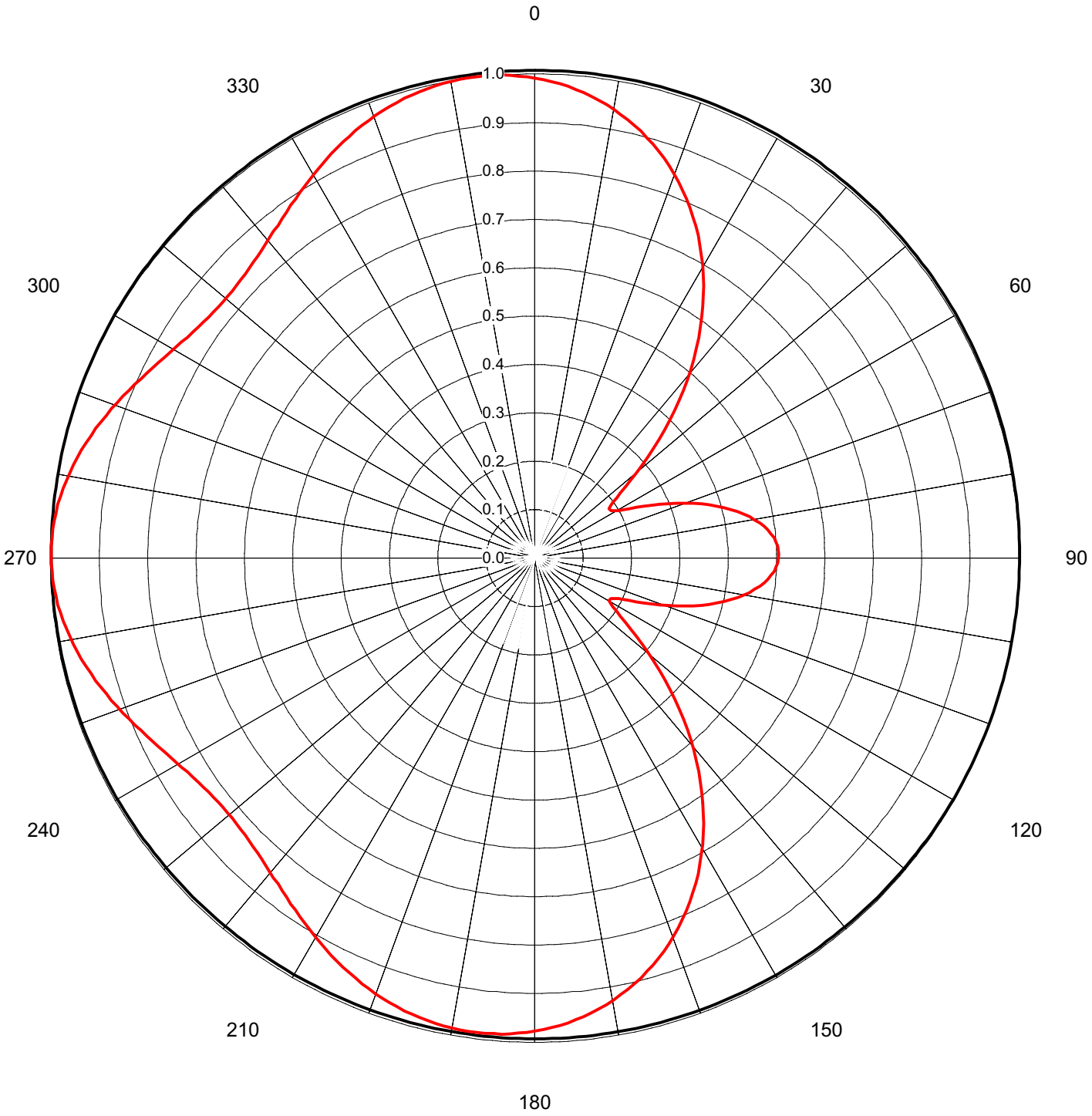
Proposal Number	**DCA-9481**
Date	**13-Jul-01**
Call Letters	**WCGV** Channel **24**
Location	**Milwaukee, WI**
Customer	
Antenna Type	**TFU-28DSC-R CT170 DC**

