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**WHYY INCORPORATED**

**PHILADELPHIA, PA**

**PERMITTEE OF WHYY-DT CHANNEL 12**

**WILMINGTON, DELAWARE**

**FCC Facility ID #72338**

**FCC FILE Nos. BMPEDT-20080619AHU**

**APPLICATION FOR A FURTHER MODIFICATION OF  
CONSTRUCTION PERMIT FOR POST DTV TRANSITION  
OPERATION ON CHANNEL 12**

**ENGINEERING EXHIBIT 34**

**December 4, 2009**

**WHYY INCORPORATED**

**PERMITTEE OF WHYY-DT CHANNEL 12**

**APPLICATION FOR A FURTHER MODIFICATION OF CP FOR POST  
TRANSITION DIGITAL OPERATION ON CHANNEL 12**

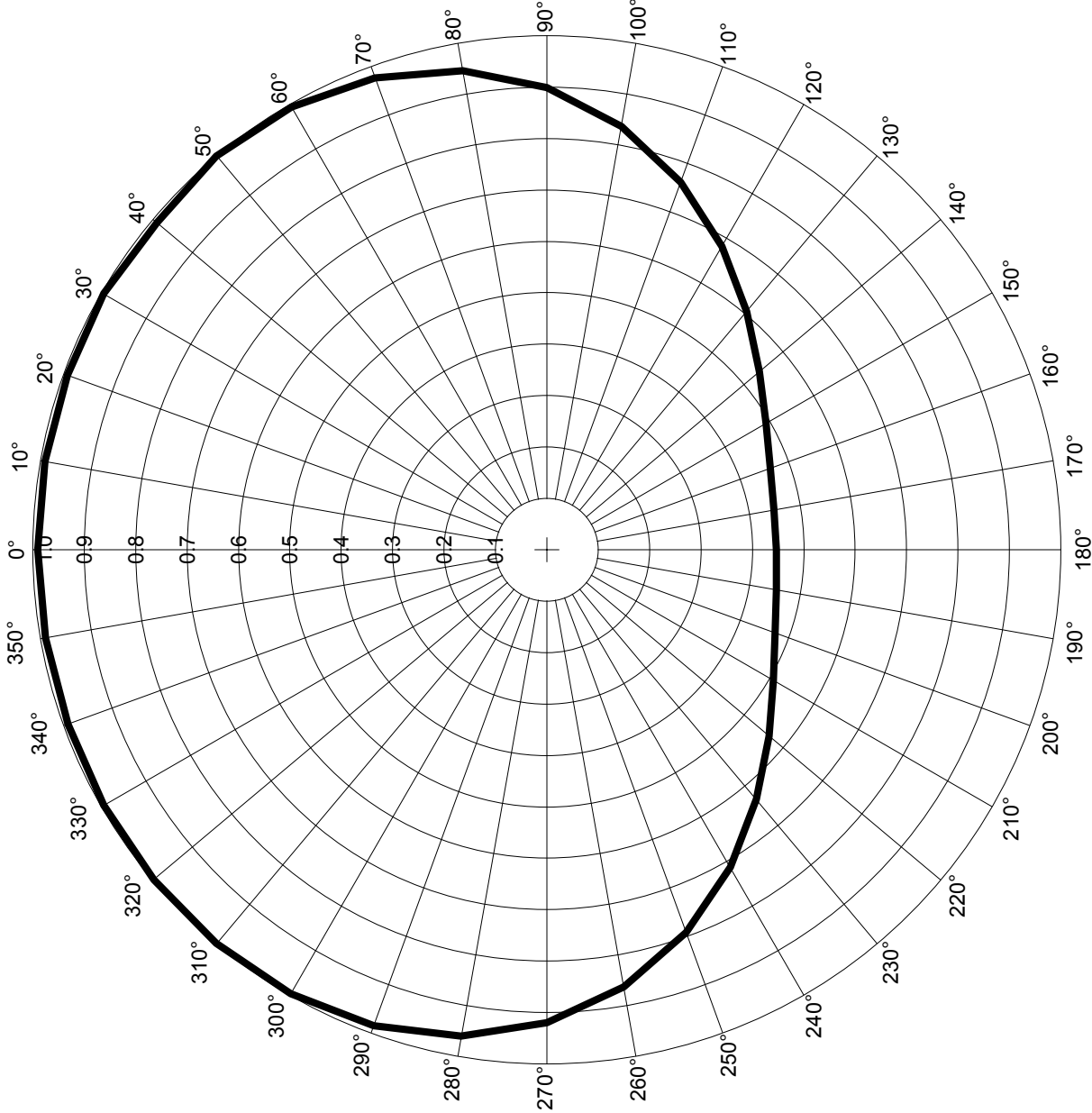
**FCC FILE No. BMPEDT-20080619AHU**

**ENGINEERING EXHIBIT 34**

This application is for a modification of an existing Construction Permit for WHYY-DT to increase power and change the directional antenna post transition.

