

TABLE 9

TOTAL SOLAR ECLIPSE OF 2012 NOVEMBER 13/14
LOCAL CIRCUMSTANCES FOR AUSTRALIA, NEW ZEALAND & PACIFIC

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 °							
AUSTRALIA																										
Adelaide	34°55'S	138°35'E	6	20:12:53.8	315	79	7	—	—	—	—	21:52:27.6	78	198	27	21:00:49.3	16	138	17	101	0.522	0.420				
Alice Springs	23°42'S	133°53'E	546	20:13:01.5	310	65	0	—	—	—	—	21:40:47.9	90	200	19	20:46:54.9	16	129	7	107	0.725	0.661				
Brisbane	27°28'S	153°02'E	5	19:56:21.8	298	53	14	—	—	—	—	21:58:54.6	98	209	40	20:54:23.9	18	130	26	98	0.835	0.800				
Broken Hill	31°57'S	141°27'E	—	20:06:24.0	310	71	7	—	—	—	—	21:52:14.4	84	201	29	20:57:07.1	17	135	18	101	0.611	0.523				
Broome	17°58'S	122°14'E	—	21:08:28.3	78	187	0	—	—	—	—	21:34:45.1	92	199	6	21:08:28.3	78	187	0	109	0.478	0.370				
Cairns	16°55'S	145°46'E	—	19:44:45.9	287	35	2	20:38:34.6	125	228	20:40:34.9	271	14	21:40:21.7	108	208	28	20:39:34.6	18	121	14	105	1.037	1.000	0.708	02m00s
Canberra	35°17'S	149°08'E	575	20:10:11.4	310	73	15	—	—	—	—	22:02:37.8	85	205	38	21:03:56.7	17	138	26	95	0.618	0.531				
Darwin	12°28'S	130°50'E	—	20:41:58.4	87	190	0	—	—	—	—	21:31:03.9	105	205	11	20:41:58.4	87	190	0	109	0.915	0.901				
Geelong	38°08'S	144°21'E	—	20:16:57.9	316	82	13	—	—	—	—	22:00:08.0	77	201	33	21:06:35.1	17	141	23	96	0.512	0.409				
Hobart	42°53'S	147°19'E	54	20:26:09.5	320	90	18	—	—	—	—	22:07:08.4	73	203	36	21:14:53.9	17	146	27	91	0.450	0.341				
Launceston	41°26'S	147°08'E	—	20:23:03.0	318	87	17	—	—	—	—	22:05:46.7	75	203	36	21:12:33.3	17	144	26	92	0.475	0.368				
Melbourne	37°49'S	144°58'E	35	20:16:08.6	315	81	13	—	—	—	—	22:00:28.9	78	202	34	21:06:17.4	17	141	23	96	0.524	0.423				
Newcastle	32°56'S	151°46'E	—	20:05:27.7	306	66	16	—	—	—	—	22:03:21.7	90	208	40	21:01:36.0	18	136	27	95	0.696	0.627				
Perth	31°57'S	115°51'E	20	21:10:44.7	33	157	0	—	—	—	—	21:41:38.1	68	190	6	21:10:44.7	33	157	0	112	0.372	0.259				
Port Douglas	16°29'S	145°28'E	—	19:44:26.8	287	34	1	20:38:04.3	100	203	20:40:07.9	296	39	21:39:41.2	109	208	28	20:39:05.9	198	301	14	105	1.037	1.000	0.858	02m04s
Southport	27°58'S	153°25'E	—	19:57:05.4	298	54	14	—	—	—	—	21:59:55.3	98	209	41	20:55:15.9	18	131	27	97	0.827	0.791				
Sydney	33°52'S	151°13'E	19	20:07:12.8	307	68	16	—	—	—	—	22:03:39.2	88	207	40	21:02:43.6	18	137	27	95	0.670	0.594				
Tennant Creek	19°40'S	134°10'E	—	20:18:11.5	308	59	0	—	—	—	—	21:37:38.9	96	202	17	20:42:41.3	16	125	5	108	0.825	0.787				
Townsville	19°16'S	146°48'E	—	19:46:50.8	290	39	4	—	—	—	—	21:43:43.6	106	208	30	20:42:14.7	18	123	16	104	0.964	0.963				
Wollongong	34°25'S	150°54'E	—	20:08:16.1	308	70	16	—	—	—	—	22:03:49.5	87	207	39	21:03:24.1	18	137	27	94	0.655	0.576				
