PRELIMINARY SPECIFICATION FOR ERI SAGITA™ HORIZONTALLY POLARIZED COAXIAL SLOTTED ARRAY ANTENNA

Prepared For
KMCT
701 PARKWOOD DRIVE
WEST MONROE, LA
June 24, 2006

ANTENNA TYPE:
AL8-38

SPECIFICATION NO:

PRELIMINARY SPECIFICATION FOR ERI SAGITA™ HORIZONTALLY POLARIZED COAXIAL SLOTTED ARRAY ANTENNA

ELECTRICAL CHARACTERISTICS:

CHANNEL:	*38*	
FREQUENCY RANGE:	*614.00 - 620.00 MHz*	
AZIMUTH PATTERN NUMBER:	*Hor Pol:*	*AL8-OC*
ELEVATION PATTERN NUMBER:	*Hor Pol:*	*AL8*
AZIMUTH DIRECTIVITY:	*Hor Pol:*	*1.62 (2.10 dB)*
ELEVATION DIRECTIVITY:	*Hor Pol:*	*8.68 (9.39 dBd)*
PEAK POWER GAIN:	*Hor Pol:*	*14.06 (11.48 dBd)*
GAIN AT HORIZONTAL:	*Hor Pol:*	*11.82 (10.73 dBd)*
ELECTRICAL BEAM TILT:	*-1.75 Degrees*	
INPUT POWER REQUIRED:	*0.996 kW Average Power, 8VSB Digital*	
MAXIMUM INPUT POWER:	*2.00 kW Average Power*	
INPUT TYPE:	*7/8" EIA*	
ANTENNA VSWR (MAXIMUM):	*DTV: 1.10 Over 6 MHz of Channel*	

PRELIMINARY SPECIFICATION FOR ERI SAGITA™ HORIZONTALLY POLARIZED COAXIAL SLOTTED ARRAY ANTENNA

MECHANICAL CHARACTERISTICS:

*MOUNTING CONFIGURATION: *(Tower Interface supplied and installed by others.)*	*Side Mount*
HEIGHT OF ANTENNA:	*CONTACT ERI*
HEIGHT OF CENTER OF RADIATION:	*CONTACT ERI*
OVERALL HEIGHT (A):	*CONTACT ERI*
DEICING:	*Unpressurized Slot Cover Radome Enclosure*
RADOME DIAMETER (C):	*CONTACT ERI*
RADOME COLOR:	*GRAY*
CLIMBING DEVICE:	*NOT APPLICABLE*
CALCULATED WEIGHT[1]:	*CONTACT ERI*
ANTENNA AREA[3]:	*CONTACT ERI*

This antenna is designed to be supported by a structure that can resist the antenna base reactions and which provides a support that is rigid in the three transitional and three rotational degrees of freedom.

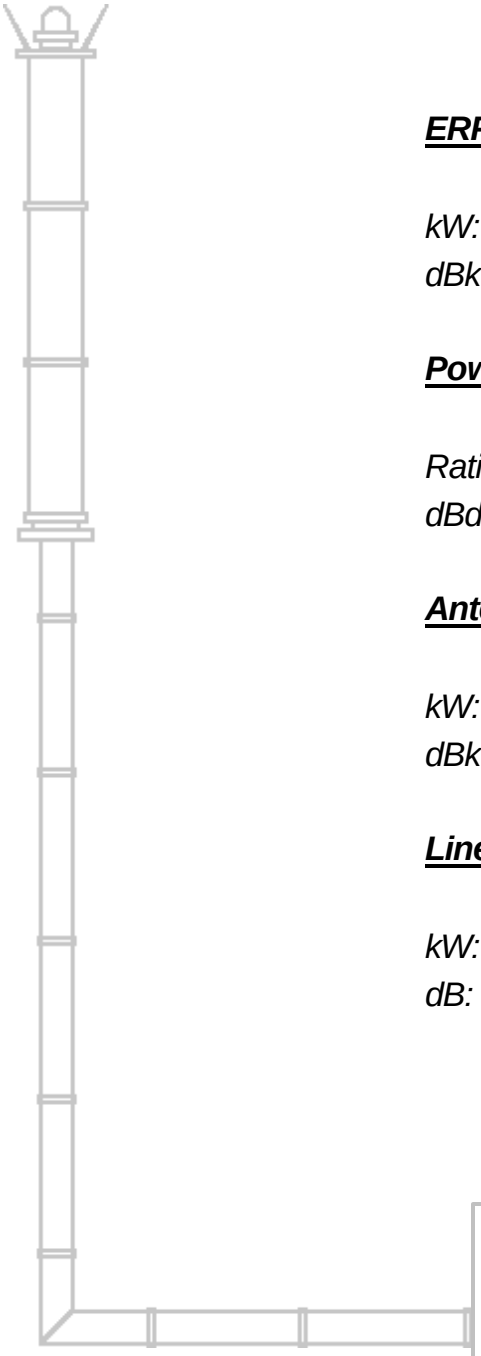
[1] Calculated weight is based on the PRELIMINARY design of the antenna. The actual weight of the antenna will be within ± 10% of the calculated weight. The actual weight will be given in the technical manual that accompanies the antenna.

[3] Antenna Area is calculated per EIA/TIA-RS222-F.

Note: Localized conditions may require higher wind speed specifications than TIA/EIA specifications. Check with local authorities to verify wind speed requirements.

Broadcast Antenna System
Power Analysis

Type: AL8-38



ERP: **Hor Pol:**

kW: 14.01
dBk: 11.46

Transmission Line:

Type:
LDF7-50A
1-5/8" Foam HELIAX
Vert. Length: 488 ft.
Horz. Length: 40 ft.
Attenuation:
0.573 dB/100 ft.
Efficiency: 49.82 %

Power Gain:

Ratio: 14.06
dBd: 11.48

Antenna Input:

kW: 1.00
dBk: -0.02

Line Loss:

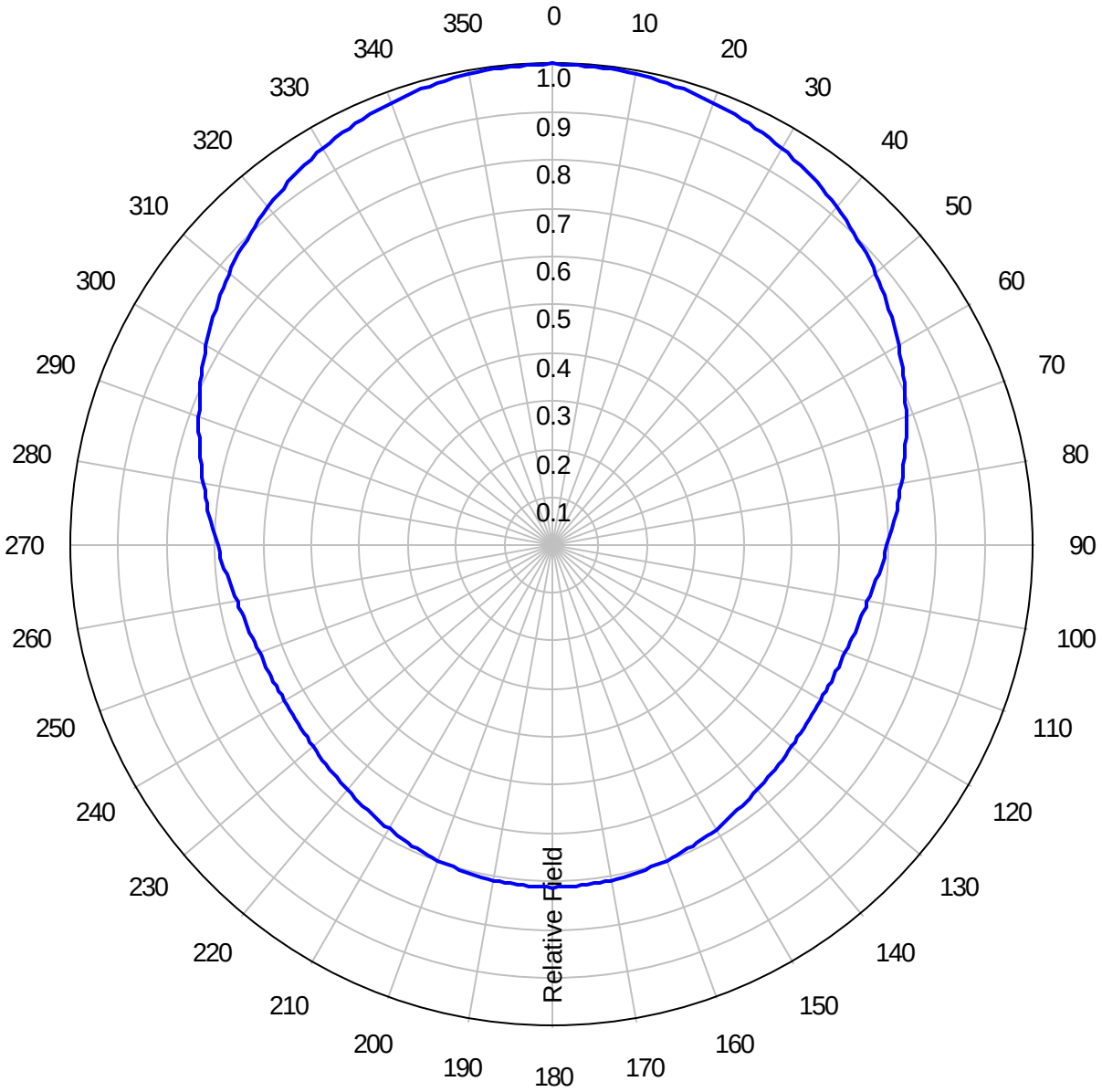
kW: 1.00
dB: 3.03

Transmitter Power

kW: 2.00
dBk: 3.01

AZIMUTH PATTERN

Type:	AL8-OC	
	Numeric	**dBd**
Directivity:	1.62	2.10
Peak(s) at:		
Polarization:	Horizontal	
Channel:	38	
Location:	WEST MONROE, LA	
Note:		



Electronics Research, Inc.
7777 Gardner Road
Chandler, Indiana U.S.A 47610

6.24.06

AZIMUTH TABULATED DATA

Type: AL8-OC

Polarization: Horizontal

Angle	Field	dB	Angle	Field	dB	Angle	Field	dB	Angle	Field	dB
0	1.000	0.00	92	0.688	-3.25	184	0.707	-3.01	276	0.718	-2.88
2	0.999	-0.01	94	0.682	-3.32	186	0.706	-3.02	278	0.726	-2.78
4	0.998	-0.02	96	0.675	-3.41	188	0.706	-3.02	280	0.734	-2.69
6	0.997	-0.03	98	0.669	-3.49	190	0.705	-3.04	282	0.743	-2.58
8	0.996	-0.03	100	0.663	-3.57	192	0.703	-3.06	284	0.753	-2.46
10	0.995	-0.04	102	0.660	-3.61	194	0.701	-3.09	286	0.762	-2.36
12	0.992	-0.07	104	0.656	-3.66	196	0.698	-3.12	288	0.771	-2.26
14	0.988	-0.10	106	0.653	-3.70	198	0.696	-3.15	290	0.781	-2.15
16	0.985	-0.13	108	0.649	-3.76	200	0.694	-3.17	292	0.790	-2.05
18	0.982	-0.16	110	0.645	-3.81	202	0.691	-3.21	294	0.800	-1.94
20	0.979	-0.18	112	0.644	-3.82	204	0.688	-3.25	296	0.810	-1.83
22	0.974	-0.23	114	0.643	-3.84	206	0.685	-3.29	298	0.820	-1.72
24	0.969	-0.27	116	0.643	-3.84	208	0.682	-3.32	300	0.829	-1.63
26	0.963	-0.33	118	0.642	-3.85	210	0.678	-3.38	302	0.839	-1.52
28	0.958	-0.37	120	0.641	-3.86	212	0.675	-3.41	304	0.848	-1.43
30	0.953	-0.42	122	0.642	-3.85	214	0.672	-3.45	306	0.858	-1.33
32	0.946	-0.48	124	0.643	-3.84	216	0.668	-3.50	308	0.867	-1.24
34	0.939	-0.55	126	0.645	-3.81	218	0.665	-3.54	310	0.876	-1.15
36	0.932	-0.61	128	0.646	-3.80	220	0.661	-3.60	312	0.885	-1.06
38	0.925	-0.68	130	0.647	-3.78	222	0.659	-3.62	314	0.893	-0.98
40	0.918	-0.74	132	0.650	-3.74	224	0.656	-3.66	316	0.901	-0.91
42	0.910	-0.82	134	0.653	-3.70	226	0.653	-3.70	318	0.910	-0.82
44	0.901	-0.91	136	0.656	-3.66	228	0.650	-3.74	320	0.918	-0.74
46	0.893	-0.98	138	0.659	-3.62	230	0.647	-3.78	322	0.925	-0.68
48	0.885	-1.06	140	0.661	-3.60	232	0.646	-3.80	324	0.932	-0.61
50	0.876	-1.15	142	0.665	-3.54	234	0.645	-3.81	326	0.939	-0.55
52	0.867	-1.24	144	0.668	-3.50	236	0.643	-3.84	328	0.946	-0.48
54	0.858	-1.33	146	0.672	-3.45	238	0.642	-3.85	330	0.953	-0.42
56	0.848	-1.43	148	0.675	-3.41	240	0.641	-3.86	332	0.958	-0.37
58	0.839	-1.52	150	0.679	-3.36	242	0.642	-3.85	334	0.963	-0.33
60	0.829	-1.63	152	0.682	-3.32	244	0.643	-3.84	336	0.969	-0.27
62	0.820	-1.72	154	0.685	-3.29	246	0.644	-3.82	338	0.974	-0.23
64	0.810	-1.83	156	0.688	-3.25	248	0.644	-3.82	340	0.979	-0.18
66	0.800	-1.94	158	0.691	-3.21	250	0.645	-3.81	342	0.982	-0.16
68	0.790	-2.05	160	0.694	-3.17	252	0.649	-3.76	344	0.985	-0.13
70	0.781	-2.15	162	0.696	-3.15	254	0.653	-3.70	346	0.988	-0.10
72	0.771	-2.26	164	0.698	-3.12	256	0.656	-3.66	348	0.992	-0.07
74	0.762	-2.36	166	0.701	-3.09	258	0.660	-3.61	350	0.995	-0.04
76	0.753	-2.46	168	0.703	-3.06	260	0.663	-3.57	352	0.996	-0.03
78	0.743	-2.58	170	0.705	-3.04	262	0.669	-3.49	354	0.997	-0.03
80	0.734	-2.69	172	0.706	-3.02	264	0.675	-3.41	356	0.998	-0.02
82	0.726	-2.78	174	0.706	-3.02	266	0.682	-3.32	358	0.999	-0.01
84	0.718	-2.88	176	0.707	-3.01	268	0.688	-3.25	360	1.000	0.00
86	0.710	-2.97	178	0.708	-3.00	270	0.694	-3.17			
88	0.702	-3.07	180	0.709	-2.99	272	0.702	-3.07			
90	0.694	-3.17	182	0.708	-3.00	274	0.710	-2.97			

AZIMUTH PATTERN
FCC FILING FORMAT

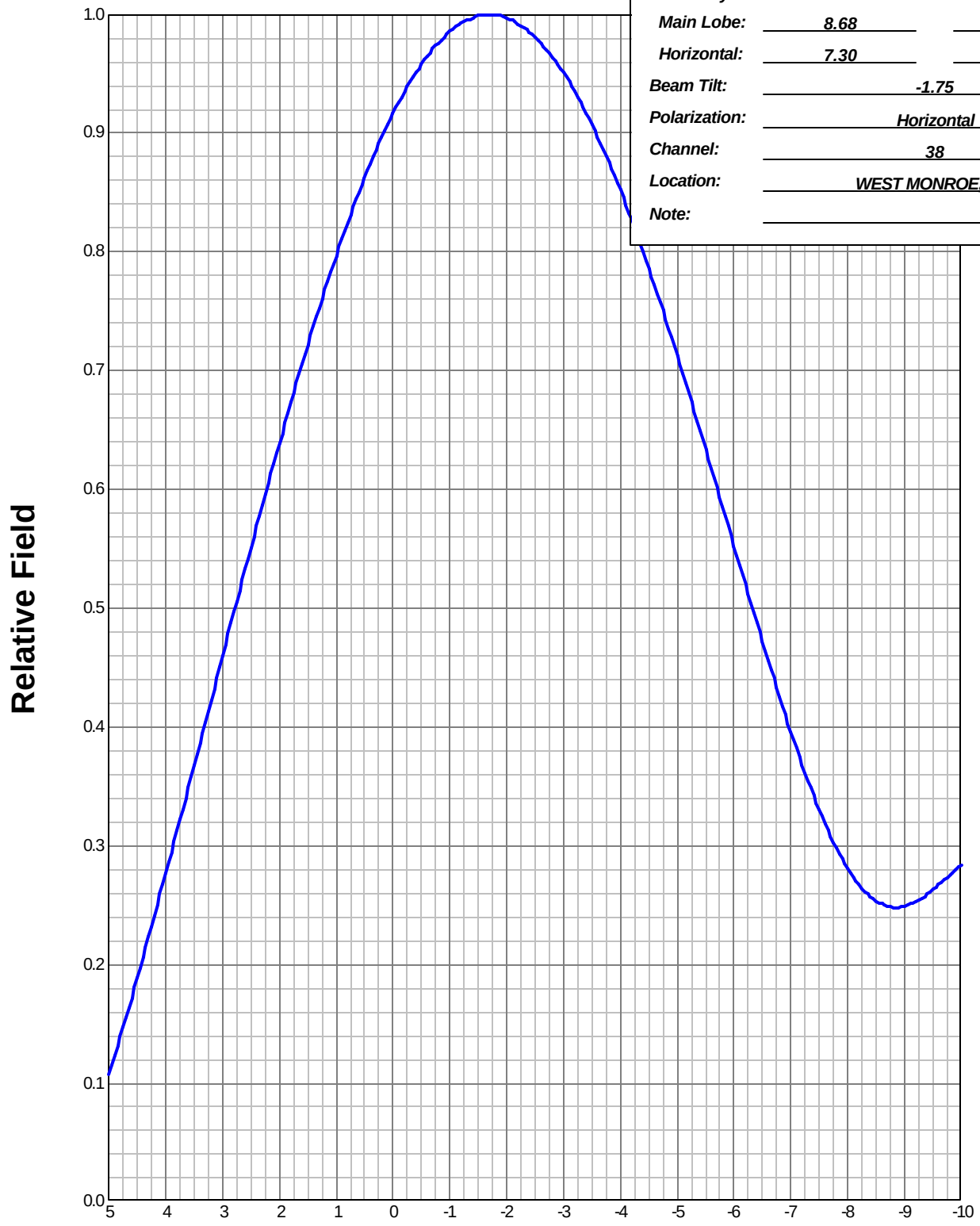
Type: AL8-OC

Polarization: Horizontal

Angle	Field	ERP (kW)	ERP (dBk)
0	1.000	14.011	11.465
10	0.995	13.871	11.421
20	0.979	13.429	11.280
30	0.953	12.725	11.047
40	0.918	11.807	10.722
50	0.876	10.752	10.315
60	0.829	9.629	9.836
70	0.781	8.546	9.318
80	0.734	7.548	8.779
90	0.694	6.748	8.292
100	0.663	6.159	7.895
110	0.645	5.829	7.656
120	0.641	5.757	7.602
130	0.647	5.865	7.683
140	0.661	6.122	7.869
150	0.679	6.460	8.102
160	0.694	6.748	8.292
170	0.705	6.964	8.428
180	0.709	7.043	8.478
190	0.705	6.964	8.428
200	0.694	6.748	8.292
210	0.678	6.441	8.089
220	0.661	6.122	7.869
230	0.647	5.865	7.683
240	0.641	5.757	7.602
250	0.645	5.829	7.656
260	0.663	6.159	7.895
270	0.694	6.748	8.292
280	0.734	7.548	8.779
290	0.781	8.546	9.318
300	0.829	9.629	9.836
310	0.876	10.752	10.315
320	0.918	11.807	10.722
330	0.953	12.725	11.047
340	0.979	13.429	11.280
350	0.995	13.871	11.421

ELEVATION PATTERN

Type:	AL8	
Directivity:	Numeric	dBd
Main Lobe:	8.68	9.39
Horizontal:	7.30	8.63
Beam Tilt:	-1.75	
Polarization:	Horizontal	
Channel:	38	
Location:	WEST MONROE, LA	
Note:		