The proposed facilities requested are increased from 20 to 30 kW with a slightly different directional pattern orientation. The proposed pattern data is included herein and includes tabulations of the azimuth and elevation patterns along with a composite azimuth and elevation plot.

HORIZONTAL PLANE PATTERN



Pattern file: DIE\_87491.pat

Relative Intensity

**WHYY INCORPORATED  
WHYY-DT**

**EXHIBIT 34 - TABLE 1**

DIE THV-11A12-R (NO ROTATION)

**10 Degree**

Angle	Field	ERP (kW)	ERP (dBk)
0	0.990	29.40	14.684
10	0.991	29.46	14.693
20	0.993	29.58	14.710
30	0.996	29.76	14.736
40	0.990	29.40	14.684
50	1.000	30.00	14.771
60	0.994	29.64	14.719
70	0.977	28.64	14.569
80	0.946	26.85	14.289
90	0.899	24.25	13.846
100	0.836	20.97	13.215
110	0.761	17.37	12.399
120	0.681	13.91	11.434
130	0.604	10.94	10.392
140	0.539	8.72	9.403
150	0.492	7.26	8.611
160	0.463	6.43	8.083
170	0.449	6.05	7.816
180	0.446	5.97	7.758
190	0.453	6.16	7.893
200	0.472	6.68	8.250
210	0.509	7.77	8.906
220	0.564	9.54	9.797
230	0.634	12.06	10.813
240	0.713	15.25	11.833
250	0.792	18.82	12.746
260	0.863	22.34	13.491
270	0.920	25.39	14.047
280	0.960	27.65	14.417
290	0.985	29.11	14.640
300	0.997	29.82	14.745
310	1.000	30.00	14.771
320	0.998	29.88	14.754
330	0.995	29.70	14.728
340	0.992	29.52	14.701
350	0.990	29.40	14.684

**Cardinal**

Angle	Field	ERP (kW)	ERP (dBk)
0	0.990	29.40	14.684
45	0.993	29.58	14.710
90	0.899	24.25	13.846
135	0.561	9.44	9.750
180	0.446	5.97	7.758
225	0.599	10.76	10.320
270	0.920	25.39	14.047
315	0.999	29.94	14.763