AZIMUTH PATTERN

Gain	**1.80**	**(2.55 dB)**	Frequency	**533.00 MHz**
Calculated / Measured		**Calculated**	Drawing #	**TFU-CT170-24**



Dielectric

Proposal Number	**DCA-9481**
Date	**13-Jul-01**
Call Letters	**WCGV** Channel **24**
Location	**Milwaukee, WI**
Customer	
Antenna Type	**TFU-28DSC-R CT170 DC**

TABULATION OF AZIMUTH PATTERN

Azimuth Pattern Drawing #: **TFU-CT170-24**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
0	0.984	45	0.392	90	0.503	135	0.392	180	0.984	225	0.836	270	1.000	315	0.836
1	0.981	46	0.371	91	0.502	136	0.414	181	0.987	226	0.833	271	1.000	316	0.839
2	0.977	47	0.350	92	0.501	137	0.435	182	0.989	227	0.832	272	0.999	317	0.842
3	0.973	48	0.329	93	0.497	138	0.457	183	0.991	228	0.830	273	0.998	318	0.845
4	0.969	49	0.308	94	0.494	139	0.478	184	0.992	229	0.830	274	0.996	319	0.850
5	0.964	50	0.288	95	0.489	140	0.499	185	0.993	230	0.830	275	0.994	320	0.854
6	0.959	51	0.269	96	0.483	141	0.520	186	0.994	231	0.830	276	0.991	321	0.859
7	0.953	52	0.250	97	0.476	142	0.540	187	0.994	232	0.831	277	0.988	322	0.864
8	0.947	53	0.234	98	0.468	143	0.560	188	0.994	233	0.833	278	0.985	323	0.869
9	0.940	54	0.217	99	0.459	144	0.580	189	0.994	234	0.834	279	0.981	324	0.875
10	0.934	55	0.205	100	0.450	145	0.600	190	0.993	235	0.837	280	0.977	325	0.881
11	0.926	56	0.193	101	0.438	146	0.619	191	0.992	236	0.840	281	0.972	326	0.886
12	0.918	57	0.186	102	0.427	147	0.637	192	0.990	237	0.844	282	0.967	327	0.892
13	0.910	58	0.180	103	0.414	148	0.656	193	0.988	238	0.848	283	0.962	328	0.898
14	0.901	59	0.180	104	0.401	149	0.673	194	0.986	239	0.852	284	0.956	329	0.904
15	0.891	60	0.180	105	0.387	150	0.691	195	0.983	240	0.857	285	0.950	330	0.911
16	0.882	61	0.187	106	0.373	151	0.707	196	0.980	241	0.862	286	0.945	331	0.917
17	0.871	62	0.193	107	0.357	152	0.724	197	0.977	242	0.868	287	0.938	332	0.923
18	0.860	63	0.205	108	0.342	153	0.740	198	0.973	243	0.873	288	0.932	333	0.928
19	0.849	64	0.216	109	0.326	154	0.755	199	0.969	244	0.879	289	0.925	334	0.934