Electronics Research, Inc.
7777 Gardner Road
Chandler, Indiana U.S.A 47610

6.24.06

ELEVATION TABULATED DATA

Type: AL8

Polarization: Horizontal

Angle	Field	dB	Angle	Field	dB	Angle	Field	dB	Angle	Field	dB
5.00	0.107	-19.41	**-6.50**	0.472	-6.52	**-42.00**	0.021	-33.56	**-88.00**	0.013	-37.72
4.75	0.147	-16.65	**-6.75**	0.433	-7.27	**-43.00**	0.012	-38.42	**-89.00**	0.007	-43.10
4.50	0.189	-14.47	**-7.00**	0.396	-8.05	**-44.00**	0.044	-27.13	**-90.00**	0.000	-40.00
4.25	0.232	-12.69	**-7.25**	0.361	-8.84	**-45.00**	0.073	-22.73			
4.00	0.277	-11.15	**-7.50**	0.330	-9.63	**-46.00**	0.097	-20.26			
3.75	0.322	-9.84	**-7.75**	0.303	-10.37	**-47.00**	0.115	-18.79			
3.50	0.368	-8.68	**-8.00**	0.281	-11.03	**-48.00**	0.125	-18.06			
3.25	0.413	-7.67	**-8.25**	0.264	-11.57	**-49.00**	0.127	-17.92			
3.00	0.460	-6.74	**-8.50**	0.253	-11.94	**-50.00**	0.122	-18.27			
2.75	0.506	-5.92	**-8.75**	0.248	-12.09	**-51.00**	0.110	-19.17			
2.50	0.551	-5.18	**-9.00**	0.249	-12.08	**-52.00**	0.092	-20.72			
2.25	0.596	-4.50	**-9.25**	0.255	-11.89	**-53.00**	0.071	-22.97			
2.00	0.639	-3.89	**-9.50**	0.263	-11.60	**-54.00**	0.047	-26.56			
1.75	0.681	-3.33	**-9.75**	0.273	-11.28	**-55.00**	0.022	-33.15			
1.50	0.722	-2.83	**-10.00**	0.284	-10.93	**-56.00**	0.007	-43.10			
1.25	0.760	-2.38	**-11.00**	0.325	-9.76	**-57.00**	0.027	-31.37			
1.00	0.797	-1.97	**-12.00**	0.340	-9.37	**-58.00**	0.047	-26.56			
0.75	0.831	-1.61	**-13.00**	0.321	-9.87	**-59.00**	0.064	-23.88			
0.50	0.862	-1.29	**-14.00**	0.273	-11.28	**-60.00**	0.077	-22.27			
0.25	0.891	-1.00	**-15.00**	0.208	-13.64	**-61.00**	0.086	-21.31			
0.00	0.917	-0.75	**-16.00**	0.145	-16.77	**-62.00**	0.091	-20.82			
-0.25	0.939	-0.55	**-17.00**	0.114	-18.86	**-63.00**	0.093	-20.63			
-0.50	0.958	-0.37	**-18.00**	0.130	-17.72	**-64.00**	0.092	-20.72			
-0.75	0.974	-0.23	**-19.00**	0.162	-15.81	**-65.00**	0.088	-21.11			
-1.00	0.986	-0.12	**-20.00**	0.180	-14.89	**-66.00**	0.082	-21.72			
-1.25	0.994	-0.05	**-21.00**	0.178	-14.99	**-67.00**	0.075	-22.50			
-1.50	0.999	-0.01	**-22.00**	0.156	-16.14	**-68.00**	0.068	-23.35			
-1.75	1.000	0.00	**-23.00**	0.117	-18.64	**-69.00**	0.060	-24.44			
-2.00	0.997	-0.03	**-24.00**	0.069	-23.22	**-70.00**	0.054	-25.35			
-2.25	0.990	-0.08	**-25.00**	0.033	-29.63	**-71.00**	0.049	-26.20			
-2.50	0.981	-0.17	**-26.00**	0.054	-25.35	**-72.00**	0.046	-26.74			
-2.75	0.967	-0.29	**-27.00**	0.089	-21.01	**-73.00**	0.046	-26.74			
-3.00	0.951	-0.44	**-28.00**	0.114	-18.86	**-74.00**	0.046	-26.74			
-3.25	0.931	-0.63	**-29.00**	0.124	-18.13	**-75.00**	0.048	-26.38			
-3.50	0.907	-0.85	**-30.00**	0.118	-18.56	**-76.00**	0.049	-26.20			
-3.75	0.881	-1.11	**-31.00**	0.098	-20.18	**-77.00**	0.051	-25.85			
-4.00	0.852	-1.39	**-32.00**	0.068	-23.35	**-78.00**	0.051	-25.85			
-4.25	0.820	-1.72	**-33.00**	0.032	-29.90	**-79.00**	0.051	-25.85			
-4.50	0.786	-2.09	**-34.00**	0.013	-37.72	**-80.00**	0.050	-26.02			
-4.75	0.750	-2.49	**-35.00**	0.043	-27.33	**-81.00**	0.048	-26.38			
-5.00	0.713	-2.94	**-36.00**	0.070	-23.10	**-82.00**	0.045	-26.94			
-5.25	0.674	-3.43	**-37.00**	0.087	-21.21	**-83.00**	0.041	-27.74			
-5.50	0.634	-3.96	**-38.00**	0.094	-20.54	**-84.00**	0.037	-28.64			
-5.75	0.593	-4.54	**-39.00**	0.089	-21.01	**-85.00**	0.032	-29.90			
-6.00	0.552	-5.16	**-40.00**	0.073	-22.73	**-86.00**	0.026	-31.70			
-6.25	0.512	-5.81	**-41.00**	0.050	-26.02	**-87.00**	0.020	-33.98			