

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions  
(formerly Eaton)

Brand: LUMARK

Report Number: P12446-400

Luminaire Tested: **MPWP-GL-400-XX**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P12446-400  
Test Lab: COOPER LIGHTING INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: MPWP-GL-400-XX  
Description: LUMARK WAL-PAK HID WALL FIXTURE WITH BOROSILICATE PRISMATIC GLASS LENS  
Light Source: MOGUL BASE CLEAR QUARTZ ED37 400W PULSE START METAL HALIDE LAMP 400 WATTS  
Ballast/Driver: -

**Summary**

Lumens per Lamp: 44000 (1 lamp)  
Luminaire Lumens: 23138.7 lumens  
Efficiency: 52.6%  
Efficacy: 57.8 lumens/watt  
Luminous Opening: Rectangular w/ Sides (W: 1.08' x L: 0.48' x H: 0.42')  
IES Classification: Type IV - Short - Non-Cutoff  
BUG Rating: B3 - U5 - G5

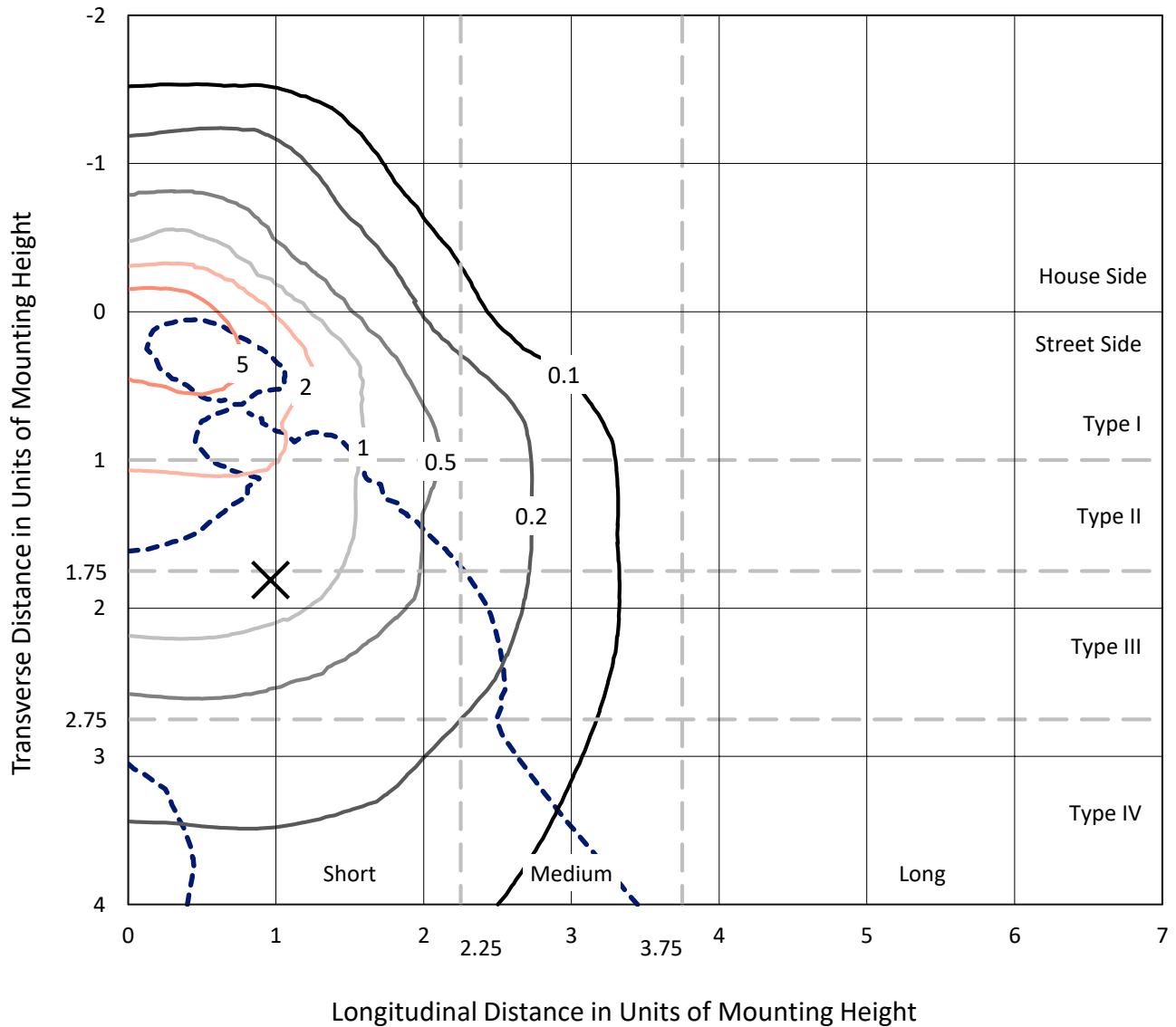
Input Watts (W): 400.1  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

