 14.3 -00.6	39 36.8 +02.0	N	15 02.3 +00.1	97 27.3 +02.2	S	08 49.3 -00.1	18			
19	131 06.0 +00.5	S	15 13.7 -00.7	54 38.8 +02.0	N	15 02.4 +00.2	112 29.5 +02.2	S	08 49.2 -00.1	19			
20	146 06.5 +00.6	S	15 13.0 -00.6	69 40.8 +02.0	N	15 02.6 +00.1	127 31.7 +02.2	S	08 49.1 -00.1	20			
21	161 07.1 +00.5	S	15 12.4 -00.6	84 42.8 +02.0	N	15 02.7 +00.2	142 33.9 +02.2	S	08 49.0 -00.1	21			
22	176 07.6 +00.6	S	15 11.8 -00.6	99 44.8 +02.0	N	15 02.9 +00.1	157 36.1 +02.1	S	08 48.9 -00.1	22			
23	191 08.2 +00.6	S	15 11.2 -00.6	114 46.8 +02.0	N	15 03.0 +00.2	172 38.2 +02.2	S	08 48.8 -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 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3				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					
	SHA 036° 036° 035° 035° 035° 035°			SHA 319° 319° 319° 319° 319° 319°				SHA 017° 017° 017° 017° 017° 017°					
	Greenwich Culmination Time: 10:15			Greenwich Culmination Time: 15:21				Greenwich Culmination Time: 11:31					

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 38.2 +00.2	S	02 49.1 -01.0	197 20.3 -00.6	S	12 02.0 -01.0	143 56.5 -31.4	N	12 33.8 +16.0	00			
01	192 38.4 +00.1	S	02 48.1 -01.0	212 19.7 -00.5	S	12 01.0 -01.1	158 25.1 -31.5	N	12 49.8 +15.8	01			
02	207 38.5 +00.2	S	02 47.1 -01.0	227 19.2 -00.5	S	11 59.9 -01.0	172 53.6 -31.4	N	13 05.6 +15.8	02			
03	222 38.7 +00.2	S	02 46.1 -01.0	242 18.7 -00.5	S	11 58.9 -01.0	187 22.2 -31.5	N	13 21.4 +15.7	03			
04	237 38.9 +00.1	S	02 45.1 -01.0	257 18.2 -00.5	S	11 57.9 -01.1	201 50.7 -31.6	N	13 37.1 +15.5	04			
05	252 39.0 +00.2	S	02 44.1 -01.0	272 17.7 -00.5	S	11 56.8 -01.0	216 19.1 -31.6	N	13 52.6 +15.5	05			
06	267 39.2 +00.2	S	02 43.1 -00.9	287 17.2 -00.5	S	11 55.8 -01.1	230 47.5 -31.6	N	14 08.1 +15.4	06			
07	282 39.4 +00.2	S	02 42.2 -01.0	302 16.7 -00.6	S	11 54.7 -01.0	245 15.9 -31.7	N	14 23.5 +15.3	07			
08	297 39.6 +00.1	S	02 41.2 -01.0	317 16.1 -00.5	S	11 53.7 -01.0	259 44.2 -31.6	N	14 38.8 +15.2	08			
09	312 39.7 +00.2	S	02 40.2 -01.0	332 15.6 -00.5	S	11 52.7 -01.1	274 12.6 -31.8	N	14 54.0 +15.1	09			
10	327 39.9 +00.2	S	02 39.2 -01.0	347 15.1 -00.5	S	11 51.6 -01.0	288 40.8 -31.7	N	15 09.1 +14.9	10			
11	342 40.1 +00.1	S	02 38.2 -01.0	2 14.6 -00.5	S	11 50.6 -01.1	303 09.1 -31.8	N	15 24.0 +14.9	11			
12	357 40.2 +00.2	S	02 37.2 -01.0	17 14.1 -00.5	S	11 49.5 -01.0	317 37.3 -31.9	N	15 38.9 +14.8	12			
13	12 40.4 +00.2	S	02 36.2 -00.9	32 13.6 -00.5	S	11 48.5 -01.1	332 05.4 -31.9	N	15 53.7 +14.6	13			
14	27 40.6 +00.2	S	02 35.3 -01.0	47 13.1 -00.5	S	11 47.4 -01.0	346 33.5 -31.9	N	16 08.3 +14.6	14			
15	42 40.8 +00.1	S	02 34.3 -01.0	62 12.6 -00.6	S	11 46.4 -01.1	1 01.6 -32.0	N	16 22.9 +14.4	15			
16	57 40.9 +00.2	S	02 33.3 -01.0	77 12.0 -00.5	S	11 45.3 -01.0	15 29.6 -32.0	N	16 37.3 +14.3	16			
17	72 41.1 +00.2	S	02 32.3 -01.0	92 11.5 -00.5	S	11 44.3 -01.0	29 57.6 -32.0	N	16 51.6 +14.2	17			
18	87 41.3 +00.1	S	02 31.3 -01.0	107 11.0 -00.5	S	11 43.3 -01.1	44 25.6 -32.1	N	17 05.8 +14.1	18			
19	102 41.4 +00.2	S	02 30.3 -01.0	122 10.5 -00.5	S	11 42.2 -01.0	58 53.5 -32.1	N	17 19.9 +14.0	19			
20	117 41.6 +00.2	S	02 29.3 -01.0	137 10.0 -00.5	S	11 41.2 -01.1	73 21.4 -32.2	N	17 33.9 +13.8	20			
21	132 41.8 +00.2	S	02 28.3 -00.9	152 09.5 -00.5	S	11 40.1 -01.0	87 49.2 -32.2	N	17 47.7 +13.7	21			
22	147 42.0 +00.1	S	02 27.4 -01.0	167 09.0 -00.5	S	11 39.1 -01.1	102 17.0 -32.3	N	18 01.4 +13.7	22			
23	162 42.1 +00.2	S	02 26.4 -01.0	182 08.5 -00.5	S	11 38.0 -01.0	116 44.7 -32.3	N	18 15.1 +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 16'1 16'1 16'1 16'1 16'1 16'1			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 16'4 16'4 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 60'2 60'0 59'9 59'8 59'6 59'5						
	SHA 006° 006° 006° 006° 006° 006°			SHA 026° 026° 026° 026° 025° 025°			SHA 332° 329° 327° 325° 323° 320°						
	Greenwich Culmination Time: 12:09			Greenwich Culmination Time: 10:51			Greenwich Culmination Time: 14:55						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	206 08.8 +00.5	S	15 10.6 -00.7	129 48.8 +02.0	N	15 03.2 +00.1	187 40.4 +02.2	S	08 48.7 -00.2	00			
01	221 09.3 +00.6	S	15 09.9 -00.6	144 50.8 +02.0	N	15 03.3 +00.2	202 42.6 +02.2	S	08 48.5 -00.1	01			
02	236 09.9 +00.5	S	15 09.3 -00.6	159 52.8 +02.0	N	15 03.5 +00.1	217 44.8 +02.2	S	08 48.4 -00.1	02			
03	251 10.4 +00.6	S	15 08.7 -00.6	174 54.8 +02.0	N	15 03.6 +00.2	232 47.0 +02.2	S	08 48.3 -00.1	03			
04	266 11.0 +00.5	S	15 08.1 -00.6	189 56.8 +02.0	N	15 03.8 +00.1	247 49.2 +02.1	S	08 48.2 -00.1	04			
05	281 11.5 +00.6	S	15 07.5 -00.7	204 58.8 +02.0	N	15 03.9 +00.2	262 51.3 +02.2	S	08 48.1 -00.1	05			
06	296 12.1 +00.6	S	15 06.8 -00.6	220 00.8 +02.0	N	15 04.1 +00.1	277 53.5 +02.2	S	08 48.0 -00.1	06			
07	311 12.7 +00.5	S	15 06.2 -00.6	235 02.8 +02.0	N	15 04.2 +00.2	292 55.7 +02.2	S	08 47.9 -00.1	07			
08	326 13.2 +00.6	S	15 05.6 -00.6	250 04.8 +02.0	N	15 04.4 +00.1	307 57.9 +02.2	S	08 47.8 -00.2	08			
09	341 13.8 +00.5	S	15 05.0 -00.7	265 06.8 +02.0	N	15 04.5 +00.2	323 00.1 +02.1	S	08 47.6 -00.1	09			
10	356 14.3 +00.6	S	15 04.3 -00.6	280 08.8 +01.9	N	15 04.7 +00.1	338 02.2 +02.2	S	08 47.5 -00.1	10			
11	11 14.9 +00.5	S	15 03.7 -00.6	295 10.7 +02.0	N	15 04.8 +00.2	353 04.4 +02.2	S	08 47.4 -00.1	11			
12	26 15.4 +00.6	S	15 03.1 -00.6	310 12.7 +02.0	N	15 05.0 +00.1	8 06.6 +02.2	S	08 47.3 -00.1	12			
13	41 16.0 +00.6	S	15 02.5 -00.6	325 14.7 +02.0	N	15 05.1 +00.2	23 08.8 +02.2	S	08 47.2 -00.1	13			
14	56 16.6 +00.5	S	15 01.9 -00.7	340 16.7 +02.0	N	15 05.3 +00.1	38 11.0 +02.1	S	08 47.1 -00.1	14			
15	71 17.1 +00.6	S	15 01.2 -00.6	355 18.7 +02.0	N	15 05.4 +00.2	53 13.1 +02.2	S	08 47.0 -00.1	15			
16	86 17.7 +00.5	S	15 00.6 -00.6	10 20.7 +02.0	N	15 05.6 +00.1	68 15.3 +02.2	S	08 46.9 -00.1	16			
17	101 18.2 +00.6	S	14 60.0 -00.6	25 22.7 +02.0	N	15 05.7 +00.2	83 17.5 +02.2	S	08 46.8 -00.2	17			
18	116 18.8 +00.6	S	14 59.4 -00.7	40 24.7 +02.0	N	15 05.9 +00.1	98 19.7 +02.2	S	08 46.6 -00.1	18			
19	131 19.4 +00.5	S	14 58.7 -00.6	55 26.7 +02.0	N	15 06.0 +00.2	113 21.9 +02.1	S	08 46.5 -00.1	19			
20	146 19.9 +00.6	S	14 58.1 -00.6	70 28.7 +02.0	N	15 06.2 +00.1	128 24.0 +02.2	S	08 46.4 -00.1	20			
21	161 20.5 +00.5	S	14 57.5 -00.6	85 30.7 +02.0	N	15 06.3 +00.2	143 26.2 +02.2	S	08 46.3 -00.1	21			
22	176 21.0 +00.6	S	14 56.9 -00.7	100 32.7 +01.9	N	15 06.5 +00.1	158 28.4 +02.2	S	08 46.2 -00.1	22			
23	191 21.6 +00.6	S	14 56.2 -00.6	115 34.6 +02.0	N	15 06.6 +00.2	173 30.6 +02.2	S	08 46.1 -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 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			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						
	SHA 035° 035° 035° 035° 034° 034°			SHA 319° 319° 319° 319° 319° 319°			SHA 017° 017° 017° 016° 016° 016°						
	Greenwich Culmination Time: 10:15			Greenwich Culmination Time: 15:18			Greenwich Culmination Time: 11:27						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 42.3 +00.2	S	02 25.4 -01.0	197 08.0 -00.5	S	11 37.0 -01.1	131 12.4 -32.3	N	18 28.5 +13.4	00			
01	192 42.5 +00.1	S	02 24.4 -01.0	212 07.5 -00.5	S	11 35.9 -01.0	145 40.1 -32.4	N	18 41.9 +13.2	01			
02	207 42.6 +00.2	S	02 23.4 -01.0	227 07.0 -00.5	S	11 34.9 -01.1	160 07.7 -32.4	N	18 55.1 +13.1	02			
03	222 42.8 +00.2	S	02 22.4 -01.0	242 06.5 -00.6	S	11 33.8 -01.0	174 35.3 -32.5	N	19 08.2 +13.0	03			
04	237 43.0 +00.2	S	02 21.4 -01.0	257 05.9 -00.5	S	11 32.8 -01.1	189 02.8 -32.5	N	19 21.2 +12.9	04			
05	252 43.2 +00.1	S	02 20.4 -00.9	272 05.4 -00.5	S	11 31.7 -01.1	203 30.3 -32.6	N	19 34.1 +12.7	05			
06	267 43.3 +00.2	S	02 19.5 -01.0	287 04.9 -00.5	S	11 30.6 -01.0	217 57.7 -32.6	N	19 46.8 +12.6	06			
07	282 43.5 +00.2	S	02 18.5 -01.0	302 04.4 -00.5	S	11 29.6 -01.1	232 25.1 -32.6	N	19 59.4 +12.5	07			
08	297 43.7 +00.2	S	02 17.5 -01.0	317 03.9 -00.5	S	11 28.5 -01.0	246 52.5 -32.7	N	20 11.9 +12.3	08			
09	312 43.9 +00.1	S	02 16.5 -01.0	332 03.4 -00.5	S	11 27.5 -01.1	261 19.8 -32.8	N	20 24.2 +12.2	09			
10	327 44.0 +00.2	S	02 15.5 -01.0	347 02.9 -00.5	S	11 26.4 -01.0	275 47.0 -32.8	N	20 36.4 +12.0	10			
11	342 44.2 +00.2	S	02 14.5 -01.0	2 02.4 -00.5	S	11 25.4 -01.1	290 14.2 -32.8	N	20 48.4 +11.9	11			
12	357 44.4 +00.1	S	02 13.5 -01.0	17 01.9 -00.5	S	11 24.3 -01.0	304 41.4 -32.9	N	21 00.3 +11.8	12			
13	12 44.5 +00.2	S	02 12.5 -00.9	32 01.4 -00.5	S	11 23.3 -01.1	319 08.5 -32.9	N	21 12.1 +11.7	13			
14	27 44.7 +00.2	S	02 11.6 -01.0	47 00.9 -00.5	S	11 22.2 -01.1	333 35.6 -32.9	N	21 23.8 +11.5	14			
15	42 44.9 +00.2	S	02 10.6 -01.0	62 00.4 -00.5	S	11 21.1 -01.0	348 02.7 -33.0	N	21 35.3 +11.3	15			
16	57 45.1 +00.1	S	02 09.6 -01.0	76 59.9 -00.5	S	11 20.1 -01.1	2 29.7 -33.1	N	21 46.6 +11.2	16			
17	72 45.2 +00.2	S	02 08.6 -01.0	91 59.4 -00.5	S	11 19.0 -01.0	16 56.6 -33.0	N	21 57.8 +11.1	17			
18	87 45.4 +00.2	S	02 07.6 -01.0	106 58.9 -00.5	S	11 18.0 -01.1	31 23.6 -33.2	N	22 08.9 +10.9	18			
19	102 45.6 +00.2	S	02 06.6 -01.0	121 58.4 -00.5	S	11 16.9 -01.1	45 50.4 -33.1	N	22 19.8 +10.8	19			
20	117 45.8 +00.1	S	02 05.6 -01.0	136 57.9 -00.5	S	11 15.8 -01.0	60 17.3 -33.2	N	22 30.6 +10.7	20			
21	132 45.9 +00.2	S	02 04.6 -00.9	151 57.4 -00.5	S	11 14.8 -01.1	74 44.1 -33.3	N	22 41.3 +10.5	21			
22	147 46.1 +00.2	S	02 03.7 -01.0	166 56.9 -00.5	S	11 13.7 -01.1	89 10.8 -33.3	N	22 51.8 +10.3	22			
23	162 46.3 +00.2	S	02 02.7 -01.0	181 56.4 -00.5	S	11 12.6 -01.0	103 37.5 -33.3	N	23 02.1 +10.2	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'1 16'1 16'1 16'1 16'1 16'1			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 16'2 16'1 16'1 16'0 16'0 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 59'3 59'2 59'0 58'8 58'7 58'5						
	SHA 006° 005° 005° 005° 005° 005°			SHA 025° 025° 025° 024° 024° 024°			SHA 318° 316° 313° 311° 309° 306°						
	Greenwich Culmination Time: 12:09			Greenwich Culmination Time: 10:51			Greenwich Culmination Time: 15:49						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	206 22.2 +00.5	S	14 55.6 -00.6	130 36.6 +02.0	N	15 06.8 +00.1	188 32.8 +02.2	S	08 46.0 -00.1	00			
01	221 22.7 +00.6	S	14 55.0 -00.6	145 38.6 +02.0	N	15 06.9 +00.2	203 35.0 +02.1	S	08 45.9 -00.2	01			
02	236 23.3 +00.5	S	14 54.4 -00.7	160 40.6 +02.0	N	15 07.1 +00.1	218 37.1 +02.2	S	08 45.7 -00.1	02			
03	251 23.8 +00.6	S	14 53.7 -00.6	175 42.6 +02.0	N	15 07.2 +00.2	233 39.3 +02.2	S	08 45.6 -00.1	03			
04	266 24.4 +00.6	S	14 53.1 -00.6	190 44.6 +02.0	N	15 07.4 +00.2	248 41.5 +02.2	S	08 45.5 -00.1	04			
05	281 25.0 +00.5	S	14 52.5 -00.7	205 46.6 +02.0	N	15 07.6 +00.1	263 43.7 +02.2	S	08 45.4 -00.1	05			
06	296 25.5 +00.6	S	14 51.8 -00.6	220 48.6 +02.0	N	15 07.7 +00.2	278 45.9 +02.1	S	08 45.3 -00.1	06			
07	311 26.1 +00.5	S	14 51.2 -00.6	235 50.6 +02.0	N	15 07.9 +00.1	293 48.0 +02.2	S	08 45.2 -00.1	07			
08	326 26.6 +00.6	S	14 50.6 -00.6	250 52.6 +02.0	N	15 08.0 +00.2	308 50.2 +02.2	S	08 45.1 -00.1	08			
09	341 27.2 +00.6	S	14 50.0 -00.7	265 54.6 +01.9	N	15 08.2 +00.1	323 52.4 +02.2	S	08 45.0 -00.1	09			
10	356 27.8 +00.5	S	14 49.3 -00.6	280 56.5 +02.0	N	15 08.3 +00.2	338 54.6 +02.2	S	08 44.9 -00.2	10			
11	11 28.3 +00.6	S	14 48.7 -00.6	295 58.5 +02.0	N	15 08.5 +00.1	353 56.8 +02.2	S	08 44.7 -00.1	11			
12	26 28.9 +00.6	S	14 48.1 -00.7	311 00.5 +02.0	N	15 08.6 +00.2	8 59.0 +02.1	S	08 44.6 -00.1	12			
13	41 29.5 +00.5	S	14 47.4 -00.6	326 02.5 +02.0	N	15 08.8 +00.1	24 01.1 +02.2	S	08 44.5 -00.1	13			
14	56 30.0 +00.6	S	14 46.8 -00.6	341 04.5 +02.0	N	15 08.9 +00.2	39 03.3 +02.2	S	08 44.4 -00.1	14			
15	71 30.6 +00.5	S	14 46.2 -00.6	356 06.5 +02.0	N	15 09.1 +00.1	54 05.5 +02.2	S	08 44.3 -00.1	15			
16	86 31.1 +00.6	S	14 45.6 -00.7	11 08.5 +02.0	N	15 09.2 +00.2	69 07.7 +02.2	S	08 44.2 -00.1	16			
17	101 31.7 +00.6	S	14 44.9 -00.6	26 10.5 +01.9	N	15 09.4 +00.1	84 09.9 +02.1	S	08 44.1 -00.1	17			
18	116 32.3 +00.5	S	14 44.3 -00.6	41 12.4 +02.0	N	15 09.5 +00.2	99 12.0 +02.2	S	08 44.0 -00.1	18			
19	131 32.8 +00.6	S	14 43.7 -00.7	56 14.4 +02.0	N	15 09.7 +00.1	114 14.2 +02.2	S	08 43.9 -00.2	19			
20	146 33.4 +00.6	S	14 43.0 -00.6	71 16.4 +02.0	N	15 09.8 +00.2	129 16.4 +02.2	S	08 43.7 -00.1	20			
21	161 34.0 +00.5	S	14 42.4 -00.6	86 18.4 +02.0	N	15 10.0 +00.1	144 18.6 +02.2	S	08 43.6 -00.1	21			
22	176 34.5 +00.6	S	14 41.8 -00.7	101 20.4 +02.0	N	15 10.1 +00.2	159 20.8 +02.2	S	08 43.5 -00.1	22			
23	191 35.1 +00.6	S	14 41.1 -00.6	116 22.4 +02.0	N	15 10.3 +00.1	174 23.0 +02.1	S	08 43.4 -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 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			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						
	SHA 034° 034° 034° 034° 034° 034°			SHA 318° 318° 318° 318° 318° 318°			SHA 016° 016° 016° 016° 016° 016°						
	Greenwich Culmination Time: 10:14			Greenwich Culmination Time: 15:15			Greenwich Culmination Time: 11:24						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 46.5 +00.1	S	02 01.7 -01.0	196 55.9 -00.5	S	11 11.6 -01.1	118 04.2 -33.3	N	23 12.3 +10.0				
01	192 46.6 +00.2	S	02 00.7 -01.0	211 55.4 -00.5	S	11 10.5 -01.0	132 30.9 -33.5	N	23 22.3 +09.9				
02	207 46.8 +00.2	S	01 59.7 -01.0	226 54.9 -00.5	S	11 09.5 -01.1	146 57.4 -33.4	N	23 32.2 +09.8				
03	222 47.0 +00.2	S	01 58.7 -01.0	241 54.4 -00.5	S	11 08.4 -01.1	161 24.0 -33.5	N	23 42.0 +09.6				
04	237 47.2 +00.1	S	01 57.7 -01.0	256 53.9 -00.5	S	11 07.3 -01.0	175 50.5 -33.5	N	23 51.6 +09.4				
05	252 47.3 +00.2	S	01 56.7 -00.9	271 53.4 -00.5	S	11 06.3 -01.1	190 17.0 -33.5	N	24 01.0 +09.3				
06	267 47.5 +00.2	S	01 55.8 -01.0	286 52.9 -00.5	S	11 05.2 -01.1	204 43.5 -33.6	N	24 10.3 +09.1				
07	282 47.7 +00.2	S	01 54.8 -01.0	301 52.4 -00.5	S	11 04.1 -01.0	219 09.9 -33.6	N	24 19.4 +09.0				
08	297 47.9 +00.2	S	01 53.8 -01.0	316 51.9 -00.5	S	11 03.1 -01.1	233 36.3 -33.7	N	24 28.4 +08.8				
09	312 48.1 +00.1	S	01 52.8 -01.0	331 51.4 -00.4	S	11 02.0 -01.1	248 02.6 -33.7	N	24 37.2 +08.7				
10	327 48.2 +00.2	S	01 51.8 -01.0	346 51.0 -00.5	S	11 00.9 -01.1	262 28.9 -33.7	N	24 45.9 +08.5				
11	342 48.4 +00.2	S	01 50.8 -01.0	1 50.5 -00.5	S	10 59.8 -01.0	276 55.2 -33.7	N	24 54.4 +08.4				
12	357 48.6 +00.2	S	01 49.8 -01.0	16 50.0 -00.5	S	10 58.8 -01.1	291 21.5 -33.8	N	25 02.8 +08.1				
13	12 48.8 +00.1	S	01 48.8 -01.0	31 49.5 -00.5	S	10 57.7 -01.1	305 47.7 -33.8	N	25 10.9 +08.1				
14	27 48.9 +00.2	S	01 47.8 -00.9	46 49.0 -00.5	S	10 56.6 -01.0	320 13.9 -33.9	N	25 19.0 +07.9				
15	42 49.1 +00.2	S	01 46.9 -01.0	61 48.5 -00.5	S	10 55.6 -01.1	334 40.0 -33.8	N	25 26.9 +07.7				
16	57 49.3 +00.2	S	01 45.9 -01.0	76 48.0 -00.5	S	10 54.5 -01.1	349 06.2 -33.9	N	25 34.6 +07.5				
17	72 49.5 +00.1	S	01 44.9 -01.0	91 47.5 -00.5	S	10 53.4 -01.1	3 32.3 -33.9	N	25 42.1 +07.4				
18	87 49.6 +00.2	S	01 43.9 -01.0	106 47.0 -00.5	S	10 52.3 -01.0	17 58.4 -34.0	N	25 49.5 +07.2				
19	102 49.8 +00.2	S	01 42.9 -01.0	121 46.5 -00.5	S	10 51.3 -01.1	32 24.4 -33.9	N	25 56.7 +07.1				
20	117 50.0 +00.2	S	01 41.9 -01.0	136 46.0 -00.5	S	10 50.2 -01.1	46 50.5 -34.0	N	26 03.8 +06.9				
21	132 50.2 +00.1	S	01 40.9 -01.0	151 45.5 -00.4	S	10 49.1 -01.1	61 16.5 -34.0	N	26 10.7 +06.8				
22	147 50.3 +00.2	S	01 39.9 -00.9	166 45.1 -00.5	S	10 48.0 -01.0	75 42.5 -34.0	N	26 17.5 +06.6				
23	162 50.5 +00.2	S	01 39.0 -01.0	181 44.6 -00.5	S	10 47.0 -01.1	90 08.5 -34.1	N	26 24.1 +06.4				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22				UT 02 06 10 14 18 22					
	SD 16'1 16'1 16'1 16'1 16'1 16'1			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 58'2 58'0 57'9 57'7 57'6					
	SHA 005° 004° 004° 004° 004° 004°			SHA 024° 024° 023° 023° 023° 023°				SHA 304° 301° 299° 297° 294° 292°					
	Greenwich Culmination Time: 12:08			Greenwich Culmination Time: 10:52				Greenwich Culmination Time: 16:45					

