KTMD Application for Auxiliary Broadcast Facility

73.625(c) Data
June 13, 2019

AZIMUTH PATTERN (H-Pol): Dielectric TFU-16DSB-D
Main beam axis of symmetry: 55° true
Electrical Beam Tilt: 1.00
Main Beam Calculated Max. H-pol Azimuth Pattern Gain (peak) 2.90 (4.62 dBd)
Maximum Main Beam H-Pol. Effective Radiated Power (ERP): 600.0 kW 27.78 dBk

Tabulation of Azimuth Pattern (Horizontal polarization)

Angle	RF	dBk	ERP kW
0	0.664	24.2	264.5
10	0.750	25.3	337.5
20	0.838	26.2	421.3
30	0.914	27.0	501.2
40	0.971	27.5	565.7
50	0.996	27.7	595.2
60	0.992	27.7	590.4
70	0.970	27.5	564.5
80	0.918	27.0	505.6
90	0.841	26.3	424.4
100	0.752	25.3	339.3
110	0.660	24.2	261.4
120	0.572	22.9	196.3
130	0.495	21.7	147.0
140	0.436	20.6	114.1
150	0.395	19.7	93.6
160	0.345	18.5	71.4
170	0.303	17.4	55.1
180	0.294	17.1	51.9
190	0.307	17.5	56.5
200	0.332	18.2	66.1
210	0.360	18.9	77.8
220	0.381	19.4	87.1
230	0.392	19.6	92.2
240	0.392	19.6	92.2
250	0.383	19.4	88.0
260	0.365	19.0	79.9
270	0.341	18.4	69.8
280	0.315	17.7	59.5
290	0.297	17.2	52.9
300	0.304	17.4	55.4
310	0.341	18.4	69.8
320	0.394	19.7	93.1
330	0.452	20.9	122.6
340	0.516	22.0	159.8
350	0.586	23.1	206.0

Maximum

Angle	RF	dBk	ERP kW
55	1.000	27.8	600.0
235	0.393	19.7	92.7

Minimum

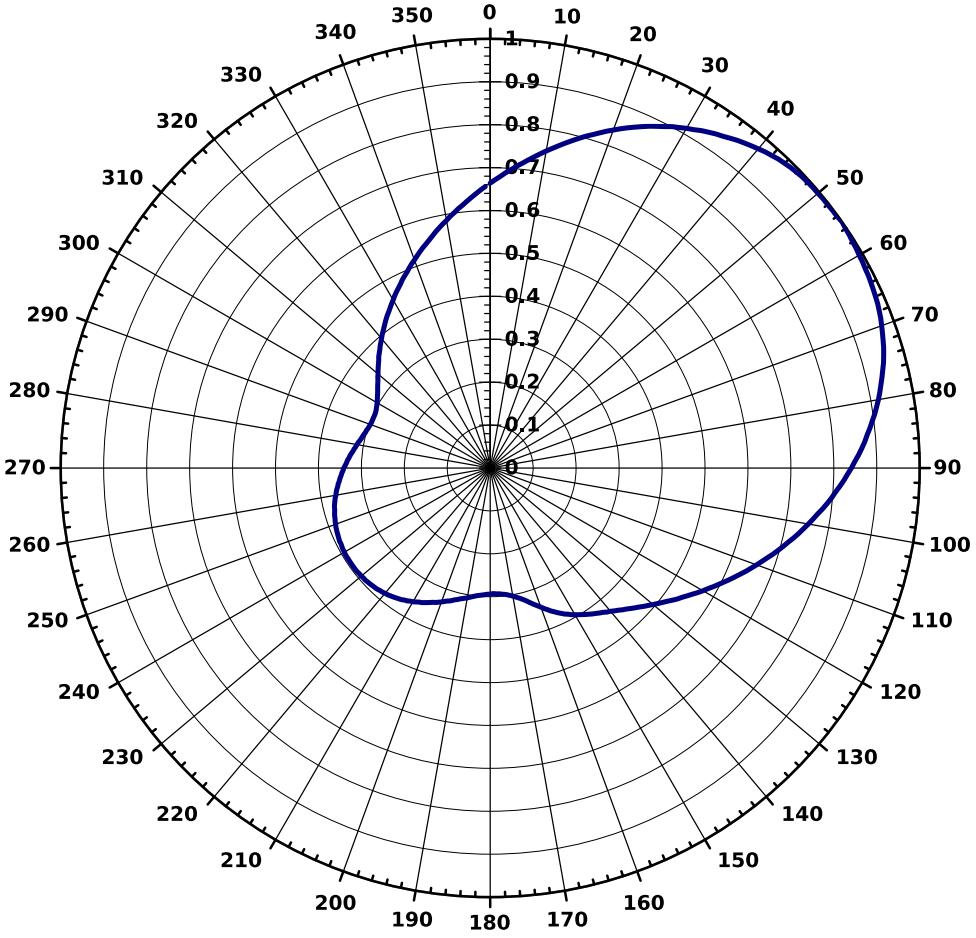
Angle	RF	dBk	ERP kW
179	0.293	17.1	51.5
293	0.296	17.2	52.6

