m	Sun	Aries	Moon		v and d corr	r	m	Sun	Aries	Moon		v and d cor	r	m	Sun	Aries	Moon		v and d corr	r
0	Plan.						1	Plan.						2	Plan.	. 0				
0	0°00.0	0°00.0	0°00.0	0.0 - 0.0	6.0 - 0.1	12.0 - 0.1	0	0°15.0	0°15.0	0°14.3	0.0 - 0.0	6.0 - 0.2	12.0 - 0.3	0	0°30.0	0°30.1	0°28.6	0.0 - 0.0	6.0 - 0.3	12.0 - 0.5
1	0°00.2	0°00.3	0°00.2	0.1 - 0.0	6.1 - 0.1	12.1 - 0.1	1	0°15.2	0°15.3	0°14.6	0.1 - 0.0	6.1 - 0.2	12.1 - 0.3	1	0°30.2	0°30.3	0°28.9	0.1 - 0.0	6.1 - 0.3	12.1 - 0.5
2 3	0°00.5 0°00.8	0°00.5 0°00.8	0°00.5 0°00.7	0.2 - 0.0 0.3 - 0.0	6.2 - 0.1 6.3 - 0.1	12.2 - 0.1 12.3 - 0.1	3	0°15.5 0°15.8	0°15.5 0°15.8	0°14.8 0°15.0	0.2 - 0.0 0.3 - 0.0	6.2 - 0.2 6.3 - 0.2	12.2 - 0.3 12.3 - 0.3	3	0°30.5 0°30.7	0°30.6 0°30.8	$0^{\circ}29.1$ $0^{\circ}29.3$	0.2 - 0.0 0.3 - 0.0	6.2 - 0.3 6.3 - 0.3	12.2 - 0.5 12.3 - 0.5
4	0°01.0	0°01.0	0°01.0	0.3 - 0.0	6.4 - 0.1	12.3 - 0.1	4	0°16.0	0°16.0	0°15.3	0.3 - 0.0	6.4 - 0.2	12.4 - 0.3	4	0°31.0	0°30.8	0°29.6	0.3 - 0.0	6.4 - 0.3	12.4 - 0.5
5	0°01.0	0°01.3	0°01.0	0.4 - 0.0	6.5 - 0.1	12.5 - 0.1	5	0°16.2	0°16.3	0°15.5	0.5 - 0.0	6.5 - 0.2	12.5 - 0.3	5	0°31.3	0°31.3	0°29.8	0.5 - 0.0	6.5 - 0.3	12.5 - 0.5
6	0°01.5	0°01.5	0°01.4	0.6 - 0.0	6.6 - 0.1	12.6 - 0.1	6	0° 16.5	0°16.5	0°15.7	0.6 - 0.0	6.6 - 0.2	12.6 - 0.3	6	0°31.5	0°31.6	0°30.1	0.6 - 0.0	6.6 - 0.3	12.6 - 0.5
7	0°01.8	0°01.8	0°01.7	0.7 - 0.0	6.7 - 0.1	12.7 - 0.1	7	0°16.8	0°16.8	0°16.0	0.7 - 0.0	6.7 - 0.2	12.7 - 0.3	7	0°31.8	0°31.8	0°30.3	0.7 - 0.0	6.7 - 0.3	12.7 - 0.5
8	0°02.0	0°02.0	0°01.9	0.8 - 0.0	6.8 - 0.1	12.8 - 0.1	8	$0^{\circ}17.0$	0°17.0	0°16.2	0.8 - 0.0	6.8 - 0.2	12.8 - 0.3	8	0°32.0	0°32.1	$0^{\circ}30.5$	0.8 - 0.0	6.8 - 0.3	12.8 - 0.5
9	0°02.2	0°02.3	0°02.1	0.9 - 0.0	6.9 - 0.1	12.9 - 0.1	9	0°17.2	0°17.3	0°16.5	0.9 - 0.0	6.9 - 0.2	12.9 - 0.3	9	0°32.2	$0^{\circ}32.3$	$0^{\circ}30.8$	0.9 - 0.0	6.9 - 0.3	12.9 - 0.5
10	0°02.5	0°02.5	0°02.4	1.0 - 0.0	7.0 - 0.1	13.0 - 0.1	10	0°17.5	0°17.5	0°16.7	1.0 - 0.0	7.0 - 0.2	13.0 - 0.3	10	0°32.5	0°32.6	0°31.0	1.0 - 0.0	7.0 - 0.3	13.0 - 0.5
11	0°02.8	0°02.8	0°02.6	1.1 - 0.0	7.1 - 0.1	13.1 - 0.1	11	0°17.8	0°17.8	0°16.9	1.1 - 0.0	7.1 - 0.2	13.1 - 0.3	11	0°32.8	$0^{\circ}32.8$	0°31.3	1.1 - 0.0	7.1 - 0.3	13.1 - 0.5
12	0°03.0	0°03.0	0°02.9	1.2 - 0.0	7.2 - 0.1	13.2 - 0.1	12	0°18.0	0°18.0	0°17.2	1.2 - 0.0	7.2 - 0.2	13.2 - 0.3	12	0°33.0	0°33.1	0°31.5	1.2 - 0.1	7.2 - 0.3	13.2 - 0.5
13	0°03.2	0°03.3	0°03.1	1.3 - 0.0	7.3 - 0.1	13.3 - 0.1	13	0°18.2	0°18.3	0°17.4	1.3 - 0.0	7.3 - 0.2	13.3 - 0.3	13	0°33.2	0°33.3 0°33.6	0°31.7	1.3 - 0.1	7.3 - 0.3	13.3 - 0.6
14 15	0°03.5 0°03.8	0°03.5 0°03.8	0°03.3 0°03.6	1.4 - 0.0 1.5 - 0.0	7.4 - 0.1 7.5 - 0.1	13.4 - 0.1 13.5 - 0.1	14 15	0°18.5 0°18.8	0°18.6 0°18.8	0°17.7 0°17.9	1.4 - 0.0 1.5 - 0.0	7.4 - 0.2 7.5 - 0.2	13.4 - 0.3 13.5 - 0.3	14 15	0°33.5 0°33.8	0°33.6 0°33.8	$0^{\circ}32.0$ $0^{\circ}32.2$	1.4 - 0.1 1.5 - 0.1	7.4 - 0.3 7.5 - 0.3	13.4 - 0.6 13.5 - 0.6
16	0°04.0	0°04.0	0°03.8	1.6 - 0.0	7.6 - 0.1	13.6 - 0.1	16	0°19.0	0°19.1	0°17.9 0°18.1	1.6 - 0.0	7.6 - 0.2	13.6 - 0.3	16	0°34.0	0°34.1	0°32.2	1.6 - 0.1	7.5 - 0.3 7.6 - 0.3	13.6 - 0.6
17	0°04.0	0°04.0	0°04.1	1.7 - 0.0	7.7 - 0.1	13.7 - 0.1	17	0°19.0	0°19.3	0°18.4	1.7 - 0.0	7.7 - 0.2	13.7 - 0.3	17	0°34.0	0°34.1	0°32.7	1.7 - 0.1	7.7 - 0.3	13.7 - 0.6
18	0°04.5	0°04.5	0°04.3	1.8 - 0.0	7.8 - 0.1	13.8 - 0.1	18	0° 19.5	0°19.6	0°18.6	1.8 - 0.0	7.8 - 0.2	13.8 - 0.3	18	0°34.5	0°34.6	0°32.9	1.8 - 0.1	7.8 - 0.3	13.8 - 0.6
19	0°04.8	0°04.8	0°04.5	1.9 - 0.0	7.9 - 0.1	13.9 - 0.1	19	0°19.8	0°19.8	0°18.9	1.9 - 0.0	7.9 - 0.2	13.9 - 0.3	19	0°34.8	0°34.8	0°33.2	1.9 - 0.1	7.9 - 0.3	13.9 - 0.6
20	0°05.0	0°05.0	0°04.8	2.0 - 0.0	8.0 - 0.1	14.0 - 0.1	20	0°20.0	0°20.1	0°19.1	2.0 - 0.1	8.0 - 0.2	14.0 - 0.4	20	0°35.0	0°35.1	$0^{\circ}33.4$	2.0 - 0.1	8.0 - 0.3	14.0 - 0.6
21	0°05.2	0°05.3	0°05.0	2.1 - 0.0	8.1 - 0.1	14.1 - 0.1	21	0°20.2	0°20.3	0°19.3	2.1 - 0.1	8.1 - 0.2	14.1 - 0.4	21	0°35.2	$0^{\circ}35.3$	$0^{\circ}33.6$	2.1 - 0.1	8.1 - 0.3	14.1 - 0.6
22	0°05.5	0°05.5	0°05.2	2.2 - 0.0	8.2 - 0.1	14.2 - 0.1	22	0°20.5	0°20.6	0°19.6	2.2 - 0.1	8.2 - 0.2	14.2 - 0.4	22	0°35.5	0°35.6	0°33.9	2.2 - 0.1	8.2 - 0.3	14.2 - 0.6
23	0°05.8	0°05.8	0°05.5	2.3 - 0.0	8.3 - 0.1	14.3 - 0.1	23	0°20.8	0°20.8	0°19.8	2.3 - 0.1	8.3 - 0.2	14.3 - 0.4	23	0°35.8	0°35.8	0°34.1	2.3 - 0.1	8.3 - 0.3	14.3 - 0.6
24	0°06.0	0°06.0	0°05.7	2.4 - 0.0	8.4 - 0.1	14.4 - 0.1	24	0°21.0	0°21.1	0°20.0	2.4 - 0.1	8.4 - 0.2	14.4 - 0.4	24	0°36.0	0°36.1	0°34.4	2.4 - 0.1	8.4 - 0.3	14.4 - 0.6
25	0°06.2	0°06.3 0°06.5	0°06.0	2.5 - 0.0	8.5 - 0.1	14.5 - 0.1	25	0°21.2 0°21.5	0°21.3 0°21.6	0°20.3 0°20.5	2.5 - 0.1	8.5 - 0.2	14.5 - 0.4	25	0°36.2 0°36.5	0°36.3 0°36.6	0°34.6	2.5 - 0.1	8.5 - 0.4	14.5 - 0.6
26 27	0°06.5 0°06.8	0°06.8	0°06.2 0°06.4	2.6 - 0.0 2.7 - 0.0	8.6 - 0.1 8.7 - 0.1	14.6 - 0.1 14.7 - 0.1	26 27	0°21.8	0°21.8	0°20.8	2.6 - 0.1 2.7 - 0.1	8.6 - 0.2 8.7 - 0.2	14.6 - 0.4 14.7 - 0.4	26 27	0°36.8	0°36.9	0°34.8 0°35.1	2.6 - 0.1 2.7 - 0.1	8.6 - 0.4 8.7 - 0.4	14.6 - 0.6 14.7 - 0.6
28	0°07.0	0°07.0	0°06.4	2.8 - 0.0	8.8 - 0.1	14.8 - 0.1	28	0°22.0	0°21.8 0°22.1	0°20.8	2.8 - 0.1	8.8 - 0.2	14.8 - 0.4	28	0°37.0	0°37.1	0°35.3	2.8 - 0.1	8.8 - 0.4	14.8 - 0.6
29	0°07.2	0°07.3	0°06.9	2.9 - 0.0	8.9 - 0.1	14.9 - 0.1	29	0°22.2	0°22.3	0°21.2	2.9 - 0.1	8.9 - 0.2	14.9 - 0.4	29	0°37.2	0°37.4	0°35.6	2.9 - 0.1	8.9 - 0.4	14.9 - 0.6
30	0°07.5	0°07.5	0°07.2	3.0 - 0.0	9.0 - 0.1	15.0 - 0.1	30	0°22.5	0°22.6	0°21.5	3.0 - 0.1	9.0 - 0.2	15.0 - 0.4	30	0°37.5	0°37.6	0°35.8	3.0 - 0.1	9.0 - 0.4	15.0 - 0.6
31	0°07.8	0°07.8	0°07.4	3.1 - 0.0	9.1 - 0.1	15.1 - 0.1	31	$0^{\circ}22.8$	0°22.8	0°21.7	3.1 - 0.1	9.1 - 0.2	15.1 - 0.4	31	0°37.8	0°37.9	$0^{\circ}36.0$	3.1 - 0.1	9.1 - 0.4	15.1 - 0.6
32	0°08.0	0°08.0	0°07.6	3.2 - 0.0	9.2 - 0.1	15.2 - 0.1	32	0°23.0	0°23.1	0°22.0	3.2 - 0.1	9.2 - 0.2	15.2 - 0.4	32	0°38.0	0°38.1	$0^{\circ}36.3$	3.2 - 0.1	9.2 - 0.4	15.2 - 0.6
33	0°08.2	0°08.3	0°07.9	3.3 - 0.0	9.3 - 0.1	15.3 - 0.1	33	0°23.2	0°23.3	0°22.2	3.3 - 0.1	9.3 - 0.2	15.3 - 0.4	33	0°38.2	0°38.4	0°36.5	3.3 - 0.1	9.3 - 0.4	15.3 - 0.6
34	0°08.5	0°08.5	0°08.1	3.4 - 0.0	9.4 - 0.1	15.4 - 0.1	34	0°23.5	0°23.6	0°22.4	3.4 - 0.1	9.4 - 0.2	15.4 - 0.4	34	0°38.5	0°38.6	0°36.7	3.4 - 0.1	9.4 - 0.4	15.4 - 0.6
35	0°08.8	0°08.8	0°08.4	3.5 - 0.0	9.5 - 0.1	15.5 - 0.1	35	0°23.8	0°23.8	0°22.7	3.5 - 0.1	9.5 - 0.2	15.5 - 0.4	35	0°38.8	0°38.9	0°37.0	3.5 - 0.1	9.5 - 0.4	15.5 - 0.6
36 37	0°09.0 0°09.2	0°09.0 0°09.3	0°08.6 0°08.8	3.6 - 0.0 3.7 - 0.0	9.6 - 0.1 9.7 - 0.1	15.6 - 0.1 15.7 - 0.1	36 37	0°24.0 0°24.2	0°24.1 0°24.3	0°22.9 0°23.1	3.6 - 0.1 3.7 - 0.1	9.6 - 0.2 9.7 - 0.2	15.6 - 0.4 15.7 - 0.4	36 37	0°39.0 0°39.2	0°39.1 0°39.4	0°37.2 0°37.5	3.6 - 0.1 3.7 - 0.2	9.6 - 0.4 9.7 - 0.4	15.6 - 0.6 15.7 - 0.7
38	0°09.2	0°09.5	0°09.1	3.8 - 0.0	9.8 - 0.1	15.8 - 0.1	38	0°24.2	0°24.6	0°23.4	3.8 - 0.1	9.8 - 0.2	15.8 - 0.4	38	0°39.5	0°39.4	0°37.7	3.8 - 0.2	9.8 - 0.4	15.8 - 0.7
39	0°09.8	0°09.8	0°09.3	3.9 - 0.0	9.9 - 0.1	15.9 - 0.1	39	0°24.8	0°24.8	0°23.6	3.9 - 0.1	9.9 - 0.2	15.9 - 0.4	39	0°39.8	0°39.9	0°37.9	3.9 - 0.2	9.9 - 0.4	15.9 - 0.7
40	0°10.0	0°10.0	0°09.5	4.0 - 0.0	10.0 - 0.1	16.0 - 0.1	40	0°25.0	0°25.1	0°23.9	4.0 - 0.1	10.0 - 0.3	16.0 - 0.4	40	0°40.0	0°40.1	0°38.2	4.0 - 0.2	10.0 - 0.4	16.0 - 0.7
41	0°10.2	0°10.3	0°09.8	4.1 - 0.0	10.1 - 0.1	16.1 - 0.1	41	$0^{\circ}25.2$	0°25.3	0°24.1	4.1 - 0.1	10.1 - 0.3	16.1 - 0.4	41	0°40.2	$0^{\circ}40.4$	0°38.4	4.1 - 0.2	10.1 - 0.4	16.1 - 0.7
42	0°10.5	0°10.5	0°10.0	4.2 - 0.0	10.2 - 0.1	16.2 - 0.1	42	$0^{\circ}25.5$	0°25.6	0°24.3	4.2 - 0.1	10.2 - 0.3	16.2 - 0.4	42	$0^{\circ}40.5$	$0^{\circ}40.6$	$0^{\circ}38.7$	4.2 - 0.2	10.2 - 0.4	16.2 - 0.7
43	0°10.8	0°10.8	0°10.3	4.3 - 0.0	10.3 - 0.1	16.3 - 0.1	43	$0^{\circ}25.8$	0°25.8	0°24.6	4.3 - 0.1	10.3 - 0.3	16.3 - 0.4	43	0°40.8	0°40.9	0°38.9	4.3 - 0.2	10.3 - 0.4	16.3 - 0.7
44	0°11.0	0°11.0	0°10.5	4.4 - 0.0	10.4 - 0.1	16.4 - 0.1	44	0°26.0	0°26.1	0°24.8	4.4 - 0.1	10.4 - 0.3	16.4 - 0.4	44	0°41.0	0°41.1	0°39.1	4.4 - 0.2	10.4 - 0.4	16.4 - 0.7
45	0°11.2	0°11.3	0°10.7	4.5 - 0.0	10.5 - 0.1	16.5 - 0.1	45 46	0°26.2 0°26.5	0°26.3 0°26.6	0°25.1	4.5 - 0.1	10.5 - 0.3	16.5 - 0.4	45	0°41.2	0°41.4 0°41.6	0°39.4	4.5 - 0.2	10.5 - 0.4	16.5 - 0.7
46 47	0°11.5 0°11.8	0°11.5 0°11.8	0°11.0 0°11.2	4.6 - 0.0 4.7 - 0.0	10.6 - 0.1 10.7 - 0.1	16.6 - 0.1 16.7 - 0.1	46	0°26.5 0°26.8	0°26.6 0°26.8	0°25.3 0°25.5	4.6 - 0.1 4.7 - 0.1	10.6 - 0.3 10.7 - 0.3	16.6 - 0.4 16.7 - 0.4	46 47	0°41.5 0°41.8	$0^{\circ}41.6$ $0^{\circ}41.9$	0°39.6 0°39.8	4.6 - 0.2 4.7 - 0.2	10.6 - 0.4 10.7 - 0.4	16.6 - 0.7 16.7 - 0.7
48	0°12.0	0°12.0	0°11.5	4.8 - 0.0	10.7 - 0.1	16.8 - 0.1	48	0°27.0	0°27.1	0°25.8	4.8 - 0.1	10.7 - 0.3	16.8 - 0.4	48	0°42.0	$0^{\circ}41.9$ $0^{\circ}42.1$	0°40.1	4.8 - 0.2	10.7 - 0.4	16.8 - 0.7
49	0°12.2	0°12.3	0°11.7	4.9 - 0.0	10.9 - 0.1	16.9 - 0.1	49	0°27.2	0°27.3	0°26.0	4.9 - 0.1	10.9 - 0.3	16.9 - 0.4	49	0°42.2	$0^{\circ}42.4$	0°40.3	4.9 - 0.2	10.9 - 0.5	16.9 - 0.7
50	0°12.5	0°12.5	0°11.9	5.0 - 0.0	11.0 - 0.1	17.0 - 0.1	50	0°27.5	0°27.6	0°26.2	5.0 - 0.1	11.0 - 0.3	17.0 - 0.4	50	0°42.5	0°42.6	0°40.6	5.0 - 0.2	11.0 - 0.5	17.0 - 0.7
51	0°12.8	0°12.8	0°12.2	5.1 - 0.0	11.1 - 0.1	17.1 - 0.1	51	0°27.8	0°27.8	0°26.5	5.1 - 0.1	11.1 - 0.3	17.1 - 0.4	51	0°42.8	$0^{\circ}42.9$	$0^{\circ}40.8$	5.1 - 0.2	11.1 - 0.5	17.1 - 0.7
52	0°13.0	0°13.0	$0^{\circ}12.4$	5.2 - 0.0	11.2 - 0.1	17.2 - 0.1	52	$0^{\circ}28.0$	0°28.1	0°26.7	5.2 - 0.1	11.2 - 0.3	17.2 - 0.4	52	$0^{\circ}43.0$	$0^{\circ}43.1$	$0^{\circ}41.0$	5.2 - 0.2	11.2 - 0.5	17.2 - 0.7
53	0°13.2	0°13.3	0°12.6	5.3 - 0.0	11.3 - 0.1	17.3 - 0.1	53	0°28.2	0°28.3	0°27.0	5.3 - 0.1	11.3 - 0.3	17.3 - 0.4	53	0°43.2	0°43.4	0°41.3	5.3 - 0.2	11.3 - 0.5	17.3 - 0.7
54	0°13.5	0°13.5	0°12.9	5.4 - 0.0	11.4 - 0.1	17.4 - 0.1	54	0°28.5	0°28.6	0°27.2	5.4 - 0.1	11.4 - 0.3	17.4 - 0.4	54	0°43.5	$0^{\circ}43.6$	$0^{\circ}41.5$	5.4 - 0.2	11.4 - 0.5	17.4 - 0.7
55	0°13.8	0°13.8	0°13.1	5.5 - 0.0	11.5 - 0.1	17.5 - 0.1	55	0°28.7	0°28.8	0°27.4	5.5 - 0.1	11.5 - 0.3	17.5 - 0.4	55	0°43.8	0°43.9	0°41.8	5.5 - 0.2	11.5 - 0.5	17.5 - 0.7
56	0°14.0	0°14.0	0°13.4	5.6 - 0.0	11.6 - 0.1	17.6 - 0.1	56	0°29.0	0°29.1	0°27.7	5.6 - 0.1	11.6 - 0.3	17.6 - 0.4	56	0°44.0	0°44.1	0°42.0	5.6 - 0.2	11.6 - 0.5	17.6 - 0.7
57	0°14.2	0°14.3 0°14.5	0°13.6 0°13.8	5.7 - 0.0 5.8 - 0.0	11.7 - 0.1	17.7 - 0.1 17.8 - 0.1	57 58	0°29.3 0°29.5	0°29.3 0°29.6	0°27.9 0°28.2	5.7 - 0.1 5.8 - 0.1	11.7 - 0.3	17.7 - 0.4	57	0°44.2 0°44.5	0°44.4 0°44.6	$0^{\circ}42.2$ $0^{\circ}42.5$	5.7 - 0.2 5.8 - 0.2	11.7 - 0.5	17.7 - 0.7
58 59	0°14.5 0°14.7	0 14.5 0°14.8	0°13.8 0°14.1	5.9 - 0.0	11.8 - 0.1 11.9 - 0.1	17.8 - 0.1	59	0°29.5	0°29.6 0°29.8	0°28.2 0°28.4	5.8 - 0.1	11.8 - 0.3 11.9 - 0.3	17.8 - 0.4 17.9 - 0.4	58 59	0°44.8	0°44.6	$0^{\circ}42.5$ $0^{\circ}42.7$	5.8 - 0.2	11.8 - 0.5 11.9 - 0.5	17.8 - 0.7 17.9 - 0.7
99	0 14.7	0 14.0	0 14.1	5.5 - 0.0	11.0 - 0.1	11.0 - 0.1	_ 59	0 29.1	0 49.0	0 20.4	0.9 - 0.1	11.0 - 0.3	11.0 - 0.4	29	0 44.0	0 44.3	0 44.1	0.5 - 0.2	11.9 - 0.0	11.9 - 0.1

m	Sun	Aries	Moon		v and d corr	•	m	Sun	Aries	Moon		v and d cor	r	m	Sun	Aries	Moon		v and d corr	r
3	Plan.						4	Plan.						5	Plan.					
0	0°45.0	0°45.1	0°43.0	0.0 - 0.0	6.0 - 0.3	12.0 - 0.7	0	1°00.0	1°00.2	0°57.3	0.0 - 0.0	6.0 - 0.4	12.0 - 0.9	0	1°15.0	1°15.2	1°11.6	0.0 - 0.0	6.0 - 0.5	12.0 - 1.1
1	0°45.2	0°45.4	0°43.2	0.1 - 0.0	6.1 - 0.4	12.1 - 0.7	1	1°00.2	1°00.4	0°57.5	0.1 - 0.0	6.1 - 0.5	12.1 - 0.9	1	1°15.2	1°15.5	1°11.8	0.1 - 0.0	6.1 - 0.6	12.1 - 1.1
2 3	0°45.5 0°45.8	0°45.6 0°45.9	0°43.4 0°43.7	0.2 - 0.0 0.3 - 0.0	6.2 - 0.4 6.3 - 0.4	12.2 - 0.7 $12.3 - 0.7$	3	1°00.5 1°00.7	1°00.7 1°00.9	0°57.7 0°58.0	0.2 - 0.0 0.3 - 0.0	6.2 - 0.5 6.3 - 0.5	12.2 - 0.9 12.3 - 0.9	3	1°15.5 1°15.7	1°15.7 1°16.0	1°12.1 1°12.3	0.2 - 0.0 0.3 - 0.0	6.2 - 0.6 6.3 - 0.6	12.2 - 1.1 12.3 - 1.1
4	0°46.0	0°46.1	0°43.7	0.3 - 0.0	6.4 - 0.4	12.3 - 0.7	4	1°01.0	1°01.2	0°58.2	0.3 - 0.0	6.4 - 0.5	12.4 - 0.9	4	1°16.0	1°16.0	1°12.5	0.4 - 0.0	6.4 - 0.6	12.4 - 1.1
5	0°46.2	0°46.4	0°44.1	0.4 - 0.0	6.5 - 0.4	12.5 - 0.7	5	1°01.0	1°01.2	0°58.5	0.5 - 0.0	6.5 - 0.5	12.5 - 0.9	5	1°16.2	1°16.5	1°12.8	0.4 - 0.0	6.5 - 0.6	12.5 - 1.1
6	0°46.5	0°46.6	0°44.4	0.6 - 0.0	6.6 - 0.4	12.6 - 0.7	6	1°01.5	1°01.7	0°58.7	0.6 - 0.0	6.6 - 0.5	12.6 - 0.9	6	1°16.5	1°16.7	1°13.0	0.6 - 0.1	6.6 - 0.6	12.6 - 1.2
7	0°46.8	0°46.9	0°44.6	0.7 - 0.0	6.7 - 0.4	12.7 - 0.7	7	1°01.7	1°01.9	0°58.9	0.7 - 0.1	6.7 - 0.5	12.7 - 1.0	7	1°16.7	1°17.0	1°13.3	0.7 - 0.1	6.7 - 0.6	12.7 - 1.2
8	0°47.0	0°47.1	0°44.9	0.8 - 0.0	6.8 - 0.4	12.8 - 0.7	8	1°02.0	1°02.2	0°59.2	0.8 - 0.1	6.8 - 0.5	12.8 - 1.0	8	1°17.0	1°17.2	1°13.5	0.8 - 0.1	6.8 - 0.6	12.8 - 1.2
9	0°47.2	0°47.4	$0^{\circ}45.1$	0.9 - 0.1	6.9 - 0.4	12.9 - 0.8	9	1°02.3	1°02.4	0°59.4	0.9 - 0.1	6.9 - 0.5	12.9 - 1.0	9	1°17.3	1°17.5	1°13.7	0.9 - 0.1	6.9 - 0.6	12.9 - 1.2
10	0°47.5	0°47.6	0°45.3	1.0 - 0.1	7.0 - 0.4	13.0 - 0.8	10	1°02.5	1°02.7	0°59.7	1.0 - 0.1	7.0 - 0.5	13.0 - 1.0	10	1°17.5	1°17.7	1°14.0	1.0 - 0.1	7.0 - 0.6	13.0 - 1.2
11	0°47.8	0°47.9	0°45.6	1.1 - 0.1	7.1 - 0.4	13.1 - 0.8	11	1°02.8	1°02.9	0°59.9	1.1 - 0.1	7.1 - 0.5	13.1 - 1.0	11	1°17.8	1°18.0	1°14.2	1.1 - 0.1	7.1 - 0.7	13.1 - 1.2
12	0°48.0	0°48.1	0°45.8	1.2 - 0.1	7.2 - 0.4	13.2 - 0.8	12	1°03.0	1°03.2	1°00.1	1.2 - 0.1	7.2 - 0.5	13.2 - 1.0	12	1°18.0	1°18.2	1°14.4	1.2 - 0.1	7.2 - 0.7	13.2 - 1.2
13	0°48.2	0°48.4	0°46.1	1.3 - 0.1	7.3 - 0.4	13.3 - 0.8	13	1°03.3	1°03.4	1°00.4	1.3 - 0.1	7.3 - 0.5	13.3 - 1.0	13	1°18.2	1°18.5	1°14.7	1.3 - 0.1	7.3 - 0.7	13.3 - 1.2
14 15	0°48.5 0°48.8	0°48.6 0°48.9	0°46.3 0°46.5	1.4 - 0.1 1.5 - 0.1	7.4 - 0.4 7.5 - 0.4	13.4 - 0.8 13.5 - 0.8	14 15	1°03.5 1°03.8	1°03.7 1°03.9	1°00.6 1°00.8	1.4 - 0.1 1.5 - 0.1	7.4 - 0.6 7.5 - 0.6	13.4 - 1.0 13.5 - 1.0	14 15	1°18.5 1°18.8	1°18.7 1°19.0	1°14.9 1°15.2	1.4 - 0.1 1.5 - 0.1	7.4 - 0.7 7.5 - 0.7	13.4 - 1.2 13.5 - 1.2
16	0°49.0	0°49.1	0°46.8	1.6 - 0.1	7.6 - 0.4	13.6 - 0.8	16	1°04.0	1°04.2	1°01.1	1.6 - 0.1	7.6 - 0.6	13.6 - 1.0	16	1°19.0	1°19.0	1°15.4	1.6 - 0.1	7.6 - 0.7	13.6 - 1.2
17	0°49.2	0°49.4	0°47.0	1.7 - 0.1	7.7 - 0.4	13.7 - 0.8	17	1°04.0	1°04.2	1°01.3	1.7 - 0.1	7.7 - 0.6	13.7 - 1.0	17	1°19.2	1°19.5	1°15.4	1.7 - 0.2	7.7 - 0.7	13.7 - 1.3
18	0°49.5	0°49.6	0°47.2	1.8 - 0.1	7.8 - 0.5	13.8 - 0.8	18	1°04.5	1°04.7	1°01.6	1.8 - 0.1	7.8 - 0.6	13.8 - 1.0	18	1°19.5	1°19.7	1°15.9	1.8 - 0.2	7.8 - 0.7	13.8 - 1.3
19	0°49.8	0°49.9	0°47.5	1.9 - 0.1	7.9 - 0.5	13.9 - 0.8	19	1°04.7	1°04.9	1°01.8	1.9 - 0.1	7.9 - 0.6	13.9 - 1.0	19	1°19.7	1°20.0	1°16.1	1.9 - 0.2	7.9 - 0.7	13.9 - 1.3
20	0°50.0	0°50.1	0°47.7	2.0 - 0.1	8.0 - 0.5	14.0 - 0.8	20	1°05.0	1°05.2	1°02.0	2.0 - 0.1	8.0 - 0.6	14.0 - 1.1	20	1°20.0	1°20.2	1°16.4	2.0 - 0.2	8.0 - 0.7	14.0 - 1.3
21	0°50.2	0°50.4	0°48.0	2.1 - 0.1	8.1 - 0.5	14.1 - 0.8	21	1°05.2	1°05.4	1°02.3	2.1 - 0.2	8.1 - 0.6	14.1 - 1.1	21	1°20.2	1°20.5	$1^{\circ}16.6$	2.1 - 0.2	8.1 - 0.7	14.1 - 1.3
22	0°50.5	0°50.6	0°48.2	2.2 - 0.1	8.2 - 0.5	14.2 - 0.8	22	1°05.5	1°05.7	1°02.5	2.2 - 0.2	8.2 - 0.6	14.2 - 1.1	22	1°20.5	1°20.7	1°16.8	2.2 - 0.2	8.2 - 0.8	14.2 - 1.3
23	0°50.8	0°50.9	0°48.4	2.3 - 0.1	8.3 - 0.5	14.3 - 0.8	23	1°05.8	1°05.9	1°02.8	2.3 - 0.2	8.3 - 0.6	14.3 - 1.1	23	1°20.8	1°21.0	1°17.1	2.3 - 0.2	8.3 - 0.8	14.3 - 1.3
24	0°51.0	0°51.1	0°48.7	2.4 - 0.1	8.4 - 0.5	14.4 - 0.8	24	1°06.0	1°06.2	1°03.0	2.4 - 0.2	8.4 - 0.6	14.4 - 1.1	24	1°21.0	1°21.2	1°17.3	2.4 - 0.2	8.4 - 0.8	14.4 - 1.3
25 26	0°51.2 0°51.5	0°51.4 0°51.6	0°48.9 0°49.2	2.5 - 0.1 2.6 - 0.2	8.5 - 0.5 8.6 - 0.5	14.5 - 0.8	25 26	1°06.3 1°06.5	1°06.4 1°06.7	1°03.2 1°03.5	2.5 - 0.2 2.6 - 0.2	8.5 - 0.6 8.6 - 0.6	14.5 - 1.1	25 26	1°21.3 1°21.5	1°21.5 1°21.7	1°17.5 1°17.8	2.5 - 0.2 2.6 - 0.2	8.5 - 0.8 8.6 - 0.8	14.5 - 1.3 14.6 - 1.3
27	0°51.8	0°51.0	0°49.4	2.7 - 0.2	8.7 - 0.5	14.6 - 0.9 14.7 - 0.9	27	1°06.8	1°06.7	1°03.7	2.7 - 0.2	8.7 - 0.7	14.6 - 1.1 14.7 - 1.1	27	1°21.8	1°22.0	1°18.0	2.7 - 0.2	8.7 - 0.8	14.7 - 1.3
28	0°52.0	0°52.1	0°49.4	2.8 - 0.2	8.8 - 0.5	14.8 - 0.9	28	1°07.0	1°07.2	1°03.7	2.8 - 0.2	8.8 - 0.7	14.8 - 1.1	28	1°22.0	1°22.2	1°18.3	2.8 - 0.3	8.8 - 0.8	14.8 - 1.4
29	0°52.2	0°52.4	0°49.9	2.9 - 0.2	8.9 - 0.5	14.9 - 0.9	29	1°07.3	1°07.4	1°04.2	2.9 - 0.2	8.9 - 0.7	14.9 - 1.1	29	1°22.2	1°22.5	1°18.5	2.9 - 0.3	8.9 - 0.8	14.9 - 1.4
30	0°52.5	0°52.6	0°50.1	3.0 - 0.2	9.0 - 0.5	15.0 - 0.9	30	1°07.5	1°07.7	1°04.4	3.0 - 0.2	9.0 - 0.7	15.0 - 1.1	30	1°22.5	1°22.7	1°18.7	3.0 - 0.3	9.0 - 0.8	15.0 - 1.4
31	0°52.8	0°52.9	0°50.3	3.1 - 0.2	9.1 - 0.5	15.1 - 0.9	31	1°07.7	1°07.9	1°04.7	3.1 - 0.2	9.1 - 0.7	15.1 - 1.1	31	1°22.8	1°23.0	1°19.0	3.1 - 0.3	9.1 - 0.8	15.1 - 1.4
32	0°53.0	0°53.1	0°50.6	3.2 - 0.2	9.2 - 0.5	15.2 - 0.9	32	1°08.0	1°08.2	1°04.9	3.2 - 0.2	9.2 - 0.7	15.2 - 1.1	32	1°23.0	1°23.2	1°19.2	3.2 - 0.3	9.2 - 0.8	15.2 - 1.4
33	0°53.2	0°53.4	0°50.8	3.3 - 0.2	9.3 - 0.5	15.3 - 0.9	33	1°08.2	1°08.4	1°05.1	3.3 - 0.2	9.3 - 0.7	15.3 - 1.1	33	1°23.2	1°23.5	1°19.5	3.3 - 0.3	9.3 - 0.9	15.3 - 1.4
34	0°53.5	0°53.6	0°51.1	3.4 - 0.2	9.4 - 0.5	15.4 - 0.9	34	1°08.5	1°08.7	1°05.4	3.4 - 0.3	9.4 - 0.7	15.4 - 1.2	34	1°23.5	1°23.7	1°19.7	3.4 - 0.3	9.4 - 0.9	15.4 - 1.4
35 36	0°53.8 0°54.0	0°53.9 0°54.1	0°51.3 0°51.5	3.5 - 0.2 3.6 - 0.2	9.5 - 0.6 9.6 - 0.6	15.5 - 0.9 15.6 - 0.9	35 36	1°08.7 1°09.0	1°08.9 1°09.2	1°05.6 1°05.9	3.5 - 0.3 3.6 - 0.3	9.5 - 0.7 9.6 - 0.7	15.5 - 1.2	35 36	1°23.7 1°24.0	$1^{\circ}24.0$ $1^{\circ}24.2$	1°19.9 1°20.2	3.5 - 0.3 3.6 - 0.3	9.5 - 0.9 9.6 - 0.9	15.5 - 1.4 15.6 - 1.4
37	0°54.0	0°54.4	0°51.8	3.7 - 0.2	9.7 - 0.6	15.7 - 0.9	37	1°09.0	1°09.2	1°06.1	3.7 - 0.3	9.7 - 0.7	15.6 - 1.2 15.7 - 1.2	37	1°24.0	1°24.2	1°20.4	3.7 - 0.3	9.7 - 0.9	15.7 - 1.4
38	0°54.5	0°54.6	0°52.0	3.8 - 0.2	9.8 - 0.6	15.8 - 0.9	38	1°09.5	1°09.7	1°06.3	3.8 - 0.3	9.8 - 0.7	15.8 - 1.2	38	1°24.5	1°24.7	1°20.7	3.8 - 0.3	9.8 - 0.9	15.8 - 1.4
39	0°54.8	0°54.9	0°52.3	3.9 - 0.2	9.9 - 0.6	15.9 - 0.9	39	1°09.8	1°09.9	1°06.6	3.9 - 0.3	9.9 - 0.7	15.9 - 1.2	39	1°24.8	1°25.0	1°20.9	3.9 - 0.4	9.9 - 0.9	15.9 - 1.5
40	0°55.0	0°55.2	0°52.5	4.0 - 0.2	10.0 - 0.6	16.0 - 0.9	40	1°10.0	1°10.2	1°06.8	4.0 - 0.3	10.0 - 0.8	16.0 - 1.2	40	1°25.0	1°25.2	1°21.1	4.0 - 0.4	10.0 - 0.9	16.0 - 1.5
41	0°55.2	0°55.4	0°52.7	4.1 - 0.2	10.1 - 0.6	16.1 - 0.9	41	1°10.3	1°10.4	1°07.0	4.1 - 0.3	10.1 - 0.8	16.1 - 1.2	41	1°25.3	$1^{\circ}25.5$	1°21.4	4.1 - 0.4	10.1 - 0.9	16.1 - 1.5
42	0°55.5	0°55.7	0°53.0	4.2 - 0.2	10.2 - 0.6	16.2 - 0.9	42	1°10.5	1°10.7	1°07.3	4.2 - 0.3	10.2 - 0.8	16.2 - 1.2	42	1°25.5	1°25.7	1°21.6	4.2 - 0.4	10.2 - 0.9	16.2 - 1.5
43	0°55.8	0°55.9	0°53.2	4.3 - 0.3	10.3 - 0.6	16.3 - 1.0	43	1°10.8	1°10.9	1°07.5	4.3 - 0.3	10.3 - 0.8	16.3 - 1.2	43	1°25.8	1°26.0	1°21.8	4.3 - 0.4	10.3 - 0.9	16.3 - 1.5
44	0°56.0	0°56.2 0°56.4	0°53.4 0°53.7	4.4 - 0.3	10.4 - 0.6	16.4 - 1.0	44	1°11.0 1°11.2	1°11.2 1°11.4	1°07.8 1°08.0	4.4 - 0.3	10.4 - 0.8	16.4 - 1.2	44	1°26.0 1°26.2	$1^{\circ}26.2$ $1^{\circ}26.5$	$1^{\circ}22.1$ $1^{\circ}22.3$	4.4 - 0.4	10.4 - 1.0	16.4 - 1.5
45 46	0°56.2 0°56.5	0°56.4	0°53.7 0°53.9	4.5 - 0.3 4.6 - 0.3	10.5 - 0.6 10.6 - 0.6	16.5 - 1.0 16.6 - 1.0	45 46	1°11.2	1 11.4 1°11.7	1°08.0	4.5 - 0.3 4.6 - 0.3	10.5 - 0.8 10.6 - 0.8	16.5 - 1.2 16.6 - 1.2	45 46	1°26.2 1°26.5	$1^{\circ}26.5$ $1^{\circ}26.7$	$1^{\circ}22.3$ $1^{\circ}22.6$	4.5 - 0.4 4.6 - 0.4	10.5 - 1.0 10.6 - 1.0	16.5 - 1.5 16.6 - 1.5
47	0°56.8	0°56.9	0°54.2	4.7 - 0.3	10.7 - 0.6	16.7 - 1.0	47	1°11.3	1°11.7	1°08.5	4.7 - 0.4	10.7 - 0.8	16.7 - 1.3	47	1°26.8	1°27.0	1°22.8	4.7 - 0.4	10.7 - 1.0	16.7 - 1.5
48	0°57.0	0°57.2	0°54.4	4.8 - 0.3	10.8 - 0.6	16.8 - 1.0	48	1°12.0	1°12.2	1°08.7	4.8 - 0.4	10.8 - 0.8	16.8 - 1.3	48	1°27.0	1°27.2	1°23.0	4.8 - 0.4	10.8 - 1.0	16.8 - 1.5
49	0°57.2	0°57.4	0°54.6	4.9 - 0.3	10.9 - 0.6	16.9 - 1.0	49	1°12.2	1°12.4	1°09.0	4.9 - 0.4	10.9 - 0.8	16.9 - 1.3	49	1°27.2	1°27.5	1°23.3	4.9 - 0.4	10.9 - 1.0	16.9 - 1.5
50	0°57.5	0°57.7	0°54.9	5.0 - 0.3	11.0 - 0.6	17.0 - 1.0	50	1°12.5	1°12.7	1°09.2	5.0 - 0.4	11.0 - 0.8	17.0 - 1.3	50	1°27.5	1°27.7	$1^{\circ}23.5$	5.0 - 0.5	11.0 - 1.0	17.0 - 1.6
51	0°57.7	0°57.9	0°55.1	5.1 - 0.3	11.1 - 0.6	17.1 - 1.0	51	1°12.7	1°12.9	1°09.4	5.1 - 0.4	11.1 - 0.8	17.1 - 1.3	51	1°27.7	1°28.0	1°23.8	5.1 - 0.5	11.1 - 1.0	17.1 - 1.6
52	0°58.0	0°58.2	0°55.4	5.2 - 0.3	11.2 - 0.7	17.2 - 1.0	52	1°13.0	1°13.2	1°09.7	5.2 - 0.4	11.2 - 0.8	17.2 - 1.3	52	1°28.0	1°28.2	1°24.0	5.2 - 0.5	11.2 - 1.0	17.2 - 1.6
53	0°58.2	0°58.4	0°55.6	5.3 - 0.3	11.3 - 0.7	17.3 - 1.0	53	1°13.2	1°13.5	1°09.9	5.3 - 0.4	11.3 - 0.8	17.3 - 1.3	53	1°28.2	1°28.5	1°24.2	5.3 - 0.5	11.3 - 1.0	17.3 - 1.6
54	0°58.5	0°58.7	0°55.8	5.4 - 0.3	11.4 - 0.7	17.4 - 1.0	54	1°13.5	1°13.7	1°10.2	5.4 - 0.4	11.4 - 0.9	17.4 - 1.3	54	1°28.5	1°28.7	1°24.5	5.4 - 0.5	11.4 - 1.0	17.4 - 1.6
55 56	0°58.8 0°59.0	0°58.9 0°59.2	0°56.1 0°56.3	5.5 - 0.3 5.6 - 0.3	11.5 - 0.7 11.6 - 0.7	17.5 - 1.0 17.6 - 1.0	55 56	1°13.8 1°14.0	1°14.0 1°14.2	1°10.4 1°10.6	5.5 - 0.4 5.6 - 0.4	11.5 - 0.9 11.6 - 0.9	17.5 - 1.3 17.6 - 1.3	55 56	1°28.8 1°29.0	$1^{\circ}29.0$ $1^{\circ}29.2$	1°24.7 1°24.9	5.5 - 0.5 5.6 - 0.5	11.5 - 1.1 11.6 - 1.1	17.5 - 1.6 17.6 - 1.6
57	0°59.0	0°59.2 0°59.4	0°56.6	5.7 - 0.3	11.6 - 0.7	17.6 - 1.0	57	1°14.0	1 14.2 1°14.5	1°10.6	5.7 - 0.4	11.6 - 0.9	17.6 - 1.3	57	1°29.0	1°29.2 1°29.5	1°25.2	5.7 - 0.5	11.6 - 1.1	17.7 - 1.6
58	0°59.5	0°59.7	0°56.8	5.8 - 0.3	11.8 - 0.7	17.8 - 1.0	58	1°14.5	1°14.7	1°11.1	5.8 - 0.4	11.8 - 0.9	17.8 - 1.3	58	1°29.5	1°29.7	1°25.4	5.8 - 0.5	11.8 - 1.1	17.8 - 1.6
59	0°59.8	0°59.9	0°57.0	5.9 - 0.3	11.9 - 0.7	17.9 - 1.0	59	1°14.8	1°15.0	1°11.3	5.9 - 0.4	11.9 - 0.9	17.9 - 1.3	59	1°29.8	1°30.0	1°25.7	5.9 - 0.5	11.9 - 1.1	17.9 - 1.6
		5 50.0	2 31.0	0.0		2						0.0	1.0			_ 30.0	- 20	11 2.5 0.0		

m	Sun	Aries	Moon		v and d corr	r	m	Sun	Aries	Moon		v and d corr	r	m	Sun	Aries	Moon		v and d corr	•
6	Plan.						7	Plan.						8	Plan.					
0	1°30.0	1°30.2	1°25.9	0.0 - 0.0	6.0 - 0.7	12.0 - 1.3	0	1°45.0	1°45.3	1°40.2	0.0 - 0.0	6.0 - 0.8	12.0 - 1.5	0	2°00.0	2°00.3	1°54.5	0.0 - 0.0	6.0 - 0.8	12.0 - 1.7
1	1°30.2	1°30.5	1°26.1	0.1 - 0.0	6.1 - 0.7	12.1 - 1.3	1	1°45.2	1°45.5	1°40.5	0.1 - 0.0	6.1 - 0.8	12.1 - 1.5	1	2°00.3 2°00.5	2°00.6	1°54.8	0.1 - 0.0	6.1 - 0.9	12.1 - 1.7
2 3	1°30.5 1°30.7	1°30.7 1°31.0	1°26.4 1°26.6	0.2 - 0.0 0.3 - 0.0	6.2 - 0.7 $6.3 - 0.7$	12.2 - 1.3 12.3 - 1.3	3	1°45.5 1°45.8	1°45.8 1°46.0	1°40.7 1°40.9	0.2 - 0.0 0.3 - 0.0	6.2 - 0.8 6.3 - 0.8	12.2 - 1.5 12.3 - 1.5	2 3	2°00.8	2°00.8 2°01.1	1°55.0 1°55.2	0.2 - 0.0 0.3 - 0.0	6.2 - 0.9 6.3 - 0.9	12.2 - 1.7 12.3 - 1.7
4	1°31.0	1°31.0	1°26.9	0.4 - 0.0	6.4 - 0.7	12.4 - 1.3	4	1°46.0	1°46.3	1°41.2	0.4 - 0.1	6.4 - 0.8	12.4 - 1.6	4	2°01.0	2°01.3	1°55.5	0.4 - 0.1	6.4 - 0.9	12.4 - 1.8
5	1°31.2	1°31.5	1°27.1	0.5 - 0.1	6.5 - 0.7	12.5 - 1.4	5	1°46.2	1°46.5	1°41.4	0.5 - 0.1	6.5 - 0.8	12.5 - 1.6	5	2°01.3	2°01.6	1°55.7	0.5 - 0.1	6.5 - 0.9	12.5 - 1.8
6	1°31.5	1°31.8	$1^{\circ}27.3$	0.6 - 0.1	6.6 - 0.7	12.6 - 1.4	6	$1^{\circ}46.5$	$1^{\circ}46.8$	1°41.6	0.6 - 0.1	6.6 - 0.8	12.6 - 1.6	6	2°01.5	2°01.8	1°56.0	0.6 - 0.1	6.6 - 0.9	12.6 - 1.8
7	1°31.7	1°32.0	$1^{\circ}27.6$	0.7 - 0.1	6.7 - 0.7	12.7 - 1.4	7	$1^{\circ}46.7$	$1^{\circ}47.0$	1°41.9	0.7 - 0.1	6.7 - 0.8	12.7 - 1.6	7	2°01.8	2°02.1	1°56.2	0.7 - 0.1	6.7 - 0.9	12.7 - 1.8
8	1°32.0	1°32.3	1°27.8	0.8 - 0.1	6.8 - 0.7	12.8 - 1.4	8	1°47.0	1°47.3	1°42.1	0.8 - 0.1	6.8 - 0.8	12.8 - 1.6	8	2°02.0	2°02.3	1°56.4	0.8 - 0.1	6.8 - 1.0	12.8 - 1.8
9	1°32.3	1°32.5	1°28.0	0.9 - 0.1	6.9 - 0.7	12.9 - 1.4	9	1°47.3	1°47.5	1°42.4	0.9 - 0.1	6.9 - 0.9	12.9 - 1.6	9	2°02.3	2°02.6	1°56.7	0.9 - 0.1	6.9 - 1.0	12.9 - 1.8
10 11	1°32.5 1°32.8	1°32.8 1°33.0	1°28.3 1°28.5	1.0 - 0.1 1.1 - 0.1	7.0 - 0.8 7.1 - 0.8	13.0 - 1.4 13.1 - 1.4	10 11	1°47.5 1°47.8	1°47.8 1°48.0	1°42.6 1°42.8	1.0 - 0.1 1.1 - 0.1	7.0 - 0.9 7.1 - 0.9	13.0 - 1.6 13.1 - 1.6	10 11	2°02.5 2°02.8	2°02.8 2°03.1	1°56.9 1°57.2	1.0 - 0.1 1.1 - 0.2	7.0 - 1.0 7.1 - 1.0	13.0 - 1.8 13.1 - 1.9
12	1°33.0	1°33.3	1°28.8	1.2 - 0.1	7.2 - 0.8	13.1 - 1.4	12	1°48.0	1°48.3	1°43.1	1.1 - 0.1	7.2 - 0.9	13.2 - 1.6	12	2°03.0	2°03.1	1°57.4	1.1 - 0.2	7.1 - 1.0 $7.2 - 1.0$	13.1 - 1.9
13	1°33.2	1°33.5	1°29.0	1.3 - 0.1	7.3 - 0.8	13.3 - 1.4	13	1°48.2	1°48.5	1°43.3	1.3 - 0.2	7.3 - 0.9	13.3 - 1.7	13	2°03.3	2°03.6	1°57.6	1.3 - 0.2	7.3 - 1.0	13.3 - 1.9
14	1°33.5	1°33.8	1°29.2	1.4 - 0.2	7.4 - 0.8	13.4 - 1.5	14	1°48.5	1°48.8	1°43.6	1.4 - 0.2	7.4 - 0.9	13.4 - 1.7	14	2°03.5	2°03.8	1°57.9	1.4 - 0.2	7.4 - 1.0	13.4 - 1.9
15	1°33.8	1°34.0	$1^{\circ}29.5$	1.5 - 0.2	7.5 - 0.8	13.5 - 1.5	15	$1^{\circ}48.8$	1°49.0	1°43.8	1.5 - 0.2	7.5 - 0.9	13.5 - 1.7	15	2°03.8	2°04.1	1°58.1	1.5 - 0.2	7.5 - 1.1	13.5 - 1.9
16	1°34.0	1°34.3	1°29.7	1.6 - 0.2	7.6 - 0.8	13.6 - 1.5	16	1°49.0	1°49.3	1°44.0	1.6 - 0.2	7.6 - 0.9	13.6 - 1.7	16	2°04.0	2°04.3	1°58.4	1.6 - 0.2	7.6 - 1.1	13.6 - 1.9
17	1°34.2	1°34.5	1°30.0	1.7 - 0.2	7.7 - 0.8	13.7 - 1.5	17	1°49.2	1°49.5	1°44.3	1.7 - 0.2	7.7 - 1.0	13.7 - 1.7	17	2°04.2	2°04.6	1°58.6	1.7 - 0.2	7.7 - 1.1	13.7 - 1.9
18	1°34.5 1°34.8	1°34.8 1°35.0	1°30.2 1°30.4	1.8 - 0.2	7.8 - 0.8	13.8 - 1.5	18 19	1°49.5 1°49.8	1°49.8 1°50.0	1°44.5 1°44.8	1.8 - 0.2 1.9 - 0.2	7.8 - 1.0	13.8 - 1.7	18 19	2°04.5 2°04.7	2°04.8 2°05.1	1°58.8 1°59.1	1.8 - 0.3 1.9 - 0.3	7.8 - 1.1	13.8 - 2.0 13.9 - 2.0
19 20	1°35.0	1°35.3	1°30.4 1°30.7	1.9 - 0.2 2.0 - 0.2	7.9 - 0.9 8.0 - 0.9	13.9 - 1.5   14.0 - 1.5	20	1°50.0	1°50.0	1°45.0	2.0 - 0.3	7.9 - 1.0 8.0 - 1.0	13.9 - 1.7 14.0 - 1.8	20	2°05.0	2°05.1	1°59.1	2.0 - 0.3	7.9 - 1.1 8.0 - 1.1	14.0 - 2.0
21	1°35.2	1°35.5	1°30.7	2.1 - 0.2	8.1 - 0.9	14.1 - 1.5	21	1°50.2	1°50.6	1°45.2	2.1 - 0.3	8.1 - 1.0	14.1 - 1.8	21	2°05.2	2°05.6	1°59.5	2.1 - 0.3	8.1 - 1.1	14.1 - 2.0
22	1°35.5	1°35.8	1°31.1	2.2 - 0.2	8.2 - 0.9	14.2 - 1.5	22	1°50.5	1°50.8	1°45.5	2.2 - 0.3	8.2 - 1.0	14.2 - 1.8	22	2°05.5	2°05.8	1°59.8	2.2 - 0.3	8.2 - 1.2	14.2 - 2.0
23	1°35.8	1°36.0	1°31.4	2.3 - 0.2	8.3 - 0.9	14.3 - 1.5	23	$1^{\circ}50.8$	1°51.1	1°45.7	2.3 - 0.3	8.3 - 1.0	14.3 - 1.8	23	$2^{\circ}05.7$	2°06.1	$2^{\circ}00.0$	2.3 - 0.3	8.3 - 1.2	14.3 - 2.0
24	1°36.0	1°36.3	1°31.6	2.4 - 0.3	8.4 - 0.9	14.4 - 1.6	24	1°51.0	1°51.3	1°45.9	2.4 - 0.3	8.4 - 1.1	14.4 - 1.8	24	2°06.0	2°06.3	2°00.3	2.4 - 0.3	8.4 - 1.2	14.4 - 2.0
25	1°36.3	1°36.5	1°31.9	2.5 - 0.3	8.5 - 0.9	14.5 - 1.6	25	1°51.3	1°51.6	1°46.2	2.5 - 0.3	8.5 - 1.1	14.5 - 1.8	25	2°06.2	2°06.6	2°00.5	2.5 - 0.4	8.5 - 1.2	14.5 - 2.1
26	1°36.5	1°36.8	1°32.1	2.6 - 0.3	8.6 - 0.9	14.6 - 1.6	26	1°51.5	1°51.8	1°46.4	2.6 - 0.3	8.6 - 1.1	14.6 - 1.8	26	2°06.5	2°06.8	2°00.7	2.6 - 0.4	8.6 - 1.2	14.6 - 2.1
27 28	1°36.8 1°37.0	1°37.0 1°37.3	1°32.3 1°32.6	2.7 - 0.3 2.8 - 0.3	8.7 - 0.9 8.8 - 1.0	14.7 - 1.6 14.8 - 1.6	27 28	1°51.8 1°52.0	1°52.1 1°52.3	1°46.7 1°46.9	2.7 - 0.3 2.8 - 0.4	8.7 - 1.1 8.8 - 1.1	14.7 - 1.8 14.8 - 1.9	27 28	2°06.7 2°07.0	$2^{\circ}07.1$ $2^{\circ}07.3$	$2^{\circ}01.0$ $2^{\circ}01.2$	2.7 - 0.4 2.8 - 0.4	8.7 - 1.2 8.8 - 1.2	14.7 - 2.1 14.8 - 2.1
29	1°37.0	1°37.5	1°32.8	2.9 - 0.3	8.9 - 1.0	14.9 - 1.6	29	1°52.0	1°52.6	1°47.1	2.9 - 0.4	8.9 - 1.1	14.9 - 1.9	29	2°07.2	2°07.6	2°01.5	2.9 - 0.4	8.9 - 1.3	14.9 - 2.1
30	1°37.5	1°37.8	1°33.1	3.0 - 0.3	9.0 - 1.0	15.0 - 1.6	30	1°52.5	1°52.8	1°47.4	3.0 - 0.4	9.0 - 1.1	15.0 - 1.9	30	2°07.5	2°07.8	2°01.7	3.0 - 0.4	9.0 - 1.3	15.0 - 2.1
31	1°37.8	1°38.0	1°33.3	3.1 - 0.3	9.1 - 1.0	15.1 - 1.6	31	$1^{\circ}52.7$	1°53.1	1°47.6	3.1 - 0.4	9.1 - 1.1	15.1 - 1.9	31	2°07.8	2°08.1	2°01.9	3.1 - 0.4	9.1 - 1.3	15.1 - 2.1
32	1°38.0	1°38.3	1°33.5	3.2 - 0.3	9.2 - 1.0	15.2 - 1.6	32	1°53.0	1°53.3	1°47.9	3.2 - 0.4	9.2 - 1.1	15.2 - 1.9	32	2°08.0	2°08.3	$2^{\circ}02.2$	3.2 - 0.5	9.2 - 1.3	15.2 - 2.2
33	1°38.2	1°38.5	1°33.8	3.3 - 0.4	9.3 - 1.0	15.3 - 1.7	33	1°53.2	1°53.6	1°48.1	3.3 - 0.4	9.3 - 1.2	15.3 - 1.9	33	2°08.3	2°08.6	2°02.4	3.3 - 0.5	9.3 - 1.3	15.3 - 2.2
34	1°38.5	1°38.8	1°34.0	3.4 - 0.4	9.4 - 1.0	15.4 - 1.7	34	1°53.5	1°53.8	1°48.3	3.4 - 0.4	9.4 - 1.2	15.4 - 1.9	34	2°08.5	2°08.9	2°02.6	3.4 - 0.5	9.4 - 1.3	15.4 - 2.2
35 36	1°38.7 1°39.0	1°39.0 1°39.3	1°34.3 1°34.5	3.5 - 0.4 3.6 - 0.4	9.5 - 1.0 9.6 - 1.0	15.5 - 1.7 15.6 - 1.7	35 36	1°53.7 1°54.0	1°54.1 1°54.3	1°48.6 1°48.8	3.5 - 0.4 3.6 - 0.5	9.5 - 1.2 9.6 - 1.2	15.5 - 1.9 15.6 - 1.9	35 36	2°08.8 2°09.0	2°09.1 2°09.4	2°02.9 2°03.1	3.5 - 0.5 3.6 - 0.5	9.5 - 1.3 9.6 - 1.4	15.5 - 2.2 15.6 - 2.2
37	1°39.3	1°39.5	1°34.7	3.7 - 0.4	9.7 - 1.1	15.7 - 1.7	37	1°54.2	1°54.6	1°49.0	3.7 - 0.5	9.7 - 1.2	15.7 - 2.0	37	2°09.3	2°09.4	2°03.4	3.7 - 0.5	9.7 - 1.4	15.7 - 2.2
38	1°39.5	1°39.8	1°35.0	3.8 - 0.4	9.8 - 1.1	15.8 - 1.7	38	1°54.5	1°54.8	1°49.3	3.8 - 0.5	9.8 - 1.2	15.8 - 2.0	38	2°09.5	2°09.9	2°03.6	3.8 - 0.5	9.8 - 1.4	15.8 - 2.2
39	1°39.8	1°40.0	1°35.2	3.9 - 0.4	9.9 - 1.1	15.9 - 1.7	39	$1^{\circ}54.8$	1°55.1	1°49.5	3.9 - 0.5	9.9 - 1.2	15.9 - 2.0	39	2°09.8	2°10.1	2°03.8	3.9 - 0.6	9.9 - 1.4	15.9 - 2.3
40	1°40.0	1°40.3	1°35.4	4.0 - 0.4	10.0 - 1.1	16.0 - 1.7	40	1°55.0	1°55.3	1°49.8	4.0 - 0.5	10.0 - 1.3	16.0 - 2.0	40	2°10.0	2°10.4	2°04.1	4.0 - 0.6	10.0 - 1.4	16.0 - 2.3
41	1°40.2	1°40.5	1°35.7	4.1 - 0.4	10.1 - 1.1	16.1 - 1.7	41	1°55.2	1°55.6	1°50.0	4.1 - 0.5	10.1 - 1.3	16.1 - 2.0	41	2°10.3	2°10.6	2°04.3	4.1 - 0.6	10.1 - 1.4	16.1 - 2.3
42 43	1°40.5 1°40.8	1°40.8 1°41.0	1°35.9 1°36.2	4.2 - 0.5 4.3 - 0.5	10.2 - 1.1 10.3 - 1.1	16.2 - 1.8 16.3 - 1.8	42	1°55.5 1°55.8	1°55.8 1°56.1	1°50.2 1°50.5	4.2 - 0.5 4.3 - 0.5	10.2 - 1.3 10.3 - 1.3	16.2 - 2.0 16.3 - 2.0	42 43	2°10.5 2°10.8	2°10.9 2°11.1	2°04.6 2°04.8	4.2 - 0.6 4.3 - 0.6	10.2 - 1.4 10.3 - 1.5	16.2 - 2.3 16.3 - 2.3
43	1 40.8 1°41.0	1 41.0 1 1°41.3	1°36.4	4.3 - 0.5	10.3 - 1.1	16.4 - 1.8	43	1 55.8 1°56.0	1°56.3	1°50.5	4.3 - 0.5	10.3 - 1.3	16.3 - 2.0	43	$2^{\circ}10.8$ $2^{\circ}11.0$	2°11.1 2°11.4	2 04.8 2°05.0	4.3 - 0.6	10.3 - 1.5	16.3 - 2.3
45	1°41.2	1°41.5	1°36.4	4.5 - 0.5	10.5 - 1.1	16.5 - 1.8	45	1°56.3	1°56.6	1°51.0	4.5 - 0.6	10.5 - 1.3	16.5 - 2.1	45	2°11.2	2°11.6	2°05.3	4.5 - 0.6	10.5 - 1.5	16.5 - 2.3
46	1°41.5	1°41.8	1°36.9	4.6 - 0.5	10.6 - 1.1	16.6 - 1.8	46	1°56.5	1°56.8	1°51.2	4.6 - 0.6	10.6 - 1.3	16.6 - 2.1	46	2°11.5	2°11.9	2°05.5	4.6 - 0.7	10.6 - 1.5	16.6 - 2.4
47	1°41.8	1°42.0	1°37.1	4.7 - 0.5	10.7 - 1.2	16.7 - 1.8	47	$1^{\circ}56.7$	1°57.1	1°51.4	4.7 - 0.6	10.7 - 1.3	16.7 - 2.1	47	2°11.7	2°12.1	$2^{\circ}05.7$	4.7 - 0.7	10.7 - 1.5	16.7 - 2.4
48	1°42.0	1°42.3	1°37.4	4.8 - 0.5	10.8 - 1.2	16.8 - 1.8	48	1°57.0	1°57.3	1°51.7	4.8 - 0.6	10.8 - 1.4	16.8 - 2.1	48	2°12.0	2°12.4	2°06.0	4.8 - 0.7	10.8 - 1.5	16.8 - 2.4
49	1°42.2	1°42.5	1°37.6	4.9 - 0.5	10.9 - 1.2	16.9 - 1.8	49	1°57.2	1°57.6	1°51.9	4.9 - 0.6	10.9 - 1.4	16.9 - 2.1	49	2°12.2	2°12.6	2°06.2	4.9 - 0.7	10.9 - 1.5	16.9 - 2.4
50 51	1°42.5 1°42.7	1°42.8 1°43.0	1°37.8 1°38.1	5.0 - 0.5 5.1 - 0.6	11.0 - 1.2 11.1 - 1.2	17.0 - 1.8 17.1 - 1.9	50 51	1°57.5 1°57.7	1°57.8 1°58.1	1°52.1 1°52.4	5.0 - 0.6 5.1 - 0.6	11.0 - 1.4 11.1 - 1.4	17.0 - 2.1 17.1 - 2.1	50 51	2°12.5 2°12.7	2°12.9 2°13.1	$2^{\circ}06.5$ $2^{\circ}06.7$	5.0 - 0.7 5.1 - 0.7	11.0 - 1.6 11.1 - 1.6	17.0 - 2.4 $17.1 - 2.4$
51	1°43.0	1°43.3	1°38.3	5.2 - 0.6	11.1 - 1.2	17.1 - 1.9	52	1°58.0	1°58.3	1°52.4 1°52.6	5.1 - 0.6	11.1 - 1.4	17.1 - 2.1 $17.2 - 2.1$	52	2°13.0	2°13.1 2°13.4	2°06.7 2°06.9	5.1 - 0.7	11.1 - 1.6	17.2 - 2.4
53	1°43.2	1°43.5	1°38.5	5.3 - 0.6	11.3 - 1.2	17.3 - 1.9	53	1°58.2	1°58.6	1°52.9	5.3 - 0.7	11.3 - 1.4	17.3 - 2.2	53	2°13.2	2°13.4	2°07.2	5.3 - 0.8	11.3 - 1.6	17.3 - 2.5
54	1°43.5	1°43.8	1°38.8	5.4 - 0.6	11.4 - 1.2	17.4 - 1.9	54	1°58.5	1°58.8	1°53.1	5.4 - 0.7	11.4 - 1.4	17.4 - 2.2	54	2°13.5	2°13.9	2°07.4	5.4 - 0.8	11.4 - 1.6	17.4 - 2.5
55	1°43.8	1°44.0	1°39.0	5.5 - 0.6	11.5 - 1.2	17.5 - 1.9	55	1°58.8	1°59.1	1°53.3	5.5 - 0.7	11.5 - 1.4	17.5 - 2.2	55	2°13.7	2°14.1	$2^{\circ}07.7$	5.5 - 0.8	11.5 - 1.6	17.5 - 2.5
56	1°44.0	1°44.3	1°39.3	5.6 - 0.6	11.6 - 1.3	17.6 - 1.9	56	1°59.0	1°59.3	1°53.6	5.6 - 0.7	11.6 - 1.5	17.6 - 2.2	56	2°14.0	2°14.4	2°07.9	5.6 - 0.8	11.6 - 1.6	17.6 - 2.5
57	1°44.2	1°44.5	1°39.5	5.7 - 0.6	11.7 - 1.3	17.7 - 1.9	57	1°59.2	1°59.6	1°53.8	5.7 - 0.7	11.7 - 1.5	17.7 - 2.2	57	2°14.2	2°14.6	2°08.1	5.7 - 0.8	11.7 - 1.7	17.7 - 2.5
58	1°44.5	1°44.8	1°39.7	5.8 - 0.6	11.8 - 1.3	17.8 - 1.9	58	1°59.5	1°59.8 2°00.1	1°54.1	5.8 - 0.7	11.8 - 1.5	17.8 - 2.2	58	2°14.5	2°14.9	2°08.4 2°08.6	5.8 - 0.8	11.8 - 1.7	17.8 - 2.5
59	1°44.8	1°45.0	1°40.0	5.9 - 0.6	11.9 - 1.3	17.9 - 1.9	59	1°59.8	∠ 00.1	1°54.3	5.9 - 0.7	11.9 - 1.5	17.9 - 2.2	59	2°14.7	2°15.1	∠ ∪8.0	5.9 - 0.8	11.9 - 1.7	17.9 - 2.5