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	206 35.7 +00.5	S	14 40.5 -00.6	131 24.4 +02.0	N	15 10.4 +00.2	189 25.1 +02.2	S	08 43.3 -00.1				
01	221 36.2 +00.6	S	14 39.9 -00.7	146 26.4 +01.9	N	15 10.6 +00.1	204 27.3 +02.2	S	08 43.2 -00.1				
02	236 36.8 +00.5	S	14 39.2 -00.6	161 28.3 +02.0	N	15 10.7 +00.2	219 29.5 +02.2	S	08 43.1 -00.1				
03	251 37.3 +00.6	S	14 38.6 -00.6	176 30.3 +02.0	N	15 10.9 +00.1	234 31.7 +02.2	S	08 43.0 -00.1				
04	266 37.9 +00.6	S	14 38.0 -00.7	191 32.3 +02.0	N	15 11.0 +00.2	249 33.9 +02.1	S	08 42.9 -00.2				
05	281 38.5 +00.5	S	14 37.3 -00.6	206 34.3 +02.0	N	15 11.2 +00.1	264 36.0 +02.2	S	08 42.7 -00.1				
06	296 39.0 +00.6	S	14 36.7 -00.6	221 36.3 +02.0	N	15 11.3 +00.2	279 38.2 +02.2	S	08 42.6 -00.1				
07	311 39.6 +00.6	S	14 36.1 -00.7	236 38.3 +02.0	N	15 11.5 +00.1	294 40.4 +02.2	S	08 42.5 -00.1				
08	326 40.2 +00.5	S	14 35.4 -00.6	251 40.3 +02.0	N	15 11.6 +00.2	309 42.6 +02.2	S	08 42.4 -00.1				
09	341 40.7 +00.6	S	14 34.8 -00.6	266 42.3 +01.9	N	15 11.8 +00.1	324 44.8 +02.2	S	08 42.3 -00.1				
10	356 41.3 +00.6	S	14 34.2 -00.7	281 44.2 +02.0	N	15 11.9 +00.2	339 47.0 +02.1	S	08 42.2 -00.1				
11	11 41.9 +00.5	S	14 33.5 -00.6	296 46.2 +02.0	N	15 12.1 +00.1	354 49.1 +02.2	S	08 42.1 -00.1				
12	26 42.4 +00.6	S	14 32.9 -00.6	311 48.2 +02.0	N	15 12.2 +00.2	9 51.3 +02.2	S	08 42.0 -00.2				
13	41 43.0 +00.6	S	14 32.3 -00.7	326 50.2 +02.0	N	15 12.4 +00.1	24 53.5 +02.2	S	08 41.8 -00.1				
14	56 43.6 +00.5	S	14 31.6 -00.6	341 52.2 +02.0	N	15 12.5 +00.2	39 55.7 +02.2	S	08 41.7 -00.1				
15	71 44.1 +00.6	S	14 31.0 -00.6	356 54.2 +01.9	N	15 12.7 +00.1	54 57.9 +02.2	S	08 41.6 -00.1				
16	86 44.7 +00.6	S	14 30.4 -00.7	11 56.1 +02.0	N	15 12.8 +00.2	70 00.1 +02.1	S	08 41.5 -00.1				
17	101 45.3 +00.5	S	14 29.7 -00.6	26 58.1 +02.0	N	15 13.0 +00.1	85 02.2 +02.2	S	08 41.4 -00.1				
18	116 45.8 +00.6	S	14 29.1 -00.6	42 00.1 +02.0	N	15 13.1 +00.2	100 04.4 +02.2	S	08 41.3 -00.1				
19	131 46.4 +00.6	S	14 28.5 -00.7	57 02.1 +02.0	N	15 13.3 +00.2	115 06.6 +02.2	S	08 41.2 -00.1				
20	146 47.0 +00.5	S	14 27.8 -00.6	72 04.1 +02.0	N	15 13.5 +00.1	130 08.8 +02.2	S	08 41.1 -00.1				
21	161 47.5 +00.6	S	14 27.2 -00.7	87 06.1 +01.9	N	15 13.6 +00.2	145 11.0 +02.2	S	08 41.0 -00.2				
22	176 48.1 +00.6	S	14 26.5 -00.6	102 08.0 +02.0	N	15 13.8 +00.1	160 13.2 +02.1	S	08 40.8 -00.1				
23	191 48.7 +00.5	S	14 25.9 -00.6	117 10.0 +02.0	N	15 13.9 +00.2	175 15.3 +02.2	S	08 40.7 -00.1				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22				UT 02 06 10 14 18 22					
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3				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					
	SHA 033° 033° 033° 033° 033° 033°			SHA 318° 318° 318° 318° 318° 318°				SHA 016° 016° 016° 016° 016° 016°					
	Greenwich Culmination Time: 10:13			Greenwich Culmination Time: 15:12				Greenwich Culmination Time: 11:20					

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 50.7 +00.2	S 01 38.0 -01.0	196 44.1 -00.5	S 10 45.9 -01.1	104 34.4 -34.0	N 26 30.5 +06.2	00						
01	192 50.9 +00.2	S 01 37.0 -01.0	211 43.6 -00.5	S 10 44.8 -01.1	119 00.4 -34.1	N 26 36.7 +06.1	01						
02	207 51.1 +00.1	S 01 36.0 -01.0	226 43.1 -00.5	S 10 43.7 -01.0	133 26.3 -34.1	N 26 42.8 +06.0	02						
03	222 51.2 +00.2	S 01 35.0 -01.0	241 42.6 -00.5	S 10 42.7 -01.1	147 52.2 -34.1	N 26 48.8 +05.7	03						
04	237 51.4 +00.2	S 01 34.0 -01.0	256 42.1 -00.5	S 10 41.6 -01.1	162 18.1 -34.1	N 26 54.5 +05.6	04						
05	252 51.6 +00.2	S 01 33.0 -01.0	271 41.6 -00.4	S 10 40.5 -01.1	176 44.0 -34.1	N 27 00.1 +05.4	05						
06	267 51.8 +00.1	S 01 32.0 -01.0	286 41.2 -00.5	S 10 39.4 -01.0	191 09.9 -34.1	N 27 05.5 +05.3	06						
07	282 51.9 +00.2	S 01 31.0 -00.9	301 40.7 -00.5	S 10 38.4 -01.1	205 35.8 -34.1	N 27 10.8 +05.1	07						
08	297 52.1 +00.2	S 01 30.1 -01.0	316 40.2 -00.5	S 10 37.3 -01.1	220 01.7 -34.2	N 27 15.9 +05.0	08						
09	312 52.3 +00.2	S 01 29.1 -01.0	331 39.7 -00.5	S 10 36.2 -01.1	234 27.5 -34.1	N 27 20.9 +04.7	09						
10	327 52.5 +00.2	S 01 28.1 -01.0	346 39.2 -00.5	S 10 35.1 -01.1	248 53.4 -34.2	N 27 25.6 +04.6	10						
11	342 52.7 +00.1	S 01 27.1 -01.0	1 38.7 -00.5	S 10 34.0 -01.1	263 19.2 -34.1	N 27 30.2 +04.5	11						
12	357 52.8 +00.2	S 01 26.1 -01.0	16 38.2 -00.4	S 10 32.9 -01.0	277 45.1 -34.2	N 27 34.7 +04.3	12						
13	12 53.0 +00.2	S 01 25.1 -01.0	31 37.8 -00.5	S 10 31.9 -01.1	292 10.9 -34.1	N 27 39.0 +04.1	13						
14	27 53.2 +00.2	S 01 24.1 -01.0	46 37.3 -00.5	S 10 30.8 -01.1	306 36.8 -34.2	N 27 43.1 +03.9	14						
15	42 53.4 +00.2	S 01 23.1 -01.0	61 36.8 -00.5	S 10 29.7 -01.1	321 02.6 -34.1	N 27 47.0 +03.8	15						
16	57 53.6 +00.1	S 01 22.1 -00.9	76 36.3 -00.5	S 10 28.6 -01.1	335 28.5 -34.1	N 27 50.8 +03.6	16						
17	72 53.7 +00.2	S 01 21.2 -01.0	91 35.8 -00.5	S 10 27.5 -01.1	349 54.4 -34.2	N 27 54.4 +03.4	17						
18	87 53.9 +00.2	S 01 20.2 -01.0	106 35.3 -00.4	S 10 26.4 -01.0	4 20.2 -34.1	N 27 57.8 +03.3	18						
19	102 54.1 +00.2	S 01 19.2 -01.0	121 34.9 -00.5	S 10 25.4 -01.1	18 46.1 -34.1	N 28 01.1 +03.1	19						
20	117 54.3 +00.2	S 01 18.2 -01.0	136 34.4 -00.5	S 10 24.3 -01.1	33 12.0 -34.1	N 28 04.2 +03.0	20						
21	132 54.5 +00.1	S 01 17.2 -01.0	151 33.9 -00.5	S 10 23.2 -01.1	47 37.9 -34.1	N 28 07.2 +02.8	21						
22	147 54.6 +00.2	S 01 16.2 -01.0	166 33.4 -00.5	S 10 22.1 -01.1	62 03.8 -34.0	N 28 10.0 +02.6	22						
23	162 54.8 +00.2	S 01 15.2 -01.0	181 32.9 -00.4	S 10 21.0 -01.1	76 29.8 -34.1	N 28 12.6 +02.5	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'1 16'1 16'1 16'1 16'1 16'1		SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 15'6 15'6 15'6 15'5 15'5 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 57'4 57'3 57'1 57'0 56'8 56'7								
	SHA 004° 004° 003° 003° 003° 003°		SHA 023° 022° 022° 022° 022° 022°		SHA 289° 287° 284° 282° 280° 277°								
	Greenwich Culmination Time: 12:08		Greenwich Culmination Time: 10:53		Greenwich Culmination Time: 17:41								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	206 49.2 +00.6	S 14 25.3 -00.7	132 12.0 +02.0	N 15 14.1 +00.1	190 17.5 +02.2	S 08 40.6 -00.1	00						
01	221 49.8 +00.6	S 14 24.6 -00.6	147 14.0 +02.0	N 15 14.2 +00.2	205 19.7 +02.2	S 08 40.5 -00.1	01						
02	236 50.4 +00.6	S 14 24.0 -00.7	162 16.0 +02.0	N 15 14.4 +00.1	220 21.9 +02.2	S 08 40.4 -00.1	02						
03	251 51.0 +00.5	S 14 23.3 -00.6	177 18.0 +01.9	N 15 14.5 +00.2	235 24.1 +02.1	S 08 40.3 -00.1	03						
04	266 51.5 +00.6	S 14 22.7 -00.6	192 19.9 +02.0	N 15 14.7 +00.1	250 26.2 +02.2	S 08 40.2 -00.1	04						
05	281 52.1 +00.6	S 14 22.1 -00.7	207 21.9 +02.0	N 15 14.8 +00.2	265 28.4 +02.2	S 08 40.1 -00.1	05						
06	296 52.7 +00.5	S 14 21.4 -00.6	222 23.9 +02.0	N 15 15.0 +00.1	280 30.6 +02.2	S 08 40.0 -00.2	06						
07	311 53.2 +00.6	S 14 20.8 -00.6	237 25.9 +02.0	N 15 15.1 +00.2	295 32.8 +02.2	S 08 39.8 -00.1	07						
08	326 53.8 +00.6	S 14 20.2 -00.7	252 27.9 +02.0	N 15 15.3 +00.1	310 35.0 +02.2	S 08 39.7 -00.1	08						
09	341 54.4 +00.5	S 14 19.5 -00.6	267 29.9 +01.9	N 15 15.4 +00.2	325 37.2 +02.1	S 08 39.6 -00.1	09						
10	356 54.9 +00.6	S 14 18.9 -00.7	282 31.8 +02.0	N 15 15.6 +00.1	340 39.3 +02.2	S 08 39.5 -00.1	10						
11	11 55.5 +00.6	S 14 18.2 -00.6	297 33.8 +02.0	N 15 15.7 +00.2	355 41.5 +02.2	S 08 39.4 -00.1	11						
12	26 56.1 +00.6	S 14 17.6 -00.7	312 35.8 +02.0	N 15 15.9 +00.1	10 43.7 +02.2	S 08 39.3 -00.1	12						
13	41 56.7 +00.5	S 14 16.9 -00.6	327 37.8 +02.0	N 15 16.0 +00.2	25 45.9 +02.2	S 08 39.2 -00.1	13						
14	56 57.2 +00.6	S 14 16.3 -00.6	342 39.8 +01.9	N 15 16.2 +00.1	40 48.1 +02.2	S 08 39.1 -00.1	14						
15	71 57.8 +00.6	S 14 15.7 -00.7	357 41.7 +02.0	N 15 16.3 +00.2	55 50.3 +02.1	S 08 39.0 -00.1	15						
16	86 58.4 +00.5	S 14 15.0 -00.6	12 43.7 +02.0	N 15 16.5 +00.1	70 52.4 +02.2	S 08 38.9 -00.2	16						
17	101 58.9 +00.6	S 14 14.4 -00.7	27 45.7 +02.0	N 15 16.6 +00.2	85 54.6 +02.2	S 08 38.7 -00.1	17						
18	116 59.5 +00.6	S 14 13.7 -00.6	42 47.7 +02.0	N 15 16.8 +00.2	100 56.8 +02.2	S 08 38.6 -00.1	18						
19	132 00.1 +00.6	S 14 13.1 -00.6	57 49.7 +01.9	N 15 17.0 +00.1	115 59.0 +02.2	S 08 38.5 -00.1	19						
20	147 00.7 +00.5	S 14 12.5 -00.7	72 51.6 +02.0	N 15 17.1 +00.2	131 01.2 +02.2	S 08 38.4 -00.1	20						
21	162 01.2 +00.6	S 14 11.8 -00.6	87 53.6 +02.0	N 15 17.3 +00.1	146 03.4 +02.1	S 08 38.3 -00.1	21						
22	177 01.8 +00.6	S 14 11.2 -00.7	102 55.6 +02.0	N 15 17.4 +00.2	161 05.5 +02.2	S 08 38.2 -00.1	22						
23	192 02.4 +00.5	S 14 10.5 -00.6	117 57.6 +02.0	N 15 17.6 +00.1	176 07.7 +02.2	S 08 38.1 -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 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		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								
	SHA 033° 033° 032° 032° 032° 032°		SHA 318° 318° 318° 318° 318° 318°		SHA 016° 016° 016° 016° 016° 016°								
	Greenwich Culmination Time: 10:12		Greenwich Culmination Time: 15:09		Greenwich Culmination Time: 11:17								

UT	Sun				Venus				Moon				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	177 55.0 +00.2	S 01 14.2 -00.9	196 32.5 -00.5	S 10 19.9 -01.1	90 55.7 -34.0	N 28 15.1 +02.2	00													
01	192 55.2 +00.2	S 01 13.3 -01.0	211 32.0 -00.5	S 10 18.8 -01.1	105 21.7 -34.0	N 28 17.3 +02.2	01													
02	207 55.4 +00.1	S 01 12.3 -01.0	226 31.5 -00.5	S 10 17.7 -01.0	119 47.7 -34.0	N 28 19.5 +01.9	02													
03	222 55.5 +00.2	S 01 11.3 -01.0	241 31.0 -00.4	S 10 16.7 -01.1	134 13.7 -34.0	N 28 21.4 +01.8	03													
04	237 55.7 +00.2	S 01 10.3 -01.0	256 30.6 -00.5	S 10 15.6 -01.1	148 39.7 -33.9	N 28 23.2 +01.7	04													
05	252 55.9 +00.2	S 01 09.3 -01.0	271 30.1 -00.5	S 10 14.5 -01.1	163 05.8 -34.0	N 28 24.9 +01.4	05													
06	267 56.1 +00.2	S 01 08.3 -01.0	286 29.6 -00.5	S 10 13.4 -01.1	177 31.8 -33.8	N 28 26.3 +01.4	06													
07	282 56.3 +00.1	S 01 07.3 -01.0	301 29.1 -00.5	S 10 12.3 -01.1	191 58.0 -33.9	N 28 27.7 +01.1	07													
08	297 56.4 +00.2	S 01 06.3 -01.0	316 28.6 -00.4	S 10 11.2 -01.1	206 24.1 -33.8	N 28 28.8 +01.0	08													
09	312 56.6 +00.2	S 01 05.3 -00.9	331 28.2 -00.5	S 10 10.1 -01.1	220 50.3 -33.8	N 28 29.8 +00.8	09													
10	327 56.8 +00.2	S 01 04.4 -01.0	346 27.7 -00.5	S 10 09.0 -01.1	235 16.5 -33.8	N 28 30.6 +00.7	10													
11	342 57.0 +00.2	S 01 03.4 -01.0	1 27.2 -00.5	S 10 07.9 -01.1	249 42.7 -33.7	N 28 31.3 +00.5	11													
12	357 57.2 +00.1	S 01 02.4 -01.0	16 26.7 -00.4	S 10 06.8 -01.1	264 09.0 -33.7	N 28 31.8 +00.3	12													
13	12 57.3 +00.2	S 01 01.4 -01.0	31 26.3 -00.5	S 10 05.7 -01.1	278 35.3 -33.7	N 28 32.1 +00.2	13													
14	27 57.5 +00.2	S 01 00.4 -01.0	46 25.8 -00.5	S 10 04.6 -01.0	293 01.6 -33.6	N 28 32.3 +00.0	14													
15	42 57.7 +00.2	S 00 59.4 -01.0	61 25.3 -00.5	S 10 03.6 -01.1	307 28.0 -33.6	N 28 32.3 -00.1	15													
16	57 57.9 +00.2	S 00 58.4 -01.0	76 24.8 -00.4	S 10 02.5 -01.1	321 54.4 -33.5	N 28 32.2 -00.3	16													
17	72 58.1 +00.1	S 00 57.4 -01.0	91 24.4 -00.5	S 10 01.4 -01.1	336 20.9 -33.5	N 28 31.9 -00.5	17													
18	87 58.2 +00.2	S 00 56.4 -00.9	106 23.9 -00.5	S 10 00.3 -01.1	350 47.4 -33.4	N 28 31.4 -00.6	18													
19	102 58.4 +00.2	S 00 55.5 -01.0	121 23.4 -00.4	S 09 59.2 -01.1	5 14.0 -33.4	N 28 30.8 -00.7	19													
20	117 58.6 +00.2	S 00 54.5 -01.0	136 23.0 -00.5	S 09 58.1 -01.1	19 40.6 -33.4	N 28 30.1 -01.0	20													
21	132 58.8 +00.2	S 00 53.5 -01.0	151 22.5 -00.5	S 09 57.0 -01.1	34 07.2 -33.3	N 28 29.1 -01.0	21													
22	147 59.0 +00.1	S 00 52.5 -01.0	166 22.0 -00.5	S 09 55.9 -01.1	48 33.9 -33.2	N 28 28.1 -01.3	22													
23	162 59.1 +00.2	S 00 51.5 -01.0	181 21.5 -00.4	S 09 54.8 -01.1	63 00.7 -33.2	N 28 26.8 -01.3	23													
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT						
SD	16'1	16'1	16'1	16'1	16'1	16'1	SD	00'1	00'1	00'1	00'1	00'1	00'1	SD						
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						
SHA	003°	003°	002°	002°	002°	002°	SHA	021°	021°	021°	021°	021°	020°	SHA						
Greenwich Culmination Time: 12:08							Greenwich Culmination Time: 10:54							Greenwich Culmination Time: 18:38						