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AZIMUTH PATTERN RELATIVE FIELD



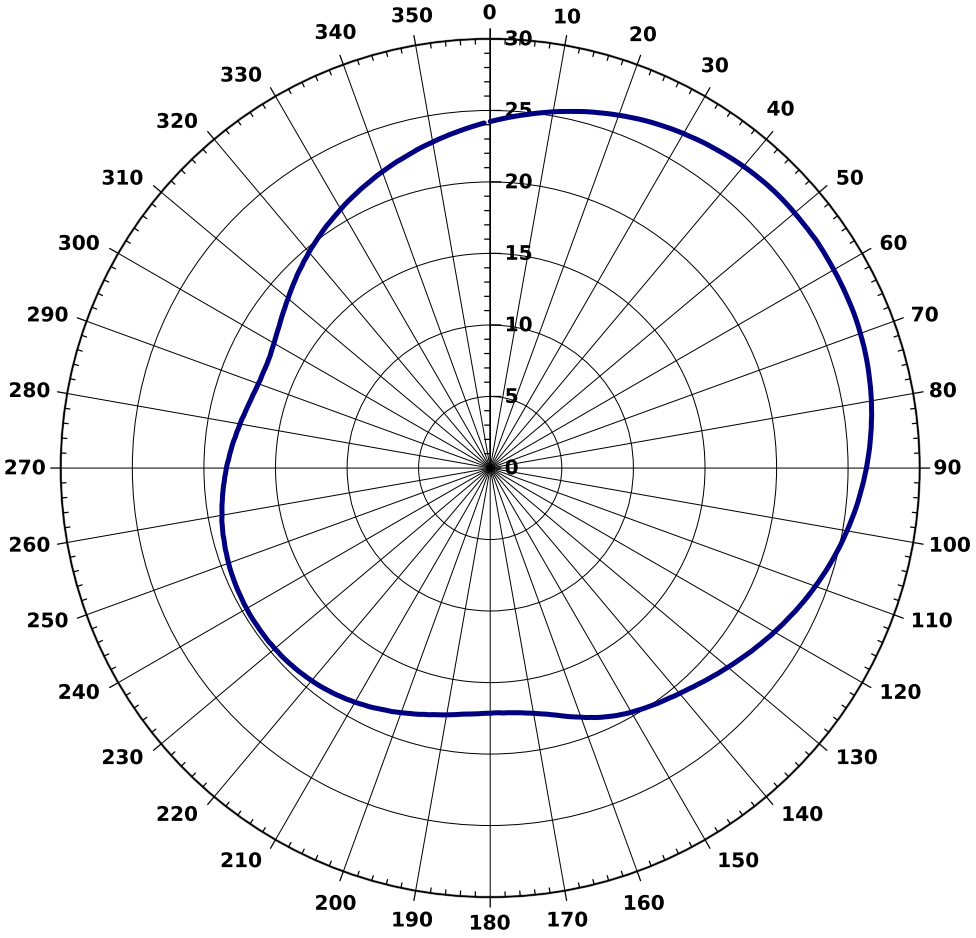
Blue plot shows azimuth pattern relative field

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AZIMUTH PATTERN ERP (dBk)



Blue plot shows effective radiated power (dBk)

