



Exhibit No.

Date

17 May 2018

Call Letters

Channel 33

Location

Customer

Antenna Type

TLP-8M

AZIMUTH PATTERN

Gain

1.9 (2.79 dB)

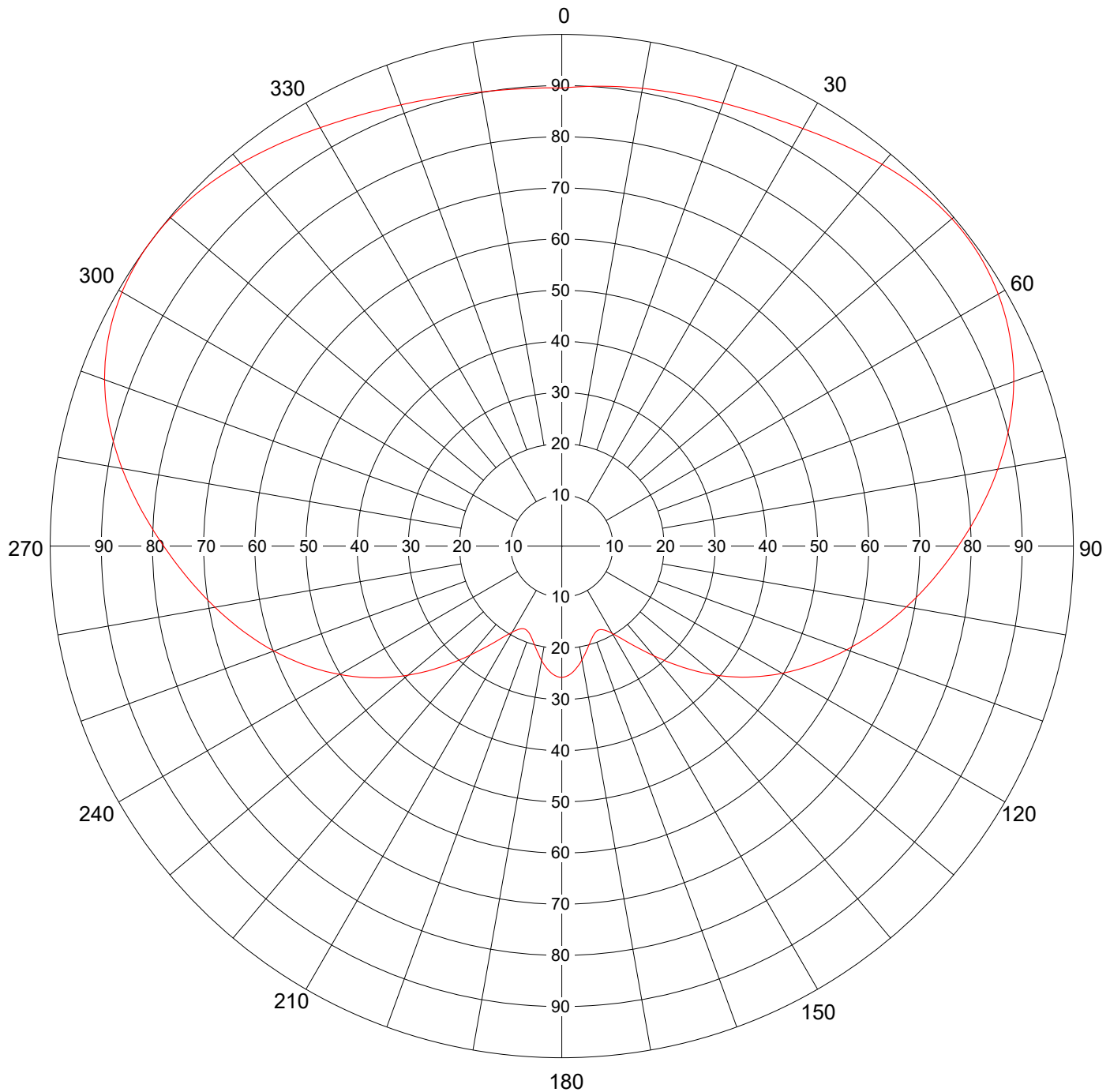
Frequency

587 MHz

Calculated / Measured

Calculated

Drawing #

TLP-M

Remarks:



