

## ANTENNA SPECIFICATION SUMMARY

CALL SIGN	KCFG-DT
CHANNEL	32
LOCATION	Flagstaff, AZ
ANTENNA TYPE	ATW27H3-HSS-32H

### **ELECTRICAL PARAMETERS**

AZIMUTH DIRECTIVITY	1.90 (2.79 dBd)
ELEVATION DIRECTIVITY	27.00 (14.31 dBd)
INPUT SIZE	6 1/8-50 Ohm
INPUT POWER MAXIMUM	30 kW Average, 8VSB Digital
ANTENNA VSWR	1.10 Over 6MHz Channel

TRANSMISSION LINE TYPE	MACX650
LENGTH	130 feet (80 ft Vertical ; 50 ft Horizontal)
EFFICIENCY	96.44%

### **POWER ANALYSIS**

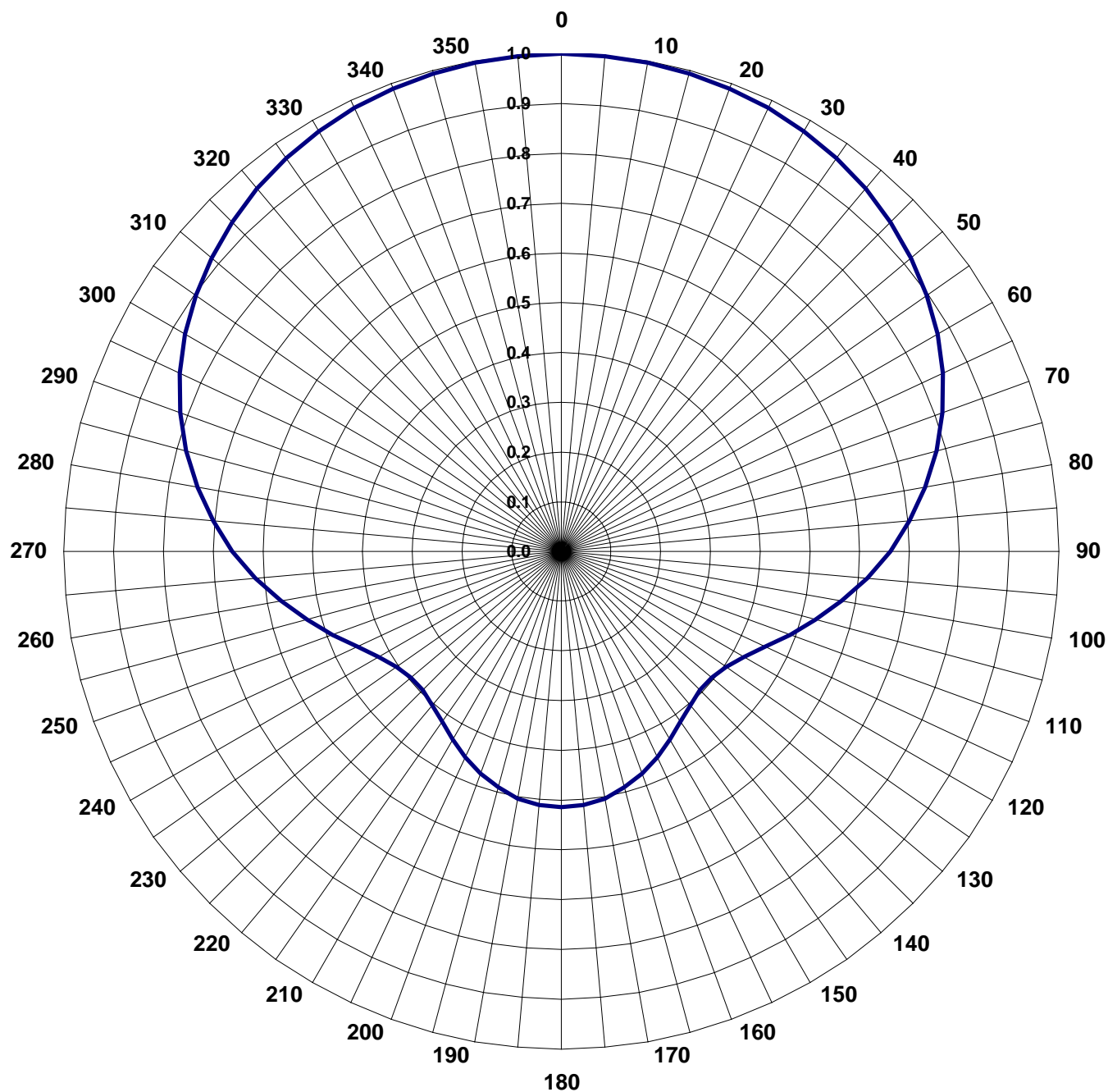
EFFECTIVE RADIATED POWER	1000kW (30dBk)
ANTENNA GAIN	51.30 (17.10 dBd)
ANTENNA INPUT POWER	19.49kW (12.90dBk)
LINE LOSS	0.72kW (0.16dB)
TRANSMITTER OUTPUT POWER	20.21kW (13.06dBk)