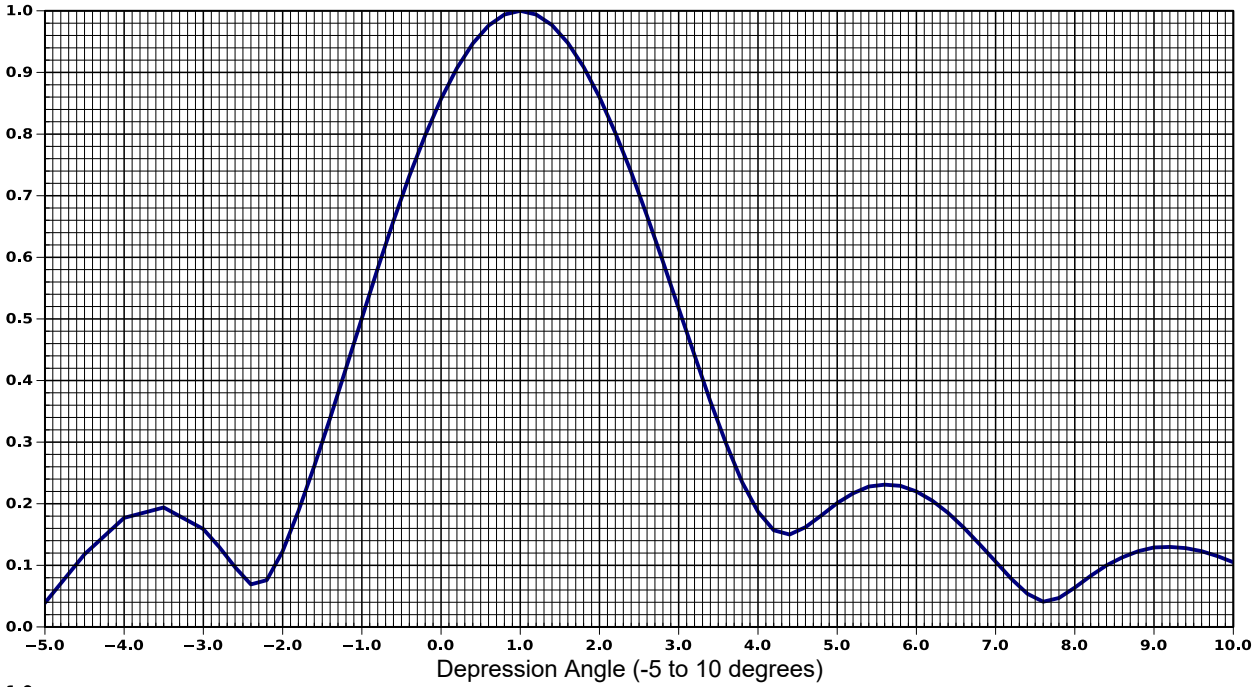
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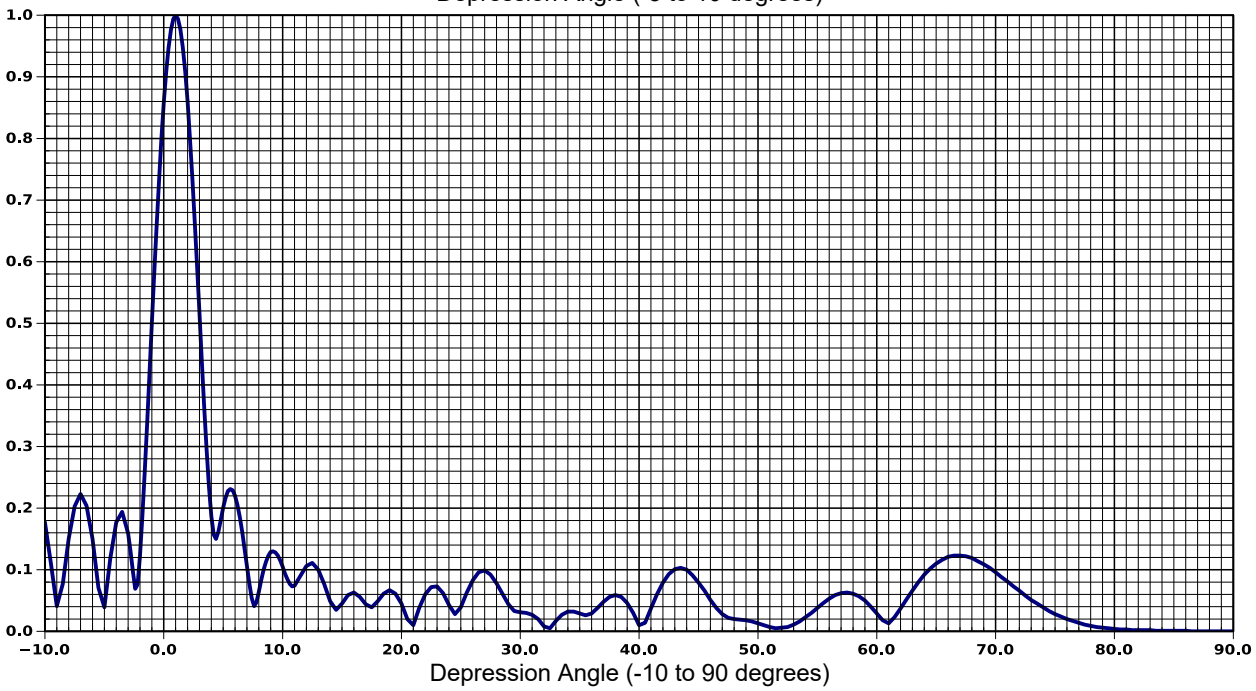
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ELEVATION PATTERN Dielectric TFU-16DSB-D