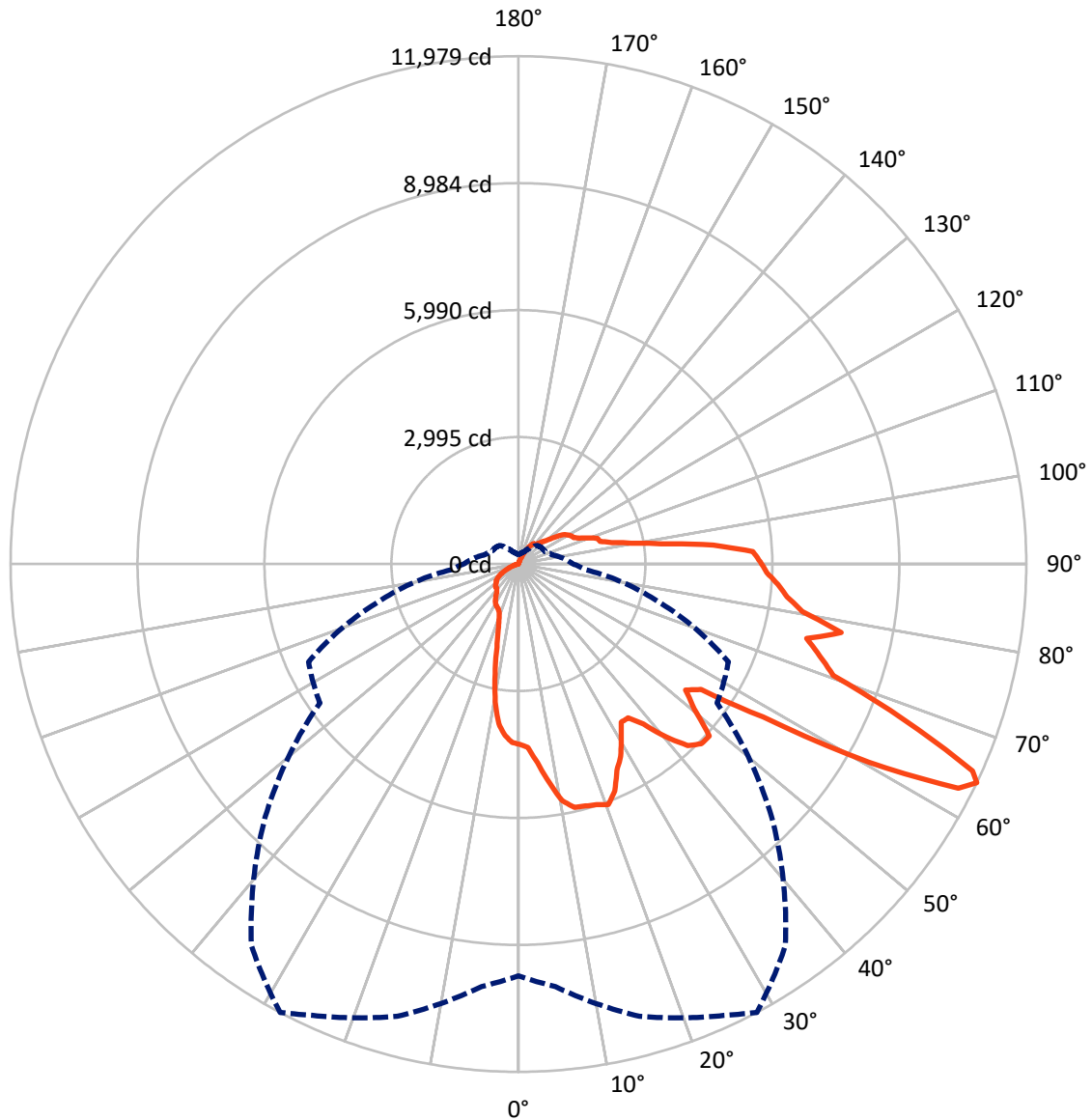
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 9.2 fc  
 Type IV - Short - Non-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 28-Deg Lateral    - - - Horizontal Cone Through 64-Deg Vertical

