

TECHNICAL EXHIBIT
REQUEST FOR LICENSE
TELEVISION STATION WTVF(TV)
NASHVILLE, TENNESSEE
CH 25 1000 KW (MAX-DA) 428 M

Technical Statement

This Technical Exhibit was prepared on behalf of Television Station WTVF(TV) on Channel 25 assigned to Nashville, Tennessee in support of its request for station license. The station has completed equipment tests and by this instant application is requesting licensure for the authorized facility of a maximum average effective radiated power of 1000 kilowatts on Channel 25.¹

Figure 1 is a tabulation of the carrier transmission system losses. It is noted the installed antenna model number differ from that specified in the application for construction permit form. This is because the manufacturer of the antenna now is ERI. Also, the antenna as installed is elliptically polarized, instead of circular polarized, but the electrical beam with 0.75° of remains the same. The power split is 25 percent vertical polarization. Also, the installed antenna horizontally polarized azimuthal pattern remains identical to what was

¹ See FCC Construction Permit File Number: BPCDT-20110824ACF.

authorized. The *Appendix* contains the updated manufacturer provided transmitting antenna specifications.

Charles A. Cooper

September 11, 2012

du Treil, Lundin & Rackley, Inc.
201 Fletcher Avenue
Sarasota, Florida 34237
941.329.6000

Figure 1

TECHNICAL EXHIBIT
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WTVF-DT RF System Summary

Description	System
Transmitter Power Output (55.3 kW):	17.4 dBk
Mask Filter (included in transmitter):	0.0 dB
Transmission Line:	1.3 dB
Antenna: ERI, ATW24HS3-ETOX-25H (24.1):	13.8 dB
Maximum Effective Radiated Power (1000 kW):	30.0 dBk

