

Preliminary Specification for TRASAR® Top Mounted UHF Elliptically Polarized Coaxial Slotted Array Television Antenna

**WOSU-TV, RF Channel 16
WOSU - Ohio State Univ, Columbus, OH**

June 27, 2019

**Antenna Model:
ATW25H3-ETO12-16H**

**Specification Number
20190427-369r2**

Electronics Research, Inc. 7777 Gardner Road Chandler IN 47610-9219 USA
+1 812 925-6000 (tel) +1 812 925-4030 (fax)

Your Single Source for Broadcast Solutions™ Call Toll-free at 877 ERI-LINE Visit Online at www.eriinc.com

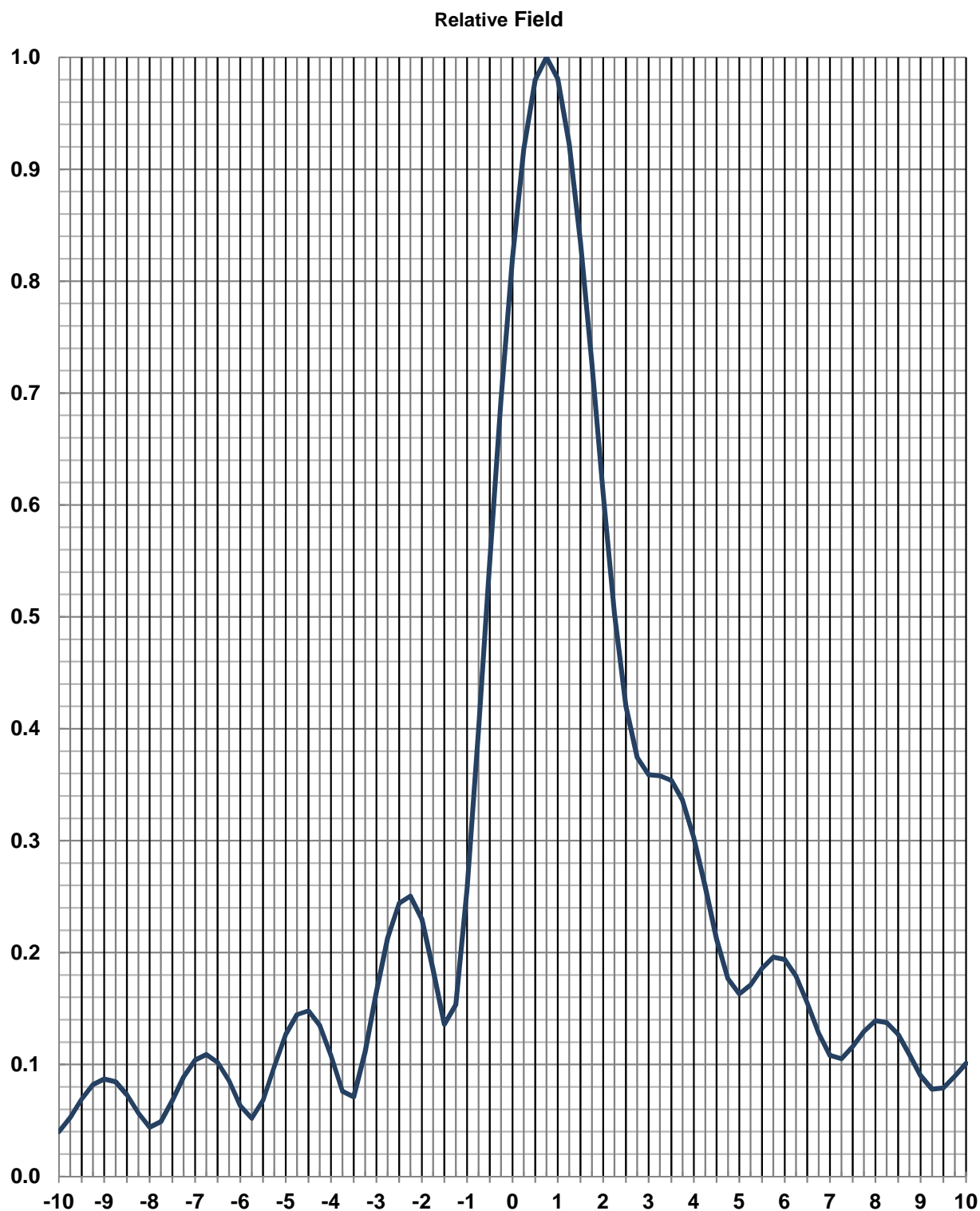
**Preliminary Specification for
TRASAR® Top Mounted
UHF Elliptically Polarized
Coaxial Slotted Array Television Antenna**