UT	Mars				Jupiter				Saturn				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	207 02.9 +00.6	S 14 09.9 -00.7	132 59.6 +01.9	N 15 17.7 +00.2	191 09.9 +02.2	S 08 38.0 -00.1	00													
01	222 03.5 +00.6	S 14 09.2 -00.6	148 01.5 +02.0	N 15 17.9 +00.1	206 12.1 +02.2	S 08 37.9 -00.2	01													
02	237 04.1 +00.6	S 14 08.6 -00.7	163 03.5 +02.0	N 15 18.0 +00.2	221 14.3 +02.2	S 08 37.7 -00.1	02													
03	252 04.7 +00.5	S 14 07.9 -00.6	178 05.5 +02.0	N 15 18.2 +00.1	236 16.5 +02.1	S 08 37.6 -00.1	03													
04	267 05.2 +00.6	S 14 07.3 -00.6	193 07.5 +02.0	N 15 18.3 +00.2	251 18.6 +02.2	S 08 37.5 -00.1	04													
05	282 05.8 +00.6	S 14 06.7 -00.7	208 09.5 +01.9	N 15 18.5 +00.1	266 20.8 +02.2	S 08 37.4 -00.1	05													
06	297 06.4 +00.6	S 14 06.0 -00.6	223 11.4 +02.0	N 15 18.6 +00.2	281 23.0 +02.2	S 08 37.3 -00.1	06													
07	312 07.0 +00.5	S 14 05.4 -00.7	238 13.4 +02.0	N 15 18.8 +00.1	296 25.2 +02.2	S 08 37.2 -00.1	07													
08	327 07.5 +00.6	S 14 04.7 -00.6	253 15.4 +02.0	N 15 18.9 +00.2	311 27.4 +02.2	S 08 37.1 -00.1	08													
09	342 08.1 +00.6	S 14 04.1 -00.7	268 17.4 +02.0	N 15 19.1 +00.1	326 29.6 +02.2	S 08 37.0 -00.1	09													
10	357 08.7 +00.5	S 14 03.4 -00.6	283 19.4 +01.9	N 15 19.2 +00.2	341 31.8 +02.1	S 08 36.9 -00.2	10													
11	12 09.2 +00.6	S 14 02.8 -00.7	298 21.3 +02.0	N 15 19.4 +00.1	356 33.9 +02.2	S 08 36.7 -00.1	11													
12	27 09.8 +00.6	S 14 02.1 -00.6	313 23.3 +02.0	N 15 19.5 +00.2	11 36.1 +02.2	S 08 36.6 -00.1	12													
13	42 10.4 +00.6	S 14 01.5 -00.7	328 25.3 +02.0	N 15 19.7 +00.1	26 38.3 +02.2	S 08 36.5 -00.1	13													
14	57 11.0 +00.5	S 14 00.8 -00.6	343 27.3 +01.9	N 15 19.8 +00.2	41 40.5 +02.2	S 08 36.4 -00.1	14													
15	72 11.5 +00.6	S 14 00.2 -00.7	358 29.2 +02.0	N 15 20.0 +00.2	56 42.7 +02.2	S 08 36.3 -00.1	15													
16	87 12.1 +00.6	S 13 59.5 -00.6	13 31.2 +02.0	N 15 20.2 +00.1	71 44.9 +02.1	S 08 36.2 -00.1	16													
17	102 12.7 +00.6	S 13 58.9 -00.6	28 33.2 +02.0	N 15 20.3 +00.2	86 47.0 +02.2	S 08 36.1 -00.1	17													
18	117 13.3 +00.5	S 13 58.3 -00.7	43 35.2 +01.9	N 15 20.5 +00.1	101 49.2 +02.2	S 08 36.0 -00.1	18													
19	132 13.8 +00.6	S 13 57.6 -00.6	58 37.1 +02.0	N 15 20.6 +00.2	116 51.4 +02.2	S 08 35.9 -00.1	19													
20	147 14.4 +00.6	S 13 57.0 -00.7	73 39.1 +02.0	N 15 20.8 +00.1	131 53.6 +02.2	S 08 35.8 -00.2	20													
21	162 15.0 +00.6	S 13 56.3 -00.6	88 41.1 +02.0	N 15 20.9 +00.2	146 55.8 +02.2	S 08 35.6 -00.1	21													
22	177 15.6 +00.6	S 13 55.7 -00.7	103 43.1 +02.0	N 15 21.1 +00.1	161 58.0 +02.1	S 08 35.5 -00.1	22													
23	192 16.2 +00.5	S 13 55.0 -00.6	118 45.1 +01.9	N 15 21.2 +00.2	177 00.1 +02.2	S 08 35.4 -00.1	23													
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT						
SD	00'0	00'0	00'0	00'0	00'0	00'0	SD	00'3	00'3	00'3	00'3	00'3	00'3	SD						
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						
SHA	032°	032°	032°	032°	031°	031°	SHA	318°	318°	318°	318°	318°	318°	SHA						
Greenwich Culmination Time: 10:11							Greenwich Culmination Time: 15:06							Greenwich Culmination Time: 11:13						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 59.3 +00.2	S 00	50.5 -01.0	196 21.1 -00.5	S 09	53.7 -01.1	77 27.5 -33.2	N 28	25.5 -01.6	00			
01	192 59.5 +00.2	S 00	49.5 -01.0	211 20.6 -00.5	S 09	52.6 -01.1	91 54.3 -33.1	N 28	23.9 -01.7	01			
02	207 59.7 +00.2	S 00	48.5 -01.0	226 20.1 -00.4	S 09	51.5 -01.1	106 21.2 -33.0	N 28	22.2 -01.8	02			
03	222 59.9 +00.2	S 00	47.5 -00.9	241 19.7 -00.5	S 09	50.4 -01.1	120 48.2 -33.0	N 28	20.4 -02.0	03			
04	238 00.1 +00.1	S 00	46.6 -01.0	256 19.2 -00.5	S 09	49.3 -01.1	135 15.2 -32.9	N 28	18.4 -02.2	04			
05	253 00.2 +00.2	S 00	45.6 -01.0	271 18.7 -00.5	S 09	48.2 -01.1	149 42.3 -32.9	N 28	16.2 -02.2	05			
06	268 00.4 +00.2	S 00	44.6 -01.0	286 18.2 -00.4	S 09	47.1 -01.1	164 09.4 -32.8	N 28	14.0 -02.5	06			
07	283 00.6 +00.2	S 00	43.6 -01.0	301 17.8 -00.5	S 09	46.0 -01.1	178 36.6 -32.7	N 28	11.5 -02.6	07			
08	298 00.8 +00.2	S 00	42.6 -01.0	316 17.3 -00.5	S 09	44.9 -01.1	193 03.9 -32.7	N 28	08.9 -02.7	08			
09	313 01.0 +00.2	S 00	41.6 -01.0	331 16.8 -00.4	S 09	43.8 -01.1	207 31.2 -32.6	N 28	06.2 -02.9	09			
10	328 01.2 +00.1	S 00	40.6 -01.0	346 16.4 -00.5	S 09	42.7 -01.1	221 58.6 -32.5	N 28	03.3 -03.0	10			
11	343 01.3 +00.2	S 00	39.6 -01.0	1 15.9 -00.5	S 09	41.6 -01.2	236 26.1 -32.5	N 28	00.3 -03.2	11			
12	358 01.5 +00.2	S 00	38.6 -00.9	16 15.4 -00.4	S 09	40.4 -01.1	250 53.6 -32.4	N 27	57.1 -03.3	12			
13	13 01.7 +00.2	S 00	37.7 -01.0	31 15.0 -00.5	S 09	39.3 -01.1	265 21.2 -32.4	N 27	53.8 -03.5	13			
14	28 01.9 +00.2	S 00	36.7 -01.0	46 14.5 -00.5	S 09	38.2 -01.1	279 48.8 -32.2	N 27	50.3 -03.6	14			
15	43 02.1 +00.1	S 00	35.7 -01.0	61 14.0 -00.4	S 09	37.1 -01.1	294 16.6 -32.2	N 27	46.7 -03.7	15			
16	58 02.2 +00.2	S 00	34.7 -01.0	76 13.6 -00.5	S 09	36.0 -01.1	308 44.4 -32.2	N 27	43.0 -03.9	16			
17	73 02.4 +00.2	S 00	33.7 -01.0	91 13.1 -00.4	S 09	34.9 -01.1	323 12.2 -32.0	N 27	39.1 -04.0	17			
18	88 02.6 +00.2	S 00	32.7 -01.0	106 12.7 -00.5	S 09	33.8 -01.1	337 40.2 -32.0	N 27	35.1 -04.2	18			
19	103 02.8 +00.2	S 00	31.7 -01.0	121 12.2 -00.5	S 09	32.7 -01.1	352 08.2 -31.9	N 27	30.9 -04.3	19			
20	118 03.0 +00.2	S 00	30.7 -01.0	136 11.7 -00.4	S 09	31.6 -01.1	6 36.3 -31.9	N 27	26.6 -04.4	20			
21	133 03.2 +00.1	S 00	29.7 -00.9	151 11.3 -00.5	S 09	30.5 -01.1	21 04.4 -31.7	N 27	22.2 -04.6	21			
22	148 03.3 +00.2	S 00	28.8 -01.0	166 10.8 -00.5	S 09	29.4 -01.1	35 32.7 -31.7	N 27	17.6 -04.7	22			
23	163 03.5 +00.2	S 00	27.8 -01.0	181 10.3 -00.4	S 09	28.3 -01.1	50 01.0 -31.6	N 27	12.9 -04.8	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'1 16'1 16'1 16'1 16'1 16'1			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 002° 002° 002° 001° 001° 001°			SHA 020° 020° 020° 020° 019° 019°			SHA 260° 258° 256° 253° 251° 249°						
	Greenwich Culmination Time: 12:07			Greenwich Culmination Time: 10:54			Greenwich Culmination Time: 19:32						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	207 16.7 +00.6	S 13	54.4 -00.7	133 47.0 +02.0	N 15	21.4 +00.1	192 02.3 +02.2	S 08	35.3 -00.1	00			
01	222 17.3 +00.6	S 13	53.7 -00.6	148 49.0 +02.0	N 15	21.5 +00.2	207 04.5 +02.2	S 08	35.2 -00.1	01			
02	237 17.9 +00.6	S 13	53.1 -00.7	163 51.0 +02.0	N 15	21.7 +00.1	222 06.7 +02.2	S 08	35.1 -00.1	02			
03	252 18.5 +00.5	S 13	52.4 -00.6	178 53.0 +01.9	N 15	21.8 +00.2	237 08.9 +02.2	S 08	35.0 -00.1	03			
04	267 19.0 +00.6	S 13	51.8 -00.7	193 54.9 +02.0	N 15	22.0 +00.1	252 11.1 +02.2	S 08	34.9 -00.1	04			
05	282 19.6 +00.6	S 13	51.1 -00.6	208 56.9 +02.0	N 15	22.1 +00.2	267 13.3 +02.1	S 08	34.8 -00.1	05			
06	297 20.2 +00.6	S 13	50.5 -00.7	223 58.9 +02.0	N 15	22.3 +00.1	282 15.4 +02.2	S 08	34.7 -00.2	06			
07	312 20.8 +00.5	S 13	49.8 -00.6	239 00.9 +01.9	N 15	22.4 +00.2	297 17.6 +02.2	S 08	34.5 -00.1	07			
08	327 21.3 +00.6	S 13	49.2 -00.7	254 02.8 +02.0	N 15	22.6 +00.2	312 19.8 +02.2	S 08	34.4 -00.1	08			
09	342 21.9 +00.6	S 13	48.5 -00.6	269 04.8 +02.0	N 15	22.8 +00.1	327 22.0 +02.2	S 08	34.3 -00.1	09			
10	357 22.5 +00.6	S 13	47.9 -00.7	284 06.8 +01.9	N 15	22.9 +00.2	342 24.2 +02.2	S 08	34.2 -00.1	10			
11	12 23.1 +00.6	S 13	47.2 -00.7	299 08.7 +02.0	N 15	23.1 +00.1	357 26.4 +02.1	S 08	34.1 -00.1	11			
12	27 23.7 +00.5	S 13	46.5 -00.6	314 10.7 +02.0	N 15	23.2 +00.2	12 28.5 +02.2	S 08	34.0 -00.1	12			
13	42 24.2 +00.6	S 13	45.9 -00.7	329 12.7 +02.0	N 15	23.4 +00.1	27 30.7 +02.2	S 08	33.9 -00.1	13			
14	57 24.8 +00.6	S 13	45.2 -00.6	344 14.7 +01.9	N 15	23.5 +00.2	42 32.9 +02.2	S 08	33.8 -00.1	14			
15	72 25.4 +00.6	S 13	44.6 -00.7	359 16.6 +02.0	N 15	23.7 +00.1	57 35.1 +02.2	S 08	33.7 -00.2	15			
16	87 26.0 +00.6	S 13	43.9 -00.6	14 18.6 +02.0	N 15	23.8 +00.2	72 37.3 +02.2	S 08	33.5 -00.1	16			
17	102 26.6 +00.5	S 13	43.3 -00.7	29 20.6 +02.0	N 15	24.0 +00.1	87 39.5 +02.2	S 08	33.4 -00.1	17			
18	117 27.1 +00.6	S 13	42.6 -00.6	44 22.6 +01.9	N 15	24.1 +00.2	102 41.7 +02.1	S 08	33.3 -00.1	18			
19	132 27.7 +00.6	S 13	42.0 -00.7	59 24.5 +02.0	N 15	24.3 +00.1	117 43.8 +02.2	S 08	33.2 -00.1	19			
20	147 28.3 +00.6	S 13	41.3 -00.6	74 26.5 +02.0	N 15	24.4 +00.2	132 46.0 +02.2	S 08	33.1 -00.1	20			
21	162 28.9 +00.6	S 13	40.7 -00.7	89 28.5 +02.0	N 15	24.6 +00.1	147 48.2 +02.2	S 08	33.0 -00.1	21			
22	177 29.5 +00.5	S 13	40.0 -00.6	104 30.5 +01.9	N 15	24.7 +00.2	162 50.4 +02.2	S 08	32.9 -00.1	22			
23	192 30.0 +00.6	S 13	39.4 -00.7	119 32.4 +02.0	N 15	24.9 +00.2	177 52.6 +02.2	S 08	32.8 -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 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			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						
	SHA 031° 031° 031° 031° 031° 031°			SHA 318° 318° 318° 318° 318° 318°			SHA 016° 016° 016° 016° 016° 016°						
	Greenwich Culmination Time: 10:10			Greenwich Culmination Time: 15:02			Greenwich Culmination Time: 11:10						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 03.7 +00.2	S 00	26.8 -01.0	196 09.9 -00.5	S 09	27.2 -01.2	64 29.4 -31.6	N 27	08.1 -05.0	00			
01	193 03.9 +00.2	S 00	25.8 -01.0	211 09.4 -00.5	S 09	26.0 -01.1	78 57.8 -31.4	N 27	03.1 -05.1	01			
02	208 04.1 +00.2	S 00	24.8 -01.0	226 08.9 -00.4	S 09	24.9 -01.1	93 26.4 -31.4	N 26	58.0 -05.3	02			
03	223 04.3 +00.2	S 00	23.8 -01.0	241 08.5 -00.5	S 09	23.8 -01.1	107 55.0 -31.3	N 26	52.7 -05.3	03			
04	238 04.5 +00.1	S 00	22.8 -01.0	256 08.0 -00.4	S 09	22.7 -01.1	122 23.7 -31.2	N 26	47.4 -05.5	04			
05	253 04.6 +00.2	S 00	21.8 -00.9	271 07.6 -00.5	S 09	21.6 -01.1	136 52.5 -31.2	N 26	41.9 -05.6	05			
06	268 04.8 +00.2	S 00	20.9 -01.0	286 07.1 -00.5	S 09	20.5 -01.1	151 21.3 -31.0	N 26	36.3 -05.8	06			
07	283 05.0 +00.2	S 00	19.9 -01.0	301 06.6 -00.4	S 09	19.4 -01.1	165 50.3 -31.0	N 26	30.5 -05.9	07			
08	298 05.2 +00.2	S 00	18.9 -01.0	316 06.2 -00.5	S 09	18.3 -01.2	180 19.3 -30.9	N 26	24.6 -06.0	08			
09	313 05.4 +00.2	S 00	17.9 -01.0	331 05.7 -00.4	S 09	17.1 -01.1	194 48.4 -30.8	N 26	18.6 -06.1	09			
10	328 05.6 +00.1	S 00	16.9 -01.0	346 05.3 -00.5	S 09	16.0 -01.1	209 17.6 -30.8	N 26	12.5 -06.2	10			
11	343 05.7 +00.2	S 00	15.9 -01.0	1 04.8 -00.5	S 09	14.9 -01.1	223 46.8 -30.6	N 26	06.3 -06.4	11			
12	358 05.9 +00.2	S 00	14.9 -01.0	16 04.3 -00.4	S 09	13.8 -01.1	238 16.2 -30.6	N 25	59.9 -06.5	12			
13	13 06.1 +00.2	S 00	13.9 -01.0	31 03.9 -00.5	S 09	12.7 -01.1	252 45.6 -30.4	N 25	53.4 -06.6	13			
14	28 06.3 +00.2	S 00	12.9 -00.9	46 03.4 -00.4	S 09	11.6 -01.1	267 15.2 -30.4	N 25	46.8 -06.7	14			
15	43 06.5 +00.2	S 00	12.0 -01.0	61 03.0 -00.5	S 09	10.5 -01.2	281 44.8 -30.4	N 25	40.1 -06.9	15			
16	58 06.7 +00.1	S 00	11.0 -01.0	76 02.5 -00.4	S 09	09.3 -01.1	296 14.4 -30.2	N 25	33.2 -06.9	16			
17	73 06.8 +00.2	S 00	10.0 -01.0	91 02.1 -00.5	S 09	08.2 -01.1	310 44.2 -30.1	N 25	26.3 -07.1	17			
18	88 07.0 +00.2	S 00	09.0 -01.0	106 01.6 -00.4	S 09	07.1 -01.1	325 14.1 -30.1	N 25	19.2 -07.2	18			
19	103 07.2 +00.2	S 00	08.0 -01.0	121 01.2 -00.5	S 09	06.0 -01.1	339 44.0 -30.0	N 25	12.0 -07.3	19			
20	118 07.4 +00.2	S 00	07.0 -01.0	136 00.7 -00.5	S 09	04.9 -01.2	354 14.0 -29.9	N 25	04.7 -07.5	20			
21	133 07.6 +00.2	S 00	06.0 -01.0	151 00.2 -00.4	S 09	03.7 -01.1	8 44.1 -29.8	N 24	57.2 -07.5	21			
22	148 07.8 +00.2	S 00	05.0 -00.9	165 59.8 -00.5	S 09	02.6 -01.1	23 14.3 -29.7	N 24	49.7 -07.6	22			
23	163 08.0 +00.1	S 00	04.1 -01.0	180 59.3 -00.4	S 09	01.5 -01.1	37 44.6 -29.6	N 24	42.1 -07.8	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'1 16'1 16'1 16'1 16'1 16'1			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 15'0 15'0 15'0 15'0 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 55'0 54'9 54'8 54'7						
	SHA 001° 001° 001° 000° 000° 000°			SHA 019° 019° 019° 018° 018° 018°			SHA 246° 244° 242° 240° 237° 235°						
	Greenwich Culmination Time: 12:07			Greenwich Culmination Time: 10:55			Greenwich Culmination Time: 20:23						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	207 30.6 +00.6	S 13	38.7 -00.7	134 34.4 +02.0	N 15	25.1 +00.1	192 54.8 +02.2	S 08	32.7 -00.1	00			
01	222 31.2 +00.6	S 13	38.0 -00.6	149 36.4 +01.9	N 15	25.2 +00.2	207 57.0 +02.1	S 08	32.6 -00.2	01			
02	237 31.8 +00.6	S 13	37.4 -00.7	164 38.3 +02.0	N 15	25.4 +00.1	222 59.1 +02.2	S 08	32.4 -00.1	02			
03	252 32.4 +00.5	S 13	36.7 -00.6	179 40.3 +02.0	N 15	25.5 +00.2	238 01.3 +02.2	S 08	32.3 -00.1	03			
04	267 32.9 +00.6	S 13	36.1 -00.7	194 42.3 +02.0	N 15	25.7 +00.1	253 03.5 +02.2	S 08	32.2 -00.1	04			
05	282 33.5 +00.6	S 13	35.4 -00.6	209 44.3 +01.9	N 15	25.8 +00.2	268 05.7 +02.2	S 08	32.1 -00.1	05			
06	297 34.1 +00.6	S 13	34.8 -00.7	224 46.2 +02.0	N 15	26.0 +00.1	283 07.9 +02.2	S 08	32.0 -00.1	06			
07	312 34.7 +00.6	S 13	34.1 -00.6	239 48.2 +02.0	N 15	26.1 +00.2	298 10.1 +02.2	S 08	31.9 -00.1	07			
08	327 35.3 +00.5	S 13	33.5 -00.7	254 50.2 +01.9	N 15	26.3 +00.1	313 12.3 +02.1	S 08	31.8 -00.1	08			
09	342 35.8 +00.6	S 13	32.8 -00.7	269 52.1 +02.0	N 15	26.4 +00.2	328 14.4 +02.2	S 08	31.7 -00.1	09			
10	357 36.4 +00.6	S 13	32.1 -00.6	284 54.1 +02.0	N 15	26.6 +00.1	343 16.6 +02.2	S 08	31.6 -00.1	10			
11	12 37.0 +00.6	S 13	31.5 -00.7	299 56.1 +02.0	N 15	26.7 +00.2	358 18.8 +02.2	S 08	31.5 -00.2	11			
12	27 37.6 +00.6	S 13	30.8 -00.6	314 58.1 +01.9	N 15	26.9 +00.1	13 21.0 +02.2	S 08	31.3 -00.1	12			
13	42 38.2 +00.6	S 13	30.2 -00.7	330 00.0 +02.0	N 15	27.0 +00.2	28 23.2 +02.2	S 08	31.2 -00.1	13			
14	57 38.8 +00.5	S 13	29.5 -00.6	345 02.0 +02.0	N 15	27.2 +00.2	43 25.4 +02.2	S 08	31.1 -00.1	14			
15	72 39.3 +00.6	S 13	28.9 -00.7	0 04.0 +01.9	N 15	27.4 +00.1	58 27.6 +02.1	S 08	31.0 -00.1	15			
16	87 39.9 +00.6	S 13	28.2 -00.7	15 05.9 +02.0	N 15	27.5 +00.2	73 29.7 +02.2	S 08	30.9 -00.1	16			
17	102 40.5 +00.6	S 13	27.5 -00.6	30 07.9 +02.0	N 15	27.7 +00.1	88 31.9 +02.2	S 08	30.8 -00.1	17			
18	117 41.1 +00.6	S 13	26.9 -00.7	45 09.9 +01.9	N 15	27.8 +00.2	103 34.1 +02.2	S 08	30.7 -00.1	18			
19	132 41.7 +00.6	S 13	26.2 -00.6	60 11.8 +02.0	N 15	28.0 +00.1	118 36.3 +02.2	S 08	30.6 -00.1	19			
20	147 42.3 +00.5	S 13	25.6 -00.7	75 13.8 +02.0	N 15	28.1 +00.2	133 38.5 +02.2	S 08	30.5 -00.1	20			
21	162 42.8 +00.6	S 13	24.9 -00.7	90 15.8 +01.9	N 15	28.3 +00.1	148 40.7 +02.2	S 08	30.4 -00.1	21			
22	177 43.4 +00.6	S 13	24.2 -00.6	105 17.7 +02.0	N 15	28.4 +00.2	163 42.9 +02.1	S 08	30.3 -00.2	22			
23	192 44.0 +00.6	S 13	23.6 -00.7	120 19.7 +02.0	N 15	28.6 +00.1	178 45.0 +02.2	S 08	30.1 -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 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			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						
	SHA 030° 030° 030° 030° 030° 030°			SHA 318° 317° 317° 317° 317° 317°			SHA 016° 016° 016° 016° 016° 016°						
	Greenwich Culmination Time: 10:09			Greenwich Culmination Time: 14:59			Greenwich Culmination Time: 11:06						

