

TABLE 2.7
LOCAL CIRCUMSTANCES FOR AFRICA: ANGOLA TO LIBYA
ANNULAR SOLAR ECLIPSE OF 2010 JANUARY 15

Location Name	Latitude	Longitude	Elev. m	First Contact			Second Contact			Third Contact			Fourth Contact			Maximum Eclipse				Eclip. Mag.	Eclip. Obs.	Umbral Depth	Umbral Durat.			
				U.T. h m s	P °	V Alt °	U.T. h m s	P °	V °	U.T. h m s	P °	V °	U.T. h m s	P °	V Alt °	U.T. h m s	P °	V Alt °	Azm °							
ANGOLA																										
Luanda	08°48'S	013°14'E	59	—			—			—			06:21:43.1	56	148	18	05:14:47.9	355	93	3	111	0.508	0.387			
BENIN																										
Cotonou	06°21'N	002°26'E	—	—			—			—			06:26:55.3	75	157	4	06:07	Rise	—	—	0	111	0.253	0.142		
Porto-Novo	06°29'N	002°37'E	—	—			—			—			06:27:06.8	76	157	4	06:07	Rise	—	—	0	111	0.262	0.150		
BOTSWANA																										
Gaborone	24°45'S	025°55'E	—	04:38:01.5	315	67	11	—		—			06:14:32.5	29	135	33	05:23:58.0	352	102	21	104	0.198	0.100			
BURUNDI																										
Bujumbura	03°23'S	029°22'E	—	04:05:43.7	273	6	0	—		—			06:53:40.7	72	149	39	05:21:02.1	353	80	17	111	0.812	0.732			
CAMEROON																										
Douala	04°03'N	009°42'E	—	—			—			—			06:29:48.1	76	157	12	05:34	Rise	—	—	0	111	0.668	0.565		
Yaoundé	03°52'N	011°31'E	770	—			—			—			06:31:14.1	76	157	14	05:27	Rise	—	—	0	111	0.760	0.671		
CENTRAL AFRICAN REPUBLIC																										
Bangui	04°22'N	018°35'E	387	—			05:15:09.1	321	45	05:19:10.6	28	111	06:39:30.5	81	156	23	05:17:10.1	354	78	4	112	0.907	0.823	0.167	04m02s	
Bouar	05°57'N	015°36'E	—	—			05:14:13.0	300	24	05:20:01.2	49	132	06:36:47.3	82	158	19	05:17:07.0	354	78	1	111	0.906	0.821	0.417	05m48s	
CHAD																										
Moundou	08°34'N	016°05'E	—	—			05:17:38.4	187	268	05:19:15.2	161	242	06:38:49.7	86	159	18	05:18:27.2	174	255	1	111	0.906	0.821	0.025	01m37s	
Ndjamena	12°07'N	015°03'E	295	—			—			—			06:39:33.4	91	161	16	05:26	Rise	—	—	0	112	0.809	0.726		
CONGO																										
Brazzaville	04°16'S	015°17'E	318	—			—			—			06:28:47.8	65	152	20	05:14:45.0	354	88	3	111	0.651	0.545			
Pointe-Noire	04°48'S	011°51'E	50	—			—			—			06:24:22.5	62	151	16	05:14:34.7	355	90	1	111	0.601	0.489			
DEM. REP. CONGO																										
Beni	00°30'N	029°28'E	—	—			05:19:51.1	320	43	05:24:10.2	26	109	06:56:41.7	78	150	38	05:22:00.9	353	76	16	112	0.910	0.828	0.161	04m19s	
Bunia	01°34'N	030°15'E	—	—			05:19:05.9	266	348	05:27:05.4	80	161	06:59:09.9	80	150	39	05:23:05.0	353	74	17	113	0.910	0.828	0.944	08m00s	
Butembo	00°09'N	029°17'E	—	—			—			—			06:56:03.1	78	150	38	05:21:45.1	353	76	16	112	0.906	0.827			
Isiro	02°47'N	027°37'E	—	—			05:17:25.8	255	337	05:25:10.8	91	172	06:53:59.9	82	152	35	05:21:17.7	173	255	14	113	0.909	0.827	0.861	07m45s	
Kananga	05°54'S	022°25'E	—	—			—			—			06:37:46.5	66	150	30	05:16:35.7	354	86	11	110	0.679	0.578			
Kinshasa	04°18'S	015°18'E	—	—			—			—			06:28:47.6	65	152	20	05:14:45.4	354	88	3	111	0.650	0.545			
Kisangani	00°30'S	025°12'E	—	—			—			—			06:47:07.6	76	152	32	05:18:37.6	354	79	12	112	0.851	0.775			
Kolwezi	10°43'S	025°28'E	—	04:11:06.8	287	29	1	—		—			06:38:21.8	58	147	34	05:18:26.1	353	89	16	109	0.577	0.463			
Lubumbashi	11°40'S	027°28'E	—	04:11:24.9	288	29	3	—		—			06:41:13.8	57	146	37	05:19:47.1	353	89	18	109	0.569	0.454			
Mbuji-Mayi	06°09'S	023°38'E	—	—			—			—			06:39:40.8	66	150	31	05:17:08.5	354	86	12	110	0.684	0.584			
DJIBOUTI																										
Djibouti	11°36'N	043°09'E	7	04:22:23.3	240	313	11	—		—			07:42:18.3	94	132	50	05:50:30.2	168	230	30	123	0.616	0.507			
EGYPT																										
Cairo	30°03'N	031°15'E	116	—			—			—			07:04:33.6	122	164	23	05:53:45.1	170	222	11	122	0.289	0.173			
EQUATORIAL GUINEA																										
Malabo, Bioko	03°45'N	008°47'E	—	—			—			—			06:28:50.7	75	156	11	05:38	Rise	—	—	0	111	0.620	0.510		
ERITREA																										
Asmera	15°20'N	038°53'E	2325	04:24:26.1	237	308	6	—		—			07:27:05.1	101	144	42	05:45:31.2	170	231	23	122	0.549	0.433			
ETHIOPIA																										
Addis Ababa	09°02'N	038°42'E	2450	04:14:29.2	247	325	6	—		—			07:25:58.8	92	141	46	05:38:44.9	170	239	25	118	0.701	0.605			
GABON																										
Libreville	00°23'N	009°27'E	35	—			—			—			06:26:43.6	70	154	13	05:30	Rise	—	—	0	111	0.642	0.535		
GHANA																										
Accra	05°33'N	000°13'W	27	—			—			—			06:25:09.1	72	156	2	06:16	Rise	—	—	0	111	0.112	0.043		
KENYA																										
Eldoret	00°31'N	035°17'E	—	04:06:25.4	263	351	4	05:24:12.6	248	328	05:32:21.7	96	175	07:11:40.0	79	145	46	05:28:16.5	172	252	23	113	0.912	0.831	0.756	08m09s
Kisumu	00°06'S	034°45'E	—	04:06:07.7	264	353	4	05:23:18.4	275	356	05:31:27.0	69	149	07:09:44.4	78	145	46	05:27:22.0	352	73	23	113	0.912	0.831	0.779	08m09s
Machakos	01°31'S	037°16'E	—	04:06:38.1	265	354	7	05:27:01.1	302	24	05:33:26.3	40	120	07:16:04.9	76	141	50	05:30:13.6	351	72	26	113	0.912	0.832	0.339	06m25s
Meru	00°03'N	037°39'E	—	04:07:07.0	262	349	7	05:27:21.9	240	320	05:35:24.4	102	181	07:18:26.0	78	141	50	05:31:22.6	171	250	26	114	0.912	0.832	0.642	08m03s
Mombasa	04°03'S	039°40'E	16	04:07:28.5	267	358	10	—		—			07:21:21.8	72	137	54	05:33:02.3	350	73	30	112	0.875	0.804			
Nairobi	01°17'S	036°49'E	1820	04:06:28.6	265	354	6	05:26:11.6	297	18	05:33:05.0	45	126	07:14:52.2	76	142	49	05:29:38.0	351	72	25	113	0.912	0.832	0.412	06m53s
Nakuru	00°17'S	036°04'E	—	04:06:27.5	263	352	5	05:24:48.5	268	348	05:33:13.4	75	155	07:13:24.2	78	143	48	05:29:00.2	351	72	24	113	0.912	0.832	0.894	08m25s
LESOTHO																										
Maseru	29°28'S	027°30'E	—	04:56:04.4	328	83	18	—		—			06:01:21.1</													