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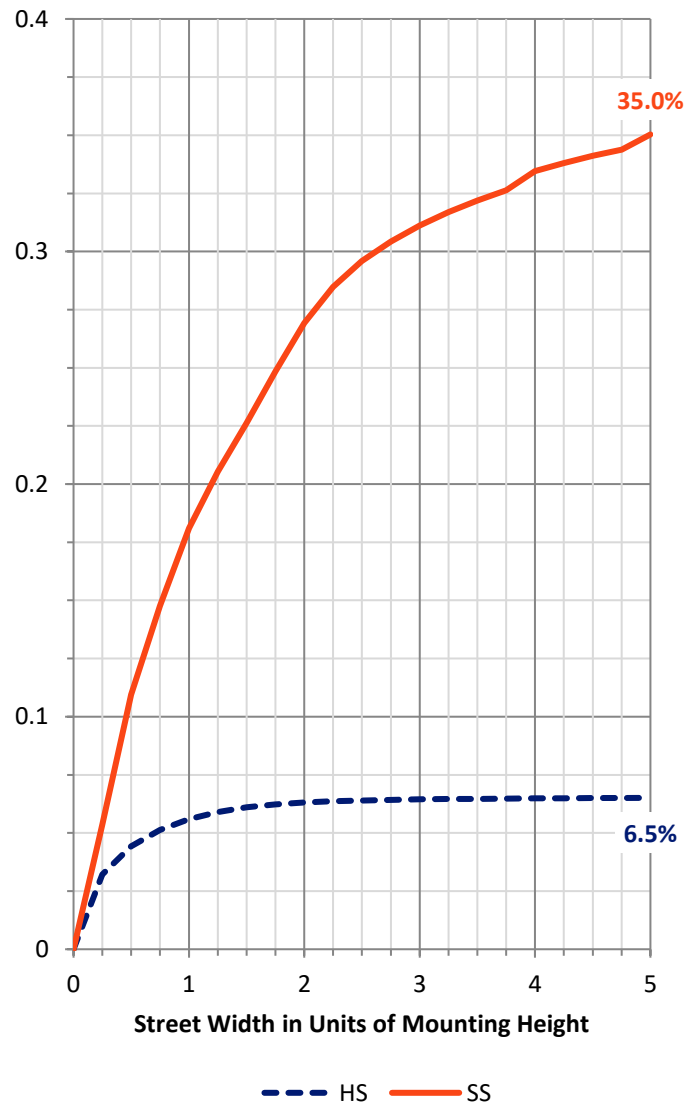
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	2894.9	61.2	2956.1
	% Lamp	6.6	0.1	6.7
<b>Street Side</b>	Lumens	16837.3	3345.2	20182.6
	% Lamp	38.3	7.6	45.9
<b>Total</b>	Lumens	19732.2	3406.5	23138.7
	% Lamp	44.8	7.7	52.6