m	Sun	Aries	Moon		v and d corr	•	m	Sun	Aries	Moon		v and d cor	r	m	Sun	Aries	Moon		v and d corr	r
9	Plan.						10	Plan.						11	Plan.					
0	2°15.0	2°15.4	2°08.8	0.0 - 0.0	6.0 - 0.9	12.0 - 1.9	0	2°30.0	2°30.4	2°23.2	0.0 - 0.0	6.0 - 1.0	12.0 - 2.1	0	2°45.0	2°45.5	2°37.5	0.0 - 0.0	6.0 - 1.2	12.0 - 2.3
1	2°15.3	2°15.6	2°09.1	0.1 - 0.0	6.1 - 1.0	12.1 - 1.9	1	2°30.3	2°30.7	2°23.4	0.1 - 0.0	6.1 - 1.1	12.1 - 2.1	1	2°45.3	2°45.7	2°37.7	0.1 - 0.0	6.1 - 1.2	12.1 - 2.3
2	2°15.5	2°15.9	2°09.3	0.2 - 0.0	6.2 - 1.0	12.2 - 1.9	2	2°30.5	2°30.9	2°23.6	0.2 - 0.0	6.2 - 1.1	12.2 - 2.1	2	2°45.5	2°46.0	2°38.0	0.2 - 0.0	6.2 - 1.2	12.2 - 2.3
3	2°15.8	2°16.1	2°09.6	0.3 - 0.0	6.3 - 1.0	12.3 - 1.9	3	2°30.8	2°31.2	2°23.9	0.3 - 0.1	6.3 - 1.1	12.3 - 2.2	3	2°45.8	2°46.2	2°38.2	0.3 - 0.1	6.3 - 1.2	12.3 - 2.4
4	2°16.0	2°16.4	2°09.8	0.4 - 0.1	6.4 - 1.0	12.4 - 2.0	4	2°31.0 2°31.3	2°31.4 2°31.7	2°24.1 2°24.4	0.4 - 0.1	6.4 - 1.1	12.4 - 2.2	4	2°46.0	2°46.5	2°38.4	0.4 - 0.1	6.4 - 1.2	12.4 - 2.4
6	2°16.3 2°16.5	2°16.6 2°16.9	2°10.0 2°10.3	0.5 - 0.1 0.6 - 0.1	6.5 - 1.0 6.6 - 1.0	12.5 - 2.0 12.6 - 2.0	5 6	2°31.3	2°31.7 2°31.9	2°24.4 2°24.6	0.5 - 0.1 0.6 - 0.1	6.5 - 1.1 6.6 - 1.2	12.5 - 2.2 12.6 - 2.2	6	2°46.3 2°46.5	2°46.7 2°47.0	2°38.7 2°38.9	0.5 - 0.1	6.5 - 1.2 6.6 - 1.3	12.5 - 2.4 $12.6 - 2.4$
7	2°16.8	2 10.9 2°17.1	2°10.5	0.6 - 0.1	6.6 - 1.0 $6.7 - 1.1$	12.0 - 2.0	7	2°31.8	2°32.2	2°24.8	0.6 - 0.1	6.6 - 1.2 $6.7 - 1.2$	12.0 - 2.2	7	2°46.8	$2^{\circ}47.0$ $2^{\circ}47.2$	2°39.2	0.6 - 0.1	6.7 - 1.3	12.7 - 2.4
8	2°17.0	2°17.4	2°10.8	0.8 - 0.1	6.8 - 1.1	12.8 - 2.0	8	2°32.0	2°32.4	2°25.1	0.8 - 0.1	6.8 - 1.2	12.8 - 2.2	8	2°47.0	2°47.5	2°39.4	0.8 - 0.2	6.8 - 1.3	12.8 - 2.5
9	2°17.3	2°17.6	2°11.0	0.9 - 0.1	6.9 - 1.1	12.9 - 2.0	9	2°32.3	2°32.4	2°25.3	0.9 - 0.2	6.9 - 1.2	12.9 - 2.3	9	2°47.3	2°47.7	2°39.4	0.9 - 0.2	6.9 - 1.3	12.9 - 2.5
10	2°17.5	2°17.9	2°11.2	1.0 - 0.2	7.0 - 1.1	13.0 - 2.1	10	$2^{\circ}32.5$	2°32.9	2°25.6	1.0 - 0.2	7.0 - 1.2	13.0 - 2.3	10	2°47.5	2°48.0	2°39.9	1.0 - 0.2	7.0 - 1.3	13.0 - 2.5
11	2°17.8	2°18.1	2°11.5	1.1 - 0.2	7.1 - 1.1	13.1 - 2.1	11	2°32.8	2°33.2	2°25.8	1.1 - 0.2	7.1 - 1.2	13.1 - 2.3	11	2°47.8	2°48.2	2°40.1	1.1 - 0.2	7.1 - 1.4	13.1 - 2.5
12	2°18.0	2°18.4	2°11.7	1.2 - 0.2	7.2 - 1.1	13.2 - 2.1	12	2°33.0	2°33.4	2°26.0	1.2 - 0.2	7.2 - 1.3	13.2 - 2.3	12	2°48.0	2°48.5	2°40.3	1.2 - 0.2	7.2 - 1.4	13.2 - 2.5
13	2°18.2	2°18.6	2°12.0	1.3 - 0.2	7.3 - 1.2	13.3 - 2.1	13	2°33.2	2°33.7	2°26.3	1.3 - 0.2	7.3 - 1.3	13.3 - 2.3	13	2°48.2	2°48.7	2°40.6	1.3 - 0.2	7.3 - 1.4	13.3 - 2.5
14	2°18.5	2°18.9	$2^{\circ}12.2$	1.4 - 0.2	7.4 - 1.2	13.4 - 2.1	14	$2^{\circ}33.5$	2°33.9	2°26.5	1.4 - 0.2	7.4 - 1.3	13.4 - 2.3	14	$2^{\circ}48.5$	2°49.0	2°40.8	1.4 - 0.3	7.4 - 1.4	13.4 - 2.6
15	2°18.8	2°19.1	2°12.4	1.5 - 0.2	7.5 - 1.2	13.5 - 2.1	15	2°33.8	2°34.2	2°26.7	1.5 - 0.3	7.5 - 1.3	13.5 - 2.4	15	$2^{\circ}48.8$	$2^{\circ}49.2$	$2^{\circ}41.1$	1.5 - 0.3	7.5 - 1.4	13.5 - 2.6
16	2°19.0	2°19.4	$2^{\circ}12.7$	1.6 - 0.3	7.6 - 1.2	13.6 - 2.2	16	$2^{\circ}34.0$	2°34.4	2°27.0	1.6 - 0.3	7.6 - 1.3	13.6 - 2.4	16	$2^{\circ}49.0$	$2^{\circ}49.5$	2°41.3	1.6 - 0.3	7.6 - 1.5	13.6 - 2.6
17	2°19.2	2°19.6	2°12.9	1.7 - 0.3	7.7 - 1.2	13.7 - 2.2	17	$2^{\circ}34.2$	2°34.7	2°27.2	1.7 - 0.3	7.7 - 1.3	13.7 - 2.4	17	2°49.2	$2^{\circ}49.7$	$2^{\circ}41.5$	1.7 - 0.3	7.7 - 1.5	13.7 - 2.6
18	2°19.5	2°19.9	2°13.1	1.8 - 0.3	7.8 - 1.2	13.8 - 2.2	18	$2^{\circ}34.5$	2°34.9	2°27.5	1.8 - 0.3	7.8 - 1.4	13.8 - 2.4	18	$2^{\circ}49.5$	$2^{\circ}50.0$	2°41.8	1.8 - 0.3	7.8 - 1.5	13.8 - 2.6
19	2°19.7	2°20.1	2°13.4	1.9 - 0.3	7.9 - 1.3	13.9 - 2.2	19	$2^{\circ}34.8$	$2^{\circ}35.2$	2°27.7	1.9 - 0.3	7.9 - 1.4	13.9 - 2.4	19	$2^{\circ}49.8$	$2^{\circ}50.2$	2°42.0	1.9 - 0.4	7.9 - 1.5	13.9 - 2.7
20	2°20.0	2°20.4	2°13.6	2.0 - 0.3	8.0 - 1.3	14.0 - 2.2	20	$2^{\circ}35.0$	2°35.4	2°27.9	2.0 - 0.3	8.0 - 1.4	14.0 - 2.4	20	2°50.0	2°50.5	2°42.3	2.0 - 0.4	8.0 - 1.5	14.0 - 2.7
21	2°20.2	2°20.6	2°13.9	2.1 - 0.3	8.1 - 1.3	14.1 - 2.2	21	$2^{\circ}35.2$	2°35.7	2°28.2	2.1 - 0.4	8.1 - 1.4	14.1 - 2.5	21	2°50.2	2°50.7	2°42.5	2.1 - 0.4	8.1 - 1.6	14.1 - 2.7
22	2°20.5	2°20.9	2°14.1	2.2 - 0.3	8.2 - 1.3	14.2 - 2.2	22	2°35.5	2°35.9	2°28.4	2.2 - 0.4	8.2 - 1.4	14.2 - 2.5	22	2°50.5	2°51.0	2°42.7	2.2 - 0.4	8.2 - 1.6	14.2 - 2.7
23	2°20.7	2°21.1	2°14.3	2.3 - 0.4	8.3 - 1.3	14.3 - 2.3	23	2°35.7	2°36.2	2°28.7	2.3 - 0.4	8.3 - 1.5	14.3 - 2.5	23	2°50.7	2°51.2	2°43.0	2.3 - 0.4	8.3 - 1.6	14.3 - 2.7
24 25	$2^{\circ}21.0$ $2^{\circ}21.2$	$2^{\circ}21.4$ $2^{\circ}21.6$	$2^{\circ}14.6$ $2^{\circ}14.8$	2.4 - 0.4 2.5 - 0.4	8.4 - 1.3	14.4 - 2.3 14.5 - 2.3	24 25	2°36.0 2°36.2	2°36.4 2°36.7	2°28.9 2°29.1	2.4 - 0.4 2.5 - 0.4	8.4 - 1.5	14.4 - 2.5 14.5 - 2.5	24 25	2°51.0 2°51.2	2°51.5 2°51.7	$2^{\circ}43.2$ $2^{\circ}43.4$	2.4 - 0.5 2.5 - 0.5	8.4 - 1.6	14.4 - 2.8 14.5 - 2.8
26	2°21.2	2°21.0 2°21.9	2°15.1	2.6 - 0.4	8.5 - 1.3 8.6 - 1.4	14.5 - 2.3	26	2°36.5	2°36.7 2°36.9	2°29.1 2°29.4	2.6 - 0.5	8.5 - 1.5 8.6 - 1.5	14.6 - 2.6	26	2°51.2	2°52.0	2 43.4 2°43.7	2.6 - 0.5	8.5 - 1.6 8.6 - 1.6	14.6 - 2.8
27	2°21.7	2°22.1	2°15.1	2.7 - 0.4	8.7 - 1.4	14.7 - 2.3	27	2°36.7	2°37.2	2°29.4	2.7 - 0.5	8.7 - 1.5	14.7 - 2.6	27	2°51.7	2°52.2	2°43.1	2.7 - 0.5	8.7 - 1.7	14.7 - 2.8
28	2°22.0	2°22.4	2°15.5	2.8 - 0.4	8.8 - 1.4	14.8 - 2.3	28	2°37.0	2°37.4	2°29.8	2.8 - 0.5	8.8 - 1.5	14.8 - 2.6	28	2°52.0	2°52.5	2°44.2	2.8 - 0.5	8.8 - 1.7	14.8 - 2.8
29	2°22.2	2°22.6	2°15.8	2.9 - 0.5	8.9 - 1.4	14.9 - 2.4	29	2°37.2	2°37.7	2°30.1	2.9 - 0.5	8.9 - 1.6	14.9 - 2.6	29	2°52.2	2°52.7	2°44.4	2.9 - 0.6	8.9 - 1.7	14.9 - 2.9
30	2°22.5	2°22.9	2°16.0	3.0 - 0.5	9.0 - 1.4	15.0 - 2.4	30	$2^{\circ}37.5$	2°37.9	2°30.3	3.0 - 0.5	9.0 - 1.6	15.0 - 2.6	30	$2^{\circ}52.5$	2°53.0	$2^{\circ}44.6$	3.0 - 0.6	9.0 - 1.7	15.0 - 2.9
31	2°22.8	2°23.1	$2^{\circ}16.2$	3.1 - 0.5	9.1 - 1.4	15.1 - 2.4	31	$2^{\circ}37.8$	2°38.2	2°30.6	3.1 - 0.5	9.1 - 1.6	15.1 - 2.6	31	2°52.8	$2^{\circ}53.2$	2°44.9	3.1 - 0.6	9.1 - 1.7	15.1 - 2.9
32	2°23.0	2°23.4	$2^{\circ}16.5$	3.2 - 0.5	9.2 - 1.5	15.2 - 2.4	32	$2^{\circ}38.0$	2°38.4	2°30.8	3.2 - 0.6	9.2 - 1.6	15.2 - 2.7	32	2°53.0	$2^{\circ}53.5$	$2^{\circ}45.1$	3.2 - 0.6	9.2 - 1.8	15.2 - 2.9
33	2°23.3	2°23.6	2°16.7	3.3 - 0.5	9.3 - 1.5	15.3 - 2.4	33	$2^{\circ}38.3$	2°38.7	2°31.0	3.3 - 0.6	9.3 - 1.6	15.3 - 2.7	33	2°53.3	$2^{\circ}53.7$	$2^{\circ}45.4$	3.3 - 0.6	9.3 - 1.8	15.3 - 2.9
34	2°23.5	2°23.9	2°17.0	3.4 - 0.5	9.4 - 1.5	15.4 - 2.4	34	$2^{\circ}38.5$	2°38.9	2°31.3	3.4 - 0.6	9.4 - 1.6	15.4 - 2.7	34	2°53.5	2°54.0	2°45.6	3.4 - 0.7	9.4 - 1.8	15.4 - 3.0
35	2°23.8	2°24.1	2°17.2	3.5 - 0.6	9.5 - 1.5	15.5 - 2.5	35	2°38.8	2°39.2	2°31.5	3.5 - 0.6	9.5 - 1.7	15.5 - 2.7	35	2°53.8	2°54.2	2°45.8	3.5 - 0.7	9.5 - 1.8	15.5 - 3.0
36	2°24.0	2°24.4	2°17.4	3.6 - 0.6	9.6 - 1.5	15.6 - 2.5	36	2°39.0	2°39.4	2°31.8	3.6 - 0.6	9.6 - 1.7	15.6 - 2.7	36	2°54.0	2°54.5	2°46.1	3.6 - 0.7	9.6 - 1.8	15.6 - 3.0
37	2°24.3	2°24.6	2°17.7	3.7 - 0.6	9.7 - 1.5	15.7 - 2.5	37	2°39.3	2°39.7	2°32.0 2°32.2	3.7 - 0.6	9.7 - 1.7	15.7 - 2.7	37	2°54.3	2°54.7	2°46.3	3.7 - 0.7	9.7 - 1.9	15.7 - 3.0
38	$2^{\circ}24.5$ $2^{\circ}24.8$	2°24.9 2°25.1	$2^{\circ}17.9$ $2^{\circ}18.2$	3.8 - 0.6	9.8 - 1.6	15.8 - 2.5 15.9 - 2.5	38	2°39.5 2°39.8	2°39.9 2°40.2	2 32.2 2°32.5	3.8 - 0.7	9.8 - 1.7	15.8 - 2.8	38	2°54.5 2°54.8	2°55.0 2°55.2	2°46.6 2°46.8	3.8 - 0.7	9.8 - 1.9 9.9 - 1.9	15.8 - 3.0 15.9 - 3.0
39 40	$2^{\circ}24.8$ $2^{\circ}25.0$	2°25.1 2°25.4	2°18.4	3.9 - 0.6 4.0 - 0.6	9.9 - 1.6 10.0 - 1.6	16.0 - 2.5	39 40	$2^{\circ}40.0$	2°40.2 2°40.4	2°32.5 2°32.7	3.9 - 0.7 4.0 - 0.7	9.9 - 1.7 10.0 - 1.8	15.9 - 2.8 16.0 - 2.8	39 40	2°55.0	2°55.5	2°47.0	3.9 - 0.7 4.0 - 0.8	10.0 - 1.9	16.0 - 3.1
41	2°25.3	2°25.4 2°25.6	2°18.6	4.0 - 0.6	10.0 - 1.6	16.1 - 2.5	41	$2^{\circ}40.0$ $2^{\circ}40.2$	2°40.4 2°40.7	2°32.1 2°32.9	4.0 - 0.7	10.0 - 1.8	16.1 - 2.8	41	2°55.2	2°55.7	2°47.3	4.1 - 0.8	10.0 - 1.9	16.1 - 3.1
42	2°25.5	2°25.9	2°18.9	4.2 - 0.7	10.2 - 1.6	16.2 - 2.6	42	2°40.5	2°40.9	2°33.2	4.2 - 0.7	10.2 - 1.8	16.2 - 2.8	42	2°55.5	2°56.0	2°47.5	4.2 - 0.8	10.2 - 2.0	16.2 - 3.1
43	2°25.8	2°26.1	2°19.1	4.3 - 0.7	10.3 - 1.6	16.3 - 2.6	43	$2^{\circ}40.8$	2°41.2	2°33.4	4.3 - 0.8	10.3 - 1.8	16.3 - 2.9	43	2°55.8	2°56.2	2°47.7	4.3 - 0.8	10.3 - 2.0	16.3 - 3.1
44	2°26.0	2°26.4	2°19.3	4.4 - 0.7	10.4 - 1.6	16.4 - 2.6	44	$2^{\circ}41.0$	2°41.4	2°33.7	4.4 - 0.8	10.4 - 1.8	16.4 - 2.9	44	2°56.0	2°56.5	2°48.0	4.4 - 0.8	10.4 - 2.0	16.4 - 3.1
45	2°26.2	2°26.6	2°19.6	4.5 - 0.7	10.5 - 1.7	16.5 - 2.6	45	$2^{\circ}41.2$	2°41.7	2°33.9	4.5 - 0.8	10.5 - 1.8	16.5 - 2.9	45	$2^{\circ}56.2$	$2^{\circ}56.7$	$2^{\circ}48.2$	4.5 - 0.9	10.5 - 2.0	16.5 - 3.2
46	$2^{\circ}26.5$	2°26.9	2°19.8	4.6 - 0.7	10.6 - 1.7	16.6 - 2.6	46	$2^{\circ}41.5$	2°41.9	2°34.1	4.6 - 0.8	10.6 - 1.9	16.6 - 2.9	46	$2^{\circ}56.5$	$2^{\circ}57.0$	$2^{\circ}48.5$	4.6 - 0.9	10.6 - 2.0	16.6 - 3.2
47	2°26.8	2°27.2	$2^{\circ}20.1$	4.7 - 0.7	10.7 - 1.7	16.7 - 2.6	47	$2^{\circ}41.8$	2°42.2	2°34.4	4.7 - 0.8	10.7 - 1.9	16.7 - 2.9	47	2°56.8	$2^{\circ}57.2$	2°48.7	4.7 - 0.9	10.7 - 2.1	16.7 - 3.2
48	2°27.0	2°27.4	2°20.3	4.8 - 0.8	10.8 - 1.7	16.8 - 2.7	48	$2^{\circ}42.0$	2°42.4	2°34.6	4.8 - 0.8	10.8 - 1.9	16.8 - 2.9	48	2°57.0	2°57.5	2°48.9	4.8 - 0.9	10.8 - 2.1	16.8 - 3.2
49	2°27.2	2°27.7	2°20.5	4.9 - 0.8	10.9 - 1.7	16.9 - 2.7	49	2°42.2	2°42.7	2°34.9	4.9 - 0.9	10.9 - 1.9	16.9 - 3.0	49	2°57.2	2°57.7	2°49.2	4.9 - 0.9	10.9 - 2.1	16.9 - 3.2
50	2°27.5	2°27.9	2°20.8	5.0 - 0.8	11.0 - 1.7	17.0 - 2.7	50	2°42.5	2°42.9	2°35.1	5.0 - 0.9	11.0 - 1.9	17.0 - 3.0	50	2°57.5	2°58.0	2°49.4	5.0 - 1.0	11.0 - 2.1	17.0 - 3.3
51	2°27.7 2°28.0	2°28.2 2°28.4	$2^{\circ}21.0$ $2^{\circ}21.3$	5.1 - 0.8 5.2 - 0.8	11.1 - 1.8	17.1 - 2.7	51 52	$2^{\circ}42.7$ $2^{\circ}43.0$	2°43.2 2°43.4	2°35.3 2°35.6	5.1 - 0.9 5.2 - 0.9	11.1 - 1.9	17.1 - 3.0	51 52	2°57.7 2°58.0	2°58.2 2°58.5	2°49.7 2°49.9	5.1 - 1.0	11.1 - 2.1	17.1 - 3.3 17.2 - 3.3
52 53	2°28.2	2 28.4 2°28.7	2°21.5	5.2 - 0.8	11.2 - 1.8 11.3 - 1.8	17.2 - 2.7 17.3 - 2.7	53	2°43.0 2°43.2	2 43.4 2°43.7	2°35.8	5.3 - 0.9	11.2 - 2.0 $11.3 - 2.0$	17.2 - 3.0 17.3 - 3.0	53	2°58.2	2°58.7	2 49.9 2°50.1	5.2 - 1.0 5.3 - 1.0	11.2 - 2.1 $11.3 - 2.2$	17.3 - 3.3
54	2°28.5	2°28.9	2°21.7	5.4 - 0.9	11.3 - 1.8	17.3 - 2.7	54	$2^{\circ}43.2$ $2^{\circ}43.5$	2 43.7 2°43.9	2°36.1	5.4 - 0.9	11.3 - 2.0 $11.4 - 2.0$	17.3 - 3.0	54	2°58.5	2°59.0	2°50.1	5.4 - 1.0	11.3 - 2.2 $11.4 - 2.2$	17.4 - 3.3
55	2°28.7	2°29.2	2°22.0	5.5 - 0.9	11.5 - 1.8	17.5 - 2.8	55	$2^{\circ}43.5$ $2^{\circ}43.7$	2°44.2	2°36.3	5.5 - 1.0	11.4 - 2.0 $11.5 - 2.0$	17.5 - 3.1	55	2°58.7	2°59.0	2°50.4	5.5 - 1.1	11.4 - 2.2 $11.5 - 2.2$	17.5 - 3.4
56	2°29.0	2°29.4	2°22.2	5.6 - 0.9	11.6 - 1.8	17.6 - 2.8	56	$2^{\circ}44.0$	2°44.4	2°36.5	5.6 - 1.0	11.6 - 2.0	17.6 - 3.1	56	2°59.0	2°59.5	2°50.8	5.6 - 1.1	11.6 - 2.2	17.6 - 3.4
57	2°29.2	2°29.7	2°22.5	5.7 - 0.9	11.7 - 1.9	17.7 - 2.8	57	$2^{\circ}44.2$	2°44.7	2°36.8	5.7 - 1.0	11.7 - 2.0	17.7 - 3.1	57	2°59.2	2°59.7	2°51.1	5.7 - 1.1	11.7 - 2.2	17.7 - 3.4
58	2°29.5	2°29.9	2°22.7	5.8 - 0.9	11.8 - 1.9	17.8 - 2.8	58	$2^{\circ}44.5$	2°44.9	2°37.0	5.8 - 1.0	11.8 - 2.1	17.8 - 3.1	58	2°59.5	$2^{\circ}60.0$	2°51.3	5.8 - 1.1	11.8 - 2.3	17.8 - 3.4
59	2°29.7	2°30.2	$2^{\circ}22.9$	5.9 - 0.9	11.9 - 1.9	17.9 - 2.8	59	$2^{\circ}44.7$	$2^{\circ}45.2$	2°37.2	5.9 - 1.0	11.9 - 2.1	17.9 - 3.1	59	2°59.7	$3^{\circ}00.2$	$2^{\circ}51.6$	5.9 - 1.1	11.9 - 2.3	17.9 - 3.4

m	Sun	Aries	Moon		v and d corr	•	m	Sun	Aries	Moon		v and d cor	r	m	Sun	Aries	Moon		v and d cor	r
12	Plan.	2022	20212				13	Plan.	-01-	2022				14	Plan.	2022	2022			
0	3°00.0	3°00.5	2°51.8	0.0 - 0.0	6.0 - 1.3	12.0 - 2.5	0	3°15.0	3°15.5	3°06.1	0.0 - 0.0	6.0 - 1.4	12.0 - 2.7	0	3°30.0	3°30.6	3°20.4	0.0 - 0.0	6.0 - 1.4	12.0 - 2.9
1	3°00.3	3°00.7	2°52.0	0.1 - 0.0	6.1 - 1.3	12.1 - 2.5	1	3°15.3	3°15.8	3°06.4	0.1 - 0.0	6.1 - 1.4	12.1 - 2.7	1	3°30.3	3°30.8	3°20.7	0.1 - 0.0	6.1 - 1.5	12.1 - 2.9
2	3°00.5	3°01.0	2°52.3	0.2 - 0.0	6.2 - 1.3	12.2 - 2.5	2	3°15.5	3°16.0	3°06.6	0.2 - 0.0	6.2 - 1.4	12.2 - 2.7	2	3°30.5	3°31.1	3°20.9	0.2 - 0.0	6.2 - 1.5	12.2 - 2.9
3	3°00.8	3°01.2	2°52.5	0.3 - 0.1	6.3 - 1.3	12.3 - 2.6	3	3°15.8	3°16.3	3°06.8	0.3 - 0.1	6.3 - 1.4	12.3 - 2.8	3	3°30.8	3°31.3	3°21.1	0.3 - 0.1	6.3 - 1.5	12.3 - 3.0
4	3°01.0	3°01.5	2°52.8	0.4 - 0.1	6.4 - 1.3	12.4 - 2.6	4	3°16.0	3°16.5	3°07.1	0.4 - 0.1	6.4 - 1.4	12.4 - 2.8	4	3°31.0	3°31.6	3°21.4	0.4 - 0.1	6.4 - 1.5	12.4 - 3.0
5	3°01.3	3°01.7	2°53.0	0.5 - 0.1	6.5 - 1.4	12.5 - 2.6	5	3°16.3	3°16.8	3°07.3	0.5 - 0.1	6.5 - 1.5	12.5 - 2.8	5	3°31.3	3°31.8	3°21.6	0.5 - 0.1	6.5 - 1.6	12.5 - 3.0
6	3°01.5 3°01.8	3°02.0 3°02.2	2°53.2 2°53.5	0.6 - 0.1	6.6 - 1.4	12.6 - 2.6	6	3°16.5 3°16.8	3°17.0	3°07.5 3°07.8	0.6 - 0.1 0.7 - 0.2	6.6 - 1.5	12.6 - 2.8	6	3°31.5 3°31.8	3°32.1 3°32.3	$3^{\circ}21.9$ $3^{\circ}22.1$	0.6 - 0.1 0.7 - 0.2	6.6 - 1.6	12.6 - 3.0
8	3°02.0	3°02.2	2°53.7	0.7 - 0.1 0.8 - 0.2	6.7 - 1.4 6.8 - 1.4	12.7 - 2.6 12.8 - 2.7	8	3°17.0	3°17.3 3°17.5	3°08.0	0.7 - 0.2	6.7 - 1.5 6.8 - 1.5	12.7 - 2.9 12.8 - 2.9	8	3°32.0	3°32.6	$3^{\circ}22.1$ $3^{\circ}22.3$	0.7 - 0.2	6.7 - 1.6 6.8 - 1.6	12.7 - 3.1 12.8 - 3.1
0	3°02.0	3°02.5	2°53.7 2°53.9	0.8 - 0.2	6.9 - 1.4	12.8 - 2.7	9	3°17.0	3°17.8	3°08.3	0.8 - 0.2	6.9 - 1.6	12.8 - 2.9	9	3°32.3	3°32.8	$3^{\circ}22.6$	0.8 - 0.2	6.9 - 1.7	12.9 - 3.1
10	3°02.5	3°03.0	2°54.2	1.0 - 0.2	7.0 - 1.5	13.0 - 2.7	10	3°17.5	3°18.0	3°08.5	1.0 - 0.2	7.0 - 1.6	13.0 - 2.9	10	3°32.5	3°33.1	$3^{\circ}22.8$	1.0 - 0.2	7.0 - 1.7	13.0 - 3.1
11	3°02.8	3°03.2	2°54.4	1.1 - 0.2	7.1 - 1.5	13.1 - 2.7	11	3°17.8	3°18.3	3°08.7	1.1 - 0.2	7.1 - 1.6	13.1 - 2.9	11	3°32.8	3°33.3	3°23.1	1.1 - 0.3	7.1 - 1.7	13.1 - 3.2
12	3°03.0	3°03.5	2°54.7	1.2 - 0.3	7.2 - 1.5	13.2 - 2.8	12	3°18.0	3°18.5	3°09.0	1.2 - 0.3	7.2 - 1.6	13.2 - 3.0	12	3°33.0	3°33.6	3°23.3	1.2 - 0.3	7.2 - 1.7	13.2 - 3.2
13	3°03.3	3°03.8	2°54.9	1.3 - 0.3	7.3 - 1.5	13.3 - 2.8	13	3°18.2	3°18.8	3°09.2	1.3 - 0.3	7.3 - 1.6	13.3 - 3.0	13	3°33.2	3°33.8	$3^{\circ}23.5$	1.3 - 0.3	7.3 - 1.8	13.3 - 3.2
14	3°03.5	3°04.0	2°55.1	1.4 - 0.3	7.4 - 1.5	13.4 - 2.8	14	3°18.5	3°19.0	3°09.5	1.4 - 0.3	7.4 - 1.7	13.4 - 3.0	14	3°33.5	3°34.1	3°23.8	1.4 - 0.3	7.4 - 1.8	13.4 - 3.2
15	3°03.8	3°04.3	2°55.4	1.5 - 0.3	7.5 - 1.6	13.5 - 2.8	15	3°18.8	3°19.3	3°09.7	1.5 - 0.3	7.5 - 1.7	13.5 - 3.0	15	3°33.8	3°34.3	$3^{\circ}24.0$	1.5 - 0.4	7.5 - 1.8	13.5 - 3.3
16	3°04.0	3°04.5	2°55.6	1.6 - 0.3	7.6 - 1.6	13.6 - 2.8	16	3°19.0	3°19.5	3°09.9	1.6 - 0.4	7.6 - 1.7	13.6 - 3.1	16	3°34.0	$3^{\circ}34.6$	$3^{\circ}24.3$	1.6 - 0.4	7.6 - 1.8	13.6 - 3.3
17	3°04.2	3°04.8	2°55.9	1.7 - 0.4	7.7 - 1.6	13.7 - 2.9	17	3°19.2	3°19.8	3°10.2	1.7 - 0.4	7.7 - 1.7	13.7 - 3.1	17	$3^{\circ}34.2$	3°34.8	$3^{\circ}24.5$	1.7 - 0.4	7.7 - 1.9	13.7 - 3.3
18	3°04.5	3°05.0	2°56.1	1.8 - 0.4	7.8 - 1.6	13.8 - 2.9	18	3°19.5	3°20.0	3°10.4	1.8 - 0.4	7.8 - 1.8	13.8 - 3.1	18	$3^{\circ}34.5$	3°35.1	$3^{\circ}24.7$	1.8 - 0.4	7.8 - 1.9	13.8 - 3.3
19	3°04.7	3°05.3	2°56.3	1.9 - 0.4	7.9 - 1.6	13.9 - 2.9	19	3° 19.7	3°20.3	3°10.7	1.9 - 0.4	7.9 - 1.8	13.9 - 3.1	19	$3^{\circ}34.8$	$3^{\circ}35.3$	$3^{\circ}25.0$	1.9 - 0.5	7.9 - 1.9	13.9 - 3.4
20	3°05.0	3°05.5	$2^{\circ}56.6$	2.0 - 0.4	8.0 - 1.7	14.0 - 2.9	20	3°20.0	$3^{\circ}20.5$	3°10.9	2.0 - 0.5	8.0 - 1.8	14.0 - 3.1	20	$3^{\circ}35.0$	$3^{\circ}35.6$	$3^{\circ}25.2$	2.0 - 0.5	8.0 - 1.9	14.0 - 3.4
21	3°05.2	3°05.8	2°56.8	2.1 - 0.4	8.1 - 1.7	14.1 - 2.9	21	$3^{\circ}20.2$	3°20.8	3°11.1	2.1 - 0.5	8.1 - 1.8	14.1 - 3.2	21	$3^{\circ}35.2$	3°35.8	$3^{\circ}25.4$	2.1 - 0.5	8.1 - 2.0	14.1 - 3.4
22	3°05.5	3°06.0	2°57.0	2.2 - 0.5	8.2 - 1.7	14.2 - 3.0	22	$3^{\circ}20.5$	3°21.0	3°11.4	2.2 - 0.5	8.2 - 1.8	14.2 - 3.2	22	3°35.5	3°36.1	$3^{\circ}25.7$	2.2 - 0.5	8.2 - 2.0	14.2 - 3.4
23	3°05.7	3°06.3	2°57.3	2.3 - 0.5	8.3 - 1.7	14.3 - 3.0	23	3°20.7	3°21.3	3°11.6	2.3 - 0.5	8.3 - 1.9	14.3 - 3.2	23	3°35.7	3°36.3	3°25.9	2.3 - 0.6	8.3 - 2.0	14.3 - 3.5
24	3°06.0	3°06.5	2°57.5	2.4 - 0.5	8.4 - 1.8	14.4 - 3.0	24	3°21.0	3°21.5	3°11.8	2.4 - 0.5	8.4 - 1.9	14.4 - 3.2	24	3°36.0	3°36.6	3°26.2	2.4 - 0.6	8.4 - 2.0	14.4 - 3.5
25	3°06.2	3°06.8	2°57.8 2°58.0	2.5 - 0.5	8.5 - 1.8	14.5 - 3.0	25	3°21.2	3°21.8 3°22.1	3°12.1 3°12.3	2.5 - 0.6	8.5 - 1.9	14.5 - 3.3	25	3°36.2	3°36.8	$3^{\circ}26.4$ $3^{\circ}26.6$	2.5 - 0.6	8.5 - 2.1	14.5 - 3.5
26 27	3°06.5 3°06.7	3°07.0 3°07.3	2°58.2	2.6 - 0.5 2.7 - 0.6	8.6 - 1.8 8.7 - 1.8	14.6 - 3.0 14.7 - 3.1	26 27	3°21.5 3°21.7	3°22.1	3°12.6	2.6 - 0.6 2.7 - 0.6	8.6 - 1.9 8.7 - 2.0	14.6 - 3.3 14.7 - 3.3	26 27	3°36.5 3°36.7	3°37.1 3°37.3	$3^{\circ}26.9$	2.6 - 0.6 2.7 - 0.7	8.6 - 2.1 8.7 - 2.1	14.6 - 3.5 14.7 - 3.6
28	3°07.0	3°07.5	2°58.5	2.8 - 0.6	8.8 - 1.8	14.7 - 3.1	28	3°22.0	3°22.6	3°12.8	2.8 - 0.6	8.8 - 2.0	14.8 - 3.3	28	3°37.0	3°37.6	$3^{\circ}27.1$	2.8 - 0.7	8.8 - 2.1	14.8 - 3.6
29	3°07.2	3°07.8	2°58.7	2.9 - 0.6	8.9 - 1.9	14.9 - 3.1	29	3°22.2	3°22.8	3°13.0	2.9 - 0.7	8.9 - 2.0	14.9 - 3.4	29	3°37.2	3°37.8	$3^{\circ}27.4$	2.9 - 0.7	8.9 - 2.2	14.9 - 3.6
30	3°07.5	3°08.0	2°59.0	3.0 - 0.6	9.0 - 1.9	15.0 - 3.1	30	3°22.5	3°23.1	3°13.3	3.0 - 0.7	9.0 - 2.0	15.0 - 3.4	30	3°37.5	3°38.1	3°27.6	3.0 - 0.7	9.0 - 2.2	15.0 - 3.6
31	3°07.8	3°08.3	2°59.2	3.1 - 0.6	9.1 - 1.9	15.1 - 3.1	31	3°22.8	3°23.3	3°13.5	3.1 - 0.7	9.1 - 2.0	15.1 - 3.4	31	3°37.8	3°38.3	3°27.8	3.1 - 0.7	9.1 - 2.2	15.1 - 3.6
32	3°08.0	3°08.5	2°59.4	3.2 - 0.7	9.2 - 1.9	15.2 - 3.2	32	$3^{\circ}23.0$	3°23.6	3°13.8	3.2 - 0.7	9.2 - 2.1	15.2 - 3.4	32	3°38.0	$3^{\circ}38.6$	$3^{\circ}28.1$	3.2 - 0.8	9.2 - 2.2	15.2 - 3.7
33	3°08.3	3°08.8	2°59.7	3.3 - 0.7	9.3 - 1.9	15.3 - 3.2	33	3°23.3	3°23.8	3°14.0	3.3 - 0.7	9.3 - 2.1	15.3 - 3.4	33	3°38.3	3°38.8	$3^{\circ}28.3$	3.3 - 0.8	9.3 - 2.2	15.3 - 3.7
34	3°08.5	3°09.0	2°59.9	3.4 - 0.7	9.4 - 2.0	15.4 - 3.2	34	$3^{\circ}23.5$	$3^{\circ}24.1$	3°14.2	3.4 - 0.8	9.4 - 2.1	15.4 - 3.5	34	$3^{\circ}38.5$	3°39.1	$3^{\circ}28.5$	3.4 - 0.8	9.4 - 2.3	15.4 - 3.7
35	3°08.8	3°09.3	3°00.2	3.5 - 0.7	9.5 - 2.0	15.5 - 3.2	35	3°23.8	$3^{\circ}24.3$	3°14.5	3.5 - 0.8	9.5 - 2.1	15.5 - 3.5	35	$3^{\circ}38.8$	$3^{\circ}39.3$	$3^{\circ}28.8$	3.5 - 0.8	9.5 - 2.3	15.5 - 3.7
36	3°09.0	3°09.5	3°00.4	3.6 - 0.8	9.6 - 2.0	15.6 - 3.3	36	3°24.0	3°24.6	3°14.7	3.6 - 0.8	9.6 - 2.2	15.6 - 3.5	36	3°39.0	3°39.6	3°29.0	3.6 - 0.9	9.6 - 2.3	15.6 - 3.8
37	3°09.3	3°09.8	3°00.6	3.7 - 0.8	9.7 - 2.0	15.7 - 3.3	37	3°24.3	3°24.8	3°14.9	3.7 - 0.8	9.7 - 2.2	15.7 - 3.5	37	3°39.3	3°39.8	3°29.3	3.7 - 0.9	9.7 - 2.3	15.7 - 3.8
38	3°09.5	3°10.0	3°00.9	3.8 - 0.8	9.8 - 2.0	15.8 - 3.3	38	3°24.5	3°25.1	3°15.2	3.8 - 0.9	9.8 - 2.2	15.8 - 3.6	38	3°39.5	3°40.1	3°29.5	3.8 - 0.9	9.8 - 2.4	15.8 - 3.8
39	3°09.8	3°10.3	3°01.1	3.9 - 0.8	9.9 - 2.1	15.9 - 3.3	39	3°24.8	3°25.3	3°15.4	3.9 - 0.9	9.9 - 2.2	15.9 - 3.6	39	3°39.8	3°40.4	3°29.7	3.9 - 0.9	9.9 - 2.4	15.9 - 3.8
40	3°10.0 3°10.3	3°10.5 3°10.8	3°01.3 3°01.6	4.0 - 0.8 4.1 - 0.9	10.0 - 2.1 10.1 - 2.1	16.0 - 3.3 16.1 - 3.4	40	3°25.0 3°25.3	3°25.6 3°25.8	3°15.7 3°15.9	4.0 - 0.9 4.1 - 0.9	10.0 - 2.3 10.1 - 2.3	16.0 - 3.6 16.1 - 3.6	40	3°40.0 3°40.2	3°40.6 3°40.9	3°30.0 3°30.2	4.0 - 1.0	10.0 - 2.4 $10.1 - 2.4$	16.0 - 3.9 16.1 - 3.9
41 42	3°10.5	3°10.8 3°11.0	3°01.8	4.1 - 0.9	10.1 - 2.1 10.2 - 2.1	16.1 - 3.4	41	$3^{\circ}25.3$ $3^{\circ}25.5$	3°26.1	3°16.1	4.1 - 0.9	10.1 - 2.3 10.2 - 2.3	16.1 - 3.6	41	3°40.2 3°40.5	3 40.9 3°41.1	3°30.2	4.1 - 1.0	10.1 - 2.4 $10.2 - 2.5$	16.2 - 3.9
43	3°10.8	3°11.3	3°02.1	4.2 - 0.9	10.2 - 2.1	16.3 - 3.4	43	3°25.8	3°26.3	3°16.1	4.2 - 0.9	10.2 - 2.3 $10.3 - 2.3$	16.3 - 3.7	43	3°40.8	3°41.1	3°30.3	4.3 - 1.0	10.2 - 2.5	16.3 - 3.9
44	3°11.0	3°11.5	3°02.1	4.4 - 0.9	10.4 - 2.2	16.4 - 3.4	44	3°26.0	3°26.6	3°16.4	4.4 - 1.0	10.3 - 2.3 $10.4 - 2.3$	16.4 - 3.7	44	3°41.0	3°41.4	3°30.9	4.4 - 1.1	10.3 - 2.5 $10.4 - 2.5$	16.4 - 4.0
45	3°11.2	3°11.8	3°02.5	4.5 - 0.9	10.5 - 2.2	16.5 - 3.4	45	3°26.2	3°26.8	3°16.9	4.5 - 1.0	10.5 - 2.4	16.5 - 3.7	45	3°41.2	3°41.9	3°31.2	4.5 - 1.1	10.5 - 2.5	16.5 - 4.0
46	3°11.5	3°12.0	$3^{\circ}02.8$	4.6 - 1.0	10.6 - 2.2	16.6 - 3.5	46	$3^{\circ}26.5$	3°27.1	3°17.1	4.6 - 1.0	10.6 - 2.4	16.6 - 3.7	46	$3^{\circ}41.5$	$3^{\circ}42.1$	$3^{\circ}31.4$	4.6 - 1.1	10.6 - 2.6	16.6 - 4.0
47	3°11.7	3°12.3	3°03.0	4.7 - 1.0	10.7 - 2.2	16.7 - 3.5	47	3°26.8	3°27.3	3°17.3	4.7 - 1.1	10.7 - 2.4	16.7 - 3.8	47	$3^{\circ}41.8$	$3^{\circ}42.4$	$3^{\circ}31.6$	4.7 - 1.1	10.7 - 2.6	16.7 - 4.0
48	3°12.0	3°12.5	3°03.3	4.8 - 1.0	10.8 - 2.3	16.8 - 3.5	48	3°27.0	3°27.6	3°17.6	4.8 - 1.1	10.8 - 2.4	16.8 - 3.8	48	$3^{\circ}42.0$	$3^{\circ}42.6$	$3^{\circ}31.9$	4.8 - 1.2	10.8 - 2.6	16.8 - 4.1
49	3°12.2	3°12.8	3°03.5	4.9 - 1.0	10.9 - 2.3	16.9 - 3.5	49	$3^{\circ}27.2$	3°27.8	3°17.8	4.9 - 1.1	10.9 - 2.5	16.9 - 3.8	49	$3^{\circ}42.2$	$3^{\circ}42.9$	$3^{\circ}32.1$	4.9 - 1.2	10.9 - 2.6	16.9 - 4.1
50	3°12.5	3°13.0	3°03.7	5.0 - 1.0	11.0 - 2.3	17.0 - 3.5	50	3°27.5	3°28.1	3°18.0	5.0 - 1.1	11.0 - 2.5	17.0 - 3.8	50	3°42.5	3°43.1	$3^{\circ}_{2}32.4$	5.0 - 1.2	11.0 - 2.7	17.0 - 4.1
51	3°12.7	3°13.3	3°04.0	5.1 - 1.1	11.1 - 2.3	17.1 - 3.6	51	$3^{\circ}27.7$	3°28.3	3°18.3	5.1 - 1.1	11.1 - 2.5	17.1 - 3.8	51	3°42.7	3°43.4	$3^{\circ}32.6$	5.1 - 1.2	11.1 - 2.7	17.1 - 4.1
52	3°13.0	3°13.5	3°04.2	5.2 - 1.1	11.2 - 2.3	17.2 - 3.6	52	3°28.0	3°28.6	3°18.5	5.2 - 1.2	11.2 - 2.5	17.2 - 3.9	52	3°43.0	3°43.6	3°32.8	5.2 - 1.3	11.2 - 2.7	17.2 - 4.2
53	3°13.2	3°13.8	3°04.4	5.3 - 1.1	11.3 - 2.4	17.3 - 3.6	53	3°28.2	3°28.8	3°18.8	5.3 - 1.2	11.3 - 2.5	17.3 - 3.9	53	3°43.2	3°43.9	3°33.1	5.3 - 1.3	11.3 - 2.7	17.3 - 4.2
54	3°13.5	3°14.0	3°04.7	5.4 - 1.1	11.4 - 2.4	17.4 - 3.6	54	3°28.5	3°29.1	3°19.0 3°19.2	5.4 - 1.2	11.4 - 2.6	17.4 - 3.9	54	3°43.5	3°44.1 3°44.4	3°33.3	5.4 - 1.3	11.4 - 2.8	17.4 - 4.2
55 56	3°13.7 3°14.0	3°14.3 3°14.5	3°04.9 3°05.2	5.5 - 1.1 5.6 - 1.2	11.5 - 2.4 $11.6 - 2.4$	17.5 - 3.6 17.6 - 3.7	55 56	3°28.7 3°29.0	3°29.3 3°29.6	3°19.2 3°19.5	5.5 - 1.2 5.6 - 1.3	11.5 - 2.6 $11.6 - 2.6$	17.5 - 3.9 17.6 - 4.0	55 56	3°43.7 3°44.0	3°44.4 3°44.6	3°33.6 3°33.8	5.5 - 1.3 5.6 - 1.4	11.5 - 2.8 11.6 - 2.8	17.5 - 4.2 17.6 - 4.3
57	3°14.0 3°14.2	3 14.5 3°14.8	3°05.4	5.6 - 1.2	11.6 - 2.4 11.7 - 2.4	17.6 - 3.7	57	3°29.0	3°29.6 3°29.8	3°19.5 3°19.7	5.7 - 1.3	11.6 - 2.6	17.6 - 4.0	57	3°44.0 3°44.2	3 44.6 3°44.9	3°34.0	5.7 - 1.4	11.6 - 2.8	17.7 - 4.3
58	3°14.5	3°15.0	3°05.4	5.8 - 1.2	11.7 - 2.4	17.7 - 3.7	58	3°29.5	3°30.1	3°20.0	5.8 - 1.3	11.7 - 2.0	17.8 - 4.0	58	3°44.5	3°45.1	$3^{\circ}34.3$	5.8 - 1.4	11.7 - 2.8	17.8 - 4.3
59	3°14.7	3°15.3	3°05.9	5.9 - 1.2	11.9 - 2.5	17.9 - 3.7	59	3°29.7	3°30.3	3°20.2	5.9 - 1.3	11.9 - 2.7 $11.9 - 2.7$	17.9 - 4.0	59	3°44.7	3°45.4	$3^{\circ}34.5$	5.9 - 1.4	11.9 - 2.9	17.9 - 4.3
_ 55	0 14.1	5 10.0	0 00.0	5.5 - 1.2	11.0 - 2.0	11.0 - 0.1	_ 55	0 20.1	0 00.0	0 20.2	0.0 - 1.0	11.0 - 2.1	11.0 - 4.0	_ 00	9 77.1	J 10.1	0 04.0	1 9.9 - 1.4	11.0 - 2.0	11.0 - 4.0

m	Sun	Aries	Moon		v and d corr	r	m	Sun	Aries	Moon		v and d corr	r	m	Sun	Aries	Moon		v and d corr	r
15	Plan.	20.12.0	20212				16	Plan.	1000	20.10.1				17	Plan.	10.15	10.00			
0	3°45.0	3°45.6	3°34.8	0.0 - 0.0	6.0 - 1.6	12.0 - 3.1	0	4°00.0	4°00.7	3°49.1	0.0 - 0.0	6.0 - 1.7	12.0 - 3.3	0	4°15.0	4°15.7	4°03.4	0.0 - 0.0	6.0 - 1.8	12.0 - 3.5
1	3°45.2	3°45.9	3°35.0	0.1 - 0.0	6.1 - 1.6	12.1 - 3.1	1	4°00.2	4°00.9	3°49.3	0.1 - 0.0	6.1 - 1.7	12.1 - 3.3	1	4°15.2	4°15.9	4°03.6	0.1 - 0.0	6.1 - 1.8	12.1 - 3.5
2	3°45.5	3°46.1	3°35.2	0.2 - 0.1	6.2 - 1.6	12.2 - 3.2	2	4°00.5	4°01.2	3°49.5	0.2 - 0.1	6.2 - 1.7	12.2 - 3.4	2	4°15.5	4°16.2	4°03.9	0.2 - 0.1	6.2 - 1.8	12.2 - 3.6
3	3°45.8	3°46.4	3°35.5	0.3 - 0.1	6.3 - 1.6	12.3 - 3.2	3	4°00.8	4°01.4	3°49.8	0.3 - 0.1	6.3 - 1.7	12.3 - 3.4	3	4°15.8	4°16.4	4°04.1	0.3 - 0.1	6.3 - 1.8	12.3 - 3.6
4	3°46.0	3°46.6	3°35.7	0.4 - 0.1	6.4 - 1.7	12.4 - 3.2	4	4°01.0	4°01.7	3°50.0	0.4 - 0.1	6.4 - 1.8	12.4 - 3.4	4	4°16.0	4°16.7	4°04.3	0.4 - 0.1	6.4 - 1.9	12.4 - 3.6
5	3°46.2	3°46.9	3°35.9	0.5 - 0.1	6.5 - 1.7	12.5 - 3.2	5	4°01.2	4°01.9	3°50.3	0.5 - 0.1	6.5 - 1.8	12.5 - 3.4	5	4°16.2	4°17.0	4°04.6	0.5 - 0.1	6.5 - 1.9	12.5 - 3.6
6	3°46.5	3°47.1	3°36.2	0.6 - 0.2	6.6 - 1.7	12.6 - 3.3	6	4°01.5	4°02.2	3°50.5	0.6 - 0.2	6.6 - 1.8	12.6 - 3.5	6	4°16.5	4°17.2	4°04.8	0.6 - 0.2	6.6 - 1.9	12.6 - 3.7
7	3°46.8	3°47.4	3°36.4	0.7 - 0.2	6.7 - 1.7	12.7 - 3.3		4°01.8 4°02.0	4°02.4	3°50.7	0.7 - 0.2	6.7 - 1.8	12.7 - 3.5	8	4°16.8	4°17.5	4°05.1	0.7 - 0.2	6.7 - 2.0	12.7 - 3.7
8	3°47.0 3°47.3	3°47.6 3°47.9	3°36.7 3°36.9	0.8 - 0.2 0.9 - 0.2	6.8 - 1.8 6.9 - 1.8	12.8 - 3.3 12.9 - 3.3	8 9	4 02.0 4°02.2	4°02.7 4°02.9	3°51.0 3°51.2	0.8 - 0.2 0.9 - 0.2	6.8 - 1.9 6.9 - 1.9	12.8 - 3.5 12.9 - 3.5	9	4°17.0 4°17.2	4°17.7 4°18.0	$4^{\circ}05.3$ $4^{\circ}05.5$	0.8 - 0.2 0.9 - 0.3	6.8 - 2.0 6.9 - 2.0	12.8 - 3.7 12.9 - 3.8
10	3°47.5	3°48.1	3°37.1	1.0 - 0.3	7.0 - 1.8	13.0 - 3.4	10	4 02.2 4°02.5	4 02.9 4°03.2	3°51.5	1.0 - 0.3	7.0 - 1.9	13.0 - 3.6	10	4°17.2 4°17.5	4 18.0 4°18.2	4 05.5 4°05.8	1.0 - 0.3	7.0 - 2.0	13.0 - 3.8
11	3°47.7	3°48.4	3°37.4	1.1 - 0.3	7.1 - 1.8	13.1 - 3.4	11	4°02.8	4°03.4	3°51.7	1.1 - 0.3	7.1 - 2.0	13.1 - 3.6	11	4°17.8	4°18.5	4°06.0	1.1 - 0.3	7.1 - 2.1	13.1 - 3.8
12	3°48.0	3°48.6	3°37.6	1.2 - 0.3	7.2 - 1.9	13.2 - 3.4	12	4°03.0	4°03.7	3°51.9	1.2 - 0.3	7.2 - 2.0	13.2 - 3.6	12	4°18.0	4°18.7	4°06.2	1.2 - 0.4	7.2 - 2.1	13.2 - 3.9
13	3°48.2	3°48.9	3°37.9	1.3 - 0.3	7.3 - 1.9	13.3 - 3.4	13	4°03.2	4°03.9	3°52.2	1.3 - 0.4	7.3 - 2.0	13.3 - 3.7	13	4°18.2	4°19.0	4°06.5	1.3 - 0.4	7.3 - 2.1	13.3 - 3.9
14	3°48.5	3°49.1	3°38.1	1.4 - 0.4	7.4 - 1.9	13.4 - 3.5	14	4°03.5	4°04.2	3°52.4	1.4 - 0.4	7.4 - 2.0	13.4 - 3.7	14	4°18.5	4°19.2	4°06.7	1.4 - 0.4	7.4 - 2.2	13.4 - 3.9
15	3°48.8	3°49.4	3°38.3	1.5 - 0.4	7.5 - 1.9	13.5 - 3.5	15	4°03.8	4°04.4	3°52.6	1.5 - 0.4	7.5 - 2.1	13.5 - 3.7	15	4°18.8	4°19.5	4°07.0	1.5 - 0.4	7.5 - 2.2	13.5 - 3.9
16	3°49.0	3°49.6	3°38.6	1.6 - 0.4	7.6 - 2.0	13.6 - 3.5	16	4°04.0	4°04.7	3°52.9	1.6 - 0.4	7.6 - 2.1	13.6 - 3.7	16	4°19.0	4°19.7	4°07.2	1.6 - 0.5	7.6 - 2.2	13.6 - 4.0
17	3°49.3	3°49.9	3°38.8	1.7 - 0.4	7.7 - 2.0	13.7 - 3.5	17	4°04.3	4°04.9	3°53.1	1.7 - 0.5	7.7 - 2.1	13.7 - 3.8	17	4°19.3	4°20.0	4°07.4	1.7 - 0.5	7.7 - 2.2	13.7 - 4.0
18	3°49.5	3°50.1	3°39.0	1.8 - 0.5	7.8 - 2.0	13.8 - 3.6	18	4°04.5	4°05.2	3°53.4	1.8 - 0.5	7.8 - 2.1	13.8 - 3.8	18	4°19.5	4°20.2	4°07.7	1.8 - 0.5	7.8 - 2.3	13.8 - 4.0
19	$3^{\circ}49.8$	3°50.4	3°39.3	1.9 - 0.5	7.9 - 2.0	13.9 - 3.6	19	4°04.7	4°05.4	3°53.6	1.9 - 0.5	7.9 - 2.2	13.9 - 3.8	19	4°19.7	$4^{\circ}20.5$	$4^{\circ}07.9$	1.9 - 0.6	7.9 - 2.3	13.9 - 4.1
20	3°50.0	3°50.6	3°39.5	2.0 - 0.5	8.0 - 2.1	14.0 - 3.6	20	4°05.0	4°05.7	3°53.8	2.0 - 0.6	8.0 - 2.2	14.0 - 3.9	20	4°20.0	$4^{\circ}20.7$	$4^{\circ}08.2$	2.0 - 0.6	8.0 - 2.3	14.0 - 4.1
21	$3^{\circ}50.2$	3°50.9	3°39.8	2.1 - 0.5	8.1 - 2.1	14.1 - 3.6	21	$4^{\circ}05.3$	4°05.9	$3^{\circ}54.1$	2.1 - 0.6	8.1 - 2.2	14.1 - 3.9	21	4°20.3	$4^{\circ}21.0$	$4^{\circ}08.4$	2.1 - 0.6	8.1 - 2.4	14.1 - 4.1
22	$3^{\circ}50.5$	3°51.1	3°40.0	2.2 - 0.6	8.2 - 2.1	14.2 - 3.7	22	$4^{\circ}05.5$	4°06.2	3°54.3	2.2 - 0.6	8.2 - 2.3	14.2 - 3.9	22	$4^{\circ}20.5$	$4^{\circ}21.2$	$4^{\circ}08.6$	2.2 - 0.6	8.2 - 2.4	14.2 - 4.1
23	3°50.7	3°51.4	3°40.2	2.3 - 0.6	8.3 - 2.1	14.3 - 3.7	23	$4^{\circ}05.7$	4°06.4	3°54.6	2.3 - 0.6	8.3 - 2.3	14.3 - 3.9	23	4°20.7	$4^{\circ}21.5$	$4^{\circ}08.9$	2.3 - 0.7	8.3 - 2.4	14.3 - 4.2
24	3°51.0	3°51.6	3°40.5	2.4 - 0.6	8.4 - 2.2	14.4 - 3.7	24	4°06.0	4°06.7	3°54.8	2.4 - 0.7	8.4 - 2.3	14.4 - 4.0	24	4°21.0	$4^{\circ}21.7$	4°09.1	2.4 - 0.7	8.4 - 2.5	14.4 - 4.2
25	3°51.2	3°51.9	3°40.7	2.5 - 0.6	8.5 - 2.2	14.5 - 3.7	25	4°06.3	4°06.9	3°55.0	2.5 - 0.7	8.5 - 2.3	14.5 - 4.0	25	4°21.3	4°22.0	4°09.3	2.5 - 0.7	8.5 - 2.5	14.5 - 4.2
26	3°51.5	3°52.1	3°41.0	2.6 - 0.7	8.6 - 2.2	14.6 - 3.8	26	4°06.5	4°07.2	3°55.3	2.6 - 0.7	8.6 - 2.4	14.6 - 4.0	26	4°21.5	4°22.2	4°09.6	2.6 - 0.8	8.6 - 2.5	14.6 - 4.3
27	3°51.8	3°52.4	3°41.2	2.7 - 0.7	8.7 - 2.2	14.7 - 3.8	27	4°06.7	4°07.4	3°55.5	2.7 - 0.7	8.7 - 2.4	14.7 - 4.0	27	4°21.7	4°22.5	4°09.8	2.7 - 0.8	8.7 - 2.5	14.7 - 4.3
28	3°52.0	3°52.6	3°41.4	2.8 - 0.7	8.8 - 2.3	14.8 - 3.8	28	4°07.0	4°07.7	3°55.7	2.8 - 0.8	8.8 - 2.4	14.8 - 4.1	28	4°22.0	4°22.7	4°10.1	2.8 - 0.8	8.8 - 2.6	14.8 - 4.3
29	3°52.2	3°52.9	3°41.7	2.9 - 0.7	8.9 - 2.3	14.9 - 3.8	29	4°07.3	4°07.9	3°56.0	2.9 - 0.8	8.9 - 2.4	14.9 - 4.1	29	4°22.3	4°23.0	4°10.3	2.9 - 0.8	8.9 - 2.6	14.9 - 4.3
30	3°52.5	3°53.1 3°53.4	3°41.9 3°42.1	3.0 - 0.8 3.1 - 0.8	9.0 - 2.3	15.0 - 3.9	30	4°07.5 4°07.7	4°08.2 4°08.4	3°56.2 3°56.5	3.0 - 0.8 3.1 - 0.9	9.0 - 2.5	15.0 - 4.1	30 31	4°22.5 4°22.7	$4^{\circ}23.2$ $4^{\circ}23.5$	4°10.5 4°10.8	3.0 - 0.9 3.1 - 0.9	9.0 - 2.6	15.0 - 4.4 15.1 - 4.4
31 32	3°52.8 3°53.0	3°53.6	3°42.1	3.1 - 0.8	9.1 - 2.4 9.2 - 2.4	15.1 - 3.9 15.2 - 3.9	32	4°08.0	4 08.4 4°08.7	3°56.7	3.1 - 0.9	9.1 - 2.5 9.2 - 2.5	15.1 - 4.2 15.2 - 4.2	32	4°23.0	4 23.3 4°23.7	4°11.0	3.2 - 0.9	9.1 - 2.7 9.2 - 2.7	15.1 - 4.4
33	3°53.0	3°53.9	3°42.4	3.3 - 0.9	9.3 - 2.4	15.3 - 4.0	33	4°08.3	4°08.9	3°56.9	3.3 - 0.9	9.3 - 2.6	15.3 - 4.2	33	4°23.3	4°24.0	4°11.3	3.3 - 1.0	9.2 - 2.7	15.3 - 4.5
34	3°53.5	3°54.1	3°42.9	3.4 - 0.9	9.4 - 2.4	15.4 - 4.0	34	4°08.5	4°09.2	3°57.2	3.4 - 0.9	9.4 - 2.6	15.4 - 4.2	34	4°23.5	4°24.2	4°11.5	3.4 - 1.0	9.4 - 2.7	15.4 - 4.5
35	3°53.8	3°54.4	3°43.1	3.5 - 0.9	9.5 - 2.5	15.5 - 4.0	35	4°08.7	4°09.4	3°57.4	3.5 - 1.0	9.5 - 2.6	15.5 - 4.3	35	4°23.7	4°24.5	4°11.7	3.5 - 1.0	9.5 - 2.8	15.5 - 4.5
36	3°54.0	3°54.6	3°43.3	3.6 - 0.9	9.6 - 2.5	15.6 - 4.0	36	4°09.0	4°09.7	3°57.7	3.6 - 1.0	9.6 - 2.6	15.6 - 4.3	36	4°24.0	4°24.7	4°12.0	3.6 - 1.1	9.6 - 2.8	15.6 - 4.5
37	3°54.3	3°54.9	3°43.6	3.7 - 1.0	9.7 - 2.5	15.7 - 4.1	37	4°09.3	4°09.9	3°57.9	3.7 - 1.0	9.7 - 2.7	15.7 - 4.3	37	4°24.3	4°25.0	4°12.2	3.7 - 1.1	9.7 - 2.8	15.7 - 4.6
38	3°54.5	3°55.1	3°43.8	3.8 - 1.0	9.8 - 2.5	15.8 - 4.1	38	4°09.5	4°10.2	3°58.1	3.8 - 1.0	9.8 - 2.7	15.8 - 4.3	38	$4^{\circ}24.5$	$4^{\circ}25.2$	$4^{\circ}12.5$	3.8 - 1.1	9.8 - 2.9	15.8 - 4.6
39	3°54.8	3°55.4	3°44.1	3.9 - 1.0	9.9 - 2.6	15.9 - 4.1	39	4°09.7	4°10.4	3°58.4	3.9 - 1.1	9.9 - 2.7	15.9 - 4.4	39	$4^{\circ}24.7$	$4^{\circ}25.5$	$4^{\circ}12.7$	3.9 - 1.1	9.9 - 2.9	15.9 - 4.6
40	$3^{\circ}55.0$	3°55.6	$3^{\circ}44.3$	4.0 - 1.0	10.0 - 2.6	16.0 - 4.1	40	4°10.0	4°10.7	3°58.6	4.0 - 1.1	10.0 - 2.8	16.0 - 4.4	40	$4^{\circ}25.0$	$4^{\circ}25.7$	$4^{\circ}12.9$	4.0 - 1.2	10.0 - 2.9	16.0 - 4.7
41	$3^{\circ}55.2$	3°55.9	$3^{\circ}44.5$	4.1 - 1.1	10.1 - 2.6	16.1 - 4.2	41	4°10.3	4°10.9	3°58.8	4.1 - 1.1	10.1 - 2.8	16.1 - 4.4	41	4°25.3	4°26.0	$4^{\circ}13.2$	4.1 - 1.2	10.1 - 2.9	16.1 - 4.7
42	3°55.5	3°56.1	3°44.8	4.2 - 1.1	10.2 - 2.6	16.2 - 4.2	42	4°10.5	4°11.2	3°59.1	4.2 - 1.2	10.2 - 2.8	16.2 - 4.5	42	$4^{\circ}25.5$	4°26.2	4°13.4	4.2 - 1.2	10.2 - 3.0	16.2 - 4.7
43	3°55.7	3°56.4	3°45.0	4.3 - 1.1	10.3 - 2.7	16.3 - 4.2	43	4°10.7	4°11.4	3°59.3	4.3 - 1.2	10.3 - 2.8	16.3 - 4.5	43	4°25.7	4°26.5	4°13.6	4.3 - 1.3	10.3 - 3.0	16.3 - 4.8
44	3°56.0	3°56.6	3°45.2	4.4 - 1.1	10.4 - 2.7	16.4 - 4.2	44	4°11.0	4°11.7	3°59.6	4.4 - 1.2	10.4 - 2.9	16.4 - 4.5	44	4°26.0	4°26.7	4°13.9	4.4 - 1.3	10.4 - 3.0	16.4 - 4.8
45	3°56.2	3°56.9	3°45.5	4.5 - 1.2	10.5 - 2.7	16.5 - 4.3	45	4°11.2	4°11.9	3°59.8	4.5 - 1.2	10.5 - 2.9	16.5 - 4.5	45	4°26.2	4°27.0	4°14.1	4.5 - 1.3	10.5 - 3.1	16.5 - 4.8
46	3°56.5	3°57.1	3°45.7	4.6 - 1.2	10.6 - 2.7	16.6 - 4.3	46	4°11.5	4°12.2	4°00.0	4.6 - 1.3	10.6 - 2.9	16.6 - 4.6	46	4°26.5	4°27.2	4°14.4	4.6 - 1.3	10.6 - 3.1	16.6 - 4.8
47	3°56.8	3°57.4	3°46.0	4.7 - 1.2	10.7 - 2.8	16.7 - 4.3	47	4°11.8	4°12.4	4°00.3	4.7 - 1.3	10.7 - 2.9	16.7 - 4.6	47	4°26.8	4°27.5	4°14.6	4.7 - 1.4	10.7 - 3.1	16.7 - 4.9
48	3°57.0	3°57.6	3°46.2	4.8 - 1.2	10.8 - 2.8	16.8 - 4.3	48	4°12.0	4°12.7	4°00.5	4.8 - 1.3	10.8 - 3.0	16.8 - 4.6	48	4°27.0	$4^{\circ}27.7$ $4^{\circ}28.0$	4°14.8	4.8 - 1.4	10.8 - 3.2	16.8 - 4.9
49 50	3°57.3 3°57.5	3°57.9 3°58.1	3°46.4 3°46.7	4.9 - 1.3 5.0 - 1.3	10.9 - 2.8 11.0 - 2.8	16.9 - 4.4 17.0 - 4.4	49 50	4°12.2 4°12.5	4°12.9 4°13.2	4°00.8 4°01.0	4.9 - 1.3 5.0 - 1.4	10.9 - 3.0 11.0 - 3.0	16.9 - 4.6 17.0 - 4.7	49 50	4°27.2 4°27.5	$4^{\circ}28.0$ $4^{\circ}28.2$	$4^{\circ}15.1$ $4^{\circ}15.3$	4.9 - 1.4 5.0 - 1.5	10.9 - 3.2 11.0 - 3.2	16.9 - 4.9 17.0 - 5.0
51	3°57.7	3°58.4	3°46.9	5.0 - 1.3	11.0 - 2.8	17.1 - 4.4	51	4 12.3 4°12.8	4 13.2 4°13.4	4°01.0 4°01.2	5.1 - 1.4	11.0 - 3.0	17.0 - 4.7	51	4°27.8	4 28.2 4°28.5	$4^{\circ}15.6$	5.1 - 1.5	11.0 - 3.2	17.0 - 5.0
52	3°58.0	3°58.7	3°47.2	5.1 - 1.3	11.1 - 2.9 $11.2 - 2.9$	17.1 - 4.4	52	4°13.0	4 13.4 4°13.7	4°01.2 4°01.5	5.2 - 1.4	11.1 - 3.1	17.1 - 4.7	52	4°28.0	$4^{\circ}28.7$	4°15.8	5.2 - 1.5	11.1 - 3.2	17.1 - 5.0
53	3°58.2	3°58.9	3°47.4	5.3 - 1.4	11.3 - 2.9	17.3 - 4.5	53	4°13.2	4°13.9	4°01.7	5.3 - 1.5	11.3 - 3.1	17.3 - 4.8	53	4°28.2	4°29.0	4°16.0	5.3 - 1.5	11.3 - 3.3	17.3 - 5.0
54	3°58.5	3°59.2	3°47.6	5.4 - 1.4	11.4 - 2.9	17.4 - 4.5	54	4°13.5	4°14.2	4°02.0	5.4 - 1.5	11.4 - 3.1	17.4 - 4.8	54	4°28.5	4°29.2	4°16.3	5.4 - 1.6	11.4 - 3.3	17.4 - 5.1
55	3°58.7	3°59.4	3°47.9	5.5 - 1.4	11.5 - 3.0	17.5 - 4.5	55	4°13.8	4°14.4	4°02.2	5.5 - 1.5	11.5 - 3.2	17.5 - 4.8	55	4°28.8	4°29.5	4°16.5	5.5 - 1.6	11.5 - 3.4	17.5 - 5.1
56	3°59.0	3°59.7	3°48.1	5.6 - 1.4	11.6 - 3.0	17.6 - 4.5	56	4° 14.0	4°14.7	4°02.4	5.6 - 1.5	11.6 - 3.2	17.6 - 4.8	56	4°29.0	4°29.7	4°16.7	5.6 - 1.6	11.6 - 3.4	17.6 - 5.1
57	3°59.2	3°59.9	3°48.4	5.7 - 1.5	11.7 - 3.0	17.7 - 4.6	57	4°14.2	4°14.9	4°02.7	5.7 - 1.6	11.7 - 3.2	17.7 - 4.9	57	4°29.2	4°30.0	4°17.0	5.7 - 1.7	11.7 - 3.4	17.7 - 5.2
58	3°59.5	4°00.2	3°48.6	5.8 - 1.5	11.8 - 3.0	17.8 - 4.6	58	4°14.5	4°15.2	4°02.9	5.8 - 1.6	11.8 - 3.2	17.8 - 4.9	58	4°29.5	4°30.2	$4^{\circ}17.2$	5.8 - 1.7	11.8 - 3.4	17.8 - 5.2
59	$3^{\circ}59.8$	4°00.4	3°48.8	5.9 - 1.5	11.9 - 3.1	17.9 - 4.6	59	4°14.8	4°15.4	4°03.1	5.9 - 1.6	11.9 - 3.3	17.9 - 4.9	59	$4^{\circ}29.8$	$4^{\circ}30.5$	$4^{\circ}17.5$	5.9 - 1.7	11.9 - 3.5	17.9 - 5.2
															•					

m	Sun	Aries	Moon		v and d corr	r	m	Sun	Aries	Moon		v and d corr	r	m	Sun	Aries	Moon		v and d cor	r
18	Plan.	4000 7	40155	0.0.0.0	6.0.1.0	100 07	19	Plan.	40.45.0	4000.0	0.0.00	0.0.00	100 00	20	Plan.	F000 0	49.40.0			10.0 4.1
0	4°30.0	4°30.7	4°17.7	0.0 - 0.0	6.0 - 1.9	12.0 - 3.7	0	4°45.0	4°45.8	4°32.0	0.0 - 0.0	6.0 - 2.0	12.0 - 3.9	0	5°00.0	5°00.8	4°46.3	0.0 - 0.0	6.0 - 2.0	12.0 - 4.1
$\begin{vmatrix} 1 \\ 2 \end{vmatrix}$	4°30.2 4°30.5	4°31.0 4°31.2	4°17.9 4°18.2	0.1 - 0.0 0.2 - 0.1	6.1 - 1.9 6.2 - 1.9	12.1 - 3.7 12.2 - 3.8	1 2	4°45.2 4°45.5	4°46.0 4°46.3	4°32.3 4°32.5	0.1 - 0.0 0.2 - 0.1	6.1 - 2.0 $6.2 - 2.0$	12.1 - 3.9 12.2 - 4.0	1 2	5°00.2 5°00.5	5°01.1 5°01.3	4°46.6 4°46.8	0.1 - 0.0 0.2 - 0.1	6.1 - 2.1 6.2 - 2.1	12.1 - 4.1 $12.2 - 4.2$
3	4°30.8	4°31.5	4°18.4	0.2 - 0.1	6.3 - 1.9	12.2 - 3.8	3	$4^{\circ}45.8$	4°46.5	4°32.7	0.2 - 0.1	6.3 - 2.0	12.3 - 4.0	3	5°00.8	5°01.6	4°47.0	0.2 - 0.1	6.2 - 2.1 $6.3 - 2.2$	12.3 - 4.2
4	4°31.0	4°31.7	4°18.7	0.4 - 0.1	6.4 - 2.0	12.4 - 3.8	4	4°46.0	4°46.8	4°33.0	0.4 - 0.1	6.4 - 2.1	12.4 - 4.0	4	5°01.0	5°01.8	4°47.3	0.4 - 0.1	6.4 - 2.2	12.4 - 4.2
5	4°31.2	4°32.0	4°18.9	0.5 - 0.2	6.5 - 2.0	12.5 - 3.9	5	$4^{\circ}46.2$	4°47.0	4°33.2	0.5 - 0.2	6.5 - 2.1	12.5 - 4.1	5	5°01.2	5°02.1	4°47.5	0.5 - 0.2	6.5 - 2.2	12.5 - 4.3
6	4°31.5	4°32.2	4°19.1	0.6 - 0.2	6.6 - 2.0	12.6 - 3.9	6	$4^{\circ}46.5$	4°47.3	4°33.4	0.6 - 0.2	6.6 - 2.1	12.6 - 4.1	6	5°01.5	5°02.3	4°47.8	0.6 - 0.2	6.6 - 2.3	12.6 - 4.3
7	4°31.8	4°32.5	4°19.4	0.7 - 0.2	6.7 - 2.1	12.7 - 3.9	7	$4^{\circ}46.8$	4°47.5	4°33.7	0.7 - 0.2	6.7 - 2.2	12.7 - 4.1	7	5°01.8	$5^{\circ}02.6$	4°48.0	0.7 - 0.2	6.7 - 2.3	12.7 - 4.3
8	4°32.0	4°32.7	4°19.6	0.8 - 0.2	6.8 - 2.1	12.8 - 3.9	8	$4^{\circ}47.0$	4°47.8	4°33.9	0.8 - 0.3	6.8 - 2.2	12.8 - 4.2	8	5°02.0	$5^{\circ}02.8$	4°48.2	0.8 - 0.3	6.8 - 2.3	12.8 - 4.4
9	4°32.2	4°33.0	4°19.8	0.9 - 0.3	6.9 - 2.1	12.9 - 4.0	9	$4^{\circ}47.2$	4°48.0	4°34.2	0.9 - 0.3	6.9 - 2.2	12.9 - 4.2	9	$5^{\circ}02.2$	5°03.1	4°48.5	0.9 - 0.3	6.9 - 2.4	12.9 - 4.4
10	4°32.5	4°33.2	4°20.1	1.0 - 0.3	7.0 - 2.2	13.0 - 4.0	10	$4^{\circ}47.5$	4°48.3	4°34.4	1.0 - 0.3	7.0 - 2.3	13.0 - 4.2	10	$5^{\circ}02.5$	$5^{\circ}03.3$	4°48.7	1.0 - 0.3	7.0 - 2.4	13.0 - 4.4
11	4°32.8	4°33.5	4°20.3	1.1 - 0.3	7.1 - 2.2	13.1 - 4.0	11	$4^{\circ}47.8$	4°48.5	4°34.6	1.1 - 0.4	7.1 - 2.3	13.1 - 4.3	11	5°02.8	5°03.6	4°49.0	1.1 - 0.4	7.1 - 2.4	13.1 - 4.5
12	4°33.0	4°33.7	4°20.6	1.2 - 0.4	7.2 - 2.2	13.2 - 4.1	12	$4^{\circ}48.0$	4°48.8	4°34.9	1.2 - 0.4	7.2 - 2.3	13.2 - 4.3	12	5°03.0	5°03.8	4°49.2	1.2 - 0.4	7.2 - 2.5	13.2 - 4.5
13	4°33.2	4°34.0	4°20.8	1.3 - 0.4	7.3 - 2.3	13.3 - 4.1	13	4°48.2	4°49.0	4°35.1	1.3 - 0.4	7.3 - 2.4	13.3 - 4.3	13	5°03.2	5°04.1	4°49.4	1.3 - 0.4	7.3 - 2.5	13.3 - 4.5
14	4°33.5	4°34.2	4°21.0	1.4 - 0.4	7.4 - 2.3	13.4 - 4.1	14	4°48.5	4°49.3	4°35.4	1.4 - 0.5	7.4 - 2.4	13.4 - 4.4	14	5°03.5	5°04.3	4°49.7	1.4 - 0.5	7.4 - 2.5	13.4 - 4.6
15 16	4°33.8 4°34.0	4°34.5 4°34.7	4°21.3 4°21.5	1.5 - 0.5 1.6 - 0.5	7.5 - 2.3 7.6 - 2.3	13.5 - 4.2 13.6 - 4.2	15 16	4°48.8 4°49.0	4°49.5 4°49.8	4°35.6 4°35.8	1.5 - 0.5 1.6 - 0.5	7.5 - 2.4 7.6 - 2.5	13.5 - 4.4	15 16	5°03.8 5°04.0	5°04.6 5°04.8	4°49.9 4°50.2	1.5 - 0.5 1.6 - 0.5	7.5 - 2.6	13.5 - 4.6 13.6 - 4.6
17	4 34.0 4°34.3	4°35.0	4°21.8	1.0 - 0.5	7.0 - 2.3 7.7 - 2.4	13.7 - 4.2	17	4 49.0 4°49.3	4 49.8 4°50.0	4°36.1	1.7 - 0.6	7.6 - 2.5 7.7 - 2.5	13.6 - 4.4 13.7 - 4.5	17	5°04.0	5°05.1	4°50.2 4°50.4	1.7 - 0.6	7.6 - 2.6 7.7 - 2.6	13.7 - 4.7
18	4°34.5	4°35.3	4°22.0	1.8 - 0.6	7.8 - 2.4	13.8 - 4.3	18	4°49.5	4°50.3	4°36.3	1.8 - 0.6	7.8 - 2.5	13.8 - 4.5	18	5°04.5	5°05.3	4°50.4	1.8 - 0.6	7.8 - 2.7	13.8 - 4.7
19	4°34.8	4°35.5	4°22.2	1.9 - 0.6	7.9 - 2.4	13.9 - 4.3	19	4°49.8	4°50.5	4°36.6	1.9 - 0.6	7.9 - 2.6	13.9 - 4.5	19	5°04.7	5°05.6	4°50.9	1.9 - 0.6	7.9 - 2.7	13.9 - 4.7
20	4°35.0	4°35.8	4°22.5	2.0 - 0.6	8.0 - 2.5	14.0 - 4.3	20	4°50.0	4°50.8	4°36.8	2.0 - 0.7	8.0 - 2.6	14.0 - 4.5	20	5°05.0	5°05.8	4°51.1	2.0 - 0.7	8.0 - 2.7	14.0 - 4.8
21	4°35.3	4°36.0	$4^{\circ}22.7$	2.1 - 0.6	8.1 - 2.5	14.1 - 4.3	21	$4^{\circ}50.3$	4°51.0	4°37.0	2.1 - 0.7	8.1 - 2.6	14.1 - 4.6	21	5°05.3	5°06.1	4°51.3	2.1 - 0.7	8.1 - 2.8	14.1 - 4.8
22	4°35.5	4°36.3	4°22.9	2.2 - 0.7	8.2 - 2.5	14.2 - 4.4	22	$4^{\circ}50.5$	4°51.3	4°37.3	2.2 - 0.7	8.2 - 2.7	14.2 - 4.6	22	5°05.5	$5^{\circ}06.3$	4°51.6	2.2 - 0.8	8.2 - 2.8	14.2 - 4.9
23	4°35.7	4°36.5	4°23.2	2.3 - 0.7	8.3 - 2.6	14.3 - 4.4	23	$4^{\circ}50.7$	4°51.5	4°37.5	2.3 - 0.7	8.3 - 2.7	14.3 - 4.6	23	5°05.7	$5^{\circ}06.6$	4°51.8	2.3 - 0.8	8.3 - 2.8	14.3 - 4.9
24	4°36.0	4°36.8	4°23.4	2.4 - 0.7	8.4 - 2.6	14.4 - 4.4	24	$4^{\circ}51.0$	4°51.8	4°37.7	2.4 - 0.8	8.4 - 2.7	14.4 - 4.7	24	5°06.0	5°06.8	4°52.1	2.4 - 0.8	8.4 - 2.9	14.4 - 4.9
25	4°36.3	4°37.0	4°23.7	2.5 - 0.8	8.5 - 2.6	14.5 - 4.5	25	$4^{\circ}51.3$	4°52.0	4°38.0	2.5 - 0.8	8.5 - 2.8	14.5 - 4.7	25	5°06.3	5°07.1	4°52.3	2.5 - 0.9	8.5 - 2.9	14.5 - 5.0
26	4°36.5	4°37.3	4°23.9	2.6 - 0.8	8.6 - 2.7	14.6 - 4.5	26	4°51.5	4°52.3	4°38.2	2.6 - 0.8	8.6 - 2.8	14.6 - 4.7	26	5°06.5	5°07.3	4°52.5	2.6 - 0.9	8.6 - 2.9	14.6 - 5.0
27	4°36.7	4°37.5	4°24.1	2.7 - 0.8	8.7 - 2.7	14.7 - 4.5	27	4°51.7	4°52.5	4°38.5	2.7 - 0.9	8.7 - 2.8	14.7 - 4.8	27	5°06.7	5°07.6	4°52.8	2.7 - 0.9	8.7 - 3.0	14.7 - 5.0
28 29	4°37.0 4°37.3	4°37.8 4°38.0	4°24.4 4°24.6	2.8 - 0.9 2.9 - 0.9	8.8 - 2.7 8.9 - 2.7	14.8 - 4.6 14.9 - 4.6	28 29	$4^{\circ}52.0$ $4^{\circ}52.3$	4°52.8 4°53.0	4°38.7 4°38.9	2.8 - 0.9 2.9 - 0.9	8.8 - 2.9 8.9 - 2.9	14.8 - 4.8 14.9 - 4.8	28 29	5°07.0 5°07.3	5°07.8 5°08.1	4°53.0 4°53.3	2.8 - 1.0 2.9 - 1.0	8.8 - 3.0 8.9 - 3.0	14.8 - 5.1 14.9 - 5.1
30	4°37.5	4°38.3	4°24.0 4°24.9	3.0 - 0.9	9.0 - 2.8	15.0 - 4.6	30	$4^{\circ}52.5$	4 55.0 4°53.3	4°39.2	3.0 - 1.0	9.0 - 2.9	15.0 - 4.9	30	5°07.5	5°08.3	4 55.5 4°53.5	3.0 - 1.0	9.0 - 3.1	14.9 - 5.1
31	4°37.7	4°38.5	4°25.1	3.1 - 1.0	9.1 - 2.8	15.1 - 4.7	31	$4^{\circ}52.7$	4°53.6	4°39.4	3.1 - 1.0	9.1 - 3.0	15.1 - 4.9	31	5°07.7	5°08.6	4°53.7	3.1 - 1.1	9.1 - 3.1	15.1 - 5.2
32	4°38.0	4°38.8	4°25.3	3.2 - 1.0	9.2 - 2.8	15.2 - 4.7	32	4°53.0	4°53.8	4°39.7	3.2 - 1.0	9.2 - 3.0	15.2 - 4.9	32	5°08.0	5°08.8	4°54.0	3.2 - 1.1	9.2 - 3.1	15.2 - 5.2
33	4°38.3	4°39.0	$4^{\circ}25.6$	3.3 - 1.0	9.3 - 2.9	15.3 - 4.7	33	$4^{\circ}53.3$	4°54.1	4°39.9	3.3 - 1.1	9.3 - 3.0	15.3 - 5.0	33	5°08.3	5°09.1	4°54.2	3.3 - 1.1	9.3 - 3.2	15.3 - 5.2
34	4°38.5	4°39.3	4°25.8	3.4 - 1.0	9.4 - 2.9	15.4 - 4.7	34	$4^{\circ}53.5$	4°54.3	4°40.1	3.4 - 1.1	9.4 - 3.1	15.4 - 5.0	34	5°08.5	$5^{\circ}09.3$	4°54.4	3.4 - 1.2	9.4 - 3.2	15.4 - 5.3
35	4°38.7	4°39.5	4°26.1	3.5 - 1.1	9.5 - 2.9	15.5 - 4.8	35	$4^{\circ}53.7$	4°54.6	4°40.4	3.5 - 1.1	9.5 - 3.1	15.5 - 5.0	35	5°08.7	$5^{\circ}09.6$	4°54.7	3.5 - 1.2	9.5 - 3.2	15.5 - 5.3
36	4°39.0	4°39.8	4°26.3	3.6 - 1.1	9.6 - 3.0	15.6 - 4.8	36	$4^{\circ}54.0$	4°54.8	4°40.6	3.6 - 1.2	9.6 - 3.1	15.6 - 5.1	36	5°09.0	5°09.8	4°54.9	3.6 - 1.2	9.6 - 3.3	15.6 - 5.3
37	4°39.3	4°40.0	4°26.5	3.7 - 1.1	9.7 - 3.0	15.7 - 4.8	37	4°54.3	4°55.1	4°40.8	3.7 - 1.2	9.7 - 3.2	15.7 - 5.1	37	5°09.3	5°10.1	4°55.2	3.7 - 1.3	9.7 - 3.3	15.7 - 5.4
38	4°39.5	4°40.3	4°26.8	3.8 - 1.2	9.8 - 3.0	15.8 - 4.9	38	4°54.5	4°55.3	4°41.1	3.8 - 1.2	9.8 - 3.2	15.8 - 5.1	38	5°09.5	5°10.3	4°55.4	3.8 - 1.3	9.8 - 3.3	15.8 - 5.4
39	4°39.7	4°40.5	4°27.0	3.9 - 1.2	9.9 - 3.1	15.9 - 4.9	39	4°54.7	4°55.6	4°41.3 4°41.6	3.9 - 1.3	9.9 - 3.2	15.9 - 5.2	39	5°09.7 5°10.0	5°10.6 5°10.8	4°55.6	3.9 - 1.3	9.9 - 3.4	15.9 - 5.4
40 41	4°40.0 4°40.2	4°40.8 4°41.0	4°27.2 4°27.5	4.0 - 1.2 4.1 - 1.3	10.0 - 3.1 10.1 - 3.1	16.0 - 4.9 16.1 - 5.0	40 41	4°55.0 4°55.2	4°55.8 4°56.1	4 41.6 4°41.8	4.0 - 1.3 4.1 - 1.3	10.0 - 3.3 10.1 - 3.3	16.0 - 5.2 16.1 - 5.2	40 41	5°10.0	5 10.8 5°11.1	4°55.9 4°56.1	4.0 - 1.4 4.1 - 1.4	10.0 - 3.4 10.1 - 3.5	16.0 - 5.5 16.1 - 5.5
42	4°40.5	4°41.3	4°27.7	4.2 - 1.3	10.1 - 3.1	16.2 - 5.0	42	4°55.5	4°56.3	4°42.0	4.1 - 1.3	10.1 - 3.3	16.2 - 5.3	42	5°10.5	5°11.1	4°56.4	4.2 - 1.4	10.1 - 3.5	16.2 - 5.5
43	4°40.7	4°41.5	4°28.0	4.3 - 1.3	10.3 - 3.2	16.3 - 5.0	43	4°55.7	4°56.6	4°42.3	4.3 - 1.4	10.3 - 3.3	16.3 - 5.3	43	5°10.7	5°11.6	4°56.6	4.3 - 1.5	10.3 - 3.5	16.3 - 5.6
44	4°41.0	4°41.8	4°28.2	4.4 - 1.4	10.4 - 3.2	16.4 - 5.1	44	4°56.0	4°56.8	4°42.5	4.4 - 1.4	10.4 - 3.4	16.4 - 5.3	44	5°11.0	5°11.9	4°56.8	4.4 - 1.5	10.4 - 3.6	16.4 - 5.6
45	4°41.2	4°42.0	4°28.4	4.5 - 1.4	10.5 - 3.2	16.5 - 5.1	45	$4^{\circ}56.2$	4°57.1	4°42.8	4.5 - 1.5	10.5 - 3.4	16.5 - 5.4	45	5°11.2	5°12.1	4°57.1	4.5 - 1.5	10.5 - 3.6	16.5 - 5.6
46	4°41.5	$4^{\circ}42.3$	$4^{\circ}28.7$	4.6 - 1.4	10.6 - 3.3	16.6 - 5.1	46	$4^{\circ}56.5$	4°57.3	4°43.0	4.6 - 1.5	10.6 - 3.4	16.6 - 5.4	46	5°11.5	$5^{\circ}12.4$	4°57.3	4.6 - 1.6	10.6 - 3.6	16.6 - 5.7
47	4°41.8	4°42.5	4°28.9	4.7 - 1.4	10.7 - 3.3	16.7 - 5.1	47	$4^{\circ}56.8$	4°57.6	4°43.2	4.7 - 1.5	10.7 - 3.5	16.7 - 5.4	47	5°11.8	$5^{\circ}12.6$	4°57.5	4.7 - 1.6	10.7 - 3.7	16.7 - 5.7
48	4°42.0	4°42.8	4°29.2	4.8 - 1.5	10.8 - 3.3	16.8 - 5.2	48	$4^{\circ}57.0$	4°57.8	4°43.5	4.8 - 1.6	10.8 - 3.5	16.8 - 5.5	48	5°12.0	5°12.9	4°57.8	4.8 - 1.6	10.8 - 3.7	16.8 - 5.7
49	4°42.2	4°43.0	4°29.4	4.9 - 1.5	10.9 - 3.4	16.9 - 5.2	49	$4^{\circ}57.2$	4°58.1	4°43.7	4.9 - 1.6	10.9 - 3.5	16.9 - 5.5	49	5°12.2	5°13.1	4°58.0	4.9 - 1.7	10.9 - 3.7	16.9 - 5.8
50	4°42.5	4°43.3	4°29.6	5.0 - 1.5	11.0 - 3.4	17.0 - 5.2	50	4°57.5	4°58.3	4°43.9	5.0 - 1.6	11.0 - 3.6	17.0 - 5.5	50	5°12.5	5°13.4	4°58.3	5.0 - 1.7	11.0 - 3.8	17.0 - 5.8
51 52	4°42.8 4°43.0	4°43.5 4°43.8	4°29.9 4°30.1	5.1 - 1.6	11.1 - 3.4 11.2 - 3.5	17.1 - 5.3	51 52	4°57.8 4°58.0	4°58.6 4°58.8	4°44.2 4°44.4	5.1 - 1.7 5.2 - 1.7	11.1 - 3.6	17.1 - 5.6	51 52	5°12.8 5°13.0	5°13.6 5°13.9	4°58.5 4°58.7	5.1 - 1.7 5.2 - 1.8	11.1 - 3.8 11.2 - 3.8	17.1 - 5.8
53	4 43.0 4°43.2	4 43.8 4°44.0	4°30.1 4°30.3	5.2 - 1.6		17.2 - 5.3	53	$4^{\circ}58.0$ $4^{\circ}58.2$	4 58.8 4°59.1	4 44.4 4°44.7	5.2 - 1.7	11.2 - 3.6 11.3 - 3.7	17.2 - 5.6	53	5°13.2	5 13.9 5°14.1	4 58.7 4°59.0	5.2 - 1.8	11.2 - 3.8	17.2 - 5.9 17.3 - 5.9
54	4 43.2 4°43.5	4 44.0 4°44.3	4°30.6	5.3 - 1.6 5.4 - 1.7	11.3 - 3.5 11.4 - 3.5	17.3 - 5.3   17.4 - 5.4	54	$4^{\circ}58.5$	4 59.1 4°59.3	4°44.7 4°44.9	5.4 - 1.8	11.3 - 3.7	17.3 - 5.6 17.4 - 5.7	54	5°13.5	5°14.1	4 59.0 4°59.2	5.4 - 1.8	11.3 - 3.9	17.3 - 5.9
55	4°43.8	4°44.5	4°30.8	5.5 - 1.7	11.5 - 3.5	17.5 - 5.4	55	$4^{\circ}58.8$	4°59.6	4°45.1	5.5 - 1.8	11.4 - 3.7 $11.5 - 3.7$	17.5 - 5.7	55	5°13.8	5°14.4	4°59.5	5.5 - 1.9	11.5 - 3.9	17.5 - 6.0
56	4°44.0	4°44.8	4°31.1	5.6 - 1.7	11.6 - 3.6	17.6 - 5.4	56	4°59.0	4°59.8	4°45.4	5.6 - 1.8	11.6 - 3.8	17.6 - 5.7	56	5°14.0	5°14.9	4°59.7	5.6 - 1.9	11.6 - 4.0	17.6 - 6.0
57	4°44.2	4°45.0	4°31.3	5.7 - 1.8	11.7 - 3.6	17.7 - 5.5	57	$4^{\circ}59.2$	5°00.1	4°45.6	5.7 - 1.9	11.7 - 3.8	17.7 - 5.8	57	5°14.2	5°15.1	4°59.9	5.7 - 1.9	11.7 - 4.0	17.7 - 6.0
58	4°44.5	4°45.3	4°31.5	5.8 - 1.8	11.8 - 3.6	17.8 - 5.5	58	4°59.5	5°00.3	4°45.9	5.8 - 1.9	11.8 - 3.8	17.8 - 5.8	58	5°14.5	5°15.4	5°00.2	5.8 - 2.0	11.8 - 4.0	17.8 - 6.1
59	4°44.8	$4^{\circ}45.5$	$4^{\circ}31.8$	5.9 - 1.8	11.9 - 3.7	17.9 - 5.5	59	$4^{\circ}59.8$	5°00.6	4°46.1	5.9 - 1.9	11.9 - 3.9	17.9 - 5.8	59	5°14.8	$5^{\circ}15.6$	$5^{\circ}00.4$	5.9 - 2.0	11.9 - 4.1	17.9 - 6.1
											1									

m	Sun	Aries	Moon		v and d corr	,	m	Sun	Aries	Moon		v and d cor	r	m	Sun	Aries	Moon		v and d corr	r
21	Plan.	-0.15	-0.00				22	Plan.		-0.15				23	Plan.					
0	5°15.0	5°15.9	5°00.6	0.0 - 0.0	6.0 - 2.1	12.0 - 4.3	0	5°30.0	5°30.9	5°15.0	0.0 - 0.0	6.0 - 2.3	12.0 - 4.5	0	5°45.0	5°45.9	5°29.3	0.0 - 0.0	6.0 - 2.4	12.0 - 4.7
1	5°15.2	5°16.1	5°00.9	0.1 - 0.0	6.1 - 2.2	12.1 - 4.3	1	5°30.2	5°31.2	5°15.2	0.1 - 0.0	6.1 - 2.3	12.1 - 4.5	1	5°45.2	5°46.2	5°29.5	0.1 - 0.0	6.1 - 2.4	12.1 - 4.7
2 3	5°15.5	5°16.4	5°01.1	0.2 - 0.1	6.2 - 2.2	12.2 - 4.4	2 3	5°30.5 5°30.8	5°31.4 5°31.7	5°15.4	0.2 - 0.1	6.2 - 2.3	12.2 - 4.6	2 3	5°45.5	$5^{\circ}46.4$ $5^{\circ}46.7$	5°29.8	0.2 - 0.1	6.2 - 2.4	12.2 - 4.8
4	5°15.8 5°16.0	5°16.6 5°16.9	5°01.4 5°01.6	0.3 - 0.1 0.4 - 0.1	6.3 - 2.3 6.4 - 2.3	12.3 - 4.4 $12.4 - 4.4$	4	5°31.0	5°31.7	5°15.7 5°15.9	0.3 - 0.1 0.4 - 0.2	6.3 - 2.4 $6.4 - 2.4$	12.3 - 4.6 12.4 - 4.7	4	5°45.8 5°46.0	5°46.7	5°30.0 5°30.2	0.3 - 0.1	6.3 - 2.5 6.4 - 2.5	12.3 - 4.8 12.4 - 4.9
5	5°16.2	5°17.1	5°01.8	0.4 - 0.1	6.5 - 2.3	12.5 - 4.5	5	$5^{\circ}31.0$ $5^{\circ}31.2$	5°32.2	5°16.2	0.4 - 0.2	6.5 - 2.4	12.5 - 4.7	5	5°46.2	5°47.2	5°30.2	0.4 - 0.2	6.5 - 2.5	12.5 - 4.9
6	5°16.5	5°17.4	5°02.1	0.6 - 0.2	6.6 - 2.4	12.6 - 4.5	6	5°31.5	5°32.4	5°16.4	0.6 - 0.2	6.6 - 2.5	12.6 - 4.7	6	5°46.5	5°47.4	5°30.7	0.6 - 0.2	6.6 - 2.6	12.6 - 4.9
7	5°16.8	5°17.6	5°02.3	0.7 - 0.3	6.7 - 2.4	12.7 - 4.6	7	5°31.8	5°32.7	5°16.6	0.7 - 0.3	6.7 - 2.5	12.7 - 4.8	7	5°46.8	5°47.7	5°31.0	0.7 - 0.3	6.7 - 2.6	12.7 - 5.0
8	5°17.0	5°17.9	5°02.6	0.8 - 0.3	6.8 - 2.4	12.8 - 4.6	8	$5^{\circ}32.0$	5°32.9	5°16.9	0.8 - 0.3	6.8 - 2.5	12.8 - 4.8	8	5°47.0	5°47.9	$5^{\circ}31.2$	0.8 - 0.3	6.8 - 2.7	12.8 - 5.0
9	5°17.2	5°18.1	5°02.8	0.9 - 0.3	6.9 - 2.5	12.9 - 4.6	9	$5^{\circ}32.2$	5°33.2	5°17.1	0.9 - 0.3	6.9 - 2.6	12.9 - 4.8	9	$5^{\circ}47.2$	$5^{\circ}48.2$	$5^{\circ}31.4$	0.9 - 0.4	6.9 - 2.7	12.9 - 5.1
10	5°17.5	5°18.4	5°03.0	1.0 - 0.4	7.0 - 2.5	13.0 - 4.7	10	$5^{\circ}32.5$	5°33.4	5°17.4	1.0 - 0.4	7.0 - 2.6	13.0 - 4.9	10	5°47.5	$5^{\circ}48.4$	$5^{\circ}31.7$	1.0 - 0.4	7.0 - 2.7	13.0 - 5.1
11	5°17.8	5°18.6	5°03.3	1.1 - 0.4	7.1 - 2.5	13.1 - 4.7	11	$5^{\circ}32.8$	5°33.7	5°17.6	1.1 - 0.4	7.1 - 2.7	13.1 - 4.9	11	5°47.8	5°48.7	5°31.9	1.1 - 0.4	7.1 - 2.8	13.1 - 5.1
12	5°18.0	5°18.9	5°03.5	1.2 - 0.4	7.2 - 2.6	13.2 - 4.7	12	5°33.0	5°33.9	5°17.8	1.2 - 0.5	7.2 - 2.7	13.2 - 4.9	12	5°48.0	5°49.0	5°32.1	1.2 - 0.5	7.2 - 2.8	13.2 - 5.2
13	5°18.2	5°19.1	5°03.8	1.3 - 0.5	7.3 - 2.6	13.3 - 4.8	13	5°33.2	5°34.2	5°18.1	1.3 - 0.5	7.3 - 2.7	13.3 - 5.0	13	5°48.2	5°49.2	5°32.4	1.3 - 0.5	7.3 - 2.9	13.3 - 5.2
14	5°18.5	5°19.4	5°04.0	1.4 - 0.5	7.4 - 2.7	13.4 - 4.8	14	5°33.5	5°34.4	5°18.3	1.4 - 0.5	7.4 - 2.8	13.4 - 5.0	14	5°48.5	5°49.5	5°32.6	1.4 - 0.5	7.4 - 2.9	13.4 - 5.2
15 16	5°18.8 5°19.0	5°19.6 5°19.9	5°04.2 5°04.5	1.5 - 0.5 1.6 - 0.6	7.5 - 2.7 7.6 - 2.7	13.5 - 4.8 13.6 - 4.9	15 16	5°33.8 5°34.0	5°34.7 5°34.9	5°18.5 5°18.8	1.5 - 0.6 1.6 - 0.6	7.5 - 2.8 7.6 - 2.8	13.5 - 5.1 13.6 - 5.1	15 16	5°48.8 5°49.0	5°49.7 5°50.0	5°32.9 5°33.1	1.5 - 0.6 1.6 - 0.6	7.5 - 2.9 7.6 - 3.0	13.5 - 5.3 13.6 - 5.3
17	5°19.3	5°20.1	5°04.7	1.7 - 0.6	7.7 - 2.8	13.7 - 4.9	17	5°34.3	5°35.2	5°19.0	1.7 - 0.6	7.7 - 2.9	13.7 - 5.1	17	5°49.3	5°50.2	$5^{\circ}33.3$	1.7 - 0.7	7.7 - 3.0	13.7 - 5.4
18	5°19.5	5°20.4	5°04.9	1.8 - 0.6	7.8 - 2.8	13.8 - 4.9	18	5°34.5	5°35.4	5°19.3	1.8 - 0.7	7.8 - 2.9	13.8 - 5.2	18	5°49.5	5°50.5	5°33.6	1.8 - 0.7	7.8 - 3.1	13.8 - 5.4
19	5°19.7	5°20.6	5°05.2	1.9 - 0.7	7.9 - 2.8	13.9 - 5.0	19	5°34.8	5°35.7	5°19.5	1.9 - 0.7	7.9 - 3.0	13.9 - 5.2	19	5°49.8	5°50.7	5°33.8	1.9 - 0.7	7.9 - 3.1	13.9 - 5.4
20	5°20.0	5°20.9	5°05.4	2.0 - 0.7	8.0 - 2.9	14.0 - 5.0	20	$5^{\circ}35.0$	5°35.9	5°19.7	2.0 - 0.8	8.0 - 3.0	14.0 - 5.3	20	5°50.0	5°51.0	$5^{\circ}34.1$	2.0 - 0.8	8.0 - 3.1	14.0 - 5.5
21	5°20.3	5°21.1	5°05.7	2.1 - 0.8	8.1 - 2.9	14.1 - 5.1	21	5°35.3	5°36.2	5°20.0	2.1 - 0.8	8.1 - 3.0	14.1 - 5.3	21	5°50.3	$5^{\circ}51.2$	$5^{\circ}34.3$	2.1 - 0.8	8.1 - 3.2	14.1 - 5.5
22	5°20.5	5°21.4	5°05.9	2.2 - 0.8	8.2 - 2.9	14.2 - 5.1	22	$5^{\circ}35.5$	$5^{\circ}36.4$	$5^{\circ}20.2$	2.2 - 0.8	8.2 - 3.1	14.2 - 5.3	22	5°50.5	$5^{\circ}51.5$	$5^{\circ}34.5$	2.2 - 0.9	8.2 - 3.2	14.2 - 5.6
23	5°20.7	5°21.6	5°06.1	2.3 - 0.8	8.3 - 3.0	14.3 - 5.1	23	$5^{\circ}35.7$	5°36.7	5°20.5	2.3 - 0.9	8.3 - 3.1	14.3 - 5.4	23	5°50.7	5°51.7	5°34.8	2.3 - 0.9	8.3 - 3.3	14.3 - 5.6
24	5°21.0	5°21.9	5°06.4	2.4 - 0.9	8.4 - 3.0	14.4 - 5.2	24	$5^{\circ}36.0$	5°36.9	5°20.7	2.4 - 0.9	8.4 - 3.2	14.4 - 5.4	24	5°51.0	5°52.0	5°35.0	2.4 - 0.9	8.4 - 3.3	14.4 - 5.6
25	5°21.3	5°22.1	5°06.6	2.5 - 0.9	8.5 - 3.0	14.5 - 5.2	25	5°36.3	5°37.2	5°20.9	2.5 - 0.9	8.5 - 3.2	14.5 - 5.4	25	5°51.3	5°52.2	5°35.2	2.5 - 1.0	8.5 - 3.3	14.5 - 5.7
26	5°21.5	5°22.4	5°06.9	2.6 - 0.9	8.6 - 3.1	14.6 - 5.2	26	5°36.5	5°37.4	5°21.2	2.6 - 1.0	8.6 - 3.2	14.6 - 5.5	26	5°51.5	5°52.5	5°35.5	2.6 - 1.0	8.6 - 3.4	14.6 - 5.7
27 28	5°21.7 5°22.0	5°22.6	5°07.1 5°07.3	2.7 - 1.0	8.7 - 3.1 8.8 - 3.2	14.7 - 5.3 14.8 - 5.3	27 28	5°36.7 5°37.0	5°37.7 5°37.9	5°21.4 5°21.6	2.7 - 1.0	8.7 - 3.3	14.7 - 5.5	27	5°51.7	5°52.7 5°53.0	5°35.7 5°36.0	2.7 - 1.1 2.8 - 1.1	8.7 - 3.4 8.8 - 3.4	14.7 - 5.8 14.8 - 5.8
29	5°22.3	5°22.9 5°23.1	5°07.6	2.8 - 1.0 2.9 - 1.0	8.9 - 3.2	14.8 - 5.3	29	5°37.3	5°38.2	5°21.9	2.8 - 1.1 2.9 - 1.1	8.8 - 3.3 8.9 - 3.3	14.8 - 5.6 14.9 - 5.6	28 29	5°52.0 5°52.3	5°53.2	$5^{\circ}36.2$	2.9 - 1.1	8.9 - 3.5	14.9 - 5.8
30	5°22.5	5°23.4	5°07.8	3.0 - 1.1	9.0 - 3.2	15.0 - 5.4	30	5°37.5	5°38.4	5°22.1	3.0 - 1.1	9.0 - 3.4	15.0 - 5.6	30	5°52.5	5°53.5	5°36.4	3.0 - 1.2	9.0 - 3.5	15.0 - 5.9
31	5°22.7	5°23.6	5°08.0	3.1 - 1.1	9.1 - 3.3	15.1 - 5.4	31	5°37.7	5°38.7	5°22.4	3.1 - 1.2	9.1 - 3.4	15.1 - 5.7	31	5°52.7	5°53.7	5°36.7	3.1 - 1.2	9.1 - 3.6	15.1 - 5.9
32	5°23.0	5°23.9	5°08.3	3.2 - 1.1	9.2 - 3.3	15.2 - 5.4	32	5°38.0	5°38.9	5°22.6	3.2 - 1.2	9.2 - 3.4	15.2 - 5.7	32	5°53.0	$5^{\circ}54.0$	$5^{\circ}36.9$	3.2 - 1.3	9.2 - 3.6	15.2 - 6.0
33	5°23.3	5°24.1	5°08.5	3.3 - 1.2	9.3 - 3.3	15.3 - 5.5	33	$5^{\circ}38.3$	5°39.2	5°22.8	3.3 - 1.2	9.3 - 3.5	15.3 - 5.7	33	5°53.3	$5^{\circ}54.2$	$5^{\circ}37.2$	3.3 - 1.3	9.3 - 3.6	15.3 - 6.0
34	5°23.5	5°24.4	5°08.8	3.4 - 1.2	9.4 - 3.4	15.4 - 5.5	34	$5^{\circ}38.5$	5°39.4	5°23.1	3.4 - 1.3	9.4 - 3.5	15.4 - 5.8	34	5°53.5	$5^{\circ}54.5$	$5^{\circ}37.4$	3.4 - 1.3	9.4 - 3.7	15.4 - 6.0
35	5°23.7	5°24.6	5°09.0	3.5 - 1.3	9.5 - 3.4	15.5 - 5.6	35	5°38.7	5°39.7	5°23.3	3.5 - 1.3	9.5 - 3.6	15.5 - 5.8	35	5°53.7	5°54.7	5°37.6	3.5 - 1.4	9.5 - 3.7	15.5 - 6.1
36	5°24.0	5°24.9	5°09.2	3.6 - 1.3	9.6 - 3.4	15.6 - 5.6	36	5°39.0	5°39.9	5°23.6	3.6 - 1.4	9.6 - 3.6	15.6 - 5.8	36	5°54.0	5°55.0	5°37.9	3.6 - 1.4	9.6 - 3.8	15.6 - 6.1
37	5°24.3 5°24.5	5°25.1 5°25.4	5°09.5 5°09.7	3.7 - 1.3	9.7 - 3.5 9.8 - 3.5	15.7 - 5.6 15.8 - 5.7	37 38	5°39.3 5°39.5	5°40.2 5°40.4	5°23.8 5°24.0	3.7 - 1.4	9.7 - 3.6 9.8 - 3.7	15.7 - 5.9	37 38	5°54.3 5°54.5	5°55.2 5°55.5	5°38.1 5°38.4	3.7 - 1.4 3.8 - 1.5	9.7 - 3.8 9.8 - 3.8	15.7 - 6.1 15.8 - 6.2
39	5°24.5 5°24.7	5°25.6	5°10.0	3.8 - 1.4 3.9 - 1.4	9.8 - 3.5 9.9 - 3.5	15.9 - 5.7	39	5°39.5	5°40.4 5°40.7	5°24.3	3.8 - 1.4 3.9 - 1.5	9.8 - 3.7	15.8 - 5.9 15.9 - 6.0	39	5°54.5	5°55.7	5°38.6	3.9 - 1.5	9.8 - 3.8	15.9 - 6.2
40	5°25.0	5°25.9	5°10.2	4.0 - 1.4	10.0 - 3.6	16.0 - 5.7	40	5°40.0	5°40.9	5°24.5	4.0 - 1.5	10.0 - 3.8	16.0 - 6.0	40	5°55.0	5°56.0	5°38.8	4.0 - 1.6	10.0 - 3.9	16.0 - 6.3
41	5°25.3	5°26.1	5°10.4	4.1 - 1.5	10.1 - 3.6	16.1 - 5.8	41	$5^{\circ}40.2$	5°41.2	5°24.7	4.1 - 1.5	10.1 - 3.8	16.1 - 6.0	41	5°55.2	5°56.2	5°39.1	4.1 - 1.6	10.1 - 4.0	16.1 - 6.3
42	5°25.5	5°26.4	5°10.7	4.2 - 1.5	10.2 - 3.7	16.2 - 5.8	42	$5^{\circ}40.5$	5°41.4	5°25.0	4.2 - 1.6	10.2 - 3.8	16.2 - 6.1	42	5°55.5	5°56.5	5°39.3	4.2 - 1.6	10.2 - 4.0	16.2 - 6.3
43	5°25.7	5°26.6	5°10.9	4.3 - 1.5	10.3 - 3.7	16.3 - 5.8	43	$5^{\circ}40.7$	$5^{\circ}41.7$	$5^{\circ}25.2$	4.3 - 1.6	10.3 - 3.9	16.3 - 6.1	43	5°55.7	$5^{\circ}56.7$	$5^{\circ}39.5$	4.3 - 1.7	10.3 - 4.0	16.3 - 6.4
44	5°26.0	5°26.9	5°11.1	4.4 - 1.6	10.4 - 3.7	16.4 - 5.9	44	5°41.0	5°41.9	5°25.5	4.4 - 1.7	10.4 - 3.9	16.4 - 6.1	44	5°56.0	5°57.0	$5^{\circ}39.8$	4.4 - 1.7	10.4 - 4.1	16.4 - 6.4
45	5°26.2	5°27.1	5°11.4	4.5 - 1.6	10.5 - 3.8	16.5 - 5.9	45	$5^{\circ}41.2$	5°42.2	5°25.7	4.5 - 1.7	10.5 - 3.9	16.5 - 6.2	45	5°56.2	5°57.2	5°40.0	4.5 - 1.8	10.5 - 4.1	16.5 - 6.5
46	5°26.5	5°27.4	5°11.6	4.6 - 1.6	10.6 - 3.8	16.6 - 5.9	46	5°41.5	5°42.4	5°25.9	4.6 - 1.7	10.6 - 4.0	16.6 - 6.2	46	5°56.5	5°57.5	$5^{\circ}40.3$	4.6 - 1.8	10.6 - 4.2	16.6 - 6.5
47	5°26.8	5°27.6	5°11.9	4.7 - 1.7	10.7 - 3.8	16.7 - 6.0	47	5°41.8	5°42.7	5°26.2	4.7 - 1.8	10.7 - 4.0	16.7 - 6.3	47	5°56.8	5°57.7	5°40.5	4.7 - 1.8	10.7 - 4.2	16.7 - 6.5
48	5°27.0	5°27.9 5°28.1	5°12.1 5°12.3	4.8 - 1.7	10.8 - 3.9	16.8 - 6.0	48	$5^{\circ}42.0$ $5^{\circ}42.2$	5°42.9 5°43.2	5°26.4 5°26.7	4.8 - 1.8	10.8 - 4.1	16.8 - 6.3	48 49	5°57.0	5°58.0 5°58.2	5°40.7 5°41.0	4.8 - 1.9	10.8 - 4.2 10.9 - 4.3	16.8 - 6.6 16.9 - 6.6
50	5°27.2 5°27.5	5 28.1 5°28.4	5 12.3 5°12.6	4.9 - 1.8 5.0 - 1.8	10.9 - 3.9 11.0 - 3.9	16.9 - 6.1 17.0 - 6.1	50	5 42.2 5°42.5	5 43.2 5°43.4	5°26.9	4.9 - 1.8 5.0 - 1.9	10.9 - 4.1 11.0 - 4.1	16.9 - 6.3 17.0 - 6.4	50	5°57.2 5°57.5	5°58.2 5°58.5	5 41.0 5°41.2	4.9 - 1.9 5.0 - 2.0	10.9 - 4.3	17.0 - 6.7
51	5°27.8	5°28.6	5°12.8	5.1 - 1.8	11.0 - 3.9	17.1 - 6.1	51	$5^{\circ}42.5$ $5^{\circ}42.8$	5°43.4 5°43.7	5°27.1	5.1 - 1.9	11.0 - 4.1 $11.1 - 4.2$	17.0 - 6.4	51	5°57.8	5°58.7	$5^{\circ}41.2$ $5^{\circ}41.5$	5.1 - 2.0	11.0 - 4.3	17.1 - 6.7
52	5°28.0	5°28.9	5°13.1	5.2 - 1.9	11.2 - 4.0	17.2 - 6.2	52	5°43.0	5°43.9	5°27.4	5.2 - 2.0	11.2 - 4.2	17.2 - 6.4	52	5°58.0	5°59.0	5°41.7	5.2 - 2.0	11.2 - 4.4	17.2 - 6.7
53	5°28.2	5°29.1	5°13.3	5.3 - 1.9	11.3 - 4.0	17.3 - 6.2	53	5°43.2	5°44.2	5°27.6	5.3 - 2.0	11.3 - 4.2	17.3 - 6.5	53	5°58.2	5°59.2	5°41.9	5.3 - 2.1	11.3 - 4.4	17.3 - 6.8
54	5°28.5	5°29.4	5°13.5	5.4 - 1.9	11.4 - 4.1	17.4 - 6.2	54	$5^{\circ}43.5$	5°44.4	5°27.9	5.4 - 2.0	11.4 - 4.3	17.4 - 6.5	54	5°58.5	5°59.5	$5^{\circ}42.2$	5.4 - 2.1	11.4 - 4.5	17.4 - 6.8
55	5°28.8	5°29.6	5°13.8	5.5 - 2.0	11.5 - 4.1	17.5 - 6.3	55	$5^{\circ}43.8$	$5^{\circ}44.7$	5°28.1	5.5 - 2.1	11.5 - 4.3	17.5 - 6.6	55	5°58.8	$5^{\circ}59.7$	$5^{\circ}42.4$	5.5 - 2.2	11.5 - 4.5	17.5 - 6.9
56	5°29.0	5°29.9	5°14.0	5.6 - 2.0	11.6 - 4.2	17.6 - 6.3	56	$5^{\circ}44.0$	5°44.9	5°28.3	5.6 - 2.1	11.6 - 4.4	17.6 - 6.6	56	5°59.0	5°60.0	$5^{\circ}42.6$	5.6 - 2.2	11.6 - 4.5	17.6 - 6.9
57	5°29.2	5°30.1	5°14.3	5.7 - 2.0	11.7 - 4.2	17.7 - 6.3	57	$5^{\circ}44.2$	5°45.2	5°28.6	5.7 - 2.1	11.7 - 4.4	17.7 - 6.6	57	5°59.2	6°00.2	$5^{\circ}42.9$	5.7 - 2.2	11.7 - 4.6	17.7 - 6.9
58	5°29.5	5°30.4	5°14.5	5.8 - 2.1	11.8 - 4.2	17.8 - 6.4	58	5°44.5	5°45.4	5°28.8	5.8 - 2.2	11.8 - 4.4	17.8 - 6.7	58	5°59.5	6°00.5	5°43.1	5.8 - 2.3	11.8 - 4.6	17.8 - 7.0
59	5°29.8	5°30.7	5°14.7	5.9 - 2.1	11.9 - 4.3	17.9 - 6.4	59	5°44.8	5°45.7	5°29.0	5.9 - 2.2	11.9 - 4.5	17.9 - 6.7	59	5°59.8	6°00.7	5°43.4	5.9 - 2.3	11.9 - 4.7	17.9 - 7.0