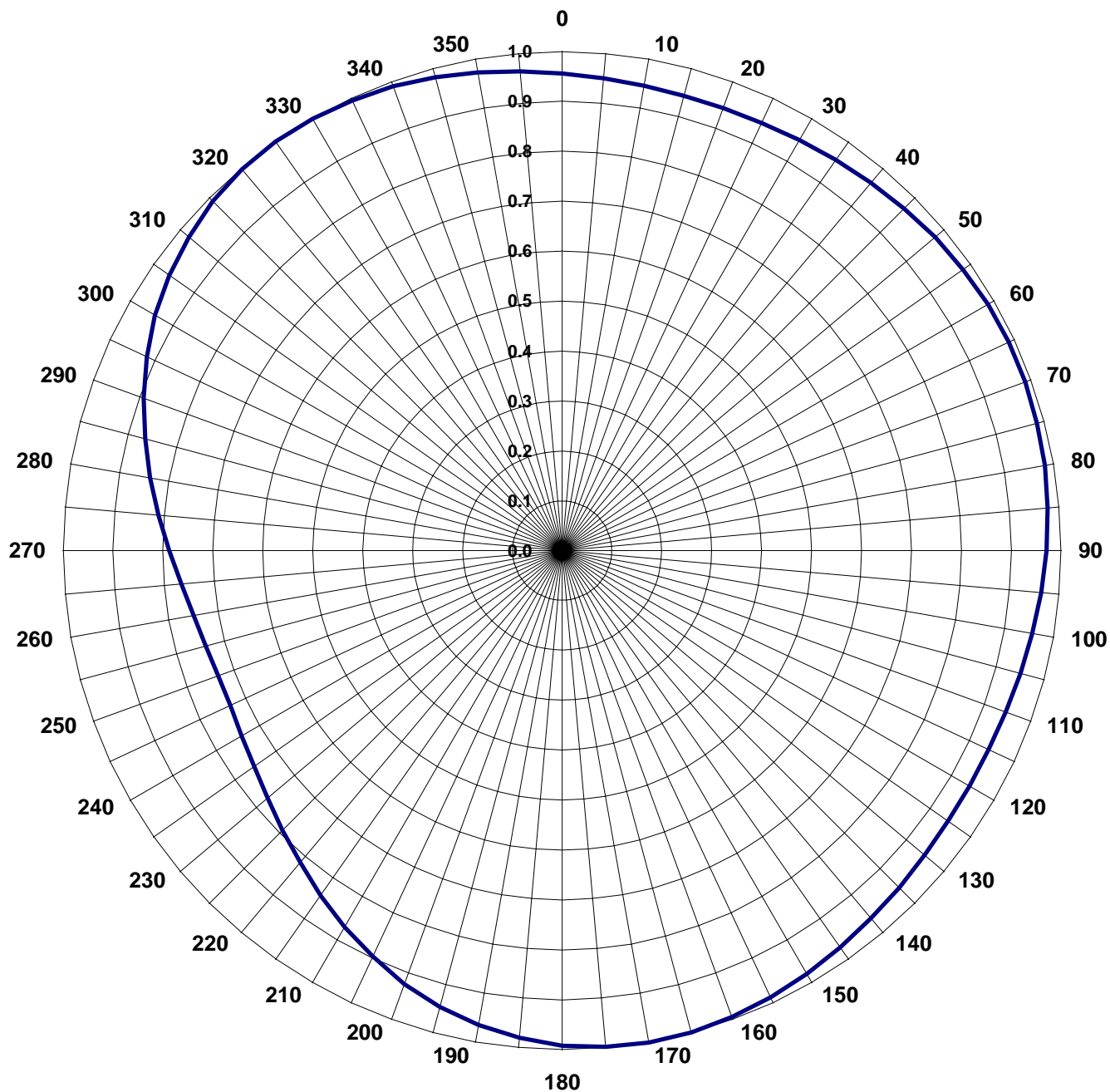
APPENDIX

TRANSMITTER ANTENNA SPECIFICATIONS

AZIMUTH PATTERN

TYPE:**ATW-OX****Numeric****dB****Directivity:****1.16****0.64****Peak(s) at:****Polarization:****Horizontal****Frequency:****25 (Digital)****Location:****Nashville, TN**

Note: Pattern shape and directivity may vary with channel and mounting configuration.



