

KTLM Application for Special Temporary Authority**73.625(c) Data
December 13, 2019****AZIMUTH PATTERN (H-Pol): Dielectric TFU-24WB-R C160**

Main beam axis of symmetry: 85° true

Electrical Beam Tilt: 0.40°

Main Beam Calculated Max. H-pol Azimuth Pattern Gain (peak) 1.67 2.23 dBd

Maximum Main Beam H-Pol. Effective Radiated Power (ERP): 440.0 kW 26.43 dBk

Tabulation of Azimuth Pattern (Horizontal polarization)

Angle	RF	dBk	ERP kW
0	0.888	25.40	347.0
10	0.942	25.92	390.4
20	0.986	26.31	427.8
30	1.000	26.43	440.0
40	0.975	26.21	418.3
50	0.925	25.76	376.5
60	0.875	25.27	336.9
70	0.847	24.99	315.7
80	0.839	24.91	309.7
90	0.839	24.91	309.7
100	0.846	24.98	314.9
110	0.872	25.24	334.6
120	0.920	25.71	372.4
130	0.970	26.17	414.0
140	0.997	26.41	437.4
150	0.986	26.31	427.8
160	0.944	25.93	392.1
170	0.890	25.42	348.5
180	0.839	24.91	309.7
190	0.789	24.38	273.9
200	0.718	23.56	226.8
210	0.601	22.01	158.9
220	0.439	19.28	84.8
230	0.296	15.86	38.6
240	0.325	16.67	46.5
250	0.470	19.88	97.2
260	0.572	21.58	144.0
270	0.573	21.60	144.5
280	0.471	19.89	97.6
290	0.327	16.73	47.0
300	0.300	15.98	39.6
310	0.445	19.40	87.1
320	0.606	22.08	161.6
330	0.722	23.61	229.4
340	0.791	24.40	275.3
350	0.839	24.91	309.7

Maximum

Angle	RF	dBk	ERP kW
29	1.000	26.43	440.0
142	0.997	26.41	437.4
265	0.587	21.81	151.6

Minimum

Angle	RF	dBk	ERP kW
85	0.839	24.91	309.7
234	0.281	15.41	34.7
297	0.285	15.53	35.7

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AZIMUTH PATTERN (H-Pol): Dielectric TFU-24WB-R C160