20	0.837	65	0.231	110	0.310	155	0.770	200	0.965	245	0.886	290	0.919	335	0.940
21	0.824	66	0.245	111	0.293	156	0.785	201	0.960	246	0.892	291	0.912	336	0.945
22	0.812	67	0.261	112	0.277	157	0.798	202	0.956	247	0.899	292	0.905	337	0.951
23	0.798	68	0.277	113	0.261	158	0.812	203	0.951	248	0.905	293	0.899	338	0.956
24	0.785	69	0.293	114	0.245	159	0.824	204	0.945	249	0.912	294	0.892	339	0.960
25	0.770	70	0.310	115	0.231	160	0.837	205	0.940	250	0.919	295	0.886	340	0.965
26	0.755	71	0.326	116	0.216	161	0.849	206	0.934	251	0.925	296	0.879	341	0.969
27	0.740	72	0.342	117	0.205	162	0.860	207	0.928	252	0.932	297	0.873	342	0.973
28	0.724	73	0.357	118	0.193	163	0.871	208	0.923	253	0.938	298	0.868	343	0.977
29	0.707	74	0.373	119	0.187	164	0.882	209	0.917	254	0.945	299	0.862	344	0.980
30	0.691	75	0.387	120	0.180	165	0.891	210	0.911	255	0.950	300	0.857	345	0.983
31	0.673	76	0.401	121	0.180	166	0.901	211	0.904	256	0.956	301	0.852	346	0.986
32	0.656	77	0.414	122	0.180	167	0.909	212	0.898	257	0.962	302	0.848	347	0.988
33	0.637	78	0.427	123	0.186	168	0.918	213	0.892	258	0.967	303	0.844	348	0.990
34	0.619	79	0.438	124	0.193	169	0.926	214	0.886	259	0.972	304	0.840	349	0.992
35	0.600	80	0.450	125	0.205	170	0.934	215	0.881	260	0.977	305	0.837	350	0.993
36	0.580	81	0.459	126	0.217	171	0.940	216	0.875	261	0.981	306	0.834	351	0.994
37	0.560	82	0.468	127	0.234	172	0.947	217	0.869	262	0.985	307	0.833	352	0.994
38	0.540	83	0.476	128	0.250	173	0.953	218	0.864	263	0.988	308	0.831	353	0.994
39	0.520	84	0.483	129	0.269	174	0.959	219	0.859	264	0.991	309	0.830	354	0.994
40	0.499	85	0.489	130	0.288	175	0.964	220	0.854	265	0.994	310	0.830	355	0.993
41	0.478	86	0.494	131	0.308	176	0.969	221	0.850	266	0.996	311	0.830	356	0.992
42	0.457	87	0.497	132	0.329	177	0.973	222	0.845	267	0.998	312	0.830	357	0.991
43	0.435	88	0.501	133	0.350	178	0.977	223	0.842	268	0.999	313	0.832	358	0.989
44	0.414	89	0.502	134	0.371	179	0.981	224	0.839	269	1.000	314	0.833	359	0.987

