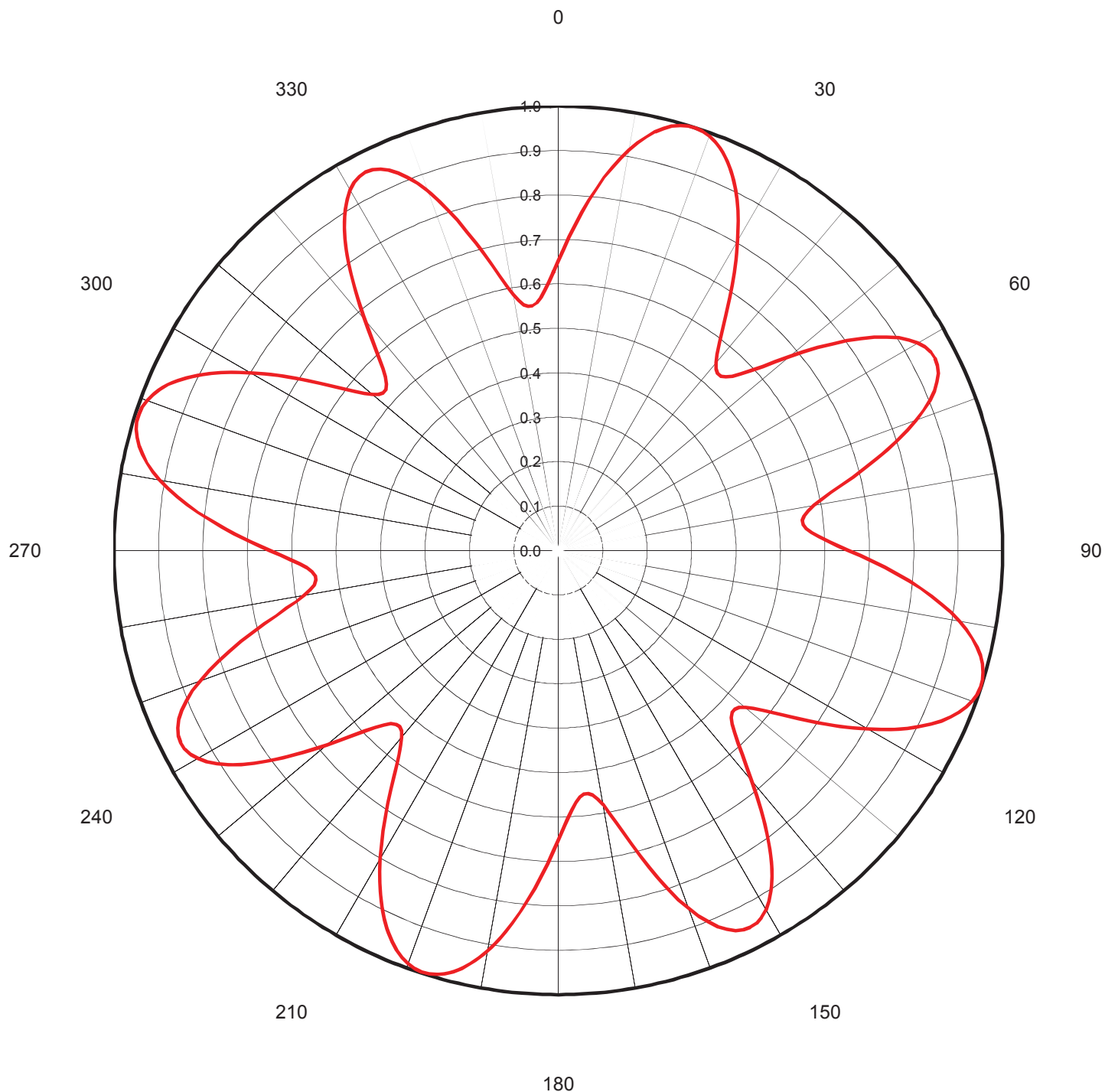


Proposal Number	C-04082	Revision:	4
Date	30-Dec-10		
Call Letters	WRDQ-DT	Channel	27
Location	Orlando, FL		
Customer			
Antenna Type	TUM20-O4SP-14/56H-2-R-T		