m	Sun	Aries	Moon		v and d corr	r	m	Sun	Aries	Moon		v and d corr	r	m	Sun	Aries	Moon		v and d corr	•
24	Plan.	6001.0	50.40.0	0.0.00	0.0.0.5	10.0 1.0	25	Plan.	0010.0	F0-F0	0.0.00		100 51	26	Plan.	0001.1	0010.0			100 50
0	6°00.0	6°01.0	5°43.6	0.0 - 0.0	6.0 - 2.5	12.0 - 4.9	0	6°15.0	6°16.0	5°57.9	0.0 - 0.0	6.0 - 2.5	12.0 - 5.1	0	6°30.0	6°31.1	6°12.2	0.0 - 0.0	6.0 - 2.6	12.0 - 5.3
$\begin{vmatrix} 1 \\ 2 \end{vmatrix}$	6°00.2 6°00.5	6°01.2 6°01.5	5°43.8 5°44.1	0.1 - 0.0 0.2 - 0.1	6.1 - 2.5 6.2 - 2.5	12.1 - 4.9 $12.2 - 5.0$	$\begin{vmatrix} 1 \\ 2 \end{vmatrix}$	6°15.2 6°15.5	6°16.3 6°16.5	5°58.2 5°58.4	0.1 - 0.0 0.2 - 0.1	6.1 - 2.6 6.2 - 2.6	12.1 - 5.1 $12.2 - 5.2$	$\begin{vmatrix} 1 \\ 2 \end{vmatrix}$	6°30.2 6°30.5	6°31.3 6°31.6	6°12.5 6°12.7	0.1 - 0.0 0.2 - 0.1	6.1 - 2.7 $6.2 - 2.7$	12.1 - 5.3 12.2 - 5.4
3	6°00.8	6°01.7	5°44.3	0.2 - 0.1	6.3 - 2.6	12.3 - 5.0	3	6°15.8	6°16.8	5°58.6	0.2 - 0.1	6.2 - 2.0 $6.3 - 2.7$	12.2 - 5.2 $12.3 - 5.2$	3	6°30.8	6°31.8	6°12.7	0.2 - 0.1	6.3 - 2.8	12.3 - 5.4
4	6°01.0	6°02.0	5°44.6	0.4 - 0.2	6.4 - 2.6	12.4 - 5.1	4	6°16.0	6°17.0	5°58.9	0.4 - 0.2	6.4 - 2.7	12.4 - 5.3	4	6°31.0	6°32.1	6°13.2	0.4 - 0.2	6.4 - 2.8	12.4 - 5.5
5	6°01.2	6°02.2	5°44.8	0.5 - 0.2	6.5 - 2.7	12.5 - 5.1	5	6°16.2	6°17.3	5°59.1	0.5 - 0.2	6.5 - 2.8	12.5 - 5.3	5	6°31.2	6°32.3	6°13.4	0.5 - 0.2	6.5 - 2.9	12.5 - 5.5
6	6°01.5	6°02.5	5°45.0	0.6 - 0.2	6.6 - 2.7	12.6 - 5.1	6	6°16.5	6°17.5	5°59.3	0.6 - 0.3	6.6 - 2.8	12.6 - 5.4	6	6°31.5	6°32.6	6°13.7	0.6 - 0.3	6.6 - 2.9	12.6 - 5.6
7	6°01.8	6°02.7	5°45.3	0.7 - 0.3	6.7 - 2.7	12.7 - 5.2	7	6°16.8	6°17.8	5°59.6	0.7 - 0.3	6.7 - 2.8	12.7 - 5.4	7	6°31.8	$6^{\circ}32.8$	6°13.9	0.7 - 0.3	6.7 - 3.0	12.7 - 5.6
8	6°02.0	6°03.0	5°45.5	0.8 - 0.3	6.8 - 2.8	12.8 - 5.2	8	$6^{\circ}17.0$	6°18.0	5°59.8	0.8 - 0.3	6.8 - 2.9	12.8 - 5.4	8	6°32.0	6°33.1	6°14.1	0.8 - 0.4	6.8 - 3.0	12.8 - 5.7
9	6°02.2	6°03.2	5°45.7	0.9 - 0.4	6.9 - 2.8	12.9 - 5.3	9	$6^{\circ}17.2$	6°18.3	6°00.1	0.9 - 0.4	6.9 - 2.9	12.9 - 5.5	9	6°32.2	6°33.3	6°14.4	0.9 - 0.4	6.9 - 3.0	12.9 - 5.7
10	6°02.5	6°03.5	5°46.0	1.0 - 0.4	7.0 - 2.9	13.0 - 5.3	10	$6^{\circ}17.5$	6°18.5	6°00.3	1.0 - 0.4	7.0 - 3.0	13.0 - 5.5	10	6°32.5	$6^{\circ}33.6$	6°14.6	1.0 - 0.4	7.0 - 3.1	13.0 - 5.7
11	6°02.8	6°03.7	5°46.2	1.1 - 0.4	7.1 - 2.9	13.1 - 5.3	11	6°17.8	6°18.8	6°00.5	1.1 - 0.5	7.1 - 3.0	13.1 - 5.6	11	6°32.8	6°33.8	6°14.9	1.1 - 0.5	7.1 - 3.1	13.1 - 5.8
12	6°03.0	6°04.0	5°46.5	1.2 - 0.5	7.2 - 2.9	13.2 - 5.4	12	6°18.0	6°19.0	6°00.8	1.2 - 0.5	7.2 - 3.1	13.2 - 5.6	12	6°33.0	6°34.1	6°15.1	1.2 - 0.5	7.2 - 3.2	13.2 - 5.8
13	6°03.2	6°04.2	5°46.7	1.3 - 0.5	7.3 - 3.0	13.3 - 5.4	13	6°18.2	6°19.3	6°01.0	1.3 - 0.6	7.3 - 3.1	13.3 - 5.7	13	6°33.2	6°34.3	6°15.3	1.3 - 0.6	7.3 - 3.2	13.3 - 5.9
14	6°03.5	6°04.5	5°46.9	1.4 - 0.6	7.4 - 3.0	13.4 - 5.5	14	6°18.5	6°19.5	6°01.3	1.4 - 0.6	7.4 - 3.1	13.4 - 5.7	14	6°33.5	6°34.6	6°15.6	1.4 - 0.6	7.4 - 3.3	13.4 - 5.9
15 16	6°03.8 6°04.0	6°04.7 6°05.0	5°47.2 5°47.4	1.5 - 0.6 1.6 - 0.7	7.5 - 3.1 7.6 - 3.1	13.5 - 5.5 13.6 - 5.6	15 16	6°18.8 6°19.0	6°19.8 6°20.0	6°01.5 6°01.7	1.5 - 0.6 1.6 - 0.7	7.5 - 3.2 7.6 - 3.2	13.5 - 5.7 13.6 - 5.8	15 16	6°33.8 6°34.0	6°34.8 6°35.1	6°15.8 6°16.1	1.5 - 0.7 1.6 - 0.7	7.5 - 3.3 7.6 - 3.4	13.5 - 6.0 13.6 - 6.0
17	6°04.3	6°05.2	5°47.7	1.6 - 0.7	7.6 - 3.1	13.7 - 5.6	17	6°19.0	6°20.3	6°02.0	1.0 - 0.7	7.7 - 3.3	13.7 - 5.8	17	6°34.3	$6^{\circ}35.3$	6°16.3	1.7 - 0.8	7.0 - 3.4	13.7 - 6.1
18	6°04.5	6°05.5	5°47.9	1.8 - 0.7	7.8 - 3.1	13.8 - 5.6	18	6°19.5	6°20.5	6°02.2	1.8 - 0.8	7.8 - 3.3	13.8 - 5.9	18	6°34.5	6°35.6	6°16.5	1.8 - 0.8	7.8 - 3.4	13.8 - 6.1
19	6°04.7	6°05.7	5°48.1	1.9 - 0.8	7.9 - 3.2	13.9 - 5.7	19	6°19.7	6°20.8	6°02.5	1.9 - 0.8	7.9 - 3.4	13.9 - 5.9	19	6°34.8	6°35.8	6°16.8	1.9 - 0.8	7.9 - 3.5	13.9 - 6.1
20	6°05.0	6°06.0	5°48.4	2.0 - 0.8	8.0 - 3.3	14.0 - 5.7	20	6°20.0	6°21.0	6°02.7	2.0 - 0.8	8.0 - 3.4	14.0 - 6.0	20	6°35.0	6°36.1	6°17.0	2.0 - 0.9	8.0 - 3.5	14.0 - 6.2
21	6°05.3	6°06.2	5°48.6	2.1 - 0.9	8.1 - 3.3	14.1 - 5.8	21	$6^{\circ}20.3$	6°21.3	6°02.9	2.1 - 0.9	8.1 - 3.4	14.1 - 6.0	21	6°35.3	6°36.3	6°17.2	2.1 - 0.9	8.1 - 3.6	14.1 - 6.2
22	6°05.5	6°06.5	5°48.8	2.2 - 0.9	8.2 - 3.3	14.2 - 5.8	22	$6^{\circ}20.5$	6°21.5	6°03.2	2.2 - 0.9	8.2 - 3.5	14.2 - 6.0	22	6°35.5	6°36.6	6°17.5	2.2 - 1.0	8.2 - 3.6	14.2 - 6.3
23	6°05.7	6°06.7	5°49.1	2.3 - 0.9	8.3 - 3.4	14.3 - 5.8	23	$6^{\circ}20.7$	6°21.8	6°03.4	2.3 - 1.0	8.3 - 3.5	14.3 - 6.1	23	6°35.7	6°36.8	6°17.7	2.3 - 1.0	8.3 - 3.7	14.3 - 6.3
24	6°06.0	6°07.0	5°49.3	2.4 - 1.0	8.4 - 3.4	14.4 - 5.9	24	$6^{\circ}21.0$	6°22.0	6°03.6	2.4 - 1.0	8.4 - 3.6	14.4 - 6.1	24	6°36.0	6°37.1	6°18.0	2.4 - 1.1	8.4 - 3.7	14.4 - 6.4
25	6°06.3	6°07.3	5°49.6	2.5 - 1.0	8.5 - 3.5	14.5 - 5.9	25	$6^{\circ}21.3$	6°22.3	6°03.9	2.5 - 1.1	8.5 - 3.6	14.5 - 6.2	25	6°36.3	6°37.3	6°18.2	2.5 - 1.1	8.5 - 3.8	14.5 - 6.4
26	6°06.5	6°07.5	5°49.8	2.6 - 1.1	8.6 - 3.5	14.6 - 6.0	26	$6^{\circ}21.5$	6°22.5	6°04.1	2.6 - 1.1	8.6 - 3.7	14.6 - 6.2	26	6°36.5	6°37.6	6°18.4	2.6 - 1.1	8.6 - 3.8	14.6 - 6.4
27	6°06.7	6°07.8	5°50.0	2.7 - 1.1	8.7 - 3.6	14.7 - 6.0	27	6°21.7	6°22.8	6°04.4	2.7 - 1.1	8.7 - 3.7	14.7 - 6.2	27	6°36.7	6°37.8	6°18.7	2.7 - 1.2	8.7 - 3.8	14.7 - 6.5
28 29	6°07.0	6°08.0	5°50.3	2.8 - 1.1	8.8 - 3.6	14.8 - 6.0	28	$6^{\circ}22.0$ $6^{\circ}22.3$	6°23.0	6°04.6	2.8 - 1.2	8.8 - 3.7	14.8 - 6.3	28 29	6°37.0	6°38.1 6°38.3	6°18.9 6°19.2	2.8 - 1.2	8.8 - 3.9	14.8 - 6.5
30	6°07.3 6°07.5	6°08.3 6°08.5	5°50.5 5°50.8	2.9 - 1.2 3.0 - 1.2	8.9 - 3.6 9.0 - 3.7	14.9 - 6.1 15.0 - 6.1	29 30	6°22.5	6°23.3 6°23.5	6°04.8 6°05.1	2.9 - 1.2 3.0 - 1.3	8.9 - 3.8 9.0 - 3.8	14.9 - 6.3 15.0 - 6.4	30	6°37.3 6°37.5	6°38.6	6°19.2 6°19.4	2.9 - 1.3 3.0 - 1.3	8.9 - 3.9 9.0 - 4.0	14.9 - 6.6 15.0 - 6.6
31	6°07.7	6°08.8	5°51.0	3.1 - 1.3	9.0 - 3.7	15.1 - 6.2	31	6°22.7	6°23.8	6°05.3	3.1 - 1.3	9.0 - 3.8	15.1 - 6.4	31	6°37.7	6°38.8	6°19.4	3.1 - 1.4	9.0 - 4.0	15.1 - 6.7
32	6°08.0	6°09.0	5°51.2	3.2 - 1.3	9.2 - 3.8	15.2 - 6.2	32	6°23.0	6°24.0	6°05.6	3.2 - 1.4	9.2 - 3.9	15.2 - 6.5	32	6°38.0	6°39.1	6°19.9	3.2 - 1.4	9.2 - 4.1	15.2 - 6.7
33	6°08.3	6°09.3	5°51.5	3.3 - 1.3	9.3 - 3.8	15.3 - 6.2	33	6°23.3	6°24.3	6°05.8	3.3 - 1.4	9.3 - 4.0	15.3 - 6.5	33	6°38.3	6°39.3	6°20.1	3.3 - 1.5	9.3 - 4.1	15.3 - 6.8
34	6°08.5	6°09.5	5°51.7	3.4 - 1.4	9.4 - 3.8	15.4 - 6.3	34	$6^{\circ}23.5$	6°24.5	6°06.0	3.4 - 1.4	9.4 - 4.0	15.4 - 6.5	34	6°38.5	6°39.6	6°20.3	3.4 - 1.5	9.4 - 4.2	15.4 - 6.8
35	6°08.7	6°09.8	5°52.0	3.5 - 1.4	9.5 - 3.9	15.5 - 6.3	35	$6^{\circ}23.7$	6°24.8	6°06.3	3.5 - 1.5	9.5 - 4.0	15.5 - 6.6	35	6°38.7	6°39.8	$6^{\circ}20.6$	3.5 - 1.5	9.5 - 4.2	15.5 - 6.8
36	6°09.0	6°10.0	$5^{\circ}52.2$	3.6 - 1.5	9.6 - 3.9	15.6 - 6.4	36	$6^{\circ}24.0$	6°25.0	6°06.5	3.6 - 1.5	9.6 - 4.1	15.6 - 6.6	36	6°39.0	6°40.1	$6^{\circ}20.8$	3.6 - 1.6	9.6 - 4.2	15.6 - 6.9
37	6°09.3	6°10.3	5°52.4	3.7 - 1.5	9.7 - 4.0	15.7 - 6.4	37	$6^{\circ}24.3$	6°25.3	6°06.7	3.7 - 1.6	9.7 - 4.1	15.7 - 6.7	37	6°39.3	6°40.3	6°21.1	3.7 - 1.6	9.7 - 4.3	15.7 - 6.9
38	6°09.5	6°10.5	5°52.7	3.8 - 1.6	9.8 - 4.0	15.8 - 6.5	38	6°24.5	6°25.6	6°07.0	3.8 - 1.6	9.8 - 4.2	15.8 - 6.7	38	6°39.5	6°40.6	6°21.3	3.8 - 1.7	9.8 - 4.3	15.8 - 7.0
39	6°09.7	6°10.8	5°52.9	3.9 - 1.6	9.9 - 4.0	15.9 - 6.5	39	6°24.7	6°25.8	6°07.2	3.9 - 1.7	9.9 - 4.2	15.9 - 6.8	39	6°39.7	6°40.8	6°21.5	3.9 - 1.7	9.9 - 4.4	15.9 - 7.0
40	6°10.0	6°11.0	5°53.1 5°53.4	4.0 - 1.6	10.0 - 4.1	16.0 - 6.5	40	6°25.0 6°25.3	6°26.1 6°26.3	6°07.5 6°07.7	4.0 - 1.7	10.0 - 4.3	16.0 - 6.8	40	6°40.0	6°41.1 6°41.3	6°21.8	4.0 - 1.8	10.0 - 4.4	16.0 - 7.1
41	6°10.3 6°10.5	6°11.3 6°11.5	5°53.6	4.1 - 1.7 4.2 - 1.7	10.1 - 4.1 $10.2 - 4.2$	16.1 - 6.6 16.2 - 6.6	41 42	6°25.5	6°26.6	6°07.9	4.1 - 1.7 4.2 - 1.8	10.1 - 4.3 $10.2 - 4.3$	16.1 - 6.8 16.2 - 6.9	$\begin{array}{ c c } & 41 \\ & 42 \end{array}$	6°40.2 6°40.5	6°41.6	$6^{\circ}22.0$ $6^{\circ}22.3$	4.1 - 1.8 4.2 - 1.9	10.1 - 4.5 $10.2 - 4.5$	16.1 - 7.1 16.2 - 7.2
42 43	6°10.5	6°11.8	5°53.9	4.2 - 1.7	10.2 - 4.2 $10.3 - 4.2$	16.2 - 6.6	43	6°25.7	6°26.8	6°08.2	4.2 - 1.8	10.2 - 4.3	16.2 - 6.9	42	6°40.7	$6^{\circ}41.8$	$6^{\circ}22.5$ $6^{\circ}22.5$	4.2 - 1.9	10.2 - 4.5 $10.3 - 4.5$	16.2 - 7.2
44	6°11.0	6°12.0	5°54.1	4.4 - 1.8	10.3 - 4.2	16.4 - 6.7	44	6°26.0	6°27.1	6°08.4	4.4 - 1.9	10.4 - 4.4	16.4 - 7.0	44	6°41.0	$6^{\circ}42.1$	$6^{\circ}22.7$	4.4 - 1.9	10.4 - 4.6	16.4 - 7.2
45	6°11.2	6°12.3	5°54.3	4.5 - 1.8	10.5 - 4.3	16.5 - 6.7	45	6°26.2	6°27.3	6°08.7	4.5 - 1.9	10.5 - 4.5	16.5 - 7.0	45	6°41.2	6°42.3	6°23.0	4.5 - 2.0	10.5 - 4.6	16.5 - 7.3
46	6°11.5	6°12.5	5°54.6	4.6 - 1.9	10.6 - 4.3	16.6 - 6.8	46	$6^{\circ}26.5$	6°27.6	6°08.9	4.6 - 2.0	10.6 - 4.5	16.6 - 7.1	46	6°41.5	$6^{\circ}42.6$	$6^{\circ}23.2$	4.6 - 2.0	10.6 - 4.7	16.6 - 7.3
47	6°11.8	6°12.8	5°54.8	4.7 - 1.9	10.7 - 4.4	16.7 - 6.8	47	$6^{\circ}26.8$	6°27.8	6°09.1	4.7 - 2.0	10.7 - 4.5	16.7 - 7.1	47	6°41.8	$6^{\circ}42.8$	6°23.4	4.7 - 2.1	10.7 - 4.7	16.7 - 7.4
48	6°12.0	6°13.0	5°55.1	4.8 - 2.0	10.8 - 4.4	16.8 - 6.9	48	$6^{\circ}27.0$	6°28.1	6°09.4	4.8 - 2.0	10.8 - 4.6	16.8 - 7.1	48	6°42.0	6°43.1	$6^{\circ}23.7$	4.8 - 2.1	10.8 - 4.8	16.8 - 7.4
49	6°12.2	6°13.3	5°55.3	4.9 - 2.0	10.9 - 4.5	16.9 - 6.9	49	$6^{\circ}27.2$	6°28.3	6°09.6	4.9 - 2.1	10.9 - 4.6	16.9 - 7.2	49	6°42.2	6°43.3	6°23.9	4.9 - 2.2	10.9 - 4.8	16.9 - 7.5
50	6°12.5	6°13.5	5°55.5	5.0 - 2.0	11.0 - 4.5	17.0 - 6.9	50	$6^{\circ}27.5$	6°28.6	6°09.8	5.0 - 2.1	11.0 - 4.7	17.0 - 7.2	50	6°42.5	6°43.6	6°24.2	5.0 - 2.2	11.0 - 4.9	17.0 - 7.5
51	6°12.8	6°13.8	5°55.8	5.1 - 2.1	11.1 - 4.5	17.1 - 7.0	51	6°27.8	6°28.8	6°10.1	5.1 - 2.2	11.1 - 4.7	17.1 - 7.3	51	6°42.8	6°43.9	6°24.4	5.1 - 2.3	11.1 - 4.9	17.1 - 7.6
52	6°13.0	6°14.0	5°56.0	5.2 - 2.1	11.2 - 4.6	17.2 - 7.0	52	6°28.0	6°29.1	6°10.3	5.2 - 2.2	11.2 - 4.8	17.2 - 7.3	52	6°43.0	6°44.1	6°24.6	5.2 - 2.3	11.2 - 4.9	17.2 - 7.6
53	6°13.2	6°14.3	5°56.2	5.3 - 2.2	11.3 - 4.6	17.3 - 7.1	53	6°28.2	6°29.3	6°10.6	5.3 - 2.3	11.3 - 4.8	17.3 - 7.4	53	6°43.2	6°44.4	6°24.9	5.3 - 2.3	11.3 - 5.0	17.3 - 7.6
54 55	6°13.5	6°14.5 6°14.8	5°56.5	5.4 - 2.2 5.5 - 2.2	11.4 - 4.7	17.4 - 7.1	54	6°28.5 6°28.8	6°29.6 6°29.8	6°10.8 6°11.0	5.4 - 2.3	11.4 - 4.8	17.4 - 7.4	54 55	6°43.5 6°43.8	6°44.6 6°44.9	6°25.1	5.4 - 2.4 5.5 - 2.4	11.4 - 5.0	17.4 - 7.7
56 56	6°13.8 6°14.0	6°14.8 6°15.0	5°56.7 5°57.0	5.5 - 2.2 5.6 - 2.3	11.5 - 4.7 $11.6 - 4.7$	17.5 - 7.1 17.6 - 7.2	55 56	6°28.8 6°29.0	6°29.8 6°30.1	6°11.0 6°11.3	5.5 - 2.3 5.6 - 2.4	11.5 - 4.9 11.6 - 4.9	17.5 - 7.4 17.6 - 7.5	56	6°44.0	6°44.9 6°45.1	6°25.4 6°25.6	5.6 - 2.5	11.5 - 5.1 11.6 - 5.1	17.5 - 7.7 17.6 - 7.8
57	6°14.0	6°15.3	5°57.2	5.7 - 2.3	11.6 - 4.7	17.6 - 7.2	57	6°29.2	6°30.3	6°11.5	5.7 - 2.4	11.7 - 5.0	17.6 - 7.5	57	6°44.2	$6^{\circ}45.1$ $6^{\circ}45.4$	$6^{\circ}25.8$	5.7 - 2.5	11.0 - 5.1 $11.7 - 5.2$	17.7 - 7.8
58	6°14.5	6°15.5	5°57.4	5.8 - 2.4	11.8 - 4.8	17.8 - 7.3	58	6°29.5	6°30.6	6°11.8	5.8 - 2.5	11.8 - 5.0	17.8 - 7.6	58	6°44.5	6°45.6	6°26.1	5.8 - 2.6	11.8 - 5.2	17.8 - 7.9
59	6°14.8	6°15.8	5°57.7	5.9 - 2.4	11.9 - 4.9	17.9 - 7.3	59	6°29.8	6°30.8	6°12.0	5.9 - 2.5	11.9 - 5.1	17.9 - 7.6	59	6°44.8	6°45.9	6°26.3	5.9 - 2.6	11.9 - 5.3	17.9 - 7.9
_ 55	5 11.5	3 10.0	3 01.1	3.0 2.4	11.0 1.0	11.0 1.0		3 20.0	0 00.0	0 12.0	3.0 2.0	11.0 0.1	11.0 1.0		5 11.0	3 10.5	0 20.0	11 5.0 2.0	11.0 0.0	11.0 1.0

m	Sun	Aries	Moon		v and d corr	r	m	Sun	Aries	Moon		v and d corr	r	m	Sun	Aries	Moon		v and d corr	•
27	Plan.	00401	0000 5	0.0.00	0.0.00	100 55	28	Plan.	5001.1	00.40.0	0.0.00	0.0.00	100 57	29	Plan.	70100	00550			100 50
0	6°45.0	6°46.1	6°26.5	0.0 - 0.0	6.0 - 2.8	12.0 - 5.5	0	7°00.0	7°01.1	6°40.9	0.0 - 0.0	6.0 - 2.8	12.0 - 5.7	0	7°15.0	7°16.2	6°55.2	0.0 - 0.0	6.0 - 2.9	12.0 - 5.9
$\begin{vmatrix} 1 \\ 2 \end{vmatrix}$	6°45.2 6°45.5	6°46.4 6°46.6	6°26.8 6°27.0	0.1 - 0.0 0.2 - 0.1	6.1 - 2.8 6.2 - 2.8	12.1 - 5.5 12.2 - 5.6	$\begin{vmatrix} 1 \\ 2 \end{vmatrix}$	7°00.2 7°00.5	7°01.4 7°01.6	6°41.1 6°41.3	0.1 - 0.0 0.2 - 0.1	6.1 - 2.9 6.2 - 2.9	12.1 - 5.7 12.2 - 5.8	1 2	7°15.2 7°15.5	$7^{\circ}16.4$ $7^{\circ}16.7$	6°55.4 6°55.7	0.1 - 0.0 0.2 - 0.1	6.1 - 3.0 6.2 - 3.0	12.1 - 5.9 12.2 - 6.0
3	6°45.8	6°46.9	6°27.3	0.2 - 0.1	6.3 - 2.9	12.3 - 5.6	3	7°00.8	7°01.0	6°41.6	0.2 - 0.1	6.3 - 3.0	12.3 - 5.8	3	7°15.8	7°16.7	6°55.9	0.2 - 0.1	6.3 - 3.1	12.3 - 6.0
4	6°46.0	6°47.1	6°27.5	0.4 - 0.2	6.4 - 2.9	12.4 - 5.7	4	7°01.0	7°02.2	6°41.8	0.4 - 0.2	6.4 - 3.0	12.4 - 5.9	4	7°16.0	7°17.2	6°56.1	0.4 - 0.2	6.4 - 3.1	12.4 - 6.1
5	6°46.2	6°47.4	6°27.7	0.5 - 0.2	6.5 - 3.0	12.5 - 5.7	5	7°01.2	7°02.4	6°42.1	0.5 - 0.2	6.5 - 3.1	12.5 - 5.9	5	7°16.2	7°17.4	6°56.4	0.5 - 0.2	6.5 - 3.2	12.5 - 6.1
6	6°46.5	6°47.6	6°28.0	0.6 - 0.3	6.6 - 3.0	12.6 - 5.8	6	7°01.5	7°02.7	6°42.3	0.6 - 0.3	6.6 - 3.1	12.6 - 6.0	6	7°16.5	7°17.7	6°56.6	0.6 - 0.3	6.6 - 3.2	12.6 - 6.2
7	6°46.8	6°47.9	6°28.2	0.7 - 0.3	6.7 - 3.1	12.7 - 5.8	7	7°01.8	$7^{\circ}02.9$	6°42.5	0.7 - 0.3	6.7 - 3.2	12.7 - 6.0	7	7°16.8	$7^{\circ}17.9$	6°56.9	0.7 - 0.3	6.7 - 3.3	12.7 - 6.2
8	6°47.0	6°48.1	6°28.5	0.8 - 0.4	6.8 - 3.1	12.8 - 5.9	8	$7^{\circ}02.0$	$7^{\circ}03.2$	6°42.8	0.8 - 0.4	6.8 - 3.2	12.8 - 6.1	8	7°17.0	$7^{\circ}18.2$	6°57.1	0.8 - 0.4	6.8 - 3.3	12.8 - 6.3
9	6°47.2	6°48.4	6°28.7	0.9 - 0.4	6.9 - 3.2	12.9 - 5.9	9	$7^{\circ}02.2$	$7^{\circ}03.4$	6°43.0	0.9 - 0.4	6.9 - 3.3	12.9 - 6.1	9	7°17.2	$7^{\circ}18.4$	6°57.3	0.9 - 0.4	6.9 - 3.4	12.9 - 6.3
10	6°47.5	6°48.6	6°28.9	1.0 - 0.5	7.0 - 3.2	13.0 - 6.0	10	$7^{\circ}02.5$	7°03.7	6°43.3	1.0 - 0.5	7.0 - 3.3	13.0 - 6.2	10	7°17.5	$7^{\circ}18.7$	6°57.6	1.0 - 0.5	7.0 - 3.4	13.0 - 6.4
11	6°47.8	6°48.9	6°29.2	1.1 - 0.5	7.1 - 3.3	13.1 - 6.0	11	$7^{\circ}02.8$	7°03.9	6°43.5	1.1 - 0.5	7.1 - 3.4	13.1 - 6.2	11	7°17.8	7°18.9	6°57.8	1.1 - 0.5	7.1 - 3.5	13.1 - 6.4
12	6°48.0	6°49.1	6°29.4	1.2 - 0.6	7.2 - 3.3	13.2 - 6.0	12	$7^{\circ}03.0$	$7^{\circ}04.2$	6°43.7	1.2 - 0.6	7.2 - 3.4	13.2 - 6.3	12	7°18.0	7°19.2	6°58.0	1.2 - 0.6	7.2 - 3.5	13.2 - 6.5
13	6°48.2	6°49.4	6°29.7	1.3 - 0.6	7.3 - 3.3	13.3 - 6.1	13	7°03.2	7°04.4	6°44.0	1.3 - 0.6	7.3 - 3.5	13.3 - 6.3	13	7°18.2	7°19.4	6°58.3	1.3 - 0.6	7.3 - 3.6	13.3 - 6.5
14	6°48.5	6°49.6 6°49.9	6°29.9 6°30.1	1.4 - 0.6	7.4 - 3.4	13.4 - 6.1	14	7°03.5 7°03.8	7°04.7 7°04.9	6°44.2	1.4 - 0.7	7.4 - 3.5	13.4 - 6.4	14	7°18.5 7°18.8	7°19.7 7°19.9	6°58.5 6°58.8	1.4 - 0.7	7.4 - 3.6	13.4 - 6.6
15 16	6°48.8 6°49.0	6°50.1	6°30.4	1.5 - 0.7 1.6 - 0.7	7.5 - 3.4 7.6 - 3.5	13.5 - 6.2 13.6 - 6.2	15 16	7°04.0	7°04.9 7°05.2	6°44.4 6°44.7	1.5 - 0.7 1.6 - 0.8	7.5 - 3.6 7.6 - 3.6	13.5 - 6.4 13.6 - 6.5	15 16	7°19.0	7 19.9 7°20.2	6°59.0	1.5 - 0.7 1.6 - 0.8	7.5 - 3.7 7.6 - 3.7	13.5 - 6.6 13.6 - 6.7
17	6°49.3	6°50.4	6°30.4	1.7 - 0.8	7.0 - 3.5 7.7 - 3.5	13.7 - 6.3	17	7°04.0	7°05.4	6°44.9	1.7 - 0.8	7.7 - 3.7	13.7 - 6.5	17	7°19.0	7°20.2	6°59.0	1.7 - 0.8	7.0 - 3.7	13.7 - 6.7
18	6°49.5	6°50.4	6°30.8	1.8 - 0.8	7.8 - 3.6	13.8 - 6.3	18	7°04.5	7°05.4	6°45.2	1.8 - 0.9	7.8 - 3.7	13.8 - 6.6	18	7°19.5	7°20.7	6°59.5	1.8 - 0.9	7.8 - 3.8	13.8 - 6.8
19	6°49.8	6°50.9	6°31.1	1.9 - 0.9	7.9 - 3.6	13.9 - 6.4	19	7°04.7	7°05.9	6°45.4	1.9 - 0.9	7.9 - 3.8	13.9 - 6.6	19	7°19.7	7°21.0	6°59.7	1.9 - 0.9	7.9 - 3.9	13.9 - 6.8
20	6°50.0	6°51.1	6°31.3	2.0 - 0.9	8.0 - 3.7	14.0 - 6.4	20	7°05.0	7°06.2	6°45.6	2.0 - 0.9	8.0 - 3.8	14.0 - 6.6	20	7°20.0	$7^{\circ}21.2$	6°60.0	2.0 - 1.0	8.0 - 3.9	14.0 - 6.9
21	6°50.3	6°51.4	6°31.6	2.1 - 1.0	8.1 - 3.7	14.1 - 6.5	21	$7^{\circ}05.3$	$7^{\circ}06.4$	6°45.9	2.1 - 1.0	8.1 - 3.8	14.1 - 6.7	21	$7^{\circ}20.3$	$7^{\circ}21.5$	$7^{\circ}00.2$	2.1 - 1.0	8.1 - 4.0	14.1 - 6.9
22	6°50.5	6°51.6	6°31.8	2.2 - 1.0	8.2 - 3.8	14.2 - 6.5	22	$7^{\circ}05.5$	$7^{\circ}06.7$	6°46.1	2.2 - 1.0	8.2 - 3.9	14.2 - 6.7	22	$7^{\circ}20.5$	$7^{\circ}21.7$	$7^{\circ}00.4$	2.2 - 1.1	8.2 - 4.0	14.2 - 7.0
23	6°50.7	6°51.9	6°32.0	2.3 - 1.1	8.3 - 3.8	14.3 - 6.6	23	$7^{\circ}05.7$	$7^{\circ}06.9$	6°46.4	2.3 - 1.1	8.3 - 3.9	14.3 - 6.8	23	7°20.7	$7^{\circ}22.0$	7°00.7	2.3 - 1.1	8.3 - 4.1	14.3 - 7.0
24	6°51.0	6°52.1	6°32.3	2.4 - 1.1	8.4 - 3.9	14.4 - 6.6	24	7°06.0	7°07.2	6°46.6	2.4 - 1.1	8.4 - 4.0	14.4 - 6.8	24	7°21.0	$7^{\circ}22.2$	7°00.9	2.4 - 1.2	8.4 - 4.1	14.4 - 7.1
25	6°51.3	6°52.4	6°32.5	2.5 - 1.1	8.5 - 3.9	14.5 - 6.6	25	$7^{\circ}06.3$	$7^{\circ}07.4$	6°46.8	2.5 - 1.2	8.5 - 4.0	14.5 - 6.9	25	7°21.3	$7^{\circ}22.5$	$7^{\circ}01.1$	2.5 - 1.2	8.5 - 4.2	14.5 - 7.1
26	6°51.5	6°52.6	6°32.8	2.6 - 1.2	8.6 - 3.9	14.6 - 6.7	26	7°06.5	7°07.7	6°47.1	2.6 - 1.2	8.6 - 4.1	14.6 - 6.9	26	7°21.5	7°22.7	7°01.4	2.6 - 1.3	8.6 - 4.2	14.6 - 7.2
27	6°51.7	6°52.9	6°33.0	2.7 - 1.2	8.7 - 4.0	14.7 - 6.7	27	7°06.7	7°07.9	6°47.3	2.7 - 1.3	8.7 - 4.1	14.7 - 7.0	27	7°21.7	7°23.0	7°01.6	2.7 - 1.3	8.7 - 4.3	14.7 - 7.2
28 29	6°52.0 6°52.3	6°53.1 6°53.4	6°33.2 6°33.5	2.8 - 1.3 2.9 - 1.3	8.8 - 4.0 8.9 - 4.1	14.8 - 6.8 14.9 - 6.8	28 29	7°07.0 7°07.3	7°08.2 7°08.4	6°47.5 6°47.8	2.8 - 1.3 2.9 - 1.4	8.8 - 4.2 8.9 - 4.2	14.8 - 7.0 14.9 - 7.1	28 29	7°22.0 7°22.3	$7^{\circ}23.2$ $7^{\circ}23.5$	7°01.9 7°02.1	2.8 - 1.4 2.9 - 1.4	8.8 - 4.3 8.9 - 4.4	14.8 - 7.3
30	6°52.5	6°53.6	6°33.7	3.0 - 1.4	9.0 - 4.1	15.0 - 6.9	30	7°07.5	7°08.7	6°48.0	3.0 - 1.4	9.0 - 4.3	15.0 - 7.1	30	7°22.5	7°23.7	7°02.1	3.0 - 1.5	9.0 - 4.4	14.9 - 7.3 15.0 - 7.4
31	6°52.7	6°53.9	6°33.9	3.1 - 1.4	9.1 - 4.2	15.1 - 6.9	31	7°07.7	7°08.9	6°48.3	3.1 - 1.5	9.1 - 4.3	15.1 - 7.2	31	7°22.7	7°24.0	7°02.6	3.1 - 1.5	9.1 - 4.5	15.1 - 7.4
32	6°53.0	6°54.1	6°34.2	3.2 - 1.5	9.2 - 4.2	15.2 - 7.0	32	7°08.0	7°09.2	6°48.5	3.2 - 1.5	9.2 - 4.4	15.2 - 7.2	32	7°23.0	$7^{\circ}24.2$	7°02.8	3.2 - 1.6	9.2 - 4.5	15.2 - 7.5
33	6°53.3	6°54.4	6°34.4	3.3 - 1.5	9.3 - 4.3	15.3 - 7.0	33	7°08.3	7°09.4	6°48.7	3.3 - 1.6	9.3 - 4.4	15.3 - 7.3	33	7°23.3	7°24.5	7°03.1	3.3 - 1.6	9.3 - 4.6	15.3 - 7.5
34	6°53.5	6°54.6	6°34.7	3.4 - 1.6	9.4 - 4.3	15.4 - 7.1	34	$7^{\circ}08.5$	$7^{\circ}09.7$	6°49.0	3.4 - 1.6	9.4 - 4.5	15.4 - 7.3	34	$7^{\circ}23.5$	$7^{\circ}24.7$	$7^{\circ}03.3$	3.4 - 1.7	9.4 - 4.6	15.4 - 7.6
35	6°53.7	6°54.9	6°34.9	3.5 - 1.6	9.5 - 4.4	15.5 - 7.1	35	$7^{\circ}08.7$	$7^{\circ}09.9$	6°49.2	3.5 - 1.7	9.5 - 4.5	15.5 - 7.4	35	7°23.7	$7^{\circ}25.0$	$7^{\circ}03.5$	3.5 - 1.7	9.5 - 4.7	15.5 - 7.6
36	6°54.0	6°55.1	6°35.1	3.6 - 1.6	9.6 - 4.4	15.6 - 7.1	36	7°09.0	7°10.2	6°49.5	3.6 - 1.7	9.6 - 4.6	15.6 - 7.4	36	$7^{\circ}24.0$	$7^{\circ}25.2$	7°03.8	3.6 - 1.8	9.6 - 4.7	15.6 - 7.7
37	6°54.3	6°55.4	6°35.4	3.7 - 1.7	9.7 - 4.4	15.7 - 7.2	37	7°09.3	7°10.4	6°49.7	3.7 - 1.8	9.7 - 4.6	15.7 - 7.5	37	7°24.3	7°25.5	7°04.0	3.7 - 1.8	9.7 - 4.8	15.7 - 7.7
38	6°54.5	6°55.6	6°35.6	3.8 - 1.7	9.8 - 4.5	15.8 - 7.2	38	7°09.5	7°10.7	6°49.9	3.8 - 1.8	9.8 - 4.7	15.8 - 7.5	38	7°24.5	7°25.7	7°04.3	3.8 - 1.9	9.8 - 4.8	15.8 - 7.8
39	6°54.7	6°55.9	6°35.9	3.9 - 1.8	9.9 - 4.5	15.9 - 7.3	39	7°09.7	7°10.9	6°50.2	3.9 - 1.9	9.9 - 4.7	15.9 - 7.6	39	7°24.7	7°26.0	7°04.5	3.9 - 1.9	9.9 - 4.9	15.9 - 7.8
40 41	6°55.0 6°55.2	6°56.1 6°56.4	6°36.1 6°36.3	4.0 - 1.8 4.1 - 1.9	10.0 - 4.6 10.1 - 4.6	16.0 - 7.3 16.1 - 7.4	40	7°10.0 7°10.3	7°11.2 7°11.4	6°50.4 6°50.6	4.0 - 1.9 4.1 - 1.9	10.0 - 4.8 10.1 - 4.8	16.0 - 7.6 16.1 - 7.6	$\begin{array}{ c c c } 40 \\ 41 \end{array}$	7°25.0 7°25.3	$7^{\circ}26.2$ $7^{\circ}26.5$	7°04.7 7°05.0	4.0 - 2.0 4.1 - 2.0	10.0 - 4.9 10.1 - 5.0	16.0 - 7.9 16.1 - 7.9
41	6°55.5	6°56.6	6°36.6	4.1 - 1.9	10.1 - 4.0 $10.2 - 4.7$	16.2 - 7.4	41	7°10.5	7°11.4 7°11.7	6°50.9	4.1 - 1.9	10.1 - 4.8	16.1 - 7.6	41	7°25.5	7°26.7	7°05.0	4.1 - 2.0	10.1 - 5.0 $10.2 - 5.0$	16.2 - 8.0
43	6°55.7	6°56.9	6°36.8	4.3 - 2.0	10.3 - 4.7	16.3 - 7.5	43	7°10.7	7°11.9	6°51.1	4.3 - 2.0	10.3 - 4.9	16.3 - 7.7	43	7°25.7	7°27.0	7°05.4	4.3 - 2.1	10.3 - 5.1	16.3 - 8.0
44	6°56.0	6°57.1	6°37.0	4.4 - 2.0	10.4 - 4.8	16.4 - 7.5	44	7°11.0	7°12.2	6°51.4	4.4 - 2.1	10.4 - 4.9	16.4 - 7.8	44	7°26.0	7°27.2	7°05.7	4.4 - 2.2	10.4 - 5.1	16.4 - 8.1
45	6°56.2	6°57.4	6°37.3	4.5 - 2.1	10.5 - 4.8	16.5 - 7.6	45	7°11.2	$7^{\circ}12.4$	6°51.6	4.5 - 2.1	10.5 - 5.0	16.5 - 7.8	45	7°26.2	7°27.5	7°05.9	4.5 - 2.2	10.5 - 5.2	16.5 - 8.1
46	$6^{\circ}56.5$	$6^{\circ}57.6$	$6^{\circ}37.5$	4.6 - 2.1	10.6 - 4.9	16.6 - 7.6	46	$7^{\circ}11.5$	$7^{\circ}12.7$	6°51.8	4.6 - 2.2	10.6 - 5.0	16.6 - 7.9	46	$7^{\circ}26.5$	$7^{\circ}27.7$	$7^{\circ}06.2$	4.6 - 2.3	10.6 - 5.2	16.6 - 8.2
47	6°56.8	6°57.9	6°37.8	4.7 - 2.2	10.7 - 4.9	16.7 - 7.7	47	7°11.8	$7^{\circ}12.9$	6°52.1	4.7 - 2.2	10.7 - 5.1	16.7 - 7.9	47	$7^{\circ}26.8$	$7^{\circ}28.0$	7°06.4	4.7 - 2.3	10.7 - 5.3	16.7 - 8.2
48	6°57.0	6°58.1	6°38.0	4.8 - 2.2	10.8 - 5.0	16.8 - 7.7	48	$7^{\circ}12.0$	7°13.2	6°52.3	4.8 - 2.3	10.8 - 5.1	16.8 - 8.0	48	7°27.0	$7^{\circ}28.2$	7°06.6	4.8 - 2.4	10.8 - 5.3	16.8 - 8.3
49	6°57.2	6°58.4	6°38.2	4.9 - 2.2	10.9 - 5.0	16.9 - 7.7	49	7°12.2	7°13.4	6°52.6	4.9 - 2.3	10.9 - 5.2	16.9 - 8.0	49	7°27.2	7°28.5	7°06.9	4.9 - 2.4	10.9 - 5.4	16.9 - 8.3
50	6°57.5	6°58.6	6°38.5	5.0 - 2.3	11.0 - 5.0	17.0 - 7.8	50	7°12.5	7°13.7	6°52.8	5.0 - 2.4	11.0 - 5.2	17.0 - 8.1	50	7°27.5	7°28.7	7°07.1	5.0 - 2.5	11.0 - 5.4	17.0 - 8.4
51	6°57.8	6°58.9	6°38.7	5.1 - 2.3	11.1 - 5.1	17.1 - 7.8	51	7°12.8	7°13.9	6°53.0	5.1 - 2.4	11.1 - 5.3	17.1 - 8.1	51	7°27.8	7°29.0	7°07.4	5.1 - 2.5	11.1 - 5.5	17.1 - 8.4
52 53	6°58.0 6°58.2	6°59.1 6°59.4	6°39.0 6°39.2	5.2 - 2.4 5.3 - 2.4	11.2 - 5.1	17.2 - 7.9	52 53	7°13.0 7°13.2	7°14.2 7°14.4	6°53.3 6°53.5	5.2 - 2.5 5.3 - 2.5	11.2 - 5.3 11.3 - 5.4	17.2 - 8.2	52 53	7°28.0 7°28.2	7°29.2 7°29.5	7°07.6 7°07.8	5.2 - 2.6 5.3 - 2.6	11.2 - 5.5	17.2 - 8.5 17.3 - 8.5
54	6°58.5	6°59.4 6°59.6	6°39.4	5.4 - 2.5	11.3 - 5.2 $11.4 - 5.2$	17.3 - 7.9 17.4 - 8.0	54	7°13.5	7 14.4 7°14.7	6°53.8	5.4 - 2.6	11.3 - 5.4 $11.4 - 5.4$	17.3 - 8.2 17.4 - 8.3	54	7°28.5	7°29.5 7°29.7	7°07.8 7°08.1	5.4 - 2.7	11.3 - 5.6 $11.4 - 5.6$	17.3 - 8.5
55	6°58.8	6°59.9	6°39.4	5.4 - 2.5	11.4 - 5.2 $11.5 - 5.3$	17.4 - 8.0	55	7°13.8	7°14.7 7°14.9	6°54.0	5.5 - 2.6	11.4 - 5.4	17.4 - 8.3	55	7°28.8	7°30.0	7°08.1	5.5 - 2.7	11.4 - 5.0 $11.5 - 5.7$	17.5 - 8.6
56	6°59.0	7°00.1	6°39.9	5.6 - 2.6	11.6 - 5.3	17.6 - 8.1	56	7°14.0	7°15.2	6°54.2	5.6 - 2.7	11.6 - 5.5	17.6 - 8.4	56	7°29.0	7°30.2	7°08.5	5.6 - 2.8	11.6 - 5.7	17.6 - 8.7
57	6°59.2	7°00.4	6°40.2	5.7 - 2.6	11.7 - 5.4	17.7 - 8.1	57	7° 14.2	7°15.4	6°54.5	5.7 - 2.7	11.7 - 5.6	17.7 - 8.4	57	7°29.2	7°30.5	7°08.8	5.7 - 2.8	11.7 - 5.8	17.7 - 8.7
58	6°59.5	7°00.6	6°40.4	5.8 - 2.7	11.8 - 5.4	17.8 - 8.2	58	7° 14.5	7°15.7	6°54.7	5.8 - 2.8	11.8 - 5.6	17.8 - 8.5	58	7°29.5	7°30.7	7°09.0	5.8 - 2.9	11.8 - 5.8	17.8 - 8.8
59	6°59.8	7°00.9	6°40.6	5.9 - 2.7	11.9 - 5.5	17.9 - 8.2	59	7°14.8	7°15.9	6°54.9	5.9 - 2.8	11.9 - 5.7	17.9 - 8.5	59	7°29.8	7°31.0	7°09.3	5.9 - 2.9	11.9 - 5.9	17.9 - 8.8
				· · · · · ·				-					. *							