Electrical Beam Tilt: 1.00°		
Calculated Maximum Elevation Gain (H polarization):	**16.00**	**12.04 dBd**
RMS Gain at Horizontal (H polarization):	**11.80**	**10.70 dBd**
Maximum Main Beam H-Pol. Effective Radiated Power (ERP):	**600.0 kW**	**27.78 dBk**

Relative Field





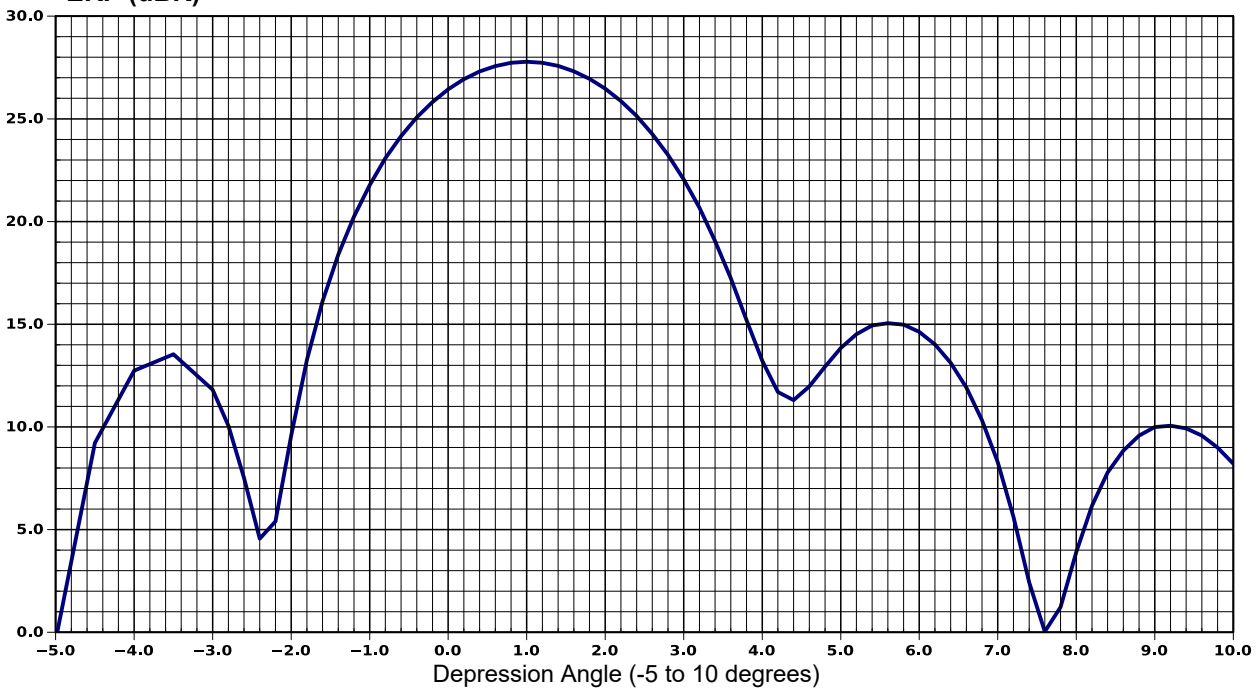
