

Exhibit: 1a

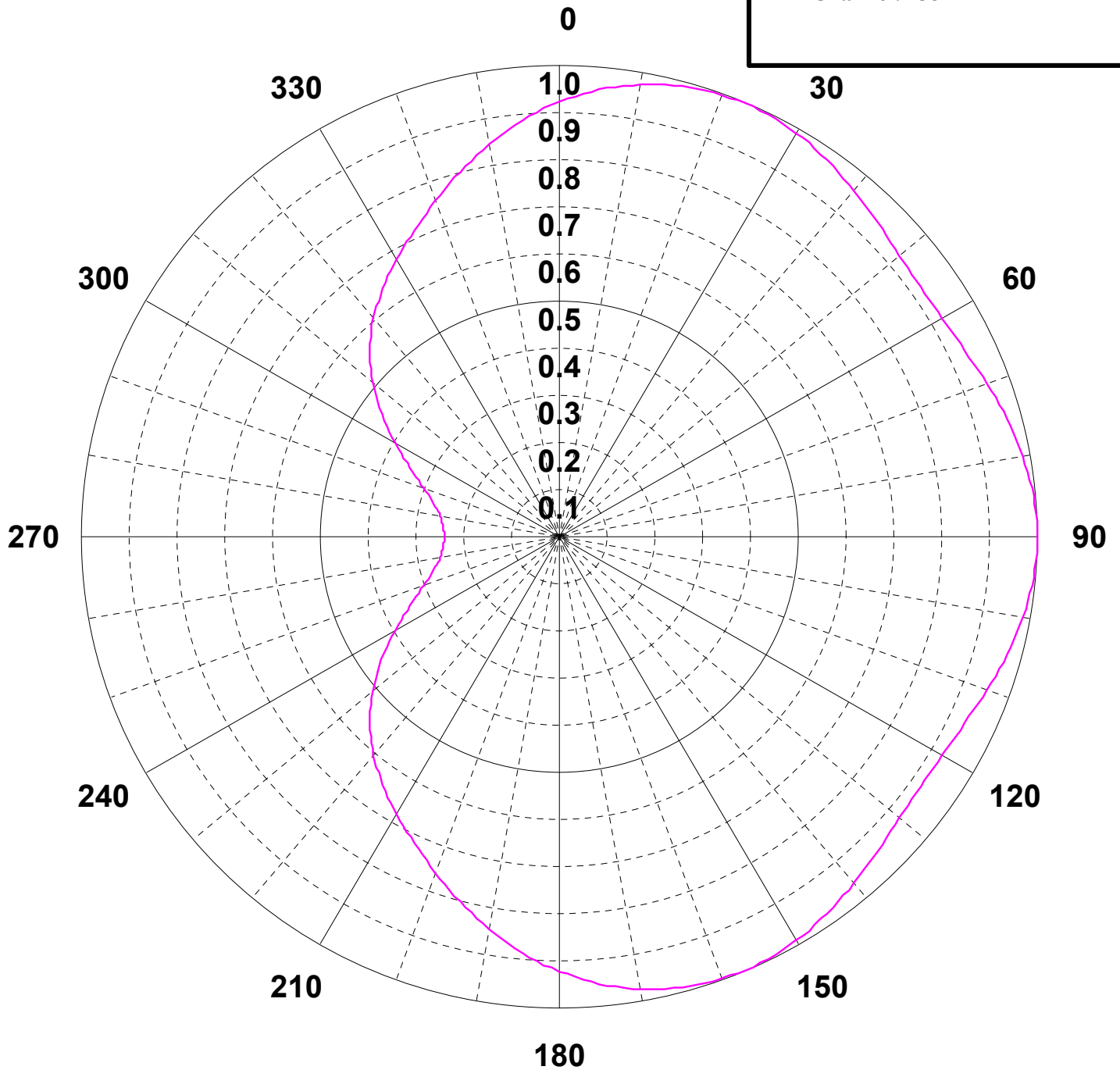


Type: ALP-W

Gain: 1.56 (1.93 dB)

Polarization: Horizontal

Channel: 58



ANDREW CORPORATION
10500 W. 153rd Street
Orland Park, Illinois U.S.A. 60462

Company: WCMW-DT
Site: Manistee, MI
Proposal Number:

Date: 7/23/2003
Author: John F. Fleming

Type: ALP-W Gain: 1.56 (1.93 dB)
Polarization: Horizontal Channel: 58



Exhibit: 1b

Angle	Amp	dB	Angle	Amp	dB	Angle	Amp	dB	Angle	Amp	dB	Angle	Amp	dB
0	0.922	-0.71	72	0.959	-0.36	144	0.973	-0.24	216	0.636	-3.93	288	0.288	-10.81
1	0.929	-0.64	73	0.962	-0.34	145	0.976	-0.21	217	0.628	-4.04	289	0.295	-10.60
2	0.935	-0.58	74	0.966	-0.30	146	0.979	-0.18	218	0.621	-4.14	290	0.302	-10.40
3	0.941	-0.53	75	0.969	-0.27	147	0.982	-0.16	219	0.613	-4.25	291	0.310	-10.17
4	0.947	-0.47	76	0.973	-0.24	148	0.985	-0.13	220	0.605	-4.36	292	0.318	-9.95
5	0.952	-0.43	77	0.976	-0.21	149	0.988	-0.10	221	0.596	-4.50	293	0.326	-9.74
6	0.957	-0.38	78	0.979	-0.18	150	0.990	-0.09	222	0.588	-4.61	294	0.335	-9.50
7	0.961	-0.35	79	0.982	-0.16	151	0.992	-0.07	223	0.579	-4.75	295	0.344	-9.27
8	0.966	-0.30	80	0.985	-0.13	152	0.994	-0.05	224	0.570	-4.88	296	0.354	-9.02
9	0.970	-0.26	81	0.987	-0.11	153	0.995	-0.04	225	0.560	-5.04	297	0.365	-8.75
10	0.975	-0.22	82	0.990	-0.09	154	0.996	-0.03	226	0.551	-5.18	298	0.375	-8.52
11	0.978	-0.19	83	0.992	-0.07	155	0.997	-0.03	227	0.541	-5.34	299	0.386	-8.27
12	0.981	-0.17	84	0.994	-0.05	156	0.998	-0.02	228	0.531	-5.50	300	0.397	-8.02
13	0.984	-0.14	85	0.996	-0.03	157	0.998	-0.02	229	0.521	-5.66	301	0.408	-7.79
14	0.987	-0.11	86	0.997	-0.03	158	0.998	-0.02	230	0.510	-5.85	302	0.419	-7.56
15	0.989	-0.10	87	0.998	-0.02	159	0.997	-0.03	231	0.499	-6.04	303	0.430	-7.33
16	0.992	-0.07	88	0.999	-0.01	160	0.997	-0.03	232	0.488	-6.23	304	0.442	-7.09
17	0.993	-0.06	89	1.000	0.00	161	0.996	-0.03	233	0.477	-6.43	305	0.453	-6.88
18	0.995	-0.04	90	1.000	0.00	162	0.995	-0.04	234	0.465	-6.65	306	0.465	-6.65
19	0.996	-0.03	91	1.000	0.00	163	0.993	-0.06	235	0.454	-6.86	307	0.476	-6.45
20	0.997	-0.03	92	0.999	-0.01	164	0.992	-0.07	236	0.442	-7.09	308	0.488	-6.23
21	0.997	-0.03	93	0.998	-0.02	165	0.989	-0.10	237	0.431	-7.31	309	0.499	-6.04
22	0.998	-0.02	94	0.997	-0.03	166	0.987	-0.11	238	0.419	-7.56	310	0.510	-5.85
23	0.998	-0.02	95	0.996	-0.03	167	0.984	-0.14	239	0.408	-7.79	311	0.520	-5.68
24	0.998	-0.02	96	0.994	-0.05	168	0.981	-0.17	240	0.397	-8.02	312	0.531	-5.50
25	0.997	-0.03	97	0.992	-0.07	169	0.978	-0.19	241	0.386	-8.27	313	0.541	-5.34
26	0.996	-0.03	98	0.990	-0.09	170	0.975	-0.22	242	0.375	-8.52	314	0.551	-5.18
27	0.995	-0.04	99	0.988	-0.10	171	0.971	-0.26	243	0.365	-8.75	315	0.560	-5.04
28	0.994	-0.05	100	0.985	-0.13	172	0.966	-0.30	244	0.354	-9.02	316	0.570	-4.88
29	0.992	-0.07	101	0.982	-0.16	173	0.962	-0.34	245	0.344	-9.27	317	0.579	-4.75
30	0.990	-0.09	102	0.979	-0.18	174	0.957	-0.38	246	0.335	-9.50	318	0.588	-4.61
31	0.988	-0.10	103	0.976	-0.21	175	0.952	-0.43	247	0.326	-9.74	319	0.597	-4.48
32	0.985	-0.13	104	0.973	-0.24	176	0.947	-0.47	248	0.318	-9.95	320	0.605	-4.36
33	0.982	-0.16	105	0.970	-0.26	177	0.941	-0.53	249	0.310	-10.17	321	0.613	-4.25
34	0.979	-0.18	106	0.966	-0.30	178	0.935	-0.58	250	0.302	-10.40	322	0.621	-4.14
35	0.976	-0.21	107	0.963	-0.33	179	0.928	-0.65	251	0.295	-10.60	323	0.628	-4.04
36	0.973	-0.24	108	0.959	-0.36	180	0.922	-0.71	252	0.288	-10.81	324	0.636	-3.93
37	0.969	-0.27	109	0.955	-0.40	181	0.915	-0.77	253	0.283	-10.96	325	0.644	-3.82
38	0.966	-0.30	110	0.951	-0.44	182	0.909	-0.83	254	0.277	-11.15	326	0.651	-3.73
39	0.962	-0.34	111	0.948	-0.46	183	0.901	-0.91	255	0.272	-11.31	327	0.659	-3.62
40	0.959	-0.36	112	0.945	-0.49	184	0.894	-0.97	256	0.267	-11.47	328	0.666	-3.53
41	0.956	-0.39	113	0.942	-0.52	185	0.886	-1.05	257	0.263	-11.60	329	0.673	-3.44
42	0.952	-0.43	114	0.938	-0.56	186	0.878	-1.13	258	0.259	-11.73	330	0.680	-3.35
43	0.949	-0.45	115	0.936	-0.57	187	0.870	-1.21	259	0.256	-11.84	331	0.687	-3.26
44	0.945	-0.49	116	0.933	-0.60	188	0.862	-1.29	260	0.253	-11.94	332	0.695	-3.16
45	0.942	-0.52	117	0.930	-0.63	189	0.853	-1.38	261	0.250	-12.04	333	0.703	-3.06
46	0.939	-0.55	118	0.928	-0.65	190	0.845	-1.46	262	0.248	-12.11	334	0.710	-2.97
47	0.936	-0.57	119	0.927	-0.66	191	0.836	-1.56	263	0.247	-12.15	335	0.717	-2.89
48	0.933	-0.60	120	0.925	-0.68	192	0.828	-1.64	264	0.245	-12.22	336	0.725	-2.79
49	0.931	-0.62	121	0.924	-0.69	193	0.819	-1.73	265	0.244	-12.25	337	0.733	-2.70
50	0.929	-0.64	122	0.923	-0.70	194	0.810	-1.83	266	0.243	-12.29	338	0.742	-2.59
51	0.927	-0.66	123	0.923	-0.70	195	0.801	-1.93	267	0.242	-12.32	339	0.750	-2.50
52	0.925	-0.68	124	0.922	-0.71	196	0.793	-2.01	268	0.241	-12.36	340	0.758	-2.41
53	0.924	-0.69	125	0.923	-0.70	197	0.784	-2.11	269	0.241	-12.36	341	0.766	-2.32
54	0.923	-0.70	126	0.923	-0.70	198	0.775	-2.21	270	0.241	-12.36	342	0.775	-2.21
55	0.922	-0.71	127	0.924	-0.69	199	0.767	-2.30	271	0.241	-12.36	343	0.784	-2.11
56	0.922	-0.71	128	0.925	-0.68	200	0.758	-2.41	272	0.241	-12.36	344	0.793	-2.01
57	0.923	-0.70	129	0.927	-0.66	201	0.750	-2.50	273	0.242	-12.32	345	0.801	-1.93
58	0.923	-0.70	130	0.929	-0.64	202	0.742	-2.59	274	0.243	-12.29	346	0.810	-1.83
59	0.924	-0.69	131	0.931	-0.62	203	0.733	-2.70	275	0.244	-12.25	347	0.819	-1.73
60	0.925	-0.68	132	0.933	-0.60	204	0.725	-2.79	276	0.245	-12.22	348	0.828	-1.64
61	0.927	-0.66	133	0.936	-0.57	205	0.718	-2.88	277	0.247	-12.15	349	0.836	-1.56
62	0.928	-0.65	134	0.939	-0.55	206	0.710	-2.97	278	0.248	-12.11	350	0.845	-1.46
63	0.931	-0.62	135	0.942	-0.52	207	0.702	-3.07	279	0.250	-12.04	351	0.854	-1.37
64	0.933	-0.60	136	0.945	-0.49	208	0.695	-3.16	280	0.253	-11.94	352	0.862	-1.29
65	0.935	-0.58	137	0.949	-0.45	209	0.688	-3.25	281	0.256	-11.84	353	0.870	-1.21
66	0.938	-0.56	138	0.952	-0.43	210	0.680	-3.35	282	0.259	-11.73	354	0.878	-1.13
67	0.942	-0.52	139	0.955	-0.40	211	0.673	-3.44	283	0.263	-11.60	355	0.886	-1.05
68	0.945	-0.49	140	0.959	-0.36	212	0.666	-3.53	284	0.267	-11.47	356	0.894	-0.97
69	0.948	-0.46	141	0.963	-0.33	213	0.658	-3.64	285	0.272	-11.31	357	0.902	-0.90
70	0.951	-0.44	142	0.966	-0.30	214	0.651	-3.73	286	0.277	-11.15	358	0.909	-0.83
71	0.955	-0.40	143	0.969	-0.27	215	0.643	-3.84	287	0.282	-11.00	359	0.916	-0.76