### **MECHANICAL PARAMETERS**

LENGTH	50.97 feet
RADOME, OD	12.4 in.
WEIGHT	1510.0 lbs
CaAa (EIA-TIA-222F)	70.4 sq.ft.

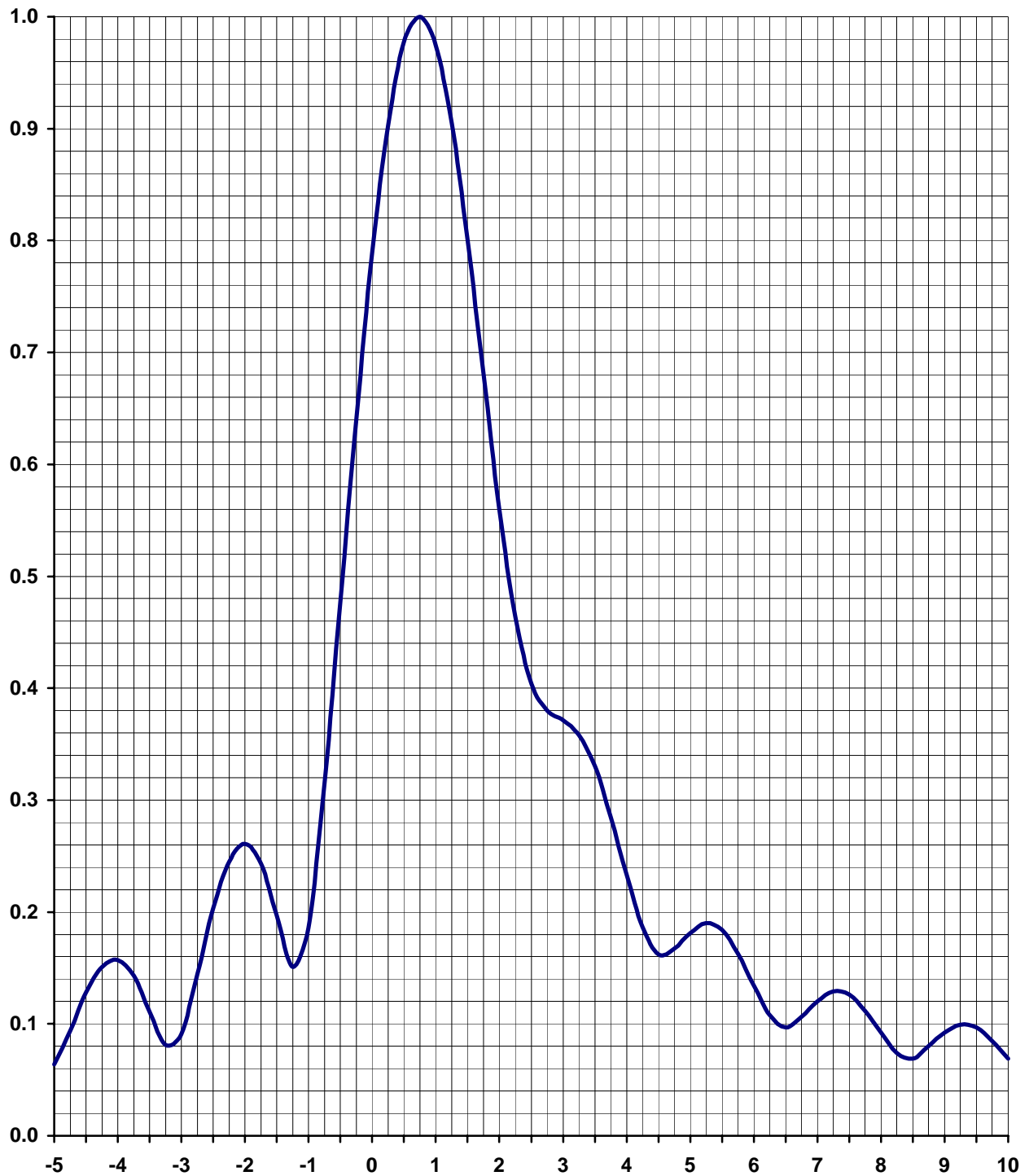
**AZIMUTH PATTERN****TYPE:****ATW-S****Frequency:****32 (DTV)****Numeric****dB****Location:****Flagstaff, AZ****Directivity:****1.90****2.79****Polarization:****Horizontal****Peak(s) at:**

Note: Pattern shape and directivity may vary with  
channel and mounting configuration.