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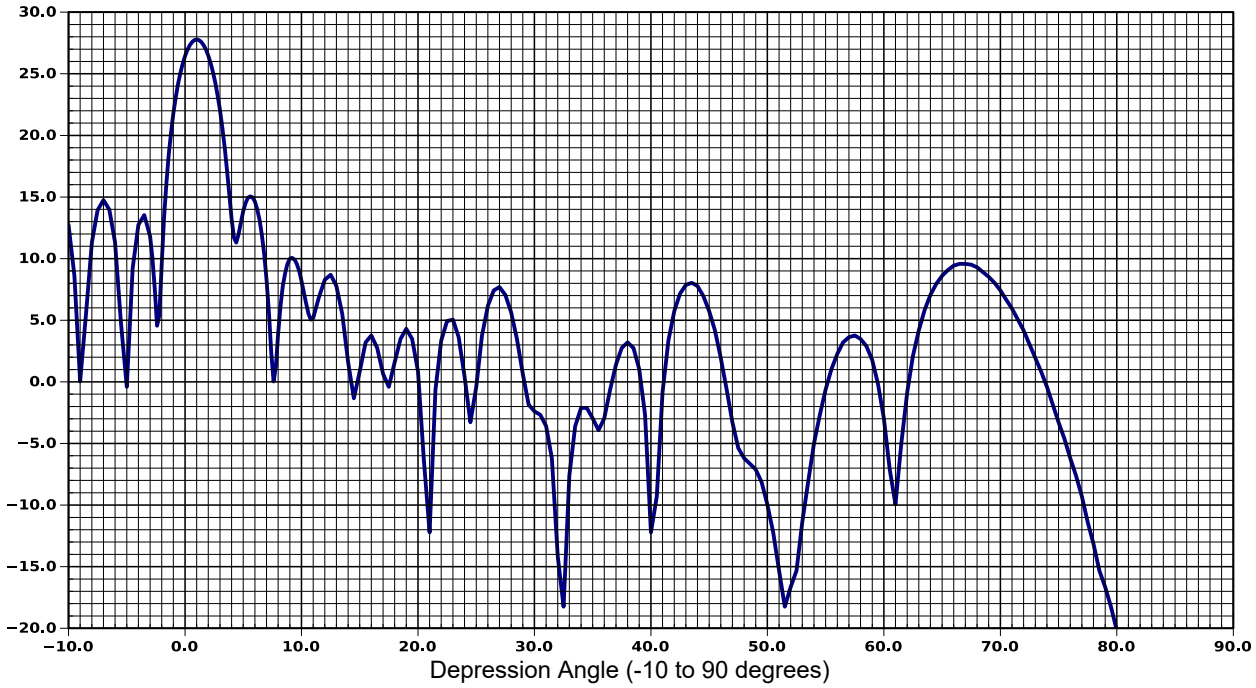
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ERP (dBK)



Depression Angle (-5 to 10 degrees)



Depression Angle (-10 to 90 degrees)

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Elevation Pattern Tabulation:

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.177	1.2	0.994	8.2	0.083	21.5	0.038	39.0	0.046	56.5	0.059	74.0	0.039
-9.5	0.110	1.4	0.977	8.4	0.100	22.0	0.060	39.5	0.030	57.0	0.062	74.5	0.033
-9.0	0.041	1.6	0.948	8.6	0.113	22.5	0.072	40.0	0.010	57.5	0.063	75.0	0.028
-8.5	0.077	1.8	0.909	8.8	0.123	23.0	0.073	40.5	0.014	58.0	0.061	75.5	0.024
-8.0	0.150	2.0	0.860	9.0	0.129	23.5	0.062	41.0	0.037	58.5	0.057	76.0	0.020
-7.5	0.203	2.2	0.802	9.2	0.130	24.0	0.043	41.5	0.060	59.0	0.050	76.5	0.017
-7.0	0.223	2.4	0.738	9.4	0.128	24.5	0.028	42.0	0.079	59.5	0.040	77.0	0.014
-6.5	0.204	2.6	0.667	9.6	0.123	25.0	0.039	42.5	0.093	60.0	0.029	77.5	0.011
-6.0	0.150	2.8	0.593	9.8	0.115	25.5	0.063	43.0	0.101	60.5	0.018	78.0	0.009
-5.5	0.071	3.0	0.517	10.0	0.105	26.0	0.083	43.5	0.103	61.0	0.013	78.5	0.007
-5.0	0.039	3.2	0.441	10.2	0.094	26.5	0.096	44.0	0.100	61.5	0.023	79.0	0.006
-4.5	0.118	3.4	0.366	10.4	0.085	27.0	0.099	44.5	0.091	62.0	0.037	79.5	0.005
-4.0	0.177	3.6	0.297	10.6	0.077	27.5	0.092	45.0	0.079	62.5	0.052	80.0	0.004
-3.5	0.194	3.8	0.235	10.8	0.073	28.0	0.078	45.5	0.066	63.0	0.066	80.5	0.003
-3.0	0.159	4.0	0.187	11.0	0.074	28.5	0.061	46.0	0.051	63.5	0.080	81.0	0.003
-2.8	0.130	4.2	0.157	11.5	0.090	29.0	0.044	46.5	0.038	64.0	0.092	81.5	0.002
-2.6	0.097	4.4	0.150	12.0	0.106	29.5	0.033	47.0	0.028	64.5	0.102	82.0	0.002
-2.4	0.069	4.6	0.162	12.5	0.111	30.0	0.031	47.5	0.022	65.0	0.110	82.5	0.002
-2.2	0.076	4.8	0.181	13.0	0.100	30.5	0.030	48.0	0.020	65.5	0.116	83.0	0.002
-2.0	0.123	5.0	0.201	13.5	0.077	31.0	0.027	48.5	0.019	66.0	0.121	83.5	0.001
-1.8	0.188	5.2	0.217	14.0	0.049	31.5	0.020	49.0	0.018	66.5	0.123	84.0	0.001
-1.6	0.261	5.4	0.228	14.5	0.035	32.0	0.008	49.5	0.016	67.0	0.123	84.5	0.001
-1.4	0.339	5.6	0.231	15.0	0.045	32.5	0.005	50.0	0.013	67.5	0.122	85.0	0.001
-1.2	0.420	5.8	0.229	15.5	0.059	33.0	0.017	50.5	0.010	68.0	0.119	85.5	0.001
-1.0	0.501	6.0	0.220	16.0	0.063	33.5	0.027	51.0	0.007	68.5	0.114	86.0	0.001
-0.8	0.582	6.2	0.205	16.5	0.056	34.0	0.032	51.5	0.005	69.0	0.109	86.5	0.000
-0.6	0.659	6.4	0.185	17.0	0.044	34.5	0.032	52.0	0.006	69.5	0.103	87.0	0.000
-0.4	0.732	6.6	0.161	17.5	0.039	35.0	0.029	52.5	0.007	70.0	0.096	87.5	0.000
-0.2	0.798	6.8	0.134	18.0	0.049	35.5	0.026	53.0	0.011	70.5	0.088	88.0	0.000
0.0	0.857	7.0	0.106	18.5	0.061	36.0	0.029	53.5	0.016	71.0	0.081	88.5	0.000
0.2	0.907	7.2	0.078	19.0	0.067	36.5	0.038	54.0	0.023	71.5	0.073	89.0	0.000
0.4	0.947	7.4	0.054	19.5	0.061	37.0	0.048	54.5	0.030	72.0	0.066	89.5	0.000
0.6	0.976	7.6	0.041	20.0	0.045	37.5	0.056	55.0	0.038	72.5	0.058	90.0	0.000
0.8	0.994	7.8	0.047	20.5	0.020	38.0	0.059	55.5	0.046	73.0	0.051		
1.0	1.000	8.0	0.064	21.0	0.010	38.5	0.056	56.0	0.053	73.5	0.045		

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