AZIMUTH PATTERN

Gain **1.60** (2.04 dB)
Calculated / Measured **Calculated**

Frequency **551.00 MHz**
Drawing # **TUM-O4-27H**





Proposal Number **C-04082** Revision: **4**
Date **30-Dec-10**
Call Letters **WRDQ-DT** Channel **27**
Location **Orlando, FL**
Customer
Antenna Type **TUM20-O4SP-14/56H-2-R-T**

TABULATION OF AZIMUTH PATTERN

Azimuth Pattern Drawing #: **TUM-O4-27H**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
0	0.652	45	0.555	90	0.654	135	0.554	180	0.652	225	0.555	270	0.650	315	0.551
1	0.679	46	0.572	91	0.680	136	0.571	181	0.679	226	0.573	271	0.676	316	0.568
2	0.706	47	0.594	92	0.708	137	0.593	182	0.707	227	0.596	272	0.704	317	0.591
3	0.735	48	0.619	93	0.737	138	0.619	183	0.735	228	0.622	273	0.732	318	0.617
4	0.763	49	0.648	94	0.765	139	0.647	184	0.763	229	0.650	274	0.760	319	0.646
5	0.791	50	0.678	95	0.793	140	0.678	185	0.792	230	0.681	275	0.788	320	0.677
6	0.819	51	0.710	96	0.821	141	0.710	186	0.819	231	0.713	276	0.815	321	0.709
7	0.845	52	0.742	97	0.847	142	0.742	187	0.845	232	0.745	277	0.842	322	0.741
8	0.870	53	0.773	98	0.872	143	0.773	188	0.870	233	0.776	278	0.866	323	0.773
9	0.894	54	0.803	99	0.895	144	0.803	189	0.893	234	0.806	279	0.889	324	0.804
10	0.915	55	0.832	100	0.916	145	0.832	190	0.915	235	0.835	280	0.911	325	0.833
11	0.935	56	0.858	101	0.936	146	0.859	191	0.934	236	0.862	281	0.930	326	0.860
12	0.952	57	0.882	102	0.952	147	0.883	192	0.951	237	0.885	282	0.947	327	0.884
13	0.967	58	0.903	103	0.967	148	0.904	193	0.965	238	0.906	283	0.961	328	0.905
14	0.979	59	0.920	104	0.979	149	0.921	194	0.977	239	0.923	284	0.973	329	0.923
15	0.988	60	0.934	105	0.988	150	0.935	195	0.987	240	0.937	285	0.982	330	0.937
16	0.995	61	0.944	106	0.994	151	0.945	196	0.993	241	0.947	286	0.988	331	0.947
17	0.999	62	0.950	107	0.998	152	0.951	197	0.996	242	0.952	287	0.992	332	0.953
18	1.000	63	0.952	108	0.999	153	0.953	198	0.997	243	0.954	288	0.993	333	0.955
19	0.998	64	0.950	109	0.996	154	0.950	199	0.995	244	0.952	289	0.990	334	0.953