m	Sun	Aries	Moon		v and d corr	r	m	Sun	Aries	Moon		v and d corr	r	m	Sun	Aries	Moon		v and d corr	r
30	Plan.	<del>-</del> 0010	<del>-</del> 000 F			120 01	31	Plan.	=0.40.0	<del>-</del> 0.00 0			12.0	32	Plan.	0001.0	<del>-</del> 0.00 4			122 25
0	7°30.0	7°31.2	7°09.5	0.0 - 0.0	6.0 - 3.0	12.0 - 6.1	0	7°45.0	7°46.3	7°23.8	0.0 - 0.0	6.0 - 3.2	12.0 - 6.3	0	8°00.0	8°01.3	7°38.1	0.0 - 0.0	6.0 - 3.3	12.0 - 6.5
$\begin{vmatrix} 1 \\ 2 \end{vmatrix}$	7°30.2 7°30.5	7°31.5 7°31.7	7°09.7 7°10.0	0.1 - 0.1 0.2 - 0.1	6.1 - 3.1 6.2 - 3.2	12.1 - 6.2 12.2 - 6.2	$\begin{vmatrix} 1 \\ 2 \end{vmatrix}$	7° 45.2 7° 45.5	7°46.5 7°46.8	7°24.1 7°24.3	0.1 - 0.1 0.2 - 0.1	6.1 - 3.2 6.2 - 3.3	12.1 - 6.4 12.2 - 6.4	1 2	8°00.2 8°00.5	8°01.6 8°01.8	7°38.4 7°38.6	0.1 - 0.1 0.2 - 0.1	6.1 - 3.3 6.2 - 3.4	12.1 - 6.6 12.2 - 6.6
3	7°30.8	7°32.0	7°10.0	0.2 - 0.1	6.3 - 3.2	12.3 - 6.3	3	7°45.7	7°47.0	7°24.5	0.2 - 0.1	6.3 - 3.3	12.3 - 6.5	3	8°00.7	8°02.1	7°38.8	0.2 - 0.1	6.3 - 3.4	12.3 - 6.7
4	7°31.0	7°32.2	7°10.2	0.4 - 0.2	6.4 - 3.3	12.4 - 6.3	4	7°46.0	7°47.3	7°24.8	0.4 - 0.2	6.4 - 3.4	12.4 - 6.5	4	8°01.0	8°02.3	7°39.1	0.4 - 0.2	6.4 - 3.5	12.4 - 6.7
5	7°31.2	7°32.5	7°10.7	0.5 - 0.3	6.5 - 3.3	12.5 - 6.4	5	7°46.2	7°47.5	7°25.0	0.5 - 0.3	6.5 - 3.4	12.5 - 6.6	5	8°01.3	8°02.6	7°39.3	0.5 - 0.3	6.5 - 3.5	12.5 - 6.8
6	7°31.5	7°32.7	7°10.9	0.6 - 0.3	6.6 - 3.4	12.6 - 6.4	6	7°46.5	7°47.8	7°25.2	0.6 - 0.3	6.6 - 3.5	12.6 - 6.6	6	8°01.5	8°02.8	7°39.6	0.6 - 0.3	6.6 - 3.6	12.6 - 6.8
7	7°31.7	7°33.0	7°11.2	0.7 - 0.4	6.7 - 3.4	12.7 - 6.5	7	$7^{\circ}46.8$	7°48.0	7°25.5	0.7 - 0.4	6.7 - 3.5	12.7 - 6.7	7	8°01.8	8°03.1	7°39.8	0.7 - 0.4	6.7 - 3.6	12.7 - 6.9
8	7°32.0	7°33.2	7°11.4	0.8 - 0.4	6.8 - 3.5	12.8 - 6.5	8	$7^{\circ}47.0$	7°48.3	7°25.7	0.8 - 0.4	6.8 - 3.6	12.8 - 6.7	8	8°02.0	8°03.3	7°40.0	0.8 - 0.4	6.8 - 3.7	12.8 - 6.9
9	7°32.2	7°33.5	7°11.6	0.9 - 0.5	6.9 - 3.5	12.9 - 6.6	9	$7^{\circ}47.2$	7°48.5	7°26.0	0.9 - 0.5	6.9 - 3.6	12.9 - 6.8	9	8°02.2	8°03.6	7°40.3	0.9 - 0.5	6.9 - 3.7	12.9 - 7.0
10	7°32.5	7°33.7	7°11.9	1.0 - 0.5	7.0 - 3.6	13.0 - 6.6	10	$7^{\circ}47.5$	7°48.8	$7^{\circ}26.2$	1.0 - 0.5	7.0 - 3.7	13.0 - 6.8	10	8°02.5	$8^{\circ}03.8$	7°40.5	1.0 - 0.5	7.0 - 3.8	13.0 - 7.0
11	7°32.8	7°34.0	7°12.1	1.1 - 0.6	7.1 - 3.6	13.1 - 6.7	11	$7^{\circ}47.7$	7°49.0	7°26.4	1.1 - 0.6	7.1 - 3.7	13.1 - 6.9	11	8°02.7	8°04.1	7°40.8	1.1 - 0.6	7.1 - 3.8	13.1 - 7.1
12	7°33.0	7°34.2	$7^{\circ}12.4$	1.2 - 0.6	7.2 - 3.7	13.2 - 6.7	12	7°48.0	7°49.3	7°26.7	1.2 - 0.6	7.2 - 3.8	13.2 - 6.9	12	8°03.0	8°04.3	7°41.0	1.2 - 0.7	7.2 - 3.9	13.2 - 7.1
13	7°33.3	7°34.5	7°12.6	1.3 - 0.7	7.3 - 3.7	13.3 - 6.8	13	7°48.2	7°49.5	7°26.9	1.3 - 0.7	7.3 - 3.8	13.3 - 7.0	13	8°03.3	8°04.6	7°41.2	1.3 - 0.7	7.3 - 4.0	13.3 - 7.2
14	7°33.5	7°34.7	7°12.8	1.4 - 0.7	7.4 - 3.8	13.4 - 6.8	14	7°48.5	7°49.8	7°27.2	1.4 - 0.7	7.4 - 3.9	13.4 - 7.0	14	8°03.5	8°04.8	7°41.5	1.4 - 0.8	7.4 - 4.0	13.4 - 7.3
15 16	7°33.8 7°34.0	7°35.0 7°35.2	7°13.1 7°13.3	1.5 - 0.8 1.6 - 0.8	7.5 - 3.8 7.6 - 3.9	13.5 - 6.9 13.6 - 6.9	15 16	7°48.8 7°49.0	7°50.0 7°50.3	7°27.4 7°27.6	1.5 - 0.8 1.6 - 0.8	7.5 - 3.9 7.6 - 4.0	13.5 - 7.1	15 16	8°03.8 8°04.0	8°05.1 8°05.3	7°41.7 7°42.0	1.5 - 0.8 1.6 - 0.9	7.5 - 4.1 7.6 - 4.1	13.5 - 7.3 13.6 - 7.4
17	7°34.3	7°35.5	7°13.6	1.0 - 0.8	7.6 - 3.9 7.7 - 3.9	13.7 - 7.0	17	7°49.0	7°50.5	7°27.9	1.7 - 0.9	7.7 - 4.0	13.6 - 7.1 13.7 - 7.2	17	8°04.0	8°05.6	7°42.0	1.0 - 0.9	7.0 - 4.1 $7.7 - 4.2$	13.7 - 7.4
18	7°34.5	7°35.7	7°13.8	1.8 - 0.9	7.8 - 4.0	13.8 - 7.0	18	7°49.5	7°50.8	7°28.1	1.8 - 0.9	7.8 - 4.1	13.8 - 7.2	18	8°04.5	8°05.8	7°42.4	1.8 - 1.0	7.8 - 4.2	13.8 - 7.5
19	7°34.8	7°36.0	7°14.0	1.9 - 1.0	7.9 - 4.0	13.9 - 7.1	19	7°49.8	7°51.0	7°28.4	1.9 - 1.0	7.9 - 4.1	13.9 - 7.3	19	8°04.8	8°06.1	7°42.7	1.9 - 1.0	7.9 - 4.3	13.9 - 7.5
20	7°35.0	7°36.2	7°14.3	2.0 - 1.0	8.0 - 4.1	14.0 - 7.1	20	7°50.0	7°51.3	7°28.6	2.0 - 1.1	8.0 - 4.2	14.0 - 7.4	20	8°05.0	8°06.3	7°42.9	2.0 - 1.1	8.0 - 4.3	14.0 - 7.6
21	7°35.3	7°36.5	7°14.5	2.1 - 1.1	8.1 - 4.1	14.1 - 7.2	21	$7^{\circ}50.3$	7°51.5	7°28.8	2.1 - 1.1	8.1 - 4.3	14.1 - 7.4	21	8°05.3	8°06.6	7°43.1	2.1 - 1.1	8.1 - 4.4	14.1 - 7.6
22	7°35.5	7°36.7	$7^{\circ}14.7$	2.2 - 1.1	8.2 - 4.2	14.2 - 7.2	22	$7^{\circ}50.5$	7°51.8	7°29.1	2.2 - 1.2	8.2 - 4.3	14.2 - 7.5	22	8°05.5	8°06.8	7°43.4	2.2 - 1.2	8.2 - 4.4	14.2 - 7.7
23	7°35.7	7°37.0	7°15.0	2.3 - 1.2	8.3 - 4.2	14.3 - 7.3	23	$7^{\circ}50.7$	7°52.0	7°29.3	2.3 - 1.2	8.3 - 4.4	14.3 - 7.5	23	8°05.7	8°07.1	7°43.6	2.3 - 1.2	8.3 - 4.5	14.3 - 7.7
24	7°36.0	7°37.2	$7^{\circ}15.2$	2.4 - 1.2	8.4 - 4.3	14.4 - 7.3	24	$7^{\circ}51.0$	7°52.3	7°29.5	2.4 - 1.3	8.4 - 4.4	14.4 - 7.6	24	8°06.0	8°07.3	7°43.9	2.4 - 1.3	8.4 - 4.5	14.4 - 7.8
25	7°36.2	7°37.5	7°15.5	2.5 - 1.3	8.5 - 4.3	14.5 - 7.4	25	7°51.3	7°52.5	7°29.8	2.5 - 1.3	8.5 - 4.5	14.5 - 7.6	25	8°06.2	8°07.6	7°44.1	2.5 - 1.4	8.5 - 4.6	14.5 - 7.9
26	7°36.5	7°37.7	7°15.7	2.6 - 1.3	8.6 - 4.4	14.6 - 7.4	26	7°51.5	7°52.8	7°30.0	2.6 - 1.4	8.6 - 4.5	14.6 - 7.7	26	8°06.5	8°07.8	7°44.3	2.6 - 1.4	8.6 - 4.7	14.6 - 7.9
27	7°36.7	7°38.0	7°15.9	2.7 - 1.4	8.7 - 4.4	14.7 - 7.5	27	7°51.7	7°53.0	7°30.3	2.7 - 1.4	8.7 - 4.6	14.7 - 7.7	27	8°06.8	8°08.1	7°44.6	2.7 - 1.5	8.7 - 4.7	14.7 - 8.0
28 29	7°37.0 7°37.3	7°38.2 7°38.5	7°16.2 7°16.4	2.8 - 1.4	8.8 - 4.5	14.8 - 7.5	28	$7^{\circ}52.0$ $7^{\circ}52.2$	7°53.3 7°53.5	7°30.5 7°30.7	2.8 - 1.5	8.8 - 4.6	14.8 - 7.8	28 29	8°07.0 8°07.3	8°08.3 8°08.6	7°44.8 7°45.1	2.8 - 1.5 2.9 - 1.6	8.8 - 4.8	14.8 - 8.0
30	7°37.5	7°38.8	7°16.4	2.9 - 1.5 3.0 - 1.5	8.9 - 4.5 9.0 - 4.6	14.9 - 7.6 15.0 - 7.6	29 30	7°52.5	7°53.8	7°31.0	2.9 - 1.5 3.0 - 1.6	8.9 - 4.7 9.0 - 4.7	14.9 - 7.8 15.0 - 7.9	30	8°07.5	8°08.8	7°45.1	3.0 - 1.6	8.9 - 4.8 9.0 - 4.9	14.9 - 8.1 15.0 - 8.1
31	7°37.7	7°39.0	7°16.9	3.1 - 1.6	9.1 - 4.6	15.1 - 7.7	31	7°52.7	7°54.0	7°31.2	3.1 - 1.6	9.1 - 4.8	15.1 - 7.9	31	8°07.7	8°09.1	7°45.5	3.1 - 1.7	9.1 - 4.9	15.1 - 8.2
32	7°38.0	7°39.3	7°17.1	3.2 - 1.6	9.2 - 4.7	15.2 - 7.7	32	7°53.0	7°54.3	7°31.5	3.2 - 1.7	9.2 - 4.8	15.2 - 8.0	32	8°08.0	8°09.3	7°45.8	3.2 - 1.7	9.2 - 5.0	15.2 - 8.2
33	7°38.3	7°39.5	7°17.4	3.3 - 1.7	9.3 - 4.7	15.3 - 7.8	33	7°53.3	7°54.5	7°31.7	3.3 - 1.7	9.3 - 4.9	15.3 - 8.0	33	8°08.2	8°09.6	7°46.0	3.3 - 1.8	9.3 - 5.0	15.3 - 8.3
34	7°38.5	7°39.8	7°17.6	3.4 - 1.7	9.4 - 4.8	15.4 - 7.8	34	$7^{\circ}53.5$	7°54.8	7°31.9	3.4 - 1.8	9.4 - 4.9	15.4 - 8.1	34	8°08.5	8°09.8	$7^{\circ}46.2$	3.4 - 1.8	9.4 - 5.1	15.4 - 8.3
35	7°38.7	7°40.0	7°17.9	3.5 - 1.8	9.5 - 4.8	15.5 - 7.9	35	$7^{\circ}53.8$	7°55.0	7°32.2	3.5 - 1.8	9.5 - 5.0	15.5 - 8.1	35	8°08.8	8°10.1	$7^{\circ}46.5$	3.5 - 1.9	9.5 - 5.1	15.5 - 8.4
36	7°39.0	7°40.3	7°18.1	3.6 - 1.8	9.6 - 4.9	15.6 - 7.9	36	$7^{\circ}54.0$	7°55.3	7°32.4	3.6 - 1.9	9.6 - 5.0	15.6 - 8.2	36	8°09.0	8°10.3	7°46.7	3.6 - 1.9	9.6 - 5.2	15.6 - 8.4
37	7°39.3	7°40.5	7°18.3	3.7 - 1.9	9.7 - 4.9	15.7 - 8.0	37	$7^{\circ}54.3$	7°55.5	7°32.6	3.7 - 1.9	9.7 - 5.1	15.7 - 8.2	37	8°09.3	8°10.6	7°47.0	3.7 - 2.0	9.7 - 5.3	15.7 - 8.5
38	7°39.5	7°40.8	7°18.6	3.8 - 1.9	9.8 - 5.0	15.8 - 8.0	38	7°54.5	7°55.8	7°32.9	3.8 - 2.0	9.8 - 5.1	15.8 - 8.3	38	8°09.5	8°10.8	7°47.2	3.8 - 2.1	9.8 - 5.3	15.8 - 8.6
39	7°39.8	7°41.0	7°18.8	3.9 - 2.0	9.9 - 5.0	15.9 - 8.1	39	7°54.7	7°56.0	7°33.1	3.9 - 2.0	9.9 - 5.2	15.9 - 8.3	39	8°09.7	8°11.1	7°47.4	3.9 - 2.1	9.9 - 5.4	15.9 - 8.6
40	7°40.0 7°40.2	7°41.3 7°41.5	7°19.0 7°19.3	4.0 - 2.0 4.1 - 2.1	10.0 - 5.1 10.1 - 5.1	16.0 - 8.1 16.1 - 8.2	40 41	7°55.0 7°55.3	7°56.3 7°56.5	7°33.4 7°33.6	4.0 - 2.1 4.1 - 2.2	10.0 - 5.3 10.1 - 5.3	16.0 - 8.4 16.1 - 8.5	40 41	8°10.0 8°10.2	8°11.3 8°11.6	7°47.7 7°47.9	4.0 - 2.2 4.1 - 2.2	10.0 - 5.4 10.1 - 5.5	16.0 - 8.7 16.1 - 8.7
41	7°40.5	7°41.8	7°19.5	4.1 - 2.1	10.1 - 5.1 $10.2 - 5.2$	16.2 - 8.2	42	7°55.5	7°56.8	7°33.8	4.1 - 2.2	10.1 - 5.3	16.2 - 8.5	42	8°10.5	8°11.8	7°48.2	4.1 - 2.2	10.1 - 5.5	16.2 - 8.8
43	7°40.7	7°42.0	7°19.8	4.2 - 2.1	10.2 - 5.2 $10.3 - 5.2$	16.3 - 8.3	43	7°55.7	7°57.1	7°34.1	4.2 - 2.2	10.2 - 5.4	16.3 - 8.6	43	8°10.8	8°12.1	7°48.4	4.2 - 2.3	10.2 - 5.5	16.3 - 8.8
44	7°41.0	7°42.3	7°20.0	4.4 - 2.2	10.4 - 5.3	16.4 - 8.3	44	7°56.0	7°57.3	7°34.3	4.4 - 2.3	10.4 - 5.5	16.4 - 8.6	44	8°11.0	8°12.3	7°48.6	4.4 - 2.4	10.4 - 5.6	16.4 - 8.9
45	7°41.2	7°42.5	$7^{\circ}20.2$	4.5 - 2.3	10.5 - 5.3	16.5 - 8.4	45	$7^{\circ}56.2$	7°57.6	7°34.6	4.5 - 2.4	10.5 - 5.5	16.5 - 8.7	45	8°11.2	$8^{\circ}12.6$	7°48.9	4.5 - 2.4	10.5 - 5.7	16.5 - 8.9
46	7°41.5	$7^{\circ}42.8$	$7^{\circ}20.5$	4.6 - 2.3	10.6 - 5.4	16.6 - 8.4	46	$7^{\circ}56.5$	7°57.8	7°34.8	4.6 - 2.4	10.6 - 5.6	16.6 - 8.7	46	8°11.5	$8^{\circ}12.8$	7°49.1	4.6 - 2.5	10.6 - 5.7	16.6 - 9.0
47	7°41.8	7°43.0	7°20.7	4.7 - 2.4	10.7 - 5.4	16.7 - 8.5	47	$7^{\circ}56.7$	7°58.1	7°35.0	4.7 - 2.5	10.7 - 5.6	16.7 - 8.8	47	8°11.7	8°13.1	7°49.3	4.7 - 2.5	10.7 - 5.8	16.7 - 9.0
48	7°42.0	7°43.3	7°21.0	4.8 - 2.4	10.8 - 5.5	16.8 - 8.5	48	7°57.0	7°58.3	7°35.3	4.8 - 2.5	10.8 - 5.7	16.8 - 8.8	48	8°12.0	8°13.3	7°49.6	4.8 - 2.6	10.8 - 5.8	16.8 - 9.1
49	7°42.2	7°43.5	7°21.2	4.9 - 2.5	10.9 - 5.5	16.9 - 8.6	49	$7^{\circ}57.2$	7°58.6	7°35.5	4.9 - 2.6	10.9 - 5.7	16.9 - 8.9	49	8°12.3	8°13.6	7°49.8	4.9 - 2.7	10.9 - 5.9	16.9 - 9.2
50	7°42.5	7°43.8	7°21.4	5.0 - 2.5	11.0 - 5.6	17.0 - 8.6	50	7° 57.5	7°58.8	7°35.7	5.0 - 2.6	11.0 - 5.8	17.0 - 8.9	50	8°12.5	8°13.8	7°50.1	5.0 - 2.7	11.0 - 6.0	17.0 - 9.2
51	7°42.8	7°44.0	7°21.7	5.1 - 2.6	11.1 - 5.6	17.1 - 8.7	51	7°57.8	7°59.1	7°36.0	5.1 - 2.7	11.1 - 5.8	17.1 - 9.0	51	8°12.8	8°14.1	7°50.3	5.1 - 2.8	11.1 - 6.0	17.1 - 9.3
52	7°43.0	7°44.3	7°21.9 7°22.1	5.2 - 2.6	11.2 - 5.7	17.2 - 8.7	52	7°58.0	7°59.3	7°36.2	5.2 - 2.7	11.2 - 5.9	17.2 - 9.0	52	8°13.0	8°14.3	7°50.5	5.2 - 2.8	11.2 - 6.1	17.2 - 9.3
53 54	7°43.2 7°43.5	7°44.5 7°44.8	$7^{\circ}22.4$	5.3 - 2.7 5.4 - 2.7	11.3 - 5.7 11.4 - 5.8	17.3 - 8.8 17.4 - 8.8	53 54	7°58.2 7°58.5	7°59.6 7°59.8	7°36.5 7°36.7	5.3 - 2.8 5.4 - 2.8	11.3 - 5.9 11.4 - 6.0	17.3 - 9.1 17.4 - 9.1	53 54	8°13.2 8°13.5	8°14.6 8°14.8	7°50.8 7°51.0	5.3 - 2.9 5.4 - 2.9	11.3 - 6.1 11.4 - 6.2	17.3 - 9.4 17.4 - 9.4
54 55	7°43.8	7°45.0	7°22.6	5.4 - 2.7	11.4 - 5.8 11.5 - 5.8	17.4 - 8.8 17.5 - 8.9	55	7°58.8	8°00.1	7°36.9	5.4 - 2.8	11.4 - 6.0	17.4 - 9.1	55	8 13.5 8°13.7	8 14.8 8°15.1	7°51.3	5.4 - 2.9	11.4 - 6.2 11.5 - 6.2	17.4 - 9.4
56	7°44.0	7°45.3	7°22.9	5.6 - 2.8	11.6 - 5.9	17.6 - 8.9	56	7°59.0	8°00.1	7°37.2	5.6 - 2.9	11.6 - 6.1	17.6 - 9.2	56	8°14.0	8°15.4	7°51.5	5.6 - 3.0	11.6 - 6.3	17.6 - 9.5
57	7°44.3	7°45.5	7°23.1	5.7 - 2.9	11.7 - 5.9	17.7 - 9.0	57	7°59.2	8°00.6	7°37.4	5.7 - 3.0	11.7 - 6.1	17.7 - 9.3	57	8°14.3	8°15.6	7°51.7	5.7 - 3.1	11.7 - 6.3	17.7 - 9.6
58	7°44.5	7°45.8	7°23.3	5.8 - 2.9	11.8 - 6.0	17.8 - 9.0	58	7°59.5	8°00.8	7°37.7	5.8 - 3.0	11.8 - 6.2	17.8 - 9.3	58	8°14.5	8°15.9	7°52.0	5.8 - 3.1	11.8 - 6.4	17.8 - 9.6
59	7°44.8	7°46.0	7°23.6	5.9 - 3.0	11.9 - 6.0	17.9 - 9.1	59	7°59.8	8°01.1	7°37.9	5.9 - 3.1	11.9 - 6.2	17.9 - 9.4	59	8°14.8	8°16.1	7°52.2	5.9 - 3.2	11.9 - 6.4	17.9 - 9.7
				1														-		

m	Sun	Aries	Moon		v and d cor	r	m	Sun	Aries	Moon		v and d cor	rr	m	Sun	Aries	Moon		v and d cor	r
33	Plan.						34	Plan.						35	Plan.					
0	8°15.0	8°16.4	7°52.5	0.0 - 0.0	6.0 - 3.4	12.0 - 6.7	0	8°30.0	8°31.4	8°06.8	0.0 - 0.0	6.0 - 3.4	12.0 - 6.9	0	8°45.0	8°46.4	8°21.1	0.0 - 0.0	6.0 - 3.5	12.0 - 7.1
1	8°15.2	8°16.6	7°52.7	0.1 - 0.1	6.1 - 3.4	12.1 - 6.8	1	8°30.2	8°31.6	8°07.0	0.1 - 0.1	6.1 - 3.5	12.1 - 7.0	1	8°45.2	8°46.7	8°21.3	0.1 - 0.1	6.1 - 3.6	12.1 - 7.2
2	8°15.5	8°16.9	7°52.9	0.2 - 0.1	6.2 - 3.5	12.2 - 6.8	2	8°30.5	8°31.9	8°07.2	0.2 - 0.1	6.2 - 3.6	12.2 - 7.0	2	8°45.5	8°46.9	8°21.6	0.2 - 0.1	6.2 - 3.7	12.2 - 7.2
3	8°15.7	8°17.1	7°53.2	0.3 - 0.2	6.3 - 3.5	12.3 - 6.9	3	8°30.7	8°32.1	8°07.5	0.3 - 0.2	6.3 - 3.6	12.3 - 7.1	3	8°45.7	8°47.2	8°21.8	0.3 - 0.2	6.3 - 3.7	12.3 - 7.3
4	8°16.0	8°17.4	7°53.4	0.4 - 0.2	6.4 - 3.6	12.4 - 6.9	4	8°31.0	8°32.4	8°07.7	0.4 - 0.2	6.4 - 3.7	12.4 - 7.1	4	8°46.0	8°47.4	8°22.0	0.4 - 0.2	6.4 - 3.8	12.4 - 7.3
5   6	8°16.3 8°16.5	8°17.6 8°17.9	7°53.6 7°53.9	0.5 - 0.3	6.5 - 3.6 6.6 - 3.7	12.5 - 7.0 12.6 - 7.0	5 6	8°31.3 8°31.5	8°32.6 8°32.9	8°08.0 8°08.2	0.5 - 0.3 0.6 - 0.3	6.5 - 3.7 6.6 - 3.8	12.5 - 7.2 12.6 - 7.2	5 6	8°46.3 8°46.5	8°47.7 8°47.9	$8^{\circ}22.3$ $8^{\circ}22.5$	0.5 - 0.3 0.6 - 0.4	6.5 - 3.8 6.6 - 3.9	12.5 - 7.4 12.6 - 7.5
7	8°16.8	8°18.1	7°54.1	0.0 - 0.3	6.7 - 3.7	12.7 - 7.1	7	8°31.8	8°33.1	8°08.4	0.0 - 0.3	6.7 - 3.9	12.7 - 7.3	7	8°46.8	8°48.2	8°22.8	0.0 - 0.4	6.7 - 4.0	12.7 - 7.5
8	8°17.0	8°18.4	7°54.4	0.8 - 0.4	6.8 - 3.8	12.8 - 7.1	8	8°32.0	8°33.4	8°08.7	0.8 - 0.5	6.8 - 3.9	12.8 - 7.4	8	8°47.0	8°48.4	8°23.0	0.8 - 0.5	6.8 - 4.0	12.8 - 7.6
9	8°17.2	8°18.6	7°54.6	0.9 - 0.5	6.9 - 3.9	12.9 - 7.2	9	8°32.2	8°33.7	8°08.9	0.9 - 0.5	6.9 - 4.0	12.9 - 7.4	9	8°47.2	8°48.7	8°23.2	0.9 - 0.5	6.9 - 4.1	12.9 - 7.6
10	8°17.5	8°18.9	7°54.8	1.0 - 0.6	7.0 - 3.9	13.0 - 7.3	10	8°32.5	8°33.9	8°09.2	1.0 - 0.6	7.0 - 4.0	13.0 - 7.5	10	8°47.5	8°48.9	8°23.5	1.0 - 0.6	7.0 - 4.1	13.0 - 7.7
11	8°17.7	8°19.1	7°55.1	1.1 - 0.6	7.1 - 4.0	13.1 - 7.3	11	$8^{\circ}32.7$	8°34.2	8°09.4	1.1 - 0.6	7.1 - 4.1	13.1 - 7.5	11	8°47.7	8°49.2	$8^{\circ}23.7$	1.1 - 0.7	7.1 - 4.2	13.1 - 7.8
12	8°18.0	8°19.4	7°55.3	1.2 - 0.7	7.2 - 4.0	13.2 - 7.4	12	$8^{\circ}33.0$	8°34.4	8°09.6	1.2 - 0.7	7.2 - 4.1	13.2 - 7.6	12	8°48.0	8°49.4	$8^{\circ}23.9$	1.2 - 0.7	7.2 - 4.3	13.2 - 7.8
13	8°18.3	8°19.6	7°55.6	1.3 - 0.7	7.3 - 4.1	13.3 - 7.4	13	$8^{\circ}33.3$	8°34.7	8°09.9	1.3 - 0.7	7.3 - 4.2	13.3 - 7.6	13	8°48.3	8°49.7	$8^{\circ}24.2$	1.3 - 0.8	7.3 - 4.3	13.3 - 7.9
14	8°18.5	8°19.9	7°55.8	1.4 - 0.8	7.4 - 4.1	13.4 - 7.5	14	$8^{\circ}33.5$	8°34.9	8°10.1	1.4 - 0.8	7.4 - 4.3	13.4 - 7.7	14	8°48.5	8°49.9	$8^{\circ}24.4$	1.4 - 0.8	7.4 - 4.4	13.4 - 7.9
15	8°18.8	8°20.1	7°56.0	1.5 - 0.8	7.5 - 4.2	13.5 - 7.5	15	8°33.8	8°35.2	8°10.3	1.5 - 0.9	7.5 - 4.3	13.5 - 7.8	15	8°48.8	8°50.2	8°24.7	1.5 - 0.9	7.5 - 4.4	13.5 - 8.0
16	8°19.0	8°20.4	7°56.3	1.6 - 0.9	7.6 - 4.2	13.6 - 7.6	16	8°34.0	8°35.4	8° 10.6	1.6 - 0.9	7.6 - 4.4	13.6 - 7.8	16	8°49.0	8°50.4	8°24.9	1.6 - 0.9	7.6 - 4.5	13.6 - 8.0
17	8°19.2	8°20.6	7°56.5	1.7 - 0.9	7.7 - 4.3	13.7 - 7.6	17	8°34.2	8°35.7	8° 10.8	1.7 - 1.0	7.7 - 4.4	13.7 - 7.9	17	8°49.2	8°50.7	8°25.1	1.7 - 1.0	7.7 - 4.6	13.7 - 8.1
18	8°19.5	8°20.9	7°56.7	1.8 - 1.0	7.8 - 4.4	13.8 - 7.7	18	8°34.5	8°35.9	8°11.1	1.8 - 1.0	7.8 - 4.5	13.8 - 7.9	18	8°49.5	8°50.9	8°25.4	1.8 - 1.1	7.8 - 4.6	13.8 - 8.2
19	8°19.8	8°21.1	7°57.0	1.9 - 1.1	7.9 - 4.4	13.9 - 7.8	19	8°34.8	8°36.2	8°11.3	1.9 - 1.1	7.9 - 4.5	13.9 - 8.0	19	8°49.8	8°51.2	8°25.6	1.9 - 1.1	7.9 - 4.7	13.9 - 8.2
20 21	8°20.0 8°20.3	8°21.4 8°21.6	7°57.2 7°57.5	2.0 - 1.1 2.1 - 1.2	8.0 - 4.5 8.1 - 4.5	14.0 - 7.8 14.1 - 7.9	20 21	8°35.0 8°35.3	8°36.4 8°36.7	8°11.5 8°11.8	2.0 - 1.1 2.1 - 1.2	8.0 - 4.6 8.1 - 4.7	14.0 - 8.0 14.1 - 8.1	20 21	8°50.0 8°50.3	8°51.4 8°51.7	8°25.9 8°26.1	2.0 - 1.2 2.1 - 1.2	8.0 - 4.7 8.1 - 4.8	14.0 - 8.3 14.1 - 8.3
21 22	8°20.5	8°21.9	7°57.7	2.1 - 1.2	8.2 - 4.6	14.1 - 7.9	21	8°35.5	8°36.9	8°12.0	2.1 - 1.2	8.2 - 4.7	14.1 - 8.1	22	8°50.5	8°52.0	8°26.3	2.1 - 1.2	8.2 - 4.9	14.1 - 8.3
23	8°20.7	8°22.1	7°57.9	2.3 - 1.3	8.3 - 4.6	14.3 - 8.0	23	8°35.7	8°37.2	8°12.3	2.3 - 1.3	8.3 - 4.8	14.3 - 8.2	23	8°50.7	8°52.2	8°26.6	2.3 - 1.4	8.3 - 4.9	14.3 - 8.5
24	8°21.0	8°22.4	7°58.2	2.4 - 1.3	8.4 - 4.7	14.4 - 8.0	24	8°36.0	8°37.4	8° 12.5	2.4 - 1.4	8.4 - 4.8	14.4 - 8.3	24	8°51.0	8°52.5	8°26.8	2.4 - 1.4	8.4 - 5.0	14.4 - 8.5
25	8°21.2	8°22.6	7°58.4	2.5 - 1.4	8.5 - 4.7	14.5 - 8.1	25	8°36.2	8°37.7	8° 12.7	2.5 - 1.4	8.5 - 4.9	14.5 - 8.3	25	8°51.2	8°52.7	8°27.0	2.5 - 1.5	8.5 - 5.0	14.5 - 8.6
26	8°21.5	8°22.9	7°58.7	2.6 - 1.5	8.6 - 4.8	14.6 - 8.2	26	8°36.5	8°37.9	8° 13.0	2.6 - 1.5	8.6 - 4.9	14.6 - 8.4	26	8°51.5	8°53.0	8°27.3	2.6 - 1.5	8.6 - 5.1	14.6 - 8.6
27	8°21.8	8°23.1	7°58.9	2.7 - 1.5	8.7 - 4.9	14.7 - 8.2	27	8°36.8	8°38.2	8° 13.2	2.7 - 1.6	8.7 - 5.0	14.7 - 8.5	27	8°51.8	8°53.2	$8^{\circ}27.5$	2.7 - 1.6	8.7 - 5.1	14.7 - 8.7
28	8°22.0	8°23.4	7°59.1	2.8 - 1.6	8.8 - 4.9	14.8 - 8.3	28	$8^{\circ}37.0$	8°38.4	8°13.4	2.8 - 1.6	8.8 - 5.1	14.8 - 8.5	28	8°52.0	8°53.5	$8^{\circ}27.8$	2.8 - 1.7	8.8 - 5.2	14.8 - 8.8
29	8°22.3	8°23.6	7°59.4	2.9 - 1.6	8.9 - 5.0	14.9 - 8.3	29	8°37.3	8°38.7	8° 13.7	2.9 - 1.7	8.9 - 5.1	14.9 - 8.6	29	8°52.3	8°53.7	8°28.0	2.9 - 1.7	8.9 - 5.3	14.9 - 8.8
30	8°22.5	8°23.9	7°59.6	3.0 - 1.7	9.0 - 5.0	15.0 - 8.4	30	8°37.5	8°38.9	8° 13.9	3.0 - 1.7	9.0 - 5.2	15.0 - 8.6	30	8°52.5	8°54.0	8°28.2	3.0 - 1.8	9.0 - 5.3	15.0 - 8.9
31	8°22.7	8°24.1	7°59.8	3.1 - 1.7	9.1 - 5.1	15.1 - 8.4	31	8°37.7	8°39.2	8°14.2	3.1 - 1.8	9.1 - 5.2	15.1 - 8.7	31	8°52.7	8°54.2	8°28.5	3.1 - 1.8	9.1 - 5.4	15.1 - 8.9
32	8°23.0	8°24.4	8°00.1	3.2 - 1.8	9.2 - 5.1	15.2 - 8.5	32	8°38.0	8°39.4	8° 14.4	3.2 - 1.8	9.2 - 5.3	15.2 - 8.7	32	8°53.0	8°54.5	8°28.7	3.2 - 1.9	9.2 - 5.4	15.2 - 9.0
33	8°23.2 8°23.5	8°24.6 8°24.9	8°00.3 8°00.6	3.3 - 1.8 3.4 - 1.9	9.3 - 5.2 9.4 - 5.2	15.3 - 8.5 15.4 - 8.6	33	8°38.2 8°38.5	8°39.7 8°39.9	8°14.6 8°14.9	3.3 - 1.9 3.4 - 2.0	9.3 - 5.3 9.4 - 5.4	15.3 - 8.8 15.4 - 8.9	33 34	8°53.2 8°53.5	8°54.7 8°55.0	$8^{\circ}29.0$ $8^{\circ}29.2$	3.3 - 2.0 3.4 - 2.0	9.3 - 5.5 9.4 - 5.6	15.3 - 9.1 15.4 - 9.1
35	8°23.8	8°25.1	8°00.8	3.5 - 2.0	9.4 - 5.2		35	8°38.8	8°40.2	8° 15.1	3.5 - 2.0	9.4 - 5.4 9.5 - 5.5	15.4 - 8.9	35	8°53.8	8°55.2	8°29.4	3.5 - 2.1	9.4 - 5.6	15.5 - 9.2
36	8°24.0	8°25.4	8°01.0	3.6 - 2.0	9.6 - 5.4	15.5 - 8.7 15.6 - 8.7	36	8°39.0	8°40.4	8°15.4	3.6 - 2.1	9.6 - 5.5	15.6 - 9.0	36	8°54.0	8°55.5	8°29.7	3.6 - 2.1	9.6 - 5.7	15.6 - 9.2
37	8°24.3	8°25.6	8°01.3	3.7 - 2.1	9.7 - 5.4	15.7 - 8.8	37	8°39.3	8°40.7	8°15.6	3.7 - 2.1	9.7 - 5.6	15.7 - 9.0	37	8°54.3	8°55.7	8°29.9	3.7 - 2.2	9.7 - 5.7	15.7 - 9.3
38	8°24.5	8°25.9	8°01.5	3.8 - 2.1	9.8 - 5.5	15.8 - 8.8	38	8°39.5	8°40.9	8° 15.8	3.8 - 2.2	9.8 - 5.6	15.8 - 9.1	38	8°54.5	8°56.0	8°30.2	3.8 - 2.2	9.8 - 5.8	15.8 - 9.3
39	8°24.7	8°26.1	8°01.8	3.9 - 2.2	9.9 - 5.5	15.9 - 8.9	39	8°39.7	8°41.2	8°16.1	3.9 - 2.2	9.9 - 5.7	15.9 - 9.1	39	8°54.7	8°56.2	8°30.4	3.9 - 2.3	9.9 - 5.9	15.9 - 9.4
40	8°25.0	8°26.4	8°02.0	4.0 - 2.2	10.0 - 5.6	16.0 - 8.9	40	$8^{\circ}40.0$	8°41.4	8°16.3	4.0 - 2.3	10.0 - 5.8	16.0 - 9.2	40	8°55.0	8°56.5	8°30.6	4.0 - 2.4	10.0 - 5.9	16.0 - 9.5
41	8°25.2	8°26.6	8°02.2	4.1 - 2.3	10.1 - 5.6	16.1 - 9.0	41	$8^{\circ}40.2$	8°41.7	$8^{\circ}16.5$	4.1 - 2.4	10.1 - 5.8	16.1 - 9.3	41	8°55.2	8°56.7	8°30.9	4.1 - 2.4	10.1 - 6.0	16.1 - 9.5
42	8°25.5	8°26.9	8°02.5	4.2 - 2.3	10.2 - 5.7	16.2 - 9.0	42	8°40.5	8°41.9	8° 16.8	4.2 - 2.4	10.2 - 5.9	16.2 - 9.3	42	8°55.5	8°57.0	8°31.1	4.2 - 2.5	10.2 - 6.0	16.2 - 9.6
43	8°25.8	8°27.1	8°02.7	4.3 - 2.4	10.3 - 5.8	16.3 - 9.1	43	8°40.8	8°42.2	8°17.0	4.3 - 2.5	10.3 - 5.9	16.3 - 9.4	43	8°55.8	8°57.2	8°31.3	4.3 - 2.5	10.3 - 6.1	16.3 - 9.6
44	8°26.0	8°27.4	8°02.9	4.4 - 2.5	10.4 - 5.8	16.4 - 9.2	44	8°41.0	8°42.4	8° 17.3	4.4 - 2.5	10.4 - 6.0	16.4 - 9.4	44	8°56.0	8°57.5	8°31.6	4.4 - 2.6	10.4 - 6.2	16.4 - 9.7
45	8°26.2	8°27.6	8°03.2	4.5 - 2.5	10.5 - 5.9	16.5 - 9.2	45	8°41.2	8°42.7	8°17.5	4.5 - 2.6	10.5 - 6.0	16.5 - 9.5	45	8°56.2	8°57.7	8°31.8	4.5 - 2.7	10.5 - 6.2	16.5 - 9.8
46	8°26.5 8°26.7	8°27.9	8°03.4 8°03.7	4.6 - 2.6 4.7 - 2.6	10.6 - 5.9 10.7 - 6.0	16.6 - 9.3 16.7 - 9.3	46 47	8°41.5 8°41.7	8°42.9 8°43.2	8° 17.7 8° 18.0	4.6 - 2.6 4.7 - 2.7	10.6 - 6.1 10.7 - 6.2	16.6 - 9.5	46 47	8°56.5	8°58.0 8°58.2	8°32.1 8°32.3	4.6 - 2.7 4.7 - 2.8	10.6 - 6.3 10.7 - 6.3	16.6 - 9.8 16.7 - 9.9
48	8 26.7 8°27.0	8°28.1 8°28.4	8°03.7 8°03.9	4.7 - 2.6	10.7 - 6.0	16.7 - 9.3	48	8 41.7 8°42.0	8 43.2 8°43.4	8°18.0 8°18.2	4.7 - 2.7	10.7 - 6.2	16.7 - 9.6 16.8 - 9.7	48	8°56.7 8°57.0	8°58.5	8°32.5	4.7 - 2.8	10.7 - 6.3	16.8 - 9.9
49	8°27.3	8°28.6	8°04.1	4.9 - 2.7	10.9 - 6.1	16.9 - 9.4	49	8°42.3	8°43.7	8° 18.5	4.9 - 2.8	10.9 - 6.3	16.9 - 9.7	49	8°57.3	8°58.7	8°32.8	4.9 - 2.9	10.9 - 6.4	16.9 - 10.0
50	8°27.5	8°28.9	8°04.4	5.0 - 2.8	11.0 - 6.1	17.0 - 9.5	50	8°42.5	8°43.9	8° 18.7	5.0 - 2.9	11.0 - 6.3	17.0 - 9.8	50	8°57.5	8°59.0	8°33.0	5.0 - 3.0	11.0 - 6.5	17.0 - 10.1
51	8°27.8	8°29.1	8°04.6	5.1 - 2.8	11.1 - 6.2	17.1 - 9.5	51	8°42.8	8°44.2	8° 18.9	5.1 - 2.9	11.1 - 6.4	17.1 - 9.8	51	8°57.8	8°59.2	8°33.3	5.1 - 3.0	11.1 - 6.6	17.1 - 10.1
52	8°28.0	8°29.4	8°04.9	5.2 - 2.9	11.2 - 6.3	17.2 - 9.6	52	8°43.0	8°44.4	8°19.2	5.2 - 3.0	11.2 - 6.4	17.2 - 9.9	52	8°58.0	8°59.5	8°33.5	5.2 - 3.1	11.2 - 6.6	17.2 - 10.2
53	8°28.2	8°29.6	8°05.1	5.3 - 3.0	11.3 - 6.3	17.3 - 9.7	53	$8^{\circ}43.2$	8°44.7	$8^{\circ}19.4$	5.3 - 3.0	11.3 - 6.5	17.3 - 9.9	53	$8^{\circ}58.2$	$8^{\circ}59.7$	8°33.7	5.3 - 3.1	11.3 - 6.7	17.3 - 10.2
54	8°28.5	8°29.9	8°05.3	5.4 - 3.0	11.4 - 6.4	17.4 - 9.7	54	$8^{\circ}43.5$	8°44.9	$8^{\circ}19.7$	5.4 - 3.1	11.4 - 6.6	17.4 - 10.0	54	$8^{\circ}58.5$	8°60.0	8°34.0	5.4 - 3.2	11.4 - 6.7	17.4 - 10.3
55	8°28.7	8°30.1	8°05.6	5.5 - 3.1	11.5 - 6.4	17.5 - 9.8	55	8°43.7	8°45.2	8° 19.9	5.5 - 3.2	11.5 - 6.6	17.5 - 10.1	55	8°58.7	9°00.2	8°34.2	5.5 - 3.3	11.5 - 6.8	17.5 - 10.4
56	8°29.0	8°30.4	8°05.8	5.6 - 3.1	11.6 - 6.5	17.6 - 9.8	56	8°44.0	8°45.4	8°20.1	5.6 - 3.2	11.6 - 6.7	17.6 - 10.1	56	8°59.0	9°00.5	8°34.4	5.6 - 3.3	11.6 - 6.9	17.6 - 10.4
57	8°29.3	8°30.6	8°06.1	5.7 - 3.2	11.7 - 6.5	17.7 - 9.9	57	8°44.3	8°45.7	8°20.4	5.7 - 3.3	11.7 - 6.7	17.7 - 10.2	57	8°59.3	9°00.7	8°34.7	5.7 - 3.4	11.7 - 6.9	17.7 - 10.5
58	8°29.5	8°30.9	8°06.3	5.8 - 3.2	11.8 - 6.6	17.8 - 9.9	58	8°44.5	8°45.9	8° 20.6	5.8 - 3.3	11.8 - 6.8	17.8 - 10.2	58	8°59.5	9°01.0	8°34.9	5.8 - 3.4	11.8 - 7.0	17.8 - 10.5
59	8°29.8	8°31.1	8°06.5	5.9 - 3.3	11.9 - 6.6	17.9 - 10.0	59	8°44.8	8°46.2	8°20.8	5.9 - 3.4	11.9 - 6.8	17.9 - 10.3	59	8°59.8	9°01.2	8°35.2	5.9 - 3.5	11.9 - 7.0	17.9 - 10.6

m	Sun	Aries	Moon		v and d cor	r	m	Sun	Aries	Moon		v and d cor	r	m	Sun	Aries	Moon		v and d cor	r
36	Plan.						37	Plan.						38	Plan.					
0	9°00.0	9°01.5	8°35.4	0.0 - 0.0	6.0 - 3.6	12.0 - 7.3	0	9°15.0	9°16.5	8°49.7	0.0 - 0.0	6.0 - 3.8	12.0 - 7.5	0	9°30.0	9°31.6	9°04.0	0.0 - 0.0	6.0 - 3.9	12.0 - 7.7
1	9°00.2	9°01.7	8°35.6	0.1 - 0.1	6.1 - 3.7	12.1 - 7.4	1	9°15.2	9°16.8	8°50.0	0.1 - 0.1	6.1 - 3.8	12.1 - 7.6	1	9°30.2	9°31.8	9°04.3	0.1 - 0.1	6.1 - 3.9	12.1 - 7.8
2	9°00.5	9°02.0	8°35.9	0.2 - 0.1	6.2 - 3.8	12.2 - 7.4	2	9°15.5	9°17.0	8°50.2	0.2 - 0.1	6.2 - 3.9	12.2 - 7.6	2	9°30.5	9°32.1	9°04.5	0.2 - 0.1	6.2 - 4.0	12.2 - 7.8
3	9°00.7 9°01.0	9°02.2 9°02.5	8°36.1 8°36.4	0.3 - 0.2	6.3 - 3.8 6.4 - 3.9	12.3 - 7.5 12.4 - 7.5	3	9°15.7 9°16.0	9°17.3 9°17.5	8°50.4 8°50.7	0.3 - 0.2 0.4 - 0.3	6.3 - 3.9 6.4 - 4.0	12.3 - 7.7 12.4 - 7.8	3	9°30.7 9°31.0	9°32.3 9°32.6	9°04.7 9°05.0	0.3 - 0.2 0.4 - 0.3	6.3 - 4.0 6.4 - 4.1	12.3 - 7.9 12.4 - 8.0
4   5	9°01.0	9°02.5 9°02.7	8°36.6	0.4 - 0.2	6.5 - 4.0	12.5 - 7.6	4 5	9°16.0	9°17.8	8° 50.7	0.4 - 0.3	6.4 - 4.0 $6.5 - 4.1$	12.4 - 7.8	4   5	9°31.3	9°32.8	9°05.0	0.4 - 0.3	6.4 - 4.1 $6.5 - 4.2$	12.4 - 8.0
6	9°01.5	9°03.0	8°36.8	0.6 - 0.4	6.6 - 4.0	12.6 - 7.7	6	9°16.5	9°18.0	8°51.1	0.6 - 0.4	6.6 - 4.1	12.6 - 7.9	6	9°31.5	9°33.1	9°05.5	0.6 - 0.4	6.6 - 4.2	12.6 - 8.1
7	9°01.8	9°03.2	8°37.1	0.7 - 0.4	6.7 - 4.1	12.7 - 7.7	7	9°16.8	9°18.3	8°51.4	0.7 - 0.4	6.7 - 4.2	12.7 - 7.9	7	9°31.8	9°33.3	9°05.7	0.7 - 0.4	6.7 - 4.3	12.7 - 8.1
8	9°02.0	9°03.5	8°37.3	0.8 - 0.5	6.8 - 4.1	12.8 - 7.8	8	$9^{\circ}17.0$	9°18.5	8°51.6	0.8 - 0.5	6.8 - 4.3	12.8 - 8.0	8	9°32.0	9°33.6	9°05.9	0.8 - 0.5	6.8 - 4.4	12.8 - 8.2
9	9°02.2	9°03.7	8°37.5	0.9 - 0.5	6.9 - 4.2	12.9 - 7.8	9	$9^{\circ}17.2$	9°18.8	8°51.9	0.9 - 0.6	6.9 - 4.3	12.9 - 8.1	9	9°32.2	9°33.8	9°06.2	0.9 - 0.6	6.9 - 4.4	12.9 - 8.3
10	9°02.5	9°04.0	$8^{\circ}37.8$	1.0 - 0.6	7.0 - 4.3	13.0 - 7.9	10	$9^{\circ}17.5$	9°19.0	$8^{\circ}52.1$	1.0 - 0.6	7.0 - 4.4	13.0 - 8.1	10	$9^{\circ}32.5$	9°34.1	9°06.4	1.0 - 0.6	7.0 - 4.5	13.0 - 8.3
11	9°02.7	9°04.2	8°38.0	1.1 - 0.7	7.1 - 4.3	13.1 - 8.0	11	9°17.7	9°19.3	8°52.3	1.1 - 0.7	7.1 - 4.4	13.1 - 8.2	11	9°32.7	9°34.3	9°06.7	1.1 - 0.7	7.1 - 4.6	13.1 - 8.4
12	9°03.0	9°04.5	8°38.3	1.2 - 0.7	7.2 - 4.4	13.2 - 8.0	12	9°18.0	9°19.5	8°52.6	1.2 - 0.8	7.2 - 4.5	13.2 - 8.3	12	9°33.0	9°34.6	9°06.9	1.2 - 0.8	7.2 - 4.6	13.2 - 8.5
13	9°03.3	9°04.7	8°38.5	1.3 - 0.8	7.3 - 4.4	13.3 - 8.1	13	9°18.3	9°19.8	8°52.8	1.3 - 0.8	7.3 - 4.6	13.3 - 8.3	13	9°33.3	9°34.8	9°07.1	1.3 - 0.8	7.3 - 4.7	13.3 - 8.5
14	9°03.5	9°05.0	8°38.7	1.4 - 0.9	7.4 - 4.5	13.4 - 8.2	14	9°18.5	9°20.0	8°53.1	1.4 - 0.9	7.4 - 4.6	13.4 - 8.4	14	9°33.5	9°35.1	9°07.4	1.4 - 0.9	7.4 - 4.7	13.4 - 8.6
15	9°03.8 9°04.0	9°05.2 9°05.5	8°39.0 8°39.2	1.5 - 0.9 1.6 - 1.0	7.5 - 4.6 7.6 - 4.6	13.5 - 8.2 13.6 - 8.3	15 16	9°18.8 9°19.0	9°20.3 9°20.5	8°53.3 8°53.5	1.5 - 0.9 1.6 - 1.0	7.5 - 4.7 7.6 - 4.8	13.5 - 8.4 13.6 - 8.5	15 16	9°33.8 9°34.0	9°35.3 9°35.6	9°07.6 9°07.9	1.5 - 1.0 1.6 - 1.0	7.5 - 4.8 7.6 - 4.9	13.5 - 8.7 13.6 - 8.7
16 17	9°04.0	9°05.7	8°39.5	1.7 - 1.0	7.7 - 4.7	13.7 - 8.3	17	9°19.0	9°20.8	8°53.8	1.7 - 1.1	7.7 - 4.8	13.7 - 8.6	17	9°34.0	9°35.8	9°08.1	1.7 - 1.1	7.7 - 4.9	13.7 - 8.8
18	9°04.5	9°06.0	8°39.7	1.8 - 1.1	7.8 - 4.7	13.8 - 8.4	18	9°19.5	9°21.0	8°54.0	1.8 - 1.1	7.8 - 4.9	13.8 - 8.6	18	9°34.5	9°36.1	9°08.3	1.8 - 1.2	7.8 - 5.0	13.8 - 8.9
19	9°04.8	9°06.2	8°39.9	1.9 - 1.2	7.9 - 4.8	13.9 - 8.5	19	9°19.8	9°21.3	8°54.3	1.9 - 1.2	7.9 - 4.9	13.9 - 8.7	19	9°34.8	9°36.3	9°08.6	1.9 - 1.2	7.9 - 5.1	13.9 - 8.9
20	9°05.0	9°06.5	$8^{\circ}40.2$	2.0 - 1.2	8.0 - 4.9	14.0 - 8.5	20	$9^{\circ}20.0$	9°21.5	8°54.5	2.0 - 1.3	8.0 - 5.0	14.0 - 8.8	20	9°35.0	9°36.6	9°08.8	2.0 - 1.3	8.0 - 5.1	14.0 - 9.0
21	9°05.3	9°06.7	8°40.4	2.1 - 1.3	8.1 - 4.9	14.1 - 8.6	21	$9^{\circ}20.3$	9°21.8	$8^{\circ}54.7$	2.1 - 1.3	8.1 - 5.1	14.1 - 8.8	21	9°35.3	9°36.8	9°09.0	2.1 - 1.3	8.1 - 5.2	14.1 - 9.0
22	9°05.5	9°07.0	$8^{\circ}40.6$	2.2 - 1.3	8.2 - 5.0	14.2 - 8.6	22	$9^{\circ}20.5$	9°22.0	8°55.0	2.2 - 1.4	8.2 - 5.1	14.2 - 8.9	22	9°35.5	9°37.1	9°09.3	2.2 - 1.4	8.2 - 5.3	14.2 - 9.1
23	9°05.7	9°07.2	8°40.9	2.3 - 1.4	8.3 - 5.0	14.3 - 8.7	23	$9^{\circ}20.7$	9°22.3	8°55.2	2.3 - 1.4	8.3 - 5.2	14.3 - 8.9	23	9°35.7	9°37.3	9°09.5	2.3 - 1.5	8.3 - 5.3	14.3 - 9.2
24	9°06.0	9°07.5	8°41.1	2.4 - 1.5	8.4 - 5.1	14.4 - 8.8	24	9°21.0	9°22.5	8°55.4	2.4 - 1.5	8.4 - 5.3	14.4 - 9.0	24	9°36.0	9°37.6	9°09.8	2.4 - 1.5	8.4 - 5.4	14.4 - 9.2
25	9°06.2	9°07.7	8°41.4	2.5 - 1.5	8.5 - 5.2	14.5 - 8.8	25	9°21.2	9°22.8	8°55.7	2.5 - 1.6	8.5 - 5.3	14.5 - 9.1	25	9°36.2	9°37.8	9°10.0	2.5 - 1.6	8.5 - 5.5	14.5 - 9.3
26	9°06.5	9°08.0	8°41.6 8°41.8	2.6 - 1.6	8.6 - 5.2	14.6 - 8.9	26 27	9°21.5	9°23.0	8°55.9 8°56.2	2.6 - 1.6	8.6 - 5.4	14.6 - 9.1	26	9°36.5	9°38.1 9°38.3	9°10.2	2.6 - 1.7	8.6 - 5.5	14.6 - 9.4
27 28	9°06.8 9°07.0	9°08.2 9°08.5	8 41.8 8°42.1	2.7 - 1.6 2.8 - 1.7	8.7 - 5.3 8.8 - 5.4	14.7 - 8.9 14.8 - 9.0	28	$9^{\circ}21.8$ $9^{\circ}22.0$	9°23.3 9°23.5	8°56.4	2.7 - 1.7 2.8 - 1.8	8.7 - 5.4 8.8 - 5.5	14.7 - 9.2 14.8 - 9.3	27 28	9°36.8 9°37.0	9°38.3	9°10.5 9°10.7	2.7 - 1.7 2.8 - 1.8	8.7 - 5.6 8.8 - 5.6	14.7 - 9.4 14.8 - 9.5
29	9°07.3	9°08.7	8°42.1	2.9 - 1.8	8.9 - 5.4	14.9 - 9.1	29	9°22.3	9°23.8	8° 56.6	2.9 - 1.8	8.9 - 5.6	14.9 - 9.3	29	9°37.3	9°38.8	9°11.0	2.9 - 1.9	8.9 - 5.7	14.9 - 9.6
30	9°07.5	9°09.0	8°42.6	3.0 - 1.8	9.0 - 5.5	15.0 - 9.1	30	9°22.5	9°24.0	8° 56.9	3.0 - 1.9	9.0 - 5.6	15.0 - 9.4	30	9°37.5	9°39.1	9°11.2	3.0 - 1.9	9.0 - 5.8	15.0 - 9.6
31	9°07.7	9°09.2	$8^{\circ}42.8$	3.1 - 1.9	9.1 - 5.5	15.1 - 9.2	31	$9^{\circ}22.7$	9°24.3	8°57.1	3.1 - 1.9	9.1 - 5.7	15.1 - 9.4	31	9°37.7	9°39.3	9°11.4	3.1 - 2.0	9.1 - 5.8	15.1 - 9.7
32	9°08.0	9°09.5	8°43.0	3.2 - 1.9	9.2 - 5.6	15.2 - 9.2	32	$9^{\circ}23.0$	9°24.5	8°57.4	3.2 - 2.0	9.2 - 5.8	15.2 - 9.5	32	9°38.0	9°39.6	9°11.7	3.2 - 2.1	9.2 - 5.9	15.2 - 9.8
33	9°08.2	9°09.7	$8^{\circ}43.3$	3.3 - 2.0	9.3 - 5.7	15.3 - 9.3	33	$9^{\circ}23.2$	9°24.8	8°57.6	3.3 - 2.1	9.3 - 5.8	15.3 - 9.6	33	9°38.2	9°39.8	9°11.9	3.3 - 2.1	9.3 - 6.0	15.3 - 9.8
34	9°08.5	9°10.0	8°43.5	3.4 - 2.1	9.4 - 5.7	15.4 - 9.4	34	$9^{\circ}23.5$	9°25.0	8°57.8	3.4 - 2.1	9.4 - 5.9	15.4 - 9.6	34	9°38.5	9°40.1	9°12.1	3.4 - 2.2	9.4 - 6.0	15.4 - 9.9
35	9°08.8	9°10.2	8°43.8	3.5 - 2.1	9.5 - 5.8	15.5 - 9.4	35	9°23.8	9°25.3	8°58.1	3.5 - 2.2	9.5 - 5.9	15.5 - 9.7	35	9°38.8	9°40.3	9°12.4	3.5 - 2.2	9.5 - 6.1	15.5 - 9.9
36	9°09.0 9°09.3	9°10.5 9°10.8	8°44.0 8°44.2	3.6 - 2.2	9.6 - 5.8	15.6 - 9.5	36	9°24.0 9°24.3	9°25.5 9°25.8	8°58.3 8°58.5	3.6 - 2.3	9.6 - 6.0	15.6 - 9.8	36	9°39.0 9°39.3	9°40.6 9°40.8	9°12.6 9°12.9	3.6 - 2.3	9.6 - 6.2	15.6 - 10.0 15.7 - 10.1
37	9°09.5	9°10.8	8 44.2 8°44.5	3.7 - 2.3 3.8 - 2.3	9.7 - 5.9 9.8 - 6.0	15.7 - 9.6 15.8 - 9.6	37 38	9°24.3	9 25.8 9°26.0	8°58.8	3.7 - 2.3 3.8 - 2.4	9.7 - 6.1 9.8 - 6.1	15.7 - 9.8 15.8 - 9.9	37 38	9°39.5	9°40.8	9 12.9 9°13.1	3.7 - 2.4 3.8 - 2.4	9.7 - 6.2 9.8 - 6.3	15.8 - 10.1
39	9°09.7	9°11.3	8°44.7	3.9 - 2.4	9.9 - 6.0	15.9 - 9.7	39	$9^{\circ}24.7$	9°26.3	8°59.0	3.9 - 2.4	9.9 - 6.2	15.9 - 9.9	39	9°39.7	9°41.3	9°13.3	3.9 - 2.5	9.9 - 6.4	15.9 - 10.2
40	9°10.0	9°11.5	8°44.9	4.0 - 2.4	10.0 - 6.1	16.0 - 9.7	40	9°25.0	9°26.5	8°59.3	4.0 - 2.5	10.0 - 6.3	16.0 - 10.0	40	9°40.0	9°41.6	9°13.6	4.0 - 2.6	10.0 - 6.4	16.0 - 10.3
41	9°10.2	9°11.8	8°45.2	4.1 - 2.5	10.1 - 6.1	16.1 - 9.8	41	9°25.2	9°26.8	8°59.5	4.1 - 2.6	10.1 - 6.3	16.1 - 10.1	41	9°40.2	9°41.8	9°13.8	4.1 - 2.6	10.1 - 6.5	16.1 - 10.3
42	9°10.5	9°12.0	$8^{\circ}45.4$	4.2 - 2.6	10.2 - 6.2	16.2 - 9.9	42	$9^{\circ}25.5$	9°27.0	8°59.7	4.2 - 2.6	10.2 - 6.4	16.2 - 10.1	42	$9^{\circ}40.5$	$9^{\circ}42.1$	9°14.1	4.2 - 2.7	10.2 - 6.5	16.2 - 10.4
43	9°10.8	9°12.3	8°45.7	4.3 - 2.6	10.3 - 6.3	16.3 - 9.9	43	$9^{\circ}25.8$	9°27.3	8°60.0	4.3 - 2.7	10.3 - 6.4	16.3 - 10.2	43	9°40.8	9°42.3	9°14.3	4.3 - 2.8	10.3 - 6.6	16.3 - 10.5
44	9°11.0	9°12.5	8°45.9	4.4 - 2.7	10.4 - 6.3	16.4 - 10.0	44	9°26.0	9°27.5	9°00.2	4.4 - 2.8	10.4 - 6.5	16.4 - 10.3	44	9°41.0	9°42.6	9°14.5	4.4 - 2.8	10.4 - 6.7	16.4 - 10.5
45	9°11.2	9°12.8	8°46.1	4.5 - 2.7	10.5 - 6.4	16.5 - 10.0	45	9°26.2	9°27.8	9°00.5	4.5 - 2.8	10.5 - 6.6	16.5 - 10.3	45	9°41.2	9°42.8	9°14.8	4.5 - 2.9	10.5 - 6.7	16.5 - 10.6
46	9°11.5	9°13.0	8°46.4	4.6 - 2.8	10.6 - 6.4	16.6 - 10.1	46	9°26.5	9°28.0	9°00.7 9°00.9	4.6 - 2.9	10.6 - 6.6	16.6 - 10.4	46	9°41.5	9°43.1	9°15.0	4.6 - 3.0	10.6 - 6.8	16.6 - 10.7
47 48	9°11.7 9°12.0	9°13.3 9°13.5	8°46.6 8°46.9	4.7 - 2.9 4.8 - 2.9	10.7 - 6.5 10.8 - 6.6	16.7 - 10.2 16.8 - 10.2	47 48	$9^{\circ}26.7$ $9^{\circ}27.0$	9°28.3 9°28.5	9°00.9	4.7 - 2.9 4.8 - 3.0	10.7 - 6.7 10.8 - 6.8	16.7 - 10.4 16.8 - 10.5	47 48	9°41.7 9°42.0	9°43.3 9°43.6	9°15.2 9°15.5	4.7 - 3.0 4.8 - 3.1	10.7 - 6.9 10.8 - 6.9	16.7 - 10.7 16.8 - 10.8
49	9°12.3	9°13.8	8°47.1	4.9 - 3.0	10.9 - 6.6	16.9 - 10.3	49	9°27.3	9°28.8	9°01.4	4.9 - 3.1	10.9 - 6.8	16.9 - 10.6	49	9°42.3	9°43.8	9°15.7	4.9 - 3.1	10.9 - 7.0	16.9 - 10.8
50	9°12.5	9°14.0	8°47.3	5.0 - 3.0	11.0 - 6.7	17.0 - 10.3	50	9°27.5	9°29.1	9°01.4	5.0 - 3.1	11.0 - 6.9	17.0 - 10.6	50	9°42.5	9°44.1	9°16.0	5.0 - 3.2	11.0 - 7.1	17.0 - 10.9
51	9°12.8	9°14.3	8°47.6	5.1 - 3.1	11.1 - 6.8	17.1 - 10.4	51	9°27.8	9°29.3	9°01.9	5.1 - 3.2	11.1 - 6.9	17.1 - 10.7	51	9°42.8	9°44.3	9°16.2	5.1 - 3.3	11.1 - 7.1	17.1 - 11.0
52	9°13.0	9°14.5	8°47.8	5.2 - 3.2	11.2 - 6.8	17.2 - 10.5	52	$9^{\circ}28.0$	9°29.6	$9^{\circ}02.1$	5.2 - 3.3	11.2 - 7.0	17.2 - 10.8	52	9°43.0	9°44.6	9°16.4	5.2 - 3.3	11.2 - 7.2	17.2 - 11.0
53	9°13.2	9°14.8	8°48.0	5.3 - 3.2	11.3 - 6.9	17.3 - 10.5	53	$9^{\circ}28.2$	9°29.8	$9^{\circ}02.4$	5.3 - 3.3	11.3 - 7.1	17.3 - 10.8	53	$9^{\circ}43.2$	9°44.8	9°16.7	5.3 - 3.4	11.3 - 7.3	17.3 - 11.1
54	9°13.5	9°15.0	8°48.3	5.4 - 3.3	11.4 - 6.9	17.4 - 10.6	54	$9^{\circ}28.5$	9°30.1	9°02.6	5.4 - 3.4	11.4 - 7.1	17.4 - 10.9	54	9°43.5	9°45.1	9°16.9	5.4 - 3.5	11.4 - 7.3	17.4 - 11.2
55	9°13.7	9°15.3	8°48.5	5.5 - 3.3	11.5 - 7.0	17.5 - 10.6	55	9°28.7	9°30.3	9°02.8	5.5 - 3.4	11.5 - 7.2	17.5 - 10.9	55	9°43.7	9°45.3	9°17.2	5.5 - 3.5	11.5 - 7.4	17.5 - 11.2
56	9°14.0	9°15.5	8°48.8	5.6 - 3.4	11.6 - 7.1	17.6 - 10.7	56	9°29.0	9°30.6	9°03.1	5.6 - 3.5	11.6 - 7.3	17.6 - 11.0	56	9°44.0	9°45.6	9°17.4	5.6 - 3.6	11.6 - 7.4	17.6 - 11.3
57	9°14.3	9°15.8	8°49.0	5.7 - 3.5	11.7 - 7.1	17.7 - 10.8	57	9°29.3	9°30.8	9°03.3	5.7 - 3.6	11.7 - 7.3	17.7 - 11.1	57	9°44.3	9°45.8 9°46.1	9°17.6	5.7 - 3.7	11.7 - 7.5	17.7 - 11.4
58 59	9°14.5 9°14.8	9°16.0 9°16.3	8°49.2 8°49.5	5.8 - 3.5 5.9 - 3.6	11.8 - 7.2 11.9 - 7.2	17.8 - 10.8 17.9 - 10.9	58 59	9°29.5 9°29.8	9°31.1 9°31.3	9°03.6 9°03.8	5.8 - 3.6 5.9 - 3.7	11.8 - 7.4 11.9 - 7.4	17.8 - 11.1 17.9 - 11.2	58 59	9°44.5 9°44.8	9°46.1 9°46.3	9°17.9 9°18.1	5.8 - 3.7 5.9 - 3.8	11.8 - 7.6 11.9 - 7.6	17.8 - 11.4 17.9 - 11.5
59	J 14.0	9 10.0	0 49.0	<sub>  </sub> 5.5 - 5.0	11.0 - 1.2	11.9 - 10.9	_ 59	ə 49.0	9 31.3	9 00.0	0.0 - 0.1	11.0 - 1.4	11.0 - 11.2	_ 58	J 44.0	J 40.3	9 10.1	9.9 - 3.8	11.9 - 1.0	11.5 - 11.0

