

**Table 4**

**Path of the Umbral Shadow of the Total Solar Eclipse of 2012 November 13**

Universal Time	Northern Limit		Southern Limit		Central Line		Sun Path		Central Durat.
	Latitude	Longitude	Latitude	Longitude	Latitude	Longitude	Alt °	Width km	
Limits	11°26.8'S	133°22.1'E	12°27.4'S	132°47.2'E	11°57.1'S	133°04.8'E	0	126	01m40.9s
20:40	16°59.3'S	148°07.2'E	17°20.8'S	145°34.7'E	17°11.1'S	146°53.2'E	15	146	02m08.2s
20:45	19°45.5'S	154°20.6'E	20°23.7'S	152°21.9'E	20°05.1'S	153°22.2'E	23	155	02m24.1s
20:50	21°54.6'S	158°51.5'E	22°41.1'S	157°05.7'E	22°18.2'S	157°59.3'E	29	161	02m36.5s
20:55	23°44.5'S	162°33.7'E	24°36.9'S	160°55.3'E	24°11.0'S	161°45.1'E	34	165	02m47.2s
21:00	25°22.1'S	165°46.9'E	26°19.2'S	164°13.6'E	25°50.9'S	165°00.8'E	38	168	02m56.8s
21:05	26°50.6'S	168°40.8'E	27°51.7'S	167°11.6'E	27°21.4'S	167°56.7'E	42	171	03m05.4s
21:10	28°11.9'S	171°21.1'E	29°16.6'S	169°55.5'E	28°44.5'S	170°38.8'E	45	173	03m13.4s
21:15	29°27.4'S	173°51.6'E	30°35.4'S	172°29.3'E	30°01.6'S	173°11.0'E	48	175	03m20.6s
21:20	30°37.8'S	176°15.0'E	31°48.8'S	174°55.8'E	31°13.5'S	175°35.8'E	51	176	03m27.3s
21:25	31°43.8'S	178°33.0'E	32°57.6'S	177°17.0'E	32°20.8'S	177°55.4'E	54	177	03m33.4s
21:30	32°45.7'S	179°12.8'W	34°02.2'S	179°34.5'E	33°24.1'S	179°48.8'W	57	178	03m38.9s
21:35	33°43.9'S	177°01.3'W	35°02.9'S	178°10.6'W	34°23.5'S	177°35.6'W	59	179	03m43.8s
21:40	34°38.6'S	174°51.6'W	35°59.9'S	175°57.2'W	35°19.3'S	175°24.0'W	61	179	03m48.1s
21:45	35°29.9'S	172°42.7'W	36°53.5'S	173°44.5'W	36°11.8'S	173°13.2'W	63	179	03m51.9s
21:50	36°18.1'S	170°34.1'W	37°43.6'S	171°31.8'W	37°00.9'S	171°02.6'W	65	179	03m55.2s
21:55	37°03.0'S	168°25.2'W	38°30.5'S	169°18.4'W	37°46.8'S	168°51.4'W	66	179	03m57.8s
22:00	37°44.9'S	166°15.3'W	39°14.1'S	167°03.8'W	38°29.5'S	166°39.3'W	67	179	03m59.8s
22:05	38°23.6'S	164°04.0'W	39°54.4'S	164°47.5'W	39°09.0'S	164°25.5'W	68	179	04m01.2s
22:10	38°59.2'S	161°50.9'W	40°31.4'S	162°29.0'W	39°45.3'S	162°09.8'W	68	179	04m02.0s
22:15	39°31.6'S	159°35.5'W	41°05.0'S	160°07.8'W	40°18.3'S	159°51.5'W	68	179	04m02.2s
22:20	40°00.8'S	157°17.4'W	41°35.1'S	157°43.6'W	40°47.9'S	157°30.4'W	67	178	04m01.8s
22:25	40°26.6'S	154°56.1'W	42°01.7'S	155°15.9'W	41°14.1'S	155°06.0'W	67	178	04m00.7s
22:30	40°48.9'S	152°31.3'W	42°24.5'S	152°44.3'W	41°36.6'S	152°37.9'W	65	177	03m59.0s
22:35	41°07.5'S	150°02.4'W	42°43.3'S	150°08.4'W	41°55.4'S	150°05.5'W	64	177	03m56.7s
22:40	41°22.4'S	147°29.0'W	42°58.1'S	147°27.6'W	42°10.2'S	147°28.5'W	62	176	03m53.7s
22:45	41°33.2'S	144°50.6'W	43°08.5'S	144°41.5'W	42°20.8'S	144°46.4'W	60	175	03m50.0s
22:50	41°39.7'S	142°06.5'W	43°14.2'S	141°49.5'W	42°26.9'S	141°58.4'W	58	174	03m45.8s
22:55	41°41.6'S	139°16.1'W	43°14.9'S	138°50.8'W	42°28.2'S	139°03.9'W	56	173	03m40.9s
23:00	41°38.4'S	136°18.3'W	43°10.1'S	135°44.6'W	42°24.3'S	136°02.0'W	53	172	03m35.3s
23:05	41°29.7'S	133°12.2'W	42°59.4'S	132°29.7'W	42°14.6'S	132°51.6'W	50	171	03m29.1s
23:10	41°14.8'S	129°56.2'W	42°41.9'S	129°04.7'W	41°58.4'S	129°31.2'W	47	169	03m22.3s
23:15	40°52.9'S	126°28.3'W	42°16.8'S	125°27.5'W	41°35.0'S	125°58.7'W	44	167	03m14.7s
23:20	40°22.9'S	122°45.8'W	41°42.8'S	121°35.0'W	41°03.0'S	122°11.3'W	41	165	03m06.4s
23:25	39°43.0'S	118°44.2'W	40°58.1'S	117°22.8'W	40°20.7'S	118°04.5'W	37	162	02m57.3s
23:30	38°50.6'S	114°16.6'W	39°59.6'S	112°43.1'W	39°25.4'S	113°30.9'W	32	159	02m47.1s
23:35	37°41.1'S	109°10.5'W	38°41.9'S	107°21.7'W	38°12.0'S	108°17.4'W	27	155	02m35.6s
23:40	36°04.9'S	102°58.6'W	36°53.2'S	100°46.0'W	36°29.7'S	101°54.0'W	21	150	02m22.0s
23:45	33°30.8'S	094°11.0'W	33°48.7'S	090°50.2'W	33°41.8'S	092°35.7'W	12	141	02m03.5s
Limits	29°02.4'S	080°18.7'W	30°02.6'S	079°37.8'W	29°32.5'S	079°58.4'W	0	127	01m42.0s

Fred Espenak, "Eclipse During 2012," **Observer's Handbook 2012**,  
 Royal Astronomical Society of Canada, University of Toronto Press, Toronto, 2011