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture	% Lamp
0°-10°	429.2	1.9	1.0
10°-20°	1264.6	5.5	2.9
20°-30°	1917.1	8.3	4.4
30°-40°	2308.1	10.0	5.2
40°-50°	2521.5	10.9	5.7
50°-60°	2725.7	11.8	6.2
60°-70°	3706.1	16.0	8.4
70°-80°	2759.3	11.9	6.3
80°-90°	2100.6	9.1	4.8
90°-100°	1445.0	6.2	3.3
100°-110°	781.4	3.4	1.8
110°-120°	510.9	2.2	1.2
120°-130°	345.7	1.5	0.8
130°-140°	195.0	0.8	0.4
140°-150°	99.5	0.4	0.2
150°-160°	26.8	0.1	0.1
160°-170°	2.0	0.0	0.0
170°-180°	0.0	0.0	0.0
0°-90°	19732.2	85.3	44.8
0°-180°	23138.7	100.0	52.6



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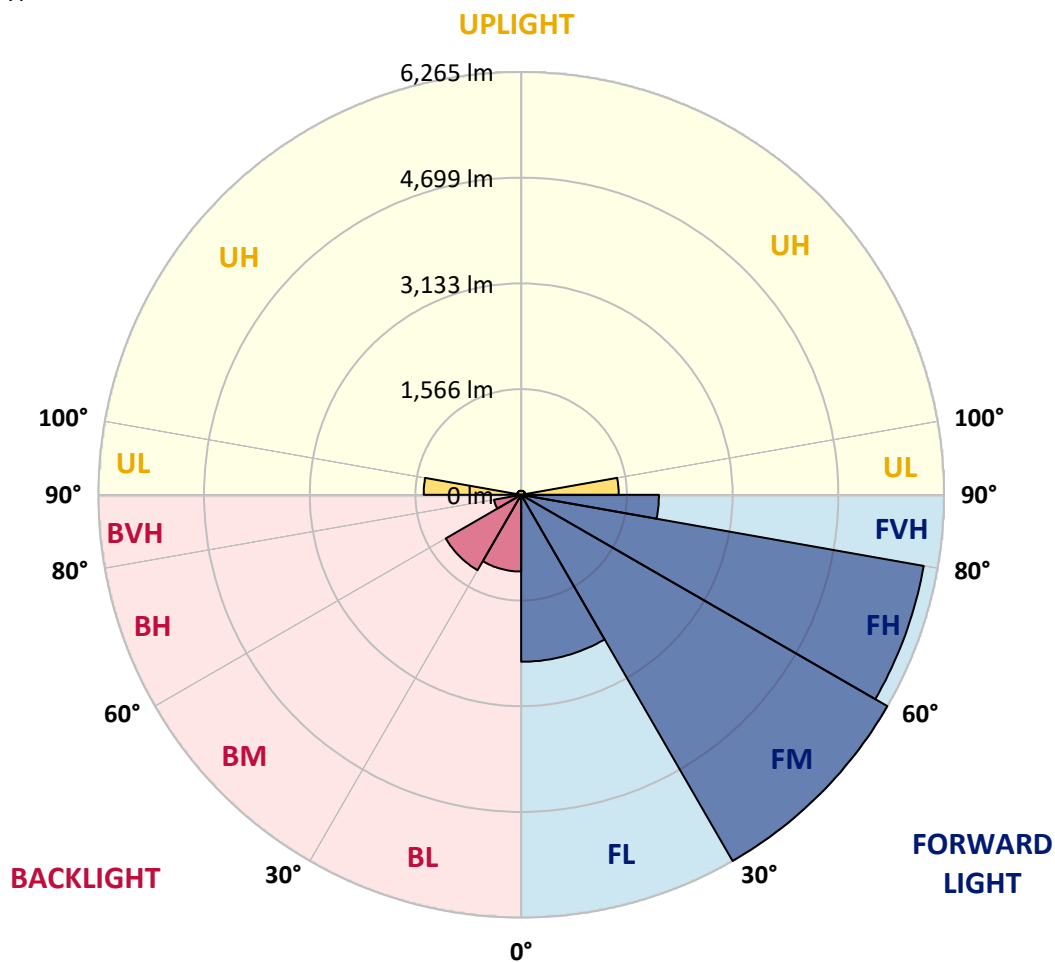
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Lamp	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	2474.0	5.6			
FM (30°-60°)	6265.3	14.2			
FH (60°-80°)	6057.3	13.8			G3/7500
FVH (80°-90°)	2040.7	4.6			G5
BL (0°-30°)	1136.9	2.6	B3/2500		
BM (30°-60°)	1289.9	2.9	B2/2500		
BH (60°-80°)	408.1	0.9	B1/500		G1/500
BVH (80°-90°)	59.9	0.1			G1/100
UL (90°-100°)	1445.0	3.3		U5	
UH (100°-180°)	61.2	0.1		U3/500	
Trapped Light	20861.3	47.4			