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 08.1 +00.2	S	00 03.1 -01.0	195 58.9 -00.5	S	09 00.4 -01.1	52 15.0 -29.6	N	24 34.3 -07.8	00			
01	193 08.3 +00.2	S	00 02.1 -01.0	210 58.4 -00.4	S	08 59.3 -01.2	66 45.4 -29.4	N	24 26.5 -08.0	01			
02	208 08.5 +00.2	S	00 01.1 -01.0	225 58.0 -00.5	S	08 58.1 -01.1	81 16.0 -29.4	N	24 18.5 -08.1	02			
03	223 08.7 +00.2	S	00 00.1 -01.0	240 57.5 -00.4	S	08 57.0 -01.1	95 46.6 -29.3	N	24 10.4 -08.2	03			
04	238 08.9 +00.2	N	00 00.9 +01.0	255 57.1 -00.5	S	08 55.9 -01.1	110 17.3 -29.2	N	24 02.2 -08.3	04			
05	253 09.1 +00.2	N	00 01.9 +01.0	270 56.6 -00.4	S	08 54.8 -01.1	124 48.1 -29.1	N	23 53.9 -08.3	05			
06	268 09.3 +00.1	N	00 02.9 +01.0	285 56.2 -00.5	S	08 53.7 -01.2	139 19.0 -29.1	N	23 45.6 -08.5	06			
07	283 09.4 +00.2	N	00 03.9 +00.9	300 55.7 -00.4	S	08 52.5 -01.1	153 49.9 -28.9	N	23 37.1 -08.6	07			
08	298 09.6 +00.2	N	00 04.8 +01.0	315 55.3 -00.5	S	08 51.4 -01.1	168 21.0 -28.9	N	23 28.5 -08.7	08			
09	313 09.8 +00.2	N	00 05.8 +01.0	330 54.8 -00.4	S	08 50.3 -01.1	182 52.1 -28.8	N	23 19.8 -08.8	09			
10	328 10.0 +00.2	N	00 06.8 +01.0	345 54.4 -00.5	S	08 49.2 -01.2	197 23.3 -28.7	N	23 11.0 -08.9	10			
11	343 10.2 +00.2	N	00 07.8 +01.0	0 53.9 -00.4	S	08 48.0 -01.1	211 54.6 -28.6	N	23 02.1 -09.0	11			
12	358 10.4 +00.2	N	00 08.8 +01.0	15 53.5 -00.5	S	08 46.9 -01.1	226 26.0 -28.6	N	22 53.1 -09.1	12			
13	13 10.6 +00.1	N	00 09.8 +01.0	30 53.0 -00.4	S	08 45.8 -01.1	240 57.4 -28.4	N	22 44.0 -09.2	13			
14	28 10.7 +00.2	N	00 10.8 +01.0	45 52.6 -00.5	S	08 44.7 -01.2	255 29.0 -28.4	N	22 34.8 -09.2	14			
15	43 10.9 +00.2	N	00 11.8 +00.9	60 52.1 -00.4	S	08 43.5 -01.1	270 00.6 -28.3	N	22 25.6 -09.4	15			
16	58 11.1 +00.2	N	00 12.7 +01.0	75 51.7 -00.5	S	08 42.4 -01.1	284 32.3 -28.2	N	22 16.2 -09.5	16			
17	73 11.3 +00.2	N	00 13.7 +01.0	90 51.2 -00.4	S	08 41.3 -01.2	299 04.1 -28.1	N	22 06.7 -09.5	17			
18	88 11.5 +00.2	N	00 14.7 +01.0	105 50.8 -00.5	S	08 40.1 -01.1	313 36.0 -28.0	N	21 57.2 -09.7	18			
19	103 11.7 +00.2	N	00 15.7 +01.0	120 50.3 -00.4	S	08 39.0 -01.1	328 08.0 -28.0	N	21 47.5 -09.7	19			
20	118 11.9 +00.1	N	00 16.7 +01.0	135 49.9 -00.5	S	08 37.9 -01.1	342 40.0 -27.9	N	21 37.8 -09.8	20			
21	133 12.0 +00.2	N	00 17.7 +01.0	150 49.4 -00.4	S	08 36.8 -01.2	357 12.1 -27.8	N	21 28.0 -09.9	21			
22	148 12.2 +00.2	N	00 18.7 +01.0	165 49.0 -00.5	S	08 35.6 -01.1	11 44.3 -27.7	N	21 18.1 -10.0	22			
23	163 12.4 +00.2	N	00 19.7 +00.9	180 48.5 -00.4	S	08 34.5 -01.1	26 16.6 -27.6	N	21 08.1 -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 16'1 16'1 16'1 16'1 16'1 16'1			SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 14'9 14'9 14'9 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 54'5 54'4 54'3						
	SHA 000° 360° 360° 360° 359° 359°			SHA 018° 018° 017° 017° 017° 017°			SHA 233° 231° 229° 227° 225° 223°						
	Greenwich Culmination Time: 12:07			Greenwich Culmination Time: 10:56			Greenwich Culmination Time: 21:11						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	207 44.6 +00.6	S	13 22.9 -00.6	135 21.7 +02.0	N	15 28.7 +00.2	193 47.2 +02.2	S	08 30.0 -00.1	00			
01	222 45.2 +00.6	S	13 22.3 -00.7	150 23.7 +01.9	N	15 28.9 +00.1	208 49.4 +02.2	S	08 29.9 -00.1	01			
02	237 45.8 +00.5	S	13 21.6 -00.7	165 25.6 +02.0	N	15 29.0 +00.2	223 51.6 +02.2	S	08 29.8 -00.1	02			
03	252 46.3 +00.6	S	13 20.9 -00.6	180 27.6 +02.0	N	15 29.2 +00.2	238 53.8 +02.2	S	08 29.7 -00.1	03			
04	267 46.9 +00.6	S	13 20.3 -00.7	195 29.6 +01.9	N	15 29.4 +00.1	253 56.0 +02.2	S	08 29.6 -00.1	04			
05	282 47.5 +00.6	S	13 19.6 -00.6	210 31.5 +02.0	N	15 29.5 +00.2	268 58.2 +02.1	S	08 29.5 -00.1	05			
06	297 48.1 +00.6	S	13 19.0 -00.7	225 33.5 +02.0	N	15 29.7 +00.1	284 00.3 +02.2	S	08 29.4 -00.1	06			
07	312 48.7 +00.6	S	13 18.3 -00.7	240 35.5 +01.9	N	15 29.8 +00.2	299 02.5 +02.2	S	08 29.3 -00.1	07			
08	327 49.3 +00.6	S	13 17.6 -00.6	255 37.4 +02.0	N	15 30.0 +00.1	314 04.7 +02.2	S	08 29.2 -00.2	08			
09	342 49.9 +00.5	S	13 17.0 -00.7	270 39.4 +02.0	N	15 30.1 +00.2	329 06.9 +02.2	S	08 29.0 -00.1	09			
10	357 50.4 +00.6	S	13 16.3 -00.7	285 41.4 +01.9	N	15 30.3 +00.1	344 09.1 +02.2	S	08 28.9 -00.1	10			
11	12 51.0 +00.6	S	13 15.6 -00.6	300 43.3 +02.0	N	15 30.4 +00.2	359 11.3 +02.2	S	08 28.8 -00.1	11			
12	27 51.6 +00.6	S	13 15.0 -00.7	315 45.3 +02.0	N	15 30.6 +00.1	14 13.5 +02.1	S	08 28.7 -00.1	12			
13	42 52.2 +00.6	S	13 14.3 -00.7	330 47.3 +01.9	N	15 30.7 +00.2	29 15.6 +02.2	S	08 28.6 -00.1	13			
14	57 52.8 +00.6	S	13 13.6 -00.6	345 49.2 +02.0	N	15 30.9 +00.1	44 17.8 +02.2	S	08 28.5 -00.1	14			
15	72 53.4 +00.6	S	13 13.0 -00.7	0 51.2 +02.0	N	15 31.0 +00.2	59 20.0 +02.2	S	08 28.4 -00.1	15			
16	87 54.0 +00.5	S	13 12.3 -00.6	15 53.2 +01.9	N	15 31.2 +00.2	74 22.2 +02.2	S	08 28.3 -00.1	16			
17	102 54.5 +00.6	S	13 11.7 -00.7	30 55.1 +02.0	N	15 31.4 +00.1	89 24.4 +02.2	S	08 28.2 -00.1	17			
18	117 55.1 +00.6	S	13 11.0 -00.7	45 57.1 +02.0	N	15 31.5 +00.2	104 26.6 +02.2	S	08 28.1 -00.1	18			
19	132 55.7 +00.6	S	13 10.3 -00.6	60 59.1 +01.9	N	15 31.7 +00.1	119 28.8 +02.2	S	08 28.0 -00.2	19			
20	147 56.3 +00.6	S	13 09.7 -00.7	76 01.0 +02.0	N	15 31.8 +00.2	134 31.0 +02.1	S	08 27.8 -00.1	20			
21	162 56.9 +00.6	S	13 09.0 -00.7	91 03.0 +02.0	N	15 32.0 +00.1	149 33.1 +02.2	S	08 27.7 -00.1	21			
22	177 57.5 +00.6	S	13 08.3 -00.6	106 05.0 +01.9	N	15 32.1 +00.2	164 35.3 +02.2	S	08 27.6 -00.1	22			
23	192 58.1 +00.6	S	13 07.7 -00.7	121 06.9 +02.0	N	15 32.3 +00.1	179 37.5 +02.2	S	08 27.5 -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 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			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						
	SHA 030° 030° 029° 029° 029° 029°			SHA 317° 317° 317° 317° 317° 317°			SHA 016° 016° 016° 016° 016° 016°						
	Greenwich Culmination Time: 10:08			Greenwich Culmination Time: 14:56			Greenwich Culmination Time: 11:03						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 12.6 +00.2	N 00	20.6 +01.0	195 48.1 -00.5	S 08	33.4 -01.2	40 49.0 -27.6	N 20	58.0 -10.1	00			
01	193 12.8 +00.2	N 00	21.6 +01.0	210 47.6 -00.4	S 08	32.2 -01.1	55 21.4 -27.5	N 20	47.9 -10.3	01			
02	208 13.0 +00.2	N 00	22.6 +01.0	225 47.2 -00.5	S 08	31.1 -01.1	69 53.9 -27.4	N 20	37.6 -10.3	02			
03	223 13.2 +00.1	N 00	23.6 +01.0	240 46.7 -00.4	S 08	30.0 -01.2	84 26.5 -27.3	N 20	27.3 -10.4	03			
04	238 13.3 +00.2	N 00	24.6 +01.0	255 46.3 -00.5	S 08	28.8 -01.1	98 59.2 -27.3	N 20	16.9 -10.5	04			
05	253 13.5 +00.2	N 00	25.6 +01.0	270 45.8 -00.4	S 08	27.7 -01.1	113 31.9 -27.1	N 20	06.4 -10.6	05			
06	268 13.7 +00.2	N 00	26.6 +01.0	285 45.4 -00.4	S 08	26.6 -01.1	128 04.8 -27.1	N 19	55.8 -10.6	06			
07	283 13.9 +00.2	N 00	27.6 +00.9	300 45.0 -00.5	S 08	25.5 -01.2	142 37.7 -27.1	N 19	45.2 -10.7	07			
08	298 14.1 +00.2	N 00	28.5 +01.0	315 44.5 -00.4	S 08	24.3 -01.1	157 10.6 -26.9	N 19	34.5 -10.8	08			
09	313 14.3 +00.2	N 00	29.5 +01.0	330 44.1 -00.5	S 08	23.2 -01.2	171 43.7 -26.9	N 19	23.7 -10.9	09			
10	328 14.5 +00.2	N 00	30.5 +01.0	345 43.6 -00.4	S 08	22.0 -01.1	186 16.8 -26.8	N 19	12.8 -11.0	10			
11	343 14.7 +00.1	N 00	31.5 +01.0	0 43.2 -00.5	S 08	20.9 -01.1	200 50.0 -26.7	N 19	01.8 -11.0	11			
12	358 14.8 +00.2	N 00	32.5 +01.0	15 42.7 -00.4	S 08	19.8 -01.2	215 23.3 -26.7	N 18	50.8 -11.1	12			
13	13 15.0 +00.2	N 00	33.5 +01.0	30 42.3 -00.4	S 08	18.6 -01.1	229 56.6 -26.6	N 18	39.7 -11.2	13			
14	28 15.2 +00.2	N 00	34.5 +00.9	45 41.9 -00.5	S 08	17.5 -01.1	244 30.0 -26.5	N 18	28.5 -11.2	14			
15	43 15.4 +00.2	N 00	35.4 +01.0	60 41.4 -00.4	S 08	16.4 -01.2	259 03.5 -26.4	N 18	17.3 -11.3	15			
16	58 15.6 +00.2	N 00	36.4 +01.0	75 41.0 -00.5	S 08	15.2 -01.1	273 37.1 -26.4	N 18	06.0 -11.4	16			
17	73 15.8 +00.2	N 00	37.4 +01.0	90 40.5 -00.4	S 08	14.1 -01.1	288 10.7 -26.3	N 17	54.6 -11.4	17			
18	88 16.0 +00.2	N 00	38.4 +01.0	105 40.1 -00.4	S 08	13.0 -01.2	302 44.4 -26.2	N 17	43.2 -11.5	18			
19	103 16.2 +00.1	N 00	39.4 +01.0	120 39.7 -00.5	S 08	11.8 -01.1	317 18.2 -26.2	N 17	31.7 -11.6	19			
20	118 16.3 +00.2	N 00	40.4 +01.0	135 39.2 -00.4	S 08	10.7 -01.2	331 52.0 -26.1	N 17	20.1 -11.7	20			
21	133 16.5 +00.2	N 00	41.4 +01.0	150 38.8 -00.5	S 08	09.5 -01.1	346 25.9 -26.1	N 17	08.4 -11.7	21			
22	148 16.7 +00.2	N 00	42.4 +00.9	165 38.3 -00.4	S 08	08.4 -01.1	0 59.8 -25.9	N 16	56.7 -11.7	22			
23	163 16.9 +00.2	N 00	43.3 +01.0	180 37.9 -00.4	S 08	07.3 -01.2	15 33.9 -26.0	N 16	45.0 -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 16'1 16'1 16'1 16'1 16'1 16'1			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 54'2 54'1 54'1						
	SHA 359° 359° 359° 359° 359° 358°			SHA 017° 017° 016° 016° 016° 016°			SHA 221° 219° 217° 215° 213° 211°						
	Greenwich Culmination Time: 12:07			Greenwich Culmination Time: 10:57			Greenwich Culmination Time: 21:55						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	207 58.7 +00.5	S 13	07.0 -00.7	136 08.9 +02.0	N 15	32.4 +00.2	194 39.7 +02.2	S 08	27.4 -00.1	00			
01	222 59.2 +00.6	S 13	06.3 -00.6	151 10.9 +01.9	N 15	32.6 +00.1	209 41.9 +02.2	S 08	27.3 -00.1	01			
02	237 59.8 +00.6	S 13	05.7 -00.7	166 12.8 +02.0	N 15	32.7 +00.2	224 44.1 +02.2	S 08	27.2 -00.1	02			
03	253 00.4 +00.6	S 13	05.0 -00.7	181 14.8 +01.9	N 15	32.9 +00.1	239 46.3 +02.2	S 08	27.1 -00.1	03			
04	268 01.0 +00.6	S 13	04.3 -00.6	196 16.7 +02.0	N 15	33.0 +00.2	254 48.5 +02.1	S 08	27.0 -00.1	04			
05	283 01.6 +00.6	S 13	03.7 -00.7	211 18.7 +02.0	N 15	33.2 +00.2	269 50.6 +02.2	S 08	26.9 -00.1	05			
06	298 02.2 +00.6	S 13	03.0 -00.7	226 20.7 +01.9	N 15	33.4 +00.1	284 52.8 +02.2	S 08	26.8 -00.2	06			
07	313 02.8 +00.6	S 13	02.3 -00.6	241 22.6 +02.0	N 15	33.5 +00.2	299 55.0 +02.2	S 08	26.6 -00.1	07			
08	328 03.4 +00.6	S 13	01.7 -00.7	256 24.6 +02.0	N 15	33.7 +00.1	314 57.2 +02.2	S 08	26.5 -00.1	08			
09	343 04.0 +00.5	S 13	01.0 -00.7	271 26.6 +01.9	N 15	33.8 +00.2	329 59.4 +02.2	S 08	26.4 -00.1	09			
10	358 04.5 +00.6	S 13	00.3 -00.6	286 28.5 +02.0	N 15	34.0 +00.1	345 01.6 +02.2	S 08	26.3 -00.1	10			
11	13 05.1 +00.6	S 12	59.7 -00.7	301 30.5 +02.0	N 15	34.1 +00.2	0 03.8 +02.1	S 08	26.2 -00.1	11			
12	28 05.7 +00.6	S 12	59.0 -00.7	316 32.5 +01.9	N 15	34.3 +00.1	15 05.9 +02.2	S 08	26.1 -00.1	12			
13	43 06.3 +00.6	S 12	58.3 -00.6	331 34.4 +02.0	N 15	34.4 +00.2	30 08.1 +02.2	S 08	26.0 -00.1	13			
14	58 06.9 +00.6	S 12	57.7 -00.7	346 36.4 +01.9	N 15	34.6 +00.1	45 10.3 +02.2	S 08	25.9 -00.1	14			
15	73 07.5 +00.6	S 12	57.0 -00.7	1 38.3 +02.0	N 15	34.7 +00.2	60 12.5 +02.2	S 08	25.8 -00.1	15			
16	88 08.1 +00.6	S 12	56.3 -00.6	16 40.3 +02.0	N 15	34.9 +00.2	75 14.7 +02.2	S 08	25.7 -00.1	16			
17	103 08.7 +00.6	S 12	55.7 -00.7	31 42.3 +01.9	N 15	35.1 +00.1	90 16.9 +02.2	S 08	25.6 -00.2	17			
18	118 09.3 +00.6	S 12	55.0 -00.7	46 44.2 +02.0	N 15	35.2 +00.2	105 19.1 +02.2	S 08	25.4 -00.1	18			
19	133 09.9 +00.6	S 12	54.3 -00.7	61 46.2 +02.0	N 15	35.4 +00.1	120 21.3 +02.2	S 08	25.3 -00.1	19			
20	148 10.5 +00.5	S 12	53.6 -00.6	76 48.2 +01.9	N 15	35.5 +00.2	135 23.5 +02.1	S 08	25.2 -00.1	20			
21	163 11.0 +00.6	S 12	53.0 -00.7	91 50.1 +02.0	N 15	35.7 +00.1	150 25.6 +02.2	S 08	25.1 -00.1	21			
22	178 11.6 +00.6	S 12	52.3 -00.7	106 52.1 +01.9	N 15	35.8 +00.2	165 27.8 +02.2	S 08	25.0 -00.1	22			
23	193 12.2 +00.6	S 12	51.6 -00.6	121 54.0 +02.0	N 15	36.0 +00.1	180 30.0 +02.2	S 08	24.9 -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 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			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						
	SHA 029° 029° 029° 029° 028° 028°			SHA 317° 317° 317° 317° 317° 317°			SHA 016° 016° 016° 016° 016° 016°						
	Greenwich Culmination Time: 10:07			Greenwich Culmination Time: 14:53			Greenwich Culmination Time: 10:59						

