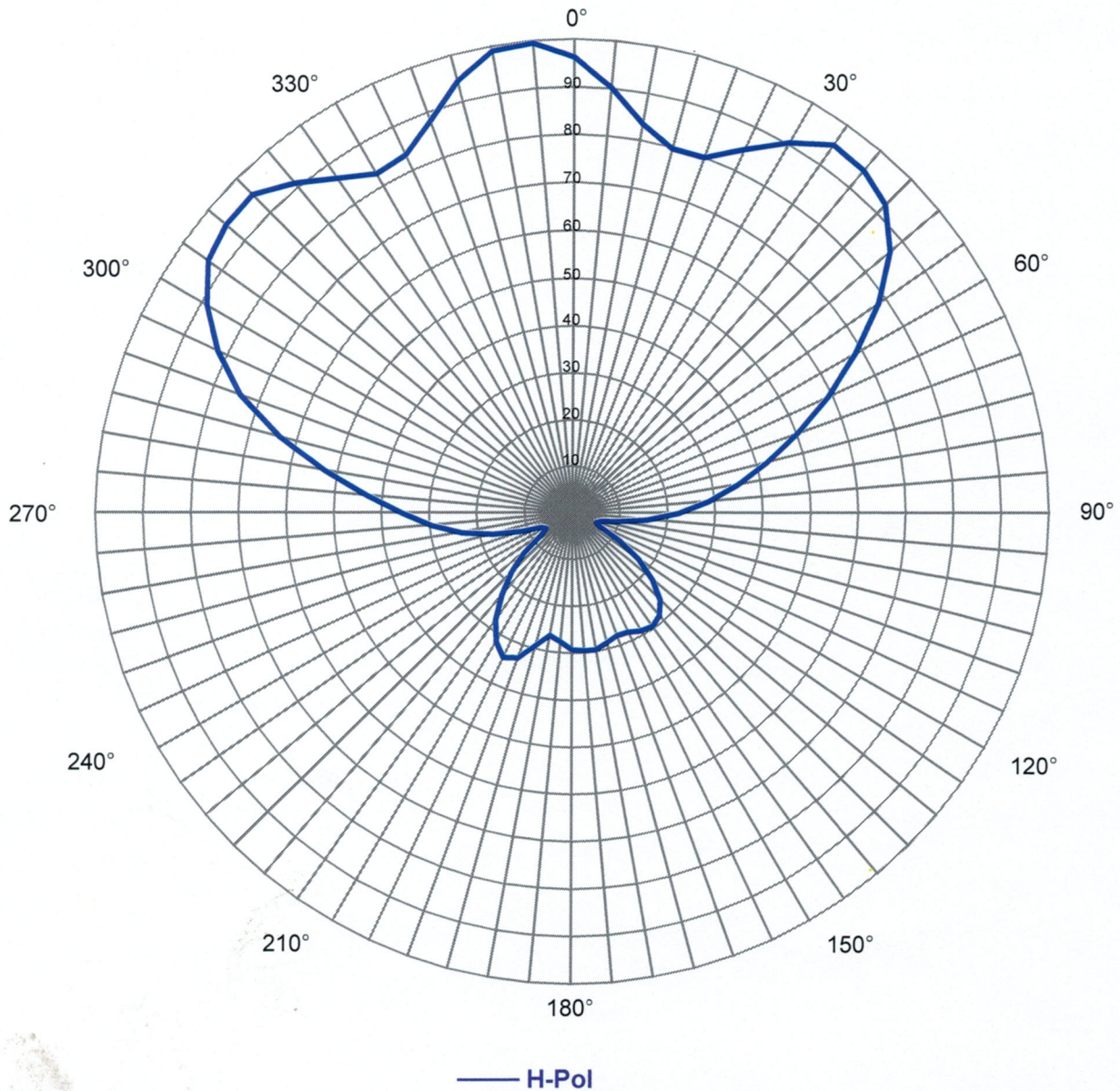




### Relative Field Azimuth Plane Pattern



Pattern Type:	Relative Field
Antenna Model:	PSIUP3MC-20 Custom
Polarization:	Horizontal
Gain:	15.85 (12.0 dB)
Channel:	20

Type:	UHF Panel
Orientation:	355 Degrees
Station:	W20EI-D
Location:	Towanda, PA
Date:	9/16/2019





# PROPAGATION SYSTEMS INC.

Relative Field Tabulation

Antenna Model: PSIUP3MC-20 Custom

Gain: 15.85 (12.0 dBd)

Station: W20EI-D

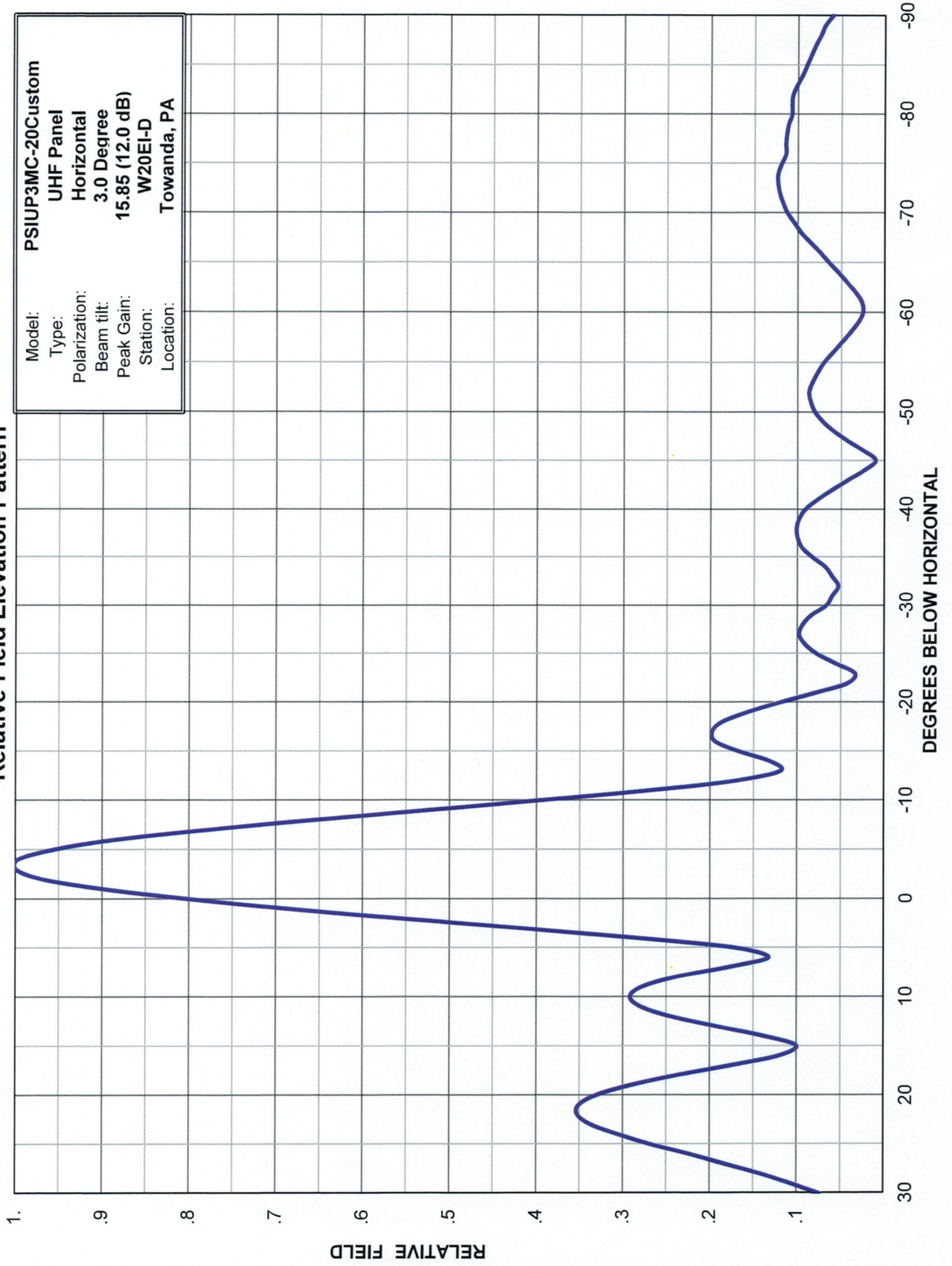
Angle	Relative Field	Power Gain	Gain dB	Angle	Relative Field	Power Gain	Gain dB
0	0.963	14.70	11.67	180	0.292	1.35	1.31
5	0.902	12.90	11.10	185	0.276	1.21	0.82
10	0.834	11.02	10.42	190	0.265	1.11	0.47
15	0.797	10.07	10.03	195	0.292	1.35	1.31
20	0.800	10.14	10.06	200	0.329	1.72	2.34
25	0.848	11.40	10.57	205	0.340	1.83	2.63
30	0.904	12.95	11.12	210	0.317	1.59	2.02
35	0.950	14.30	11.55	215	0.278	1.22	0.88
40	0.947	14.21	11.53	220	0.228	0.82	-0.84
45	0.925	13.56	11.32	225	0.180	0.51	-2.89
50	0.867	11.91	10.76	230	0.132	0.28	-5.59
55	0.783	9.72	9.88	235	0.077	0.09	-10.27
60	0.685	7.44	8.71	240	0.063	0.06	-12.01
65	0.591	5.54	7.43	245	0.071	0.08	-10.97
70	0.502	3.99	6.01	250	0.111	0.20	-7.09
75	0.423	2.84	4.53	255	0.171	0.46	-3.34
80	0.353	1.98	2.96	260	0.235	0.88	-0.58
85	0.287	1.31	1.16	265	0.296	1.39	1.43
90	0.223	0.79	-1.03	270	0.356	2.01	3.03
95	0.157	0.39	-4.08	275	0.431	2.94	4.69
100	0.098	0.15	-8.18	280	0.528	4.42	6.45
105	0.064	0.06	-11.88	285	0.636	6.41	8.07
110	0.054	0.05	-13.35	290	0.743	8.75	9.42
115	0.065	0.07	-11.74	295	0.822	10.71	10.30
120	0.115	0.21	-6.79	300	0.888	12.50	10.97
125	0.170	0.46	-3.39	305	0.935	13.86	11.42
130	0.220	0.77	-1.15	310	0.951	14.33	11.56
135	0.262	1.09	0.37	315	0.953	14.40	11.58
140	0.285	1.29	1.10	320	0.911	13.15	11.19
145	0.295	1.38	1.40	325	0.865	11.86	10.74
150	0.290	1.33	1.25	330	0.828	10.87	10.36
155	0.280	1.24	0.94	335	0.835	11.05	10.43
160	0.278	1.22	0.88	340	0.881	12.30	10.90
165	0.286	1.30	1.13	345	0.945	14.15	11.51
170	0.296	1.39	1.43	350	0.991	15.57	11.92
175	0.295	1.38	1.40	355	0.996	15.72	11.97





Propagation Systems, Inc.

Relative Field Elevation Pattern







# Propagation Systems Inc.

Relative Field Tabulation Elevation Pattern

Antenna Model: PSIUP3MC-20 Custom

Gain: 15.85 (12.0 dBd)

W20EI-D

Towanda, PA

Angle	Field	dB	Angle	Field	dB	Angle	Field	dB
-90	0.060	-24.44	-50	0.080	-21.94	-10	0.395	-8.07
-89	0.069	-23.22	-49	0.071	-22.97	-9	0.525	-5.60
-88	0.074	-22.62	-48	0.058	-24.73	-8	0.655	-3.68
-87	0.080	-21.94	-47	0.042	-27.54	-7	0.778	-2.18
-86	0.085	-21.41	-46	0.024	-32.40	-6	0.884	-1.07
-85	0.090	-20.92	-45	0.010	-40.00	-5	0.954	-0.41
-84	0.095	-20.45	-44	0.023	-32.77	-4	0.997	-0.03
-83	0.101	-19.91	-43	0.042	-27.54	-3	1.000	0.00
-82	0.106	-19.49	-42	0.060	-24.44	-2	0.971	-0.26
-81	0.107	-19.41	-41	0.077	-22.27	-1	0.902	-0.90
-80	0.107	-19.41	-40	0.091	-20.82	0	0.807	-1.86
-79	0.111	-19.09	-39	0.098	-20.18	1	0.692	-3.20
-78	0.113	-18.94	-38	0.101	-19.91	2	0.562	-5.01
-77	0.114	-18.86	-37	0.100	-20.00	3	0.423	-7.47
-76	0.114	-18.86	-36	0.095	-20.45	4	0.288	-10.81
-75	0.119	-18.49	-35	0.083	-21.62	5	0.173	-15.24
-74	0.123	-18.20	-34	0.068	-23.35	6	0.132	-17.59
-73	0.123	-18.20	-33	0.060	-24.44	7	0.178	-14.99
-72	0.121	-18.34	-32	0.053	-25.51	8	0.238	-12.47
-71	0.117	-18.64	-31	0.060	-24.44	9	0.278	-11.12
-70	0.112	-19.02	-30	0.067	-23.48	10	0.292	-10.69
-69	0.104	-19.66	-29	0.084	-21.51	11	0.280	-11.06
-68	0.096	-20.35	-28	0.094	-20.54	12	0.246	-12.18
-67	0.085	-21.41	-27	0.098	-20.18	13	0.194	-14.24
-66	0.074	-22.62	-26	0.091	-20.82	14	0.138	-17.20
-65	0.064	-23.88	-25	0.077	-22.27	15	0.100	-20.00
-64	0.053	-25.51	-24	0.055	-25.19	16	0.120	-18.42
-63	0.043	-27.33	-23	0.033	-29.63	17	0.177	-15.04
-62	0.033	-29.63	-22	0.042	-27.54	18	0.239	-12.43
-61	0.026	-31.70	-21	0.080	-21.94	19	0.292	-10.69
-60	0.025	-32.04	-20	0.121	-18.34	20	0.331	-9.60
-59	0.031	-30.17	-19	0.158	-16.03	21	0.351	-9.09
-58	0.040	-27.96	-18	0.187	-14.56	22	0.352	-9.07
-57	0.050	-26.02	-17	0.198	-14.07	23	0.336	-9.47
-56	0.060	-24.44	-16	0.194	-14.24	24	0.305	-10.31
-55	0.070	-23.10	-15	0.167	-15.55	25	0.268	-11.44
-54	0.077	-22.27	-14	0.131	-17.65	26	0.223	-13.03
-53	0.083	-21.62	-13	0.119	-18.49	27	0.183	-14.75
-52	0.087	-21.21	-12	0.171	-15.34	28	0.142	-16.95
-51	0.085	-21.41	-11	0.272	-11.31	29	0.107	-19.41