**BUG Rating: B3-U5-G5**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	28°	35°	45°	55°	65°	75°	85°
0°	4256	4256	4256	4256	4256	4256	4256	4256	4256	4256	4256
2.5°	4329	4339	4325	4324	4331	4307	4304	4291	4279	4280	4266
5°	4682	4687	4707	4700	4709	4672	4648	4626	4584	4542	4487
7.5°	5059	5086	5156	5174	5204	5241	5185	5101	4977	4866	4738
10°	5316	5348	5470	5655	5679	5695	5659	5568	5385	5161	4924
12.5°	5356	5401	5626	5842	5892	6008	6089	6055	5835	5485	5121
15°	5205	5277	5544	5847	5923	6158	6446	6534	6192	5707	5225
17.5°	5111	5202	5534	5890	5966	6248	6712	6743	6541	5997	5356
20°	4578	4680	5181	5854	6056	6485	6727	7044	6869	6244	5511
22.5°	4184	4247	4688	5460	5816	6677	7051	7360	7193	6541	5668
25°	4015	4087	4456	5123	5389	6350	7599	7717	7497	6631	5652
27.5°	3780	3846	4246	4872	5143	5970	7786	8089	7813	6783	5640
30°	3644	3695	3988	4484	4774	5621	7730	8280	8163	6872	5487
32.5°	3613	3681	3962	4265	4449	5248	7337	8492	8284	6819	5268
35°	3884	3902	4061	4332	4454	4989	6617	8406	8205	6616	5039
37.5°	4049	4103	4452	4704	4788	5021	6035	7926	7805	6331	4746
40°	4152	4185	4498	5238	5368	5525	5681	7215	7380	6053	4528
42.5°	4476	4545	4796	5545	5852	6105	5644	6466	6946	5868	4351
45°	4189	4277	4801	5673	6051	6501	6173	5756	6528	5771	4081
47.5°	3672	3712	4193	5530	6061	6921	6513	5321	6267	5660	3826
50°	3518	3545	3849	4859	5368	6801	6938	5055	5936	5618	3492
52.5°	3232	3352	3832	4627	4935	5927	7575	4949	5487	5534	3102
55°	3281	3356	4074	5060	5221	5551	6606	5603	5067	5232	2749
57.5°	5013	5028	5677	6665	6806	6482	6085	6605	4844	4777	2401
60°	7916	8135	8791	9346	9504	8865	6706	6398	5044	4188	2079
62.5°	10181	10359	11322	11512	11645	10625	8042	5986	5335	3633	1789
64°	9712	10004	11046	11735	11979	10981	8448	5716	5463	3403	1599
65°	8932	9340	10511	11449	11768	10911	8377	5667	5529	3319	1551
67.5°	7053	7397	8548	9377	9813	9760	7974	5614	5042	3158	1406
70°	6134	6409	7157	7682	7876	7855	7787	5429	4335	3197	1406
72.5°	5817	5930	6672	7257	7440	6958	6734	5199	3800	2939	1393
75°	5657	5739	6541	6966	7019	6346	5691	4636	3310	2544	1233
77.5°	5929	5975	7040	7785	7781	6667	5349	4189	2875	2297	1151
80°	5258	5445	6225	6709	6790	6326	5578	3762	2460	2054	954
82.5°	5167	5342	6164	6459	6384	5957	4949	3240	2157	1804	821
85°	4659	4858	5542	6085	6142	5799	4414	2638	1916	1586	658
87.5°	4323	4523	5188	5797	5862	5615	3757	2150	1671	1376	512
90°	4226	4441	5085	5597	5706	5303	3049	1876	1464	1164	398
92.5°	4386	4604	5106	5529	5538	4410	2490	1745	1381	1018	321
95°	4454	4630	4991	4933	4620	3412	2175	1668	1340	924	251
97.5°	3618	3734	4059	3655	3395	2813	1923	1663	1281	783	220
100°	2716	2813	3081	2854	2701	2319	1764	1706	1207	672	214
102.5°	2217	2266	2511	2357	2256	1985	1631	1574	1131	572	191
105°	1899	1952	2147	2068	1996	1771	1509	1450	993	530	189
107.5°	1673	1732	2022	1990	1963	1671	1390	1268	852	484	182