20	0.993	65	0.943	110	0.991	155	0.944	200	0.989	245	0.945	290	0.985	335	0.947
21	0.985	66	0.933	111	0.983	156	0.934	201	0.982	246	0.935	291	0.978	336	0.937
22	0.975	67	0.919	112	0.973	157	0.920	202	0.971	247	0.921	292	0.967	337	0.923
23	0.962	68	0.902	113	0.959	158	0.902	203	0.957	248	0.903	293	0.954	338	0.905
24	0.946	69	0.881	114	0.943	159	0.881	204	0.941	249	0.882	294	0.938	339	0.885
25	0.928	70	0.858	115	0.925	160	0.858	205	0.923	250	0.858	295	0.920	340	0.861
26	0.908	71	0.832	116	0.905	161	0.831	206	0.902	251	0.831	296	0.900	341	0.835
27	0.886	72	0.804	117	0.882	162	0.803	207	0.880	252	0.803	297	0.877	342	0.807
28	0.861	73	0.774	118	0.858	163	0.773	208	0.855	253	0.773	298	0.853	343	0.777
29	0.835	74	0.744	119	0.832	164	0.743	209	0.829	254	0.743	299	0.827	344	0.746
30	0.808	75	0.714	120	0.804	165	0.712	210	0.802	255	0.712	300	0.800	345	0.716
31	0.780	76	0.683	121	0.776	166	0.682	211	0.773	256	0.681	301	0.772	346	0.685
32	0.751	77	0.655	122	0.747	167	0.653	212	0.744	257	0.652	302	0.743	347	0.656
33	0.721	78	0.628	123	0.718	168	0.626	213	0.715	258	0.625	303	0.714	348	0.629
34	0.692	79	0.604	124	0.689	169	0.602	214	0.686	259	0.601	304	0.685	349	0.605
35	0.664	80	0.585	125	0.660	170	0.582	215	0.657	260	0.581	305	0.656	350	0.585
36	0.636	81	0.569	126	0.633	171	0.566	216	0.630	261	0.565	306	0.629	351	0.569
37	0.610	82	0.559	127	0.607	172	0.556	217	0.605	262	0.555	307	0.604	352	0.559
38	0.587	83	0.554	128	0.585	173	0.551	218	0.582	263	0.550	308	0.581	353	0.553
39	0.568	84	0.554	129	0.565	174	0.552	219	0.563	264	0.550	309	0.561	354	0.554
40	0.552	85	0.560	130	0.550	175	0.558	220	0.548	265	0.556	310	0.546	355	0.559
41	0.541	86	0.571	131	0.539	176	0.569	221	0.538	266	0.567	311	0.535	356	0.570
42	0.536	87	0.587	132	0.534	177	0.585	222	0.534	267	0.583	312	0.530	357	0.586
43	0.536	88	0.606	133	0.535	178	0.604	223	0.535	268	0.602	313	0.531	358	0.605
44	0.543	89	0.629	134	0.541	179	0.627	224	0.542	269	0.625	314	0.538	359	0.627