**TABULATED DATA FOR AZIMUTH PATTERN****TYPE: ATW-S**

ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB
0	1.000	0.00	92	0.643	-3.84	184	0.513	-5.80	276	0.711	-2.96
2	1.000	0.00	94	0.626	-4.07	186	0.511	-5.83	278	0.727	-2.77
4	1.000	0.00	96	0.608	-4.32	188	0.508	-5.88	280	0.743	-2.58
6	0.999	-0.01	98	0.590	-4.58	190	0.504	-5.95	282	0.759	-2.40
8	0.998	-0.02	100	0.572	-4.85	192	0.499	-6.04	284	0.773	-2.24
10	0.997	-0.03	102	0.555	-5.11	194	0.494	-6.13	286	0.788	-2.07
12	0.996	-0.03	104	0.538	-5.38	196	0.488	-6.23	288	0.801	-1.93
14	0.995	-0.04	106	0.521	-5.66	198	0.482	-6.34	290	0.815	-1.78
16	0.993	-0.06	108	0.504	-5.95	200	0.475	-6.47	292	0.828	-1.64
18	0.991	-0.08	110	0.489	-6.21	202	0.468	-6.60	294	0.840	-1.51
20	0.989	-0.10	112	0.474	-6.48	204	0.460	-6.74	296	0.851	-1.40
22	0.987	-0.11	114	0.459	-6.76	206	0.452	-6.90	298	0.863	-1.28
24	0.984	-0.14	116	0.446	-7.01	208	0.444	-7.05	300	0.873	-1.18
26	0.981	-0.17	118	0.435	-7.23	210	0.436	-7.21	302	0.883	-1.08
28	0.978	-0.19	120	0.424	-7.45	212	0.429	-7.35	304	0.893	-0.98
30	0.975	-0.22	122	0.415	-7.64	214	0.421	-7.51	306	0.902	-0.90
32	0.971	-0.26	124	0.407	-7.81	216	0.414	-7.66	308	0.910	-0.82
34	0.966	-0.30	126	0.401	-7.94	218	0.408	-7.79	310	0.918	-0.74
36	0.962	-0.34	128	0.397	-8.02	220	0.403	-7.89	312	0.926	-0.67
38	0.957	-0.38	130	0.394	-8.09	222	0.398	-8.00	314	0.933	-0.60
40	0.952	-0.43	132	0.393	-8.11	224	0.395	-8.07	316	0.940	-0.54
42	0.946	-0.48	134	0.393	-8.11	226	0.393	-8.11	318	0.946	-0.48
44	0.940	-0.54	136	0.395	-8.07	228	0.393	-8.11	320	0.952	-0.43
46	0.933	-0.60	138	0.398	-8.00	230	0.394	-8.09	322	0.957	-0.38
48	0.926	-0.67	140	0.403	-7.89	232	0.397	-8.02	324	0.962	-0.34
50	0.918	-0.74	142	0.408	-7.79	234	0.401	-7.94	326	0.966	-0.30
52	0.910	-0.82	144	0.414	-7.66	236	0.407	-7.81	328	0.971	-0.26
54	0.902	-0.90	146	0.421	-7.51	238	0.415	-7.64	330	0.975	-0.22
56	0.893	-0.98	148	0.429	-7.35	240	0.424	-7.45	332	0.978	-0.19
58	0.883	-1.08	150	0.436	-7.21	242	0.435	-7.23	334	0.981	-0.17
60	0.873	-1.18	152	0.444	-7.05	244	0.446	-7.01	336	0.984	-0.14
62	0.863	-1.28	154	0.452	-6.90	246	0.459	-6.76	338	0.987	-0.11
64	0.851	-1.40	156	0.460	-6.74	248	0.474	-6.48	340	0.989	-0.10
66	0.840	-1.51	158	0.468	-6.60	250	0.489	-6.21	342	0.991	-0.08
68	0.828	-1.64	160	0.475	-6.47	252	0.504	-5.95	344	0.993	-0.06
70	0.815	-1.78	162	0.482	-6.34	254	0.521	-5.66	346	0.995	-0.04
72	0.801	-1.93	164	0.488	-6.23	256	0.538	-5.38	348	0.996	-0.03
74	0.788	-2.07	166	0.494	-6.13	258	0.555	-5.11	350	0.997	-0.03
76	0.773	-2.24	168	0.499	-6.04	260	0.572	-4.85	352	0.998	-0.02
78	0.759	-2.40	170	0.504	-5.95	262	0.590	-4.58	354	0.999	-0.01
80	0.743	-2.58	172	0.508	-5.88	264	0.608	-4.32	356	1.000	0.00
82	0.727	-2.77	174	0.511	-5.83	266	0.626	-4.07	358	1.000	0.00
84	0.711	-2.96	176	0.513	-5.80	268	0.643	-3.84	360	1.000	0.00
86	0.695	-3.16	178	0.514	-5.78	270	0.661	-3.60			
88	0.678	-3.38	180	0.514	-5.78	272	0.678	-3.38			
90	0.661	-3.60	182	0.514	-5.78	274	0.695	-3.16			

**ELEVATION PATTERN****TYPE:****ATW27H3H****Frequency:****32 (DTV)****Directivity:****Numeric****dBd****Location:****Flagstaff, AZ****Main Lobe:****27.00****14.31****Beam Tilt:****0.75****Horizontal:****16.77****12.24****Polarization:****Horizontal**

# TABULATED DATA FOR ELEVATION PATTERN

## ATW27H3H

-5 to 10 degrees in 0.25 increments

10 to 90 degrees in 0.50 increments

ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB	ANGLE	FIELD	dB
-5.000	0.064	-23.88	6.75	0.106	-19.49	27.00	0.023	-32.77	50.50	0.034	-29.37	74.00	0.006	-44.44
-4.750	0.094	-20.54	7.00	0.120	-18.42	27.50	0.034	-29.37	51.00	0.031	-30.17	74.50	0.012	-38.42
-4.500	0.128	-17.86	7.25	0.129	-17.79	28.00	0.037	-28.64	51.50	0.023	-32.77	75.00	0.019	-34.42
-4.250	0.151	-16.42	7.50	0.126	-17.99	28.50	0.027	-31.37	52.00	0.014	-37.08	75.50	0.027	-31.37
-4.000	0.157	-16.08	7.75	0.112	-19.02	29.00	0.019	-34.42	52.50	0.018	-34.89	76.00	0.033	-29.63
-3.750	0.143	-16.89	8.00	0.092	-20.72	29.50	0.028	-31.06	53.00	0.028	-31.06	76.50	0.037	-28.64
-3.500	0.111	-19.09	8.25	0.074	-22.62	30.00	0.036	-28.87	53.50	0.034	-29.37	77.00	0.041	-27.74
-3.250	0.081	-21.83	8.50	0.069	-23.22	30.50	0.031	-30.17	54.00	0.034	-29.37	77.50	0.042	-27.54
-3.000	0.091	-20.82	8.75	0.080	-21.94	31.00	0.020	-33.98	54.50	0.028	-31.06	78.00	0.043	-27.33
-2.750	0.145	-16.77	9.00	0.092	-20.72	31.50	0.022	-33.15	55.00	0.018	-34.89	78.50	0.042	-27.54
-2.500	0.203	-13.85	9.25	0.099	-20.09	32.00	0.032	-29.90	55.50	0.014	-37.08	79.00	0.041	-27.74
-2.250	0.245	-12.22	9.50	0.097	-20.26	32.50	0.034	-29.37	56.00	0.022	-33.15	79.50	0.038	-28.40
-2.000	0.261	-11.67	9.75	0.085	-21.41	33.00	0.025	-32.04	56.50	0.031	-30.17	80.00	0.035	-29.12
-1.750	0.243	-12.29	10.00	0.069	-23.22	33.50	0.017	-35.39	57.00	0.036	-28.87	80.50	0.032	-29.90
-1.500	0.197	-14.11	10.50	0.054	-25.35	34.00	0.025	-32.04	57.50	0.035	-29.12	81.00	0.028	-31.06
-1.250	0.151	-16.42	11.00	0.075	-22.50	34.50	0.033	-29.63	58.00	0.029	-30.75	81.50	0.024	-32.40
-1.000	0.186	-14.61	11.50	0.078	-22.16	35.00	0.031	-30.17	58.50	0.019	-34.42	82.00	0.020	-33.98
-0.750	0.316	-10.01	12.00	0.056	-25.04	35.50	0.021	-33.56	59.00	0.013	-37.72	82.50	0.016	-35.92
-0.500	0.476	-6.45	12.50	0.046	-26.74	36.00	0.017	-35.39	59.50	0.019	-34.42	83.00	0.013	-37.72
-0.250	0.641	-3.86	13.00	0.064	-23.88	36.50	0.027	-31.37	60.00	0.028	-31.06	83.50	0.009	-40.92
0.000	0.788	-2.07	13.50	0.066	-23.61	37.00	0.033	-29.63	60.50	0.036	-28.87	84.00	0.007	-43.10
0.250	0.903	-0.89	14.00	0.046	-26.74	37.50	0.029	-30.75	61.00	0.038	-28.40	84.50	0.004	-47.96
0.500	0.977	-0.20	14.50	0.039	-28.18	38.00	0.019	-34.42	61.50	0.036	-28.87	85.00	0.002	-53.98
0.750	1.000	0.00	15.00	0.056	-25.04	38.50	0.018	-34.89	62.00	0.029	-30.75	85.50	0.001	-60.00
1.000	0.975	-0.22	15.50	0.058	-24.73	39.00	0.028	-31.06	62.50	0.019	-34.42	86.00	0.001	-60.00
1.250	0.905	-0.87	16.00	0.041	-27.74	39.50	0.033	-29.63	63.00	0.012	-38.42	86.50	0.001	-60.00
1.500	0.802	-1.92	16.50	0.034	-29.37	40.00	0.029	-30.75	63.50	0.017	-35.39	87.00	0.002	-53.98
1.750	0.681	-3.34	17.00	0.049	-26.20	40.50	0.019	-34.42	64.00	0.026	-31.70	87.50	0.002	-53.98
2.000	0.561	-5.02	17.50	0.052	-25.68	41.00	0.017	-35.39	64.50	0.035	-29.12	88.00	0.002	-53.98
2.250	0.464	-6.67	18.00	0.038	-28.40	41.50	0.027	-31.37	65.00	0.040	-27.96	88.50	0.002	-53.98
2.500	0.404	-7.87	18.50	0.029	-30.75	42.00	0.033	-29.63	65.50	0.041	-27.74	89.00	0.001	-60.00
2.750	0.380	-8.40	19.00	0.043	-27.33	42.50	0.030	-30.46	66.00	0.038	-28.40	89.50	0.001	-60.00
3.000	0.371	-8.61	19.50	0.048	-26.38	43.00	0.020	-33.98	66.50	0.031	-30.17	90.00	0.000	---
3.250	0.358	-8.92	20.00	0.036	-28.87	43.50	0.015	-36.48	67.00	0.022	-33.15			
3.500	0.330	-9.63	20.50	0.026	-31.70	44.00	0.023	-32.77	67.50	0.013	-37.72			
3.750	0.285	-10.90	21.00	0.038	-28.40	44.50	0.032	-29.90	68.00	0.011	-39.17			
4.000	0.233	-12.65	21.50	0.044	-27.13	45.00	0.032	-29.90	68.50	0.019	-34.42			
4.250	0.187	-14.56	22.00	0.034	-29.37	45.50	0.025	-32.04	69.00	0.029	-30.75			
4.500	0.162	-15.81	22.50	0.024	-32.40	46.00	0.015	-36.48	69.50	0.036	-28.87			
4.750	0.167	-15.55	23.00	0.033	-29.63	46.50	0.018	-34.89	70.00	0.042	-27.54			
5.000	0.181	-14.85	23.50	0.041	-27.74	47.00	0.028	-31.06	70.50	0.044	-27.13			
5.250	0.190	-14.42	24.00	0.035	-29.12	47.50	0.033	-29.63	71.00	0.044	-27.13			
5.500	0.184	-14.70	24.50	0.023	-32.77	48.00	0.031	-30.17	71.50	0.040	-27.96			
5.750	0.163	-15.76	25.00	0.029	-30.75	48.50	0.022	-33.15	72.00	0.035	-29.12			
6.000	0.134	-17.46	25.50	0.039	-28.18	49.00	0.014	-37.08	72.50	0.028	-31.06			
6.250	0.108	-19.33	26.00	0.036	-28.87	49.50	0.020	-33.98	73.00	0.019	-34.42			
6.500	0.097	-20.26	26.50	0.024	-32.40	50.00	0.029	-30.75	73.50	0.011	-39.17			