Electrical Characteristics:

Channel:	16		
Frequency:	482 MHz to 488 MHz		
Service:	ATSC		
Azimuth Pattern Number:	Horizontal Polarization	ATW-O12	
	Vertical Polarization	ATW-O12V	
Elevation Pattern Number:	Horizontal Polarization	ATW25H3H	
	Vertical Polarization	ATW22H3H	
Azimuth Directivity:	Horizontal Polarization	1.16	(0.64 dB)
	Vertical Polarization	1.38	(1.39 dB)
Elevation Directivity:	Horizontal Polarization	25.00	(13.98 dBd)
	Vertical Polarization	22.00	(13.42 dBd)
RMS Power Gain:	Horizontal Polarization	18.64	(12.71 dBd)
	Vertical Polarization	5.59	(7.48 dBd)
Gain at Horizontal:	Horizontal Polarization	12.57	(10.99 dBd)
	Vertical Polarization	3.84	(5.85 dBd)
ERP Vertical/Horizontal Ratio:	0.300		
Power Ratio:	0.341		
Electrical Beam Tilt:	0.75 Degrees		
Input Power Required:	36.20 kW (15.59 dBk)		
RF Input:	6-1/8-inch EIA, 75 Ω , flanged male		
Input Power Rating (maximum):	54 kW Average Power, 8VSB		
Antenna VSWR (maximum):	1.10 Over 6 MHz Channel		

Elevation Pattern

Type:	ATW25H3H		Polarization:	Horizontal
Directivity:			Frequency:	16 (ATSC)
Main Lobe:	25.00 numeric	(13.98 dB)	Location:	Columbus, OH
Horizontal:	16.85 numeric	(12.27 dB)	Beam Tilt:	0.75 degrees