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Company: WCMW-DT
Site: Manistee, MI
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Exhibit: 1c



ANDREW

Type: ALP24L3

Directivity: Numeric dBd

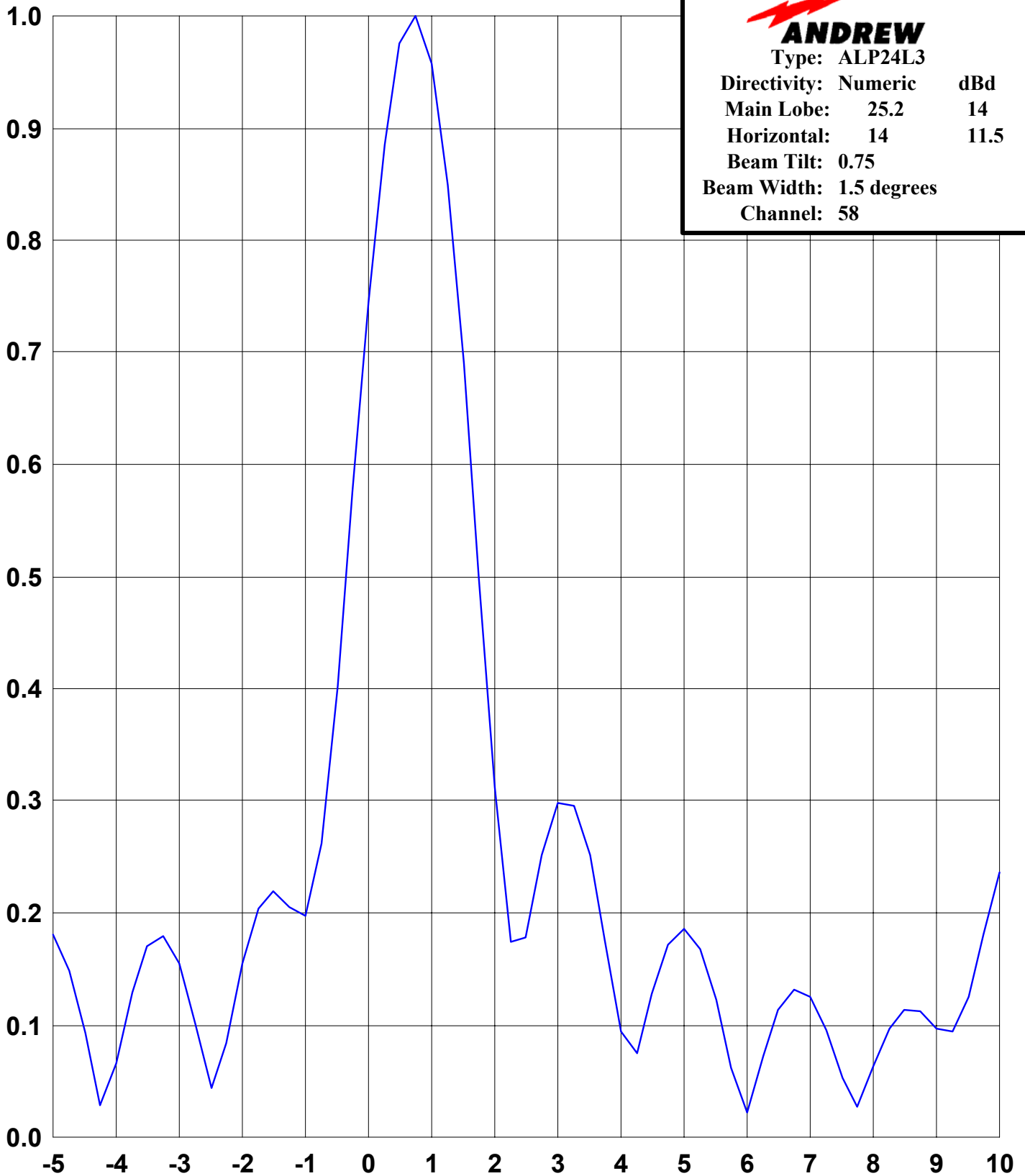
Main Lobe: 25.2 14

Horizontal: 14 11.5

Beam Tilt: 0.75

Beam Width: 1.5 degrees

Channel: 58



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Date: 7/23/2003
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Type:ALP24L3 Beam Tilt: 0.75 deg
Directivity: 25.2 (14 dB) Chan: 58



Exhibit: 1d

Angle	Amp	dB	Angle	Amp	dB	Angle	Amp	dB	Angle	Amp	dB
-5.00	0.180	-14.89	9.00	0.097	-20.26	36.00	0.057	-24.88	63.50	0.277	-11.15
-4.75	0.149	-16.54	9.25	0.094	-20.54	36.50	0.044	-27.13	64.00	0.284	-10.93
-4.50	0.093	-20.63	9.50	0.125	-18.06	37.00	0.018	-34.89	64.50	0.276	-11.18
-4.25	0.029	-30.75	9.75	0.180	-14.89	37.50	0.026	-31.70	65.00	0.254	-11.90
-4.00	0.066	-23.61	10.00	0.236	-12.54	38.00	0.043	-27.33	65.50	0.220	-13.15
-3.75	0.129	-17.79	10.50	0.314	-10.06	38.50	0.042	-27.54	66.00	0.179	-14.94
-3.50	0.170	-15.39	11.00	0.301	-10.43	39.00	0.024	-32.40	66.50	0.134	-17.46
-3.25	0.179	-14.94	11.50	0.214	-13.39	39.50	0.006	-44.44	67.00	0.091	-20.82
-3.00	0.155	-16.19	12.00	0.104	-19.66	40.00	0.027	-31.37	67.50	0.057	-24.88
-2.75	0.101	-19.91	12.50	0.029	-30.75	40.50	0.037	-28.64	68.00	0.045	-26.94
-2.50	0.044	-27.13	13.00	0.031	-30.17	41.00	0.031	-30.17	68.50	0.056	-25.04
-2.25	0.084	-21.51	13.50	0.025	-32.04	41.50	0.013	-37.72	69.00	0.071	-22.97
-2.00	0.155	-16.19	14.00	0.008	-41.94	42.00	0.014	-37.08	69.50	0.081	-21.83
-1.75	0.204	-13.81	14.50	0.001	-60.00	42.50	0.030	-30.46	70.00	0.085	-21.41
-1.50	0.220	-13.15	15.00	0.007	-43.10	43.00	0.034	-29.37	70.50	0.082	-21.72
-1.25	0.205	-13.76	15.50	0.015	-36.48	43.50	0.028	-31.06	71.00	0.074	-22.62
-1.00	0.197	-14.11	16.00	0.011	-39.17	44.00	0.031	-30.17	71.50	0.062	-24.15
-0.75	0.262	-11.63	16.50	0.008	-41.94	44.50	0.052	-25.68	72.00	0.047	-26.56
-0.50	0.402	-7.92	17.00	0.028	-31.06	45.00	0.072	-22.85	72.50	0.033	-29.63
-0.25	0.575	-4.81	17.50	0.031	-30.17	45.50	0.081	-21.83	73.00	0.022	-33.15
0.00	0.745	-2.56	18.00	0.013	-37.72	46.00	0.077	-22.27	73.50	0.018	-34.89
0.25	0.885	-1.06	18.50	0.027	-31.37	46.50	0.061	-24.29	74.00	0.023	-32.77
0.50	0.975	-0.22	19.00	0.050	-26.02	47.00	0.040	-27.96	74.50	0.030	-30.46
0.75	1.000	0.00	19.50	0.048	-26.38	47.50	0.020	-33.98	75.00	0.036	-28.87
1.00	0.957	-0.38	20.00	0.070	-23.10	48.00	0.006	-44.44	75.50	0.041	-27.74
1.25	0.849	-1.42	20.50	0.146	-16.71	48.50	0.001	-60.00	76.00	0.043	-27.33
1.50	0.690	-3.22	21.00	0.221	-13.11	49.00	0.003	-50.46	76.50	0.043	-27.33
1.75	0.501	-6.00	21.50	0.253	-11.94	49.50	0.009	-40.92	77.00	0.041	-27.74