**Maxima**

Angle	Field	ERP (kW)	ERP (dBk)
50	1.000	30.00	14.771
310	1.000	87.00	19.395

**Minima**

Angle	Field	ERP (kW)	ERP (dBk)
180	0.446	5.97	7.758



Proposal Number

Revision

Date

**01 May 2008**

Call Letters

**WHYY**

Channel

**12**

Location

Customer

Antenna Type

**THV-11A12-R C150****ELEVATION PATTERN**

RMS Gain at Main Lobe

**11.0 (10.41 dB)**

Beam Tilt

**0.75 Degrees**

RMS Gain at Horizontal

**10.3 (10.13 dB)**

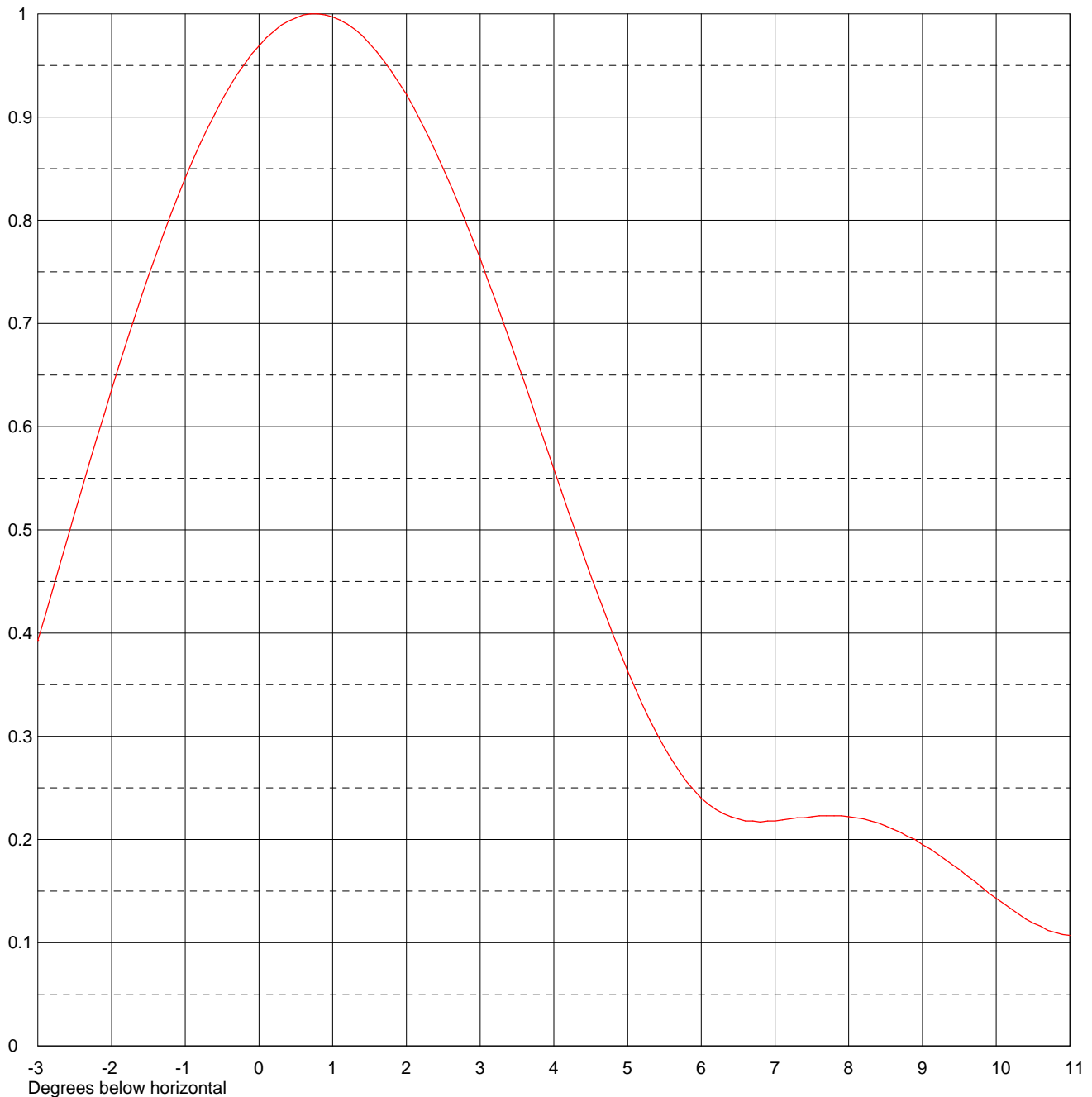
Frequency

**207.00 MHz**

Calculated / Measured

**Calculated**

Drawing #

**11V110075**

Remarks:



Proposal Number

Revision

Date

**01 May 2008**

Call Letters

**WHYY**

Channel

**12**

Location

Customer

Antenna Type

**THV-11A12-R C150****ELEVATION PATTERN**

RMS Gain at Main Lobe

**11.0 (10.41 dB)**

Beam Tilt

**0.75 Degrees**

RMS Gain at Horizontal

**10.3 (10.13 dB)**

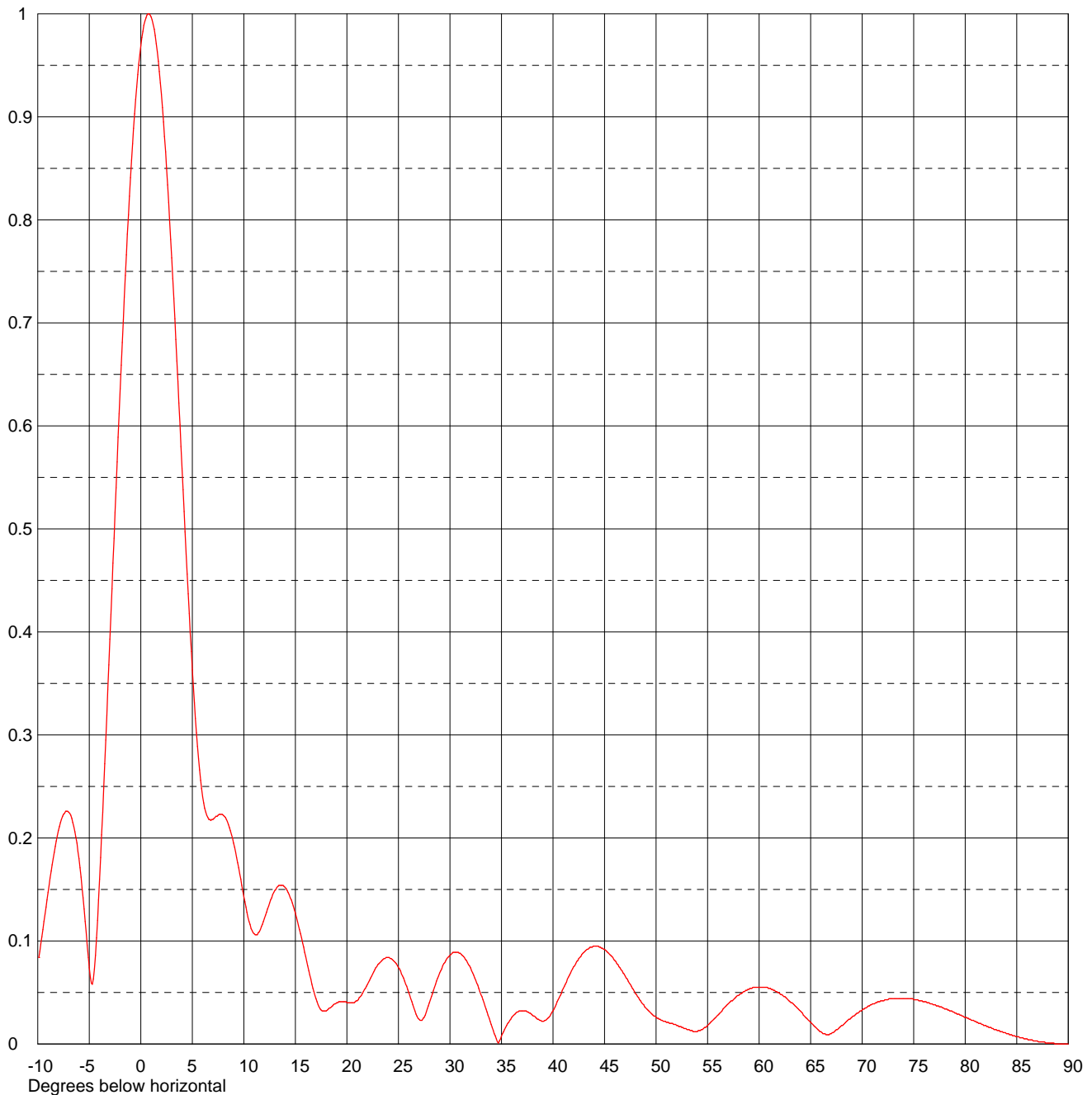
Frequency

**207.00 MHz**

Calculated / Measured

**Calculated**

Drawing #

**11V110075-90**

Remarks:



Proposal Number  
 Date **01 May 2008**  
 Call Letters **WHYY**  
 Location  
 Customer  
 Antenna Type **THV-11A12-R C150**

Revision  
 Channel **12**

## TABULATION OF ELEVATION PATTERN

Elevation Pattern Drawing # **11V110075-90**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.077	2.4	0.866	10.6	0.116	30.5	0.089	51.0	0.021	71.5	0.041
-9.5	0.111	2.6	0.834	10.8	0.110	31.0	0.088	51.5	0.020	72.0	0.042
-9.0	0.147	2.8	0.799	11.0	0.107	31.5	0.082	52.0	0.018	72.5	0.043
-8.5	0.180	3.0	0.763	11.5	0.109	32.0	0.074	52.5	0.016	73.0	0.044
-8.0	0.207	3.2	0.724	12.0	0.122	32.5	0.062	53.0	0.014	73.5	0.044
-7.5	0.223	3.4	0.684	12.5	0.137	33.0	0.048	53.5	0.013	74.0	0.044
-7.0	0.225	3.6	0.643	13.0	0.149	33.5	0.034	54.0	0.012	74.5	0.044
-6.5	0.211	3.8	0.601	13.5	0.154	34.0	0.019	54.5	0.014	75.0	0.043
-6.0	0.180	4.0	0.559	14.0	0.152	34.5	0.005	55.0	0.018	75.5	0.042
-5.5	0.131	4.2	0.517	14.5	0.142	35.0	0.008	55.5	0.023	76.0	0.041
-5.0	0.074	4.4	0.476	15.0	0.127	35.5	0.018	56.0	0.028	76.5	0.040
-4.5	0.073	4.6	0.437	15.5	0.107	36.0	0.026	56.5	0.034	77.0	0.038
-4.0	0.160	4.8	0.399	16.0	0.085	36.5	0.031	57.0	0.039	77.5	0.036
-3.5	0.272	5.0	0.363	16.5	0.063	37.0	0.032	57.5	0.043	78.0	0.034
-3.0	0.393	5.2	0.331	17.0	0.044	37.5	0.031	58.0	0.047	78.5	0.032
-2.8	0.442	5.4	0.302	17.5	0.033	38.0	0.028	58.5	0.051	79.0	0.030
-2.6	0.491	5.6	0.277	18.0	0.032	38.5	0.024	59.0	0.053	79.5	0.028
-2.4	0.540	5.8	0.256	18.5	0.036	39.0	0.022	59.5	0.055	80.0	0.026
-2.2	0.589	6.0	0.240	19.0	0.040	39.5	0.025	60.0	0.055	80.5	0.024
-2.0	0.636	6.2	0.229	19.5	0.041	40.0	0.032	60.5	0.055	81.0	0.022
-1.8	0.681	6.4	0.222	20.0	0.040	40.5	0.043	61.0	0.054	81.5	0.020
-1.6	0.725	6.6	0.218	20.5	0.040	41.0	0.054	61.5	0.052	82.0	0.018
-1.4	0.766	6.8	0.217	21.0	0.042	41.5	0.065	62.0	0.049	82.5	0.016
-1.2	0.805	7.0	0.218	21.5	0.049	42.0	0.075	62.5	0.046	83.0	0.014
-1.0	0.841	7.2	0.220	22.0	0.058	42.5	0.083	63.0	0.041	83.5	0.012
-0.8	0.874	7.4	0.221	22.5	0.068	43.0	0.089	63.5	0.037	84.0	0.010
-0.6	0.903	7.6	0.223	23.0	0.077	43.5	0.093	64.0	0.032	84.5	0.009
-0.4	0.929	7.8	0.223	23.5	0.082	44.0	0.095	64.5	0.026	85.0	0.007
-0.2	0.951	8.0	0.222	24.0	0.084	44.5	0.094	65.0	0.021	85.5	0.006
0.0	0.969	8.2	0.220	24.5	0.081	45.0	0.092	65.5	0.016	86.0	0.005
0.2	0.983	8.4	0.216	25.0	0.074	45.5	0.087	66.0	0.012	86.5	0.004
0.4	0.993	8.6	0.210	25.5	0.064	46.0	0.081	66.5	0.009	87.0	0.003
0.6	0.999	8.8	0.203	26.0	0.050	46.5	0.074	67.0	0.010	87.5	0.002
0.8	1.000	9.0	0.195	26.5	0.035	47.0	0.066	67.5	0.014	88.0	0.001
1.0	0.997	9.2	0.186	27.0	0.024	47.5	0.058	68.0	0.018	88.5	0.001
1.2	0.990	9.4	0.176	27.5	0.026	48.0	0.049	68.5	0.022	89.0	0.000
1.4	0.979	9.6	0.165	28.0	0.040	48.5	0.042	69.0	0.026	89.5	0.000
1.6	0.963	9.8	0.154	28.5	0.055	49.0	0.035	69.5	0.030	90.0	0.000
1.8	0.944	10.0	0.143	29.0	0.069	49.5	0.030	70.0	0.033		
2.0	0.922	10.2	0.133	29.5	0.079	50.0	0.026	70.5	0.036		
2.2	0.895	10.4	0.123	30.0	0.086	50.5	0.023	71.0	0.039		

Remarks: