CANON OF LUNAR ECLIPSES

1500 B.C.–A.D. 3000

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Published by:
Willmann–Bell, Inc.
P.O. Box 35025
Richmond, Virginia 23235
1992

Table 3.3
Reduction of Time Scales, −1500 to 1620
ΔT = ET − UT

Year	ΔT h	m	$\Delta\lambda$ °	Year	ΔT h	m	$\Delta\lambda$ °	Year	ΔT h	m	$\Delta\lambda$ °	Year	ΔT h	m	$\Delta\lambda$ °	Year	ΔT h	m	$\Delta\lambda$ °	Year	ΔT h	m	$\Delta\lambda$ °
−1500	10	13	154	−1050	7	22	111	−600	4	59	75	−150	3	5	46	300	1	40	25	750	0	43	11	1200	0	13	3
−1490	10	9	153	−1040	7	18	110	−590	4	56	74	−140	3	3	46	310	1	39	25	760	0	43	11	1210	0	13	3
−1480	10	5	152	−1030	7	15	109	−580	4	54	74	−130	3	1	45	320	1	37	24	770	0	42	10	1220	0	13	3
−1470	10	1	151	−1020	7	11	108	−570	4	51	73	−120	2	59	45	330	1	35	24	780	0	41	10	1230	0	12	3
−1460	9	56	150	−1010	7	8	107	−560	4	48	72	−110	2	57	44	340	1	34	24	790	0	40	10	1240	0	12	3
−1450	9	52	149	−1000	7	4	106	−550	4	45	71	−100	2	54	44	350	1	32	23	800	0	39	10	1250	0	11	3
−1440	9	48	147	−990	7	1	106	−540	4	42	71	−90	2	52	43	360	1	31	23	810	0	38	10	1260	0	11	3
−1430	9	44	146	−980	6	58	105	−530	4	40	70	−80	2	50	43	370	1	29	22	820	0	37	9	1270	0	10	3
−1420	9	40	145	−970	6	54	104	−520	4	37	69	−70	2	48	42	380	1	28	22	830	0	36	9	1280	0	10	3
−1410	9	36	144	−960	6	51	103	−510	4	34	69	−60	2	46	42	390	1	26	22	840	0	36	9	1290	0	10	2
−1400	9	32	143	−950	6	48	102	−500	4	31	68	−50	2	44	41	400	1	25	21	850	0	35	9	1300	0	9	2
−1390	9	28	142	−940	6	44	101	−490	4	29	67	−40	2	42	41	410	1	24	21	860	0	34	9	1310	0	9	2
−1380	9	24	141	−930	6	41	101	−480	4	26	67	−30	2	40	40	420	1	22	21	870	0	33	8	1320	0	8	2
−1370	9	20	140	−920	6	38	100	−470	4	23	66	−20	2	38	40	430	1	21	20	880	0	32	8	1330	0	8	2
−1360	9	17	140	−910	6	34	99	−460	4	21	65	−10	2	36	39	440	1	19	20	890	0	32	8	1340	0	8	2
−1350	9	13	139	−900	6	31	98	−450	4	18	65	0	2	34	39	450	1	18	20	900	0	31	8	1350	0	7	2
−1340	9	9	138	−890	6	28	97	−440	4	15	64	10	2	32	38	460	1	17	19	910	0	30	8	1360	0	7	2
−1330	9	5	137	−880	6	25	96	−430	4	13	63	20	2	30	38	470	1	15	19	920	0	29	7	1370	0	7	2
−1320	9	1	136	−870	6	21	96	−420	4	10	63	30	2	28	37	480	1	14	19	930	0	29	7	1380	0	6	2
−1310	8	57	135	−860	6	18	95	−410	4	8	62	40	2	26	37	490	1	13	18	940	0	28	7	1390	0	6	2
−1300	8	53	134	−850	6	15	94	−400	4	5	61	50	2	24	36	500	1	11	18	950	0	27	7	1400	0	6	1
−1290	8	49	133	−840	6	12	93	−390	4	3	61	60	2	22	36	510	1	10	18	960	0	27	7	1410	0	6	1
−1280	8	46	132	−830	6	8	92	−380	4	0	60	70	2	20	35	520	1	9	17	970	0	26	7	1420	0	5	1
−1270	8	42	131	−820	6	5	92	−370	3	57	60	80	2	18	35	530	1	8	17	980	0	26	6	1430	0	5	1