m	Sun	Aries	Moon		v and d cor	r	m	Sun	Aries	Moon		v and d cor	rr	m	Sun	Aries	Moon		v and d cor	r
39	Plan.						40	Plan.						41	Plan.					
0	9°45.0	9°46.6	9°18.4	0.0 - 0.0	6.0 - 4.0	12.0 - 7.9	0	10°00.0	10°01.6	9°32.7	0.0 - 0.0	6.0 - 4.1	12.0 - 8.1	0	10°15.0	10°16.7	9°47.0	0.0 - 0.0	6.0 - 4.2	12.0 - 8.3
1	9°45.2	9°46.8	9°18.6	0.1 - 0.1	6.1 - 4.0	12.1 - 8.0	1	10°00.2	10°01.9	9°32.9	0.1 - 0.1	6.1 - 4.1	12.1 - 8.2	1	10°15.2	10°16.9	9°47.2	0.1 - 0.1	6.1 - 4.2	12.1 - 8.4
2	9°45.5	9°47.1	9°18.8	0.2 - 0.1	6.2 - 4.1	12.2 - 8.0	2	10°00.5	10°02.1	9°33.1	0.2 - 0.1	6.2 - 4.2	12.2 - 8.2	2	10°15.5	10°17.2	9°47.5	0.2 - 0.1	6.2 - 4.3	12.2 - 8.4
3	9°45.7	9°47.4	9°19.1	0.3 - 0.2	6.3 - 4.1	12.3 - 8.1	3	10°00.7	10°02.4	9°33.4	0.3 - 0.2	6.3 - 4.3	12.3 - 8.3	3	10°15.7	10°17.4	9°47.7	0.3 - 0.2	6.3 - 4.4	12.3 - 8.5
4	9°46.0	9°47.6	9°19.3	0.4 - 0.3	6.4 - 4.2	12.4 - 8.2	4	10°01.0	10°02.6	9°33.6	0.4 - 0.3	6.4 - 4.3	12.4 - 8.4	4	10°16.0	10°17.7	9°47.9	0.4 - 0.3	6.4 - 4.4	12.4 - 8.6
5	9°46.3	9°47.9	9°19.5	0.5 - 0.3	6.5 - 4.3	12.5 - 8.2	5	10°01.3	10°02.9	9°33.9	0.5 - 0.3	6.5 - 4.4	12.5 - 8.4	5	10°16.3	10°17.9	9°48.2	0.5 - 0.3	6.5 - 4.5	12.5 - 8.6
6	9°46.5 9°46.8	9°48.1	9°19.8 9°20.0	0.6 - 0.4	6.6 - 4.3	12.6 - 8.3	6	10°01.5	10°03.1	9°34.1 9°34.3	0.6 - 0.4	6.6 - 4.5	12.6 - 8.5	6	10°16.5 10°16.8	10°18.2 10°18.4	9°48.4 9°48.7	0.6 - 0.4	6.6 - 4.6	12.6 - 8.7
8	9 46.8 9°47.0	9°48.4 9°48.6	9°20.0	0.7 - 0.5 0.8 - 0.5	6.7 - 4.4	12.7 - 8.4	8	10°01.8 10°02.0	10°03.4 10°03.6	9°34.3	0.7 - 0.5	6.7 - 4.5 6.8 - 4.6	12.7 - 8.6	8		10 18.4 10°18.7	9 48.7 9°48.9	0.7 - 0.5	6.7 - 4.6 6.8 - 4.7	12.7 - 8.8 12.8 - 8.9
9	9°47.0 9°47.2	9 48.6 9°48.9	9°20.5	0.8 - 0.5	6.8 - 4.5 6.9 - 4.5	12.8 - 8.4 12.9 - 8.5	9	10 02.0 10°02.2	10 03.6 10°03.9	9°34.6 9°34.8	0.8 - 0.5	6.8 - 4.6 $6.9 - 4.7$	12.8 - 8.6 12.9 - 8.7	9	10°17.0 10°17.2	10 18.7 10°18.9	9 48.9 9°49.1	0.8 - 0.6	6.9 - 4.8	12.8 - 8.9
10	9°47.2	9 48.9 9°49.1	9°20.7	1.0 - 0.7	7.0 - 4.6	13.0 - 8.6	10	10 02.2 10°02.5	10°03.9	9°35.1	1.0 - 0.7	7.0 - 4.7	13.0 - 8.8	10	10 17.2 10°17.5	10°18.9 10°19.2	9°49.1	1.0 - 0.7	7.0 - 4.8	13.0 - 9.0
11	9°47.7	9°49.4	9°21.0	1.1 - 0.7	7.1 - 4.7	13.1 - 8.6	111	10°02.3	10°04.1	9°35.3	1.1 - 0.7	7.1 - 4.8	13.1 - 8.8	11	10°17.7	10°19.2	9°49.6	1.1 - 0.8	7.1 - 4.9	13.1 - 9.1
12	9°48.0	9°49.6	9°21.2	1.2 - 0.8	7.2 - 4.7	13.2 - 8.7	12	10°03.0	10°04.4	9°35.5	1.2 - 0.8	7.2 - 4.9	13.2 - 8.9	12	10°18.0	10°19.7	9°49.8	1.2 - 0.8	7.2 - 5.0	13.2 - 9.1
13	9°48.3	9°49.9	9°21.5	1.3 - 0.9	7.3 - 4.8	13.3 - 8.8	13	10°03.3	10°04.0	9°35.8	1.3 - 0.9	7.3 - 4.9	13.3 - 9.0	13	10°18.3	10°19.9	9°50.1	1.3 - 0.9	7.3 - 5.0	13.3 - 9.2
14	9°48.5	9°50.1	9°21.7	1.4 - 0.9	7.4 - 4.9	13.4 - 8.8	14	10°03.5	10°05.1	9°36.0	1.4 - 0.9	7.4 - 5.0	13.4 - 9.0	14	10°18.5	10°20.2	9°50.3	1.4 - 1.0	7.4 - 5.1	13.4 - 9.3
15	9°48.8	9°50.4	9°21.9	1.5 - 1.0	7.5 - 4.9	13.5 - 8.9	15	10°03.8	10°05.4	9°36.2	1.5 - 1.0	7.5 - 5.1	13.5 - 9.1	15	10°18.8	10°20.4	9°50.6	1.5 - 1.0	7.5 - 5.2	13.5 - 9.3
16	9°49.0	9°50.6	9°22.2	1.6 - 1.1	7.6 - 5.0	13.6 - 9.0	16	$10^{\circ}04.0$	10°05.7	9°36.5	1.6 - 1.1	7.6 - 5.1	13.6 - 9.2	16	10°19.0	10°20.7	9°50.8	1.6 - 1.1	7.6 - 5.3	13.6 - 9.4
17	9°49.2	9°50.9	9°22.4	1.7 - 1.1	7.7 - 5.1	13.7 - 9.0	17	$10^{\circ}04.2$	10°05.9	9°36.7	1.7 - 1.1	7.7 - 5.2	13.7 - 9.2	17	$10^{\circ}19.2$	10°20.9	9°51.0	1.7 - 1.2	7.7 - 5.3	13.7 - 9.5
18	9°49.5	9°51.1	9°22.6	1.8 - 1.2	7.8 - 5.1	13.8 - 9.1	18	$10^{\circ}04.5$	10°06.2	9°37.0	1.8 - 1.2	7.8 - 5.3	13.8 - 9.3	18	$10^{\circ}19.5$	10°21.2	9°51.3	1.8 - 1.2	7.8 - 5.4	13.8 - 9.5
19	9°49.8	9°51.4	9°22.9	1.9 - 1.3	7.9 - 5.2	13.9 - 9.2	19	$10^{\circ}04.8$	10°06.4	9°37.2	1.9 - 1.3	7.9 - 5.3	13.9 - 9.4	19	10°19.8	10°21.4	9°51.5	1.9 - 1.3	7.9 - 5.5	13.9 - 9.6
20	9°50.0	9°51.6	9°23.1	2.0 - 1.3	8.0 - 5.3	14.0 - 9.2	20	$10^{\circ}05.0$	10°06.7	9°37.4	2.0 - 1.4	8.0 - 5.4	14.0 - 9.5	20	$10^{\circ}20.0$	10°21.7	9°51.8	2.0 - 1.4	8.0 - 5.5	14.0 - 9.7
21	9°50.3	9°51.9	9°23.4	2.1 - 1.4	8.1 - 5.3	14.1 - 9.3	21	$10^{\circ}05.3$	10°06.9	9°37.7	2.1 - 1.4	8.1 - 5.5	14.1 - 9.5	21	$10^{\circ}20.3$	10°21.9	9°52.0	2.1 - 1.5	8.1 - 5.6	14.1 - 9.8
22	9°50.5	9°52.1	9°23.6	2.2 - 1.4	8.2 - 5.4	14.2 - 9.3	22	$10^{\circ}05.5$	10°07.2	9°37.9	2.2 - 1.5	8.2 - 5.5	14.2 - 9.6	22	$10^{\circ}20.5$	10°22.2	9°52.2	2.2 - 1.5	8.2 - 5.7	14.2 - 9.8
23	9°50.7	9°52.4	9°23.8	2.3 - 1.5	8.3 - 5.5	14.3 - 9.4	23	$10^{\circ}05.7$	10°07.4	9°38.2	2.3 - 1.6	8.3 - 5.6	14.3 - 9.7	23	$10^{\circ}20.7$	$10^{\circ}22.4$	9°52.5	2.3 - 1.6	8.3 - 5.7	14.3 - 9.9
24	9°51.0	9°52.6	9°24.1	2.4 - 1.6	8.4 - 5.5	14.4 - 9.5	24	10°06.0	10°07.7	9°38.4	2.4 - 1.6	8.4 - 5.7	14.4 - 9.7	24	10°21.0	10°22.7	9°52.7	2.4 - 1.7	8.4 - 5.8	14.4 - 10.0
25	9°51.2	9°52.9	9°24.3	2.5 - 1.6	8.5 - 5.6	14.5 - 9.5	25	10°06.2	10°07.9	9°38.6	2.5 - 1.7	8.5 - 5.7	14.5 - 9.8	25	10°21.2	10°22.9	9°52.9	2.5 - 1.7	8.5 - 5.9	14.5 - 10.0
26	9°51.5	9°53.1	9°24.6	2.6 - 1.7	8.6 - 5.7	14.6 - 9.6	26	10°06.5	10°08.2	9°38.9	2.6 - 1.8	8.6 - 5.8	14.6 - 9.9	26	10°21.5	10°23.2	9°53.2	2.6 - 1.8	8.6 - 5.9	14.6 - 10.1
27	9°51.8	9°53.4	9°24.8	2.7 - 1.8	8.7 - 5.7	14.7 - 9.7	27	10°06.8	10°08.4	9°39.1	2.7 - 1.8	8.7 - 5.9	14.7 - 9.9	27	10°21.8	10°23.4	9°53.4	2.7 - 1.9	8.7 - 6.0	14.7 - 10.2
28	9°52.0	9°53.6	9°25.0	2.8 - 1.8	8.8 - 5.8	14.8 - 9.7	28	10°07.0	10°08.7	9°39.3	2.8 - 1.9	8.8 - 5.9	14.8 - 10.0	28	10°22.0	10°23.7	9°53.7	2.8 - 1.9	8.8 - 6.1	14.8 - 10.2
29 30	9°52.3 9°52.5	9°53.9 9°54.1	9°25.3 9°25.5	2.9 - 1.9 3.0 - 2.0	8.9 - 5.9 9.0 - 5.9	14.9 - 9.8 15.0 - 9.9	29 30	10°07.3 10°07.5	10°08.9 10°09.2	9°39.6 9°39.8	2.9 - 2.0 3.0 - 2.0	8.9 - 6.0	14.9 - 10.1	29 30	10°22.3 10°22.5	$10^{\circ}24.0$ $10^{\circ}24.2$	9°53.9 9°54.1	2.9 - 2.0 3.0 - 2.1	8.9 - 6.2 9.0 - 6.2	14.9 - 10.3
31	9°52.7	9°54.4	9°25.7	3.1 - 2.0	9.0 - 5.9	15.1 - 9.9	31	10°07.3	10°09.2	9°40.1	3.1 - 2.1	9.0 - 6.1 9.1 - 6.1	15.0 - 10.1 15.1 - 10.2	31	10°22.3	10°24.2	9°54.1	3.1 - 2.1	9.1 - 6.3	15.0 - 10.4 15.1 - 10.4
32	9°53.0	9°54.6	9°26.0	3.2 - 2.1	9.2 - 6.1	15.2 - 10.0	32	10°08.0	10°09.4 10°09.7	9°40.1	3.2 - 2.2	9.2 - 6.2	15.2 - 10.3	32	10°23.0	10°24.3	9°54.6	3.2 - 2.2	9.2 - 6.4	15.2 - 10.5
33	9°53.2	9°54.9	9°26.2	3.3 - 2.2	9.3 - 6.1	15.3 - 10.1	33	10°08.2	10°09.9	9°40.5	3.3 - 2.2	9.3 - 6.3	15.3 - 10.3	33	10°23.2	10°25.0	9°54.9	3.3 - 2.3	9.3 - 6.4	15.3 - 10.6
34	9°53.5	9°55.1	9°26.5	3.4 - 2.2	9.4 - 6.2	15.4 - 10.1	34	10°08.5	10° 10.2	9°40.8	3.4 - 2.3	9.4 - 6.3	15.4 - 10.4	34	10°23.5	10°25.2	9°55.1	3.4 - 2.4	9.4 - 6.5	15.4 - 10.7
35	9°53.8	9°55.4	9°26.7	3.5 - 2.3	9.5 - 6.3	15.5 - 10.2	35	10°08.8	10° 10.4	9°41.0	3.5 - 2.4	9.5 - 6.4	15.5 - 10.5	35	10°23.8	10°25.5	9°55.3	3.5 - 2.4	9.5 - 6.6	15.5 - 10.7
36	9°54.0	9°55.6	9°26.9	3.6 - 2.4	9.6 - 6.3	15.6 - 10.3	36	$10^{\circ}09.0$	10°10.7	9°41.3	3.6 - 2.4	9.6 - 6.5	15.6 - 10.5	36	$10^{\circ}24.0$	10°25.7	9°55.6	3.6 - 2.5	9.6 - 6.6	15.6 - 10.8
37	9°54.3	9°55.9	9°27.2	3.7 - 2.4	9.7 - 6.4	15.7 - 10.3	37	$10^{\circ}09.3$	10°10.9	9°41.5	3.7 - 2.5	9.7 - 6.5	15.7 - 10.6	37	$10^{\circ}24.3$	10°26.0	9°55.8	3.7 - 2.6	9.7 - 6.7	15.7 - 10.9
38	9°54.5	9°56.1	9°27.4	3.8 - 2.5	9.8 - 6.5	15.8 - 10.4	38	$10^{\circ}09.5$	10°11.2	9°41.7	3.8 - 2.6	9.8 - 6.6	15.8 - 10.7	38	$10^{\circ}24.5$	10°26.2	9°56.1	3.8 - 2.6	9.8 - 6.8	15.8 - 10.9
39	9°54.7	9°56.4	9°27.7	3.9 - 2.6	9.9 - 6.5	15.9 - 10.5	39	10°09.7	10°11.4	9°42.0	3.9 - 2.6	9.9 - 6.7	15.9 - 10.7	39	$10^{\circ}24.7$	10°26.5	9°56.3	3.9 - 2.7	9.9 - 6.8	15.9 - 11.0
40	9°55.0	9°56.6	9°27.9	4.0 - 2.6	10.0 - 6.6	16.0 - 10.5	40	10°10.0	10°11.7	9°42.2	4.0 - 2.7	10.0 - 6.8	16.0 - 10.8	40	10°25.0	10°26.7	9°56.5	4.0 - 2.8	10.0 - 6.9	16.0 - 11.1
41	9°55.2	9°56.9	9°28.1	4.1 - 2.7	10.1 - 6.6	16.1 - 10.6	41	10°10.2	10°11.9	9°42.4	4.1 - 2.8	10.1 - 6.8	16.1 - 10.9	41	10°25.2	10°27.0	9°56.8	4.1 - 2.8	10.1 - 7.0	16.1 - 11.1
42	9°55.5	9°57.1	9°28.4	4.2 - 2.8	10.2 - 6.7	16.2 - 10.7	42	10°10.5	10°12.2	9°42.7	4.2 - 2.8	10.2 - 6.9	16.2 - 10.9	42	10°25.5	10°27.2	9°57.0	4.2 - 2.9	10.2 - 7.1	16.2 - 11.2
43	9°55.8	9°57.4	9°28.6	4.3 - 2.8	10.3 - 6.8	16.3 - 10.7	43	10°10.8	10°12.4	9°42.9	4.3 - 2.9	10.3 - 7.0	16.3 - 11.0	43	10°25.8	10°27.5	9°57.2	4.3 - 3.0	10.3 - 7.1	16.3 - 11.3
44 45	9°56.0 9°56.2	9°57.6 9°57.9	9°28.8 9°29.1	4.4 - 2.9 4.5 - 3.0	10.4 - 6.8 10.5 - 6.9	16.4 - 10.8 16.5 - 10.9	44	10°11.0 10°11.2	10°12.7 10°12.9	9°43.2 9°43.4	4.4 - 3.0 4.5 - 3.0	10.4 - 7.0 $10.5 - 7.1$	16.4 - 11.1 16.5 - 11.1	44 45	10°26.0 10°26.2	10°27.7 10°28.0	9°57.5 9°57.7	4.4 - 3.0 4.5 - 3.1	10.4 - 7.2 $10.5 - 7.3$	16.4 - 11.3 16.5 - 11.4
46	9°56.5	9°58.1	9°29.1	4.6 - 3.0	10.5 - 0.9	16.6 - 10.9	46	10°11.2	10°12.9	9°43.4 9°43.6	4.6 - 3.1	10.6 - 7.1 10.6 - 7.2	16.6 - 11.2	46	10°26.2	10°28.0	9°58.0	4.6 - 3.2	10.5 - 7.3	16.6 - 11.5
47	9°56.7	9°58.4	9°29.6	4.7 - 3.1	10.7 - 7.0	16.7 - 11.0	47	10°11.3	10°13.2	9°43.9	4.7 - 3.2	10.7 - 7.2	16.7 - 11.3	47	10°26.7	10°28.2	9°58.2	4.7 - 3.3	10.0 - 7.3	16.7 - 11.6
48	9°57.0	9°58.6	9°29.8	4.8 - 3.2	10.8 - 7.1	16.8 - 11.1	48	10°12.0	10° 13.4	9°44.1	4.8 - 3.2	10.8 - 7.3	16.8 - 11.3	48	10°27.0	10°28.7	9°58.4	4.8 - 3.3	10.8 - 7.5	16.8 - 11.6
49	9°57.3	9°58.9	9°30.0	4.9 - 3.2	10.9 - 7.2	16.9 - 11.1	49	10°12.3	10° 13.9	9°44.4	4.9 - 3.3	10.9 - 7.4	16.9 - 11.4	49	10°27.3	10°29.0	9°58.7	4.9 - 3.4	10.9 - 7.5	16.9 - 11.7
50	9°57.5	9°59.1	9°30.3	5.0 - 3.3	11.0 - 7.2	17.0 - 11.2	50	10°12.5	10°14.2	9°44.6	5.0 - 3.4	11.0 - 7.4	17.0 - 11.5	50	10°27.5	10°29.2	9°58.9	5.0 - 3.5	11.0 - 7.6	17.0 - 11.8
51	9°57.8	9°59.4	9°30.5	5.1 - 3.4	11.1 - 7.3	17.1 - 11.3	51	$10^{\circ}12.8$	10°14.4	9°44.8	5.1 - 3.4	11.1 - 7.5	17.1 - 11.5	51	$10^{\circ}27.8$	10°29.5	9°59.2	5.1 - 3.5	11.1 - 7.7	17.1 - 11.8
52	9°58.0	9°59.6	9°30.8	5.2 - 3.4	11.2 - 7.4	17.2 - 11.3	52	10°13.0	10°14.7	9°45.1	5.2 - 3.5	11.2 - 7.6	17.2 - 11.6	52	10°28.0	10°29.7	9°59.4	5.2 - 3.6	11.2 - 7.7	17.2 - 11.9
53	9°58.2	9°59.9	9°31.0	5.3 - 3.5	11.3 - 7.4	17.3 - 11.4	53	$10^{\circ}13.2$	10°14.9	9°45.3	5.3 - 3.6	11.3 - 7.6	17.3 - 11.7	53	$10^{\circ}28.2$	10°30.0	9°59.6	5.3 - 3.7	11.3 - 7.8	17.3 - 12.0
54	9°58.5	10°00.1	9°31.2	5.4 - 3.6	11.4 - 7.5	17.4 - 11.5	54	$10^{\circ}13.5$	10°15.2	9°45.6	5.4 - 3.6	11.4 - 7.7	17.4 - 11.7	54	$10^{\circ}28.5$	10°30.2	9°59.9	5.4 - 3.7	11.4 - 7.9	17.4 - 12.0
55	9°58.7	10°00.4	9°31.5	5.5 - 3.6	11.5 - 7.6	17.5 - 11.5	55	$10^{\circ}13.7$	10°15.4	9°45.8	5.5 - 3.7	11.5 - 7.8	17.5 - 11.8	55	$10^{\circ}28.7$	10°30.5	10°00.1	5.5 - 3.8	11.5 - 8.0	17.5 - 12.1
56	9°59.0	10°00.6	9°31.7	5.6 - 3.7	11.6 - 7.6	17.6 - 11.6	56	10° 14.0	10°15.7	9°46.0	5.6 - 3.8	11.6 - 7.8	17.6 - 11.9	56	10°29.0	10°30.7	10°00.3	5.6 - 3.9	11.6 - 8.0	17.6 - 12.2
57	9°59.3	10°00.9	9°32.0	5.7 - 3.8	11.7 - 7.7	17.7 - 11.7	57	10°14.3	10°15.9	9°46.3	5.7 - 3.8	11.7 - 7.9	17.7 - 11.9	57	10°29.3	10°31.0	10°00.6	5.7 - 3.9	11.7 - 8.1	17.7 - 12.2
58	9°59.5	10°01.1	9°32.2	5.8 - 3.8	11.8 - 7.8	17.8 - 11.7	58	$10^{\circ}14.5$	10°16.2	9°46.5	5.8 - 3.9	11.8 - 8.0	17.8 - 12.0	58	$10^{\circ}29.5$	10°31.2	10°00.8	5.8 - 4.0	11.8 - 8.2	17.8 - 12.3
59	9°59.8	10°01.4	9°32.4	5.9 - 3.9	11.9 - 7.8	17.9 - 11.8	59	10°14.8	10°16.4	9°46.7	5.9 - 4.0	11.9 - 8.0	17.9 - 12.1	59	10°29.8	10°31.5	10°01.1	5.9 - 4.1	11.9 - 8.2	17.9 - 12.4

m	Sun	Aries	Moon		v and d cor	r	m	Sun	Aries	Moon		v and d con	rr	m	Sun	Aries	Moon		v and d cor	r
42	Plan.						43	Plan.						44	Plan.					
0	10°30.0	10°31.7	10°01.3	0.0 - 0.0	6.0 - 4.3	12.0 - 8.5	0	10°45.0	10°46.8	10°15.6	0.0 - 0.0	6.0 - 4.3	12.0 - 8.7	0	11°00.0	11°01.8	10°29.9	0.0 - 0.0	6.0 - 4.5	12.0 - 8.9
1	10°30.2	$10^{\circ}32.0$	10°01.5	0.1 - 0.1	6.1 - 4.3	12.1 - 8.6	1	$10^{\circ}45.2$	$10^{\circ}47.0$	10°15.9	0.1 - 0.1	6.1 - 4.4	12.1 - 8.8	1	11°00.2	11°02.1	10°30.2	0.1 - 0.1	6.1 - 4.5	12.1 - 9.0
2	10°30.5	10°32.2	10°01.8	0.2 - 0.1	6.2 - 4.4	12.2 - 8.6	2	10°45.5	10°47.3	10°16.1	0.2 - 0.1	6.2 - 4.5	12.2 - 8.8	2	11°00.5	11°02.3	10°30.4	0.2 - 0.1	6.2 - 4.6	12.2 - 9.0
3	10°30.7	10°32.5	10°02.0	0.3 - 0.2	6.3 - 4.5	12.3 - 8.7	3	10°45.7	10°47.5	10°16.3	0.3 - 0.2	6.3 - 4.6	12.3 - 8.9	3	11°00.7	11°02.6	10°30.6	0.3 - 0.2	6.3 - 4.7	12.3 - 9.1
4	10°31.0	10°32.7	10°02.3	0.4 - 0.3	6.4 - 4.5	12.4 - 8.8	4	10°46.0	10°47.8	10°16.6	0.4 - 0.3	6.4 - 4.6	12.4 - 9.0	4	11°01.0	11°02.8	10°30.9	0.4 - 0.3	6.4 - 4.7	12.4 - 9.2
5	10°31.3	10°33.0	10°02.5	0.5 - 0.4	6.5 - 4.6	12.5 - 8.9	5	10°46.3	10°48.0	$10^{\circ}16.8$	0.5 - 0.4	6.5 - 4.7	12.5 - 9.1	5	11°01.3	11°03.1	10°31.1	0.5 - 0.4	6.5 - 4.8	12.5 - 9.3
6	10°31.5	10°33.2	10°02.7	0.6 - 0.4	6.6 - 4.7	12.6 - 8.9	6	10°46.5	10°48.3	10°17.0	0.6 - 0.4	6.6 - 4.8	12.6 - 9.1	6	11°01.5	11°03.3	10°31.4	0.6 - 0.4	6.6 - 4.9	12.6 - 9.3
7	10°31.8	10°33.5	10°03.0	0.7 - 0.5	6.7 - 4.7	12.7 - 9.0	7	10°46.8	10°48.5	10°17.3	0.7 - 0.5	6.7 - 4.9	12.7 - 9.2	7	11°01.8	11°03.6	10°31.6	0.7 - 0.5	6.7 - 5.0	12.7 - 9.4
8 9	10°32.0	10°33.7	10°03.2	0.8 - 0.6	6.8 - 4.8	12.8 - 9.1	8	10°47.0	10°48.8	10°17.5	0.8 - 0.6	6.8 - 4.9	12.8 - 9.3	8	11°02.0	11°03.8	10°31.8	0.8 - 0.6	6.8 - 5.0	12.8 - 9.5
"	10°32.2 10°32.5	10°34.0 10°34.2	10°03.4	0.9 - 0.6 1.0 - 0.7	6.9 - 4.9 7.0 - 5.0	12.9 - 9.1 13.0 - 9.2	9	10°47.2 10°47.5	10°49.0 10°49.3	10°17.8 10°18.0	0.9 - 0.7 1.0 - 0.7	6.9 - 5.0 7.0 - 5.1	12.9 - 9.4	9	11°02.2 11°02.5	11°04.1 11°04.3	10°32.1 10°32.3	0.9 - 0.7 1.0 - 0.7	6.9 - 5.1 7.0 - 5.2	12.9 - 9.6
10 11	10°32.5	10°34.2 10°34.5	10°03.7 10°03.9	1.0 - 0.7	7.0 - 5.0 $7.1 - 5.0$	13.1 - 9.3	111	10 47.5 10°47.7	10°49.5	10°18.0	1.0 - 0.7	7.0 - 5.1 $7.1 - 5.1$	13.0 - 9.4 13.1 - 9.5	11	11 02.5 11°02.7	11°04.5	10°32.5 10°32.6	1.0 - 0.7	7.0 - 5.2 $7.1 - 5.3$	13.0 - 9.6 13.1 - 9.7
12	10°33.0	10°34.3	10°03.9 10°04.2	1.2 - 0.9	7.1 - 5.0 $7.2 - 5.1$	13.2 - 9.3	12	10°48.0	10°49.8	10°18.2	1.2 - 0.9	7.1 - 5.1 $7.2 - 5.2$	13.2 - 9.6	12	11°03.0	11°04.8	10°32.8	1.2 - 0.9	7.1 - 5.3 $7.2 - 5.3$	13.2 - 9.8
13	10°33.3	10°35.0	10°04.2	1.3 - 0.9	7.3 - 5.2	13.3 - 9.4	13	10°48.3	10° 49.8	10°18.7	1.3 - 0.9	7.3 - 5.3	13.3 - 9.6	13	11°03.0	11°04.3	10°33.0	1.3 - 1.0	7.3 - 5.4	13.3 - 9.9
14	10°33.5	10°35.2	10°04.6	1.4 - 1.0	7.4 - 5.2	13.4 - 9.5	14	10°48.5	10°50.3	10°19.0	1.4 - 1.0	7.4 - 5.4	13.4 - 9.7	14	11°03.5	11°05.3	10°33.3	1.4 - 1.0	7.4 - 5.5	13.4 - 9.9
15	10°33.8	10°35.5	10°04.9	1.5 - 1.1	7.5 - 5.3	13.5 - 9.6	15	10°48.8	10°50.5	10°19.2	1.5 - 1.1	7.5 - 5.4	13.5 - 9.8	15	11°03.8	11°05.6	10°33.5	1.5 - 1.1	7.5 - 5.6	13.5 - 10.0
16	10°34.0	10°35.7	10°05.1	1.6 - 1.1	7.6 - 5.4	13.6 - 9.6	16	10°49.0	10°50.8	10°19.4	1.6 - 1.2	7.6 - 5.5	13.6 - 9.9	16	11°04.0	11°05.8	10°33.8	1.6 - 1.2	7.6 - 5.6	13.6 - 10.1
17	10°34.2	$10^{\circ}36.0$	10°05.4	1.7 - 1.2	7.7 - 5.5	13.7 - 9.7	17	10°49.2	10°51.0	$10^{\circ}19.7$	1.7 - 1.2	7.7 - 5.6	13.7 - 9.9	17	11°04.2	11°06.1	10°34.0	1.7 - 1.3	7.7 - 5.7	13.7 - 10.2
18	10°34.5	$10^{\circ}36.2$	10°05.6	1.8 - 1.3	7.8 - 5.5	13.8 - 9.8	18	10°49.5	10°51.3	10°19.9	1.8 - 1.3	7.8 - 5.7	13.8 - 10.0	18	11°04.5	11°06.3	10°34.2	1.8 - 1.3	7.8 - 5.8	13.8 - 10.2
19	10°34.8	$10^{\circ}36.5$	10°05.8	1.9 - 1.3	7.9 - 5.6	13.9 - 9.8	19	10°49.8	10°51.5	$10^{\circ}20.2$	1.9 - 1.4	7.9 - 5.7	13.9 - 10.1	19	11°04.8	11°06.6	10°34.5	1.9 - 1.4	7.9 - 5.9	13.9 - 10.3
20	10°35.0	$10^{\circ}36.7$	10°06.1	2.0 - 1.4	8.0 - 5.7	14.0 - 9.9	20	10°50.0	10°51.8	$10^{\circ}20.4$	2.0 - 1.4	8.0 - 5.8	14.0 - 10.2	20	$11^{\circ}05.0$	11°06.8	10°34.7	2.0 - 1.5	8.0 - 5.9	14.0 - 10.4
21	10°35.3	$10^{\circ}37.0$	10°06.3	2.1 - 1.5	8.1 - 5.7	14.1 - 10.0	21	10°50.3	$10^{\circ}52.0$	$10^{\circ}20.6$	2.1 - 1.5	8.1 - 5.9	14.1 - 10.2	21	$11^{\circ}05.3$	11°07.1	10°34.9	2.1 - 1.6	8.1 - 6.0	14.1 - 10.5
22	10°35.5	10°37.2	10°06.5	2.2 - 1.6	8.2 - 5.8	14.2 - 10.1	22	10°50.5	10°52.3	10°20.9	2.2 - 1.6	8.2 - 5.9	14.2 - 10.3	22	11°05.5	11°07.3	10°35.2	2.2 - 1.6	8.2 - 6.1	14.2 - 10.5
23	10°35.7	10°37.5	10°06.8	2.3 - 1.6	8.3 - 5.9	14.3 - 10.1	23	10°50.7	10°52.5	10°21.1	2.3 - 1.7	8.3 - 6.0	14.3 - 10.4	23	11°05.7	11°07.6	10°35.4	2.3 - 1.7	8.3 - 6.2	14.3 - 10.6
24	10°36.0	10°37.7	10°07.0	2.4 - 1.7	8.4 - 6.0	14.4 - 10.2	24	10°51.0	10°52.8	10°21.3	2.4 - 1.7	8.4 - 6.1	14.4 - 10.4	24	11°06.0	11°07.8	10°35.7	2.4 - 1.8	8.4 - 6.2	14.4 - 10.7
25	10°36.2 10°36.5	10°38.0 10°38.2	10°07.3	2.5 - 1.8	8.5 - 6.0	14.5 - 10.3	25	10°51.2 10°51.5	10°53.0 10°53.3	10°21.6	2.5 - 1.8	8.5 - 6.2	14.5 - 10.5	25	11°06.2	11°08.1	10°35.9	2.5 - 1.9	8.5 - 6.3	14.5 - 10.8
26 27	10°36.8	10 38.2 10°38.5	10°07.5	2.6 - 1.8 2.7 - 1.9	8.6 - 6.1	14.6 - 10.3	26 27		10 53.3 10°53.5	$10^{\circ}21.8$ $10^{\circ}22.1$	2.6 - 1.9 2.7 - 2.0	8.6 - 6.2 8.7 - 6.3	14.6 - 10.6 14.7 - 10.7	26 27	11°06.5 11°06.8	11°08.3 11°08.6	10°36.1	2.6 - 1.9	8.6 - 6.4	14.6 - 10.8
28	10°30.8	10°38.7	10°07.7 10°08.0	2.7 - 1.9	8.7 - 6.2 8.8 - 6.2	14.7 - 10.4 14.8 - 10.5	28	10°51.8 10°52.0	10°53.8	$10^{\circ}22.1$ $10^{\circ}22.3$	2.7 - 2.0	8.8 - 6.4	14.8 - 10.7	28	11°07.0	11°08.8	10°36.4 10°36.6	2.7 - 2.0 2.8 - 2.1	8.7 - 6.5 8.8 - 6.5	14.7 - 10.9 14.8 - 11.0
29	10°37.3	10°39.0	10°08.0	2.9 - 2.1	8.9 - 6.3	14.9 - 10.6	29	10°52.0	10°54.0	10°22.5	2.9 - 2.1	8.9 - 6.5	14.9 - 10.8	29	11°07.3	11°09.1	10°36.9	2.9 - 2.2	8.9 - 6.6	14.9 - 11.1
30	10°37.5	10°39.2	10°08.5	3.0 - 2.1	9.0 - 6.4	15.0 - 10.6	30	10°52.5	10°54.3	10°22.8	3.0 - 2.2	9.0 - 6.5	15.0 - 10.9	30	11°07.5	11°09.3	10°37.1	3.0 - 2.2	9.0 - 6.7	15.0 - 11.1
31	10°37.7	10°39.5	10°08.7	3.1 - 2.2	9.1 - 6.4	15.1 - 10.7	31	10°52.7	10°54.5	10°23.0	3.1 - 2.2	9.1 - 6.6	15.1 - 10.9	31	11°07.7	11°09.6	10°37.3	3.1 - 2.3	9.1 - 6.7	15.1 - 11.2
32	10°38.0	10°39.7	10°08.9	3.2 - 2.3	9.2 - 6.5	15.2 - 10.8	32	10°53.0	10°54.8	10°23.3	3.2 - 2.3	9.2 - 6.7	15.2 - 11.0	32	11°08.0	11°09.8	10°37.6	3.2 - 2.4	9.2 - 6.8	15.2 - 11.3
33	10°38.2	$10^{\circ}40.0$	10°09.2	3.3 - 2.3	9.3 - 6.6	15.3 - 10.8	33	10°53.2	10°55.0	$10^{\circ}23.5$	3.3 - 2.4	9.3 - 6.7	15.3 - 11.1	33	11°08.2	11°10.1	10°37.8	3.3 - 2.4	9.3 - 6.9	15.3 - 11.3
34	10°38.5	$10^{\circ}40.2$	10°09.4	3.4 - 2.4	9.4 - 6.7	15.4 - 10.9	34	10°53.5	$10^{\circ}55.3$	$10^{\circ}23.7$	3.4 - 2.5	9.4 - 6.8	15.4 - 11.2	34	11°08.5	11°10.3	10°38.0	3.4 - 2.5	9.4 - 7.0	15.4 - 11.4
35	10°38.8	$10^{\circ}40.5$	10°09.7	3.5 - 2.5	9.5 - 6.7	15.5 - 11.0	35	10°53.8	10°55.5	$10^{\circ}24.0$	3.5 - 2.5	9.5 - 6.9	15.5 - 11.2	35	11°08.8	11°10.6	10°38.3	3.5 - 2.6	9.5 - 7.0	15.5 - 11.5
36	10°39.0	10°40.7	10°09.9	3.6 - 2.6	9.6 - 6.8	15.6 - 11.1	36	10°54.0	10°55.8	$10^{\circ}24.2$	3.6 - 2.6	9.6 - 7.0	15.6 - 11.3	36	11°09.0	11°10.8	10°38.5	3.6 - 2.7	9.6 - 7.1	15.6 - 11.6
37	10°39.3	10°41.0	10°10.1	3.7 - 2.6	9.7 - 6.9	15.7 - 11.1	37	10°54.3	10°56.0	10°24.4	3.7 - 2.7	9.7 - 7.0	15.7 - 11.4	37	11°09.3	11°11.1	10°38.8	3.7 - 2.7	9.7 - 7.2	15.7 - 11.6
38	10°39.5	10°41.2	10°10.4	3.8 - 2.7	9.8 - 6.9	15.8 - 11.2	38	10°54.5	10°56.3	10°24.7	3.8 - 2.8	9.8 - 7.1	15.8 - 11.5	38	11°09.5	11°11.3	10°39.0	3.8 - 2.8	9.8 - 7.3	15.8 - 11.7
39	10°39.7 10°40.0	10°41.5 10°41.7	10°10.6	3.9 - 2.8	9.9 - 7.0	15.9 - 11.3	39	10°54.7 10°55.0	10°56.5 10°56.8	$10^{\circ}24.9$ $10^{\circ}25.2$	3.9 - 2.8	9.9 - 7.2	15.9 - 11.5	39	11°09.7	11°11.6 11°11.8	10°39.2	3.9 - 2.9	9.9 - 7.3	15.9 - 11.8
40	10°40.0	10°41.7 10°42.0	10°10.8 10°11.1	4.0 - 2.8 4.1 - 2.9	10.0 - 7.1 10.1 - 7.2	16.0 - 11.3 16.1 - 11.4	40	10°55.0	10°57.0	10°25.2 10°25.4	4.0 - 2.9 4.1 - 3.0	10.0 - 7.3 $10.1 - 7.3$	16.0 - 11.6 16.1 - 11.7	40	11°10.0 11°10.2	$11^{\circ}11.8$ $11^{\circ}12.1$	10°39.5 10°39.7	4.0 - 3.0 4.1 - 3.0	10.0 - 7.4 $10.1 - 7.5$	16.0 - 11.9 16.1 - 11.9
42	10°40.2	10°42.0	10°11.1	4.2 - 3.0	10.1 - 7.2	16.2 - 11.5	42	10°55.5	10°57.3	10°25.4	4.2 - 3.0	10.1 - 7.3	16.2 - 11.7	42	11°10.2	11°12.1	10° 40.0	4.2 - 3.1	10.2 - 7.6	16.2 - 12.0
43	10°40.8	10°42.5	10°11.6	4.3 - 3.0	10.2 - 7.2	16.3 - 11.5	43	10°55.8	10°57.5	10°25.9	4.2 - 3.0	10.2 - 7.4	16.3 - 11.8	43	11°10.8	11°12.6	10°40.0	4.3 - 3.2	10.2 - 7.6	16.3 - 12.1
44	10°41.0	10°42.8	10°11.8	4.4 - 3.1	10.3 - 7.3 $10.4 - 7.4$	16.4 - 11.6	44	10°56.0	10°57.8	10°26.1	4.4 - 3.2	10.4 - 7.5	16.4 - 11.9	44	11°11.0	11°12.8	10°40.4	4.4 - 3.3	10.4 - 7.7	16.4 - 12.2
45	10°41.2	$10^{\circ}43.0$	10°12.0	4.5 - 3.2	10.5 - 7.4	16.5 - 11.7	45	10°56.2	10°58.0	$10^{\circ}26.4$	4.5 - 3.3	10.5 - 7.6	16.5 - 12.0	45	11°11.2	11°13.1	10°40.7	4.5 - 3.3	10.5 - 7.8	16.5 - 12.2
46	10°41.5	$10^{\circ}43.3$	10°12.3	4.6 - 3.3	10.6 - 7.5	16.6 - 11.8	46	10°56.5	10°58.3	$10^{\circ}26.6$	4.6 - 3.3	10.6 - 7.7	16.6 - 12.0	46	11°11.5	11°13.3	10°40.9	4.6 - 3.4	10.6 - 7.9	16.6 - 12.3
47	10°41.7	$10^{\circ}43.5$	10°12.5	4.7 - 3.3	10.7 - 7.6	16.7 - 11.8	47	10°56.7	10°58.5	$10^{\circ}26.8$	4.7 - 3.4	10.7 - 7.8	16.7 - 12.1	47	$11^{\circ}11.7$	11°13.6	10°41.1	4.7 - 3.5	10.7 - 7.9	16.7 - 12.4
48	10°42.0	10°43.8	10°12.8	4.8 - 3.4	10.8 - 7.7	16.8 - 11.9	48	10°57.0	10°58.8	$10^{\circ}27.1$	4.8 - 3.5	10.8 - 7.8	16.8 - 12.2	48	11°12.0	11°13.8	10°41.4	4.8 - 3.6	10.8 - 8.0	16.8 - 12.5
49	10°42.3	10°44.0	10°13.0	4.9 - 3.5	10.9 - 7.7	16.9 - 12.0	49	10°57.3	10°59.0	10°27.3	4.9 - 3.6	10.9 - 7.9	16.9 - 12.3	49	11°12.3	11°14.1	10°41.6	4.9 - 3.6	10.9 - 8.1	16.9 - 12.5
50	10°42.5	10°44.3	10°13.2	5.0 - 3.5	11.0 - 7.8	17.0 - 12.0	50	10°57.5	10°59.3	10°27.5	5.0 - 3.6	11.0 - 8.0	17.0 - 12.3	50	11°12.5	11°14.3	10°41.9	5.0 - 3.7	11.0 - 8.2	17.0 - 12.6
51	10°42.8	10°44.5	10°13.5	5.1 - 3.6	11.1 - 7.9	17.1 - 12.1	51	10°57.8	10°59.5	10°27.8	5.1 - 3.7	11.1 - 8.0	17.1 - 12.4	51	11°12.8	11°14.6	10°42.1	5.1 - 3.8	11.1 - 8.2	17.1 - 12.7
52	10°43.0 10°43.2	10°44.8 10°45.0	10°13.7 10°13.9	5.2 - 3.7	11.2 - 7.9	17.2 - 12.2	52	10°58.0 10°58.2	10°59.8 11°00.0	10°28.0 10°28.3	5.2 - 3.8	11.2 - 8.1	17.2 - 12.5	52	11°13.0	11°14.8 11°15.1	10°42.3 10°42.6	5.2 - 3.9 5.3 - 3.9	11.2 - 8.3	17.2 - 12.8
53 54	10 43.2 10°43.5	10 45.0 10°45.3	10 13.9 10°14.2	5.3 - 3.8 5.4 - 3.8	11.3 - 8.0 11.4 - 8.1	17.3 - 12.3 17.4 - 12.3	53 54	10 58.2 10°58.5	11°00.0	10 28.3 10°28.5	5.3 - 3.8 5.4 - 3.9	11.3 - 8.2 11.4 - 8.3	17.3 - 12.5 17.4 - 12.6	53 54	11°13.2 11°13.5	11 15.1 11°15.3	10 42.6 10°42.8	5.4 - 4.0	11.3 - 8.4 11.4 - 8.5	17.3 - 12.8 17.4 - 12.9
55	10°43.5	10°45.5	10°14.2	5.5 - 3.9	11.4 - 8.1	17.4 - 12.5	55	10°58.7	11°00.5	10°28.7	5.5 - 4.0	11.4 - 8.3	17.4 - 12.6	55	11°13.5	11°15.5	10°43.1	5.5 - 4.1	11.4 - 8.5	17.5 - 13.0
56	10°44.0	10°45.8	10°14.4	5.6 - 4.0	11.6 - 8.2	17.6 - 12.5	56	10°59.0	11°00.8	10°29.0	5.6 - 4.1	11.6 - 8.4	17.6 - 12.8	56	11°14.0	11°15.8	10°43.1	5.6 - 4.2	11.6 - 8.6	17.6 - 13.1
57	10°44.3	10°46.0	10°14.9	5.7 - 4.0	11.7 - 8.3	17.7 - 12.5	57	10°59.3	11°01.1	10°29.2	5.7 - 4.1	11.7 - 8.5	17.7 - 12.8	57	11°14.3	11°16.1	10°43.5	5.7 - 4.2	11.7 - 8.7	17.7 - 13.1
58	10°44.5	10°46.3	10°15.1	5.8 - 4.1	11.8 - 8.4	17.8 - 12.6	58	10°59.5	11°01.3	10°29.5	5.8 - 4.2	11.8 - 8.6	17.8 - 12.9	58	11°14.5	11°16.3	10°43.8	5.8 - 4.3	11.8 - 8.8	17.8 - 13.2
59	10°44.8	$10^{\circ}46.5$	10°15.4	5.9 - 4.2		17.9 - 12.7	59	10°59.8	11°01.6	$10^{\circ}29.7$	5.9 - 4.3	11.9 - 8.6	17.9 - 13.0	59	11°14.8	11°16.6	10°44.0	5.9 - 4.4	11.9 - 8.8	17.9 - 13.3

m	Sun	Aries	Moon		v and d cor	r	m	Sun	Aries	Moon		v and d con	rr	m	Sun	Aries	Moon		v and d cor	r
45	Plan.						46	Plan.						47	Plan.					
0	11°15.0	11°16.8	10°44.3	0.0 - 0.0	6.0 - 4.5	12.0 - 9.1	0	11°30.0	11°31.9	10°58.6	0.0 - 0.0	6.0 - 4.7	12.0 - 9.3	0	11°45.0	11°46.9	11°12.9	0.0 - 0.0	6.0 - 4.8	12.0 - 9.5
1	11°15.2	11°17.1	10°44.5	0.1 - 0.1	6.1 - 4.6	12.1 - 9.2	1	11°30.2	11°32.1	10°58.8	0.1 - 0.1	6.1 - 4.7	12.1 - 9.4	1	11°45.2	11°47.2	11°13.1	0.1 - 0.1	6.1 - 4.8	12.1 - 9.6
2	11°15.5	11°17.3	10°44.7	0.2 - 0.2	6.2 - 4.7	12.2 - 9.3	2	11°30.5	11°32.4	10°59.0	0.2 - 0.2	6.2 - 4.8	12.2 - 9.5	2	11°45.5	11°47.4	11°13.4	0.2 - 0.2	6.2 - 4.9	12.2 - 9.7
3	11°15.7	11°17.6	10°45.0	0.3 - 0.2	6.3 - 4.8	12.3 - 9.3	3	11°30.7	11°32.6	10°59.3	0.3 - 0.2	6.3 - 4.9	12.3 - 9.5	3	11°45.7	11°47.7	11°13.6	0.3 - 0.2	6.3 - 5.0	12.3 - 9.7
4	11°16.0	11°17.8	10°45.2	0.4 - 0.3	6.4 - 4.9	12.4 - 9.4	4	11°31.0	11°32.9	10°59.5	0.4 - 0.3	6.4 - 5.0	12.4 - 9.6	4	11°46.0	11°47.9	11°13.8	0.4 - 0.3	6.4 - 5.1	12.4 - 9.8
5 6	11°16.3 11°16.5	11°18.1 11°18.3	10°45.4 10°45.7	0.5 - 0.4 0.6 - 0.5	6.5 - 4.9 6.6 - 5.0	12.5 - 9.5 12.6 - 9.6	5 6	11°31.3 11°31.5	11°33.1 11°33.4	10°59.8 10°60.0	0.5 - 0.4 0.6 - 0.5	6.5 - 5.0 6.6 - 5.1	12.5 - 9.7 12.6 - 9.8	5 6	11°46.3 11°46.5	11°48.2 11°48.4	11°14.1 11°14.3	0.5 - 0.4 0.6 - 0.5	6.5 - 5.1 6.6 - 5.2	12.5 - 9.9 12.6 - 10.0
7	11°16.8	11°18.6	10°45.7	0.0 - 0.5	6.7 - 5.1	12.7 - 9.6	7	11°31.8	11°33.4	10°00.0	0.0 - 0.5	6.7 - 5.2	12.7 - 9.8	7	11°46.8	11°48.7	11°14.5	0.0 - 0.3	6.7 - 5.3	12.7 - 10.1
8	11°17.0	11°18.9	10°46.2	0.8 - 0.6	6.8 - 5.2	12.8 - 9.7	8	11°32.0	11°33.9	11°00.2	0.8 - 0.6	6.8 - 5.3	12.8 - 9.9	8	11°47.0	11°48.9	11°14.8	0.8 - 0.6	6.8 - 5.4	12.8 - 10.1
9	11°17.2	11°19.1	10°46.4	0.9 - 0.7	6.9 - 5.2	12.9 - 9.8	9	11°32.0	11°34.1	11°00.7	0.9 - 0.7	6.9 - 5.3	12.9 - 10.0	9	11°47.2	11°49.2	11°15.0	0.9 - 0.7	6.9 - 5.5	12.9 - 10.2
10	11°17.5	11°19.4	10°46.6	1.0 - 0.8	7.0 - 5.3	13.0 - 9.9	10	11°32.5	11°34.4	11°01.0	1.0 - 0.8	7.0 - 5.4	13.0 - 10.1	10	11°47.5	11°49.4	11°15.3	1.0 - 0.8	7.0 - 5.5	13.0 - 10.3
11	11°17.7	11°19.6	10°46.9	1.1 - 0.8	7.1 - 5.4	13.1 - 9.9	11	11°32.7	11°34.6	11°01.2	1.1 - 0.9	7.1 - 5.5	13.1 - 10.2	11	11°47.7	11°49.7	11°15.5	1.1 - 0.9	7.1 - 5.6	13.1 - 10.4
12	11°18.0	11°19.9	10°47.1	1.2 - 0.9	7.2 - 5.5	13.2 - 10.0	12	11°33.0	11°34.9	11°01.4	1.2 - 0.9	7.2 - 5.6	13.2 - 10.2	12	11°48.0	11°49.9	11°15.7	1.2 - 1.0	7.2 - 5.7	13.2 - 10.4
13	11°18.3	$11^{\circ}20.1$	10°47.4	1.3 - 1.0	7.3 - 5.5	13.3 - 10.1	13	11°33.3	11°35.1	$11^{\circ}01.7$	1.3 - 1.0	7.3 - 5.7	13.3 - 10.3	13	11°48.3	11°50.2	11°16.0	1.3 - 1.0	7.3 - 5.8	13.3 - 10.5
14	11°18.5	$11^{\circ}20.4$	10°47.6	1.4 - 1.1	7.4 - 5.6	13.4 - 10.2	14	11°33.5	11°35.4	11°01.9	1.4 - 1.1	7.4 - 5.7	13.4 - 10.4	14	11°48.5	11°50.4	11°16.2	1.4 - 1.1	7.4 - 5.9	13.4 - 10.6
15	11°18.8	11°20.6	10°47.8	1.5 - 1.1	7.5 - 5.7	13.5 - 10.2	15	11°33.8	11°35.6	11°02.1	1.5 - 1.2	7.5 - 5.8	13.5 - 10.5	15	11°48.8	11°50.7	11°16.5	1.5 - 1.2	7.5 - 5.9	13.5 - 10.7
16	11°19.0	11°20.9	10°48.1	1.6 - 1.2	7.6 - 5.8	13.6 - 10.3	16	11°34.0	11°35.9	11°02.4	1.6 - 1.2	7.6 - 5.9	13.6 - 10.5	16	11°49.0	11°50.9	11°16.7	1.6 - 1.3	7.6 - 6.0	13.6 - 10.8
17	11°19.2	11°21.1	10°48.3	1.7 - 1.3	7.7 - 5.8	13.7 - 10.4	17	11°34.2	11°36.1	11°02.6	1.7 - 1.3	7.7 - 6.0	13.7 - 10.6	17	11°49.2	11°51.2	11°16.9	1.7 - 1.3	7.7 - 6.1	13.7 - 10.8
18	11°19.5	11°21.4	10°48.5	1.8 - 1.4	7.8 - 5.9	13.8 - 10.5	18	11°34.5	11°36.4	11°02.9	1.8 - 1.4	7.8 - 6.0	13.8 - 10.7	18	11°49.5	11°51.4	11°17.2	1.8 - 1.4	7.8 - 6.2	13.8 - 10.9
19	11°19.8	11°21.6	10°48.8	1.9 - 1.4	7.9 - 6.0	13.9 - 10.5	19	11°34.8	11°36.6	11°03.1	1.9 - 1.5	7.9 - 6.1	13.9 - 10.8	19	11°49.8	11°51.7	11°17.4	1.9 - 1.5	7.9 - 6.3	13.9 - 11.0
20 21	11°20.0 11°20.3	11°21.9 11°22.1	10°49.0 10°49.3	2.0 - 1.5 2.1 - 1.6	8.0 - 6.1 8.1 - 6.1	14.0 - 10.6	20 21	11°35.0 11°35.3	11°36.9 11°37.2	11°03.3 11°03.6	2.0 - 1.6 2.1 - 1.6	8.0 - 6.2	14.0 - 10.8 14.1 - 10.9	20 21	11°50.0 11°50.3	11°51.9 11°52.2	11°17.7 11°17.9	2.0 - 1.6 2.1 - 1.7	8.0 - 6.3 8.1 - 6.4	14.0 - 11.1 14.1 - 11.2
21	11°20.5	11°22.1	10 49.5 10°49.5	2.1 - 1.0	8.2 - 6.2	14.1 - 10.7 14.2 - 10.8	21 22	11°35.5	11°37.2	11°03.8	2.1 - 1.0	8.1 - 6.3 8.2 - 6.4	14.1 - 10.9	22	11°50.5	11°52.2	11°18.1	2.1 - 1.7	8.2 - 6.5	14.1 - 11.2
23	11°20.7	11°22.4	10°49.7	2.3 - 1.7	8.3 - 6.3	14.3 - 10.8	23	11°35.7	11°37.4	11°03.3	2.3 - 1.8	8.3 - 6.4	14.3 - 11.1	23	11°50.7	11°52.4	11°18.4	2.3 - 1.8	8.3 - 6.6	14.3 - 11.3
24	11°21.0	11°22.9	10°50.0	2.4 - 1.8	8.4 - 6.4	14.4 - 10.9	24	11°36.0	11°37.9	11°04.3	2.4 - 1.9	8.4 - 6.5	14.4 - 11.2	24	11°51.0	11°52.9	11°18.6	2.4 - 1.9	8.4 - 6.7	14.4 - 11.4
25	11°21.2	11°23.1	10°50.2	2.5 - 1.9	8.5 - 6.4	14.5 - 11.0	25	11°36.2	11°38.2	11°04.5	2.5 - 1.9	8.5 - 6.6	14.5 - 11.2	25	11°51.2	11°53.2	11°18.8	2.5 - 2.0	8.5 - 6.7	14.5 - 11.5
26	11°21.5	$11^{\circ}23.4$	10°50.5	2.6 - 2.0	8.6 - 6.5	14.6 - 11.1	26	11°36.5	11°38.4	11°04.8	2.6 - 2.0	8.6 - 6.7	14.6 - 11.3	26	11°51.5	11°53.4	11°19.1	2.6 - 2.1	8.6 - 6.8	14.6 - 11.6
27	11°21.8	11°23.6	10°50.7	2.7 - 2.0	8.7 - 6.6	14.7 - 11.1	27	11°36.8	11°38.7	11°05.0	2.7 - 2.1	8.7 - 6.7	14.7 - 11.4	27	11°51.8	11°53.7	11°19.3	2.7 - 2.1	8.7 - 6.9	14.7 - 11.6
28	11°22.0	$11^{\circ}23.9$	10°50.9	2.8 - 2.1	8.8 - 6.7	14.8 - 11.2	28	11°37.0	11°38.9	$11^{\circ}05.2$	2.8 - 2.2	8.8 - 6.8	14.8 - 11.5	28	11°52.0	11°53.9	11°19.6	2.8 - 2.2	8.8 - 7.0	14.8 - 11.7
29	11°22.3	11°24.1	10°51.2	2.9 - 2.2	8.9 - 6.7	14.9 - 11.3	29	11°37.3	11°39.2	11°05.5	2.9 - 2.2	8.9 - 6.9	14.9 - 11.5	29	11°52.3	11°54.2	11°19.8	2.9 - 2.3	8.9 - 7.0	14.9 - 11.8
30	11°22.5	11°24.4	10°51.4	3.0 - 2.3	9.0 - 6.8	15.0 - 11.4	30	11°37.5	11°39.4	11°05.7	3.0 - 2.3	9.0 - 7.0	15.0 - 11.6	30	11°52.5	11°54.4	11°20.0	3.0 - 2.4	9.0 - 7.1	15.0 - 11.9
31	11°22.7	11°24.6	10°51.6	3.1 - 2.4	9.1 - 6.9	15.1 - 11.5	31	11°37.7	11°39.7	11°06.0	3.1 - 2.4	9.1 - 7.1	15.1 - 11.7	31	11°52.7	11°54.7	11°20.3	3.1 - 2.5	9.1 - 7.2	15.1 - 12.0
32	11°23.0	11°24.9	10°51.9	3.2 - 2.4	9.2 - 7.0	15.2 - 11.5	32	11°38.0	11°39.9	11°06.2	3.2 - 2.5	9.2 - 7.1	15.2 - 11.8	32	11°53.0	11°54.9	11°20.5	3.2 - 2.5	9.2 - 7.3	15.2 - 12.0
33	11°23.2 11°23.5	11°25.1 11°25.4	10°52.1 10°52.4	3.3 - 2.5 3.4 - 2.6	9.3 - 7.1 9.4 - 7.1	15.3 - 11.6 15.4 - 11.7	33 34	11°38.2 11°38.5	11°40.2 11°40.4	11°06.4 11°06.7	3.3 - 2.6 3.4 - 2.6	9.3 - 7.2 9.4 - 7.3	15.3 - 11.9 15.4 - 11.9	33	11°53.2 11°53.5	11°55.2 11°55.5	11°20.8 11°21.0	3.3 - 2.6 3.4 - 2.7	9.3 - 7.4 9.4 - 7.4	15.3 - 12.1 15.4 - 12.2
35	11°23.8	11°25.4	10°52.4 10°52.6	3.5 - 2.7	9.4 - 7.1	15.5 - 11.8	35	11°38.8	11°40.4	11°06.7	3.5 - 2.7	9.4 - 7.3	15.5 - 12.0	35	11°53.8	11°55.7	11°21.0	3.5 - 2.8	9.4 - 7.4	15.5 - 12.3
36	11°24.0	11°25.9	10°52.8	3.6 - 2.7	9.6 - 7.3	15.6 - 11.8	36	11°39.0	11°40.7	11°07.2	3.6 - 2.8	9.6 - 7.4	15.6 - 12.1	36	11°54.0	11°56.0	11°21.5	3.6 - 2.9	9.6 - 7.6	15.6 - 12.3
37	11°24.3	11°26.1	10°53.1	3.7 - 2.8	9.7 - 7.4	15.7 - 11.9	37	11°39.3	11°41.2	11°07.4	3.7 - 2.9	9.7 - 7.5	15.7 - 12.2	37	11°54.3	11°56.2	11°21.7	3.7 - 2.9	9.7 - 7.7	15.7 - 12.4
38	11°24.5	$11^{\circ}26.4$	10°53.3	3.8 - 2.9	9.8 - 7.4	15.8 - 12.0	38	11°39.5	11°41.4	11°07.6	3.8 - 2.9	9.8 - 7.6	15.8 - 12.2	38	11°54.5	11°56.5	11°22.0	3.8 - 3.0	9.8 - 7.8	15.8 - 12.5
39	11°24.7	$11^{\circ}26.6$	10°53.6	3.9 - 3.0	9.9 - 7.5	15.9 - 12.1	39	11°39.7	11°41.7	11°07.9	3.9 - 3.0	9.9 - 7.7	15.9 - 12.3	39	11°54.7	11°56.7	11°22.2	3.9 - 3.1	9.9 - 7.8	15.9 - 12.6
40	11°25.0	$11^{\circ}26.9$	10°53.8	4.0 - 3.0	10.0 - 7.6	16.0 - 12.1	40	11°40.0	11°41.9	11°08.1	4.0 - 3.1	10.0 - 7.8	16.0 - 12.4	40	11°55.0	11°57.0	11°22.4	4.0 - 3.2	10.0 - 7.9	16.0 - 12.7
41	11°25.2	11°27.1	10°54.0	4.1 - 3.1	10.1 - 7.7	16.1 - 12.2	41	11°40.2	11°42.2	11°08.3	4.1 - 3.2	10.1 - 7.8	16.1 - 12.5	41	11°55.2	11°57.2	11°22.7	4.1 - 3.2	10.1 - 8.0	16.1 - 12.7
42	11°25.5	11°27.4	10°54.3	4.2 - 3.2	10.2 - 7.7	16.2 - 12.3	42	11°40.5	11°42.4	11°08.6	4.2 - 3.3	10.2 - 7.9	16.2 - 12.6	42	11°55.5	11°57.5	11°22.9	4.2 - 3.3	10.2 - 8.1	16.2 - 12.8
43	11°25.8	11°27.6	10°54.5	4.3 - 3.3	10.3 - 7.8	16.3 - 12.4	43	11°40.8	11°42.7	11°08.8	4.3 - 3.3	10.3 - 8.0	16.3 - 12.6	43	11°55.8	11°57.7	11°23.1	4.3 - 3.4	10.3 - 8.2	16.3 - 12.9
44	11°26.0	11°27.9	10°54.7	4.4 - 3.3	10.4 - 7.9	16.4 - 12.4	44	11°41.0	11°42.9	11°09.1	4.4 - 3.4	10.4 - 8.1	16.4 - 12.7	44	11°56.0	11°58.0	11°23.4	4.4 - 3.5	10.4 - 8.2	16.4 - 13.0
45	11°26.2 11°26.5	11°28.1 11°28.4	10°55.0 10°55.2	4.5 - 3.4 4.6 - 3.5	10.5 - 8.0 10.6 - 8.0	16.5 - 12.5 16.6 - 12.6	45 46	11°41.2 11°41.5	11°43.2 11°43.4	11°09.3 11°09.5	4.5 - 3.5 4.6 - 3.6	10.5 - 8.1 10.6 - 8.2	16.5 - 12.8 16.6 - 12.9	45 46	11°56.2 11°56.5	11°58.2 11°58.5	11°23.6 11°23.9	4.5 - 3.6 4.6 - 3.6	10.5 - 8.3 10.6 - 8.4	16.5 - 13.1 16.6 - 13.1
46	11°26.5	11°28.4	10°55.5	4.6 - 3.5	10.6 - 8.0	16.7 - 12.7	47	11°41.5	11°43.4	11°09.5 11°09.8	4.6 - 3.6	10.6 - 8.2	16.7 - 12.9	40	11°56.7	11°58.7	11°24.1	4.0 - 3.0	10.6 - 8.4	16.7 - 13.2
48	11°27.0	11°28.9	10°55.7	4.8 - 3.6	10.7 - 8.1	16.8 - 12.7	48	11°42.0	11°43.7	11°10.0	4.8 - 3.7	10.7 - 8.3	16.8 - 13.0	48	11°57.0	11°59.0	11°24.1	4.8 - 3.8	10.7 - 8.6	16.8 - 13.3
49	11°27.3	11°29.1	10°55.9	4.9 - 3.7	10.9 - 8.3	16.9 - 12.8	49	11°42.3	11°44.2	11°10.3	4.9 - 3.8	10.9 - 8.4	16.9 - 13.1	49	11°57.3	11°59.2	11°24.6	4.9 - 3.9	10.9 - 8.6	16.9 - 13.4
50	11°27.5	11°29.4	10°56.2	5.0 - 3.8	11.0 - 8.3	17.0 - 12.9	50	11°42.5	11°44.4	11°10.5	5.0 - 3.9	11.0 - 8.5	17.0 - 13.2	50	11°57.5	11°59.5	11°24.8	5.0 - 4.0	11.0 - 8.7	17.0 - 13.5
51	11°27.8	11°29.6	10°56.4	5.1 - 3.9	11.1 - 8.4	17.1 - 13.0	51	11°42.8	11°44.7	11°10.7	5.1 - 4.0	11.1 - 8.6	17.1 - 13.3	51	11°57.8	11°59.7	11°25.1	5.1 - 4.0	11.1 - 8.8	17.1 - 13.5
52	11°28.0	11°29.9	10°56.7	5.2 - 3.9	11.2 - 8.5	17.2 - 13.0	52	11°43.0	11°44.9	11°11.0	5.2 - 4.0	11.2 - 8.7	17.2 - 13.3	52	11°58.0	11°60.0	11°25.3	5.2 - 4.1	11.2 - 8.9	17.2 - 13.6
53	11°28.2	11°30.1	10°56.9	5.3 - 4.0	11.3 - 8.6	17.3 - 13.1	53	11°43.2	11°45.2	$11^{\circ}11.2$	5.3 - 4.1	11.3 - 8.8	17.3 - 13.4	53	$11^{\circ}58.2$	12°00.2	11°25.5	5.3 - 4.2	11.3 - 8.9	17.3 - 13.7
54	11°28.5	11°30.4	10°57.1	5.4 - 4.1	11.4 - 8.6	17.4 - 13.2	54	11°43.5	11°45.4	11°11.5	5.4 - 4.2	11.4 - 8.8	17.4 - 13.5	54	11°58.5	$12^{\circ}00.5$	11°25.8	5.4 - 4.3	11.4 - 9.0	17.4 - 13.8
55	11°28.7	11°30.6	10°57.4	5.5 - 4.2	11.5 - 8.7	17.5 - 13.3	55	11°43.7	11°45.7	11°11.7	5.5 - 4.3	11.5 - 8.9	17.5 - 13.6	55	11°58.7	12°00.7	11°26.0	5.5 - 4.4	11.5 - 9.1	17.5 - 13.9
56	11°29.0	11°30.9	10°57.6	5.6 - 4.2	11.6 - 8.8	17.6 - 13.3	56	11°44.0	11°45.9	11°11.9	5.6 - 4.3	11.6 - 9.0	17.6 - 13.6	56	11°59.0	12°01.0	11°26.2	5.6 - 4.4	11.6 - 9.2	17.6 - 13.9
57	11°29.3	11°31.1	10°57.9	5.7 - 4.3	11.7 - 8.9	17.7 - 13.4	57	11°44.3	11°46.2	11°12.2	5.7 - 4.4	11.7 - 9.1	17.7 - 13.7	57	11°59.3	12°01.2	11°26.5	5.7 - 4.5	11.7 - 9.3	17.7 - 14.0
58	11°29.5	11°31.4	10°58.1	5.8 - 4.4	11.8 - 8.9	17.8 - 13.5	58	11°44.5	11°46.4	11°12.4	5.8 - 4.5	11.8 - 9.1	17.8 - 13.8	58	11°59.5	12°01.5	11°26.7	5.8 - 4.6	11.8 - 9.3	17.8 - 14.1
59	11°29.8	11°31.6	10°58.3	5.9 - 4.5	11.9 - 9.0	17.9 - 13.6	59	11°44.8	11°46.7	11°12.6	5.9 - 4.6	11.9 - 9.2	17.9 - 13.9	59	11°59.8	12°01.7	11°27.0	5.9 - 4.7	11.9 - 9.4	17.9 - 14.2

m	Sun	Aries	Moon		v and d cor	r	m	Sun	Aries	Moon		v and d con	rr	m	Sun	Aries	Moon		v and d cor	r
48							49	Plan.						50	Plan.					
0	12°00.0	12°02.0	11°27.2	0.0 - 0.0	6.0 - 4.8	12.0 - 9.7	0	12°15.0	12°17.0	11°41.5	0.0 - 0.0	6.0 - 4.9	12.0 - 9.9	0	12°30.0	12°32.1	11°55.8	0.0 - 0.0	6.0 - 5.0	12.0 - 10.1
1	12°00.2	$12^{\circ}02.2$	11°27.4	0.1 - 0.1	6.1 - 4.9	12.1 - 9.8	1	12°15.2	$12^{\circ}17.3$	11°41.8	0.1 - 0.1	6.1 - 5.0	12.1 - 10.0	1	12°30.2	12°32.3	11°56.1	0.1 - 0.1	6.1 - 5.1	12.1 - 10.2
2	12°00.5	12°02.5	11°27.7	0.2 - 0.2	6.2 - 5.0	12.2 - 9.9	2	12°15.5	12°17.5	11°42.0	0.2 - 0.2	6.2 - 5.1	12.2 - 10.1	2	12°30.5	12°32.6	11°56.3	0.2 - 0.2	6.2 - 5.2	12.2 - 10.3
3	12°00.7	12°02.7	11°27.9	0.3 - 0.2	6.3 - 5.1	12.3 - 9.9	3	12°15.7	12°17.8	11°42.2	0.3 - 0.2	6.3 - 5.2	12.3 - 10.1	3	12°30.7	12°32.8	11°56.5	0.3 - 0.3	6.3 - 5.3	12.3 - 10.4
4	12°01.0	12°03.0	11°28.2	0.4 - 0.3	6.4 - 5.2	12.4 - 10.0	4	12°16.0	12°18.0	11°42.5	0.4 - 0.3	6.4 - 5.3	12.4 - 10.2	4	12°31.0	12°33.1	11°56.8	0.4 - 0.3	6.4 - 5.4	12.4 - 10.4
5	12°01.3	12°03.2 12°03.5	11°28.4	0.5 - 0.4	6.5 - 5.3	12.5 - 10.1	5 6	12°16.3	12°18.3	11°42.7	0.5 - 0.4	6.5 - 5.4	12.5 - 10.3	5 6	12°31.3	12°33.3 12°33.6	11°57.0	0.5 - 0.4	6.5 - 5.5	12.5 - 10.5
7	12°01.5 12°01.8	$12^{\circ}03.5$ $12^{\circ}03.7$	11°28.6 11°28.9	0.6 - 0.5 0.7 - 0.6	6.6 - 5.3 6.7 - 5.4	12.6 - 10.2 12.7 - 10.3	7	12°16.5 12°16.8	12°18.5 12°18.8	11°42.9 11°43.2	0.6 - 0.5 0.7 - 0.6	6.6 - 5.4 6.7 - 5.5	12.6 - 10.4 12.7 - 10.5	7	12°31.5 12°31.8	12°33.8	11°57.3 11°57.5	0.6 - 0.5	6.6 - 5.6 6.7 - 5.6	12.6 - 10.6 12.7 - 10.7
8	12°02.0	12°04.0	11°29.1	0.7 - 0.6	6.8 - 5.5	12.8 - 10.3	8	12°17.0	12°19.0	11°43.4	0.7 - 0.0	6.8 - 5.6	12.8 - 10.6	9	12°32.0	12°34.1	11°57.7	0.7 - 0.0	6.8 - 5.7	12.8 - 10.8
9	12°02.0	12°04.0	11°29.3	0.9 - 0.7	6.9 - 5.6	12.9 - 10.4	9	12°17.2	12°19.3	11°43.4	0.8 - 0.7	6.9 - 5.7	12.9 - 10.6	9	12°32.0	12°34.1	11°58.0	0.9 - 0.8	6.9 - 5.8	12.9 - 10.9
10		12°04.5	11°29.6	1.0 - 0.8	7.0 - 5.7	13.0 - 10.5	10	12°17.5	12°19.5	11°43.9	1.0 - 0.8	7.0 - 5.8	13.0 - 10.7	10	12°32.5	12°34.6	11°58.2	1.0 - 0.8	7.0 - 5.9	13.0 - 10.9
11		12°04.7	11°29.8	1.1 - 0.9	7.1 - 5.7	13.1 - 10.6	11	12°17.7	12°19.8	11°44.1	1.1 - 0.9	7.1 - 5.9	13.1 - 10.8	11	12°32.7	12°34.8	11°58.5	1.1 - 0.9	7.1 - 6.0	13.1 - 11.0
12		12°05.0	11°30.1	1.2 - 1.0	7.2 - 5.8	13.2 - 10.7	12	12°18.0	12°20.0	11°44.4	1.2 - 1.0	7.2 - 5.9	13.2 - 10.9	12	12°33.0	12°35.1	11°58.7	1.2 - 1.0	7.2 - 6.1	13.2 - 11.1
13		12°05.2	11°30.3	1.3 - 1.1	7.3 - 5.9	13.3 - 10.8	13	12°18.3	12°20.3	11°44.6	1.3 - 1.1	7.3 - 6.0	13.3 - 11.0	13	12°33.3	12°35.3	11°58.9	1.3 - 1.1	7.3 - 6.1	13.3 - 11.2
14		12°05.5	11°30.5	1.4 - 1.1	7.4 - 6.0	13.4 - 10.8	14	12°18.5	12°20.5	11°44.9	1.4 - 1.2	7.4 - 6.1	13.4 - 11.1	14	12°33.5	12°35.6	11°59.2	1.4 - 1.2	7.4 - 6.2	13.4 - 11.3
15	12°03.8	$12^{\circ}05.7$	11°30.8	1.5 - 1.2	7.5 - 6.1	13.5 - 10.9	15	12°18.8	12°20.8	11°45.1	1.5 - 1.2	7.5 - 6.2	13.5 - 11.1	15	12°33.8	12°35.8	11°59.4	1.5 - 1.3	7.5 - 6.3	13.5 - 11.4
16	12°04.0	12°06.0	11°31.0	1.6 - 1.3	7.6 - 6.1	13.6 - 11.0	16	12°19.0	12°21.0	11°45.3	1.6 - 1.3	7.6 - 6.3	13.6 - 11.2	16	12°34.0	12°36.1	11°59.7	1.6 - 1.3	7.6 - 6.4	13.6 - 11.4
17		12°06.2	11°31.3	1.7 - 1.4	7.7 - 6.2	13.7 - 11.1	17	$12^{\circ}19.2$	12°21.3	11°45.6	1.7 - 1.4	7.7 - 6.4	13.7 - 11.3	17	$12^{\circ}34.2$	$12^{\circ}36.3$	11°59.9	1.7 - 1.4	7.7 - 6.5	13.7 - 11.5
18		12°06.5	11°31.5	1.8 - 1.5	7.8 - 6.3	13.8 - 11.2	18	$12^{\circ}19.5$	12°21.5	11°45.8	1.8 - 1.5	7.8 - 6.4	13.8 - 11.4	18	$12^{\circ}34.5$	12°36.6	$12^{\circ}00.1$	1.8 - 1.5	7.8 - 6.6	13.8 - 11.6
19	1	12°06.7	11°31.7	1.9 - 1.5	7.9 - 6.4	13.9 - 11.2	19	12°19.8	12°21.8	11°46.1	1.9 - 1.6	7.9 - 6.5	13.9 - 11.5	19	12°34.8	12°36.8	12°00.4	1.9 - 1.6	7.9 - 6.6	13.9 - 11.7
20		$12^{\circ}07.0$	11°32.0	2.0 - 1.6	8.0 - 6.5	14.0 - 11.3	20	12°20.0	12°22.0	11°46.3	2.0 - 1.6	8.0 - 6.6	14.0 - 11.5	20	12°35.0	12°37.1	12°00.6	2.0 - 1.7	8.0 - 6.7	14.0 - 11.8
21		12°07.2	11°32.2	2.1 - 1.7	8.1 - 6.5	14.1 - 11.4	21	12°20.3	12°22.3	11°46.5	2.1 - 1.7	8.1 - 6.7	14.1 - 11.6	21	12°35.3	12°37.3	12°00.8	2.1 - 1.8	8.1 - 6.8	14.1 - 11.9
22		12°07.5	11°32.4	2.2 - 1.8	8.2 - 6.6	14.2 - 11.5	22	12°20.5	12°22.5	11°46.8	2.2 - 1.8	8.2 - 6.8	14.2 - 11.7	22	12°35.5	12°37.6	12°01.1	2.2 - 1.9	8.2 - 6.9	14.2 - 12.0
23	1	12°07.7	11°32.7	2.3 - 1.9	8.3 - 6.7	14.3 - 11.6	23	12°20.7 12°21.0	12°22.8	11°47.0	2.3 - 1.9	8.3 - 6.8	14.3 - 11.8	23	12°35.7	12°37.8 12°38.1	12°01.3	2.3 - 1.9	8.3 - 7.0	14.3 - 12.0
24 25		$12^{\circ}08.0$ $12^{\circ}08.2$	11°32.9 11°33.2	2.4 - 1.9 2.5 - 2.0	8.4 - 6.8 8.5 - 6.9	14.4 - 11.6 14.5 - 11.7	24 25	12°21.0	12°23.0 12°23.3	11°47.2 11°47.5	2.4 - 2.0 2.5 - 2.1	8.4 - 6.9 8.5 - 7.0	14.4 - 11.9 14.5 - 12.0	24 25	12°36.0 12°36.2	12 38.1 12°38.3	12°01.6 12°01.8	2.4 - 2.0 2.5 - 2.1	8.4 - 7.1 8.5 - 7.2	14.4 - 12.1 14.5 - 12.2
26		12°08.2	11°33.4	2.6 - 2.1	8.6 - 7.0	14.6 - 11.8	26	12°21.2	12°23.5	11°47.7	2.6 - 2.1	8.6 - 7.1	14.6 - 12.0	26	12°36.5	12°38.6	12°02.0	2.6 - 2.2	8.6 - 7.2	14.6 - 12.3
27	1	12°08.7	11°33.4	2.7 - 2.2	8.7 - 7.0	14.7 - 11.9	27	12°21.8	12°23.8	11°48.0	2.7 - 2.2	8.7 - 7.2	14.7 - 12.1	27	12°36.8	12°38.8	12°02.3	2.7 - 2.3	8.7 - 7.3	14.7 - 12.4
28		12°09.0	11°33.9	2.8 - 2.3	8.8 - 7.1	14.8 - 12.0	28	12°22.0	12°24.0	11°48.2	2.8 - 2.3	8.8 - 7.3	14.8 - 12.2	28	12°37.0	12°39.1	12°02.5	2.8 - 2.4	8.8 - 7.4	14.8 - 12.5
29		12°09.2	11°34.1	2.9 - 2.3	8.9 - 7.2	14.9 - 12.0	29	12°22.3	12°24.3	11°48.4	2.9 - 2.4	8.9 - 7.3	14.9 - 12.3	29	12°37.3	12°39.3	12°02.8	2.9 - 2.4	8.9 - 7.5	14.9 - 12.5
30	12°07.5	12°09.5	11°34.4	3.0 - 2.4	9.0 - 7.3	15.0 - 12.1	30	$12^{\circ}22.5$	$12^{\circ}24.5$	11°48.7	3.0 - 2.5	9.0 - 7.4	15.0 - 12.4	30	$12^{\circ}37.5$	12°39.6	$12^{\circ}03.0$	3.0 - 2.5	9.0 - 7.6	15.0 - 12.6
31	12°07.7	12°09.7	11°34.6	3.1 - 2.5	9.1 - 7.4	15.1 - 12.2	31	$12^{\circ}22.7$	12°24.8	11°48.9	3.1 - 2.6	9.1 - 7.5	15.1 - 12.5	31	$12^{\circ}37.7$	12°39.8	$12^{\circ}03.2$	3.1 - 2.6	9.1 - 7.7	15.1 - 12.7
32		12°10.0	11°34.8	3.2 - 2.6	9.2 - 7.4	15.2 - 12.3	32	12°23.0	$12^{\circ}25.0$	11°49.2	3.2 - 2.6	9.2 - 7.6	15.2 - 12.5	32	12°38.0	12°40.1	$12^{\circ}03.5$	3.2 - 2.7	9.2 - 7.7	15.2 - 12.8
33		12°10.2	11°35.1	3.3 - 2.7	9.3 - 7.5	15.3 - 12.4	33	12°23.2	12°25.3	11°49.4	3.3 - 2.7	9.3 - 7.7	15.3 - 12.6	33	12°38.2	12°40.3	12°03.7	3.3 - 2.8	9.3 - 7.8	15.3 - 12.9
34	1	12°10.5	11°35.3	3.4 - 2.7	9.4 - 7.6	15.4 - 12.4	34	12°23.5	12°25.5	11°49.6	3.4 - 2.8	9.4 - 7.8	15.4 - 12.7	34	12°38.5	12°40.6	12°03.9	3.4 - 2.9	9.4 - 7.9	15.4 - 13.0
35		12°10.7	11°35.6	3.5 - 2.8	9.5 - 7.7	15.5 - 12.5	35	12°23.8	12°25.8	11°49.9	3.5 - 2.9	9.5 - 7.8	15.5 - 12.8	35	12°38.8	12°40.8	12°04.2	3.5 - 2.9	9.5 - 8.0	15.5 - 13.0
36		$12^{\circ}11.0$ $12^{\circ}11.2$	11°35.8 11°36.0	3.6 - 2.9 3.7 - 3.0	9.6 - 7.8 9.7 - 7.8	15.6 - 12.6 15.7 - 12.7	36 37	12°24.0 12°24.3	12°26.0 12°26.3	11°50.1 11°50.3	3.6 - 3.0 3.7 - 3.1	9.6 - 7.9 9.7 - 8.0	15.6 - 12.9 15.7 - 13.0	36 37	12°39.0 12°39.3	12°41.1 12°41.3	12°04.4 12°04.7	3.6 - 3.0	9.6 - 8.1 9.7 - 8.2	15.6 - 13.1 15.7 - 13.2
38		$12^{\circ}11.2$ $12^{\circ}11.5$	11°36.3	3.8 - 3.1	9.7 - 7.8	15.8 - 12.8	38	12°24.5	12°26.5	11°50.5	3.8 - 3.1	9.7 - 8.0	15.8 - 13.0	38	12 39.3 12°39.5	12°41.5	12 04.7 12°04.9	3.7 - 3.1	9.7 - 8.2	15.8 - 13.3
39		12°11.7	11°36.5	3.9 - 3.2	9.9 - 8.0	15.9 - 12.9	39	12°24.7	12°26.8	11°50.8	3.9 - 3.2	9.9 - 8.2	15.9 - 13.1	39	12°39.7	12°41.8	12°04.3	3.9 - 3.3	9.9 - 8.3	15.9 - 13.4
40		12°12.0	11°36.7	4.0 - 3.2	10.0 - 8.1	16.0 - 12.9	40	12°25.0	12°27.0	11°51.1	4.0 - 3.3	10.0 - 8.3	16.0 - 13.2	40	12°40.0	12°42.1	12°05.1	4.0 - 3.4	10.0 - 8.4	16.0 - 13.5
41		12°12.2	11°37.0	4.1 - 3.3	10.1 - 8.2	16.1 - 13.0	41	12°25.2	12°27.3	11°51.3	4.1 - 3.4	10.1 - 8.3	16.1 - 13.3	41	12°40.2	12°42.3	12°05.6	4.1 - 3.5	10.1 - 8.5	16.1 - 13.6
42		12°12.5	11°37.2	4.2 - 3.4	10.2 - 8.2	16.2 - 13.1	42	12°25.5	12°27.5	11°51.5	4.2 - 3.5	10.2 - 8.4	16.2 - 13.4	42	12°40.5	12°42.6	12°05.9	4.2 - 3.5	10.2 - 8.6	16.2 - 13.6
43		12°12.7	11°37.5	4.3 - 3.5	10.3 - 8.3	16.3 - 13.2	43	12°25.8	12°27.8	11°51.8	4.3 - 3.5	10.3 - 8.5	16.3 - 13.4	43	12°40.8	12°42.8	$12^{\circ}06.1$	4.3 - 3.6	10.3 - 8.7	16.3 - 13.7
44		12°13.0	11°37.7	4.4 - 3.6	10.4 - 8.4	16.4 - 13.3	44	$12^{\circ}26.0$	$12^{\circ}28.0$	11°52.0	4.4 - 3.6	10.4 - 8.6	16.4 - 13.5	44	$12^{\circ}41.0$	12°43.1	$12^{\circ}06.3$	4.4 - 3.7	10.4 - 8.8	16.4 - 13.8
45		12°13.2	11°37.9	4.5 - 3.6	10.5 - 8.5	16.5 - 13.3	45	12°26.2	12°28.3	11°52.3	4.5 - 3.7	10.5 - 8.7	16.5 - 13.6	45	12°41.2	12°43.3	12°06.6	4.5 - 3.8	10.5 - 8.8	16.5 - 13.9
46		12°13.5	11°38.2	4.6 - 3.7	10.6 - 8.6	16.6 - 13.4	46	12°26.5	12°28.5	11°52.5	4.6 - 3.8	10.6 - 8.7	16.6 - 13.7	46	12°41.5	12°43.6	12°06.8	4.6 - 3.9	10.6 - 8.9	16.6 - 14.0
47		12°13.8	11°38.4	4.7 - 3.8	10.7 - 8.6	16.7 - 13.5	47	12°26.7	12°28.8	11°52.7	4.7 - 3.9	10.7 - 8.8	16.7 - 13.8	47	12°41.7	12°43.8	12°07.0	4.7 - 4.0	10.7 - 9.0	16.7 - 14.1
48		12°14.0	11°38.7	4.8 - 3.9	10.8 - 8.7	16.8 - 13.6	48	12°27.0	12°29.0	11°53.0	4.8 - 4.0	10.8 - 8.9	16.8 - 13.9	48	12°42.0	12°44.1	12°07.3	4.8 - 4.0	10.8 - 9.1	16.8 - 14.1
49	1	12°14.3	11°38.9	4.9 - 4.0	10.9 - 8.8	16.9 - 13.7	49	12°27.3	12°29.3	11°53.2	4.9 - 4.0	10.9 - 9.0	16.9 - 13.9	49	12°42.3	12°44.3	12°07.5	4.9 - 4.1	10.9 - 9.2	16.9 - 14.2
50		12°14.5 12°14.8	11°39.1 11°39.4	5.0 - 4.0 5.1 - 4.1	11.0 - 8.9 11.1 - 9.0	17.0 - 13.7	50 51	12°27.5 12°27.8	12°29.5 12°29.8	11°53.4 11°53.7	5.0 - 4.1 5.1 - 4.2	11.0 - 9.1 11.1 - 9.2	17.0 - 14.0 17.1 - 14.1	50 51	12°42.5 12°42.8	12°44.6 12°44.8	12°07.8 12°08.0	5.0 - 4.2 5.1 - 4.3	11.0 - 9.3 11.1 - 9.3	17.0 - 14.3 17.1 - 14.4
52		$12^{\circ}14.8$ $12^{\circ}15.0$	11°39.4 11°39.6	5.1 - 4.1 5.2 - 4.2	11.1 - 9.0	17.1 - 13.8 17.2 - 13.9	52	12°28.0	12 29.8 12°30.0	11°53.7	5.1 - 4.2	11.1 - 9.2	17.2 - 14.2	52	12 42.8 12°43.0	12°45.1	12°08.0	5.2 - 4.4	11.1 - 9.3	17.1 - 14.4
53		12°15.3	11°39.8	5.3 - 4.3	11.3 - 9.1	17.3 - 14.0	53	12°28.2	12°30.3	11°54.2	5.3 - 4.4	11.3 - 9.3	17.3 - 14.3	53	12°43.2	12°45.3	12°08.5	5.3 - 4.5	11.3 - 9.5	17.3 - 14.6
54		12°15.5	11°40.1	5.4 - 4.4	11.4 - 9.2	17.4 - 14.1	54	12°28.5	12°30.5	11°54.4	5.4 - 4.5	11.4 - 9.4	17.4 - 14.4	54	12°43.5	12°45.6	12°08.7	5.4 - 4.5	11.4 - 9.6	17.4 - 14.6
55		12°15.8	11°40.3	5.5 - 4.4	11.5 - 9.3	17.5 - 14.1	55	12°28.7	12°30.8	11°54.6	5.5 - 4.5	11.5 - 9.5	17.5 - 14.4	55	12°43.7	12°45.8	12°09.0	5.5 - 4.6	11.5 - 9.7	17.5 - 14.7
56		12°16.0	11°40.6	5.6 - 4.5	11.6 - 9.4	17.6 - 14.2	56	12°29.0	12°31.0	11°54.9	5.6 - 4.6	11.6 - 9.6	17.6 - 14.5	56	12°44.0	12°46.1	12°09.2	5.6 - 4.7	11.6 - 9.8	17.6 - 14.8
57	12°14.3	$12^{\circ}16.3$	11°40.8	5.7 - 4.6	11.7 - 9.5	17.7 - 14.3	57	$12^{\circ}29.3$	12°31.3	11°55.1	5.7 - 4.7	11.7 - 9.7	17.7 - 14.6	57	$12^{\circ}44.3$	$12^{\circ}46.3$	$12^{\circ}09.4$	5.7 - 4.8	11.7 - 9.8	17.7 - 14.9
58		12°16.5	11°41.0	5.8 - 4.7	11.8 - 9.5	17.8 - 14.4	58	12°29.5	12°31.5	11°55.4	5.8 - 4.8	11.8 - 9.7	17.8 - 14.7	58	12°44.5	12°46.6	12°09.7	5.8 - 4.9	11.8 - 9.9	17.8 - 15.0
59	12°14.8	12°16.8	11°41.3	5.9 - 4.8	11.9 - 9.6	17.9 - 14.5	59	12°29.8	12°31.8	11°55.6	5.9 - 4.9	11.9 - 9.8	17.9 - 14.8	59	12°44.8	12°46.8	12°09.9	5.9 - 5.0	11.9 - 10.0	17.9 - 15.1

m	Sun	Aries	Moon		v and d cor	r	m	Sun	Aries	Moon		v and d cor	r	m	Sun	Aries	Moon		v and d cor	r
51	Plan.						52	Plan.						53	Plan.					
0	12°45.0	12°47.1	12°10.1	0.0 - 0.0	6.0 - 5.1	12.0 - 10.3	0	13°00.0	13°02.1	12°24.5	0.0 - 0.0	6.0 - 5.3	12.0 - 10.5	0	13°15.0	13°17.2	12°38.8	0.0 - 0.0	6.0 - 5.4	12.0 - 10.7
1	12°45.2	12°47.3	12°10.4	0.1 - 0.1	6.1 - 5.2	12.1 - 10.4	1	13°00.2	13°02.4	12°24.7	0.1 - 0.1	6.1 - 5.3	12.1 - 10.6	1	13°15.2	13°17.4	12°39.0	0.1 - 0.1	6.1 - 5.4	12.1 - 10.8
2	12°45.5	12°47.6	12°10.6	0.2 - 0.2	6.2 - 5.3	12.2 - 10.5	2	13°00.5	13°02.6	12°24.9	0.2 - 0.2	6.2 - 5.4	12.2 - 10.7	2	13°15.5	13°17.7	12°39.3	0.2 - 0.2	6.2 - 5.5	12.2 - 10.9
3	12°45.7	12°47.8	12°10.9	0.3 - 0.3	6.3 - 5.4	12.3 - 10.6	3	13°00.7	13°02.9	12°25.2	0.3 - 0.3	6.3 - 5.5	12.3 - 10.8	3	13°15.7	13°17.9	12°39.5	0.3 - 0.3	6.3 - 5.6	12.3 - 11.0
4	12°46.0	12°48.1	12°11.1	0.4 - 0.3	6.4 - 5.5	12.4 - 10.6	4	13°01.0	13°03.1	12°25.4	0.4 - 0.4	6.4 - 5.6	12.4 - 10.8	4	13°16.0	13°18.2	12°39.7	0.4 - 0.4	6.4 - 5.7	12.4 - 11.1
5	12°46.3 12°46.5	12°48.3 12°48.6	12°11.3 12°11.6	0.5 - 0.4	6.5 - 5.6 6.6 - 5.7	12.5 - 10.7 12.6 - 10.8	5 6	13°01.3 13°01.5	13°03.4 13°03.6	12°25.7 12°25.9	0.5 - 0.4 0.6 - 0.5	6.5 - 5.7 6.6 - 5.8	12.5 - 10.9 12.6 - 11.0	5 6	13°16.3 13°16.5	13°18.4 13°18.7	$12^{\circ}40.0$ $12^{\circ}40.2$	0.5 - 0.4 0.6 - 0.5	6.5 - 5.8 6.6 - 5.9	12.5 - 11.1 12.6 - 11.2
7	12°46.8	12°48.8	12°11.8	0.0 - 0.3	6.7 - 5.8	12.7 - 10.8	7	13°01.8	13°03.0	12°26.1	0.0 - 0.3	6.7 - 5.9	12.7 - 11.1	7	13°16.8	13°18.7	12°40.2	0.0 - 0.3	6.7 - 6.0	12.7 - 11.3
8	12°47.0	12°49.1	12°12.1	0.8 - 0.7	6.8 - 5.8	12.8 - 11.0	8	13°02.0	13°04.1	12°26.4	0.8 - 0.7	6.8 - 6.0	12.8 - 11.2	8	13°17.0	13°19.2	12°40.7	0.8 - 0.7	6.8 - 6.1	12.8 - 11.4
9	12°47.2	12°49.3	12°12.1	0.9 - 0.8	6.9 - 5.9	12.9 - 11.1	9	13°02.0	13°04.1	12°26.6	0.9 - 0.8	6.9 - 6.0	12.9 - 11.3	9	13°17.2	13°19.4	12°40.9	0.9 - 0.8	6.9 - 6.2	12.9 - 11.5
10	12°47.5	12°49.6	12°12.5	1.0 - 0.9	7.0 - 6.0	13.0 - 11.2	10	13°02.5	13°04.6	12°26.9	1.0 - 0.9	7.0 - 6.1	13.0 - 11.4	10	13°17.5	13°19.7	12°41.2	1.0 - 0.9	7.0 - 6.2	13.0 - 11.6
11	12°47.7	12°49.8	12°12.8	1.1 - 0.9	7.1 - 6.1	13.1 - 11.2	11	$13^{\circ}02.7$	13°04.9	12°27.1	1.1 - 1.0	7.1 - 6.2	13.1 - 11.5	11	13°17.7	13°19.9	$12^{\circ}41.4$	1.1 - 1.0	7.1 - 6.3	13.1 - 11.7
12	12°48.0	12°50.1	12°13.0	1.2 - 1.0	7.2 - 6.2	13.2 - 11.3	12	13°03.0	13°05.1	12°27.3	1.2 - 1.1	7.2 - 6.3	13.2 - 11.5	12	13°18.0	13°20.2	12°41.6	1.2 - 1.1	7.2 - 6.4	13.2 - 11.8
13	12°48.3	12°50.3	12°13.3	1.3 - 1.1	7.3 - 6.3	13.3 - 11.4	13	$13^{\circ}03.3$	$13^{\circ}05.4$	12°27.6	1.3 - 1.1	7.3 - 6.4	13.3 - 11.6	13	13°18.3	$13^{\circ}20.4$	$12^{\circ}41.9$	1.3 - 1.2	7.3 - 6.5	13.3 - 11.9
14	12°48.5	12°50.6	12°13.5	1.4 - 1.2	7.4 - 6.4	13.4 - 11.5	14	$13^{\circ}03.5$	13°05.6	12°27.8	1.4 - 1.2	7.4 - 6.5	13.4 - 11.7	14	$13^{\circ}18.5$	$13^{\circ}20.7$	$12^{\circ}42.1$	1.4 - 1.2	7.4 - 6.6	13.4 - 11.9
15	12°48.8	12°50.9	12°13.7	1.5 - 1.3	7.5 - 6.4	13.5 - 11.6	15	13°03.8	13°05.9	12°28.0	1.5 - 1.3	7.5 - 6.6	13.5 - 11.8	15	13°18.8	13°20.9	12°42.4	1.5 - 1.3	7.5 - 6.7	13.5 - 12.0
16	12°49.0	12°51.1	12°14.0	1.6 - 1.4	7.6 - 6.5	13.6 - 11.7	16	13°04.0	13°06.1	12°28.3	1.6 - 1.4	7.6 - 6.6	13.6 - 11.9	16	13°19.0	13°21.2	12°42.6	1.6 - 1.4	7.6 - 6.8	13.6 - 12.1
17	12°49.2	12°51.4	12°14.2	1.7 - 1.5	7.7 - 6.6	13.7 - 11.8	17	13°04.2	13°06.4	12°28.5	1.7 - 1.5	7.7 - 6.7	13.7 - 12.0	17	13°19.2	13°21.4	12°42.8	1.7 - 1.5	7.7 - 6.9	13.7 - 12.2
18	12°49.5	12°51.6	12°14.4	1.8 - 1.5	7.8 - 6.7	13.8 - 11.8	18	13°04.5	13°06.6	12°28.8	1.8 - 1.6	7.8 - 6.8	13.8 - 12.1	18	13°19.5	13°21.7	12°43.1	1.8 - 1.6	7.8 - 7.0	13.8 - 12.3
19	12°49.8	12°51.9	12°14.7	1.9 - 1.6	7.9 - 6.8	13.9 - 11.9	19	13°04.8	13°06.9	12°29.0	1.9 - 1.7	7.9 - 6.9	13.9 - 12.2	19	13°19.8	13°21.9	12°43.3	1.9 - 1.7	7.9 - 7.0	13.9 - 12.4
20 21	$12^{\circ}50.0$ $12^{\circ}50.3$	12°52.1 12°52.4	12°14.9 12°15.2	2.0 - 1.7 2.1 - 1.8	8.0 - 6.9 8.1 - 7.0	14.0 - 12.0 14.1 - 12.1	20 21	13°05.0 13°05.3	13°07.1 13°07.4	12°29.2 12°29.5	2.0 - 1.8 2.1 - 1.8	8.0 - 7.0	14.0 - 12.3 14.1 - 12.3	20 21	13°20.0 13°20.3	13°22.2 13°22.4	12°43.6 12°43.8	2.0 - 1.8 2.1 - 1.9	8.0 - 7.1 8.1 - 7.2	14.0 - 12.5 14.1 - 12.6
21	12°50.5	12°52.4 12°52.6	12°15.2 12°15.4	2.1 - 1.8	8.2 - 7.0	14.1 - 12.1	21	13°05.5	13°07.4	12°29.5 12°29.7	2.1 - 1.8	8.1 - 7.1 8.2 - 7.2	14.1 - 12.3	21	13°20.5	13°22.4 13°22.7	12 45.8 12°44.0	$\begin{vmatrix} 2.1 - 1.9 \\ 2.2 - 2.0 \end{vmatrix}$	8.2 - 7.3	14.1 - 12.0
23	12°50.3	12°52.0	12°15.4	2.3 - 2.0	8.3 - 7.1	14.3 - 12.3	23	13°05.7	13°07.9	12°30.0	2.3 - 2.0	8.3 - 7.3	14.3 - 12.5	23	13°20.7	13°22.7	12°44.3	2.3 - 2.1	8.3 - 7.4	14.3 - 12.8
24	12°51.0	12°53.1	12°15.9	2.4 - 2.1	8.4 - 7.2	14.4 - 12.4	24	13°06.0	13°08.1	12°30.2	2.4 - 2.1	8.4 - 7.4	14.4 - 12.6	24	13°21.0	13°23.2	12°44.5	2.4 - 2.1	8.4 - 7.5	14.4 - 12.8
25	12°51.2	12°53.4	12°16.1	2.5 - 2.1	8.5 - 7.3	14.5 - 12.4	25	13°06.2	13°08.4	12°30.4	2.5 - 2.2	8.5 - 7.4	14.5 - 12.7	25	13°21.2	13°23.4	12°44.7	2.5 - 2.2	8.5 - 7.6	14.5 - 12.9
26	12°51.5	12°53.6	12°16.4	2.6 - 2.2	8.6 - 7.4	14.6 - 12.5	26	13°06.5	13°08.6	12°30.7	2.6 - 2.3	8.6 - 7.5	14.6 - 12.8	26	13°21.5	13°23.7	12°45.0	2.6 - 2.3	8.6 - 7.7	14.6 - 13.0
27	12°51.8	12°53.9	12°16.6	2.7 - 2.3	8.7 - 7.5	14.7 - 12.6	27	$13^{\circ}06.8$	13°08.9	12°30.9	2.7 - 2.4	8.7 - 7.6	14.7 - 12.9	27	13°21.8	13°23.9	$12^{\circ}45.2$	2.7 - 2.4	8.7 - 7.8	14.7 - 13.1
28	12°52.0	12°54.1	12°16.8	2.8 - 2.4	8.8 - 7.6	14.8 - 12.7	28	$13^{\circ}07.0$	13°09.2	12°31.1	2.8 - 2.5	8.8 - 7.7	14.8 - 13.0	28	$13^{\circ}22.0$	13°24.2	$12^{\circ}45.5$	2.8 - 2.5	8.8 - 7.8	14.8 - 13.2
29	12°52.3	12°54.4	12°17.1	2.9 - 2.5	8.9 - 7.6	14.9 - 12.8	29	13°07.3	13°09.4	12°31.4	2.9 - 2.5	8.9 - 7.8	14.9 - 13.0	29	13°22.3	13°24.4	12°45.7	2.9 - 2.6	8.9 - 7.9	14.9 - 13.3
30	12°52.5	12°54.6	12°17.3	3.0 - 2.6	9.0 - 7.7	15.0 - 12.9	30	13°07.5	13°09.7	12°31.6	3.0 - 2.6	9.0 - 7.9	15.0 - 13.1	30	13°22.5	13°24.7	12°45.9	3.0 - 2.7	9.0 - 8.0	15.0 - 13.4
31	12°52.7	12°54.9	12°17.5	3.1 - 2.7	9.1 - 7.8	15.1 - 13.0	31	13°07.7	13°09.9	12°31.9	3.1 - 2.7	9.1 - 8.0	15.1 - 13.2	31	13°22.7	13°24.9	12°46.2	3.1 - 2.8	9.1 - 8.1	15.1 - 13.5
32	12°53.0	12°55.1	12°17.8	3.2 - 2.7	9.2 - 7.9	15.2 - 13.0	32	13°08.0	13°10.2	12°32.1	3.2 - 2.8	9.2 - 8.0	15.2 - 13.3	32	13°23.0	13°25.2	12°46.4	3.2 - 2.9	9.2 - 8.2	15.2 - 13.6
33	12°53.2 12°53.5	12°55.4 12°55.6	12°18.0 12°18.3	3.3 - 2.8	9.3 - 8.0	15.3 - 13.1	33	13°08.2 13°08.5	13°10.4 13°10.7	12°32.3 12°32.6	3.3 - 2.9	9.3 - 8.1	15.3 - 13.4	33 34	13°23.2 13°23.5	13°25.4 13°25.7	12°46.7 12°46.9	3.3 - 2.9	9.3 - 8.3	15.3 - 13.6
34	12°53.8	12°55.9	12°18.5	3.4 - 2.9 3.5 - 3.0	9.4 - 8.1 9.5 - 8.2	15.4 - 13.2 15.5 - 13.3	34	13°08.8	13°10.7	12°32.8	3.4 - 3.0 3.5 - 3.1	9.4 - 8.2 9.5 - 8.3	15.4 - 13.5 15.5 - 13.6	35	13°23.8	13°25.7	12 46.9 12°47.1	3.4 - 3.0 3.5 - 3.1	9.4 - 8.4 9.5 - 8.5	15.4 - 13.7 15.5 - 13.8
36	12°54.0	12°56.1	12°18.7	3.6 - 3.1	9.6 - 8.2	15.6 - 13.4	36	13°09.0	13°10.9	12°33.1	3.6 - 3.1	9.6 - 8.4	15.6 - 13.7	36	13°24.0	13°26.2	12°47.1	3.6 - 3.2	9.6 - 8.6	15.6 - 13.9
37	12°54.3	12°56.4	12°19.0	3.7 - 3.2	9.7 - 8.3	15.7 - 13.5	37	13°09.3	13°11.4	12°33.3	3.7 - 3.2	9.7 - 8.5	15.7 - 13.7	37	13°24.3	13°26.4	12°47.6	3.7 - 3.3	9.7 - 8.6	15.7 - 14.0
38	12°54.5	12°56.6	12°19.2	3.8 - 3.3	9.8 - 8.4	15.8 - 13.6	38	13°09.5	13°11.7	12°33.5	3.8 - 3.3	9.8 - 8.6	15.8 - 13.8	38	13°24.5	13°26.7	12°47.9	3.8 - 3.4	9.8 - 8.7	15.8 - 14.1
39	12°54.7	12°56.9	12°19.5	3.9 - 3.3	9.9 - 8.5	15.9 - 13.6	39	13°09.7	13°11.9	12°33.8	3.9 - 3.4	9.9 - 8.7	15.9 - 13.9	39	13°24.7	13°26.9	12°48.1	3.9 - 3.5	9.9 - 8.8	15.9 - 14.2
40	12°55.0	12°57.1	12°19.7	4.0 - 3.4	10.0 - 8.6	16.0 - 13.7	40	13°10.0	13°12.2	12°34.0	4.0 - 3.5	10.0 - 8.8	16.0 - 14.0	40	$13^{\circ}25.0$	13°27.2	12°48.3	4.0 - 3.6	10.0 - 8.9	16.0 - 14.3
41	12°55.2	12°57.4	12°19.9	4.1 - 3.5	10.1 - 8.7	16.1 - 13.8	41	$13^{\circ}10.2$	$13^{\circ}12.4$	12°34.2	4.1 - 3.6	10.1 - 8.8	16.1 - 14.1	41	13°25.2	$13^{\circ}27.5$	12°48.6	4.1 - 3.7	10.1 - 9.0	16.1 - 14.4
42	12°55.5	12°57.6	12°20.2	4.2 - 3.6	10.2 - 8.8	16.2 - 13.9	42	$13^{\circ}10.5$	13°12.7	12°34.5	4.2 - 3.7	10.2 - 8.9	16.2 - 14.2	42	13°25.5	13°27.7	12°48.8	4.2 - 3.7	10.2 - 9.1	16.2 - 14.4
43	12°55.8	12°57.9	12°20.4	4.3 - 3.7	10.3 - 8.8	16.3 - 14.0	43	13°10.8	13°12.9	12°34.7	4.3 - 3.8	10.3 - 9.0	16.3 - 14.3	43	13°25.8	13°28.0	12°49.0	4.3 - 3.8	10.3 - 9.2	16.3 - 14.5
44	12°56.0	12°58.1	12°20.6	4.4 - 3.8	10.4 - 8.9	16.4 - 14.1	44	13°11.0	13°13.2	12°35.0	4.4 - 3.9	10.4 - 9.1	16.4 - 14.3	44	13°26.0	13°28.2	12°49.3	4.4 - 3.9	10.4 - 9.3	16.4 - 14.6
45	12°56.2	12°58.4	12°20.9	4.5 - 3.9	10.5 - 9.0	16.5 - 14.2	45	13°11.2	13°13.4	12°35.2	4.5 - 3.9	10.5 - 9.2	16.5 - 14.4	45	13°26.2	13°28.5	12°49.5	4.5 - 4.0	10.5 - 9.4	16.5 - 14.7
46	12°56.5	12°58.6	12°21.1	4.6 - 3.9	10.6 - 9.1	16.6 - 14.2	46	13°11.5	13°13.7	12°35.4	4.6 - 4.0	10.6 - 9.3	16.6 - 14.5	46	13°26.5	13°28.7	12°49.8	4.6 - 4.1	10.6 - 9.5	16.6 - 14.8
47	12°56.7 12°57.0	12°58.9 12°59.1	12°21.4 12°21.6	4.7 - 4.0	10.7 - 9.2 10.8 - 9.3	16.7 - 14.3	47 48	13°11.7 13°12.0	13°13.9 13°14.2	12°35.7 12°35.9	4.7 - 4.1	10.7 - 9.4	16.7 - 14.6	47 48	13°26.7 13°27.0	13°29.0 13°29.2	12°50.0 12°50.2	4.7 - 4.2	10.7 - 9.5 10.8 - 9.6	16.7 - 14.9 16.8 - 15.0
49	12°57.0	12°59.1	12°21.8	4.8 - 4.1 4.9 - 4.2	10.8 - 9.3	16.8 - 14.4 16.9 - 14.5	49	13°12.0	13°14.2	12°36.2	4.8 - 4.2 4.9 - 4.3	10.8 - 9.5 10.9 - 9.5	16.8 - 14.7 16.9 - 14.8	49	13°27.0	13°29.2	12°50.2	4.8 - 4.3 4.9 - 4.4	10.8 - 9.6	16.9 - 15.1
50	12°57.5	12°59.4	12°22.1	5.0 - 4.3	11.0 - 9.4	17.0 - 14.6	50	13°12.5	13°14.4	12°36.4	5.0 - 4.4	11.0 - 9.6	17.0 - 14.9	50	13°27.5	13°29.7	12°50.7	5.0 - 4.5	11.0 - 9.8	17.0 - 15.2
51	12°57.8	12°59.9	12°22.3	5.1 - 4.4	11.1 - 9.5	17.1 - 14.7	51	13°12.8	13°14.7	12°36.4	5.1 - 4.5	11.1 - 9.7	17.1 - 15.0	51	13°27.8	13°30.0	12°51.0	5.1 - 4.5	11.1 - 9.9	17.1 - 15.2
52	12°58.0	13°00.1	12°22.6	5.2 - 4.5	11.2 - 9.6	17.2 - 14.8	52	13°13.0	13°15.2	12°36.9	5.2 - 4.5	11.2 - 9.8	17.2 - 15.0	52	13°28.0	13°30.2	12°51.2	5.2 - 4.6	11.2 - 10.0	17.2 - 15.3
53	12°58.2	13°00.4	12°22.8	5.3 - 4.5	11.3 - 9.7	17.3 - 14.8	53	13°13.2	13°15.4	12°37.1	5.3 - 4.6	11.3 - 9.9	17.3 - 15.1	53	13°28.2	13°30.5	12°51.4	5.3 - 4.7	11.3 - 10.1	17.3 - 15.4
54	12°58.5	13°00.6	12°23.0	5.4 - 4.6	11.4 - 9.8	17.4 - 14.9	54	$13^{\circ}13.5$	13°15.7	12°37.4	5.4 - 4.7	11.4 - 10.0	17.4 - 15.2	54	13°28.5	13°30.7	12°51.7	5.4 - 4.8	11.4 - 10.2	17.4 - 15.5
55	12°58.7	13°00.9	12°23.3	5.5 - 4.7	11.5 - 9.9	17.5 - 15.0	55	$13^{\circ}13.7$	13°15.9	12°37.6	5.5 - 4.8	11.5 - 10.1	17.5 - 15.3	55	$13^{\circ}28.7$	13°31.0	$12^{\circ}51.9$	5.5 - 4.9	11.5 - 10.3	17.5 - 15.6
56	12°59.0	13°01.1	12°23.5	5.6 - 4.8	11.6 - 10.0	17.6 - 15.1	56	13°14.0	13°16.2	12°37.8	5.6 - 4.9	11.6 - 10.2	17.6 - 15.4	56	13°29.0	13°31.2	$12^{\circ}52.1$	5.6 - 5.0	11.6 - 10.3	17.6 - 15.7
57	12°59.3	13°01.4	12°23.8	5.7 - 4.9	11.7 - 10.0	17.7 - 15.2	57	13° 14.3	13°16.4	12°38.1	5.7 - 5.0	11.7 - 10.2	17.7 - 15.5	57	13°29.3	13°31.5	12°52.4	5.7 - 5.1	11.7 - 10.4	17.7 - 15.8
58	12°59.5	13°01.6	12°24.0		11.8 - 10.1	17.8 - 15.3	58	13°14.5	13°16.7	12°38.3	5.8 - 5.1	11.8 - 10.3	17.8 - 15.6	58	13°29.5	13°31.7	12°52.6		11.8 - 10.5	17.8 - 15.9
59	12°59.8	13°01.9	12°24.2	5.9 - 5.1	11.9 - 10.2	17.9 - 15.4	59	13°14.8	13°16.9	12°38.5	5.9 - 5.2	11.9 - 10.4	17.9 - 15.7	59	13°29.8	13°32.0	12°52.9	5.9 - 5.3	11.9 - 10.6	17.9 - 16.0

m	Sun	Aries	Moon		v and d cor	r	m	Sun	Aries	Moon		v and d cor	r	m	Sun	Aries	Moon		v and d cor	r
54	Plan.						55	Plan.						56	Plan.					
0	13°30.0	13°32.2	12°53.1	0.0 - 0.0	6.0 - 5.5	12.0 - 10.9	0	13°45.0	13°47.3	13°07.4	0.0 - 0.0	6.0 - 5.6	12.0 - 11.1	0	14°00.0	14°02.3	13°21.7	0.0 - 0.0	6.0 - 5.7	12.0 - 11.3
1	13°30.2	13°32.5	12°53.3	0.1 - 0.1	6.1 - 5.5	12.1 - 11.0	1	13°45.2	13°47.5	13°07.7	0.1 - 0.1	6.1 - 5.6	12.1 - 11.2	1	14°00.2	14°02.5	13°22.0	0.1 - 0.1	6.1 - 5.7	12.1 - 11.4
2	13°30.5	13°32.7	12°53.6	0.2 - 0.2	6.2 - 5.6	12.2 - 11.1	2	13°45.5	13°47.8	13°07.9	0.2 - 0.2	6.2 - 5.7	12.2 - 11.3	2	14°00.5	14°02.8	13°22.2	0.2 - 0.2	6.2 - 5.8	12.2 - 11.5
3	13°30.7 13°31.0	13°33.0 13°33.2	12°53.8 12°54.1	0.3 - 0.3	6.3 - 5.7	12.3 - 11.2	3	13°45.7 13°46.0	13°48.0 13°48.3	13°08.1 13°08.4	0.3 - 0.3	6.3 - 5.8	12.3 - 11.4 12.4 - 11.5	3	14°00.7 14°01.0	14°03.0 14°03.3	13°22.4	0.3 - 0.3	6.3 - 5.9 6.4 - 6.0	12.3 - 11.6
4   5	13°31.0	13°33.2 13°33.5	12°54.1	0.4 - 0.4	6.4 - 5.8 6.5 - 5.9	12.4 - 11.3 12.5 - 11.4	4   5	13 46.0 13°46.3	13 48.3 13°48.5	13 08.4 13°08.6	0.4 - 0.4 0.5 - 0.5	6.4 - 5.9 6.5 - 6.0	12.4 - 11.5	4 5	14 01.0 14°01.3	14 03.3 14°03.5	13°22.7 13°22.9	0.4 - 0.4	6.5 - 6.1	12.4 - 11.7 12.5 - 11.8
6	13°31.5	13°33.7	12°54.5	0.6 - 0.5	6.6 - 6.0	12.6 - 11.4	6	13°46.5	13°48.8	13°08.8	0.6 - 0.6	6.6 - 6.1	12.6 - 11.7	6	14°01.5	14°03.3	13°23.2	0.6 - 0.6	6.6 - 6.2	12.6 - 11.9
7	13°31.8	13°34.0	12°54.8	0.7 - 0.6	6.7 - 6.1	12.7 - 11.5	7	13°46.8	13°49.0	13°09.1	0.7 - 0.6	6.7 - 6.2	12.7 - 11.7	7	14°01.8	14°04.1	13°23.4	0.7 - 0.7	6.7 - 6.3	12.7 - 12.0
8	13°32.0	13°34.2	12°55.0	0.8 - 0.7	6.8 - 6.2	12.8 - 11.6	8	13°47.0	13°49.3	13°09.3	0.8 - 0.7	6.8 - 6.3	12.8 - 11.8	8	14°02.0	14°04.3	13°23.6	0.8 - 0.8	6.8 - 6.4	12.8 - 12.1
9	13°32.2	13°34.5	12°55.2	0.9 - 0.8	6.9 - 6.3	12.9 - 11.7	9	13°47.2	13°49.5	13°09.6	0.9 - 0.8	6.9 - 6.4	12.9 - 11.9	9	14°02.2	14°04.6	13°23.9	0.9 - 0.8	6.9 - 6.5	12.9 - 12.1
10	13°32.5	13°34.7	12°55.5	1.0 - 0.9	7.0 - 6.4	13.0 - 11.8	10	$13^{\circ}47.5$	13°49.8	13°09.8	1.0 - 0.9	7.0 - 6.5	13.0 - 12.0	10	$14^{\circ}02.5$	14°04.8	13°24.1	1.0 - 0.9	7.0 - 6.6	13.0 - 12.2
11	13°32.7	13°35.0	12°55.7	1.1 - 1.0	7.1 - 6.4	13.1 - 11.9	11	$13^{\circ}47.7$	$13^{\circ}50.0$	13°10.0	1.1 - 1.0	7.1 - 6.6	13.1 - 12.1	11	$14^{\circ}02.7$	$14^{\circ}05.1$	$13^{\circ}24.4$	1.1 - 1.0	7.1 - 6.7	13.1 - 12.3
12	13°33.0	13°35.2	12°56.0	1.2 - 1.1	7.2 - 6.5	13.2 - 12.0	12	$13^{\circ}48.0$	13°50.3	13°10.3	1.2 - 1.1	7.2 - 6.7	13.2 - 12.2	12	$14^{\circ}03.0$	$14^{\circ}05.3$	$13^{\circ}24.6$	1.2 - 1.1	7.2 - 6.8	13.2 - 12.4
13	13°33.3	13°35.5	12°56.2	1.3 - 1.2	7.3 - 6.6	13.3 - 12.1	13	13°48.3	13°50.5	13°10.5	1.3 - 1.2	7.3 - 6.8	13.3 - 12.3	13	14°03.3	14°05.6	13°24.8	1.3 - 1.2	7.3 - 6.9	13.3 - 12.5
14	13°33.5	13°35.7	12°56.4	1.4 - 1.3	7.4 - 6.7	13.4 - 12.2	14	13°48.5	13°50.8	13°10.8	1.4 - 1.3	7.4 - 6.8	13.4 - 12.4	14	14°03.5	14°05.8	13°25.1	1.4 - 1.3	7.4 - 7.0	13.4 - 12.6
15	13°33.8	13°36.0	12°56.7	1.5 - 1.4	7.5 - 6.8	13.5 - 12.3	15	13°48.8	13°51.0	13°11.0	1.5 - 1.4	7.5 - 6.9	13.5 - 12.5	15	14°03.8	14°06.1	13°25.3	1.5 - 1.4	7.5 - 7.1	13.5 - 12.7
16	13°34.0	13°36.2	12°56.9	1.6 - 1.5	7.6 - 6.9	13.6 - 12.4	16	13°49.0	13°51.3	13°11.2	1.6 - 1.5	7.6 - 7.0	13.6 - 12.6	16	14°04.0	14°06.3	13°25.6	1.6 - 1.5	7.6 - 7.2	13.6 - 12.8
17	13°34.2	13°36.5	12°57.2	1.7 - 1.5	7.7 - 7.0	13.7 - 12.4	17	13°49.2	13°51.5	13°11.5	1.7 - 1.6	7.7 - 7.1	13.7 - 12.7	17	14°04.2	14°06.6	13°25.8	1.7 - 1.6	7.7 - 7.3	13.7 - 12.9
18 19	13°34.5 13°34.8	13°36.7 13°37.0	12°57.4 12°57.6	1.8 - 1.6	7.8 - 7.1 7.9 - 7.2	13.8 - 12.5 13.9 - 12.6	18 19	13°49.5 13°49.8	13°51.8 13°52.0	13°11.7 13°12.0	1.8 - 1.7 1.9 - 1.8	7.8 - 7.2 7.9 - 7.3	13.8 - 12.8 13.9 - 12.9	18 19	14°04.5 14°04.8	14°06.8 14°07.1	13°26.0 13°26.3	1.8 - 1.7	7.8 - 7.3 7.9 - 7.4	13.8 - 13.0 13.9 - 13.1
20	13°35.0	13°37.0	12°57.9	2.0 - 1.8	8.0 - 7.3	14.0 - 12.7	20	13° 50.0	13°52.0	13°12.0	2.0 - 1.9	8.0 - 7.4	14.0 - 13.0	20	14°05.0	14°07.1	13°26.5	2.0 - 1.9	8.0 - 7.5	14.0 - 13.2
20	13°35.3	13°37.2	12°58.1	2.1 - 1.9	8.1 - 7.4	14.0 - 12.7	21	13°50.3	13°52.5	13°12.2	2.0 - 1.9	8.1 - 7.5	14.1 - 13.0	21	14°05.0	14°07.6	13°26.7	2.1 - 2.0	8.1 - 7.6	14.1 - 13.3
22	13°35.5	13°37.7	12°58.3	2.2 - 2.0	8.2 - 7.4	14.2 - 12.9	22	13°50.5	13°52.8	13°12.7	2.2 - 2.0	8.2 - 7.6	14.2 - 13.1	22	14°05.5	14°07.8	13°27.0	2.2 - 2.1	8.2 - 7.7	14.2 - 13.4
23	13°35.7	13°38.0	12°58.6	2.3 - 2.1	8.3 - 7.5	14.3 - 13.0	23	13°50.7	13°53.0	13°12.9	2.3 - 2.1	8.3 - 7.7	14.3 - 13.2	23	14°05.7	14°08.1	13°27.2	2.3 - 2.2	8.3 - 7.8	14.3 - 13.5
24	13°36.0	13°38.2	12°58.8	2.4 - 2.2	8.4 - 7.6	14.4 - 13.1	24	13°51.0	13°53.3	13°13.1	2.4 - 2.2	8.4 - 7.8	14.4 - 13.3	24	14°06.0	14°08.3	13°27.5	2.4 - 2.3	8.4 - 7.9	14.4 - 13.6
25	13°36.2	13°38.5	12°59.1	2.5 - 2.3	8.5 - 7.7	14.5 - 13.2	25	$13^{\circ}51.2$	13°53.5	13°13.4	2.5 - 2.3	8.5 - 7.9	14.5 - 13.4	25	$14^{\circ}06.2$	14°08.6	$13^{\circ}27.7$	2.5 - 2.4	8.5 - 8.0	14.5 - 13.7
26	13°36.5	13°38.7	12°59.3	2.6 - 2.4	8.6 - 7.8	14.6 - 13.3	26	$13^{\circ}51.5$	13°53.8	13°13.6	2.6 - 2.4	8.6 - 8.0	14.6 - 13.5	26	$14^{\circ}06.5$	14°08.8	$13^{\circ}27.9$	2.6 - 2.4	8.6 - 8.1	14.6 - 13.7
27	13°36.8	13°39.0	12°59.5	2.7 - 2.5	8.7 - 7.9	14.7 - 13.4	27	$13^{\circ}51.8$	13°54.0	13°13.9	2.7 - 2.5	8.7 - 8.0	14.7 - 13.6	27	14°06.8	14°09.1	13°28.2	2.7 - 2.5	8.7 - 8.2	14.7 - 13.8
28	13°37.0	13°39.2	12°59.8	2.8 - 2.5	8.8 - 8.0	14.8 - 13.4	28	13°52.0	13°54.3	13°14.1	2.8 - 2.6	8.8 - 8.1	14.8 - 13.7	28	14°07.0	14°09.3	13°28.4	2.8 - 2.6	8.8 - 8.3	14.8 - 13.9
29	13°37.3	13°39.5	13°00.0	2.9 - 2.6	8.9 - 8.1	14.9 - 13.5	29	13°52.3	13°54.5	13°14.3	2.9 - 2.7	8.9 - 8.2	14.9 - 13.8	29	14°07.3	14°09.6	13°28.7	2.9 - 2.7	8.9 - 8.4	14.9 - 14.0
30	13°37.5	13°39.7	13°00.3	3.0 - 2.7	9.0 - 8.2	15.0 - 13.6	30	13°52.5	13°54.8	13°14.6	3.0 - 2.8	9.0 - 8.3	15.0 - 13.9	30	14°07.5	14°09.8	13°28.9	3.0 - 2.8	9.0 - 8.5	15.0 - 14.1
31	13°37.7 13°38.0	13°40.0 13°40.2	13°00.5 13°00.7	3.1 - 2.8 3.2 - 2.9	9.1 - 8.3 9.2 - 8.4	15.1 - 13.7	31 32	13°52.7 13°53.0	13°55.0	13°14.8 13°15.1	3.1 - 2.9 3.2 - 3.0	9.1 - 8.4 9.2 - 8.5	15.1 - 14.0 15.2 - 14.1	31 32	14°07.7 14°08.0	14°10.1 14°10.3	13°29.1	3.1 - 2.9 3.2 - 3.0	9.1 - 8.6	15.1 - 14.2
32	13°38.2	13°40.2	13°01.0	3.3 - 3.0	9.2 - 8.4	15.2 - 13.8 15.3 - 13.9	33	13°53.0	13°55.3 13°55.5	13°15.1	3.3 - 3.1	9.2 - 8.6	15.3 - 14.1	33	14 08.0 14°08.2	14 10.3 14°10.6	13°29.4 13°29.6	3.3 - 3.1	9.2 - 8.7 9.3 - 8.8	15.2 - 14.3 15.3 - 14.4
34	13°38.5	13°40.5	13°01.0	3.4 - 3.1	9.4 - 8.5	15.4 - 14.0	34	13°53.5	13°55.8	13°15.5	3.4 - 3.1	9.4 - 8.7	15.4 - 14.2	34	14°08.5	14°10.8	13°29.8	3.4 - 3.2	9.4 - 8.9	15.4 - 14.5
35	13°38.8	13°41.0	13°01.5	3.5 - 3.2	9.5 - 8.6	15.5 - 14.1	35	13°53.8	13°56.0	13°15.8	3.5 - 3.2	9.5 - 8.8	15.5 - 14.3	35	14°08.8	14°11.1	13°30.1	3.5 - 3.3	9.5 - 8.9	15.5 - 14.6
36	13°39.0	13°41.2	13°01.7	3.6 - 3.3	9.6 - 8.7	15.6 - 14.2	36	13°54.0	13°56.3	13°16.0	3.6 - 3.3	9.6 - 8.9	15.6 - 14.4	36	14°09.0	14°11.3	13°30.3	3.6 - 3.4	9.6 - 9.0	15.6 - 14.7
37	13°39.3	13°41.5	13°01.9	3.7 - 3.4	9.7 - 8.8	15.7 - 14.3	37	$13^{\circ}54.3$	13°56.5	13°16.2	3.7 - 3.4	9.7 - 9.0	15.7 - 14.5	37	14°09.3	14°11.6	13°30.6	3.7 - 3.5	9.7 - 9.1	15.7 - 14.8
38	13°39.5	13°41.7	13°02.2	3.8 - 3.5	9.8 - 8.9	15.8 - 14.4	38	$13^{\circ}54.5$	13°56.8	13°16.5	3.8 - 3.5	9.8 - 9.1	15.8 - 14.6	38	$14^{\circ}09.5$	14°11.8	13°30.8	3.8 - 3.6	9.8 - 9.2	15.8 - 14.9
39	13°39.7	13°42.0	13°02.4	3.9 - 3.5	9.9 - 9.0	15.9 - 14.4	39	$13^{\circ}54.7$	13°57.0	13°16.7	3.9 - 3.6	9.9 - 9.2	15.9 - 14.7	39	14°09.7	$14^{\circ}12.1$	13°31.0	3.9 - 3.7	9.9 - 9.3	15.9 - 15.0
40	13°40.0	13°42.2	13°02.6	4.0 - 3.6	10.0 - 9.1	16.0 - 14.5	40	13°55.0	13°57.3	13°17.0	4.0 - 3.7	10.0 - 9.3	16.0 - 14.8	40	14°10.0	14°12.3	13°31.3	4.0 - 3.8	10.0 - 9.4	16.0 - 15.1
41	13°40.2	13°42.5	13°02.9	4.1 - 3.7	10.1 - 9.2	16.1 - 14.6	41	13°55.2	13°57.5	13°17.2	4.1 - 3.8	10.1 - 9.3	16.1 - 14.9	41	14°10.2	14°12.6	13°31.5	4.1 - 3.9	10.1 - 9.5	16.1 - 15.2
42	13°40.5	13°42.7	13°03.1	4.2 - 3.8	10.2 - 9.3	16.2 - 14.7	42	13°55.5	13°57.8	13°17.4	4.2 - 3.9	10.2 - 9.4	16.2 - 15.0	42	14°10.5	14°12.8	13°31.8	4.2 - 4.0	10.2 - 9.6	16.2 - 15.3
43	13°40.8	13°43.0	13°03.4	4.3 - 3.9	10.3 - 9.4	16.3 - 14.8	43	13°55.8	13°58.0	13°17.7	4.3 - 4.0	10.3 - 9.5	16.3 - 15.1	43	14°10.8	14°13.1	13°32.0	4.3 - 4.0	10.3 - 9.7	16.3 - 15.3
44	13°41.0 13°41.2	13°43.2 13°43.5	13°03.6 13°03.8	4.4 - 4.0	10.4 - 9.4 10.5 - 9.5	16.4 - 14.9 16.5 - 15.0	44 45	13°56.0 13°56.2	13°58.3 13°58.5	13°17.9 13°18.2	4.4 - 4.1 4.5 - 4.2	10.4 - 9.6 10.5 - 9.7	16.4 - 15.2 16.5 - 15.3	44 45	14°11.0 14°11.2	14°13.3 14°13.6	13°32.2 13°32.5	4.4 - 4.1 4.5 - 4.2	10.4 - 9.8 10.5 - 9.9	16.4 - 15.4 16.5 - 15.5
46	13°41.5	13°43.7	13°04.1	4.6 - 4.2	10.6 - 9.6	16.6 - 15.1	46	13°56.5	13°58.8	13°18.4	4.6 - 4.3	10.6 - 9.8	16.6 - 15.4	46	14°11.5	14°13.8	13°32.3	4.6 - 4.3	10.6 - 10.0	16.6 - 15.6
47	13°41.7	13°44.0	13°04.1	4.7 - 4.3	10.7 - 9.7	16.7 - 15.2	47	13°56.7	13°59.0	13°18.6	4.7 - 4.3	10.7 - 9.9	16.7 - 15.4	47	14°11.7	14°13.3	13°32.7	4.7 - 4.4	10.7 - 10.1	16.7 - 15.7
48	13°42.0	13°44.2	13°04.6	4.8 - 4.4	10.8 - 9.8	16.8 - 15.3	48	13°57.0	13°59.3	13°18.9	4.8 - 4.4	10.8 - 10.0	16.8 - 15.5	48	14°12.0	14°14.3	13°33.2	4.8 - 4.5	10.8 - 10.2	16.8 - 15.8
49	13°42.3	13°44.5	13°04.8	4.9 - 4.5	10.9 - 9.9	16.9 - 15.4	49	13°57.3	13°59.5	13°19.1	4.9 - 4.5	10.9 - 10.1	16.9 - 15.6	49	14°12.3	14°14.6	13°33.4	4.9 - 4.6	10.9 - 10.3	16.9 - 15.9
50	13°42.5	13°44.7	13°05.0	5.0 - 4.5	11.0 - 10.0	17.0 - 15.4	50	13°57.5	13°59.8	13°19.3	5.0 - 4.6	11.0 - 10.2	17.0 - 15.7	50	14°12.5	14°14.8	13°33.7	5.0 - 4.7	11.0 - 10.4	17.0 - 16.0
51	13°42.8	13°45.0	13°05.3	5.1 - 4.6	11.1 - 10.1	17.1 - 15.5	51	$13^{\circ}57.8$	14°00.0	13°19.6	5.1 - 4.7	11.1 - 10.3	17.1 - 15.8	51	14°12.8	14°15.1	13°33.9	5.1 - 4.8	11.1 - 10.5	17.1 - 16.1
52	13°43.0	13°45.2	13°05.5	5.2 - 4.7	11.2 - 10.2	17.2 - 15.6	52	13°58.0	14°00.3	13°19.8	5.2 - 4.8	11.2 - 10.4	17.2 - 15.9	52	14°13.0	14°15.3	13°34.1	5.2 - 4.9	11.2 - 10.5	17.2 - 16.2
53	13°43.2	13°45.5	13°05.7	5.3 - 4.8	11.3 - 10.3	17.3 - 15.7	53	13°58.2	14°00.5	13°20.1	5.3 - 4.9	11.3 - 10.5	17.3 - 16.0	53	14°13.2	14°15.6	13°34.4	5.3 - 5.0	11.3 - 10.6	17.3 - 16.3
54	13°43.5	13°45.8	13°06.0	5.4 - 4.9	11.4 - 10.4		54	13°58.5	14°00.8	13°20.3	5.4 - 5.0	11.4 - 10.5	17.4 - 16.1	54	14°13.5	14°15.8	13°34.6	5.4 - 5.1	11.4 - 10.7	17.4 - 16.4
55	13°43.7	13°46.0	13°06.2	5.5 - 5.0	11.5 - 10.4	17.5 - 15.9	55	13°58.7	14°01.0	13°20.5	5.5 - 5.1	11.5 - 10.6	17.5 - 16.2	55	14°13.7	14°16.1	13°34.9	5.5 - 5.2	11.5 - 10.8	17.5 - 16.5
56	13°44.0	13°46.3	13°06.5	5.6 - 5.1	11.6 - 10.5	17.6 - 16.0	56	13°59.0	14°01.3	13°20.8	5.6 - 5.2	11.6 - 10.7	17.6 - 16.3	56	14°14.0	14°16.3	13°35.1	5.6 - 5.3	11.6 - 10.9	17.6 - 16.6
57	13°44.3	13°46.5	13°06.7	5.7 - 5.2	11.7 - 10.6	17.7 - 16.1	57	13°59.3	14°01.5	13°21.0	5.7 - 5.3	11.7 - 10.8	17.7 - 16.4	57	14°14.3	14°16.6	13°35.3	5.7 - 5.4	11.7 - 11.0	17.7 - 16.7
58 59	13°44.5 13°44.8	13°46.8	13°06.9 13°07.2		11.8 - 10.7		58	13°59.5 13°59.8	14°01.8	13°21.3		11.8 - 10.9	17.8 - 16.5	58 59	14°14.5	14°16.8	13°35.6	5.8 - 5.5	11.8 - 11.1	17.8 - 16.8
59	15 44.8	13°47.0	15 07.2	5.9 - 5.4	11.9 - 10.8	17.9 - 10.3	59	19 99.8	14°02.0	13°21.5	0.9 - 0.0	11.9 - 11.0	17.9 - 16.6	99	14°14.8	14°17.1	13°35.8	0.6 - 6.6	11.9 - 11.2	11.9 - 10.9

m	Sun	Aries	Moon		v and d corr	r	m	Sun	Aries	Moon		v and d cor	r	m	Sun	Aries	Moon		v and d cor	r
57	Plan.						58	Plan.						59	Plan.					
0	14°15.0	14°17.3	13°36.0	0.0 - 0.0	6.0 - 5.8	12.0 - 11.5	0	14°30.0	14°32.4	13°50.4	0.0 - 0.0	6.0 - 5.8	12.0 - 11.7	0	14°45.0	14°47.4	14°04.7	0.0 - 0.0	6.0 - 6.0	12.0 - 11.9
1	14°15.2	14°17.6	13°36.3	0.1 - 0.1	6.1 - 5.8	12.1 - 11.6	1	$14^{\circ}30.2$	14°32.6	13°50.6	0.1 - 0.1	6.1 - 5.9	12.1 - 11.8	1	14°45.2	14°47.7	14°04.9	0.1 - 0.1	6.1 - 6.0	12.1 - 12.0
2	14°15.5	14°17.8	13°36.5	0.2 - 0.2	6.2 - 5.9	12.2 - 11.7	2	14°30.5	14°32.9	13°50.8	0.2 - 0.2	6.2 - 6.0	12.2 - 11.9	2	14°45.5	14°47.9	14°05.2	0.2 - 0.2	6.2 - 6.1	12.2 - 12.1
3	14°15.7	14°18.1	13°36.8	0.3 - 0.3	6.3 - 6.0	12.3 - 11.8	3	14°30.7	14°33.1	13°51.1	0.3 - 0.3	6.3 - 6.1	12.3 - 12.0	3	14°45.7	14°48.2	14°05.4	0.3 - 0.3	6.3 - 6.2	12.3 - 12.2
$\begin{vmatrix} 4 \\ 5 \end{vmatrix}$	14°16.0	14°18.3 14°18.6	13°37.0 13°37.2	0.4 - 0.4 0.5 - 0.5	6.4 - 6.1 6.5 - 6.2	12.4 - 11.9 12.5 - 12.0	4	14°31.0 14°31.3	14°33.4 14°33.6	13°51.3 13°51.6	0.4 - 0.4	6.4 - 6.2	12.4 - 12.1 12.5 - 12.2	4	14°46.0 14°46.3	14°48.4 14°48.7	14°05.6 14°05.9	0.4 - 0.4 0.5 - 0.5	6.4 - 6.3 6.5 - 6.4	12.4 - 12.3 12.5 - 12.4
6	14°16.3 14°16.5	14 18.0 14°18.8	13°37.5	0.6 - 0.6	6.6 - 6.3	12.6 - 12.1	5 6	14 31.3 14°31.5	14°33.9	13°51.8	0.5 - 0.5	6.5 - 6.3 6.6 - 6.4	12.6 - 12.3	5   6	14 46.5 14°46.5	14 48.7 14°48.9	14 05.9 14°06.1	0.6 - 0.6	6.6 - 6.5	12.6 - 12.5
7	14°16.8	14°19.1	13°37.7	0.0 - 0.0	6.7 - 6.4	12.7 - 12.2	7	14°31.8	14°34.1	13°52.0	0.7 - 0.7	6.7 - 6.5	12.7 - 12.4	7	14°46.8	14°49.2	14°06.1	0.7 - 0.7	6.7 - 6.6	12.7 - 12.6
8	14°17.0	14°19.3	13°38.0	0.8 - 0.8	6.8 - 6.5	12.8 - 12.3	8	14°32.0	14°34.4	13°52.3	0.8 - 0.8	6.8 - 6.6	12.8 - 12.5	8	14°47.0	14°49.4	14°06.6	0.8 - 0.8	6.8 - 6.7	12.8 - 12.7
9	14°17.2	14°19.6	13°38.2	0.9 - 0.9	6.9 - 6.6	12.9 - 12.4	9	14°32.2	14°34.6	13°52.5	0.9 - 0.9	6.9 - 6.7	12.9 - 12.6	9	14°47.2	14°49.7	14°06.8	0.9 - 0.9	6.9 - 6.8	12.9 - 12.8
10	14°17.5	14°19.8	13°38.4	1.0 - 1.0	7.0 - 6.7	13.0 - 12.5	10	14°32.5	14°34.9	13°52.8	1.0 - 1.0	7.0 - 6.8	13.0 - 12.7	10	14°47.5	14°49.9	14°07.1	1.0 - 1.0	7.0 - 6.9	13.0 - 12.9
11	$14^{\circ}17.7$	14°20.1	13°38.7	1.1 - 1.1	7.1 - 6.8	13.1 - 12.6	11	$14^{\circ}32.7$	14°35.1	13°53.0	1.1 - 1.1	7.1 - 6.9	13.1 - 12.8	11	14°47.7	$14^{\circ}50.2$	14°07.3	1.1 - 1.1	7.1 - 7.0	13.1 - 13.0
12	14°18.0	14°20.3	13°38.9	1.2 - 1.2	7.2 - 6.9	13.2 - 12.7	12	$14^{\circ}33.0$	14°35.4	13°53.2	1.2 - 1.2	7.2 - 7.0	13.2 - 12.9	12	14°48.0	$14^{\circ}50.4$	14°07.5	1.2 - 1.2	7.2 - 7.1	13.2 - 13.1
13	14°18.3	14°20.6	13°39.2	1.3 - 1.2	7.3 - 7.0	13.3 - 12.7	13	$14^{\circ}33.3$	14°35.6	13°53.5	1.3 - 1.3	7.3 - 7.1	13.3 - 13.0	13	14°48.3	$14^{\circ}50.7$	14°07.8	1.3 - 1.3	7.3 - 7.2	13.3 - 13.2
14	14°18.5	14°20.8	13°39.4	1.4 - 1.3	7.4 - 7.1	13.4 - 12.8	14	14°33.5	14°35.9	13°53.7	1.4 - 1.4	7.4 - 7.2	13.4 - 13.1	14	14°48.5	14°50.9	14°08.0	1.4 - 1.4	7.4 - 7.3	13.4 - 13.3
15	14°18.8	14°21.1	13°39.6	1.5 - 1.4	7.5 - 7.2	13.5 - 12.9	15	14°33.8	14°36.1	13°53.9	1.5 - 1.5	7.5 - 7.3	13.5 - 13.2	15	14°48.8	14°51.2	14°08.3	1.5 - 1.5	7.5 - 7.4	13.5 - 13.4
16	14°19.0	14°21.3	13°39.9	1.6 - 1.5	7.6 - 7.3	13.6 - 13.0	16	14°34.0	14°36.4	13°54.2	1.6 - 1.6	7.6 - 7.4	13.6 - 13.3	16	14°49.0	14°51.4	14°08.5	1.6 - 1.6	7.6 - 7.5	13.6 - 13.5
17	14°19.2	14°21.6	13°40.1	1.7 - 1.6	7.7 - 7.4	13.7 - 13.1	17	14°34.2	14°36.6	13°54.4	1.7 - 1.7	7.7 - 7.5	13.7 - 13.4	17	14°49.2	14°51.7	14°08.7	1.7 - 1.7	7.7 - 7.6	13.7 - 13.6
18 19	14°19.5 14°19.8	14°21.8 14°22.1	13°40.3 13°40.6	1.8 - 1.7 1.9 - 1.8	7.8 - 7.5 7.9 - 7.6	13.8 - 13.2 13.9 - 13.3	18 19	14°34.5 14°34.8	14°36.9 14°37.1	13°54.7 13°54.9	1.8 - 1.8	7.8 - 7.6 7.9 - 7.7	13.8 - 13.5 13.9 - 13.6	18   19	14°49.5 14°49.8	14°51.9 14°52.2	14°09.0 14°09.2	1.8 - 1.8	7.8 - 7.7 7.9 - 7.8	13.8 - 13.7 13.9 - 13.8
20	14°19.8	14°22.1	13°40.8	2.0 - 1.9	8.0 - 7.7	14.0 - 13.4	20	14°35.0	14°37.1	13°55.1	2.0 - 1.9	8.0 - 7.8	14.0 - 13.7	20	14 49.8 14°50.0	14°52.2	14 09.2 14°09.5	2.0 - 2.0	8.0 - 7.9	14.0 - 13.9
21	14°20.3	14°22.4	13°41.1	2.1 - 2.0	8.1 - 7.8	14.1 - 13.5	21	14°35.3	14°37.4	13°55.4	2.1 - 2.0	8.1 - 7.9	14.1 - 13.7	20	14°50.3	14°52.4	14°09.7	2.0 - 2.0	8.1 - 8.0	14.1 - 14.0
22	14°20.5	14°22.9	13°41.3	2.2 - 2.1	8.2 - 7.9	14.2 - 13.6	22	14°35.5	14°37.9	13°55.6	2.2 - 2.1	8.2 - 8.0	14.2 - 13.8	22	14°50.5	14°52.9	14°09.9	2.2 - 2.2	8.2 - 8.1	14.2 - 14.1
23	14°20.7	14°23.1	13°41.5	2.3 - 2.2	8.3 - 8.0	14.3 - 13.7	23	14°35.7	14°38.1	13°55.9	2.3 - 2.2	8.3 - 8.1	14.3 - 13.9	23	14°50.7	14°53.2	14° 10.2	2.3 - 2.3	8.3 - 8.2	14.3 - 14.2
24	14°21.0	14°23.4	13°41.8	2.4 - 2.3	8.4 - 8.1	14.4 - 13.8	24	$14^{\circ}36.0$	14°38.4	13°56.1	2.4 - 2.3	8.4 - 8.2	14.4 - 14.0	24	14°51.0	$14^{\circ}53.4$	14° 10.4	2.4 - 2.4	8.4 - 8.3	14.4 - 14.3
25	14°21.2	14°23.6	13°42.0	2.5 - 2.4	8.5 - 8.1	14.5 - 13.9	25	$14^{\circ}36.2$	14°38.6	13°56.3	2.5 - 2.4	8.5 - 8.3	14.5 - 14.1	25	14°51.2	$14^{\circ}53.7$	14°10.6	2.5 - 2.5	8.5 - 8.4	14.5 - 14.4
26	14°21.5	14°23.9	13°42.3	2.6 - 2.5	8.6 - 8.2	14.6 - 14.0	26	$14^{\circ}36.5$	14°38.9	13°56.6	2.6 - 2.5	8.6 - 8.4	14.6 - 14.2	26	14°51.5	$14^{\circ}53.9$	14° 10.9	2.6 - 2.6	8.6 - 8.5	14.6 - 14.5
27	14°21.8	14°24.1	13°42.5	2.7 - 2.6	8.7 - 8.3	14.7 - 14.1	27	14°36.8	14°39.1	13°56.8	2.7 - 2.6	8.7 - 8.5	14.7 - 14.3	27	14°51.8	14°54.2	14°11.1	2.7 - 2.7	8.7 - 8.6	14.7 - 14.6
28	14°22.0	14°24.4	13°42.7	2.8 - 2.7	8.8 - 8.4	14.8 - 14.2	28	14°37.0	14°39.4	13°57.0	2.8 - 2.7	8.8 - 8.6	14.8 - 14.4	28	14°52.0	14°54.4	14°11.4	2.8 - 2.8	8.8 - 8.7	14.8 - 14.7
29	14°22.3	14°24.6	13°43.0	2.9 - 2.8	8.9 - 8.5	14.9 - 14.3	29	14°37.3	14°39.6	13°57.3	2.9 - 2.8	8.9 - 8.7	14.9 - 14.5	29	14°52.3	14°54.7	14°11.6	2.9 - 2.9	8.9 - 8.8	14.9 - 14.8
30	14°22.5 14°22.7	14°24.9 14°25.1	13°43.2 13°43.4	3.0 - 2.9 3.1 - 3.0	9.0 - 8.6 9.1 - 8.7	15.0 - 14.4	30 31	14°37.5 14°37.7	14°39.9 14°40.1	13°57.5 13°57.8	3.0 - 2.9 3.1 - 3.0	9.0 - 8.8	15.0 - 14.6	$\begin{vmatrix} 30 \\ 31 \end{vmatrix}$	14°52.5 14°52.7	14°54.9 14°55.2	14°11.8 14°12.1	3.0 - 3.0 3.1 - 3.1	9.0 - 8.9 9.1 - 9.0	15.0 - 14.9 15.1 - 15.0
32	14°23.0	$14^{\circ}25.1$ $14^{\circ}25.4$	13°43.4	3.2 - 3.1	9.1 - 8.7	15.1 - 14.5 15.2 - 14.6	32	14 37.7 14°38.0	14°40.1	13°58.0	3.2 - 3.1	9.1 - 8.9 9.2 - 9.0	15.1 - 14.7 15.2 - 14.8	32	14 52.7 14°53.0	14 55.2 14°55.4	14 12.1 14°12.3	3.2 - 3.2	9.1 - 9.0	15.1 - 15.0
33	14°23.2	14°25.6	13°43.7	3.3 - 3.2	9.3 - 8.9	15.3 - 14.7	33	14°38.2	14°40.4	13°58.2	3.3 - 3.2	9.3 - 9.1	15.3 - 14.9	33	14°53.0	14°55.7	14°12.6	3.3 - 3.3	9.3 - 9.2	15.3 - 15.2
34	14°23.5	14°25.9	13°44.2	3.4 - 3.3	9.4 - 9.0	15.4 - 14.8	34	14°38.5	14°40.9	13°58.5	3.4 - 3.3	9.4 - 9.2	15.4 - 15.0	34	14°53.5	14°55.9	14° 12.8	3.4 - 3.4	9.4 - 9.3	15.4 - 15.3
35	14°23.8	14°26.1	13°44.4	3.5 - 3.4	9.5 - 9.1	15.5 - 14.9	35	14°38.8	14°41.2	13°58.7	3.5 - 3.4	9.5 - 9.3	15.5 - 15.1	35	14°53.8	$14^{\circ}56.2$	14° 13.0	3.5 - 3.5	9.5 - 9.4	15.5 - 15.4
36	14°24.0	14°26.4	13°44.6	3.6 - 3.5	9.6 - 9.2	15.6 - 15.0	36	14°39.0	14°41.4	13°59.0	3.6 - 3.5	9.6 - 9.4	15.6 - 15.2	36	14°54.0	$14^{\circ}56.4$	14°13.3	3.6 - 3.6	9.6 - 9.5	15.6 - 15.5
37	14°24.3	14°26.6	13°44.9	3.7 - 3.5	9.7 - 9.3	15.7 - 15.0	37	$14^{\circ}39.3$	14°41.7	13°59.2	3.7 - 3.6	9.7 - 9.5	15.7 - 15.3	37	14°54.3	$14^{\circ}56.7$	14° 13.5	3.7 - 3.7	9.7 - 9.6	15.7 - 15.6
38	14°24.5	14°26.9	13°45.1	3.8 - 3.6	9.8 - 9.4	15.8 - 15.1	38	14°39.5	14°41.9	13°59.4	3.8 - 3.7	9.8 - 9.6	15.8 - 15.4	38	14°54.5	14°56.9	14°13.8	3.8 - 3.8	9.8 - 9.7	15.8 - 15.7
39	14°24.7	14°27.1	13°45.4	3.9 - 3.7	9.9 - 9.5	15.9 - 15.2	39	14°39.7	14°42.2	13°59.7	3.9 - 3.8	9.9 - 9.7	15.9 - 15.5	39	14°54.7	$14^{\circ}57.2$	14°14.0	3.9 - 3.9	9.9 - 9.8	15.9 - 15.8
40	14°25.0	14°27.4	13°45.6	4.0 - 3.8	10.0 - 9.6	16.0 - 15.3	40	14°40.0	14°42.4	13°59.9	4.0 - 3.9	10.0 - 9.8	16.0 - 15.6	40	14°55.0	14°57.4	14°14.2	4.0 - 4.0	10.0 - 9.9	16.0 - 15.9
41	14°25.2	14°27.6	13°45.8	4.1 - 3.9	10.1 - 9.7	16.1 - 15.4	41	14°40.2	14°42.7	14°00.1	4.1 - 4.0	10.1 - 9.8	16.1 - 15.7	41	14°55.2	14°57.7	14°14.5	4.1 - 4.1	10.1 - 10.0	16.1 - 16.0
42 43	14°25.5 14°25.8	14°27.9 14°28.1	13°46.1 13°46.3	4.2 - 4.0 4.3 - 4.1	10.2 - 9.8 10.3 - 9.9	16.2 - 15.5 16.3 - 15.6	42	14°40.5 14°40.8	14°42.9 14°43.2	14°00.4 14°00.6	$\begin{vmatrix} 4.2 - 4.1 \\ 4.3 - 4.2 \end{vmatrix}$	10.2 - 9.9 10.3 - 10.0	16.2 - 15.8 16.3 - 15.9	$\begin{array}{ c c c }\hline 42\\ 43\\ \end{array}$	14°55.5 14°55.8	14°57.9 14°58.2	14°14.7 14°14.9	4.2 - 4.2 4.3 - 4.3	10.2 - 10.1 10.3 - 10.2	16.2 - 16.1 16.3 - 16.2
43	14 25.8 14°26.0	14°28.4	13°46.5	4.3 - 4.1	10.3 - 9.9	16.4 - 15.7	44	$14^{\circ}40.8$ $14^{\circ}41.0$	14 43.2 14°43.4	14°00.6	4.5 - 4.2	10.3 - 10.0	16.4 - 16.0	$\begin{vmatrix} 43 \\ 44 \end{vmatrix}$	14 55.8 14°56.0	14 58.2 14°58.4	14 14.9 14°15.2	4.3 - 4.3	10.3 - 10.2	16.4 - 16.3
45	14°26.2	14°28.6	13°46.8	4.5 - 4.3	10.5 - 10.1	16.5 - 15.8	45	14°41.2	14°43.7	14°00.3	4.5 - 4.4	10.5 - 10.2	16.5 - 16.1	45	14°56.2	14°58.7	14°15.4	4.5 - 4.5	10.5 - 10.4	16.5 - 16.4
46	14°26.5	14°28.9	13°47.0	4.6 - 4.4	10.6 - 10.2	16.6 - 15.9	46	14°41.5	14°43.9	14°01.3	4.6 - 4.5	10.6 - 10.3	16.6 - 16.2	46	14°56.5	14°59.0	14° 15.7	4.6 - 4.6	10.6 - 10.5	16.6 - 16.5
47	14°26.7	14°29.1	13°47.3	4.7 - 4.5	10.7 - 10.3	16.7 - 16.0	47	$14^{\circ}41.7$	14°44.2	14°01.6	4.7 - 4.6	10.7 - 10.4	16.7 - 16.3	47	14°56.7	$14^{\circ}59.2$	14° 15.9	4.7 - 4.7	10.7 - 10.6	16.7 - 16.6
48	$14^{\circ}27.0$	14°29.4	13°47.5	4.8 - 4.6	10.8 - 10.4	16.8 - 16.1	48	$14^{\circ}42.0$	14°44.4	14°01.8	4.8 - 4.7	10.8 - 10.5	16.8 - 16.4	48	14°57.0	$14^{\circ}59.5$	14°16.1	4.8 - 4.8	10.8 - 10.7	16.8 - 16.7
49	14°27.3	14°29.6	13°47.7	4.9 - 4.7	10.9 - 10.4	16.9 - 16.2	49	$14^{\circ}42.3$	14°44.7	14°02.1	4.9 - 4.8	10.9 - 10.6	16.9 - 16.5	49	14°57.3	$14^{\circ}59.7$	14°16.4	4.9 - 4.9	10.9 - 10.8	16.9 - 16.8
50	14°27.5	14°29.9	13°48.0	5.0 - 4.8		17.0 - 16.3	50	$14^{\circ}42.5$	14°44.9	14°02.3	5.0 - 4.9	11.0 - 10.7	17.0 - 16.6	50	14°57.5	14°60.0	14°16.6	5.0 - 5.0	11.0 - 10.9	17.0 - 16.9
51	14°27.8	14°30.1	13°48.2	5.1 - 4.9	11.1 - 10.6	17.1 - 16.4	51	14°42.8	14°45.2	14°02.5	5.1 - 5.0	11.1 - 10.8	17.1 - 16.7	51	14°57.8	15°00.2	14°16.9	5.1 - 5.1	11.1 - 11.0	17.1 - 17.0
52	14°28.0	14°30.4	13°48.5	5.2 - 5.0		17.2 - 16.5	52	14°43.0	14°45.4	14°02.8	5.2 - 5.1	11.2 - 10.9	17.2 - 16.8	52	14°58.0	15°00.5	14°17.1	5.2 - 5.2	11.2 - 11.1	17.2 - 17.1
53	14°28.2	14°30.6	13°48.7	5.3 - 5.1	11.3 - 10.8		53	14°43.2	14°45.7	14°03.0		11.3 - 11.0	17.3 - 16.9	53	14°58.2	15°00.7	14°17.3	5.3 - 5.3	11.3 - 11.2	17.3 - 17.2
54	14°28.5 14°28.7	14°30.9 14°31.1	13°48.9 13°49.2	5.4 - 5.2 5.5 - 5.3		17.4 - 16.7 17.5 - 16.8	54	14°43.5 14°43.7	14°45.9 14°46.2	14°03.3 14°03.5	5.4 - 5.3	11.4 - 11.1 11.5 - 11.2	17.4 - 17.0 17.5 - 17.1	54	14°58.5 14°58.7	15°01.0 15°01.2	14°17.6 14°17.8	5.4 - 5.4 5.5 - 5.5	11.4 - 11.3 11.5 - 11.4	17.4 - 17.3 17.5 - 17.4
55 56	14 28.7 14°29.0	14 31.1 14°31.4	13 49.2 13°49.4	5.6 - 5.4		17.6 - 16.8	55 56	14 43.7 14°44.0	14 46.2 14°46.4	14 03.5 14°03.7	5.5 - 5.4	11.6 - 11.2	17.6 - 17.2	55 56	14 58.7 14°59.0	15 01.2 15°01.5	14 17.8 14°18.0	5.6 - 5.6	11.5 - 11.4	17.6 - 17.5
57	14 29.0 14°29.3	14 31.4 14°31.6	13°49.4 13°49.7	5.7 - 5.5		17.7 - 17.0	57	14°44.0	14 46.4 14°46.7	14 03.7 14°04.0	5.7 - 5.6	11.6 - 11.3	17.7 - 17.3	57	14 59.0 14°59.3	15°01.5	14 18.0 14°18.3	5.7 - 5.7	11.7 - 11.6	17.7 - 17.6
58	14°29.5	14°31.9	13°49.9		11.8 - 11.3		58	$14^{\circ}44.5$	14°46.9	14°04.0	5.8 - 5.7	11.8 - 11.5	17.8 - 17.4	58	14°59.5	15°02.0	14°18.5			17.8 - 17.7
59	14°29.8	14°32.1	13°50.1		11.9 - 11.4		59	14°44.8	14°47.2	14°04.4		11.9 - 11.6		59	14°59.8	15°02.2	14°18.8		11.9 - 11.8	
		-1 02.1	-0 00.1	1 3.0 3.1	0 11.1	0 12		-1 11.0			11 3.0 3.0						-1 10.0	1 5.0 5.0		

Refr	act.									Paral	lax of t	he Moo	n									DIP	
$H_a$	ref	$H_a$	0-5°	5-10°	10-15°	15-20°	$20-25^{\circ}$	$25-30^{\circ}$	30-35°			45-50°		55-60°	60-65°	65-70°	70-75°	75-80°	80-85°	85-90°	m	dip	ft
5°	9.9	,	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°	1	1.8	3.2
5.5° 6.0°	9.1 8.5	0 10	54.0 54.0	$53.8 \\ 53.8$	$53.2 \\ 53.2$	$52.2 \\ 52.1$	50.7 $50.7$	$48.9 \\ 48.9$	$\frac{46.8}{46.7}$	$44.2 \\ 44.1$	$41.4 \\ 41.3$	38.2 38.1	$34.7 \\ 34.6$	$31.0 \\ 30.8$	$27.0 \\ 26.9$	$\frac{22.8}{22.7}$	$18.5 \\ 18.3$	$14.0 \\ 13.8$	$9.4 \\ 9.2$	$\frac{4.7}{4.5}$	1.5 2.0	$\frac{2.2}{2.5}$	$\frac{4.9}{6.5}$
6.5°	7.9	20	54.0	53.8	53.2	52.1	50.6	48.8	46.6	44.1	41.3	38.0	34.5	30.7	26.7	22.7	18.2	13.7	9.2	4.4	2.5	2.8	8.1
7.0°	7.5	30	54.0	53.8	53.1	52.0	50.6	48.7	46.5	44.0	41.1	37.8	34.3	30.6	26.6	22.4	18.0	13.5	8.9	4.2	3.0	3.0	9.7
7.5°	7.0	40	54.0	53.7	53.1	52.0	50.5	48.7	46.4	43.9	41.0	37.7	34.2	30.5	26.5	22.3	17.9	13.4	8.8	4.1	3.5	3.3	11.3
8.0°	6.6	50	54.0 1°	53.7	53.0	52.0	$50.5 \\ 21^{\circ}$	48.6	46.4	43.8	40.9	37.6	34.1	30.3	26.3	22.1	17.7	13.2	$8.6$ $81^{\circ}$	3.9	4.0	3.5	13.0
8.5° 9.0°	6.3 5.9	0	54.0	<b>6°</b> 53.7	11° 53.0	<b>16°</b> 51.9	50.4	26° 48.5	<b>31</b> ° 46.3	<b>36</b> ° 43.7	<b>41</b> ° 40.8	<b>46°</b> 37.5	<b>51</b> ° 34.0	<b>56°</b> 30.2	61° 26.2	66° 22.0	<b>71</b> ° 17.6	<b>76°</b> 13.1	81	<b>86°</b> 3.8	4.5 5.0	$\frac{3.7}{3.9}$	$14.6 \\ 16.2$
9.5°	5.7	10	54.0	53.7	53.0	51.9	50.4	48.5	46.2	43.6	40.7	37.4	33.9	30.1	26.0	21.8	$17.0 \\ 17.4$	12.9	8.3	3.6	5.5	4.1	17.8
10.0°	5.4	20	54.0	53.7	52.9	51.8	50.3	48.4	46.1	43.5	40.5	37.3	33.7	29.9	25.9	21.7	17.3	12.8	8.1	3.5	6.0	4.3	19.5
10.5°	5.1	30	54.0	53.7	52.9	51.8	50.2	48.3	46.0	43.4	40.4	37.2	33.6	29.8	25.8	21.5	17.1	12.6	8.0	3.3	6.5	4.5	21.1
11.0°	4.9	40	54.0	53.6	52.9	51.7	50.2	48.3	46.0	43.3	40.3	37.1	33.5	29.7	25.6	21.4	17.0	12.5	7.8	3.1	7.0	4.7	22.7
11.5° 12.0°	$\begin{array}{c c} 4.7 \\ 4.5 \end{array}$	50	54.0 2°	53.6 <b>7</b> °	52.9 $12^{\circ}$	51.7 <b>17</b> °	$50.1 \\ 22^{\circ}$	$48.2 \\ 27^{\circ}$	$45.9$ $32^{\circ}$	$43.2$ $37^{\circ}$	$40.2$ $42^{\circ}$	36.9 <b>47</b> °	$33.4$ $52^{\circ}$	29.5 <b>57</b> °	$25.5$ <b>62</b> $^{\circ}$	$21.2 \\ 67^{\circ}$	$^{16.8}_{f 72}^{\circ}$	$12.3$ <b>77</b> $^{\circ}$	$7.7$ $82^{\circ}$	3.0 <b>87</b> °	7.5 8.0	$\frac{4.8}{5.0}$	$\frac{24.3}{25.9}$
12.5°	4.4	0	54.0	53.6	52.8	51.6	50.1	48.1	45.8	43.1	40.1	36.8	33.2	29.4	25.4	21.1	16.7	12.1	7.5	2.8	8.5	5.1	27.6
13.0°	4.2	10	54.0	53.6	52.8	51.6	50.0	48.0	45.7	43.0	40.0	36.7	33.1	29.3	25.2	21.0	16.5	12.0	7.4	2.7	9.0	5.3	29.2
13.5°	4.0	20	54.0	53.6	52.8	51.5	49.9	48.0	45.6	42.9	39.9	36.6	33.0	29.1	25.1	20.8	16.4	11.8	7.2	2.5	9.5	5.4	30.8
14.0°	3.9	30	53.9	53.5	52.7	51.5	49.9	47.9	45.5	42.8	39.8	36.5	32.9	29.0	24.9	20.7	16.2	11.7	7.0	2.4	10.0	5.6	32.4
14.5° 15.0°	3.8	40 50	53.9 53.9	$53.5 \\ 53.5$	$52.7 \\ 52.7$	$51.5 \\ 51.4$	49.8 49.8	$47.8 \\ 47.8$	$45.5 \\ 45.4$	$42.7 \\ 42.6$	39.7 39.6	36.4 36.2	$32.7 \\ 32.6$	28.9 28.7	$24.8 \\ 24.7$	$20.5 \\ 20.4$	$16.1 \\ 15.9$	$11.5 \\ 11.4$	$6.9 \\ 6.7$	2.2 2.0	10.5 11.0	$5.7 \\ 5.8$	$34.0 \\ 35.7$
15.5°	3.5	,	3°	8°	13°	18°	23°	28°	33°	38°	43°	48°	53°	58°	63°	68°	73°	78°	83°	88°	11.5	6.0	37.3
16.0°	3.4	0	53.9	53.5	52.6	51.4	49.7	47.7	45.3	42.6	39.5	36.1	32.5	28.6	24.5	20.2	15.8	11.2	6.6	1.9	12.0	6.1	38.9
16.5°	3.3	10	53.9	53.5	52.6	51.3	49.6	47.6	45.2	42.5	39.4	36.0	32.4	28.5	24.4	20.1	15.6	11.1	6.4	1.7	12.5	6.2	40.5
17.0°	3.2	20	53.9	53.4	52.5	51.3	49.6	47.5	45.1	42.4	39.3	35.9	32.2	28.3	24.2	19.9	15.5	10.9	6.3	1.6	13.0	6.3	42.2
17.5° 18.0°	3.1	30 40	53.9 53.9	$53.4 \\ 53.4$	$52.5 \\ 52.5$	$51.2 \\ 51.2$	$49.5 \\ 49.5$	$47.5 \\ 47.4$	$45.0 \\ 44.9$	$42.3 \\ 42.2$	$39.2 \\ 39.1$	$35.8 \\ 35.7$	$32.1 \\ 32.0$	$28.2 \\ 28.1$	$24.1 \\ 24.0$	19.8 19.6	$15.3 \\ 15.2$	$10.8 \\ 10.6$	$6.1 \\ 6.0$	1.4 1.3	13.5 14.0	$6.5 \\ 6.6$	$43.8 \\ 45.4$
18.5°	2.9	50	53.9	53.4	52.4	51.1	49.4	47.3	44.9	42.1	39.0	35.5	31.9	27.9	23.8	19.5	15.0	10.5	5.8	1.1	14.5	6.7	47.0
19.0°	2.9	,	<b>4</b> °	<b>9</b> °	$14^{\circ}$	$19^{\circ}$	$24^{\circ}$	$29^{\circ}$	$34^{\circ}$	$39^{\circ}$	$44^{\circ}$	$49^{\circ}$	$54^{\circ}$	<b>59</b> °	$64^{\circ}$	$69^{\circ}$	$74^{\circ}$	$79^{\circ}$	$84^{\circ}$	89°	15.0	6.8	48.6
19.5°	2.8	0	53.9	53.3	52.4	51.1	49.3	47.2	44.8	42.0	38.8	35.4	31.7	27.8	23.7	19.4	14.9	10.3	5.6	0.9	15.5	6.9	50.3
20.0°	2.7	10	53.9	53.3	52.4	51.0	49.3	47.2	44.7	41.9	38.7	35.3	31.6	27.7	23.5	19.2	14.7	10.1	5.5	0.8	16.0	7.0	51.9
$21.0^{\circ}$ $22.0^{\circ}$	$\begin{array}{c c} 2.6 \\ 2.4 \end{array}$	20 30	53.8 53.8	53.3 $53.3$	$52.3 \\ 52.3$	$51.0 \\ 50.9$	49.2 $49.1$	$47.1 \\ 47.0$	$44.6 \\ 44.5$	$41.8 \\ 41.7$	$38.6 \\ 38.5$	$35.2 \\ 35.1$	$31.5 \\ 31.4$	$27.5 \\ 27.4$	23.4 $23.2$	19.1 18.9	$14.6 \\ 14.4$	10.0 9.8	$5.3 \\ 5.2$	$0.6 \\ 0.5$	16.5 17.0	$7.1 \\ 7.2$	$53.5 \\ 55.1$
23.0°	2.3	40	53.8	53.2	52.2	50.8	49.1	46.9	44.4	41.6	38.4	35.0	31.2	27.3	23.1	18.8	14.3	9.7	5.0	0.3	17.5	7.4	56.7
24.0°	2.2	50	53.8	53.2	52.2	50.8	49.0	46.8	44.3	41.5	38.3	34.8	31.1	27.1	23.0	18.6	14.1	9.5	4.9	0.2	18.0	7.5	58.4
25.0°	2.1	HP	0.0		0.0	0.0	0.0		0.0			or HP pe			0.1	0.1	0.1	0.1			18.5	7.6	60.0
$26.0^{\circ}$ $27.0^{\circ}$	2.0	54.3 54.6	0.3	$0.3 \\ 0.6$	$0.3 \\ 0.6$	$0.3 \\ 0.6$	$0.3 \\ 0.6$	$0.3 \\ 0.5$	$0.3 \\ 0.5$	$0.2 \\ 0.5$	$0.2 \\ 0.4$	$0.2 \\ 0.4$	$0.2 \\ 0.4$	$0.2 \\ 0.3$	$0.1 \\ 0.3$	$0.1 \\ 0.2$	$0.1 \\ 0.2$	$0.1 \\ 0.1$	$0.0 \\ 0.1$	0.0	19.0 19.5	$7.7 \\ 7.8$	$61.6 \\ 63.2$
28.0°	1.9	54.9	0.9	0.9	0.9	0.0	0.8	0.8	0.8	0.7	0.4	0.4	0.4	0.5	0.4	0.2	0.2	0.1	0.1	0.0	20.0	7.9	64.9
$29.0^{\circ}$	1.8	55.2	1.2	1.2	1.2	1.1	1.1	1.1	1.0	1.0	0.9	0.8	0.7	0.6	0.6	0.5	0.4	0.3	0.2	0.1	20.5	8.0	66.5
30.0°	1.7	55.5	1.5	1.5	1.5	1.4	1.4	1.3	1.3	1.2	1.1	1.0	0.9	0.8	0.7	0.6	0.5	0.3	0.2	0.1	21.0	8.1	68.1
31.0°	1.7 1.6	55.8	1.8	1.8	1.8	1.7	1.7	1.6	1.5	1.4	1.3	1.2	1.1	1.0	0.8	0.7	0.5	0.4	0.2	0.1	21.5 22.0	$8.2 \\ 8.2$	$69.7 \\ 71.3$
$32.0^{\circ}$ $33.0^{\circ}$	1.5	56.1 56.4	2.1 2.4	$\frac{2.1}{2.4}$	$\frac{2.1}{2.3}$	$\frac{2.0}{2.3}$	$\frac{1.9}{2.2}$	$\frac{1.9}{2.1}$	1.8 2.0	1.7 1.9	1.5 1.8	1.4 1.6	1.3 1.5	1.1 1.3	1.0 1.1	$0.8 \\ 0.9$	$0.6 \\ 0.7$	$0.5 \\ 0.5$	$0.3 \\ 0.3$	0.1 0.1	$\frac{22.0}{22.5}$	8.2	73.0
34.0°	1.5	56.7	2.4	$\frac{2.4}{2.7}$	$\frac{2.3}{2.6}$	$\frac{2.3}{2.6}$	2.5	$\frac{2.1}{2.4}$	2.3	2.1	2.0	1.8	1.6	1.5	1.1	1.0	0.7	0.6	$0.3 \\ 0.4$	0.1	23.0	8.4	74.6
$35.0^{\circ}$	1.4	57.0	3.0	3.0	2.9	2.9	2.8	2.7	2.5	2.4	2.2	2.0	1.8	1.6	1.4	1.1	0.9	0.6	0.4	0.1	23.5	8.5	76.2
36.0°	1.4	57.3	3.3	3.3	3.2	3.1	3.0	2.9	2.8	2.6	2.4	2.2	2.0	1.8	1.5	1.3	1.0	0.7	0.4	0.1	24.0	8.6	77.8
37.0° 38.0°	1.3	57.6	3.6	3.6	3.5	3.4	3.3	3.2	3.0	2.9	2.7	2.4	2.2	1.9	1.7	1.4	1.1	0.8	0.5	0.2	$24.5 \\ 25.0$	8.7 8.8	79.4
38.0° 39.0°	1.3 1.2	57.9 58.2	3.9	$\frac{3.9}{4.2}$	$\frac{3.8}{4.1}$	$3.7 \\ 4.0$	$\frac{3.6}{3.9}$	$\frac{3.5}{3.7}$	3.3 3.5	3.1 3.3	2.9 3.1	2.6 2.8	2.4 2.6	$\frac{2.1}{2.3}$	1.8 1.9	1.5 1.6	1.2 1.3	$0.8 \\ 0.9$	$0.5 \\ 0.5$	$0.2 \\ 0.2$	∠3.0	0.0	81.1
40.0°	1.2	58.5	4.5	4.5	$\frac{4.1}{4.4}$	4.3	4.2	4.0	3.8	3.6	3.3	3.0	2.7	$\frac{2.3}{2.4}$	2.1	1.7	1.4	1.0	0.6	0.2			
$45.0^{\circ}$	1.0	58.8	4.8	4.8	4.7	4.6	4.4	4.3	4.0	3.8	3.5	3.2	2.9	2.6	2.2	1.8	1.4	1.0	0.6	0.2			
50.0°	0.8	59.1	5.1	5.1	5.0	4.9	4.7	4.5	4.3	4.0	3.8	3.4	3.1	2.7	2.4	2.0	1.5	1.1	0.7	0.2			
55.0° 60.0°	0.7	59.4	5.4	5.4	5.3	5.2	5.0	4.8	4.6	4.3	4.0	3.6	3.3	2.9	2.5	2.1	1.6	1.2	0.7	0.2			
65.0°	0.6	59.7 60.0	5.7 6.0	$5.7 \\ 5.9$	$5.6 \\ 5.9$	$\frac{5.4}{5.7}$	5.3 5.5	5.1 5.3	4.8 5.1	4.5 4.8	$4.2 \\ 4.4$	$3.9 \\ 4.1$	$\frac{3.5}{3.7}$	$\frac{3.1}{3.2}$	2.6 2.8	$\frac{2.2}{2.3}$	1.7 1.8	1.2 1.3	$0.7 \\ 0.8$	$0.2 \\ 0.3$			
70.0°	0.4	60.3	6.3	6.2	6.2	6.0	5.8	5.6	5.3	5.0	4.4	4.1	3.8	3.4	2.9	$\frac{2.3}{2.4}$	1.9	1.4	0.8	0.3			
$75.0^{\circ}$	0.3	60.6	6.6	6.5	6.4	6.3	6.1	5.9	5.6	5.2	4.9	4.5	4.0	3.5	3.0	2.5	2.0	1.4	0.9	0.3			
80.0°	0.2	60.9	6.9	6.8	6.7	6.6	6.4	6.1	5.8	5.5	5.1	4.7	4.2	3.7	3.2	2.6	2.1	1.5	0.9	0.3			
85.0°	0.1	61.2	7.2	7.1	7.0	6.9	6.7	6.4	6.1	5.7	5.3	4.9	4.4	3.9	3.3	2.8	2.2	1.6	0.9	0.3			
		61.5	7.5	7.4	7.3	7.2	6.9	6.7	6.3	6.0	5.5	5.1	4.6	4.0	3.5	2.9	2.3	1.6	1.0	0.3			

Parallax of Venus and Mars

$H_a$ HP	.1'	.2'	.3	.4'	.5'	.6'
10°	0.1	0.2	0.3	0.4	0.5	0.6
$20^{\circ}$	0.1	0.2	0.3	0.4	0.5	0.6
$30^{\circ}$	0.1	0.2	0.3	0.3	0.4	0.5
$40^{\circ}$	0.1	0.2	0.2	0.3	0.4	0.5
$50^{\circ}$	0.1	0.1	0.2	0.3	0.3	0.4
$60^{\circ}$	0.1	0.1	0.2	0.2	0.3	0.3
$70^{\circ}$	0.0	0.1	0.1	0.1	0.2	0.2
<b>80</b> °	0.0	0.0	0.1	0.1	0.1	0.1

#### About these tables

The preceding static tables are independent from the year. They differ from the tables found in the official paper versions of the Nautical almanac in to important considerations.

- My tables are not arranged as /textitcritical tables. So chose the value that fits best to your value and interpolate in the rare cases where this should be necessary.
- My tables do not combine multiple corrections as some tables in the paper Nautical Almanac do. Each correction has to be applied separately.

All tables that are specific for a year are contained in the Nautical Almanac daily pages for the corresponding year.

#### increments

The large increment table is is nothing but a linear interpolation between the tabulated values in the daily pages of the Nautical almanac. This table is basically identical with the official one.

#### DIP

The DIP table corrects for hight of eye over the surface. This value has to be subtracted from the sextant altitude  $(H_s)$ . The correction in degrees for hight of eye in meters is given by the following formula:

$$d = 0.0293\sqrt{m}$$

This is the first correction (apart from index error) that has to be applied to the measured altitude.

#### Refraction

The next correction is for refraction in the earths atmosphere. As usual this table is correct for  $10^{\circ}$ C and a pressure of 1010hPa. This correction has to be applied to apparent altitude  $(H_a)$ . The exat values can be calculated by the following formula.

$$R_0 = \cot\left(H_a + \frac{7.31}{H_a + 4.4}\right)$$

For other than standard conditions calculate a correction factor for  $R_0$  by:

$$f = \frac{0.28P}{T + 273}$$

where P is the pressure in hectopascal and T is the temperature in  ${}^{\circ}$ C. No table is given for this correction so far.

#### **Parallax**

For moon sight and if necessary for Mars and Venus a parallax correction is necessary. For Mars and Venus the horizontal parallax (HP) is never more than 0.5' and can be omitted if this kind of precision is not necessary. The parallax (P) can be calculated from horizontal parallax (HP) and observed altitude  $H_o$  with the following formula:

$$P = \cos HP$$

The table for the moon gives the parallax for a horizontal parallax of 54' which is the lowest value for the moon. For all other values the value in the lower half of the table has to be added. Note that this table is only for parallax and does not correct for refraction and semidiameter. For all moon and sun sights semidiameter has to be added for lower limb sight and subtracted for upper limb sights. The value for HP and semidiameter is tabulated in the daily pages. The smaler parallax table is for parallax of Venus and Mars.

#### Altitude correction

To correct your sextant altitude  $H_s$  do the following: Calculate  $H_a$  by

$$H_a = H_s + I - dip$$

Where I is the sextants index error. Than calculate the observed altitude  $H_o$  by

$$H_o = H_a - R + P \pm SD$$

where R is refraction, P is parallax and SD is the semidiameter.

#### Sight reduktion

Sight reduction tables can be downloaded for the US governments internet pages. Search for HO-229 or HO-249. These values can also be calculated with to, relatively simple, formulas

$$\sin H_c = \sin L \sin d + \cos L \cos d \cos L H A$$

and

$$\cos A = \frac{\sin d - \sin L \sin H_c}{\cos L \cos H_c}$$

where A is the azimuth angle, L is the latitude, d is the declination and LHA is the local hour angle. The azimuth  $(Z_n)$  is given by the following rule:

- if the LHA is greater than  $180^{\circ}$ ,  $Z_n = A$
- if the LHA is less than  $180^{\circ}$ ,  $Z_n = 360^{\circ} A$