Tabulated Data for Elevation PatternType: ATW25H3H

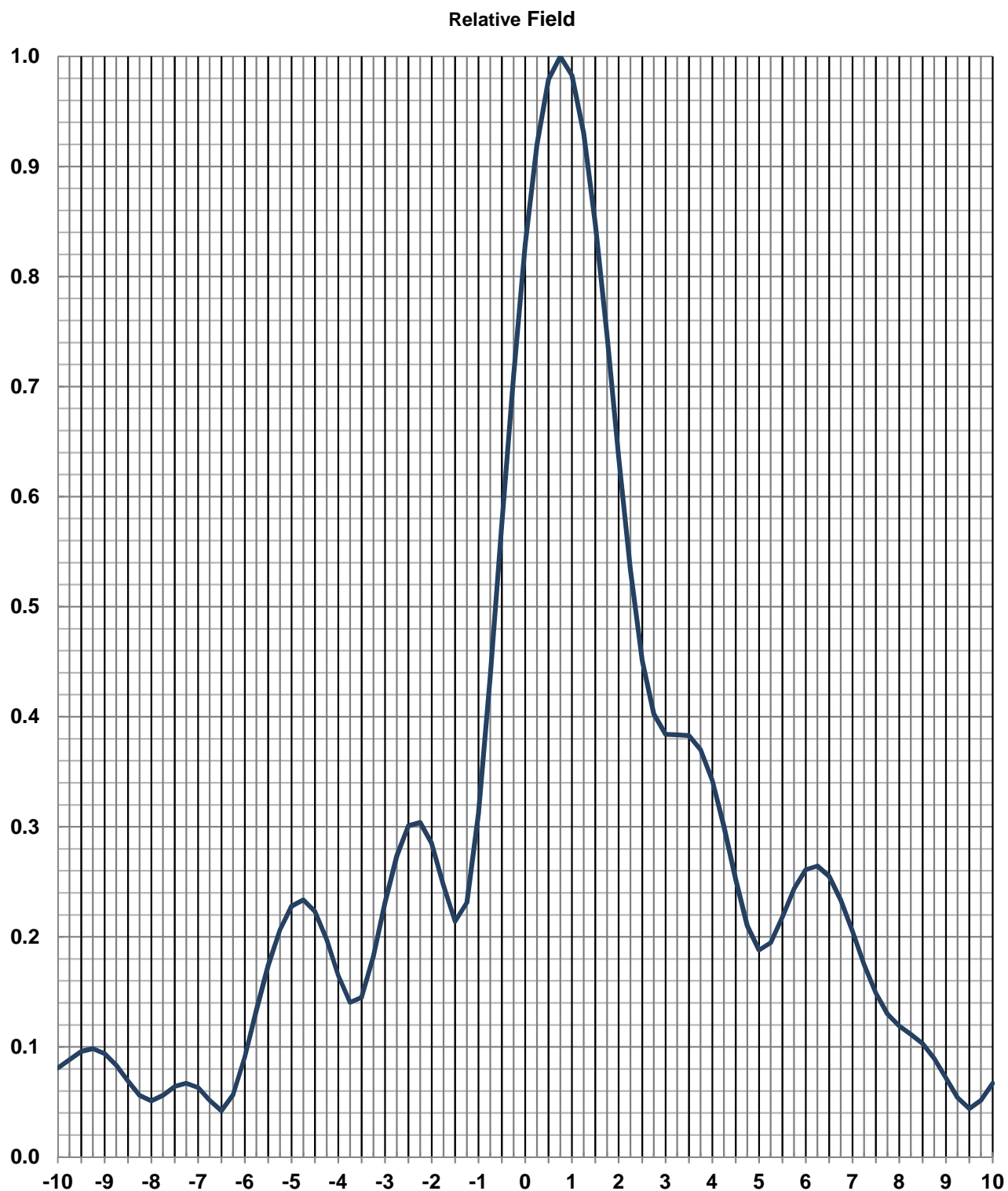
-10 to 10 degrees in 0.25 degree increments.

10 to 90 degrees in 0.50 degree increments.

Angle	Field	dB	Angle	Field	dB	Angle	Field	dB	Angle	Field	dB	Angle	Field	dB
-10.00	0.040	-27.96	2.25	0.504	-5.96	19.00	0.052	-25.68	43.50	0.015	-36.48	68.00	0.030	-30.46
-9.75	0.053	-25.60	2.50	0.420	-7.54	19.50	0.055	-25.19	44.00	0.019	-34.42	68.50	0.036	-28.87
-9.50	0.069	-23.22	2.75	0.375	-8.53	20.00	0.043	-27.33	44.50	0.029	-30.75	69.00	0.039	-28.18
-9.25	0.082	-21.72	3.00	0.359	-8.90	20.50	0.030	-30.46	45.00	0.035	-29.12	69.50	0.040	-27.96
-9.00	0.087	-21.21	3.25	0.358	-8.92	21.00	0.038	-28.40	45.50	0.033	-29.63	70.00	0.039	-28.18
-8.75	0.085	-21.46	3.50	0.354	-9.02	21.50	0.049	-26.20	46.00	0.025	-32.04	70.50	0.035	-29.12
-8.50	0.073	-22.73	3.75	0.336	-9.47	22.00	0.047	-26.56	46.50	0.015	-36.48	71.00	0.029	-30.75
-8.25	0.057	-24.96	4.00	0.303	-10.37	22.50	0.033	-29.63	47.00	0.018	-34.89	71.50	0.022	-33.15
-8.00	0.044	-27.13	4.25	0.259	-11.75	23.00	0.027	-31.37	47.50	0.027	-31.37	72.00	0.013	-37.72
-7.75	0.049	-26.20	4.50	0.212	-13.47	23.50	0.039	-28.18	48.00	0.034	-29.37	72.50	0.004	-47.96
-7.50	0.068	-23.35	4.75	0.177	-15.07	24.00	0.046	-26.74	48.50	0.035	-29.12	73.00	0.005	-46.02
-7.25	0.089	-21.01	5.00	0.163	-15.76	24.50	0.039	-28.18	49.00	0.029	-30.75	73.50	0.013	-37.72
-7.00	0.104	-19.66	5.25	0.171	-15.34	25.00	0.027	-31.37	49.50	0.019	-34.42	74.00	0.021	-33.56
-6.75	0.109	-19.25	5.50	0.186	-14.61	25.50	0.028	-31.06	50.00	0.014	-37.08	74.50	0.028	-31.06
-6.50	0.102	-19.83	5.75	0.196	-14.15	26.00	0.039	-28.18	50.50	0.021	-33.56	75.00	0.033	-29.63
-6.25	0.086	-21.36	6.00	0.194	-14.24	26.50	0.043	-27.33	51.00	0.031	-30.17	75.50	0.037	-28.64
-6.00	0.063	-24.01	6.25	0.179	-14.94	27.00	0.035	-29.12	51.50	0.036	-28.87	76.00	0.040	-27.96
-5.75	0.052	-25.68	6.50	0.155	-16.19	27.50	0.023	-32.77	52.00	0.035	-29.12	76.50	0.042	-27.54
-5.50	0.068	-23.35	6.75	0.128	-17.86	28.00	0.028	-31.06	52.50	0.028	-31.06	77.00	0.042	-27.54
-5.25	0.098	-20.18	7.00	0.108	-19.33	28.50	0.038	-28.40	53.00	0.018	-34.89	77.50	0.041	-27.74
-5.00	0.127	-17.92	7.25	0.105	-19.58	29.00	0.040	-27.96	53.50	0.012	-38.42	78.00	0.040	-27.96
-4.75	0.145	-16.80	7.50	0.116	-18.71	29.50	0.031	-30.17	54.00	0.020	-33.98	78.50	0.037	-28.64
-4.50	0.148	-16.59	7.75	0.130	-17.75	30.00	0.021	-33.56	54.50	0.029	-30.75	79.00	0.034	-29.37
-4.25	0.135	-17.39	8.00	0.139	-17.14	30.50	0.027	-31.37	55.00	0.035	-29.12	79.50	0.030	-30.46
-4.00	0.108	-19.33	8.25	0.138	-17.23	31.00	0.037	-28.64	55.50	0.036	-28.87	80.00	0.027	-31.37
-3.75	0.076	-22.38	8.50	0.127	-17.92	31.50	0.038	-28.40	56.00	0.032	-29.90	80.50	0.023	-32.77
-3.50	0.071	-22.97	8.75	0.109	-19.25	32.00	0.030	-30.46	56.50	0.023	-32.77	81.00	0.018	-34.89
-3.25	0.112	-19.05	9.00	0.090	-20.92	32.50	0.020	-33.98	57.00	0.013	-37.72	81.50	0.015	-36.48
-3.00	0.165	-15.65	9.25	0.078	-22.16	33.00	0.024	-32.40	57.50	0.012	-38.42	82.00	0.011	-39.17
-2.75	0.213	-13.43	9.50	0.079	-22.05	33.50	0.034	-29.37	58.00	0.021	-33.56	82.50	0.008	-41.94
-2.50	0.244	-12.25	9.75	0.090	-20.96	34.00	0.037	-28.64	58.50	0.030	-30.46	83.00	0.005	-46.02
-2.25	0.251	-12.02	10.00	0.101	-19.91	34.50	0.030	-30.46	59.00	0.036	-28.87	83.50	0.003	-50.46
-2.00	0.230	-12.77	10.50	0.106	-19.49	35.00	0.020	-33.98	59.50	0.037	-28.64	84.00	0.002	-53.98
-1.75	0.185	-14.68	11.00	0.083	-21.62	35.50	0.021	-33.56	60.00	0.033	-29.63	84.50	0.003	-50.46
-1.50	0.136	-17.33	11.50	0.060	-24.44	36.00	0.031	-30.17	60.50	0.026	-31.70	85.00	0.004	-47.96
-1.25	0.154	-16.28	12.00	0.073	-22.73	36.50	0.036	-28.87	61.00	0.016	-35.92	85.50	0.005	-46.02
-1.00	0.257	-11.80	12.50	0.088	-21.11	37.00	0.032	-29.90	61.50	0.008	-41.94	86.00	0.005	-46.02
-0.75	0.399	-7.98	13.00	0.078	-22.16	37.50	0.022	-33.15	62.00	0.014	-37.08	86.50	0.006	-44.44
-0.50	0.550	-5.19	13.50	0.055	-25.19	38.00	0.017	-35.39	62.50	0.024	-32.40	87.00	0.005	-46.02
-0.25	0.695	-3.17	14.00	0.052	-25.68	38.50	0.026	-31.70	63.00	0.032	-29.90	87.50	0.005	-46.02
0.00	0.821	-1.71	14.50	0.069	-23.22	39.00	0.034	-29.37	63.50	0.037	-28.64	88.00	0.004	-47.96
0.25	0.918	-0.74	15.00	0.072	-22.85	39.50	0.034	-29.37	64.00	0.038	-28.40	88.50	0.003	-50.46
0.50	0.980	-0.18	15.50	0.056	-25.04	40.00	0.027	-31.37	64.50	0.036	-28.87	89.00	0.002	-53.98
0.75	1.000	0.00	16.00	0.041	-27.74	40.50	0.017	-35.39	65.00	0.030	-30.46	89.50	0.001	-60.00
1.00	0.981	-0.17	16.50	0.052	-25.68	41.00	0.019	-34.42	65.50	0.022	-33.15	90.00	0.000	---
1.25	0.923	-0.70	17.00	0.062	-24.15	41.50	0.029	-30.75	66.00	0.012	-38.42			
1.50	0.835	-1.57	17.50	0.056	-25.04	42.00	0.035	-29.12	66.50	0.005	-46.02			
1.75	0.726	-2.78	18.00	0.038	-28.40	42.50	0.033	-29.63	67.00	0.012	-38.42			
2.00	0.610	-4.29	18.50	0.037	-28.64	43.00	0.024	-32.40	67.50	0.022	-33.15			