UT	Sun				Venus				Moon				UT						
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec							
00	178	17.1	+00.2	N 00 44.3	+01.0	195	37.5	-00.5	S 08 06.1	-01.1	30	07.9	-25.8	N 16 33.1	-11.9	00			
01	193	17.3	+00.2	N 00 45.3	+01.0	210	37.0	-00.4	S 08 05.0	-01.2	44	42.1	-25.8	N 16 21.2	-11.9	01			
02	208	17.5	+00.2	N 00 46.3	+01.0	225	36.6	-00.5	S 08 03.8	-01.1	59	16.3	-25.7	N 16 09.3	-12.1	02			
03	223	17.7	+00.1	N 00 47.3	+01.0	240	36.1	-00.4	S 08 02.7	-01.1	73	50.6	-25.7	N 15 57.2	-12.0	03			
04	238	17.8	+00.2	N 00 48.3	+01.0	255	35.7	-00.4	S 08 01.6	-01.2	88	24.9	-25.6	N 15 45.2	-12.2	04			
05	253	18.0	+00.2	N 00 49.3	+00.9	270	35.3	-00.5	S 08 00.4	-01.1	102	59.3	-25.5	N 15 33.0	-12.2	05			
06	268	18.2	+00.2	N 00 50.2	+01.0	285	34.8	-00.4	S 07 59.3	-01.2	117	33.8	-25.5	N 15 20.8	-12.2	06			
07	283	18.4	+00.2	N 00 51.2	+01.0	300	34.4	-00.4	S 07 58.1	-01.1	132	08.3	-25.4	N 15 08.6	-12.3	07			
08	298	18.6	+00.2	N 00 52.2	+01.0	315	34.0	-00.5	S 07 57.0	-01.1	146	42.9	-25.4	N 14 56.3	-12.4	08			
09	313	18.8	+00.2	N 00 53.2	+01.0	330	33.5	-00.4	S 07 55.9	-01.2	161	17.5	-25.3	N 14 43.9	-12.4	09			
10	328	19.0	+00.2	N 00 54.2	+01.0	345	33.1	-00.5	S 07 54.7	-01.1	175	52.2	-25.3	N 14 31.5	-12.4	10			
11	343	19.2	+00.1	N 00 55.2	+01.0	0	32.6	-00.4	S 07 53.6	-01.2	190	26.9	-25.2	N 14 19.1	-12.6	11			
12	358	19.3	+00.2	N 00 56.2	+00.9	15	32.2	-00.4	S 07 52.4	-01.1	205	01.7	-25.1	N 14 06.5	-12.5	12			
13	13	19.5	+00.2	N 00 57.1	+01.0	30	31.8	-00.5	S 07 51.3	-01.2	219	36.6	-25.1	N 13 54.0	-12.7	13			
14	28	19.7	+00.2	N 00 58.1	+01.0	45	31.3	-00.4	S 07 50.1	-01.1	234	11.5	-25.1	N 13 41.3	-12.6	14			
15	43	19.9	+00.2	N 00 59.1	+01.0	60	30.9	-00.4	S 07 49.0	-01.2	248	46.4	-25.0	N 13 28.7	-12.7	15			
16	58	20.1	+00.2	N 01 00.1	+01.0	75	30.5	-00.5	S 07 47.8	-01.1	263	21.4	-24.9	N 13 16.0	-12.8	16			
17	73	20.3	+00.2	N 01 01.1	+01.0	90	30.0	-00.4	S 07 46.7	-01.1	277	56.5	-24.9	N 13 03.2	-12.8	17			
18	88	20.5	+00.2	N 01 02.1	+01.0	105	29.6	-00.4	S 07 45.6	-01.2	292	31.6	-24.9	N 12 50.4	-12.9	18			
19	103	20.7	+00.1	N 01 03.1	+00.9	120	29.2	-00.5	S 07 44.4	-01.1	307	06.7	-24.8	N 12 37.5	-12.9	19			
20	118	20.8	+00.2	N 01 04.0	+01.0	135	28.7	-00.4	S 07 43.3	-01.2	321	41.9	-24.7	N 12 24.6	-12.9	20			
21	133	21.0	+00.2	N 01 05.0	+01.0	150	28.3	-00.4	S 07 42.1	-01.1	336	17.2	-24.7	N 12 11.7	-13.0	21			
22	148	21.2	+00.2	N 01 06.0	+01.0	165	27.9	-00.5	S 07 41.0	-01.2	350	52.5	-24.7	N 11 58.7	-13.1	22			
23	163	21.4	+00.2	N 01 07.0	+01.0	180	27.4	-00.4	S 07 39.8	-01.1	5	27.8	-24.6	N 11 45.6	-13.1	23			
	UT 02 06 10 14 18 22					UT 02 06 10 14 18 22								UT 02 06 10 14 18 22					
	SD 16'1 16'1 16'1 16'0 16'0 16'0					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 54'1 54'0 54'0 54'0 54'0 54'0					
	SHA 358° 358° 358° 358° 358° 357°					SHA 016° 015° 015° 015° 015° 015°								SHA 209° 207° 205° 204° 202° 200°					
	Greenwich Culmination Time: 12:06					Greenwich Culmination Time: 10:57								Greenwich Culmination Time: 22:37					

UT	Mars				Jupiter				Saturn				UT						
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec							
00	208	12.8	+00.6	S 12 51.0	-00.7	136	56.0	+02.0	N 15 36.1	+00.2	195	32.2	+02.2	S 08 24.8	-00.1	00			
01	223	13.4	+00.6	S 12 50.3	-00.7	151	58.0	+01.9	N 15 36.3	+00.1	210	34.4	+02.2	S 08 24.7	-00.1	01			
02	238	14.0	+00.6	S 12 49.6	-00.7	166	59.9	+02.0	N 15 36.4	+00.2	225	36.6	+02.2	S 08 24.6	-00.1	02			
03	253	14.6	+00.6	S 12 48.9	-00.6	182	01.9	+02.0	N 15 36.6	+00.2	240	38.8	+02.2	S 08 24.5	-00.1	03			
04	268	15.2	+00.6	S 12 48.3	-00.7	197	03.9	+01.9	N 15 36.8	+00.1	255	41.0	+02.1	S 08 24.4	-00.2	04			
05	283	15.8	+00.6	S 12 47.6	-00.7	212	05.8	+02.0	N 15 36.9	+00.2	270	43.1	+02.2	S 08 24.2	-00.1	05			
06	298	16.4	+00.6	S 12 46.9	-00.6	227	07.8	+01.9	N 15 37.1	+00.1	285	45.3	+02.2	S 08 24.1	-00.1	06			
07	313	17.0	+00.6	S 12 46.3	-00.7	242	09.7	+02.0	N 15 37.2	+00.2	300	47.5	+02.2	S 08 24.0	-00.1	07			
08	328	17.6	+00.6	S 12 45.6	-00.7	257	11.7	+02.0	N 15 37.4	+00.1	315	49.7	+02.2	S 08 23.9	-00.1	08			
09	343	18.2	+00.5	S 12 44.9	-00.7	272	13.7	+01.9	N 15 37.5	+00.2	330	51.9	+02.2	S 08 23.8	-00.1	09			
10	358	18.7	+00.6	S 12 44.2	-00.6	287	15.6	+02.0	N 15 37.7	+00.1	345	54.1	+02.2	S 08 23.7	-00.1	10			
11	13	19.3	+00.6	S 12 43.6	-00.7	302	17.6	+01.9	N 15 37.8	+00.2	0	56.3	+02.2	S 08 23.6	-00.1	11			
12	28	19.9	+00.6	S 12 42.9	-00.7	317	19.5	+02.0	N 15 38.0	+00.1	15	58.5	+02.1	S 08 23.5	-00.1	12			
13	43	20.5	+00.6	S 12 42.2	-00.7	332	21.5	+02.0	N 15 38.1	+00.2	31	00.6	+02.2	S 08 23.4	-00.1	13			
14	58	21.1	+00.6	S 12 41.5	-00.6	347	23.5	+01.9	N 15 38.3	+00.2	46	02.8	+02.2	S 08 23.3	-00.1	14			
15	73	21.7	+00.6	S 12 40.9	-00.7	2	25.4	+02.0	N 15 38.5	+00.1	61	05.0	+02.2	S 08 23.2	-00.1	15			
16	88	22.3	+00.6	S 12 40.2	-00.7	17	27.4	+01.9	N 15 38.6	+00.2	76	07.2	+02.2	S 08 23.1	-00.2	16			
17	103	22.9	+00.6	S 12 39.5	-00.6	32	29.3	+02.0	N 15 38.8	+00.1	91	09.4	+02.2	S 08 22.9	-00.1	17			
18	118	23.5	+00.6	S 12 38.9	-00.7	47	31.3	+02.0	N 15 38.9	+00.2	106	11.6	+02.2	S 08 22.8	-00.1	18			
19	133	24.1	+00.6	S 12 38.2	-00.7	62	33.3	+01.9	N 15 39.1	+00.1	121	13.8	+02.2	S 08 22.7	-00.1	19			
20	148	24.7	+00.6	S 12 37.5	-00.7	77	35.2	+02.0	N 15 39.2	+00.2	136	16.0	+02.2	S 08 22.6	-00.1	20			
21	163	25.3	+00.6	S 12 36.8	-00.6	92	37.2	+01.9	N 15 39.4	+00.1	151	18.2	+02.1	S 08 22.5	-00.1	21			
22	178	25.9	+00.6	S 12 36.2	-00.7	107	39.1	+02.0	N 15 39.5	+00.2	166	20.3	+02.2	S 08 22.4	-00.1	22			
23	193	26.5	+00.6	S 12 35.5	-00.7	122	41.1	+01.9	N 15 39.7	+00.1	181	22.5	+02.2	S 08 22.3	-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 00'0 00'0 00'0 00'0 00'0 00'0					SD 00'3 00'3 00'3 00'3 00'3 00'3								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					
	SHA 028° 028° 028° 028° 028° 028°					SHA 317° 317° 317° 317° 317° 317°								SHA 016° 016° 016° 015° 015° 015°					
	Greenwich Culmination Time: 10:06					Greenwich Culmination Time: 14:50								Greenwich Culmination Time: 10:56					

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 21.6 +00.2	N 01 08.0 +01.0	195 27.0 -00.4	S 07 38.7 -01.2	20 03.2 -24.6	N 11 32.5 -13.1	00						
01	193 21.8 +00.2	N 01 09.0 +01.0	210 26.6 -00.5	S 07 37.5 -01.1	34 38.6 -24.5	N 11 19.4 -13.1	01						
02	208 22.0 +00.2	N 01 10.0 +00.9	225 26.1 -00.4	S 07 36.4 -01.2	49 14.1 -24.5	N 11 06.3 -13.2	02						
03	223 22.2 +00.2	N 01 10.9 +01.0	240 25.7 -00.4	S 07 35.2 -01.1	63 49.6 -24.5	N 10 53.1 -13.3	03						
04	238 22.4 +00.1	N 01 11.9 +01.0	255 25.3 -00.4	S 07 34.1 -01.2	78 25.1 -24.4	N 10 39.8 -13.3	04						
05	253 22.5 +00.2	N 01 12.9 +01.0	270 24.9 -00.5	S 07 32.9 -01.1	93 00.7 -24.3	N 10 26.5 -13.3	05						
06	268 22.7 +00.2	N 01 13.9 +01.0	285 24.4 -00.4	S 07 31.8 -01.2	107 36.4 -24.4	N 10 13.2 -13.3	06						
07	283 22.9 +00.2	N 01 14.9 +01.0	300 24.0 -00.4	S 07 30.6 -01.1	122 12.0 -24.3	N 09 59.9 -13.4	07						
08	298 23.1 +00.2	N 01 15.9 +00.9	315 23.6 -00.5	S 07 29.5 -01.2	136 47.7 -24.2	N 09 46.5 -13.4	08						
09	313 23.3 +00.2	N 01 16.8 +01.0	330 23.1 -00.4	S 07 28.3 -01.1	151 23.5 -24.3	N 09 33.1 -13.5	09						
10	328 23.5 +00.2	N 01 17.8 +01.0	345 22.7 -00.4	S 07 27.2 -01.2	165 59.2 -24.2	N 09 19.6 -13.5	10						
11	343 23.7 +00.2	N 01 18.8 +01.0	0 22.3 -00.5	S 07 26.0 -01.1	180 35.0 -24.1	N 09 06.1 -13.5	11						
12	358 23.9 +00.2	N 01 19.8 +01.0	15 21.8 -00.4	S 07 24.9 -01.2	195 10.9 -24.2	N 08 52.6 -13.6	12						
13	13 24.1 +00.1	N 01 20.8 +01.0	30 21.4 -00.4	S 07 23.7 -01.2	209 46.7 -24.1	N 08 39.0 -13.6	13						
14	28 24.2 +00.2	N 01 21.8 +01.0	45 21.0 -00.4	S 07 22.5 -01.1	224 22.6 -24.0	N 08 25.4 -13.6	14						
15	43 24.4 +00.2	N 01 22.8 +00.9	60 20.6 -00.5	S 07 21.4 -01.2	238 58.6 -24.1	N 08 11.8 -13.6	15						
16	58 24.6 +00.2	N 01 23.7 +01.0	75 20.1 -00.4	S 07 20.2 -01.1	253 34.5 -24.0	N 07 58.2 -13.7	16						
17	73 24.8 +00.2	N 01 24.7 +01.0	90 19.7 -00.4	S 07 19.1 -01.2	268 10.5 -24.0	N 07 44.5 -13.7	17						
18	88 25.0 +00.2	N 01 25.7 +01.0	105 19.3 -00.4	S 07 17.9 -01.1	282 46.5 -23.9	N 07 30.8 -13.7	18						
19	103 25.2 +00.2	N 01 26.7 +01.0	120 18.9 -00.5	S 07 16.8 -01.2	297 22.6 -24.0	N 07 17.1 -13.8	19						
20	118 25.4 +00.2	N 01 27.7 +01.0	135 18.4 -00.4	S 07 15.6 -01.1	311 58.6 -23.9	N 07 03.3 -13.8	20						
21	133 25.6 +00.2	N 01 28.7 +00.9	150 18.0 -00.4	S 07 14.5 -01.2	326 34.7 -23.9	N 06 49.5 -13.8	21						
22	148 25.8 +00.1	N 01 29.6 +01.0	165 17.6 -00.4	S 07 13.3 -01.1	341 10.8 -23.8	N 06 35.7 -13.8	22						
23	163 25.9 +00.2	N 01 30.6 +01.0	180 17.2 -00.5	S 07 12.2 -01.2	355 47.0 -23.9	N 06 21.9 -13.9	23						
	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 357° 357° 357° 357° 357° 357° 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 014° 014° 014° 014° 014° 013° Greenwich Culmination Time: 10:58	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 53'9 53'9 53'9 53'9 SHA 198° 196° 195° 193° 191° 189° 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	208 27.1 +00.6	S 12 34.8 -00.7	137 43.0 +02.0	N 15 39.8 +00.2	196 24.7 +02.2	S 08 22.2 -00.1	00						
01	223 27.7 +00.6	S 12 34.1 -00.7	152 45.0 +02.0	N 15 40.0 +00.2	211 26.9 +02.2	S 08 22.1 -00.1	01						
02	238 28.3 +00.6	S 12 33.4 -00.6	167 47.0 +01.9	N 15 40.2 +00.1	226 29.1 +02.2	S 08 22.0 -00.1	02						
03	253 28.9 +00.6	S 12 32.8 -00.7	182 48.9 +02.0	N 15 40.3 +00.2	241 31.3 +02.2	S 08 21.9 -00.1	03						
04	268 29.5 +00.6	S 12 32.1 -00.7	197 50.9 +01.9	N 15 40.5 +00.1	256 33.5 +02.2	S 08 21.8 -00.2	04						
05	283 30.1 +00.6	S 12 31.4 -00.7	212 52.8 +02.0	N 15 40.6 +00.2	271 35.7 +02.2	S 08 21.6 -00.1	05						
06	298 30.7 +00.5	S 12 30.7 -00.6	227 54.8 +01.9	N 15 40.8 +00.1	286 37.9 +02.2	S 08 21.5 -00.1	06						
07	313 31.2 +00.6	S 12 30.1 -00.7	242 56.7 +02.0	N 15 40.9 +00.2	301 40.1 +02.1	S 08 21.4 -00.1	07						
08	328 31.8 +00.6	S 12 29.4 -00.7	257 58.7 +02.0	N 15 41.1 +00.1	316 42.2 +02.2	S 08 21.3 -00.1	08						
09	343 32.4 +00.6	S 12 28.7 -00.7	273 00.7 +01.9	N 15 41.2 +00.2	331 44.4 +02.2	S 08 21.2 -00.1	09						
10	358 33.0 +00.6	S 12 28.0 -00.6	288 02.6 +02.0	N 15 41.4 +00.2	346 46.6 +02.2	S 08 21.1 -00.1	10						
11	13 33.6 +00.6	S 12 27.4 -00.7	303 04.6 +01.9	N 15 41.6 +00.1	1 48.8 +02.2	S 08 21.0 -00.1	11						
12	28 34.2 +00.6	S 12 26.7 -00.7	318 06.5 +02.0	N 15 41.7 +00.2	16 51.0 +02.2	S 08 20.9 -00.1	12						
13	43 34.8 +00.6	S 12 26.0 -00.7	333 08.5 +01.9	N 15 41.9 +00.1	31 53.2 +02.2	S 08 20.8 -00.1	13						
14	58 35.4 +00.6	S 12 25.3 -00.7	348 10.4 +02.0	N 15 42.0 +00.2	46 55.4 +02.2	S 08 20.7 -00.1	14						
15	73 36.0 +00.6	S 12 24.6 -00.6	3 12.4 +02.0	N 15 42.2 +00.1	61 57.6 +02.2	S 08 20.6 -00.1	15						
16	88 36.6 +00.6	S 12 24.0 -00.7	18 14.4 +01.9	N 15 42.3 +00.2	76 59.8 +02.1	S 08 20.5 -00.2	16						
17	103 37.2 +00.6	S 12 23.3 -00.7	33 16.3 +02.0	N 15 42.5 +00.1	92 01.9 +02.2	S 08 20.3 -00.1	17						
18	118 37.8 +00.6	S 12 22.6 -00.7	48 18.3 +01.9	N 15 42.6 +00.2	107 04.1 +02.2	S 08 20.2 -00.1	18						
19	133 38.4 +00.6	S 12 21.9 -00.7	63 20.2 +02.0	N 15 42.8 +00.1	122 06.3 +02.2	S 08 20.1 -00.1	19						
20	148 39.0 +00.6	S 12 21.2 -00.6	78 22.2 +01.9	N 15 42.9 +00.2	137 08.5 +02.2	S 08 20.0 -00.1	20						
21	163 39.6 +00.6	S 12 20.6 -00.7	93 24.1 +02.0	N 15 43.1 +00.2	152 10.7 +02.2	S 08 19.9 -00.1	21						
22	178 40.2 +00.6	S 12 19.9 -00.7	108 26.1 +01.9	N 15 43.3 +00.1	167 12.9 +02.2	S 08 19.8 -00.1	22						
23	193 40.8 +00.6	S 12 19.2 -00.7	123 28.0 +02.0	N 15 43.4 +00.2	182 15.1 +02.2	S 08 19.7 -00.1	23						
	UT 02 06 10 14 18 22 SD 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 027° 027° 027° 027° 027° 027° Greenwich Culmination Time: 10:05	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 317° 317° 317° 317° 317° 317° Greenwich Culmination Time: 14:47	UT 02 06 10 14 18 22 SD 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 SHA 015° 015° 015° 015° 015° 015° Greenwich Culmination Time: 10:52										

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 26.1 +00.2	N 01 31.6 +01.0	195 16.7 -00.4	S 07 11.0 -01.2	10 23.1 -23.8	N 06 08.0 -13.8	00						
01	193 26.3 +00.2	N 01 32.6 +01.0	210 16.3 -00.4	S 07 09.8 -01.1	24 59.3 -23.8	N 05 54.2 -14.0	01						
02	208 26.5 +00.2	N 01 33.6 +01.0	225 15.9 -00.4	S 07 08.7 -01.2	39 35.5 -23.8	N 05 40.2 -13.9	02						
03	223 26.7 +00.2	N 01 34.6 +00.9	240 15.5 -00.5	S 07 07.5 -01.1	54 11.7 -23.8	N 05 26.3 -13.9	03						
04	238 26.9 +00.2	N 01 35.5 +01.0	255 15.0 -00.4	S 07 06.4 -01.2	68 47.9 -23.7	N 05 12.4 -14.0	04						
05	253 27.1 +00.2	N 01 36.5 +01.0	270 14.6 -00.4	S 07 05.2 -01.2	83 24.2 -23.7	N 04 58.4 -14.0	05						
06	268 27.3 +00.2	N 01 37.5 +01.0	285 14.2 -00.4	S 07 04.0 -01.1	98 00.5 -23.8	N 04 44.4 -14.0	06						
07	283 27.5 +00.1	N 01 38.5 +01.0	300 13.8 -00.5	S 07 02.9 -01.2	112 36.7 -23.7	N 04 30.4 -14.0	07						
08	298 27.6 +00.2	N 01 39.5 +01.0	315 13.3 -00.4	S 07 01.7 -01.1	127 13.0 -23.7	N 04 16.4 -14.0	08						
09	313 27.8 +00.2	N 01 40.5 +00.9	330 12.9 -00.4	S 07 00.6 -01.2	141 49.3 -23.7	N 04 02.4 -14.1	09						
10	328 28.0 +00.2	N 01 41.4 +01.0	345 12.5 -00.4	S 06 59.4 -01.2	156 25.6 -23.6	N 03 48.3 -14.0	10						
11	343 28.2 +00.2	N 01 42.4 +01.0	0 12.1 -00.5	S 06 58.2 -01.1	171 02.0 -23.7	N 03 34.3 -14.1	11						
12	358 28.4 +00.2	N 01 43.4 +01.0	15 11.6 -00.4	S 06 57.1 -01.2	185 38.3 -23.6	N 03 20.2 -14.1	12						
13	13 28.6 +00.2	N 01 44.4 +01.0	30 11.2 -00.4	S 06 55.9 -01.1	200 14.7 -23.7	N 03 06.1 -14.1	13						
14	28 28.8 +00.2	N 01 45.4 +01.0	45 10.8 -00.4	S 06 54.8 -01.2	214 51.0 -23.6	N 02 52.0 -14.1	14						
15	43 29.0 +00.2	N 01 46.4 +00.9	60 10.4 -00.4	S 06 53.6 -01.2	229 27.4 -23.7	N 02 37.9 -14.2	15						
16	58 29.2 +00.1	N 01 47.3 +01.0	75 10.0 -00.5	S 06 52.4 -01.1	244 03.7 -23.6	N 02 23.7 -14.1	16						
17	73 29.3 +00.2	N 01 48.3 +01.0	90 09.5 -00.4	S 06 51.3 -01.2	258 40.1 -23.6	N 02 09.6 -14.1	17						
18	88 29.5 +00.2	N 01 49.3 +01.0	105 09.1 -00.4	S 06 50.1 -01.2	273 16.5 -23.6	N 01 55.5 -14.2	18						
19	103 29.7 +00.2	N 01 50.3 +01.0	120 08.7 -00.4	S 06 48.9 -01.1	287 52.9 -23.7	N 01 41.3 -14.2	19						
20	118 29.9 +00.2	N 01 51.3 +00.9	135 08.3 -00.4	S 06 47.8 -01.2	302 29.2 -23.6	N 01 27.1 -14.1	20						
21	133 30.1 +00.2	N 01 52.2 +01.0	150 07.9 -00.5	S 06 46.6 -01.1	317 05.6 -23.6	N 01 13.0 -14.2	21						
22	148 30.3 +00.2	N 01 53.2 +01.0	165 07.4 -00.4	S 06 45.5 -01.2	331 42.0 -23.6	N 00 58.8 -14.2	22						
23	163 30.5 +00.2	N 01 54.2 +01.0	180 07.0 -00.4	S 06 44.3 -01.2	346 18.4 -23.6	N 00 44.6 -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 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 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 54'0								
	SHA 356° 356° 356° 356° 356° 356°		SHA 013° 013° 013° 013° 012° 012°		SHA 188° 186° 184° 182° 181° 179°								
	Greenwich Culmination Time: 12:06		Greenwich Culmination Time: 10:59		Greenwich Culmination Time: 23:56								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	208 41.4 +00.6	S 12 18.5 -00.7	138 30.0 +02.0	N 15 43.6 +00.1	197 17.3 +02.2	S 08 19.6 -00.1	00						
01	223 42.0 +00.6	S 12 17.8 -00.6	153 32.0 +01.9	N 15 43.7 +00.2	212 19.5 +02.2	S 08 19.5 -00.1	01						
02	238 42.6 +00.6	S 12 17.2 -00.7	168 33.9 +02.0	N 15 43.9 +00.1	227 21.7 +02.1	S 08 19.4 -00.1	02						
03	253 43.2 +00.6	S 12 16.5 -00.7	183 35.9 +01.9	N 15 44.0 +00.2	242 23.8 +02.2	S 08 19.3 -00.1	03						
04	268 43.8 +00.6	S 12 15.8 -00.7	198 37.8 +02.0	N 15 44.2 +00.1	257 26.0 +02.2	S 08 19.2 -00.1	04						
05	283 44.4 +00.6	S 12 15.1 -00.7	213 39.8 +01.9	N 15 44.3 +00.2	272 28.2 +02.2	S 08 19.1 -00.2	05						
06	298 45.0 +00.6	S 12 14.4 -00.7	228 41.7 +02.0	N 15 44.5 +00.2	287 30.4 +02.2	S 08 18.9 -00.1	06						
07	313 45.6 +00.6	S 12 13.7 -00.6	243 43.7 +01.9	N 15 44.7 +00.1	302 32.6 +02.2	S 08 18.8 -00.1	07						
08	328 46.2 +00.6	S 12 13.1 -00.7	258 45.6 +02.0	N 15 44.8 +00.2	317 34.8 +02.2	S 08 18.7 -00.1	08						
09	343 46.8 +00.6	S 12 12.4 -00.7	273 47.6 +01.9	N 15 45.0 +00.1	332 37.0 +02.2	S 08 18.6 -00.1	09						
10	358 47.4 +00.6	S 12 11.7 -00.7	288 49.5 +02.0	N 15 45.1 +00.2	347 39.2 +02.2	S 08 18.5 -00.1	10						
11	13 48.0 +00.6	S 12 11.0 -00.7	303 51.5 +02.0	N 15 45.3 +00.1	2 41.4 +02.2	S 08 18.4 -00.1	11						
12	28 48.6 +00.6	S 12 10.3 -00.7	318 53.5 +01.9	N 15 45.4 +00.2	17 43.6 +02.1	S 08 18.3 -00.1	12						
13	43 49.2 +00.6	S 12 09.6 -00.6	333 55.4 +02.0	N 15 45.6 +00.1	32 45.7 +02.2	S 08 18.2 -00.1	13						
14	58 49.8 +00.6	S 12 09.0 -00.7	348 57.4 +01.9	N 15 45.7 +00.2	47 47.9 +02.2	S 08 18.1 -00.1	14						
15	73 50.4 +00.6	S 12 08.3 -00.7	3 59.3 +02.0	N 15 45.9 +00.1	62 50.1 +02.2	S 08 18.0 -00.1	15						
16	88 51.0 +00.6	S 12 07.6 -00.7	19 01.3 +01.9	N 15 46.0 +00.2	77 52.3 +02.2	S 08 17.9 -00.1	16						
17	103 51.6 +00.6	S 12 06.9 -00.7	34 03.2 +02.0	N 15 46.2 +00.2	92 54.5 +02.2	S 08 17.8 -00.1	17						
18	118 52.2 +00.6	S 12 06.2 -00.7	49 05.2 +01.9	N 15 46.4 +00.1	107 56.7 +02.2	S 08 17.7 -00.2	18						
19	133 52.8 +00.6	S 12 05.5 -00.6	64 07.1 +02.0	N 15 46.5 +00.2	122 58.9 +02.2	S 08 17.5 -00.1	19						
20	148 53.4 +00.6	S 12 04.9 -00.7	79 09.1 +01.9	N 15 46.7 +00.1	138 01.1 +02.2	S 08 17.4 -00.1	20						
21	163 54.0 +00.6	S 12 04.2 -00.7	94 11.0 +02.0	N 15 46.8 +00.2	153 03.3 +02.2	S 08 17.3 -00.1	21						
22	178 54.6 +00.6	S 12 03.5 -00.7	109 13.0 +01.9	N 15 47.0 +00.1	168 05.5 +02.2	S 08 17.2 -00.1	22						
23	193 55.2 +00.6	S 12 02.8 -00.7	124 14.9 +02.0	N 15 47.1 +00.2	183 07.7 +02.1	S 08 17.1 -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 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		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								
	SHA 027° 027° 026° 026° 026° 026°		SHA 317° 316° 316° 316° 316° 316°		SHA 015° 015° 015° 015° 015° 015°								
	Greenwich Culmination Time: 10:04		Greenwich Culmination Time: 14:44		Greenwich Culmination Time: 10:49								