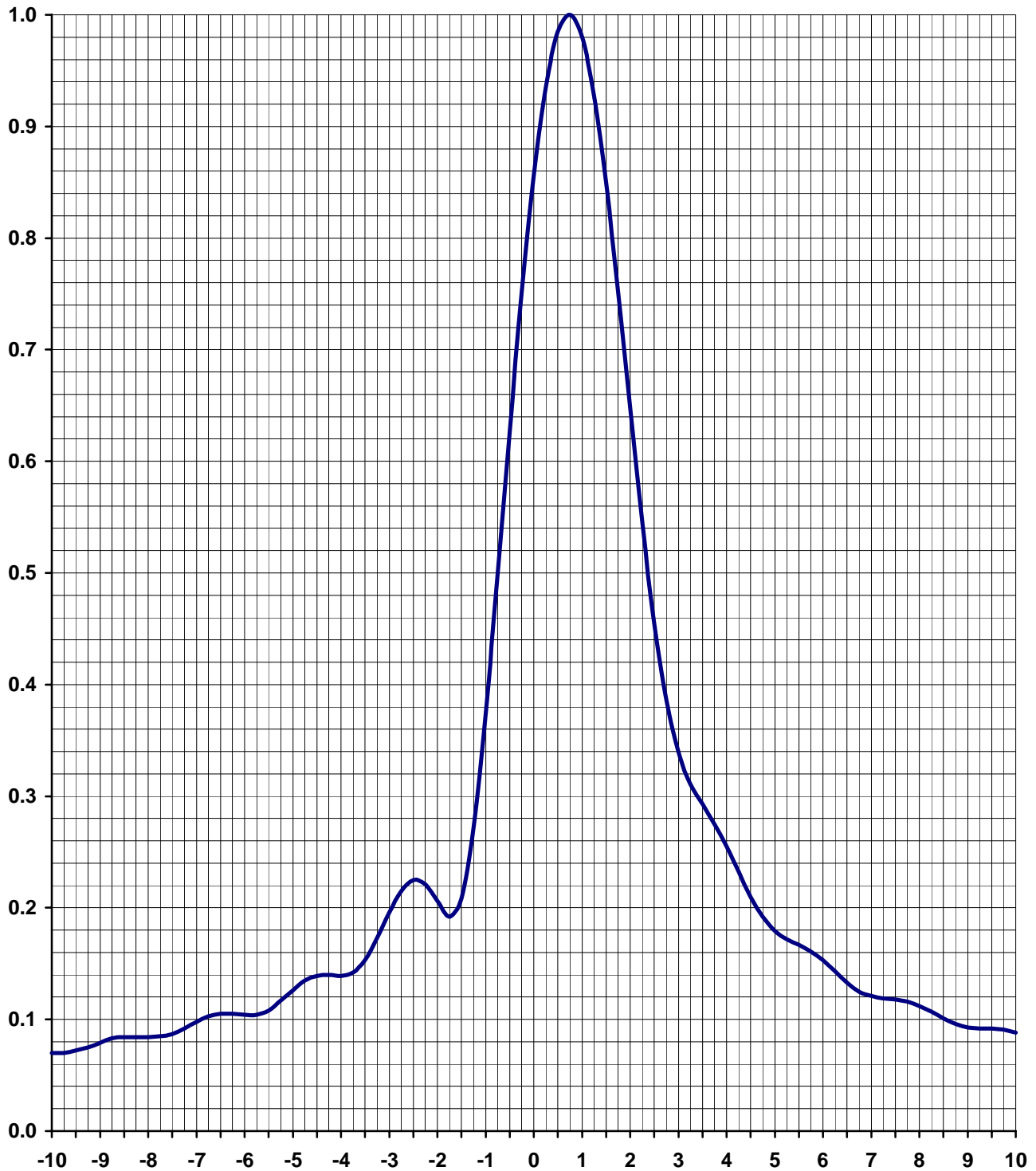
TABULATED DATA FOR AZIMUTH PATTERN**TYPE: ATW-OX**

ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB
0	0.955	-0.40	92	0.967	-0.29	184	0.983	-0.15	276	0.816	-1.77
2	0.953	-0.42	94	0.965	-0.31	186	0.977	-0.20	278	0.827	-1.65
4	0.950	-0.45	96	0.962	-0.34	188	0.971	-0.26	280	0.838	-1.54
6	0.948	-0.46	98	0.959	-0.36	190	0.965	-0.31	282	0.848	-1.43
8	0.946	-0.48	100	0.956	-0.39	192	0.958	-0.37	284	0.859	-1.32
10	0.945	-0.49	102	0.954	-0.41	194	0.950	-0.45	286	0.870	-1.21
12	0.943	-0.51	104	0.952	-0.43	196	0.941	-0.53	288	0.881	-1.10
14	0.943	-0.51	106	0.949	-0.45	198	0.932	-0.61	290	0.892	-0.99
16	0.942	-0.52	108	0.947	-0.47	200	0.923	-0.70	292	0.903	-0.89
18	0.942	-0.52	110	0.946	-0.48	202	0.913	-0.79	294	0.913	-0.79
20	0.943	-0.51	112	0.944	-0.50	204	0.903	-0.89	296	0.923	-0.70
22	0.943	-0.51	114	0.943	-0.51	206	0.892	-0.99	298	0.932	-0.61
24	0.944	-0.50	116	0.943	-0.51	208	0.881	-1.10	300	0.941	-0.53
26	0.946	-0.48	118	0.942	-0.52	210	0.870	-1.21	302	0.950	-0.45
28	0.947	-0.47	120	0.942	-0.52	212	0.859	-1.32	304	0.958	-0.37
30	0.949	-0.45	122	0.943	-0.51	214	0.848	-1.43	306	0.965	-0.31
32	0.952	-0.43	124	0.943	-0.51	216	0.838	-1.54	308	0.971	-0.26
34	0.954	-0.41	126	0.945	-0.49	218	0.827	-1.65	310	0.977	-0.20
36	0.956	-0.39	128	0.946	-0.48	220	0.816	-1.77	312	0.983	-0.15
38	0.959	-0.36	130	0.948	-0.46	222	0.806	-1.87	314	0.987	-0.11
40	0.962	-0.34	132	0.950	-0.45	224	0.796	-1.98	316	0.991	-0.08
42	0.965	-0.31	134	0.953	-0.42	226	0.787	-2.08	318	0.994	-0.05
44	0.967	-0.29	136	0.955	-0.40	228	0.778	-2.18	320	0.997	-0.03