Elevation Pattern

Type:	ATW22H3H		Polarization:	Vertical
Directivity:			Frequency:	16 (ATSC)
Main Lobe:	22.00 numeric	(13.42 dB)	Location:	Columbus, OH
Horizontal:	15.12 numeric	(11.80 dB)	Beam Tilt:	0.75 degrees



Tabulated Data for Elevation PatternType: ATW22H3H

-10 to 10 degrees in 0.25 degree increments.

10 to 90 degrees in 0.50 degree increments.

Angle	Field	dB	Angle	Field	dB	Angle	Field	dB	Angle	Field	dB	Angle	Field	dB
-10.00	0.081	-21.83	2.25	0.533	-5.47	19.00	0.055	-25.19	43.50	0.066	-23.61	68.00	0.054	-25.35
-9.75	0.089	-21.06	2.50	0.451	-6.92	19.50	0.093	-20.63	44.00	0.076	-22.38	68.50	0.058	-24.73
-9.50	0.096	-20.35	2.75	0.403	-7.90	20.00	0.118	-18.56	44.50	0.079	-22.05	69.00	0.060	-24.44
-9.25	0.099	-20.13	3.00	0.384	-8.31	20.50	0.122	-18.27	45.00	0.074	-22.62	69.50	0.059	-24.58
-9.00	0.094	-20.54	3.25	0.384	-8.32	21.00	0.109	-19.25	45.50	0.064	-23.88	70.00	0.055	-25.19
-8.75	0.084	-21.57	3.50	0.383	-8.34	21.50	0.088	-21.11	46.00	0.055	-25.19	70.50	0.050	-26.02
-8.50	0.069	-23.22	3.75	0.370	-8.64	22.00	0.068	-23.35	46.50	0.049	-26.20	71.00	0.043	-27.33
-8.25	0.056	-25.04	4.00	0.342	-9.32	22.50	0.053	-25.51	47.00	0.047	-26.56	71.50	0.036	-28.87
-8.00	0.051	-25.85	4.25	0.301	-10.44	23.00	0.037	-28.64	47.50	0.045	-26.94	72.00	0.029	-30.75
-7.75	0.056	-25.04	4.50	0.252	-11.97	23.50	0.019	-34.42	48.00	0.041	-27.74	72.50	0.025	-32.04
-7.50	0.064	-23.88	4.75	0.210	-13.56	24.00	0.011	-39.17	48.50	0.034	-29.37	73.00	0.025	-32.04
-7.25	0.067	-23.48	5.00	0.188	-14.52	24.50	0.020	-33.98	49.00	0.027	-31.37	73.50	0.029	-30.75
-7.00	0.063	-24.01	5.25	0.195	-14.22	25.00	0.018	-34.89	49.50	0.024	-32.40	74.00	0.034	-29.37
-6.75	0.052	-25.76	5.50	0.218	-13.23	25.50	0.005	-46.02	50.00	0.025	-32.04	74.50	0.039	-28.18
-6.50	0.042	-27.54	5.75	0.244	-12.27	26.00	0.029	-30.75	50.50	0.026	-31.70	75.00	0.044	-27.13
-6.25	0.057	-24.96	6.00	0.261	-11.67	26.50	0.062	-24.15	51.00	0.023	-32.77	75.50	0.048	-26.38
-6.00	0.091	-20.82	6.25	0.265	-11.55	27.00	0.088	-21.11	51.50	0.015	-36.48	76.00	0.050	-26.02
-5.75	0.134	-17.49	6.50	0.255	-11.87	27.50	0.102	-19.83	52.00	0.008	-41.94	76.50	0.052	-25.68
-5.50	0.174	-15.19	6.75	0.234	-12.63	28.00	0.102	-19.83	52.50	0.019	-34.42	77.00	0.052	-25.68
-5.25	0.207	-13.70	7.00	0.205	-13.76	28.50	0.089	-21.01	53.00	0.035	-29.12	77.50	0.051	-25.85
-5.00	0.228	-12.84	7.25	0.175	-15.14	29.00	0.073	-22.73	53.50	0.049	-26.20	78.00	0.049	-26.20
-4.75	0.234	-12.63	7.50	0.149	-16.54	29.50	0.060	-24.44	54.00	0.060	-24.44	78.50	0.046	-26.74
-4.50	0.223	-13.03	7.75	0.130	-17.72	30.00	0.050	-26.02	54.50	0.066	-23.61	79.00	0.043	-27.33
-4.25	0.198	-14.09	8.00	0.119	-18.49	30.50	0.039	-28.18	55.00	0.066	-23.61	79.50	0.039	-28.18
-4.00	0.165	-15.65	8.25	0.112	-19.05	31.00	0.025	-32.04	55.50	0.061	-24.29	80.00	0.035	-29.12
-3.75	0.141	-17.05	8.50	0.103	-19.74	31.50	0.014	-37.08	56.00	0.054	-25.35	80.50	0.031	-30.17
-3.50	0.145	-16.77	8.75	0.090	-20.96	32.00	0.015	-36.48	56.50	0.047	-26.56	81.00	0.027	-31.37
-3.25	0.182	-14.80	9.00	0.072	-22.85	32.50	0.016	-35.92	57.00	0.043	-27.33	81.50	0.023	-32.77
-3.00	0.231	-12.73	9.25	0.054	-25.35	33.00	0.007	-43.10	57.50	0.044	-27.13	82.00	0.019	-34.42
-2.75	0.274	-11.26	9.50	0.044	-27.13	33.50	0.012	-38.42	58.00	0.047	-26.56	82.50	0.016	-35.92
-2.50	0.301	-10.43	9.75	0.052	-25.76	34.00	0.037	-28.64	58.50	0.049	-26.20	83.00	0.012	-38.42
-2.25	0.304	-10.34	10.00	0.067	-23.48	34.50	0.062	-24.15	59.00	0.048	-26.38	83.50	0.010	-40.00
-2.00	0.285	-10.90	10.50	0.090	-20.92	35.00	0.081	-21.83	59.50	0.045	-26.94	84.00	0.008	-41.94
-1.75	0.247	-12.15	11.00	0.082	-21.72	35.50	0.090	-20.92	60.00	0.039	-28.18	84.50	0.006	-44.44
-1.50	0.214	-13.39	11.50	0.057	-24.88	36.00	0.088	-21.11	60.50	0.032	-29.90	85.00	0.006	-44.44
-1.25	0.231	-12.73	12.00	0.074	-22.62	36.50	0.078	-22.16	61.00	0.026	-31.70	85.50	0.005	-46.02
-1.00	0.312	-10.12	12.50	0.120	-18.42	37.00	0.065	-23.74	61.50	0.025	-32.04	86.00	0.005	-46.02
-0.75	0.437	-7.19	13.00	0.150	-16.48	37.50	0.055	-25.19	62.00	0.028	-31.06	86.50	0.005	-46.02
-0.50	0.575	-4.81	13.50	0.150	-16.48	38.00	0.048	-26.38	62.50	0.032	-29.90	87.00	0.004	-47.96
-0.25	0.710	-2.97	14.00	0.127	-17.92	38.50	0.042	-27.54	63.00	0.034	-29.37	87.50	0.004	-47.96
0.00	0.829	-1.63	14.50	0.096	-20.35	39.00	0.033	-29.63	63.50	0.032	-29.90	88.00	0.003	-50.46
0.25	0.920	-0.72	15.00	0.073	-22.73	39.50	0.023	-32.77	64.00	0.028	-31.06	88.50	0.003	-50.46
0.50	0.979	-0.18	15.50	0.056	-25.04	40.00	0.018	-34.89	64.50	0.021	-33.56	89.00	0.002	-53.98
0.75	1.000	0.00	16.00	0.033	-29.63	40.50	0.019	-34.42	65.00	0.011	-39.17	89.50	0.001	-60.00
1.00	0.983	-0.15	16.50	0.013	-37.72	41.00	0.018	-34.89	65.50	0.002	-53.98	90.00	0.000	---
1.25	0.930	-0.63	17.00	0.031	-30.17	41.50	0.012	-38.42	66.00	0.014	-37.08			
1.50	0.848	-1.43	17.50	0.042	-27.54	42.00	0.011	-39.17	66.50	0.026	-31.70			
1.75	0.746	-2.55	18.00	0.033	-29.63	42.50	0.029	-30.75	67.00	0.037	-28.64			
2.00	0.636	-3.93	18.50	0.024	-32.40	43.00	0.049	-26.20	67.50	0.047	-26.56			