TABLE 2.11
LOCAL CIRCUMSTANCES FOR THE MIDDLE EAST
ANNULAR SOLAR ECLIPSE OF 2010 JANUARY 15

Location Name	Latitude	Longitude	Elev.	First Contact				Second Contact			Third Contact			Fourth Contact				Maximum Eclipse					Eclip.	Eclip.	Umbral	Umbral
				U.T.	P	V	Alt	U.T.	P	V	U.T.	P	V	U.T.	P	V	Alt	U.T.	P	V	Alt	Azm	Mag.	Obs.	Depth	Durat.
			m	h m s	°	°	°	h m s	°	°	h m s	°	°	h m s	°	°	°	h m s	°	°	°	°				
ARMENIA																										
Jerevan	40°11'N	044°30'E	—	05:54:55.2	191	228	14	—			—			07:28:46.8	136	157	24	06:40:26.6	164	193	19	143	0.097	0.035		
AZERBAIJAN																										
Baku	40°23'N	049°51'E	—	06:06:42.1	190	221	18	—			—			07:47:06.3	132	146	27	06:55:48.3	161	184	23	151	0.103	0.038		
BAHRAIN																										
Al-Manamah	26°13'N	050°35'E	—	05:12:54.2	212	263	20	—			—			08:07:36.9	111	122	42	06:34:46.9	162	198	33	143	0.304	0.187		
GEORGIA																										
Tbilisi	41°43'N	044°49'E	—	06:02:23.4	188	223	14	—			—			07:27:44.1	138	159	23	06:44:00.4	163	191	19	144	0.081	0.026		
IRAN																										
Esfahan	32°40'N	051°38'E	1597	05:39:09.2	202	242	21	—			—			08:05:07.9	119	129	35	06:49:21.6	161	188	30	149	0.205	0.105		
Qom	34°39'N	050°54'E	—	05:45:20.1	199	237	20	—			—			07:59:29.3	123	134	33	06:50:04.7	161	188	28	149	0.175	0.084		
Shiraz	29°37'N	052°33'E	—	05:29:33.1	206	250	22	—			—			08:12:51.3	114	121	39	06:47:39.6	160	189	33	149	0.254	0.144		
Tehran	35°40'N	051°26'E	1200	05:50:36.0	197	233	20	—			—			08:00:17.1	124	134	32	06:53:28.4	160	186	28	151	0.163	0.075		
IRAQ																										
Basra	30°30'N	047°47'E	—	05:22:20.5	206	253	17	—			—			07:51:38.7	119	137	36	06:32:42.8	163	198	28	141	0.230	0.125		
Mosul	36°20'N	043°08'E	223	05:35:35.3	199	241	12	—			—			07:29:00.3	131	155	27	06:29:44.8	165	200	20	139	0.146	0.064		
Baghdad	33°21'N	044°25'E	34	05:26:13.3	203	249	14	—			—			07:36:13.3	125	149	31	06:27:42.7	164	201	23	138	0.187	0.092		
ISRAEL																										
Jerusalem	31°46'N	035°14'E	809	05:03:35.2	211	265	4	—			—			07:11:49.2	125	162	25	06:03:22.8	168	216	15	127	0.237	0.130		
JORDAN																										
'Amman	31°57'N	035°56'E	776	05:05:18.9	211	264	5	—			—			07:13:17.2	125	161	26	06:05:02.3	168	215	15	128	0.231	0.125		
KUWAIT																										
Kuwait City	29°20'N	047°59'E	5	05:18:26.0	208	257	17	—			—			07:53:37.7	117	135	37	06:31:18.2	163	199	29	141	0.249	0.140		
LEBANON																										
Beirut	33°53'N	035°30'E	—	05:11:29.9	207	259	5	—			—			07:11:18.6	128	163	24	06:07:47.9	168	213	14	128	0.202	0.103		
OMAN																										
Masqat	23°37'N	058°35'E	—	05:22:39.2	215	260	29	—			—			08:45:23.6	98	88	45	07:01:46.4	156	179	42	157	0.386	0.264		
SAUDI ARABIA																										
Mecca	21°27'N	039°49'E	—	04:39:09.7	226	290	7	—			—			07:28:52.3	110	146	38	05:55:39.1	168	223	23	126	0.411	0.288		
Riyadh	24°38'N	046°43'E	591	04:59:39.5	217	272	15	—			—			07:52:26.8	111	133	41	06:19:04.4	165	208	29	136	0.330	0.210		
SYRIA																										
Damascus	33°30'N	036°18'E	720	05:11:26.5	208	259	5	—			—			07:13:14.6	128	162	25	06:08:37.1	168	212	15	129	0.204	0.105		
TURKEY																										
Ankara	39°56'N	032°52'E	861	05:30:26.7	198	243	3	—			—			07:03:00.1	137	171	17	06:14:50.1	168	208	10	129	0.124	0.050		
Bursa	40°11'N	029°04'E	—	—				—			—			06:57:58.6	137	173	14	06:09:29.6	169	211	7	125	0.137	0.058		
Istanbul	41°01'N	028°58'E	18	—				—			—			06:57:31.6	138	174	13	06:11:02.0	169	210	6	125	0.126	0.052		
Izmir	38°25'N	027°09'E	28	—				—			—			06:56:27.5	133	172	14	06:03:27.1	169	215	5	122	0.173	0.082		
UNITED ARAB EMIRATES																										
Abu Dhabi	24°28'N	054°22'E	—	05:15:24.8	214	263	24	—			—			08:26:04.9	104	106	44	06:46:05.4	159	190	38	148	0.346	0.225		
YEMEN																										
Sana	15°23'N	044°12'E	—	04:30:50.2	233	302	12	—			—			07:46:17.3	99	131	48	05:57:41.7	167	224	30	126	0.524	0.406		