Date

17 May 2018

Call Letters

Channel 33

Location

Customer

Antenna Type TLP-8M

TABULATION OF AZIMUTH PATTERN

Azimuth Pattern Drawing # TLP-M

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
0	0.895	45	0.988	90	0.775	135	0.335	180	0.257	225	0.334	270	0.778	315	0.990
1	0.897	46	0.990	91	0.766	136	0.324	181	0.256	226	0.346	271	0.788	316	0.987
2	0.898	47	0.992	92	0.757	137	0.313	182	0.255	227	0.357	272	0.797	317	0.985
3	0.900	48	0.993	93	0.748	138	0.302	183	0.253	228	0.369	273	0.807	318	0.982
4	0.901	49	0.994	94	0.739	139	0.291	184	0.251	229	0.381	274	0.816	319	0.979
5	0.902	50	0.995	95	0.730	140	0.280	185	0.248	230	0.393	275	0.826	320	0.976
6	0.904	51	0.996	96	0.720	141	0.270	186	0.245	231	0.404	276	0.835	321	0.973
7	0.905	52	0.996	97	0.711	142	0.260	187	0.241	232	0.415	277	0.845	322	0.970
8	0.906	53	0.996	98	0.702	143	0.250	188	0.236	233	0.427	278	0.854	323	0.967
9	0.907	54	0.996	99	0.693	144	0.241	189	0.232	234	0.438	279	0.863	324	0.964
10	0.908	55	0.995	100	0.684	145	0.232	190	0.227	235	0.449	280	0.873	325	0.960
11	0.910	56	0.993	101	0.675	146	0.224	191	0.222	236	0.460	281	0.882	326	0.957
12	0.911	57	0.992	102	0.666	147	0.216	192	0.217	237	0.470	282	0.890	327	0.954
13	0.912	58	0.990	103	0.657	148	0.209	193	0.212	238	0.481	283	0.899	328	0.951
14	0.913	59	0.988	104	0.648	149	0.203	194	0.207	239	0.491	284	0.907	329	0.947
15	0.914	60	0.985	105	0.639	150	0.197	195	0.202	240	0.502	285	0.916	330	0.944
16	0.916	61	0.982	106	0.630	151	0.192	196	0.198	241	0.512	286	0.923	331	0.941
17	0.917	62	0.979	107	0.620	152	0.188	197	0.194	242	0.522	287	0.931	332	0.938
18	0.918	63	0.975	108	0.611	153	0.184	198	0.190	243	0.532	288	0.938	333	0.935
19	0.920	64	0.971	109	0.602	154	0.182	199	0.186	244	0.542	289	0.945	334	0.933
20	0.921	65	0.967	110	0.593	155	0.180	200	0.183	245	0.552	290	0.951	335	0.930