Proposal Number	**DCA-9481**		
Date	**13-Jul-01**		
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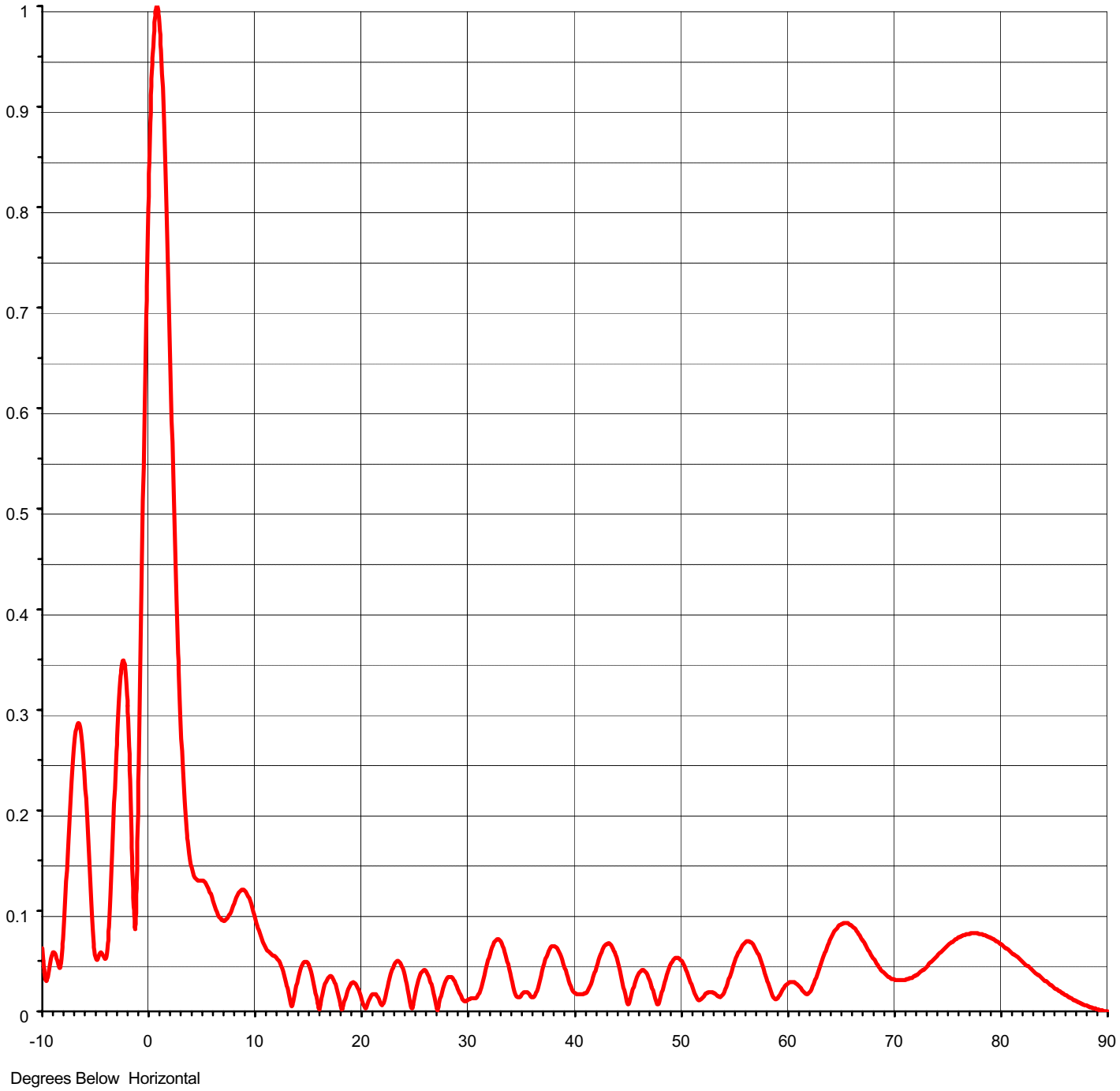
Location	**Milwaukee, WI**		
Customer			
Antenna Type	**TFU-28DSC-R CT170 DC**		

ELEVATION PATTERN

RMS Gain at Main Lobe	**22.00**	**(13.42 dB)**	
RMS Gain at Horizontal	**14.90**	**(11.73 dB)**	
Calculated / Measured	**Calculated**		

Beam Tilt	**0.75 deg**
Frequency	**533.00 MHz**
Drawing #	**28Q220075-90**



Dielectric

Proposal Number **DCA-9481**
Date **13-Jul-01**
Call Letters **WCGV** Channel **24**
Location **Milwaukee, WI**
Customer
Antenna Type **TFU-28DSC-R CT170 DC**

TABULATION OF ELEVATION PATTERN

Elevation Pattern Drawing #: **28Q220075-90**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.063	2.4	0.484	10.6	0.075	30.5	0.013	51.0	0.027	71.5	0.033
-9.5	0.034	2.6	0.408	10.8	0.069	31.0	0.016	51.5	0.014	72.0	0.036
-9.0	0.059	2.8	0.340	11.0	0.065	31.5	0.032	52.0	0.013	72.5	0.040
-8.5	0.046	3.0	0.284	11.5	0.058	32.0	0.053	52.5	0.018	73.0	0.044
-8.0	0.080	3.2	0.238	12.0	0.054	32.5	0.069	53.0	0.019	73.5	0.050
-7.5	0.181	3.4	0.202	12.5	0.045	33.0	0.071	53.5	0.015	74.0	0.055
-7.0	0.265	3.6	0.175	13.0	0.028	33.5	0.059	54.0	0.017	74.5	0.061
-6.5	0.285	3.8	0.156	13.5	0.005	34.0	0.038	54.5	0.031	75.0	0.066
-6.0	0.230	4.0	0.143	14.0	0.028	34.5	0.017	55.0	0.047	75.5	0.070
-5.5	0.130	4.2	0.135	14.5	0.046	35.0	0.015	55.5	0.060	76.0	0.074
-5.0	0.053	4.4	0.132	15.0	0.048	35.5	0.019	56.0	0.068	76.5	0.076
-4.5	0.059	4.6	0.130	15.5	0.031	36.0	0.014	56.5	0.069	77.0	0.077
-4.0	0.054	4.8	0.130	16.0	0.004	36.5	0.020	57.0	0.063	77.5	0.078
-3.5	0.141	5.0	0.130	16.5	0.022	37.0	0.040	57.5	0.051	78.0	0.077
-3.0	0.271	5.2	0.129	17.0	0.034	37.5	0.057	58.0	0.035	78.5	0.076
-2.8	0.312	5.4	0.126	17.5	0.030	38.0	0.065	58.5	0.019	79.0	0.073
-2.6	0.339	5.6	0.122	18.0	0.011	38.5	0.061	59.0	0.012	79.5	0.070
-2.4	0.349	5.8	0.117	18.5	0.012	39.0	0.047	59.5	0.020	80.0	0.067
-2.2	0.337	6.0	0.110	19.0	0.026	39.5	0.030	60.0	0.027	80.5	0.063
-2.0	0.304	6.2	0.104	19.5	0.027	40.0	0.019	60.5	0.029	81.0	0.058
-1.8	0.248	6.4	0.099	20.0	0.015	40.5	0.017	61.0	0.026	81.5	0.054
-1.6	0.173	6.6	0.094	20.5	0.004	41.0	0.018	61.5	0.020	82.0	0.049
-1.4	0.097	6.8	0.091	21.0	0.016	41.5	0.025	62.0	0.018	82.5	0.045
-1.2	0.106	7.0	0.090	21.5	0.015	42.0	0.040	62.5	0.027	83.0	0.040
-1.0	0.213	7.2	0.091	22.0	0.006	42.5	0.057	63.0	0.042	83.5	0.036
-0.8	0.343	7.4	0.093	22.5	0.024	43.0	0.067	63.5	0.057	84.0	0.031
-0.6	0.475	7.6	0.097	23.0	0.043	43.5	0.066	64.0	0.071	84.5	0.027
-0.4	0.604	7.8	0.102	23.5	0.050	44.0	0.053	64.5	0.082	85.0	0.023
-0.2	0.721	8.0	0.107	24.0	0.040	44.5	0.031	65.0	0.087	85.5	0.020
0.0	0.822	8.2	0.113	24.5	0.016	45.0	0.008	65.5	0.088	86.0	0.016
0.2	0.903	8.4	0.117	25.0	0.013	45.5	0.021	66.0	0.085	86.5	0.013
0.4	0.960	8.6	0.120	25.5	0.034	46.0	0.036	66.5	0.079	87.0	0.010
0.6	0.993	8.8	0.121	26.0	0.041	46.5	0.041	67.0	0.071	87.5	0.008
0.8	1.000	9.0	0.120	26.5	0.030	47.0	0.033	67.5	0.061	88.0	0.006
1.0	0.983	9.2	0.117	27.0	0.009	47.5	0.017	68.0	0.052	88.5	0.004
1.2	0.945	9.4	0.113	27.5	0.015	48.0	0.009	68.5	0.044	89.0	0.002
1.4	0.889	9.6	0.107	28.0	0.031	48.5	0.029	69.0	0.038	89.5	0.001
1.6	0.818	9.8	0.103	28.5	0.034	49.0	0.045	69.5	0.034	90.0	0.000
1.8	0.738	10.0	0.096	29.0	0.025	49.5	0.053	70.0	0.031		
2.0	0.652	10.2	0.088	29.5	0.012	50.0	0.051	70.5	0.031		
2.2	0.566	10.4	0.081	30.0	0.011	50.5	0.041	71.0	0.031		