−1260	8	38	130	−810	6	2	91	−360	3	55	59	90	2	16	34	540	1	6	17	990	0	25	6	1440	0	5	1
−1250	8	34	129	−800	5	59	90	−350	3	52	58	100	2	14	34	550	1	5	16	1000	0	24	6	1450	0	4	1
−1240	8	30	128	−790	5	56	89	−340	3	50	58	110	2	13	33	560	1	4	16	1010	0	24	6	1460	0	4	1
−1230	8	27	127	−780	5	53	88	−330	3	47	57	120	2	11	33	570	1	3	16	1020	0	23	6	1470	0	4	1
−1220	8	23	126	−770	5	50	88	−320	3	45	56	130	2	9	32	580	1	1	15	1030	0	22	6	1480	0	4	1
−1210	8	19	125	−760	5	47	87	−310	3	43	56	140	2	7	32	590	1	0	15	1040	0	22	5	1490	0	3	1
−1200	8	16	124	−750	5	44	86	−300	3	40	55	150	2	5	31	600	0	59	15	1050	0	21	5	1500	0	3	1
−1190	8	12	123	−740	5	40	85	−290	3	38	55	160	2	4	31	610	0	58	15	1060	0	21	5	1510	0	3	1
−1180	8	8	122	−730	5	37	85	−280	3	35	54	170	2	2	31	620	0	57	14	1070	0	20	5	1520	0	3	1
−1170	8	5	121	−720	5	34	84	−270	3	33	53	180	2	0	30	630	0	56	14	1080	0	20	5	1530	0	3	1
−1160	8	1	121	−710	5	31	83	−260	3	31	53	190	1	58	30	640	0	55	14	1090	0	19	5	1540	0	3	1
−1150	7	57	120	−700	5	28	82	−250	3	28	52	200	1	57	29	650	0	54	13	1100	0	18	5	1550	0	2	1
−1140	7	54	119	−690	5	25	82	−240	3	26	52	210	1	55	29	660	0	52	13	1110	0	18	5	1560	0	2	1
−1130	7	50	118	−680	5	22	81	−230	3	23	51	220	1	53	28	670	0	51	13	1120	0	17	4	1570	0	2	1
−1120	7	46	117	−670	5	20	80	−220	3	21	50	230	1	51	28	680	0	50	13	1130	0	17	4	1580	0	2	1
−1110	7	43	116	−660	5	17	79	−210	3	19	50	240	1	50	28	690	0	49	12	1140	0	16	4	1590	0	2	0
−1100	7	39	115	−650	5	14	79	−200	3	17	49	250	1	48	27	700	0	48	12	1150	0	16	4	1600	0	2	0
−1090	7	36	114	−640	5	11	78	−190	3	14	49	260	1	47	27	710	0	47	12	1160	0	15	4	1610	0	2	0
−1080	7	32	113	−630	5	8	77	−180	3	12	48	270	1	45	26	720	0	46	12	1170	0	15	4	1620	0	2	0
−1070	7	29	112	−620	5	5	76	−170	3	10	48	280	1	43	26	730	0	45	11	1180	0	14	4				
−1060	7	25	112	−610	5	2	76	−160	3	8	47	290	1	42	25	740	0	44	11	1190	0	14	3				

$\Delta\lambda$ = Greenwich longitude − ephemeris longitude

This table was calculated by the following expressions:

1. Before A.D. 948:

$$\Delta T = +1355 + 3.26(\text{year} - 1800) + 0.00424(\text{year} - 1800)^2 \text{ seconds}$$

2. After A.D. 948:

$$\Delta T = -5 + 0.06(\text{year} - 1800) + 0.00236(\text{year} - 1800)^2 \text{ seconds}$$

which are Stephenson and Morrison's 1984 ones, but have been adjusted from $-26''/cy^2$ to $-23.895''/cy^2$ for the tidal term in the mean motion of the Moon, by adding

$$-0.000091(26 - 23.895)(\text{year} - 1955)^2 \text{ seconds}$$

In order to eliminate the discontinuity at 1620, the empirical correction

$$+0.35(\text{year} - 1500) \text{ seconds}$$

has been included in the values for 1500 through 1620.