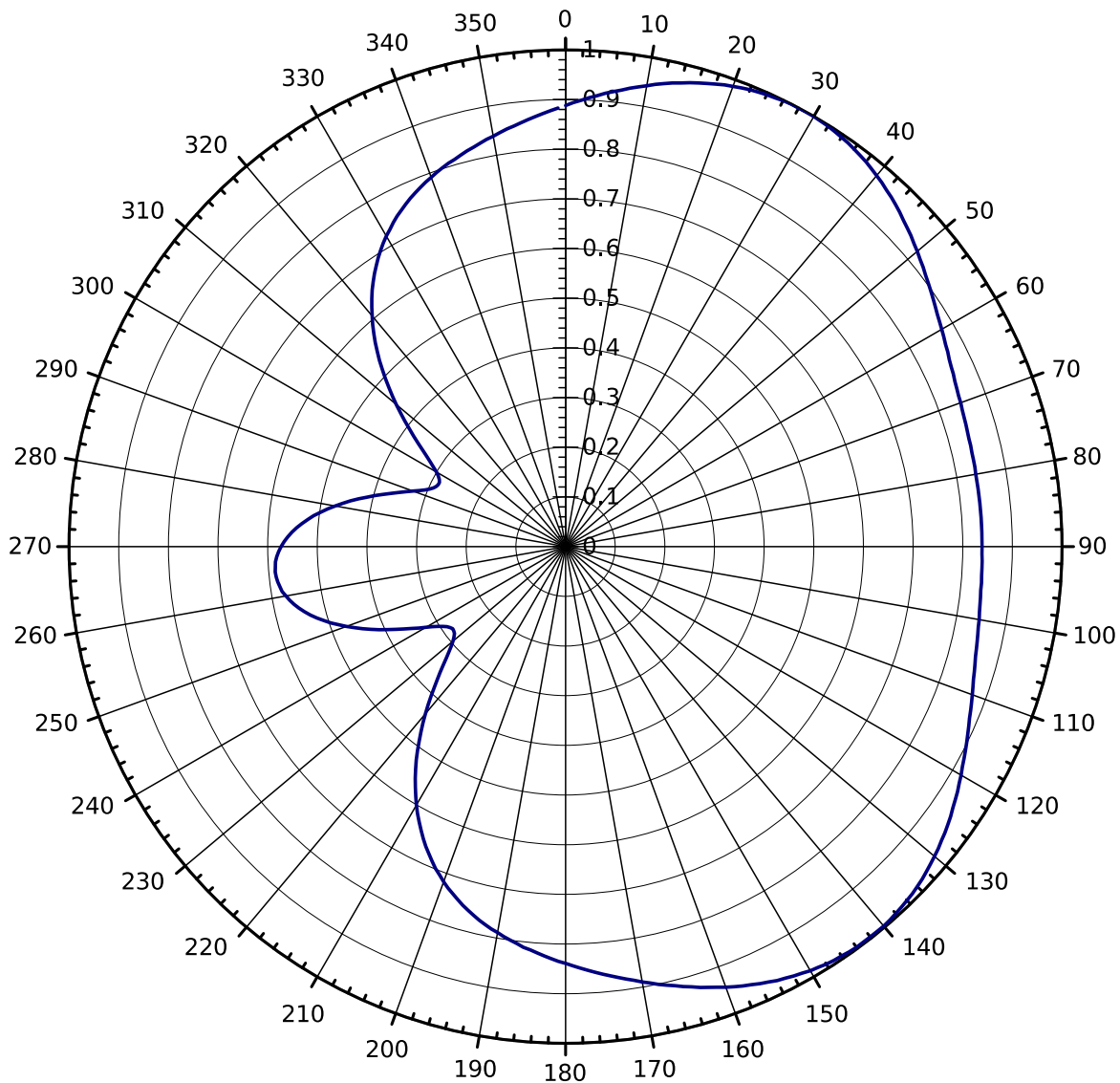
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AZIMUTH PATTERN RELATIVE FIELD