46	0.970	-0.26	138	0.958	-0.37	230	0.770	-2.27	322	0.998	-0.02
48	0.973	-0.24	140	0.962	-0.34	232	0.763	-2.35	324	1.000	0.00
50	0.975	-0.22	142	0.965	-0.31	234	0.756	-2.43	326	1.000	0.00
52	0.977	-0.20	144	0.968	-0.28	236	0.750	-2.50	328	1.000	0.00
54	0.980	-0.18	146	0.972	-0.25	238	0.745	-2.56	330	0.999	-0.01
56	0.982	-0.16	148	0.976	-0.21	240	0.741	-2.60	332	0.998	-0.02
58	0.983	-0.15	150	0.979	-0.18	242	0.737	-2.65	334	0.996	-0.03
60	0.985	-0.13	152	0.982	-0.16	244	0.735	-2.67	336	0.994	-0.05
62	0.986	-0.12	154	0.986	-0.12	246	0.733	-2.70	338	0.992	-0.07
64	0.987	-0.11	156	0.989	-0.10	248	0.733	-2.70	340	0.989	-0.10
66	0.987	-0.11	158	0.992	-0.07	250	0.733	-2.70	342	0.986	-0.12
68	0.987	-0.11	160	0.994	-0.05	252	0.735	-2.67	344	0.982	-0.16
70	0.987	-0.11	162	0.996	-0.03	254	0.737	-2.65	346	0.979	-0.18
72	0.987	-0.11	164	0.998	-0.02	256	0.741	-2.60	348	0.976	-0.21
74	0.986	-0.12	166	0.999	-0.01	258	0.745	-2.56	350	0.972	-0.25
76	0.985	-0.13	168	1.000	0.00	260	0.750	-2.50	352	0.968	-0.28
78	0.983	-0.15	170	1.000	0.00	262	0.756	-2.43	354	0.965	-0.31
80	0.982	-0.16	172	1.000	0.00	264	0.763	-2.35	356	0.962	-0.34
82	0.980	-0.18	174	0.998	-0.02	266	0.770	-2.27	358	0.958	-0.37
84	0.977	-0.20	176	0.997	-0.03	268	0.778	-2.18	360	0.955	-0.40
86	0.975	-0.22	178	0.994	-0.05	270	0.787	-2.08			
88	0.973	-0.24	180	0.991	-0.08	272	0.796	-1.98			
90	0.970	-0.26	182	0.987	-0.11	274	0.806	-1.87			

ELEVATION PATTERN

TYPE:	ATW24HS3H	
Directivity:	Numeric	dBd
Main Lobe:	24.00	13.80
Horizontal:	17.59	12.45

Frequency:	25 (Digital)
Location:	Nashville, TN
Beam Tilt:	0.75
Polarization:	Horizontal