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	15°	25°	28°	35°	45°	55°	65°	75°	85°
110°	1492	1553	1794	1767	1746	1549	1310	1111	771	441	168
112.5°	1308	1350	1526	1578	1560	1451	1273	1033	706	401	161
115°	1183	1213	1375	1444	1447	1412	1259	1052	627	360	147
117.5°	1144	1162	1322	1400	1412	1396	1305	979	587	345	148
120°	1116	1125	1244	1332	1353	1343	1160	903	558	316	136
122.5°	1067	1098	1193	1255	1270	1230	1023	796	553	289	118
125°	980	997	1093	1125	1126	1076	955	743	522	259	96
127.5°	874	883	939	949	961	980	863	704	474	219	85
130°	758	760	787	835	845	877	799	662	438	179	68
132.5°	665	674	710	756	770	806	745	621	391	137	58
135°	591	601	636	678	687	736	718	590	333	106	51
137.5°	535	539	562	605	627	690	720	547	247	78	36
140°	492	497	513	577	601	687	675	446	169	49	19
142.5°	482	477	498	574	601	656	577	322	122	41	24
145°	444	446	470	535	553	550	454	242	80	16	8
147.5°	417	422	449	485	482	447	345	161	52	19	8
150°	375	376	383	376	372	344	231	101	29	11	7
152.5°	312	310	309	297	288	225	138	62	15	10	5
155°	238	242	234	190	178	144	80	27	6	4	0
157.5°	164	165	155	133	122	89	39	5	6	2	0
160°	102	105	91	71	61	45	8	0	0	0	0
162.5°	66	63	58	45	39	23	0	2	6	4	4
165°	23	25	16	6	8	0	0	0	2	1	0
167.5°	0	0	0	0	1	6	1	0	1	4	1
170°	0	0	0	0	0	2	0	0	0	0	0
172.5°	0	0	2	0	0	2	0	1	3	0	0
175°	0	0	0	2	1	0	0	0	3	1	0
177.5°	0	0	0	0	0	0	0	0	0	0	0
180°	0	0	0	0	0	0	0	0	0	0	0