21	0.923	66	0.962	111	0.583	156	0.179	201	0.181	246	0.561	291	0.957	336	0.927
22	0.925	67	0.957	112	0.574	157	0.179	202	0.179	247	0.571	292	0.963	337	0.925
23	0.926	68	0.952	113	0.565	158	0.180	203	0.178	248	0.580	293	0.968	338	0.922
24	0.928	69	0.946	114	0.555	159	0.182	204	0.178	249	0.590	294	0.972	339	0.920
25	0.930	70	0.940	115	0.546	160	0.184	205	0.178	250	0.599	295	0.977	340	0.918
26	0.932	71	0.934	116	0.536	161	0.187	206	0.180	251	0.608	296	0.981	341	0.916
27	0.935	72	0.927	117	0.527	162	0.190	207	0.182	252	0.617	297	0.984	342	0.914
28	0.937	73	0.920	118	0.517	163	0.194	208	0.185	253	0.626	298	0.987	343	0.912
29	0.940	74	0.913	119	0.507	164	0.198	209	0.189	254	0.635	299	0.990	344	0.910
30	0.942	75	0.906	120	0.497	165	0.202	210	0.194	255	0.644	300	0.993	345	0.908
31	0.945	76	0.898	121	0.487	166	0.207	211	0.200	256	0.653	301	0.995	346	0.907
32	0.948	77	0.890	122	0.477	167	0.211	212	0.206	257	0.662	302	0.996	347	0.905
33	0.951	78	0.882	123	0.467	168	0.216	213	0.214	258	0.671	303	0.998	348	0.904
34	0.954	79	0.874	124	0.457	169	0.221	214	0.221	259	0.680	304	0.999	349	0.903
35	0.958	80	0.865	125	0.446	170	0.226	215	0.229	260	0.688	305	1.000	350	0.901
36	0.961	81	0.857	126	0.436	171	0.231	216	0.238	261	0.697	306	1.000	351	0.900
37	0.964	82	0.848	127	0.425	172	0.235	217	0.248	262	0.706	307	1.000	352	0.899
38	0.967	83	0.839	128	0.414	173	0.240	218	0.257	263	0.715	308	1.000	353	0.899
39	0.971	84	0.830	129	0.403	174	0.244	219	0.267	264	0.724	309	0.999	354	0.898
40	0.974	85	0.821	130	0.392	175	0.247	220	0.278	265	0.733	310	0.998	355	0.897
41	0.977	86	0.812	131	0.381	176	0.250	221	0.289	266	0.742	311	0.997	356	0.897
42	0.980	87	0.803	132	0.370	177	0.253	222	0.300	267	0.751	312	0.996	357	0.896
43	0.983	88	0.794	133	0.358	178	0.255	223	0.311	268	0.760	313	0.994	358	0.896
44	0.985	89	0.784	134	0.347	179	0.256	224	0.322	269	0.769	314	0.992	359	0.896

Remarks:



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ELEVATION PATTERN

RMS Gain at Main Lobe

7.5 (8.75 dB)

Beam Tilt

2.00 Degrees

RMS Gain at Horizontal

5.5 (7.40 dB)

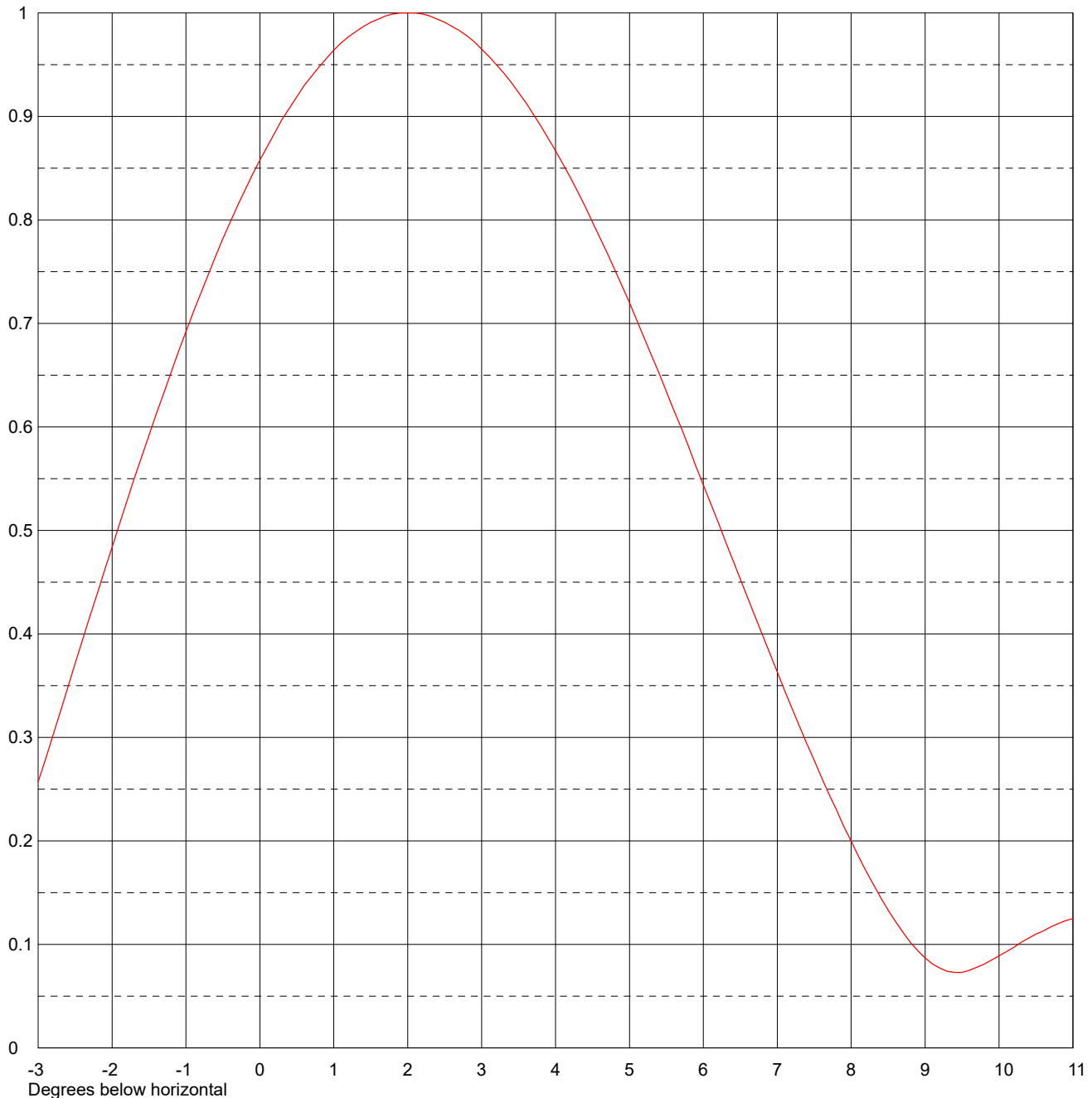
Frequency

587.00 MHz

Calculated / Measured

Calculated

Drawing #

08L075200

Remarks:

Date

17 May 2018

Call Letters

Channel 33

Location

Customer

Antenna Type

TLP-8M

ELEVATION PATTERN

RMS Gain at Main Lobe

7.5 (8.75 dB)

Beam Tilt

2.00 Degrees

RMS Gain at Horizontal

5.5 (7.40 dB)