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 30.7 +00.2	N 01 55.2 +01.0	195 06.6 -00.4	S 06 43.1 -01.1	0 54.8 -23.7	N 00 30.4 -14.2	00	00					
01	193 30.9 +00.2	N 01 56.2 +01.0	210 06.2 -00.4	S 06 42.0 -01.2	15 31.1 -23.6	N 00 16.2 -14.2	01	00					
02	208 31.1 +00.1	N 01 57.2 +00.9	225 05.8 -00.4	S 06 40.8 -01.2	30 07.5 -23.6	N 00 02.0 -14.2	02	00					
03	223 31.2 +00.2	N 01 58.1 +01.0	240 05.4 -00.5	S 06 39.6 -01.1	44 43.9 -23.7	S 00 12.2 +14.2	03	00					
04	238 31.4 +00.2	N 01 59.1 +01.0	255 04.9 -00.4	S 06 38.5 -01.2	59 20.2 -23.6	S 00 26.4 +14.2	04	00					
05	253 31.6 +00.2	N 02 00.1 +01.0	270 04.5 -00.4	S 06 37.3 -01.2	73 56.6 -23.7	S 00 40.6 +14.2	05	00					
06	268 31.8 +00.2	N 02 01.1 +01.0	285 04.1 -00.4	S 06 36.1 -01.1	88 32.9 -23.6	S 00 54.8 +14.3	06	00					
07	283 32.0 +00.2	N 02 02.1 +00.9	300 03.7 -00.4	S 06 35.0 -01.2	103 09.3 -23.7	S 01 09.1 +14.2	07	01					
08	298 32.2 +00.2	N 02 03.0 +01.0	315 03.3 -00.5	S 06 33.8 -01.2	117 45.6 -23.7	S 01 23.3 +14.2	08	01					
09	313 32.4 +00.2	N 02 04.0 +01.0	330 02.8 -00.4	S 06 32.6 -01.1	132 21.9 -23.7	S 01 37.5 +14.2	09	01					
10	328 32.6 +00.2	N 02 05.0 +01.0	345 02.4 -00.4	S 06 31.5 -01.2	146 58.2 -23.7	S 01 51.7 +14.2	10	01					
11	343 32.8 +00.1	N 02 06.0 +01.0	0 02.0 -00.4	S 06 30.3 -01.2	161 34.5 -23.7	S 02 05.9 +14.2	11	02					
12	358 32.9 +00.2	N 02 07.0 +01.0	15 01.6 -00.4	S 06 29.1 -01.1	176 10.8 -23.8	S 02 20.1 +14.2	12	02					
13	13 33.1 +00.2	N 02 08.0 +00.9	30 01.2 -00.4	S 06 28.0 -01.2	190 47.0 -23.7	S 02 34.3 +14.2	13	02					
14	28 33.3 +00.2	N 02 08.9 +01.0	45 00.8 -00.4	S 06 26.8 -01.2	205 23.3 -23.8	S 02 48.5 +14.1	14	02					
15	43 33.5 +00.2	N 02 09.9 +01.0	60 00.4 -00.5	S 06 25.6 -01.2	219 59.5 -23.8	S 03 02.6 +14.2	15	03					
16	58 33.7 +00.2	N 02 10.9 +01.0	74 59.9 -00.4	S 06 24.4 -01.1	234 35.7 -23.8	S 03 16.8 +14.2	16	03					
17	73 33.9 +00.2	N 02 11.9 +01.0	89 59.5 -00.4	S 06 23.3 -01.2	249 11.9 -23.8	S 03 31.0 +14.1	17	03					
18	88 34.1 +00.2	N 02 12.9 +00.9	104 59.1 -00.4	S 06 22.1 -01.2	263 48.1 -23.9	S 03 45.1 +14.2	18	03					
19	103 34.3 +00.2	N 02 13.8 +01.0	119 58.7 -00.4	S 06 20.9 -01.1	278 24.2 -23.9	S 03 59.3 +14.1	19	03					
20	118 34.5 +00.2	N 02 14.8 +01.0	134 58.3 -00.4	S 06 19.8 -01.2	293 00.3 -23.9	S 04 13.4 +14.1	20	04					
21	133 34.7 +00.1	N 02 15.8 +01.0	149 57.9 -00.4	S 06 18.6 -01.2	307 36.4 -23.9	S 04 27.5 +14.2	21	04					
22	148 34.8 +00.2	N 02 16.8 +01.0	164 57.5 -00.5	S 06 17.4 -01.2	322 12.5 -23.9	S 04 41.7 +14.1	22	04					
23	163 35.0 +00.2	N 02 17.8 +00.9	179 57.0 -00.4	S 06 16.2 -01.1	336 48.6 -24.0	S 04 55.8 +14.1	23	04					
	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 14'7 14'7 14'7 14'7 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 54'0 54'1 54'1 54'1 54'1 54'2								
	SHA 355° 355° 355° 355° 355° 355°		SHA 012° 012° 012° 011° 011° 011°		SHA 177° 175° 174° 172° 170° 168°								
	Greenwich Culmination Time: 12:05		Greenwich Culmination Time: 10:59		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	208 55.8 +00.6	S 12 02.1 -00.7	139 16.9 +01.9	N 15 47.3 +00.1	198 09.8 +02.2	S 08 17.0 -00.1	00	08					
01	223 56.4 +00.7	S 12 01.4 -00.7	154 18.8 +02.0	N 15 47.4 +00.2	213 12.0 +02.2	S 08 16.9 -00.1	01	08					
02	238 57.1 +00.6	S 12 00.7 -00.6	169 20.8 +01.9	N 15 47.6 +00.2	228 14.2 +02.2	S 08 16.8 -00.1	02	08					
03	253 57.7 +00.6	S 12 00.1 -00.7	184 22.7 +02.0	N 15 47.8 +00.1	243 16.4 +02.2	S 08 16.7 -00.1	03	08					
04	268 58.3 +00.6	S 11 59.4 -00.7	199 24.7 +01.9	N 15 47.9 +00.2	258 18.6 +02.2	S 08 16.6 -00.1	04	08					
05	283 58.9 +00.6	S 11 58.7 -00.7	214 26.6 +02.0	N 15 48.1 +00.1	273 20.8 +02.2	S 08 16.5 -00.1	05	08					
06	298 59.5 +00.6	S 11 58.0 -00.7	229 28.6 +01.9	N 15 48.2 +00.2	288 23.0 +02.2	S 08 16.4 -00.1	06	08					
07	314 00.1 +00.6	S 11 57.3 -00.7	244 30.5 +02.0	N 15 48.4 +00.1	303 25.2 +02.2	S 08 16.3 -00.2	07	08					
08	329 00.7 +00.6	S 11 56.6 -00.7	259 32.5 +01.9	N 15 48.5 +00.2	318 27.4 +02.2	S 08 16.1 -00.1	08	08					
09	344 01.3 +00.6	S 11 55.9 -00.6	274 34.4 +02.0	N 15 48.7 +00.1	333 29.6 +02.2	S 08 16.0 -00.1	09	08					
10	359 01.9 +00.6	S 11 55.3 -00.7	289 36.4 +01.9	N 15 48.8 +00.2	348 31.8 +02.2	S 08 15.9 -00.1	10	08					
11	14 02.5 +00.6	S 11 54.6 -00.7	304 38.3 +02.0	N 15 49.0 +00.2	3 34.0 +02.1	S 08 15.8 -00.1	11	08					
12	29 03.1 +00.6	S 11 53.9 -00.7	319 40.3 +01.9	N 15 49.2 +00.1	18 36.1 +02.2	S 08 15.7 -00.1	12	08					
13	44 03.7 +00.6	S 11 53.2 -00.7	334 42.2 +02.0	N 15 49.3 +00.2	33 38.3 +02.2	S 08 15.6 -00.1	13	08					
14	59 04.3 +00.6	S 11 52.5 -00.7	349 44.2 +01.9	N 15 49.5 +00.1	48 40.5 +02.2	S 08 15.5 -00.1	14	08					
15	74 04.9 +00.6	S 11 51.8 -00.7	4 46.1 +02.0	N 15 49.6 +00.2	63 42.7 +02.2	S 08 15.4 -00.1	15	08					
16	89 05.5 +00.6	S 11 51.1 -00.7	19 48.1 +01.9	N 15 49.8 +00.1	78 44.9 +02.2	S 08 15.3 -00.1	16	08					
17	104 06.1 +00.6	S 11 50.4 -00.7	34 50.0 +02.0	N 15 49.9 +00.2	93 47.1 +02.2	S 08 15.2 -00.1	17	08					
18	119 06.7 +00.6	S 11 49.7 -00.6	49 52.0 +01.9	N 15 50.1 +00.1	108 49.3 +02.2	S 08 15.1 -00.1	18	08					
19	134 07.3 +00.6	S 11 49.1 -00.7	64 53.9 +02.0	N 15 50.2 +00.2	123 51.5 +02.2	S 08 15.0 -00.1	19	08					
20	149 07.9 +00.6	S 11 48.4 -00.7	79 55.9 +01.9	N 15 50.4 +00.2	138 53.7 +02.2	S 08 14.9 -00.1	20	08					
21	164 08.5 +00.6	S 11 47.7 -00.7	94 57.8 +02.0	N 15 50.6 +00.1	153 55.9 +02.2	S 08 14.8 -00.2	21	08					
22	179 09.1 +00.7	S 11 47.0 -00.7	109 59.8 +01.9	N 15 50.7 +00.2	168 58.1 +02.2	S 08 14.6 -00.1	22	08					
23	194 09.8 +00.6	S 11 46.3 -00.7	125 01.7 +02.0	N 15 50.9 +00.1	184 00.3 +02.1	S 08 14.5 -00.1	23	08					
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		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								
	SHA 026° 026° 026° 026° 025° 025°		SHA 316° 316° 316° 316° 316° 316°		SHA 015° 015° 015° 015° 015° 015°								
	Greenwich Culmination Time: 10:03		Greenwich Culmination Time: 14:40		Greenwich Culmination Time: 10:45								

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 35.2 +00.2	N 02 18.7 +01.0	194 56.6 -00.4	S 06 15.1 -01.2	351 24.6 -24.0	S 05 09.9 +14.0	00						
01	193 35.4 +00.2	N 02 19.7 +01.0	209 56.2 -00.4	S 06 13.9 -01.2	6 00.6 -24.0	S 05 23.9 +14.1	01						
02	208 35.6 +00.2	N 02 20.7 +01.0	224 55.8 -00.4	S 06 12.7 -01.1	20 36.6 -24.1	S 05 38.0 +14.0	02						
03	223 35.8 +00.2	N 02 21.7 +01.0	239 55.4 -00.4	S 06 11.6 -01.2	35 12.5 -24.1	S 05 52.0 +14.1	03						
04	238 36.0 +00.2	N 02 22.7 +00.9	254 55.0 -00.4	S 06 10.4 -01.2	49 48.4 -24.1	S 06 06.1 +14.0	04						
05	253 36.2 +00.2	N 02 23.6 +01.0	269 54.6 -00.4	S 06 09.2 -01.2	64 24.3 -24.1	S 06 20.1 +14.0	05						
06	268 36.4 +00.1	N 02 24.6 +01.0	284 54.2 -00.5	S 06 08.0 -01.1	79 00.2 -24.2	S 06 34.1 +13.9	06						
07	283 36.5 +00.2	N 02 25.6 +01.0	299 53.7 -00.4	S 06 06.9 -01.2	93 36.0 -24.2	S 06 48.0 +14.0	07						
08	298 36.7 +00.2	N 02 26.6 +01.0	314 53.3 -00.4	S 06 05.7 -01.2	108 11.8 -24.3	S 07 02.0 +13.9	08						
09	313 36.9 +00.2	N 02 27.6 +00.9	329 52.9 -00.4	S 06 04.5 -01.2	122 47.5 -24.3	S 07 15.9 +13.9	09						
10	328 37.1 +00.2	N 02 28.5 +01.0	344 52.5 -00.4	S 06 03.3 -01.1	137 23.2 -24.3	S 07 29.8 +13.9	10						
11	343 37.3 +00.2	N 02 29.5 +01.0	359 52.1 -00.4	S 06 02.2 -01.2	151 58.9 -24.4	S 07 43.7 +13.9	11						
12	358 37.5 +00.2	N 02 30.5 +01.0	14 51.7 -00.4	S 06 01.0 -01.2	166 34.5 -24.4	S 07 57.6 +13.8	12						
13	13 37.7 +00.2	N 02 31.5 +01.0	29 51.3 -00.4	S 05 59.8 -01.2	181 10.1 -24.4	S 08 11.4 +13.9	13						
14	28 37.9 +00.2	N 02 32.5 +00.9	44 50.9 -00.4	S 05 58.6 -01.1	195 45.7 -24.5	S 08 25.3 +13.8	14						
15	43 38.1 +00.2	N 02 33.4 +01.0	59 50.5 -00.4	S 05 57.5 -01.2	210 21.2 -24.5	S 08 39.1 +13.7	15						
16	58 38.3 +00.1	N 02 34.4 +01.0	74 50.1 -00.4	S 05 56.3 -01.2	224 56.7 -24.6	S 08 52.8 +13.8	16						
17	73 38.4 +00.2	N 02 35.4 +01.0	89 49.7 -00.5	S 05 55.1 -01.2	239 32.1 -24.6	S 09 06.6 +13.7	17						
18	88 38.6 +00.2	N 02 36.4 +00.9	104 49.2 -00.4	S 05 53.9 -01.2	254 07.5 -24.7	S 09 20.3 +13.6	18						
19	103 38.8 +00.2	N 02 37.3 +01.0	119 48.8 -00.4	S 05 52.7 -01.1	268 42.8 -24.7	S 09 33.9 +13.7	19						
20	118 39.0 +00.2	N 02 38.3 +01.0	134 48.4 -00.4	S 05 51.6 -01.2	283 18.1 -24.7	S 09 47.6 +13.6	20						
21	133 39.2 +00.2	N 02 39.3 +01.0	149 48.0 -00.4	S 05 50.4 -01.2	297 53.4 -24.8	S 10 01.2 +13.6	21						
22	148 39.4 +00.2	N 02 40.3 +01.0	164 47.6 -00.4	S 05 49.2 -01.2	312 28.6 -24.9	S 10 14.8 +13.5	22						
23	163 39.6 +00.2	N 02 41.3 +00.9	179 47.2 -00.4	S 05 48.0 -01.2	327 03.7 -24.9	S 10 28.3 +13.6	23						
UT	02 06 10 14 18 22	SD 16'0 16'0 16'0 16'0 16'0 16'0	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 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 54'3 54'3 54'4 54'4						
	SHA 355° 354° 354° 354° 354° 354°			SHA 011° 011° 011° 010° 010° 010°			SHA 167° 165° 163° 161° 159° 158°						
	Greenwich Culmination Time: 12:05			Greenwich Culmination Time: 11:00			Greenwich Culmination Time: 00:35						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	209 10.4 +00.6	S 11 45.6 -00.7	140 03.7 +01.9	N 15 51.0 +00.2	199 02.4 +02.2	S 08 14.4 -00.1	00						
01	224 11.0 +00.6	S 11 44.9 -00.7	155 05.6 +02.0	N 15 51.2 +00.1	214 04.6 +02.2	S 08 14.3 -00.1	01						
02	239 11.6 +00.6	S 11 44.2 -00.7	170 07.6 +01.9	N 15 51.3 +00.2	229 06.8 +02.2	S 08 14.2 -00.1	02						
03	254 12.2 +00.6	S 11 43.5 -00.7	185 09.5 +02.0	N 15 51.5 +00.1	244 09.0 +02.2	S 08 14.1 -00.1	03						
04	269 12.8 +00.6	S 11 42.8 -00.6	200 11.5 +01.9	N 15 51.6 +00.2	259 11.2 +02.2	S 08 14.0 -00.1	04						
05	284 13.4 +00.6	S 11 42.2 -00.7	215 13.4 +02.0	N 15 51.8 +00.2	274 13.4 +02.2	S 08 13.9 -00.1	05						
06	299 14.0 +00.6	S 11 41.5 -00.7	230 15.4 +01.9	N 15 52.0 +00.1	289 15.6 +02.2	S 08 13.8 -00.1	06						
07	314 14.6 +00.6	S 11 40.8 -00.7	245 17.3 +02.0	N 15 52.1 +00.2	304 17.8 +02.2	S 08 13.7 -00.1	07						
08	329 15.2 +00.6	S 11 40.1 -00.7	260 19.3 +01.9	N 15 52.3 +00.1	319 20.0 +02.2	S 08 13.6 -00.1	08						
09	344 15.8 +00.6	S 11 39.4 -00.7	275 21.2 +02.0	N 15 52.4 +00.2	334 22.2 +02.2	S 08 13.5 -00.1	09						
10	359 16.4 +00.6	S 11 38.7 -00.7	290 23.2 +01.9	N 15 52.6 +00.1	349 24.4 +02.2	S 08 13.4 -00.1	10						
11	14 17.0 +00.7	S 11 38.0 -00.7	305 25.1 +02.0	N 15 52.7 +00.2	4 26.6 +02.2	S 08 13.3 -00.1	11						
12	29 17.7 +00.6	S 11 37.3 -00.7	320 27.1 +01.9	N 15 52.9 +00.1	19 28.8 +02.2	S 08 13.2 -00.2	12						
13	44 18.3 +00.6	S 11 36.6 -00.7	335 29.0 +01.9	N 15 53.0 +00.2	34 31.0 +02.1	S 08 13.0 -00.1	13						
14	59 18.9 +00.6	S 11 35.9 -00.7	350 30.9 +02.0	N 15 53.2 +00.2	49 33.1 +02.2	S 08 12.9 -00.1	14						
15	74 19.5 +00.6	S 11 35.2 -00.7	5 32.9 +01.9	N 15 53.4 +00.1	64 35.3 +02.2	S 08 12.8 -00.1	15						
16	89 20.1 +00.6	S 11 34.5 -00.7	20 34.8 +02.0	N 15 53.5 +00.2	79 37.5 +02.2	S 08 12.7 -00.1	16						
17	104 20.7 +00.6	S 11 33.8 -00.7	35 36.8 +01.9	N 15 53.7 +00.1	94 39.7 +02.2	S 08 12.6 -00.1	17						
18	119 21.3 +00.6	S 11 33.1 -00.6	50 38.7 +02.0	N 15 53.8 +00.2	109 41.9 +02.2	S 08 12.5 -00.1	18						
19	134 21.9 +00.6	S 11 32.5 -00.7	65 40.7 +01.9	N 15 54.0 +00.1	124 44.1 +02.2	S 08 12.4 -00.1	19						
20	149 22.5 +00.6	S 11 31.8 -00.7	80 42.6 +02.0	N 15 54.1 +00.2	139 46.3 +02.2	S 08 12.3 -00.1	20						
21	164 23.1 +00.6	S 11 31.1 -00.7	95 44.6 +01.9	N 15 54.3 +00.1	154 48.5 +02.2	S 08 12.2 -00.1	21						
22	179 23.7 +00.7	S 11 30.4 -00.7	110 46.5 +02.0	N 15 54.4 +00.2	169 50.7 +02.2	S 08 12.1 -00.1	22						
23	194 24.4 +00.6	S 11 29.7 -00.7	125 48.5 +01.9	N 15 54.6 +00.2	184 52.9 +02.2	S 08 12.0 -00.1	23						
UT	02 06 10 14 18 22	SD 00'0 00'0 00'0 00'0 00'0 00'0	UT	02 06 10 14 18 22	SD 00'3 00'3 00'3 00'3 00'3 00'3	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			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 025° 025° 025° 025° 025° 025°			SHA 316° 316° 316° 316° 316° 316°			SHA 015° 015° 015° 015° 015° 015°						
	Greenwich Culmination Time: 10:02			Greenwich Culmination Time: 14:37			Greenwich Culmination Time: 10:42						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 39.8 +00.2	N 02 42.2 +01.0	194 46.8 -00.4	S 05 46.8 -01.1	341 38.8 -24.9	S 10 41.9 +13.4	00						
01	193 40.0 +00.1	N 02 43.2 +01.0	209 46.4 -00.4	S 05 45.7 -01.2	356 13.9 -25.0	S 10 55.3 +13.5	01						
02	208 40.1 +00.2	N 02 44.2 +01.0	224 46.0 -00.4	S 05 44.5 -01.2	10 48.9 -25.1	S 11 08.8 +13.4	02						
03	223 40.3 +00.2	N 02 45.2 +00.9	239 45.6 -00.4	S 05 43.3 -01.2	25 23.8 -25.1	S 11 22.2 +13.4	03						
04	238 40.5 +00.2	N 02 46.1 +01.0	254 45.2 -00.4	S 05 42.1 -01.2	39 58.7 -25.1	S 11 35.6 +13.3	04						
05	253 40.7 +00.2	N 02 47.1 +01.0	269 44.8 -00.4	S 05 40.9 -01.1	54 33.6 -25.2	S 11 48.9 +13.3	05						
06	268 40.9 +00.2	N 02 48.1 +01.0	284 44.4 -00.4	S 05 39.8 -01.2	69 08.4 -25.3	S 12 02.2 +13.3	06						
07	283 41.1 +00.2	N 02 49.1 +01.0	299 44.0 -00.4	S 05 38.6 -01.2	83 43.1 -25.3	S 12 15.5 +13.2	07						
08	298 41.3 +00.2	N 02 50.1 +00.9	314 43.6 -00.5	S 05 37.4 -01.2	98 17.8 -25.4	S 12 28.7 +13.2	08						
09	313 41.5 +00.2	N 02 51.0 +01.0	329 43.1 -00.4	S 05 36.2 -01.2	112 52.4 -25.5	S 12 41.9 +13.1	09						
10	328 41.7 +00.2	N 02 52.0 +01.0	344 42.7 -00.4	S 05 35.0 -01.1	127 26.9 -25.5	S 12 55.0 +13.1	10						
11	343 41.9 +00.1	N 02 53.0 +01.0	359 42.3 -00.4	S 05 33.9 -01.2	142 01.4 -25.6	S 13 08.1 +13.0	11						
12	358 42.0 +00.2	N 02 54.0 +00.9	14 41.9 -00.4	S 05 32.7 -01.2	156 35.8 -25.6	S 13 21.1 +13.0	12						
13	13 42.2 +00.2	N 02 54.9 +01.0	29 41.5 -00.4	S 05 31.5 -01.2	171 10.2 -25.7	S 13 34.1 +13.0	13						
14	28 42.4 +00.2	N 02 55.9 +01.0	44 41.1 -00.4	S 05 30.3 -01.2	185 44.5 -25.8	S 13 47.1 +12.9	14						
15	43 42.6 +00.2	N 02 56.9 +01.0	59 40.7 -00.4	S 05 29.1 -01.2	200 18.7 -25.8	S 13 60.0 +12.8	15						
16	58 42.8 +00.2	N 02 57.9 +00.9	74 40.3 -00.4	S 05 27.9 -01.1	214 52.9 -25.9	S 14 12.8 +12.8	16						
17	73 43.0 +00.2	N 02 58.8 +01.0	89 39.9 -00.4	S 05 26.8 -01.2	229 27.0 -25.9	S 14 25.6 +12.8	17						
18	88 43.2 +00.2	N 02 59.8 +01.0	104 39.5 -00.4	S 05 25.6 -01.2	244 01.1 -26.1	S 14 38.4 +12.7	18						
19	103 43.4 +00.2	N 03 00.8 +01.0	119 39.1 -00.4	S 05 24.4 -01.2	258 35.0 -26.1	S 14 51.1 +12.6	19						
20	118 43.6 +00.1	N 03 01.8 +01.0	134 38.7 -00.4	S 05 23.2 -01.2	273 08.9 -26.1	S 15 03.7 +12.6	20						
21	133 43.7 +00.2	N 03 02.8 +00.9	149 38.3 -00.4	S 05 22.0 -01.2	287 42.8 -26.3	S 15 16.3 +12.6	21						
22	148 43.9 +00.2	N 03 03.7 +01.0	164 37.9 -00.4	S 05 20.8 -01.2	302 16.5 -26.3	S 15 28.9 +12.4	22						
23	163 44.1 +00.2	N 03 04.7 +01.0	179 37.5 -00.4	S 05 19.6 -01.1	316 50.2 -26.4	S 15 41.3 +12.5	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 14'8 14'8 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 54'4 54'5 54'5 54'6 54'7 54'7								
	SHA 354° 354° 353° 353° 353° 353°		SHA 010° 010° 009° 009° 009° 009°		SHA 156° 154° 152° 150° 148° 146°								
	Greenwich Culmination Time: 12:05		Greenwich Culmination Time: 11:01		Greenwich Culmination Time: 01:15								

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	209 25.0 +00.6	S 11 29.0 -00.7	140 50.4 +02.0	N 15 54.8 +00.1	199 55.1 +02.2	S 08 11.9 -00.1	00						
01	224 25.6 +00.6	S 11 28.3 -00.7	155 52.4 +01.9	N 15 54.9 +00.2	214 57.3 +02.2	S 08 11.8 -00.1	01						
02	239 26.2 +00.6	S 11 27.6 -00.7	170 54.3 +01.9	N 15 55.1 +00.1	229 59.5 +02.2	S 08 11.7 -00.1	02						
03	254 26.8 +00.6	S 11 26.9 -00.7	185 56.2 +02.0	N 15 55.2 +00.2	245 01.7 +02.1	S 08 11.6 -00.2	03						
04	269 27.4 +00.6	S 11 26.2 -00.7	200 58.2 +01.9	N 15 55.4 +00.1	260 03.8 +02.2	S 08 11.4 -00.1	04						
05	284 28.0 +00.6	S 11 25.5 -00.7	216 00.1 +02.0	N 15 55.5 +00.2	275 06.0 +02.2	S 08 11.3 -00.1	05						
06	299 28.6 +00.6	S 11 24.8 -00.7	231 02.1 +01.9	N 15 55.7 +00.1	290 08.2 +02.2	S 08 11.2 -00.1	06						
07	314 29.2 +00.6	S 11 24.1 -00.7	246 04.0 +02.0	N 15 55.8 +00.2	305 10.4 +02.2	S 08 11.1 -00.1	07						
08	329 29.8 +00.7	S 11 23.4 -00.7	261 06.0 +01.9	N 15 56.0 +00.2	320 12.6 +02.2	S 08 11.0 -00.1	08						
09	344 30.5 +00.6	S 11 22.7 -00.7	276 07.9 +02.0	N 15 56.2 +00.1	335 14.8 +02.2	S 08 10.9 -00.1	09						
10	359 31.1 +00.6	S 11 22.0 -00.7	291 09.9 +01.9	N 15 56.3 +00.2	350 17.0 +02.2	S 08 10.8 -00.1	10						
11	14 31.7 +00.6	S 11 21.3 -00.7	306 11.8 +01.9	N 15 56.5 +00.1	5 19.2 +02.2	S 08 10.7 -00.1	11						
12	29 32.3 +00.6	S 11 20.6 -00.7	321 13.7 +02.0	N 15 56.6 +00.2	20 21.4 +02.2	S 08 10.6 -00.1	12						
13	44 32.9 +00.6	S 11 19.9 -00.7	336 15.7 +01.9	N 15 56.8 +00.1	35 23.6 +02.2	S 08 10.5 -00.1	13						
14	59 33.5 +00.6	S 11 19.2 -00.7	351 17.6 +02.0	N 15 56.9 +00.2	50 25.8 +02.2	S 08 10.4 -00.1	14						
15	74 34.1 +00.6	S 11 18.5 -00.7	6 19.6 +01.9	N 15 57.1 +00.1	65 28.0 +02.2	S 08 10.3 -00.1	15						
16	89 34.7 +00.7	S 11 17.8 -00.7	21 21.5 +02.0	N 15 57.2 +00.2	80 30.2 +02.2	S 08 10.2 -00.1	16						
17	104 35.4 +00.6	S 11 17.1 -00.7	36 23.5 +01.9	N 15 57.4 +00.2	95 32.4 +02.2	S 08 10.1 -00.1	17						
18	119 36.0 +00.6	S 11 16.4 -00.7	51 25.4 +01.9	N 15 57.6 +00.1	110 34.6 +02.2	S 08 10.0 -00.1	18						
19	134 36.6 +00.6	S 11 15.7 -00.7	66 27.3 +02.0	N 15 57.7 +00.2	125 36.8 +02.2	S 08 09.9 -00.1	19						
20	149 37.2 +00.6	S 11 15.0 -00.6	81 29.3 +01.9	N 15 57.9 +00.1	140 39.0 +02.1	S 08 09.8 -00.2	20						
21	164 37.8 +00.6	S 11 14.4 -00.7	96 31.2 +02.0	N 15 58.0 +00.2	155 41.1 +02.2	S 08 09.6 -00.1	21						
22	179 38.4 +00.6	S 11 13.7 -00.7	111 33.2 +01.9	N 15 58.2 +00.1	170 43.3 +02.2	S 08 09.5 -00.1	22						
23	194 39.0 +00.6	S 11 13.0 -00.7	126 35.1 +02.0	N 15 58.3 +00.2	185 45.5 +02.2	S 08 09.4 -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 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		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								
	SHA 024° 024° 024° 024° 024° 024°		SHA 316° 316° 316° 316° 316° 316°		SHA 015° 015° 015° 015° 015° 015°								
	Greenwich Culmination Time: 10:01		Greenwich Culmination Time: 14:34		Greenwich Culmination Time: 10:38								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 44.3 +00.2	N 03 05.7 +01.0	194 37.1 -00.4	S 05 18.5 -01.2	331 23.8 -26.4	S 15 53.8 +12.3	00						
01	193 44.5 +00.2	N 03 06.7 +00.9	209 36.7 -00.4	S 05 17.3 -01.2	345 57.4 -26.5	S 16 06.1 +12.4	01						
02	208 44.7 +00.2	N 03 07.6 +01.0	224 36.3 -00.4	S 05 16.1 -01.2	0 30.9 -26.6	S 16 18.5 +12.2	02						
03	223 44.9 +00.2	N 03 08.6 +01.0	239 35.9 -00.4	S 05 14.9 -01.2	15 04.3 -26.7	S 16 30.7 +12.2	03						
04	238 45.1 +00.2	N 03 09.6 +01.0	254 35.5 -00.4	S 05 13.7 -01.2	29 37.6 -26.8	S 16 42.9 +12.1	04						
05	253 45.3 +00.1	N 03 10.6 +00.9	269 35.1 -00.4	S 05 12.5 -01.2	44 10.8 -26.8	S 16 55.0 +12.1	05						
06	268 45.4 +00.2	N 03 11.5 +01.0	284 34.7 -00.4	S 05 11.3 -01.1	58 44.0 -26.9	S 17 07.1 +12.0	06						
07	283 45.6 +00.2	N 03 12.5 +01.0	299 34.3 -00.4	S 05 10.2 -01.2	73 17.1 -27.0	S 17 19.1 +11.9	07						
08	298 45.8 +00.2	N 03 13.5 +01.0	314 33.9 -00.4	S 05 09.0 -01.2	87 50.1 -27.1	S 17 31.0 +11.9	08						
09	313 46.0 +00.2	N 03 14.5 +00.9	329 33.5 -00.4	S 05 07.8 -01.2	102 23.0 -27.1	S 17 42.9 +11.8	09						
10	328 46.2 +00.2	N 03 15.4 +01.0	344 33.1 -00.4	S 05 06.6 -01.2	116 55.9 -27.3	S 17 54.7 +11.7	10						
11	343 46.4 +00.2	N 03 16.4 +01.0	359 32.7 -00.4	S 05 05.4 -01.2	131 28.6 -27.3	S 18 06.4 +11.7	11						
12	358 46.6 +00.2	N 03 17.4 +01.0	14 32.3 -00.4	S 05 04.2 -01.2	146 01.3 -27.4	S 18 18.1 +11.6	12						
13	13 46.8 +00.2	N 03 18.4 +00.9	29 31.9 -00.4	S 05 03.0 -01.2	160 33.9 -27.4	S 18 29.7 +11.5	13						
14	28 47.0 +00.1	N 03 19.3 +01.0	44 31.5 -00.4	S 05 01.8 -01.2	175 06.5 -27.6	S 18 41.2 +11.4	14						
15	43 47.1 +00.2	N 03 20.3 +01.0	59 31.1 -00.4	S 05 00.6 -01.1	189 38.9 -27.6	S 18 52.6 +11.4	15						
16	58 47.3 +00.2	N 03 21.3 +01.0	74 30.7 -00.4	S 04 59.5 -01.2	204 11.3 -27.8	S 19 04.0 +11.3	16						
17	73 47.5 +00.2	N 03 22.3 +00.9	89 30.3 -00.4	S 04 58.3 -01.2	218 43.5 -27.8	S 19 15.3 +11.2	17						
18	88 47.7 +00.2	N 03 23.2 +01.0	104 29.9 -00.4	S 04 57.1 -01.2	233 15.7 -27.9	S 19 26.5 +11.2	18						
19	103 47.9 +00.2	N 03 24.2 +01.0	119 29.5 -00.4	S 04 55.9 -01.2	247 47.8 -28.0	S 19 37.7 +11.0	19						
20	118 48.1 +00.2	N 03 25.2 +00.9	134 29.1 -00.4	S 04 54.7 -01.2	262 19.8 -28.1	S 19 48.7 +11.0	20						
21	133 48.3 +00.2	N 03 26.1 +01.0	149 28.7 -00.4	S 04 53.5 -01.2	276 51.7 -28.1	S 19 59.7 +10.9	21						
22	148 48.5 +00.2	N 03 27.1 +01.0	164 28.3 -00.4	S 04 52.3 -01.2	291 23.6 -28.3	S 20 10.6 +10.8	22						
23	163 48.7 +00.1	N 03 28.1 +01.0	179 27.9 -00.4	S 04 51.1 -01.2	305 55.3 -28.4	S 20 21.4 +10.8	23						
	UT 02 06 10 14 18 22	SD 16'0 16'0 16'0 16'0 16'0 16'0	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 14'9 14'9 15'0 15'0 15'0 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 00'1 00'1 00'1 00'1 00'1 00'1	HP 54'8 54'8 54'9 55'0 55'0 55'1		HP 00'0 00'0 00'0 00'0 00'0 00'0							
	SHA 353° 353° 352° 352° 352° 352°	SHA 009° 008° 008° 008° 008° 008°	SHA 009° 008° 008° 008° 008° 008°	SHA 145° 143° 141° 139° 137° 135°		SHA 015° 015° 015° 015° 015° 015°							
	Greenwich Culmination Time: 12:04	Greenwich Culmination Time: 11:01	Greenwich Culmination Time: 11:01	Greenwich Culmination Time: 01:57		Greenwich Culmination Time: 10:35							

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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 48.8 +00.2	N 03 29.1 +00.9	194 27.5 -00.4	S 04 49.9 -01.2	320 26.9 -28.4	S 20 32.2 +10.6	00						
01	193 49.0 +00.2	N 03 30.0 +01.0	209 27.1 -00.4	S 04 48.7 -01.2	334 58.5 -28.5	S 20 42.8 +10.6	01						
02	208 49.2 +00.2	N 03 31.0 +01.0	224 26.7 -00.4	S 04 47.5 -01.2	349 30.0 -28.6	S 20 53.4 +10.5	02						
03	223 49.4 +00.2	N 03 32.0 +01.0	239 26.3 -00.4	S 04 46.3 -01.1	4 01.4 -28.8	S 21 03.9 +10.3	03						
04	238 49.6 +00.2	N 03 33.0 +00.9	254 25.9 -00.4	S 04 45.2 -01.2	18 32.6 -28.8	S 21 14.2 +10.3	04						
05	253 49.8 +00.2	N 03 33.9 +01.0	269 25.5 -00.4	S 04 44.0 -01.2	33 03.8 -28.9	S 21 24.5 +10.3	05						
06	268 50.0 +00.2	N 03 34.9 +01.0	284 25.1 -00.4	S 04 42.8 -01.2	47 34.9 -29.0	S 21 34.8 +10.1	06						
07	283 50.2 +00.2	N 03 35.9 +00.9	299 24.7 -00.4	S 04 41.6 -01.2	62 05.9 -29.0	S 21 44.9 +10.0	07						
08	298 50.4 +00.1	N 03 36.8 +01.0	314 24.3 -00.3	S 04 40.4 -01.2	76 36.9 -29.2	S 21 54.9 +09.9	08						
09	313 50.5 +00.2	N 03 37.8 +01.0	329 24.0 -00.4	S 04 39.2 -01.2	91 07.7 -29.3	S 22 04.8 +09.9	09						
10	328 50.7 +00.2	N 03 38.8 +01.0	344 23.6 -00.4	S 04 38.0 -01.2	105 38.4 -29.4	S 22 14.7 +09.7	10						
11	343 50.9 +00.2	N 03 39.8 +00.9	359 23.2 -00.4	S 04 36.8 -01.2	120 09.0 -29.4	S 22 24.4 +09.7	11						
12	358 51.1 +00.2	N 03 40.7 +01.0	14 22.8 -00.4	S 04 35.6 -01.2	134 39.6 -29.6	S 22 34.1 +09.5	12						
13	13 51.3 +00.2	N 03 41.7 +01.0	29 22.4 -00.4	S 04 34.4 -01.2	149 10.0 -29.6	S 22 43.6 +09.5	13						
14	28 51.5 +00.2	N 03 42.7 +00.9	44 22.0 -00.4	S 04 33.2 -01.2	163 40.4 -29.8	S 22 53.1 +09.3	14						
15	43 51.7 +00.2	N 03 43.6 +01.0	59 21.6 -00.4	S 04 32.0 -01.2	178 10.6 -29.8	S 23 02.4 +09.2	15						
16	58 51.9 +00.1	N 03 44.6 +01.0	74 21.2 -00.4	S 04 30.8 -01.2	192 40.8 -30.0	S 23 11.6 +09.2	16						
17	73 52.0 +00.2	N 03 45.6 +01.0	89 20.8 -00.4	S 04 29.6 -01.2	207 10.8 -30.0	S 23 20.8 +09.0	17						
18	88 52.2 +00.2	N 03 46.6 +00.9	104 20.4 -00.4	S 04 28.4 -01.2	221 40.8 -30.2	S 23 29.8 +08.9	18						
19	103 52.4 +00.2	N 03 47.5 +01.0	119 20.0 -00.4	S 04 27.2 -01.2	236 10.6 -30.2	S 23 38.7 +08.8	19						
20	118 52.6 +00.2	N 03 48.5 +01.0	134 19.6 -00.4	S 04 26.0 -01.2	250 40.4 -30.3	S 23 47.5 +08.7	20						
21	133 52.8 +00.2	N 03 49.5 +00.9	149 19.2 -00.4	S 04 24.8 -01.2	265 10.1 -30.5	S 23 56.2 +08.6	21						
22	148 53.0 +00.2	N 03 50.4 +01.0	164 18.8 -00.4	S 04 23.6 -01.2	279 39.6 -30.5	S 24 04.8 +08.5	22						
23	163 53.2 +00.2	N 03 51.4 +01.0	179 18.4 -00.4	S 04 22.4 -01.1	294 09.1 -30.6	S 24 13.3 +08.4	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 15'0 15'1 15'1 15'1 15'1 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 55'2 55'3 55'4 55'4 55'5 55'6								
	SHA 352° 352° 352° 351° 351° 351°		SHA 007° 007° 007° 007° 007° 007°		SHA 133° 130° 128° 126° 124° 122°								
	Greenwich Culmination Time: 12:04		Greenwich Culmination Time: 11:02		Greenwich Culmination Time: 02:43								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	209 54.4 +00.6	S 10 55.4 -00.7	142 23.6 +02.0	N 16 02.2 +00.2	201 40.4 +02.2	S 08 06.8 -00.1	00						
01	224 55.0 +00.7	S 10 54.7 -00.7	157 25.6 +01.9	N 16 02.4 +00.2	216 42.6 +02.2	S 08 06.7 -00.1	01						
02	239 55.7 +00.6	S 10 54.0 -00.7	172 27.5 +02.0	N 16 02.6 +00.1	231 44.8 +02.2	S 08 06.6 -00.1	02						
03	254 56.3 +00.6	S 10 53.3 -00.7	187 29.5 +01.9	N 16 02.7 +00.2	246 47.0 +02.2	S 08 06.5 -00.1	03						
04	269 56.9 +00.6	S 10 52.6 -00.7	202 31.4 +01.9	N 16 02.9 +00.1	261 49.2 +02.2	S 08 06.4 -00.1	04						
05	284 57.5 +00.6	S 10 51.9 -00.7	217 33.3 +02.0	N 16 03.0 +00.2	276 51.4 +02.2	S 08 06.3 -00.1	05						
06	299 58.1 +00.6	S 10 51.2 -00.7	232 35.3 +01.9	N 16 03.2 +00.1	291 53.6 +02.2	S 08 06.2 -00.1	06						
07	314 58.7 +00.7	S 10 50.5 -00.7	247 37.2 +01.9	N 16 03.3 +00.2	306 55.8 +02.2	S 08 06.1 -00.2	07						
08	329 59.4 +00.6	S 10 49.8 -00.7	262 39.1 +02.0	N 16 03.5 +00.1	321 58.0 +02.2	S 08 05.9 -00.1	08						
09	344 60.0 +00.6	S 10 49.1 -00.7	277 41.1 +01.9	N 16 03.6 +00.2	337 00.2 +02.2	S 08 05.8 -00.1	09						
10	0 00.6 +00.6	S 10 48.4 -00.7	292 43.0 +02.0	N 16 03.8 +00.2	352 02.4 +02.2	S 08 05.7 -00.1	10						
11	15 01.2 +00.6	S 10 47.7 -00.7	307 45.0 +01.9	N 16 04.0 +00.1	7 04.6 +02.2	S 08 05.6 -00.1	11						
12	30 01.8 +00.6	S 10 47.0 -00.7	322 46.9 +01.9	N 16 04.1 +00.2	22 06.8 +02.2	S 08 05.5 -00.1	12						
13	45 02.4 +00.7	S 10 46.3 -00.7	337 48.8 +02.0	N 16 04.3 +00.1	37 09.0 +02.2	S 08 05.4 -00.1	13						
14	60 03.1 +00.6	S 10 45.6 -00.8	352 50.8 +01.9	N 16 04.4 +00.2	52 11.2 +02.2	S 08 05.3 -00.1	14						
15	75 03.7 +00.6	S 10 44.8 -00.7	7 52.7 +01.9	N 16 04.6 +00.1	67 13.4 +02.2	S 08 05.2 -00.1	15						
16	90 04.3 +00.6	S 10 44.1 -00.7	22 54.6 +02.0	N 16 04.7 +00.2	82 15.6 +02.2	S 08 05.1 -00.1	16						
17	105 04.9 +00.6	S 10 43.4 -00.7	37 56.6 +01.9	N 16 04.9 +00.2	97 17.8 +02.1	S 08 05.0 -00.1	17						
18	120 05.5 +00.7	S 10 42.7 -00.7	52 58.5 +02.0	N 16 05.1 +00.1	112 19.9 +02.2	S 08 04.9 -00.1	18						
19	135 06.2 +00.6	S 10 42.0 -00.7	68 00.5 +01.9	N 16 05.2 +00.2	127 22.1 +02.2	S 08 04.8 -00.1	19						
20	150 06.8 +00.6	S 10 41.3 -00.7	83 02.4 +01.9	N 16 05.4 +00.1	142 24.3 +02.2	S 08 04.7 -00.1	20						
21	165 07.4 +00.6	S 10 40.6 -00.7	98 04.3 +02.0	N 16 05.5 +00.2	157 26.5 +02.2	S 08 04.6 -00.1	21						
22	180 08.0 +00.6	S 10 39.9 -00.7	113 06.3 +01.9	N 16 05.7 +00.1	172 28.7 +02.2	S 08 04.5 -00.1	22						
23	195 08.6 +00.7	S 10 39.2 -00.7	128 08.2 +01.9	N 16 05.8 +00.2	187 30.9 +02.2	S 08 04.4 -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 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		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								
	SHA 023° 023° 023° 023° 022° 022°		SHA 315° 315° 315° 315° 315° 315°		SHA 015° 015° 015° 015° 015° 015°								
	Greenwich Culmination Time: 09:59		Greenwich Culmination Time: 14:28		Greenwich Culmination Time: 10:31								