TABLE 2.12
LOCAL CIRCUMSTANCES FOR CENTRAL ASIA
ANNULAR SOLAR ECLIPSE OF 2010 JANUARY 15

Location Name	Latitude	Longitude	Elev.	First Contact				Second Contact			Third Contact			Fourth Contact				Maximum Eclipse					Eclip.	Eclip.	Umbral	Umbral
				U.T.	P	V	Alt	U.T.	P	V	U.T.	P	V	U.T.	P	V	Alt	U.T.	P	V	Alt	Azm	Mag.	Obs.	Depth	Durat.
			m	h m s	°	°	°	h m s	°	°	h m s	°	°	h m s	°	°	°	h m s	°	°	°	°				
KAZAKHSTAN																										
Alma-Ata	43°15'N	076°57'E	775	06:54:49.2	199	200	26	—			—			09:20:06.1	106	80	18	08:10:27.2	152	138	24	198	0.288	0.173		
KYRGYZSTAN																										
Bishkek	42°54'N	074°36'E	—	06:51:24.1	197	201	26	—			—			09:14:46.0	108	84	20	08:05:46.9	152	141	25	194	0.266	0.154		
MONGOLIA																										
Ulaanbaatar	47°55'N	106°53'E	1307	07:26:01.7	218	193	14	—			—			—				08:42:12.0	153	120	5	230	0.547	0.429		
TAJIKISTAN																										
Dusanbe	38°35'N	068°48'E	—	06:33:06.6	198	211	29	—			—			09:05:31.4	108	88	27	07:51:42.8	152	148	30	185	0.259	0.148		
TURKMENISTAN																										
Aschabad	37°57'N	058°23'E	—	06:13:24.0	194	220	24	—			—			08:26:34.2	120	117	31	07:19:44.9	157	169	30	165	0.171	0.081		
UZBEKISTAN																										
Taskent	41°20'N	069°18'E	—	06:41:09.1	195	206	26	—			—			09:02:05.5	111	93	24	07:53:38.0	153	148	27	186	0.229	0.123		