Frequency

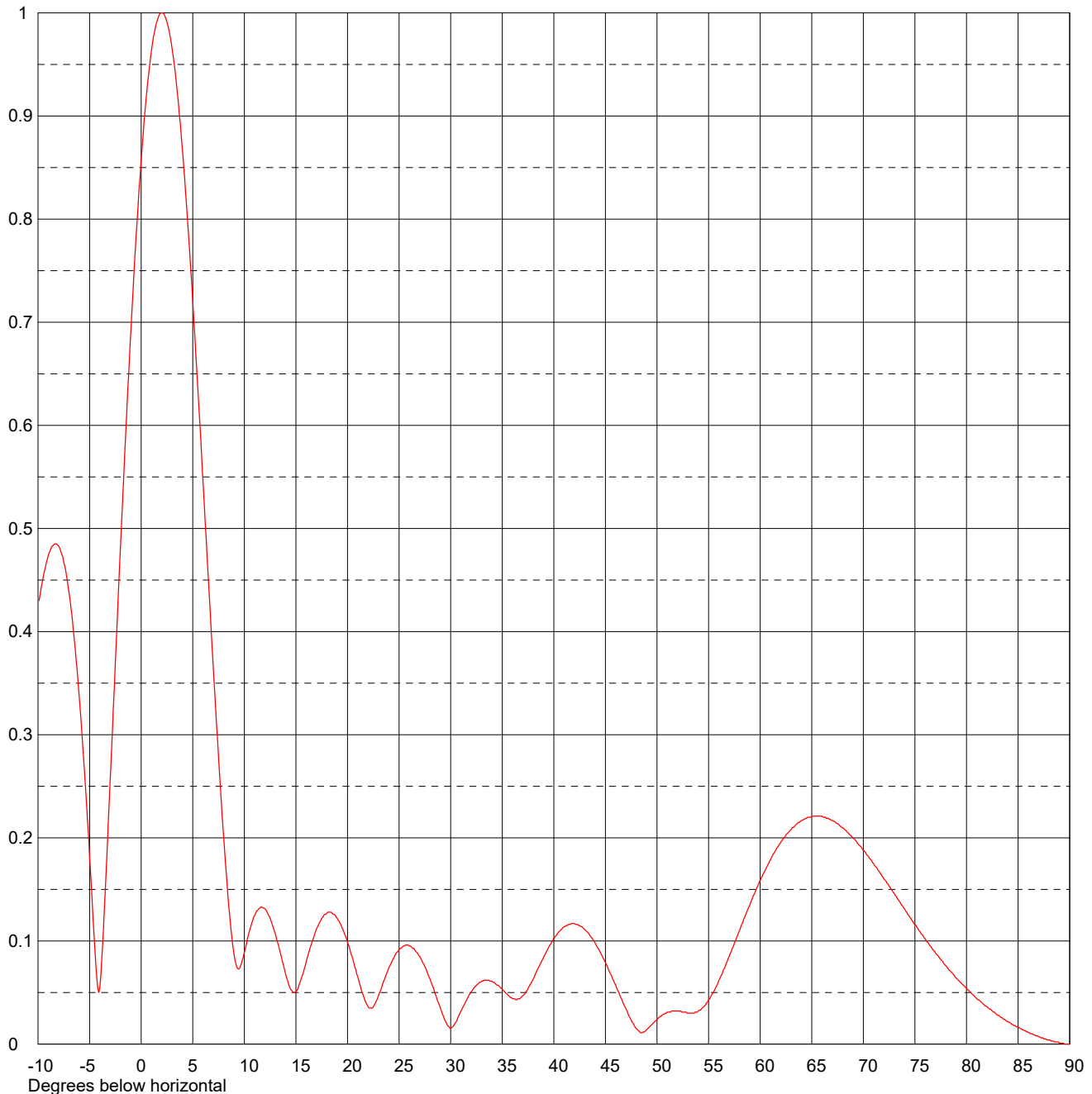
587.00 MHz

Calculated / Measured

Calculated

Drawing #

08L075200-90



Remarks:

Date **17 May 2018**

Call Letters

Channel **33**

Location

Customer

Antenna Type **TLP-8M**

TABULATION OF ELEVATION PATTERN

Elevation Pattern Drawing # **08L075200-90**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.423	2.4	0.994	10.6	0.113	30.5	0.021	51.0	0.031	71.5	0.168
-9.5	0.453	2.6	0.987	10.8	0.120	31.0	0.032	51.5	0.032	72.0	0.160
-9.0	0.474	2.8	0.978	11.0	0.125	31.5	0.042	52.0	0.032	72.5	0.153
-8.5	0.484	3.0	0.965	11.5	0.132	32.0	0.051	52.5	0.031	73.0	0.146
-8.0	0.483	3.2	0.950	12.0	0.131	32.5	0.057	53.0	0.030	73.5	0.138
-7.5	0.467	3.4	0.933	12.5	0.122	33.0	0.061	53.5	0.030	74.0	0.131
-7.0	0.438	3.6	0.913	13.0	0.107	33.5	0.062	54.0	0.032	74.5	0.123
-6.5	0.394	3.8	0.891	13.5	0.088	34.0	0.061	54.5	0.036	75.0	0.116
-6.0	0.336	4.0	0.867	14.0	0.068	34.5	0.057	55.0	0.043	75.5	0.109
-5.5	0.265	4.2	0.841	14.5	0.053	35.0	0.053	55.5	0.051	76.0	0.102
-5.0	0.182	4.4	0.813	15.0	0.051	35.5	0.048	56.0	0.062	76.5	0.095
-4.5	0.094	4.6	0.783	15.5	0.063	36.0	0.044	56.5	0.073	77.0	0.088
-4.0	0.056	4.8	0.752	16.0	0.080	36.5	0.044	57.0	0.085	77.5	0.082
-3.5	0.145	5.0	0.720	16.5	0.097	37.0	0.047	57.5	0.098	78.0	0.076
-3.0	0.257	5.2	0.686	17.0	0.112	37.5	0.054	58.0	0.110	78.5	0.070
-2.8	0.302	5.4	0.652	17.5	0.122	38.0	0.063	58.5	0.123	79.0	0.064
-2.6	0.348	5.6	0.616	18.0	0.127	38.5	0.074	59.0	0.135	79.5	0.059
-2.4	0.394	5.8	0.581	18.5	0.127	39.0	0.084	59.5	0.147	80.0	0.054
-2.2	0.439	6.0	0.544	19.0	0.122	39.5	0.094	60.0	0.159	80.5	0.049
-2.0	0.484	6.2	0.508	19.5	0.112	40.0	0.102	60.5	0.169	81.0	0.044
-1.8	0.528	6.4	0.471	20.0	0.099	40.5	0.109	61.0	0.179	81.5	0.040
-1.6	0.571	6.6	0.435	20.5	0.083	41.0	0.114	61.5	0.188	82.0	0.036
-1.4	0.613	6.8	0.399	21.0	0.065	41.5	0.116	62.0	0.196	82.5	0.032
-1.2	0.653	7.0	0.363	21.5	0.048	42.0	0.117	62.5	0.203	83.0	0.028
-1.0	0.692	7.2	0.328	22.0	0.036	42.5	0.115	63.0	0.208	83.5	0.025
-0.8	0.729	7.4	0.294	22.5	0.036	43.0	0.111	63.5	0.213	84.0	0.022
-0.6	0.765	7.6	0.261	23.0	0.047	43.5	0.105	64.0	0.217	84.5	0.019
-0.4	0.798	7.8	0.230	23.5	0.061	44.0	0.098	64.5	0.219	85.0	0.016
-0.2	0.829	8.0	0.200	24.0	0.074	44.5	0.089	65.0	0.221	85.5	0.014
0.0	0.858	8.2	0.171	24.5	0.084	45.0	0.079	65.5	0.221	86.0	0.011
0.2	0.884	8.4	0.145	25.0	0.092	45.5	0.068	66.0	0.221	86.5	0.009
0.4	0.908	8.6	0.122	25.5	0.095	46.0	0.057	66.5	0.219	87.0	0.007
0.6	0.930	8.8	0.102	26.0	0.095	46.5	0.045	67.0	0.217	87.5	0.005
0.8	0.948	9.0	0.087	26.5	0.092	47.0	0.034	67.5	0.214	88.0	0.004
1.0	0.964	9.2	0.077	27.0	0.085	47.5	0.023	68.0	0.210	88.5	0.002
1.2	0.977	9.4	0.073	27.5	0.075	48.0	0.015	68.5	0.205	89.0	0.001
1.4	0.987	9.6	0.075	28.0	0.063	48.5	0.011	69.0	0.200	89.5	0.000
1.6	0.994	9.8	0.081	28.5	0.049	49.0	0.014	69.5	0.194	90.0	0.000
1.8	0.999	10.0	0.089	29.0	0.035	49.5	0.019	70.0	0.188		
2.0	1.000	10.2	0.097	29.5	0.022	50.0	0.024	70.5	0.182		
2.2	0.999	10.4	0.106	30.0	0.015	50.5	0.028	71.0	0.175		

Remarks: