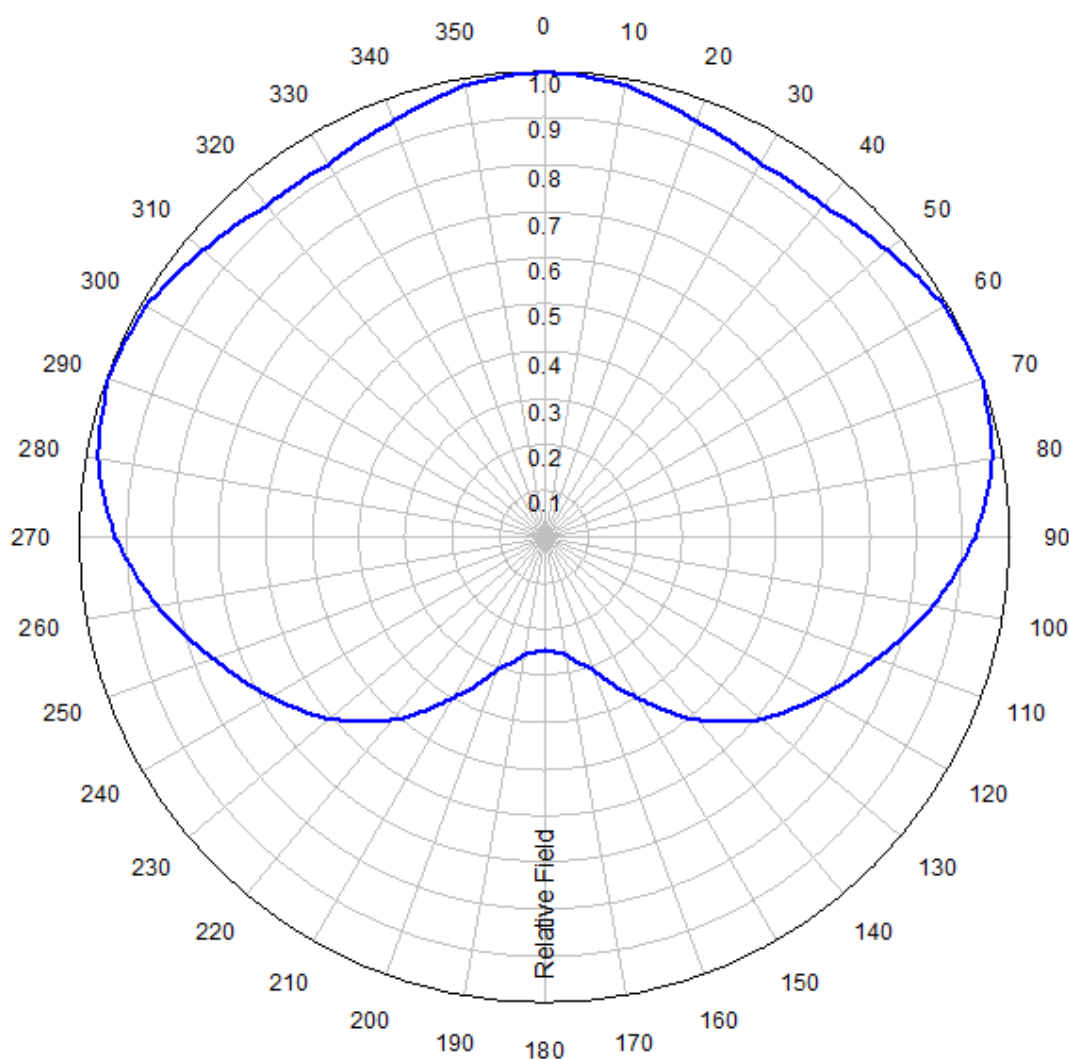


**AZIMUTH PATTERN**

Type: AL-W  
Directivity: Numeric dBd  
Peak(s) at: 1.57 1.96  
Rotate 30 Deg.

Channel: 36  
Location:   
Polarization: Horizontal  
Note: Pattern shape and directivity may vary with  
channel and mounting configuration.



Preliminary, subject to final design and review.

# TABULATED DATA FOR AZIMUTH PATTERN

Type: AL-W

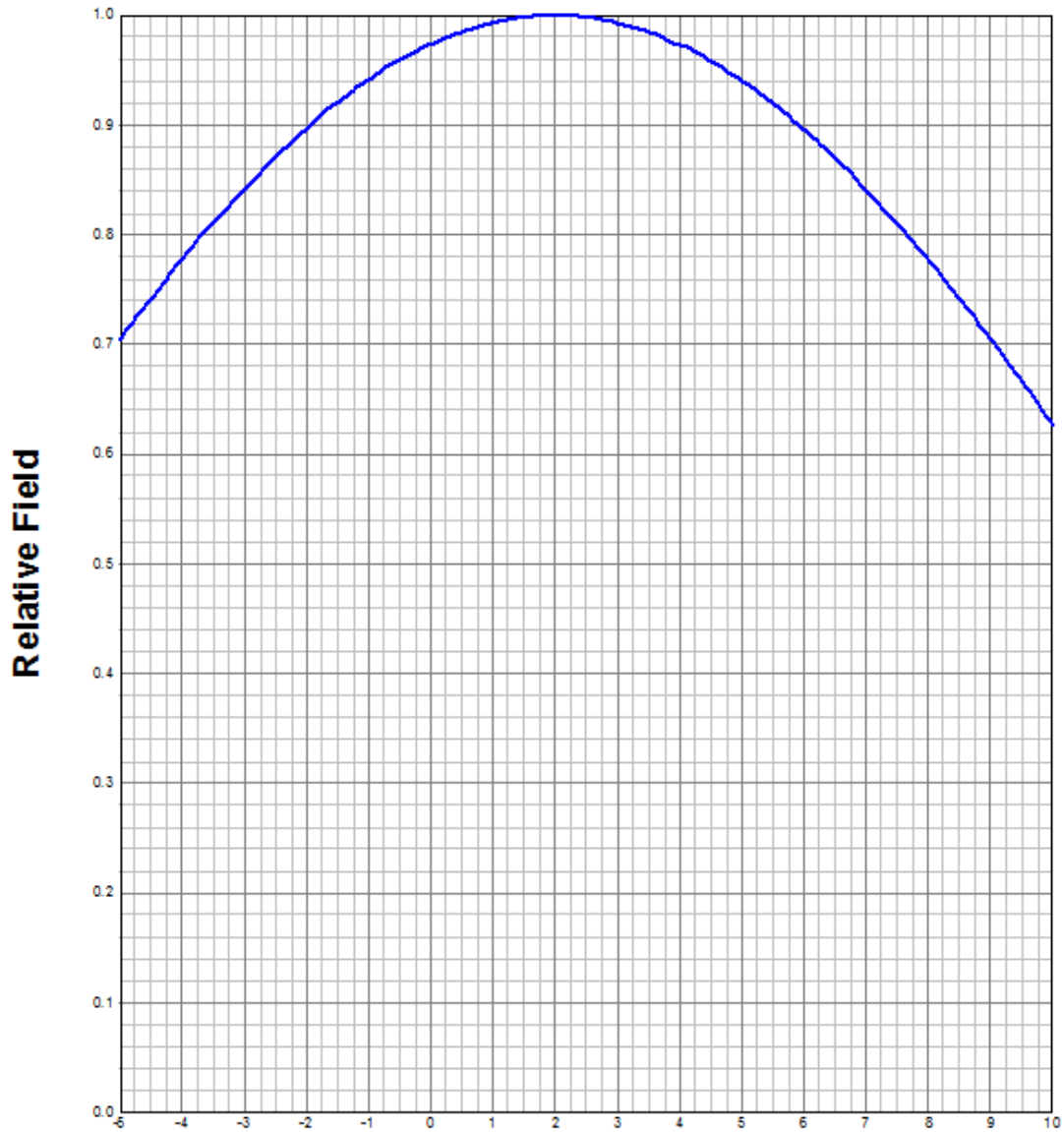
Polarization: Horizontal

ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB
0	1.000	0.00	92	0.907	-0.85	184	0.246	-12.18	276	0.954	-0.41
2	0.997	-0.03	94	0.891	-1.00	186	0.248	-12.11	278	0.964	-0.32
4	0.994	-0.05	96	0.876	-1.15	188	0.251	-12.01	280	0.975	-0.22
6	0.991	-0.08	98	0.860	-1.31	190	0.253	-11.94	282	0.979	-0.18
8	0.988	-0.10	100	0.845	-1.46	192	0.263	-11.60	284	0.984	-0.14
10	0.985	-0.13	102	0.828	-1.64	194	0.273	-11.28	286	0.988	-0.10
12	0.978	-0.19	104	0.810	-1.83	196	0.282	-11.00	288	0.993	-0.06
14	0.971	-0.26	106	0.793	-2.01	198	0.292	-10.69	290	0.997	-0.03
16	0.965	-0.31	108	0.775	-2.21	200	0.302	-10.40	292	0.996	-0.03
18	0.958	-0.37	110	0.758	-2.41	202	0.321	-9.87	294	0.994	-0.05
20	0.951	-0.44	112	0.742	-2.59	204	0.340	-9.37	296	0.993	-0.06
22	0.946	-0.48	114	0.727	-2.77	206	0.359	-8.90	298	0.991	-0.08
24	0.941	-0.53	116	0.711	-2.96	208	0.378	-8.45	300	0.990	-0.09
26	0.935	-0.58	118	0.696	-3.15	210	0.397	-8.02	302	0.984	-0.14
28	0.930	-0.63	120	0.680	-3.35	212	0.420	-7.54	304	0.978	-0.19
30	0.925	-0.68	122	0.665	-3.54	214	0.442	-7.09	306	0.971	-0.26
32	0.926	-0.67	124	0.650	-3.74	216	0.465	-6.65	308	0.965	-0.31
34	0.927	-0.66	126	0.635	-3.94	218	0.487	-6.25	310	0.959	-0.36
36	0.927	-0.66	128	0.620	-4.15	220	0.510	-5.85	312	0.953	-0.42
38	0.928	-0.65	130	0.605	-4.36	222	0.529	-5.53	314	0.947	-0.47
40	0.929	-0.64	132	0.586	-4.64	224	0.548	-5.22	316	0.941	-0.53
42	0.935	-0.58	134	0.567	-4.93	226	0.567	-4.93	318	0.935	-0.58
44	0.941	-0.53	136	0.548	-5.22	228	0.586	-4.64	320	0.929	-0.64
46	0.947	-0.47	138	0.529	-5.53	230	0.605	-4.36	322	0.928	-0.65
48	0.953	-0.42	140	0.510	-5.85	232	0.620	-4.15	324	0.927	-0.66
50	0.959	-0.36	142	0.487	-6.25	234	0.635	-3.94	326	0.927	-0.66
52	0.965	-0.31	144	0.465	-6.65	236	0.650	-3.74	328	0.926	-0.67
54	0.971	-0.26	146	0.442	-7.09	238	0.665	-3.54	330	0.925	-0.68
56	0.978	-0.19	148	0.420	-7.54	240	0.680	-3.35	332	0.930	-0.63
58	0.984	-0.14	150	0.397	-8.02	242	0.696	-3.15	334	0.935	-0.58
60	0.990	-0.09	152	0.378	-8.45	244	0.711	-2.96	336	0.941	-0.53
62	0.991	-0.08	154	0.359	-8.90	246	0.727	-2.77	338	0.946	-0.48
64	0.993	-0.06	156	0.340	-9.37	248	0.742	-2.59	340	0.951	-0.44
66	0.994	-0.05	158	0.321	-9.87	250	0.758	-2.41	342	0.958	-0.37
68	0.996	-0.03	160	0.302	-10.40	252	0.775	-2.21	344	0.965	-0.31
70	0.997	-0.03	162	0.292	-10.69	254	0.793	-2.01	346	0.971	-0.26
72	0.993	-0.06	164	0.282	-11.00	256	0.810	-1.83	348	0.978	-0.19
74	0.988	-0.10	166	0.273	-11.28	258	0.828	-1.64	350	0.985	-0.13
76	0.984	-0.14	168	0.263	-11.60	260	0.845	-1.46	352	0.988	-0.10
78	0.979	-0.18	170	0.253	-11.94	262	0.860	-1.31	354	0.991	-0.08
80	0.975	-0.22	172	0.251	-12.01	264	0.876	-1.15	356	0.994	-0.05
82	0.964	-0.32	174	0.248	-12.11	266	0.891	-1.00	358	0.997	-0.03
84	0.954	-0.41	176	0.246	-12.18	268	0.907	-0.85	360	1.000	0.00
86	0.943	-0.51	178	0.243	-12.29	270	0.922	-0.71			
88	0.933	-0.60	180	0.241	-12.36	272	0.933	-0.60			
90	0.922	-0.71	182	0.243	-12.29	274	0.943	-0.51			

Preliminary, subject to final design and review.

**ELEVATION PATTERN**

Type:	AL4		Channel:	36
Directivity:	Numeric:	dBd	Location:	
Main Lobe:	4.10	6.13	Beam Tilt:	2.00
Horizontal:	3.89	5.90	Polarization:	Horizontal



Preliminary, subject to final design and review.

# TABULATED DATA FOR ELEVATION PATTERN

Type: AL4

Polarization: Horizontal

ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB
-5.00	0.705	-3.04	6.75	0.856	-1.35	27.00	0.254	-11.90	50.50	0.150	-16.48	74.00	0.133	-17.52
-4.75	0.724	-2.81	7.00	0.841	-1.50	27.50	0.245	-12.22	51.00	0.145	-16.77	74.50	0.131	-17.65
-4.50	0.742	-2.59	7.25	0.826	-1.66	28.00	0.236	-12.54	51.50	0.140	-17.08	75.00	0.128	-17.86
-4.25	0.760	-2.38	7.50	0.810	-1.83	28.50	0.224	-13.00	52.00	0.135	-17.39	75.50	0.126	-17.99
-4.00	0.778	-2.18	7.75	0.794	-2.00	29.00	0.212	-13.47	52.50	0.130	-17.72	76.00	0.123	-18.20
-3.75	0.795	-1.99	8.00	0.777	-2.19	29.50	0.199	-14.02	53.00	0.125	-18.06	76.50	0.120	-18.42
-3.50	0.811	-1.82	8.25	0.760	-2.39	30.00	0.184	-14.70	53.50	0.120	-18.42	77.00	0.117	-18.64
-3.25	0.827	-1.65	8.50	0.742	-2.59	30.50	0.169	-15.44	54.00	0.116	-18.71	77.50	0.114	-18.86
-3.00	0.842	-1.49	8.75	0.724	-2.81	31.00	0.153	-16.31	54.50	0.112	-19.02	78.00	0.111	-19.09
-2.75	0.857	-1.34	9.00	0.705	-3.04	31.50	0.137	-17.27	55.00	0.108	-19.33	78.50	0.107	-19.41
-2.50	0.871	-1.20	9.25	0.686	-3.27	32.00	0.120	-18.42	55.50	0.105	-19.58	79.00	0.103	-19.74
-2.25	0.885	-1.07	9.50	0.667	-3.52	32.50	0.103	-19.74	56.00	0.102	-19.83	79.50	0.100	-20.00
-2.00	0.897	-0.94	9.75	0.647	-3.78	33.00	0.086	-21.31	56.50	0.100	-20.00	80.00	0.096	-20.35
-1.75	0.909	-0.82	10.00	0.627	-4.05	33.50	0.069	-23.22	57.00	0.099	-20.09	80.50	0.092	-20.72
-1.50	0.921	-0.71	10.50	0.587	-4.63	34.00	0.051	-25.85	57.50	0.098	-20.18	81.00	0.087	-21.21
-1.25	0.932	-0.61	11.00	0.546	-5.26	34.50	0.035	-29.12	58.00	0.098	-20.18	81.50	0.083	-21.62
-1.00	0.942	-0.52	11.50	0.504	-5.95	35.00	0.019	-34.42	58.50	0.099	-20.09	82.00	0.079	-22.05
-0.75	0.951	-0.44	12.00	0.462	-6.71	35.50	0.009	-40.92	59.00	0.100	-20.00	82.50	0.074	-22.62
-0.50	0.959	-0.36	12.50	0.421	-7.51	36.00	0.019	-34.42	59.50	0.101	-19.91	83.00	0.070	-23.10
-0.25	0.966	-0.30	13.00	0.379	-8.43	36.50	0.033	-29.63	60.00	0.103	-19.74	83.50	0.065	-23.74
0.00	0.974	-0.23	13.50	0.339	-9.40	37.00	0.048	-26.38	60.50	0.105	-19.58	84.00	0.060	-24.44
0.25	0.980	-0.18	14.00	0.300	-10.46	37.50	0.062	-24.15	61.00	0.108	-19.33	84.50	0.055	-25.19
0.50	0.985	-0.13	14.50	0.263	-11.60	38.00	0.076	-22.38	61.50	0.110	-19.17	85.00	0.051	-25.85
0.75	0.990	-0.09	15.00	0.227	-12.88	38.50	0.089	-21.01	62.00	0.113	-18.94	85.50	0.046	-26.74
1.00	0.994	-0.05	15.50	0.196	-14.15	39.00	0.101	-19.91	62.50	0.116	-18.71	86.00	0.041	-27.74
1.25	0.996	-0.03	16.00	0.168	-15.49	39.50	0.112	-19.02	63.00	0.119	-18.49	86.50	0.036	-28.87
1.50	0.998	-0.02	16.50	0.146	-16.71	40.00	0.123	-18.20	63.50	0.122	-18.27	87.00	0.031	-30.17
1.75	1.000	0.00	17.00	0.132	-17.59	40.50	0.132	-17.59	64.00	0.124	-18.13	87.50	0.026	-31.70
2.00	1.000	0.00	17.50	0.127	-17.92	41.00	0.141	-17.02	64.50	0.127	-17.92	88.00	0.021	-33.56
2.25	1.000	0.00	18.00	0.130	-17.72	41.50	0.149	-16.54	65.00	0.129	-17.79	88.50	0.015	-36.48
2.50	0.998	-0.02	18.50	0.139	-17.14	42.00	0.155	-16.19	65.50	0.132	-17.59	89.00	0.010	-40.00
2.75	0.996	-0.03	19.00	0.153	-16.31	42.50	0.161	-15.86	66.00	0.134	-17.46	89.50	0.005	-46.02
3.00	0.993	-0.06	19.50	0.169	-15.44	43.00	0.166	-15.60	66.50	0.135	-17.39	90.00	0.000	-40.00
3.25	0.989	-0.10	20.00	0.185	-14.66	43.50	0.170	-15.39	67.00	0.137	-17.27			
3.50	0.985	-0.13	20.50	0.201	-13.94	44.00	0.173	-15.24	67.50	0.138	-17.20			
3.75	0.979	-0.18	21.00	0.216	-13.31	44.50	0.176	-15.09	68.00	0.139	-17.14			
4.00	0.973	-0.24	21.50	0.229	-12.80	45.00	0.177	-15.04	68.50	0.140	-17.08			
4.25	0.966	-0.30	22.00	0.241	-12.36	45.50	0.178	-14.99	69.00	0.141	-17.02			
4.50	0.958	-0.37	22.50	0.251	-12.01	46.00	0.178	-14.99	69.50	0.141	-17.02			
4.75	0.950	-0.45	23.00	0.259	-11.73	46.50	0.177	-15.04	70.00	0.141	-17.02			
5.00	0.941	-0.53	23.50	0.265	-11.54	47.00	0.175	-15.14	70.50	0.141	-17.02			
5.25	0.931	-0.62	24.00	0.269	-11.40	47.50	0.173	-15.24	71.00	0.140	-17.08			
5.50	0.920	-0.72	24.50	0.271	-11.34	48.00	0.170	-15.39	71.50	0.140	-17.08			
5.75	0.909	-0.83	25.00	0.271	-11.34	48.50	0.167	-15.55	72.00	0.139	-17.14			
6.00	0.896	-0.95	25.50	0.270	-11.37	49.00	0.163	-15.76	72.50	0.138	-17.20			
6.25	0.883	-1.08	26.00	0.266	-11.50	49.50	0.159	-15.97	73.00	0.136	-17.33			
6.50	0.870	-1.21	26.50	0.261	-11.67	50.00	0.155	-16.19	73.50	0.135	-17.39			

Preliminary, subject to final design and review.

N. Lat. = 43-4443.0 W. Lng. = 103-28-52.0  
 HAAT and Distance to Contour,  
 FCC OET,TV 3.2 - 16.1, 130 pts - FCC 30 Meter

K39LT-D, South Dakota Board Of Directors, 0000005029

Azi.	AV EL	HAAT	ERP kw	dBk	Field	DAng	VFl d	D-kw	%Max	D-dBk	51-F9
000	1614.8	306.2	0.6850	-1.64	0.397	0.485	0.980	0.6578	98.0	-1.64	39.03
010	1552.9	368.1	0.3964	-4.02	0.302	0.531	0.981	0.3817	98.1	-4.02	38.47
020	1561.0	360.0	0.2782	-5.56	0.253	0.526	0.981	0.2677	98.1	-5.56	36.03
030	1478.2	442.8	0.2524	-5.98	0.241	0.583	0.983	0.2441	98.3	-5.98	37.83
040	1465.6	455.4	0.2782	-5.56	0.253	0.591	0.984	0.2692	98.4	-5.56	38.75
050	1402.5	518.5	0.3964	-4.02	0.302	0.631	0.985	0.3847	98.5	-4.02	42.93
060	1377.1	543.9	0.6850	-1.64	0.397	0.646	0.986	0.6657	98.6	-1.64	46.93
070	1320.0	601.0	1.1304	0.53	0.510	0.679	0.987	1.1016	98.7	0.53	50.95
080	1299.1	621.9	1.5907	2.02	0.605	0.691	0.988	1.5516	98.8	2.02	53.41
090	1297.4	623.6	2.0096	3.03	0.680	0.692	0.988	1.9603	98.8	3.03	54.93
100	1286.4	634.6	2.4971	3.97	0.758	0.698	0.988	2.4371	98.8	3.97	56.53
110	1263.5	657.5	3.1032	4.92	0.845	0.710	0.988	3.0316	98.8	4.92	58.40
120	1306.4	614.6	3.6945	5.68	0.922	0.687	0.987	3.6025	98.7	5.68	58.66
130	1322.6	598.4	4.1314	6.16	0.975	0.678	0.987	4.0256	98.7	6.16	59.03
140	1325.0	596.0	4.3200	6.35	0.997	0.676	0.987	4.2088	98.7	6.35	59.26
150	1374.4	546.6	4.2595	6.29	0.990	0.648	0.986	4.1403	98.6	6.29	58.04
160	1388.5	532.5	3.9969	6.02	0.959	0.639	0.986	3.8824	98.6	6.02	57.30
170	1414.7	506.3	3.7508	5.74	0.929	0.623	0.985	3.6386	98.5	5.74	56.17
180	1448.5	472.5	3.7185	5.70	0.925	0.602	0.984	3.6011	98.4	5.70	55.01
190	1499.9	421.1	3.9305	5.94	0.951	0.568	0.983	3.7960	98.3	5.94	53.66
200	1562.3	358.7	4.2166	6.25	0.985	0.525	0.981	4.0578	98.1	6.25	51.70
210	1608.1	312.9	4.3460	6.38	1.000	0.490	0.980	4.1739	98.0	6.38	49.46
220	1660.4	260.6	4.2166	6.25	0.985	0.447	0.980	4.0496	98.0	6.25	46.56
230	1653.9	267.1	3.9305	5.94	0.951	0.453	0.980	3.7749	98.0	5.94	46.52
240	1656.6	264.4	3.7185	5.70	0.925	0.450	0.980	3.5713	98.0	5.70	46.09
250	1640.4	280.6	3.7508	5.74	0.929	0.464	0.980	3.6022	98.0	5.74	46.94
260	1648.8	272.2	3.9969	6.02	0.959	0.457	0.980	3.8387	98.0	6.02	46.86
270	1657.5	263.5	4.2595	6.29	0.990	0.450	0.980	4.0908	98.0	6.29	46.76
280	1674.0	247.0	4.3200	6.35	0.997	0.435	0.980	4.1489	98.0	6.35	46.00
290	1672.8	248.2	4.1314	6.16	0.975	0.436	0.980	3.9678	98.0	6.16	45.83
300	1687.4	233.6	3.6945	5.68	0.922	0.423	0.980	3.5482	98.0	5.68	44.49
310	1691.7	229.3	3.1032	4.92	0.845	0.419	0.980	2.9803	98.0	4.92	43.36
320	1741.5	179.5	2.4971	3.97	0.758	0.371	0.980	2.3982	98.0	3.97	39.51
330	1725.7	195.3	2.0096	3.03	0.680	0.387	0.980	1.9300	98.0	3.03	39.26
340	1773.1	147.9	1.5907	2.02	0.605	0.337	0.980	1.5278	98.0	2.02	35.21
350	1750.2	170.8	1.1304	0.53	0.510	0.362	0.980	1.0856	98.0	0.53	34.86

Ave El= 1522.30 M HAAT= 398.70 M AMSL= 1921 M