TABULATED DATA FOR ELEVATION PATTERN

TYPE: ATW24HS3H

-5 to 10 degrees in 0.25 increments

10 to 90 degrees in 0.50 increments

ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB
-10.00	0.070	-23.10	2.00	0.648	-3.77	18.00	0.050	-26.02	42.00	0.029	-30.75	66.00	0.035	-29.12
-9.75	0.070	-23.10	2.25	0.545	-5.27	18.50	0.048	-26.38	42.50	0.028	-31.06	66.50	0.034	-29.37
-9.50	0.072	-22.85	2.50	0.455	-6.84	19.00	0.045	-26.94	43.00	0.028	-31.06	67.00	0.033	-29.63
-9.25	0.075	-22.50	2.75	0.386	-8.27	19.50	0.044	-27.13	43.50	0.029	-30.75	67.50	0.033	-29.63
-9.00	0.079	-22.05	3.00	0.339	-9.40	20.00	0.044	-27.13	44.00	0.030	-30.46	68.00	0.033	-29.63
-8.75	0.083	-21.62	3.25	0.311	-10.14	20.50	0.044	-27.13	44.50	0.030	-30.46	68.50	0.035	-29.12
-8.50	0.084	-21.51	3.50	0.293	-10.66	21.00	0.041	-27.74	45.00	0.028	-31.06	69.00	0.036	-28.87
-8.25	0.084	-21.51	3.75	0.275	-11.21	21.50	0.040	-27.96	45.50	0.028	-31.06	69.50	0.037	-28.64
-8.00	0.084	-21.51	4.00	0.255	-11.87	22.00	0.041	-27.74	46.00	0.029	-30.75	70.00	0.037	-28.64
-7.75	0.085	-21.41	4.25	0.232	-12.69	22.50	0.041	-27.74	46.50	0.030	-30.46	70.50	0.037	-28.64
-7.50	0.087	-21.21	4.50	0.210	-13.56	23.00	0.039	-28.18	47.00	0.031	-30.17	71.00	0.036	-28.87
-7.25	0.092	-20.72	4.75	0.192	-14.33	23.50	0.038	-28.40	47.50	0.030	-30.46	71.50	0.035	-29.12
-7.00	0.098	-20.18	5.00	0.179	-14.94	24.00	0.038	-28.40	48.00	0.029	-30.75	72.00	0.034	-29.37
-6.75	0.103	-19.74	5.25	0.172	-15.29	24.50	0.039	-28.18	48.50	0.029	-30.75	72.50	0.033	-29.63
-6.50	0.105	-19.58	5.50	0.167	-15.55	25.00	0.038	-28.40	49.00	0.029	-30.75	73.00	0.032	-29.90
-6.25	0.105	-19.58	5.75	0.161	-15.86	25.50	0.036	-28.87	49.50	0.030	-30.46	73.50	0.032	-29.90
-6.00	0.104	-19.66	6.00	0.153	-16.31	26.00	0.036	-28.87	50.00	0.031	-30.17	74.00	0.033	-29.63
-5.75	0.104	-19.66	6.25	0.143	-16.89	26.50	0.036	-28.87	50.50	0.031	-30.17	74.50	0.034	-29.37
-5.50	0.108	-19.33	6.50	0.133	-17.52	27.00	0.036	-28.87	51.00	0.030	-30.46	75.00	0.036	-28.87
-5.25	0.117	-18.64	6.75	0.125	-18.06	27.50	0.034	-29.37	51.50	0.029	-30.75	75.50	0.037	-28.64
-5.00	0.126	-17.99	7.00	0.121	-18.34	28.00	0.033	-29.63	52.00	0.029	-30.75	76.00	0.038	-28.40
-4.75	0.135	-17.39	7.25	0.119	-18.49	28.50	0.034	-29.37	52.50	0.030	-30.46	76.50	0.039	-28.18
-4.50	0.139	-17.14	7.50	0.118	-18.56	29.00	0.035	-29.12	53.00	0.031	-30.17	77.00	0.039	-28.18
-4.25	0.140	-17.08	7.75	0.116	-18.71	29.50	0.034	-29.37	53.50	0.031	-30.17	77.50	0.038	-28.40
-4.00	0.139	-17.14	8.00	0.112	-19.02	30.00	0.032	-29.90	54.00	0.030	-30.46	78.00	0.037	-28.64
-3.75	0.142	-16.95	8.25	0.107	-19.41	30.50	0.032	-29.90	54.50	0.030	-30.46	78.50	0.035	-29.12
-3.50	0.153	-16.31	8.50	0.101	-19.91	31.00	0.033	-29.63	55.00	0.029	-30.75	79.00	0.033	-29.63
-3.25	0.173	-15.24	8.75	0.096	-20.35	31.50	0.033	-29.63	55.50	0.030	-30.46	79.50	0.031	-30.17
-3.00	0.196	-14.15	9.00	0.093	-20.63	32.00	0.032	-29.90	56.00	0.032	-29.90	80.00	0.029	-30.75
-2.75	0.215	-13.35	9.25	0.092	-20.72	32.50	0.031	-30.17	56.50	0.033	-29.63	80.50	0.026	-31.70
-2.50	0.225	-12.96	9.50	0.092	-20.72	33.00	0.031	-30.17	57.00	0.033	-29.63	81.00	0.024	-32.40
-2.25	0.221	-13.11	9.75	0.091	-20.82	33.50	0.032	-29.90	57.50	0.032	-29.90	81.50	0.022	-33.15
-2.00	0.206	-13.72	10.00	0.088	-21.11	34.00	0.032	-29.90	58.00	0.031	-30.17	82.00	0.020	-33.98
-1.75	0.192	-14.33	10.50	0.080	-21.94	34.50	0.031	-30.17	58.50	0.031	-30.17	82.50	0.018	-34.89
-1.50	0.208	-13.64	11.00	0.075	-22.50	35.00	0.030	-30.46	59.00	0.031	-30.17	83.00	0.017	-35.39
-1.25	0.272	-11.31	11.50	0.075	-22.50	35.50	0.030	-30.46	59.50	0.032	-29.90	83.50	0.016	-35.92
-1.00	0.375	-8.52	12.00	0.073	-22.73	36.00	0.031	-30.17	60.00	0.033	-29.63	84.00	0.015	-36.48
-0.75	0.498	-6.06	12.50	0.067	-23.48	36.50	0.031	-30.17	60.50	0.034	-29.37	84.50	0.014	-37.08
-0.50	0.627	-4.05	13.00	0.063	-24.01	37.00	0.030	-30.46	61.00	0.034	-29.37	85.00	0.013	-37.72
-0.25	0.750	-2.50	13.50	0.063	-24.01	37.50	0.029	-30.75	61.50	0.033	-29.63	85.50	0.012	-38.42
0.00	0.856	-1.35	14.00	0.062	-24.15	38.00	0.030	-30.46	62.00	0.032	-29.90	86.00	0.011	-39.17
0.25	0.936	-0.57	14.50	0.058	-24.73	38.50	0.031	-30.17	62.50	0.032	-29.90	86.50	0.010	-40.00
0.50	0.985	-0.13	15.00	0.055	-25.19	39.00	0.031	-30.17	63.00	0.033	-29.63	87.00	0.009	-40.92
0.75	1.000	0.00	15.50	0.055	-25.19	39.50	0.030	-30.46	63.50	0.034	-29.37	87.50	0.008	-41.94
1.00	0.980	-0.18	16.00	0.055	-25.19	40.00	0.029	-30.75	64.00	0.035	-29.12	88.00	0.006	-44.44
1.25	0.928	-0.65	16.50	0.052	-25.68	40.50	0.030	-30.46	64.50	0.036	-28.87	88.50	0.005	-46.02
1.50	0.849	-1.42	17.00	0.049	-26.20	41.00	0.030	-30.46	65.00	0.036	-28.87	89.00	0.003	-50.46
1.75	0.753	-2.46	17.50	0.049	-26.20	41.50	0.030	-30.46	65.50	0.036	-28.87	89.50	0.002	-53.98
												90.00	0.000	---