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 53.4 +00.1	N 03	52.4 +01.0	194 18.0 -00.3	S 04	21.3 -01.2	308 38.5 -30.7	S 24	21.7 +08.3	00			
01	193 53.5 +00.2	N 03	53.4 +00.9	209 17.7 -00.4	S 04	20.1 -01.2	323 07.8 -30.8	S 24	30.0 +08.1	01			
02	208 53.7 +00.2	N 03	54.3 +01.0	224 17.3 -00.4	S 04	18.9 -01.2	337 37.0 -30.9	S 24	38.1 +08.0	02			
03	223 53.9 +00.2	N 03	55.3 +01.0	239 16.9 -00.4	S 04	17.7 -01.2	352 06.1 -31.1	S 24	46.1 +08.0	03			
04	238 54.1 +00.2	N 03	56.3 +00.9	254 16.5 -00.4	S 04	16.5 -01.2	6 35.0 -31.1	S 24	54.1 +07.7	04			
05	253 54.3 +00.2	N 03	57.2 +01.0	269 16.1 -00.4	S 04	15.3 -01.2	21 03.9 -31.2	S 25	01.8 +07.7	05			
06	268 54.5 +00.2	N 03	58.2 +01.0	284 15.7 -00.4	S 04	14.1 -01.2	35 32.7 -31.3	S 25	09.5 +07.6	06			
07	283 54.7 +00.2	N 03	59.2 +00.9	299 15.3 -00.4	S 04	12.9 -01.2	50 01.4 -31.4	S 25	17.1 +07.4	07			
08	298 54.9 +00.1	N 04	00.1 +01.0	314 14.9 -00.4	S 04	11.7 -01.2	64 30.0 -31.4	S 25	24.5 +07.3	08			
09	313 55.0 +00.2	N 04	01.1 +01.0	329 14.5 -00.4	S 04	10.5 -01.2	78 58.6 -31.6	S 25	31.8 +07.2	09			
10	328 55.2 +00.2	N 04	02.1 +01.0	344 14.1 -00.4	S 04	09.3 -01.2	93 27.0 -31.7	S 25	39.0 +07.0	10			
11	343 55.4 +00.2	N 04	03.1 +00.9	359 13.7 -00.4	S 04	08.1 -01.2	107 55.3 -31.8	S 25	46.0 +07.0	11			
12	358 55.6 +00.2	N 04	04.0 +01.0	14 13.3 -00.3	S 04	06.9 -01.2	122 23.5 -31.9	S 25	53.0 +06.8	12			
13	13 55.8 +00.2	N 04	05.0 +01.0	29 13.0 -00.4	S 04	05.7 -01.2	136 51.6 -31.9	S 25	59.8 +06.6	13			
14	28 56.0 +00.2	N 04	06.0 +00.9	44 12.6 -00.4	S 04	04.5 -01.2	151 19.7 -32.1	S 26	06.4 +06.6	14			
15	43 56.2 +00.2	N 04	06.9 +01.0	59 12.2 -00.4	S 04	03.3 -01.2	165 47.6 -32.1	S 26	13.0 +06.4	15			
16	58 56.4 +00.1	N 04	07.9 +01.0	74 11.8 -00.4	S 04	02.1 -01.2	180 15.5 -32.3	S 26	19.4 +06.2	16			
17	73 56.5 +00.2	N 04	08.9 +00.9	89 11.4 -00.4	S 04	00.9 -01.2	194 43.2 -32.3	S 26	25.6 +06.2	17			
18	88 56.7 +00.2	N 04	09.8 +01.0	104 11.0 -00.4	S 03	59.7 -01.2	209 10.9 -32.4	S 26	31.8 +06.0	18			
19	103 56.9 +00.2	N 04	10.8 +01.0	119 10.6 -00.4	S 03	58.5 -01.2	223 38.5 -32.5	S 26	37.8 +05.8	19			
20	118 57.1 +00.2	N 04	11.8 +00.9	134 10.2 -00.4	S 03	57.3 -01.2	238 06.0 -32.6	S 26	43.6 +05.7	20			
21	133 57.3 +00.2	N 04	12.7 +01.0	149 09.8 -00.3	S 03	56.1 -01.2	252 33.4 -32.7	S 26	49.3 +05.6	21			
22	148 57.5 +00.2	N 04	13.7 +01.0	164 09.5 -00.4	S 03	54.9 -01.2	267 00.7 -32.8	S 26	54.9 +05.5	22			
23	163 57.7 +00.2	N 04	14.7 +00.9	179 09.1 -00.4	S 03	53.7 -01.2	281 27.9 -32.9	S 27	00.4 +05.3	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 15'2 15'2 15'2 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 55'7 55'8 55'9 56'0 56'1 56'2						
	SHA 351° 351° 351° 350° 350° 350°			SHA 006° 006° 006° 006° 006° 005°			SHA 120° 117° 115° 113° 111° 108°						
	Greenwich Culmination Time: 12:04			Greenwich Culmination Time: 11:03			Greenwich Culmination Time: 03:32						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	210 09.3 +00.6	S 10	38.5 -00.7	143 10.1 +02.0	N 16	06.0 +00.1	202 33.1 +02.2	S 08	04.3 -00.1	00			
01	225 09.9 +00.6	S 10	37.8 -00.7	158 12.1 +01.9	N 16	06.1 +00.2	217 35.3 +02.2	S 08	04.2 -00.1	01			
02	240 10.5 +00.6	S 10	37.1 -00.7	173 14.0 +01.9	N 16	06.3 +00.2	232 37.5 +02.2	S 08	04.1 -00.1	02			
03	255 11.1 +00.6	S 10	36.4 -00.7	188 15.9 +02.0	N 16	06.5 +00.1	247 39.7 +02.2	S 08	04.0 -00.2	03			
04	270 11.7 +00.7	S 10	35.7 -00.8	203 17.9 +01.9	N 16	06.6 +00.2	262 41.9 +02.2	S 08	03.8 -00.1	04			
05	285 12.4 +00.6	S 10	34.9 -00.7	218 19.8 +02.0	N 16	06.8 +00.1	277 44.1 +02.2	S 08	03.7 -00.1	05			
06	300 13.0 +00.6	S 10	34.2 -00.7	233 21.8 +01.9	N 16	06.9 +00.2	292 46.3 +02.2	S 08	03.6 -00.1	06			
07	315 13.6 +00.6	S 10	33.5 -00.7	248 23.7 +01.9	N 16	07.1 +00.1	307 48.5 +02.2	S 08	03.5 -00.1	07			
08	330 14.2 +00.7	S 10	32.8 -00.7	263 25.6 +02.0	N 16	07.2 +00.2	322 50.7 +02.2	S 08	03.4 -00.1	08			
09	345 14.9 +00.6	S 10	32.1 -00.7	278 27.6 +01.9	N 16	07.4 +00.2	337 52.9 +02.2	S 08	03.3 -00.1	09			
10	0 15.5 +00.6	S 10	31.4 -00.7	293 29.5 +01.9	N 16	07.6 +00.1	352 55.1 +02.2	S 08	03.2 -00.1	10			
11	15 16.1 +00.6	S 10	30.7 -00.7	308 31.4 +02.0	N 16	07.7 +00.2	7 57.3 +02.2	S 08	03.1 -00.1	11			
12	30 16.7 +00.6	S 10	30.0 -00.7	323 33.4 +01.9	N 16	07.9 +00.1	22 59.5 +02.2	S 08	03.0 -00.1	12			
13	45 17.3 +00.7	S 10	29.3 -00.7	338 35.3 +01.9	N 16	08.0 +00.2	38 01.7 +02.2	S 08	02.9 -00.1	13			
14	60 18.0 +00.6	S 10	28.6 -00.8	353 37.2 +02.0	N 16	08.2 +00.1	53 03.9 +02.2	S 08	02.8 -00.1	14			
15	75 18.6 +00.6	S 10	27.8 -00.7	8 39.2 +01.9	N 16	08.3 +00.2	68 06.1 +02.2	S 08	02.7 -00.1	15			
16	90 19.2 +00.6	S 10	27.1 -00.7	23 41.1 +01.9	N 16	08.5 +00.1	83 08.3 +02.2	S 08	02.6 -00.1	16			
17	105 19.8 +00.7	S 10	26.4 -00.7	38 43.0 +02.0	N 16	08.6 +00.2	98 10.5 +02.2	S 08	02.5 -00.1	17			
18	120 20.5 +00.6	S 10	25.7 -00.7	53 45.0 +01.9	N 16	08.8 +00.2	113 12.7 +02.2	S 08	02.4 -00.1	18			
19	135 21.1 +00.6	S 10	25.0 -00.7	68 46.9 +01.9	N 16	09.0 +00.1	128 14.9 +02.2	S 08	02.3 -00.1	19			
20	150 21.7 +00.6	S 10	24.3 -00.7	83 48.8 +02.0	N 16	09.1 +00.2	143 17.1 +02.2	S 08	02.2 -00.1	20			
21	165 22.3 +00.6	S 10	23.6 -00.7	98 50.8 +01.9	N 16	09.3 +00.1	158 19.3 +02.2	S 08	02.1 -00.1	21			
22	180 22.9 +00.7	S 10	22.9 -00.7	113 52.7 +01.9	N 16	09.4 +00.2	173 21.5 +02.2	S 08	02.0 -00.1	22			
23	195 23.6 +00.6	S 10	22.2 -00.7	128 54.6 +02.0	N 16	09.6 +00.1	188 23.7 +02.2	S 08	01.9 -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 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			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						
	SHA 022° 022° 022° 022° 022° 022°			SHA 315° 315° 315° 315° 315° 315°			SHA 015° 015° 015° 015° 015° 015°						
	Greenwich Culmination Time: 09:58			Greenwich Culmination Time: 14:25			Greenwich Culmination Time: 10:28						

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 57.9 +00.1	N 04	15.6 +01.0	194 08.7 -00.4	S 03	52.5 -01.3	295 55.0 -32.9	S 27	05.7 +05.1	00			
01	193 58.0 +00.2	N 04	16.6 +01.0	209 08.3 -00.4	S 03	51.2 -01.2	310 22.1 -33.1	S 27	10.8 +05.1	01			
02	208 58.2 +00.2	N 04	17.6 +00.9	224 07.9 -00.4	S 03	50.0 -01.2	324 49.0 -33.1	S 27	15.9 +04.8	02			
03	223 58.4 +00.2	N 04	18.5 +01.0	239 07.5 -00.4	S 03	48.8 -01.2	339 15.9 -33.2	S 27	20.7 +04.7	03			
04	238 58.6 +00.2	N 04	19.5 +01.0	254 07.1 -00.4	S 03	47.6 -01.2	353 42.7 -33.3	S 27	25.4 +04.6	04			
05	253 58.8 +00.2	N 04	20.5 +00.9	269 06.7 -00.3	S 03	46.4 -01.2	8 09.4 -33.3	S 27	30.0 +04.4	05			
06	268 59.0 +00.2	N 04	21.4 +01.0	284 06.4 -00.4	S 03	45.2 -01.2	22 36.1 -33.5	S 27	34.4 +04.3	06			
07	283 59.2 +00.1	N 04	22.4 +01.0	299 06.0 -00.4	S 03	44.0 -01.2	37 02.6 -33.5	S 27	38.7 +04.2	07			
08	298 59.3 +00.2	N 04	23.4 +00.9	314 05.6 -00.4	S 03	42.8 -01.2	51 29.1 -33.6	S 27	42.9 +03.9	08			
09	313 59.5 +00.2	N 04	24.3 +01.0	329 05.2 -00.4	S 03	41.6 -01.2	65 55.5 -33.7	S 27	46.8 +03.8	09			
10	328 59.7 +00.2	N 04	25.3 +01.0	344 04.8 -00.4	S 03	40.4 -01.2	80 21.8 -33.8	S 27	50.6 +03.7	10			
11	343 59.9 +00.2	N 04	26.3 +00.9	359 04.4 -00.4	S 03	39.2 -01.2	94 48.0 -33.8	S 27	54.3 +03.5	11			
12	359 00.1 +00.2	N 04	27.2 +01.0	14 04.0 -00.4	S 03	38.0 -01.2	109 14.2 -33.9	S 27	57.8 +03.4	12			
13	14 00.3 +00.2	N 04	28.2 +01.0	29 03.6 -00.3	S 03	36.8 -01.2	123 40.3 -34.0	S 28	01.2 +03.2	13			
14	29 00.5 +00.1	N 04	29.2 +00.9	44 03.3 -00.4	S 03	35.6 -01.2	138 06.3 -34.0	S 28	04.4 +03.0	14			
15	44 00.6 +00.2	N 04	30.1 +01.0	59 02.9 -00.4	S 03	34.4 -01.2	152 32.3 -34.2	S 28	07.4 +02.9	15			
16	59 00.8 +00.2	N 04	31.1 +01.0	74 02.5 -00.4	S 03	33.2 -01.2	166 58.1 -34.2	S 28	10.3 +02.7	16			
17	74 01.0 +00.2	N 04	32.1 +00.9	89 02.1 -00.4	S 03	32.0 -01.2	181 23.9 -34.2	S 28	13.0 +02.6	17			
18	89 01.2 +00.2	N 04	33.0 +01.0	104 01.7 -00.4	S 03	30.8 -01.2	195 49.7 -34.3	S 28	15.6 +02.4	18			
19	104 01.4 +00.2	N 04	34.0 +01.0	119 01.3 -00.4	S 03	29.6 -01.2	210 15.4 -34.4	S 28	18.0 +02.3	19			
20	119 01.6 +00.2	N 04	35.0 +00.9	134 00.9 -00.3	S 03	28.4 -01.2	224 41.0 -34.5	S 28	20.3 +02.0	20			
21	134 01.8 +00.1	N 04	35.9 +01.0	149 00.6 -00.4	S 03	27.2 -01.3	239 06.5 -34.5	S 28	22.3 +01.9	21			
22	149 01.9 +00.2	N 04	36.9 +00.9	164 00.2 -00.4	S 03	25.9 -01.2	253 32.0 -34.5	S 28	24.2 +01.8	22			
23	164 02.1 +00.2	N 04	37.8 +01.0	178 59.8 -00.4	S 03	24.7 -01.2	267 57.5 -34.6	S 28	26.0 +01.6	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 15'3 15'4 15'4 15'4 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 56'3 56'4 56'5 56'6 56'8 56'9						
	SHA 350° 350° 350° 350° 349° 349°			SHA 005° 005° 005° 005° 004° 004°			SHA 106° 103° 101° 099° 096° 094°						
	Greenwich Culmination Time: 12:03			Greenwich Culmination Time: 11:03			Greenwich Culmination Time: 04:26						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	210 24.2 +00.6	S 10	21.5 -00.8	143 56.6 +01.9	N 16	09.7 +00.2	203 25.9 +02.2	S 08	01.8 -00.2	00			
01	225 24.8 +00.6	S 10	20.7 -00.7	158 58.5 +01.9	N 16	09.9 +00.2	218 28.1 +02.2	S 08	01.6 -00.1	01			
02	240 25.4 +00.7	S 10	20.0 -00.7	174 00.4 +02.0	N 16	10.1 +00.1	233 30.3 +02.2	S 08	01.5 -00.1	02			
03	255 26.1 +00.6	S 10	19.3 -00.7	189 02.4 +01.9	N 16	10.2 +00.2	248 32.5 +02.2	S 08	01.4 -00.1	03			
04	270 26.7 +00.6	S 10	18.6 -00.7	204 04.3 +01.9	N 16	10.4 +00.1	263 34.7 +02.2	S 08	01.3 -00.1	04			
05	285 27.3 +00.6	S 10	17.9 -00.7	219 06.2 +02.0	N 16	10.5 +00.2	278 36.9 +02.2	S 08	01.2 -00.1	05			
06	300 27.9 +00.7	S 10	17.2 -00.7	234 08.2 +01.9	N 16	10.7 +00.1	293 39.1 +02.2	S 08	01.1 -00.1	06			
07	315 28.6 +00.6	S 10	16.5 -00.7	249 10.1 +01.9	N 16	10.8 +00.2	308 41.3 +02.2	S 08	01.0 -00.1	07			
08	330 29.2 +00.6	S 10	15.8 -00.8	264 12.0 +02.0	N 16	11.0 +00.1	323 43.5 +02.2	S 08	00.9 -00.1	08			
09	345 29.8 +00.6	S 10	15.0 -00.7	279 14.0 +01.9	N 16	11.1 +00.2	338 45.7 +02.2	S 08	00.8 -00.1	09			
10	0 30.4 +00.7	S 10	14.3 -00.7	294 15.9 +01.9	N 16	11.3 +00.2	353 47.9 +02.2	S 08	00.7 -00.1	10			
11	15 31.1 +00.6	S 10	13.6 -00.7	309 17.8 +02.0	N 16	11.5 +00.1	8 50.1 +02.2	S 08	00.6 -00.1	11			
12	30 31.7 +00.6	S 10	12.9 -00.7	324 19.8 +01.9	N 16	11.6 +00.2	23 52.3 +02.2	S 08	00.5 -00.1	12			
13	45 32.3 +00.6	S 10	12.2 -00.7	339 21.7 +01.9	N 16	11.8 +00.1	38 54.5 +02.2	S 08	00.4 -00.1	13			
14	60 32.9 +00.7	S 10	11.5 -00.7	354 23.6 +02.0	N 16	11.9 +00.2	53 56.7 +02.2	S 08	00.3 -00.1	14			
15	75 33.6 +00.6	S 10	10.8 -00.8	9 25.6 +01.9	N 16	12.1 +00.1	68 58.9 +02.2	S 08	00.2 -00.1	15			
16	90 34.2 +00.6	S 10	10.0 -00.7	24 27.5 +01.9	N 16	12.2 +00.2	84 01.1 +02.2	S 08	00.1 -00.1	16			
17	105 34.8 +00.6	S 10	09.3 -00.7	39 29.4 +02.0	N 16	12.4 +00.2	99 03.3 +02.2	S 07	60.0 -00.1	17			
18	120 35.4 +00.7	S 10	08.6 -00.7	54 31.4 +01.9	N 16	12.6 +00.1	114 05.5 +02.2	S 07	59.9 -00.1	18			
19	135 36.1 +00.6	S 10	07.9 -00.7	69 33.3 +01.9	N 16	12.7 +00.2	129 07.7 +02.1	S 07	59.8 -00.1	19			
20	150 36.7 +00.6	S 10	07.2 -00.7	84 35.2 +01.9	N 16	12.9 +00.1	144 09.8 +02.2	S 07	59.7 -00.1	20			
21	165 37.3 +00.6	S 10	06.5 -00.7	99 37.1 +02.0	N 16	13.0 +00.2	159 12.0 +02.2	S 07	59.6 -00.1	21			
22	180 37.9 +00.7	S 10	05.8 -00.8	114 39.1 +01.9	N 16	13.2 +00.1	174 14.2 +02.2	S 07	59.5 -00.1	22			
23	195 38.6 +00.6	S 10	05.0 -00.7	129 41.0 +01.9	N 16	13.3 +00.2	189 16.4 +02.2	S 07	59.4 -00.1	23			
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	SHA 021° 021° 021° 021° 021° 021°			SHA 315° 315° 315° 315° 315° 315°			SHA 015° 015° 015° 015° 014° 014°						
	Greenwich Culmination Time: 09:57			Greenwich Culmination Time: 14:22			Greenwich Culmination Time: 10:24						