Yulara	25°15'S	130°58'E	549	20:22:09.6	320	76	0	—	—	—	—	21:40:52.9	86	198	17	20:49:02.6	16	131	5	108	0.663	0.585				
NEW ZEALAND																										
Auckland	36°52'S	174°46'E	7	20:18:12.2	297	59	37	—	—	—	—	22:43:57.4	99	239	64	21:27:30.3	18	144	51	73	0.871	0.848				
Christchurch	43°32'S	172°38'E	36	20:30:12.1	306	77	37	—	—	—	—	22:45:06.4	88	236	59	21:34:59.2	17	153	48	66	0.689	0.619				
Dunedin	45°52'S	170°30'E	1	20:34:19.2	310	84	36	—	—	—	—	22:42:41.5	83	232	56	21:36:10.2	17	155	46	65	0.615	0.530				
Hamilton	37°47'S	175°17'E	—	20:20:14.5	298	62	38	—	—	—	—	22:45:48.3	98	241	64	21:29:33.9	18	146	51	71	0.854	0.827				
Manukau	37°02'S	174°54'E	—	20:18:35.8	297	60	37	—	—	—	—	22:44:22.4	99	240	64	21:27:55.8	18	145	51	72	0.868	0.844				
Napier	39°29'S	176°55'E	—	20:24:35.3	299	65	40	—	—	—	—	22:50:23.2	96	245	64	21:34:15.9	18	150	53	66	0.831	0.797				
Waitemata	36°56'S	174°42'E	—	20:18:16.9	297	60	37	—	—	—	—	22:43:53.4	99	239	64	21:27:31.2	18	145	51	73	0.869	0.845				
Wellington	41°18'S	174°47'E	126	20:26:45.5	302	71	38	—	—	—	—	22:47:37.0	92	240	62	21:34:12.3	18	151	50	66	0.763	0.712				
NEW CALEDONIA																										
Noumea	22°16'S	166°27'E	75	19:51:40.8	283	30	23	—	—	—	—	22:09:27.5	116	219	55	20:56:13.7	200	304	38	96	0.911	0.899				
FIJI																										
Suva	18°08'S	178°25'E	6	19:57:47.4	268	8	35	—	—	—	—	22:20:57.5	133	226	69	21:04:46.0	201	297	51	97	0.632	0.550				
FRENCH POLYNESIA																										
Papeete	17°32'S	149°34'W	2	21:24:48.2	235	315	86	—	—	—	—	23:28:45.1	152	60	65	22:27:22.0	193	106	79	264	0.233	0.132				
PAPUA NEW GUINEA																										
Lae	06°45'S	147°00'E	—	19:45:07.6	269	6	0	—	—	—	—	21:28:14.6	125	215	24	20:30:35.0	198	292	10	107	0.732	0.670				
Port Moresby	09°30'S	147°10'E	38	19:40:44.2	275	15	0	—	—	—	—	21:31:59.9	121	213	26	20:32:46.0	198	294	12	107	0.808	0.765				
SAMOA, WESTERN																										
Apia	13°50'S	171°44'W	—	20:14:40.9	251	341	47	—	—	—	—	22:25:52.5	150	219	78	21:16:44.5	201	286	62	103	0.364	0.252				
SOLOMON ISLANDS																										
Honiara	09°26'S	159°57'E	—	19:40:13.4	268	4	11	—	—	—	—	21:39:24.8	132	219	40	20:36:20.6	200	292	25	106	0.651	0.571				
TONGA																										
Nuku'alofa	21°08'S	175°12'W	—	20:08:33.5	267	9	44	—	—	—	—	22:40:19.2	132	239	79	21:19:56.2	200	301	60	90	0.626	0.542				
VANUATU																										
Port Vila	17°44'S	168°19'E	—	19:48:23.2	275	17	23	—	—	—	—	22:04:08.8	125	220	55	20:51:53.5	200	299	38	100	0.766	0.714				
Malabo, Bioko	03°45'N	008°47'E	—	—	—	—	—	—	—	—	—	06:28:50.7	75	156	11	05:38 Rise	—	—	0	111	0.620	0.510				