Blue plot shows azimuth pattern relative field

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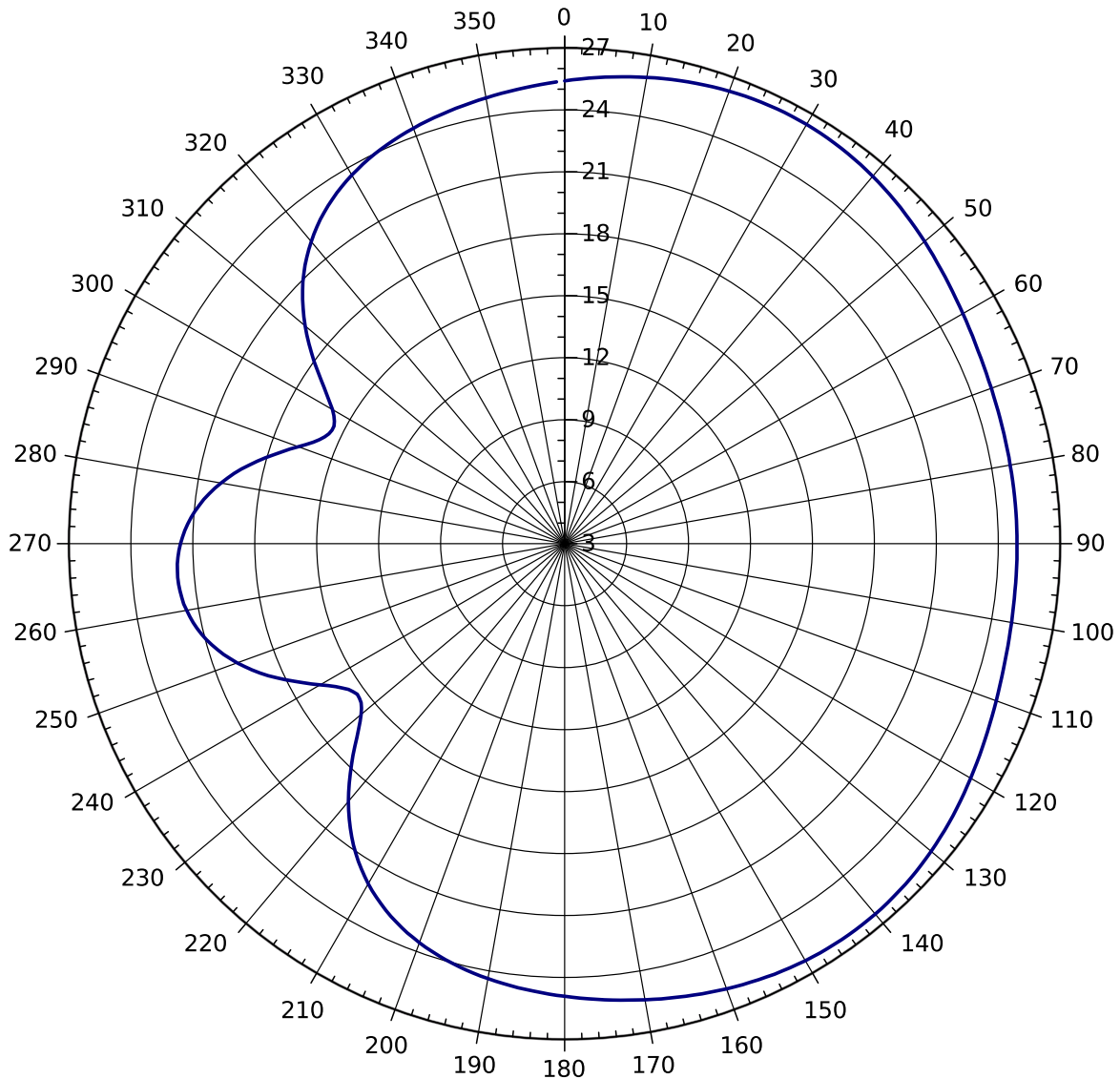
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AZIMUTH PATTERN ERP (dBk)



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ELEVATION PATTERN Dielectric TFU-24WB-R C160