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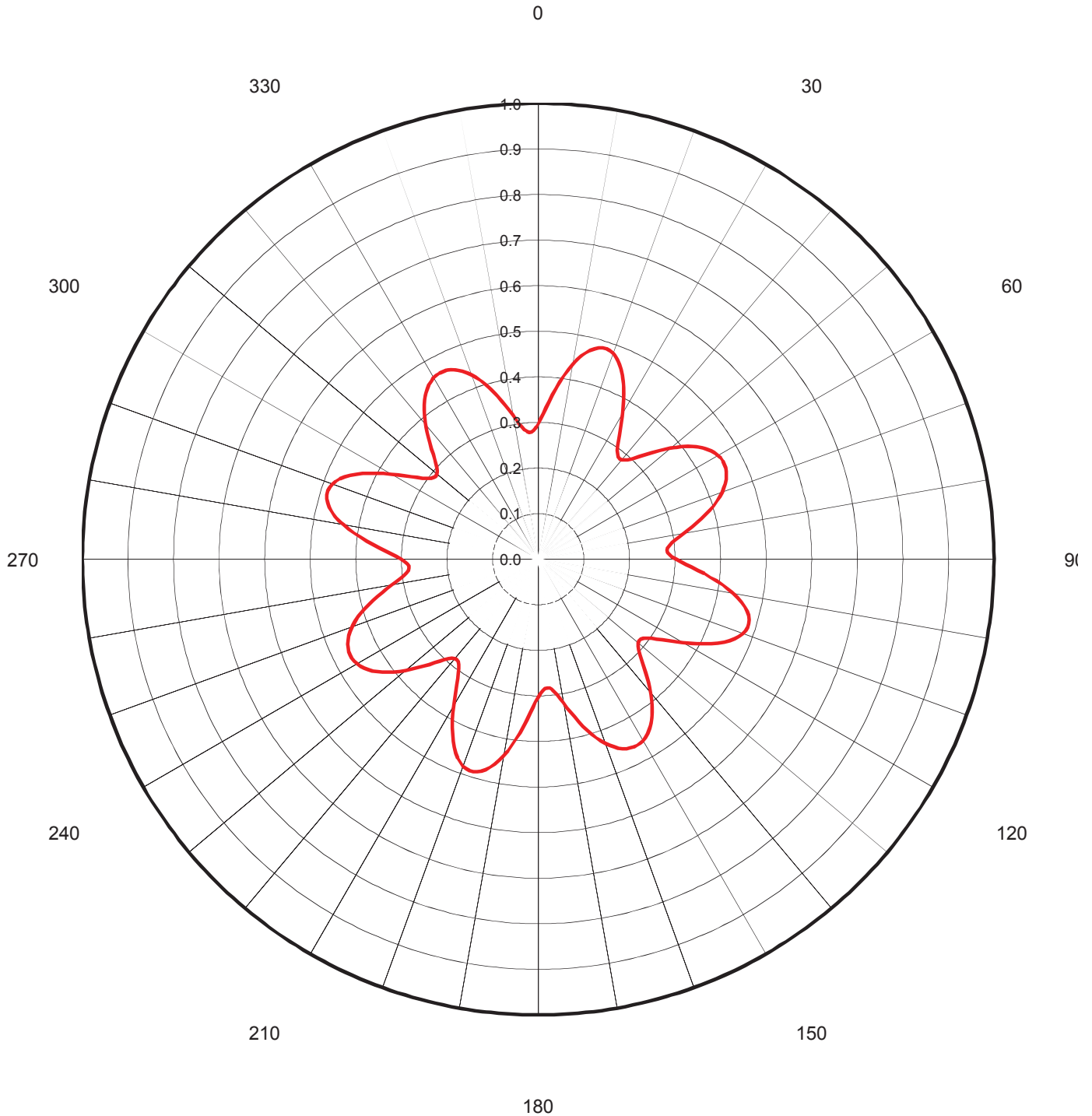


Proposal Number	C-04082	Revision:	4
Date	30-Dec-10		
Call Letters	WRDQ-DT	Channel	27
Location	Orlando, FL		
Customer			
Antenna Type	TUM20-O4SP-14/56H-2-R-T		

AZIMUTH PATTERN/VERTICAL POLARIZATION

Gain	1.55	(1.90 dB)
Calculated / Measured	Calculated	

Frequency	551.00 MHz
Drawing #	TUM-O4-27V

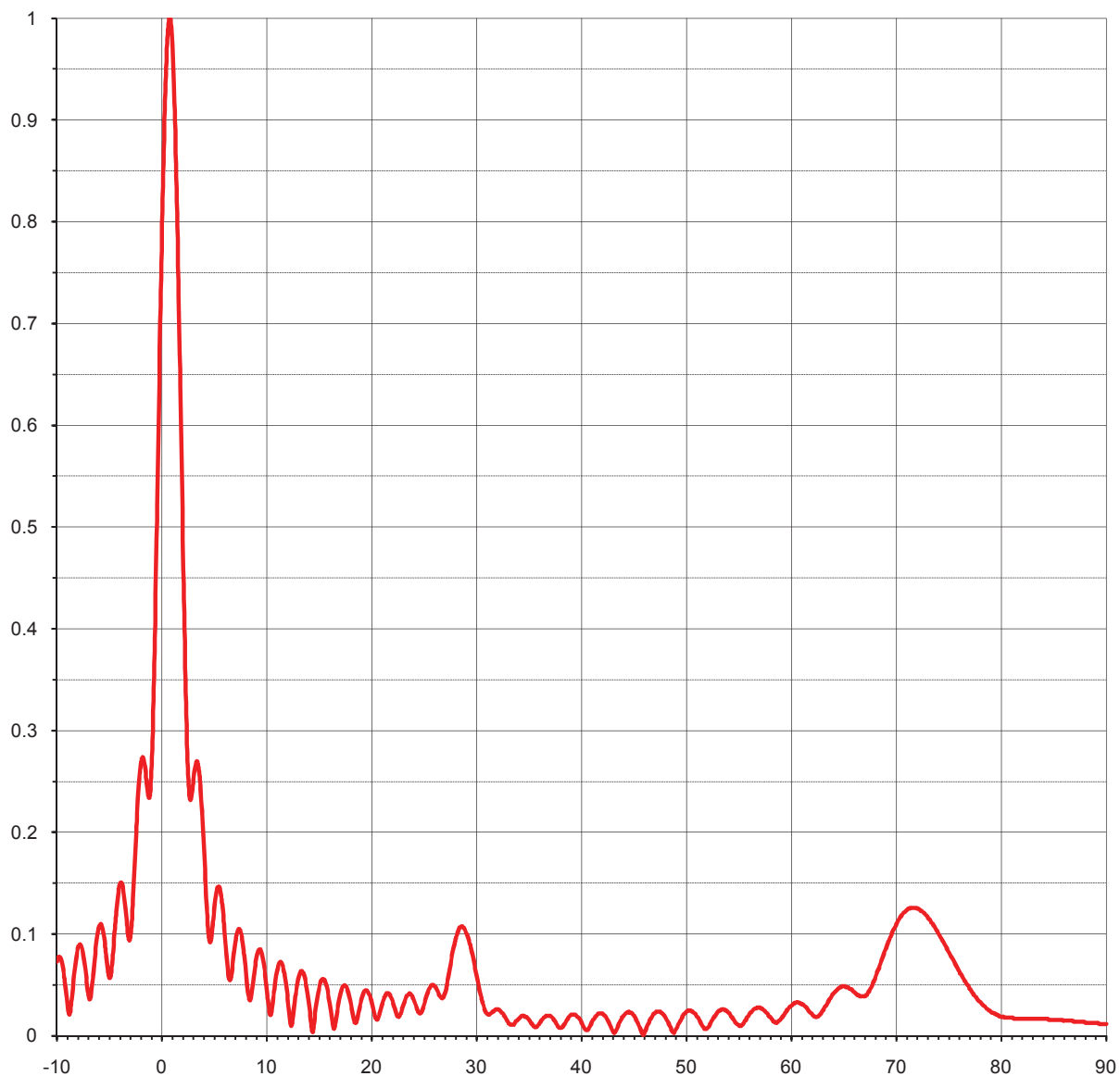




Proposal Number	C-04082	Revision:	4
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Location	Orlando, FL		
Customer			
Antenna Type	TUM20-O4SP-14/56H-2-R-T		

ELEVATION PATTERN

RMS Gain at Main Lobe	26.67 (14.26 dB)	Beam Tilt	0.70 deg
RMS Gain at Horizontal	16.40 (12.15 dB)	Frequency	551.00 MHz
Calculated / Measured	Calculated	Drawing #	14U265070-90





Proposal Number **C-04082** Revision: **4**
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TABULATION OF ELEVATION PATTERN

Elevation Pattern Drawing #: **14U265070-90**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.073	2.4	0.287	10.6	0.027	30.5	0.040	51.0	0.021	71.5	0.126
-9.5	0.071	2.6	0.239	10.8	0.044	31.0	0.023	51.5	0.012	72.0	0.125
-9.0	0.031	2.8	0.234	11.0	0.060	31.5	0.023	52.0	0.007	72.5	0.122
-8.5	0.046	3.0	0.251	11.5	0.072	32.0	0.026	52.5	0.015	73.0	0.116
-8.0	0.086	3.2	0.266	12.0	0.045	32.5	0.023	53.0	0.023	73.5	0.109
-7.5	0.081	3.4	0.269	12.5	0.011	33.0	0.015	53.5	0.026	74.0	0.101
-7.0	0.040	3.6	0.255	13.0	0.051	33.5	0.011	54.0	0.024	74.5	0.092
-6.5	0.065	3.8	0.226	13.5	0.063	34.0	0.016	54.5	0.017	75.0	0.082
-6.0	0.107	4.0	0.186	14.0	0.040	34.5	0.020	55.0	0.011	75.5	0.073
-5.5	0.096	4.2	0.142	14.5	0.004	35.0	0.017	55.5	0.012	76.0	0.063
-5.0	0.057	4.4	0.106	15.0	0.043	35.5	0.010	56.0	0.020	76.5	0.054
-4.5	0.102	4.6	0.092	15.5	0.056	36.0	0.011	56.5	0.026	77.0	0.046
-4.0	0.149	4.8	0.104	16.0	0.038	36.5	0.018	57.0	0.028	77.5	0.039
-3.5	0.129	5.0	0.125	16.5	0.007	37.0	0.020	57.5	0.025	78.0	0.033
-3.0	0.097	5.2	0.141	17.0	0.036	37.5	0.015	58.0	0.019	78.5	0.028
-2.8	0.124	5.4	0.147	17.5	0.050	38.0	0.008	58.5	0.014	79.0	0.024
-2.6	0.167	5.6	0.141	18.0	0.037	38.5	0.012	59.0	0.016	79.5	0.021
-2.4	0.211	5.8	0.124	18.5	0.013	39.0	0.020	59.5	0.023	80.0	0.019
-2.2	0.246	6.0	0.100	19.0	0.031	39.5	0.021	60.0	0.029	80.5	0.018
-2.0	0.268	6.2	0.074	19.5	0.045	40.0	0.015	60.5	0.033	81.0	0.018
-1.8	0.274	6.4	0.056	20.0	0.037	40.5	0.006	61.0	0.032	81.5	0.017
-1.6	0.263	6.6	0.058	20.5	0.017	41.0	0.012	61.5	0.028	82.0	0.017
-1.4	0.244	6.8	0.075	21.0	0.028	41.5	0.020	62.0	0.022	82.5	0.017
-1.2	0.234	7.0	0.092	21.5	0.042	42.0	0.022	62.5	0.019	83.0	0.017
-1.0	0.260	7.2	0.103	22.0	0.037	42.5	0.017	63.0	0.024	83.5	0.017
-0.8	0.330	7.4	0.105	22.5	0.020	43.0	0.006	63.5	0.032	84.0	0.017
-0.6	0.433	7.6	0.099	23.0	0.027	43.5	0.008	64.0	0.041	84.5	0.016
-0.4	0.552	7.8	0.084	23.5	0.040	44.0	0.019	64.5	0.047	85.0	0.016
-0.2	0.673	8.0	0.064	24.0	0.038	44.5	0.023	65.0	0.049	85.5	0.016
0.0	0.785	8.2	0.044	24.5	0.024	45.0	0.021	65.5	0.047	86.0	0.015
0.2	0.880	8.4	0.035	25.0	0.028	45.5	0.012	66.0	0.043	86.5	0.015
0.4	0.951	8.6	0.045	25.5	0.045	46.0	0.001	66.5	0.039	87.0	0.014
0.6	0.992	8.8	0.062	26.0	0.050	46.5	0.013	67.0	0.039	87.5	0.014
0.8	1.000	9.0	0.076	26.5	0.041	47.0	0.022	67.5	0.046	88.0	0.013
1.0	0.975	9.2	0.084	27.0	0.040	47.5	0.024	68.0	0.058	88.5	0.013
1.2	0.918	9.4	0.085	27.5	0.064	48.0	0.020	68.5	0.072	89.0	0.013
1.4	0.833	9.6	0.077	28.0	0.091	48.5	0.010	69.0	0.086	89.5	0.012
1.6	0.728	9.8	0.071	28.5	0.107	49.0	0.005	69.5	0.099	90.0	0.012
1.8	0.609	10.0	0.055	29.0	0.104	49.5	0.015	70.0	0.110		
2.0	0.488	10.2	0.035	29.5	0.089	50.0	0.023	70.5	0.119		
2.2	0.375	10.4	0.021	30.0	0.064	50.5	0.025	71.0	0.124		

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