2.00	0.312	-10.12	22.00	0.225	-12.96	50.00	0.014	-37.08	77.50	0.038	-28.40
2.25	0.174	-15.19	22.50	0.149	-16.54	50.50	0.014	-37.08	78.00	0.034	-29.37
2.50	0.178	-14.99	23.00	0.062	-24.15	51.00	0.009	-40.92	78.50	0.029	-30.75
2.75	0.252	-11.97	23.50	0.046	-26.74	51.50	0.007	-43.10	79.00	0.024	-32.40
3.00	0.298	-10.52	24.00	0.070	-23.10	52.00	0.017	-35.39	79.50	0.019	-34.42
3.25	0.296	-10.57	24.50	0.058	-24.73	52.50	0.026	-31.70	80.00	0.014	-37.08
3.50	0.251	-12.01	25.00	0.026	-31.70	53.00	0.028	-31.06	80.50	0.010	-40.00
3.75	0.175	-15.14	25.50	0.020	-33.98	53.50	0.024	-32.40	81.00	0.006	-44.44
4.00	0.094	-20.54	26.00	0.034	-29.37	54.00	0.012	-38.42	81.50	0.004	-47.96
4.25	0.075	-22.50	26.50	0.029	-30.75	54.50	0.007	-43.10	82.00	0.003	-50.46
4.50	0.128	-17.86	27.00	0.011	-39.17	55.00	0.023	-32.77	82.50	0.005	-46.02
4.75	0.172	-15.29	27.50	0.008	-41.94	55.50	0.035	-29.12	83.00	0.006	-44.44
5.00	0.186	-14.61	28.00	0.015	-36.48	56.00	0.039	-28.18	83.50	0.008	-41.94
5.25	0.168	-15.49	28.50	0.011	-39.17	56.50	0.034	-29.37	84.00	0.008	-41.94
5.50	0.123	-18.20	29.00	0.003	-50.46	57.00	0.020	-33.98	84.50	0.009	-40.92
5.75	0.062	-24.15	29.50	0.002	-53.98	57.50	0.010	-40.00	85.00	0.009	-40.92
6.00	0.022	-33.15	30.00	0.001	-60.00	58.00	0.027	-31.37	85.50	0.009	-40.92
6.25	0.072	-22.85	30.50	0.004	-47.96	58.50	0.045	-26.94	86.00	0.008	-41.94
6.50	0.114	-18.86	31.00	0.008	-41.94	59.00	0.055	-25.19	86.50	0.008	-41.94
6.75	0.132	-17.59	31.50	0.023	-32.77	59.50	0.056	-25.04	87.00	0.007	-43.10
7.00	0.125	-18.06	32.00	0.052	-25.68	60.00	0.052	-25.68	87.50	0.006	-44.44
7.25	0.096	-20.35	32.50	0.085	-21.41	60.50	0.058	-24.73	88.00	0.005	-46.02
7.50	0.053	-25.51	33.00	0.108	-19.33	61.00	0.086	-21.31	88.50	0.004	-47.96
7.75	0.027	-31.37	33.50	0.110	-19.17	61.50	0.129	-17.79	89.00	0.002	-53.98
8.00	0.063	-24.01	34.00	0.087	-21.21	62.00	0.177	-15.04	89.50	0.001	-60.00
8.25	0.097	-20.26	34.50	0.047	-26.56	62.50	0.221	-13.11	90.00	0.000	---
8.50	0.114	-18.86	35.00	0.027	-31.37	63.00	0.255	-11.87			
8.75	0.112	-19.02	35.50	0.049	-26.20	63.50	0.277	-11.15			

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