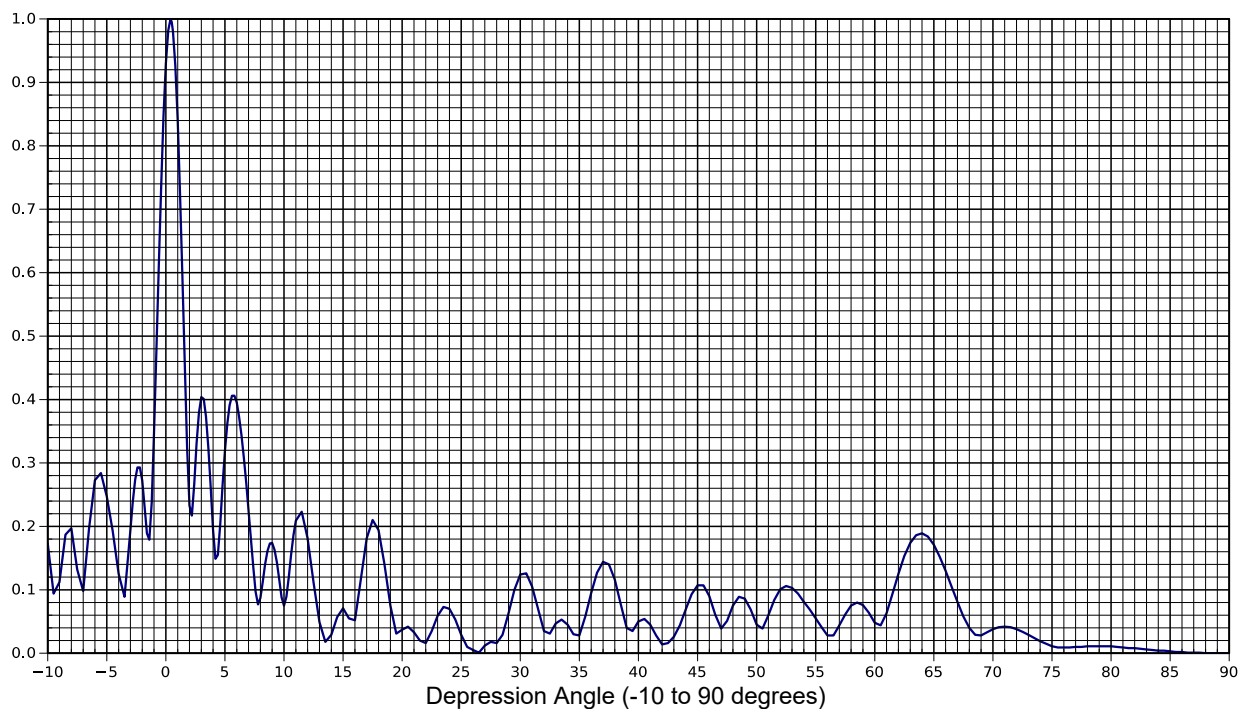
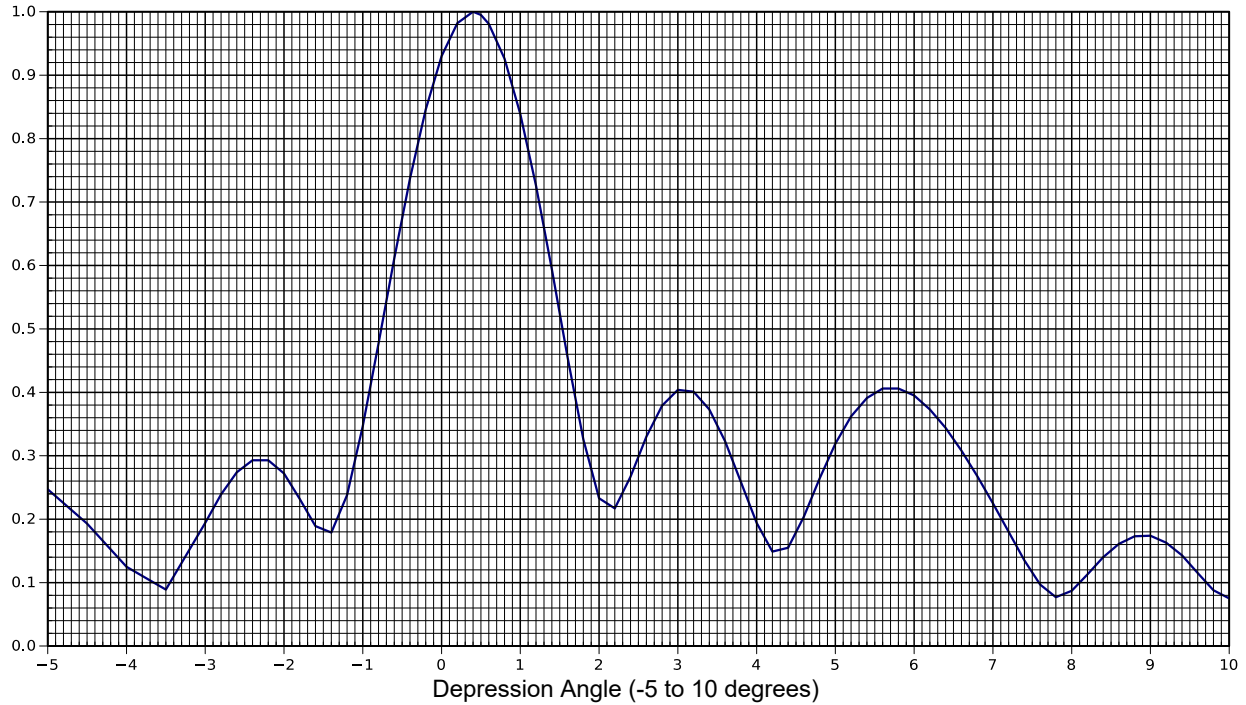
Electrical Beam Tilt: 0.40°

Calculated Maximum Elevation Gain (H polarization): 20.56 13.13 dBd

RMS Gain at Horizontal (H polarization): 17.70 12.48 dBd

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Relative Field



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ELEVATION PATTERN Dielectric TFU-24WB-R C160

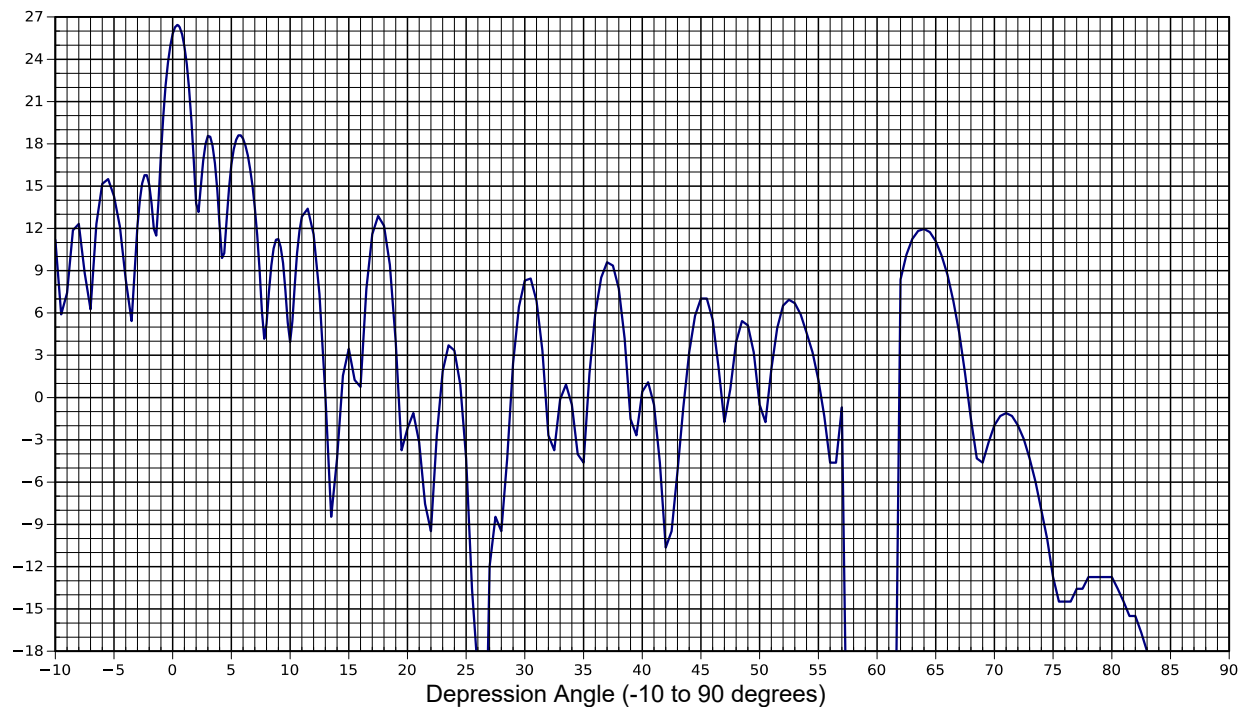
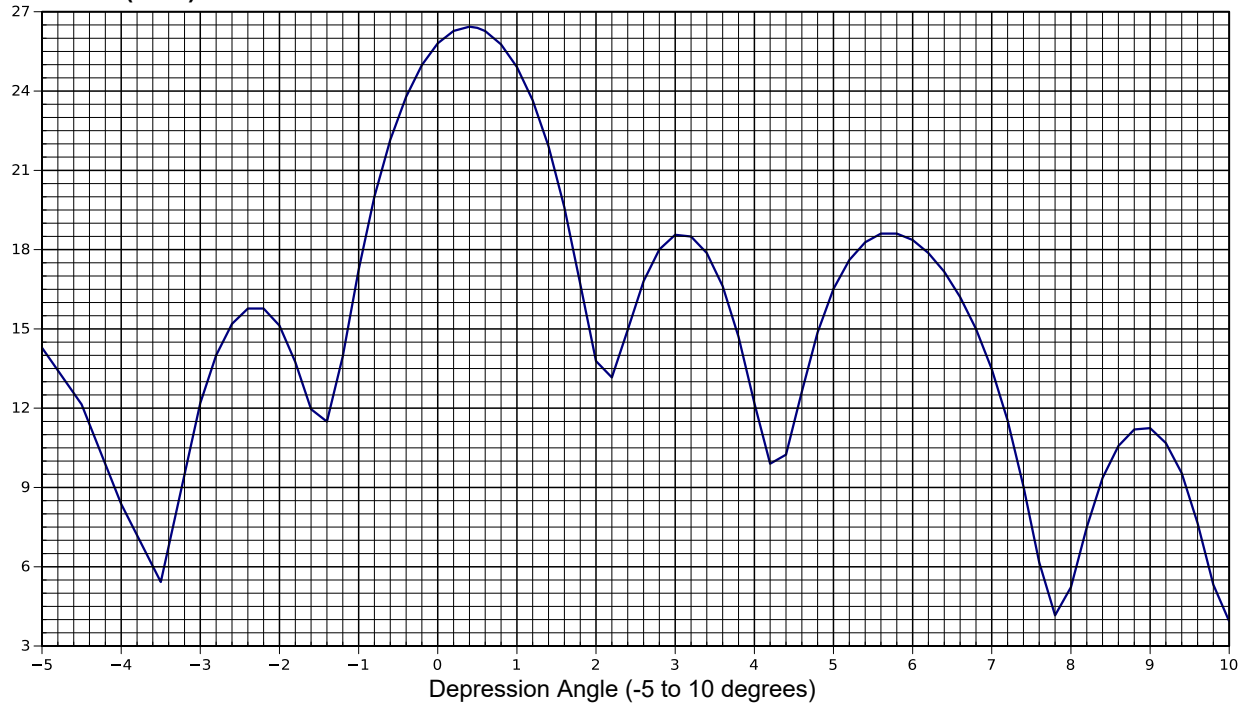
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ERP (dBK)



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Elevation Pattern Tabulation:

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.173	1.00	0.839	8.00	0.087	21.0	0.033	38.5	0.077	56.0	0.028	73.5	0.024
-9.50	0.094	1.20	0.726	8.20	0.113	21.5	0.020	39.0	0.040	56.5	0.028	74.0	0.019
-9.00	0.112	1.40	0.594	8.40	0.140	22.0	0.016	39.5	0.035	57.0	0.044	74.5	0.015
-8.50	0.187	1.60	0.455	8.60	0.161	22.5	0.035	40.0	0.050	57.5	0.061	75.0	0.011
-8.00	0.197	1.80	0.326	8.80	0.173	23.0	0.059	40.5	0.054	58.0	0.075	75.5	0.009
-7.50	0.132	2.00	0.233	9.00	0.174	23.5	0.073	41.0	0.045	58.5	0.080	76.0	0.009
-7.00	0.098	2.20	0.217	9.20	0.163	24.0	0.070	41.5	0.028	59.0	0.076	76.5	0.009
-6.50	0.197	2.40	0.267	9.40	0.143	24.5	0.053	42.0	0.014	59.5	0.064	77.0	0.010
-6.00	0.273	2.60	0.330	9.60	0.115	25.0	0.029	42.5	0.016	60.0	0.048	77.5	0.010
-5.50	0.284	2.80	0.379	9.80	0.088	25.5	0.010	43.0	0.026	60.5	0.044	78.0	0.011
-5.00	0.247	3.00	0.404	10.0	0.075	26.0	0.005	43.5	0.044	61.0	0.063	78.5	0.011
-4.50	0.193	3.20	0.401	10.2	0.089	26.5	0.001	44.0	0.069	61.5	0.094	79.0	0.011
-4.00	0.125	3.40	0.373	10.4	0.120	27.0	0.012	44.5	0.093	62.0	0.125	79.5	0.011
-3.50	0.089	3.60	0.323	10.6	0.155	27.5	0.018	45.0	0.107	62.5	0.153	80.0	0.011
-3.00	0.194	3.80	0.259	10.8	0.186	28.0	0.016	45.5	0.107	63.0	0.174	80.5	0.010
-2.80	0.239	4.00	0.194	11.0	0.209	28.5	0.029	46.0	0.090	63.5	0.186	81.0	0.009
-2.60	0.274	4.20	0.149	11.5	0.223	29.0	0.063	46.5	0.061	64.0	0.189	81.5	0.008
-2.40	0.293	4.40	0.155	12.0	0.181	29.5	0.100	47.0	0.039	64.5	0.184	82.0	0.008
-2.20	0.293	4.60	0.204	12.5	0.111	30.0	0.124	47.5	0.051	65.0	0.171	82.5	0.007
-2.00	0.272	4.80	0.264	13.0	0.049	30.5	0.126	48.0	0.075	65.5	0.152	83.0	0.006
-1.80	0.232	5.00	0.319	13.5	0.018	31.0	0.105	48.5	0.089	66.0	0.130	83.5	0.005
-1.60	0.189	5.20	0.362	14.0	0.029	31.5	0.070	49.0	0.086	66.5	0.105	84.0	0.004
-1.40	0.179	5.40	0.391	14.5	0.057	32.0	0.035	49.5	0.069	67.0	0.081	84.5	0.004
-1.20	0.238	5.60	0.406	15.0	0.071	32.5	0.031	50.0	0.045	67.5	0.058	85.0	0.003
-1.00	0.347	5.80	0.406	15.5	0.055	33.0	0.047	50.5	0.039	68.0	0.040	85.5	0.002
-0.80	0.477	6.00	0.395	16.0	0.052	33.5	0.053	51.0	0.060	68.5	0.029	86.0	0.002
-0.60	0.611	6.20	0.373	16.5	0.116	34.0	0.045	51.5	0.084	69.0	0.028	86.5	0.001
-0.40	0.737	6.40	0.344	17.0	0.181	34.5	0.030	52.0	0.101	69.5	0.033	87.0	0.001
-0.20	0.846	6.60	0.308	17.5	0.210	35.0	0.028	52.5	0.106	70.0	0.038	87.5	0.001
0.00	0.930	6.80	0.268	18.0	0.194	35.5	0.058	53.0	0.103	70.5	0.041	88.0	0.000
0.20	0.982	7.00	0.225	18.5	0.141	36.0	0.095	53.5	0.094	71.0	0.042	88.5	0.000
0.40	1.000	7.20	0.180	19.0	0.075	36.5	0.127	54.0	0.081	71.5	0.041	89.0	0.000
0.50	0.995	7.40	0.135	19.5	0.031	37.0	0.144	54.5	0.069	72.0	0.038	89.5	0.000
0.60	0.981	7.60	0.097	20.0	0.037	37.5	0.140	55.0	0.055	72.5	0.034	90.0	0.000
0.80	0.926	7.80	0.077	20.5	0.042	38.0	0.116	55.5	0.041	73.0	0.029		