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**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	4256	4256	4256	4256	4256	4256	4256	4256	4256	4256	4256
2.5°	4267	4255	4248	4245	4237	4231	4221	4206	4206	4209	4210
5°	4475	4439	4380	4318	4236	4167	4095	4034	4006	3989	3985
7.5°	4700	4654	4539	4410	4258	4062	3911	3748	3643	3589	3579
10°	4847	4771	4608	4420	4207	3894	3530	3208	2977	2878	2872
12.5°	4992	4878	4644	4348	3947	3445	2961	2520	2230	2118	2103
15°	5059	4922	4621	4194	3558	2873	2306	1908	1661	1548	1533
17.5°	5146	4983	4606	3988	3089	2350	1840	1520	1328	1241	1234
20°	5264	5048	4551	3645	2636	1953	1536	1270	1111	1057	1064
22.5°	5392	5130	4488	3282	2274	1717	1358	1156	1035	964	941
25°	5354	5056	4198	2879	2016	1522	1257	1103	967	854	839
27.5°	5304	4965	3822	2492	1795	1396	1199	1100	914	783	768
30°	5084	4728	3362	2175	1614	1316	1160	1055	830	705	698
32.5°	4856	4408	2906	1928	1499	1237	1139	980	776	667	656
35°	4587	3949	2483	1721	1400	1184	1067	888	739	665	639
37.5°	4229	3430	2070	1537	1274	1109	967	807	698	661	648
40°	3924	3024	1763	1378	1183	1038	897	763	674	643	642
42.5°	3603	2633	1553	1234	1105	973	840	726	675	630	636
45°	3238	2318	1427	1113	1050	929	830	739	625	578	562
47.5°	2886	2017	1320	1038	995	902	801	709	568	525	511
50°	2541	1829	1222	964	969	864	793	639	548	467	457
52.5°	2254	1704	1169	926	909	835	764	627	503	423	409
55°	2001	1568	1123	878	857	842	737	587	444	391	387
57.5°	1788	1432	1069	842	817	787	718	497	412	382	374
60°	1558	1304	983	794	773	724	631	441	370	322	311
62.5°	1388	1188	896	727	698	664	515	372	291	256	247
64°	1289	1129	830	692	670	618	453	319	266	234	226
65°	1251	1090	809	667	627	581	403	287	237	209	206
67.5°	1129	964	711	594	550	458	313	216	176	161	157
70°	1042	840	612	527	466	344	228	169	132	123	133
72.5°	995	726	518	452	363	249	150	113	92	77	77
75°	868	615	434	393	274	175	96	68	39	28	36
77.5°	789	543	393	366	237	136	76	36	14	13	12
80°	620	426	353	307	190	95	41	0	4	0	0
82.5°	497	329	290	263	175	71	27	0	0	0	0
85°	372	254	228	205	136	67	11	0	0	0	0
87.5°	271	203	190	179	115	56	20	0	0	0	0
90°	234	163	159	146	89	46	13	0	4	0	0
92.5°	164	145	120	124	74	41	11	0	0	0	0
95°	139	123	105	88	49	27	0	0	0	0	0
97.5°	115	108	86	71	36	10	0	0	0	0	0
100°	141	116	100	74	42	24	6	0	0	0	0
102.5°	122	98	96	60	35	14	2	0	0	0	0
105°	120	101	90	56	30	16	0	0	0	0	0
107.5°	117	99	77	58	33	11	0	0	0	0	0



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**CANDELA DISTRIBUTION (continued):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
110°	114	96	70	51	21	3	0	0	0	0	0
112.5°	113	86	65	44	21	2	0	0	0	0	0
115°	98	79	58	33	11	0	0	0	0	0	0
117.5°	95	68	52	32	6	0	0	0	0	0	0
120°	73	51	30	13	0	0	0	0	0	0	0
122.5°	70	60	39	21	4	0	0	0	0	0	0
125°	69	52	36	11	0	0	0	0	0	0	0
127.5°	57	41	27	0	0	0	0	0	0	0	0
130°	53	39	22	5	1	0	0	0	0	0	0
132.5°	45	35	15	2	0	0	0	0	0	0	0
135°	38	30	13	0	0	0	0	0	0	0	0
137.5°	32	20	5	0	0	0	0	0	0	0	0
140°	16	9	0	0	0	0	0	0	0	0	0
142.5°	20	13	1	0	0	0	0	0	0	0	0
145°	8	2	0	0	0	0	0	0	0	0	0
147.5°	11	5	0	0	0	0	0	0	0	0	0
150°	6	1	0	0	0	0	0	0	0	0	0
152.5°	6	1	0	0	0	0	0	0	0	0	0
155°	0	0	0	0	0	0	0	0	0	0	0
157.5°	0	0	0	0	0	0	0	0	0	0	0
160°	0	0	0	0	0	0	0	0	0	0	0
162.5°	0	0	0	0	0	0	0	0	0	0	0
165°	0	0	0	0	0	0	0	0	0	0	0
167.5°	3	0	0	0	0	0	0	0	0	0	0
170°	0	0	0	0	0	0	0	0	0	0	0
172.5°	1	0	0	0	0	0	0	0	0	0	0
175°	0	0	0	0	0	0	0	0	0	0	0
177.5°	1	0	0	0	0	0	0	0	0	0	0
180°	0	0	0	0	0	0	0	0	0	0	0

(END OF REPORT)