

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: P145460

Luminaire Tested: **LDRL-SL4-E05-E**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P145460  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33703)  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: LDRL-SL4-E05-E  
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE  
(5) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 W/ SPILL LIGHT CONTROL  
Light Source: (105) 4000K CCT, 70 CRI LEDs  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 14410.1 lumens  
Efficiency: N/A  
Efficacy: 113.2 lumens/watt  
Luminous Opening: Rectangular (W 0.83' x L: 1' x H: 0')  
IES Classification: Type IV - Short - Semi-Cutoff  
BUG Rating: B2 - U0 - G3

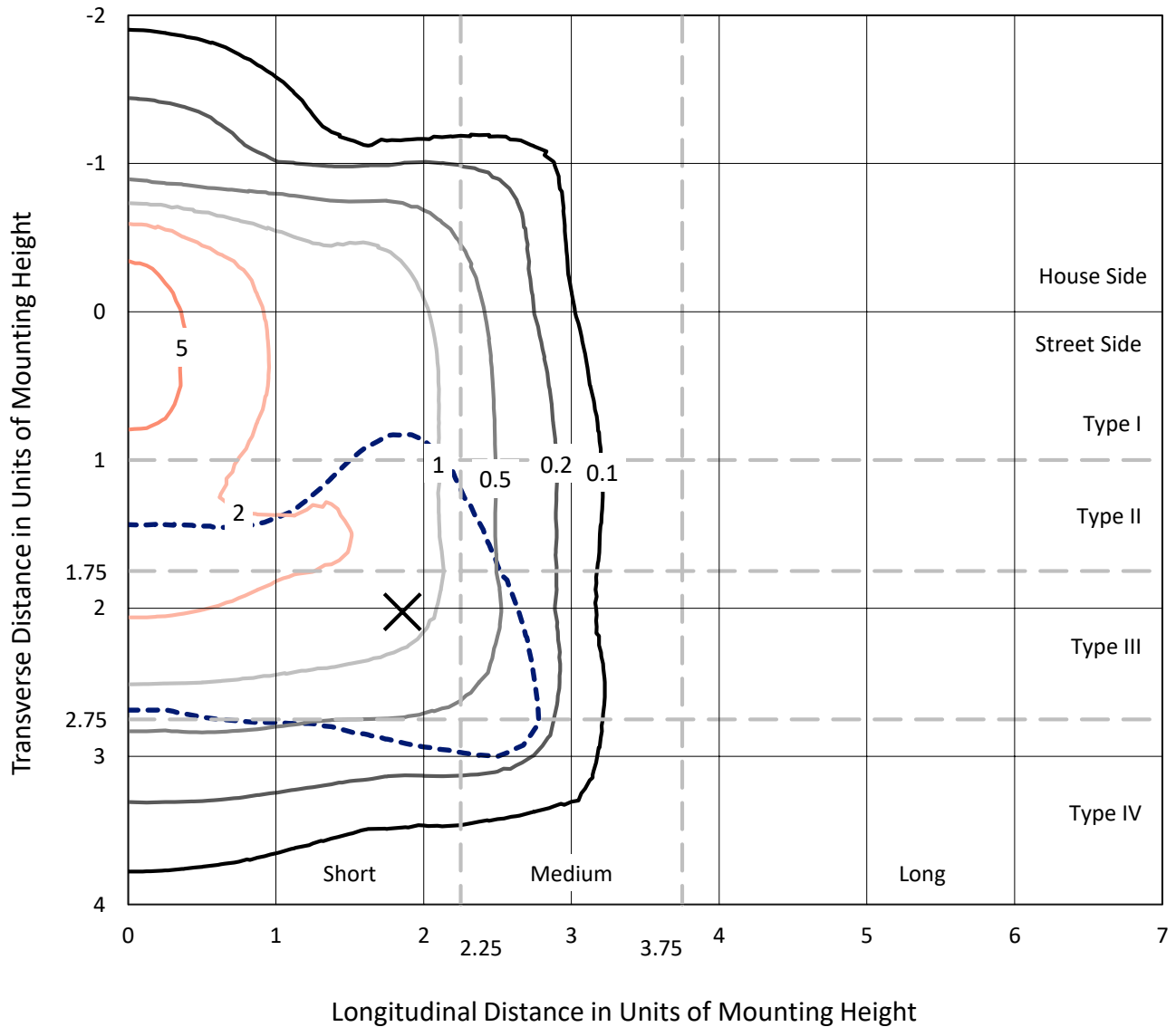
Input Watts (W): 127.3  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

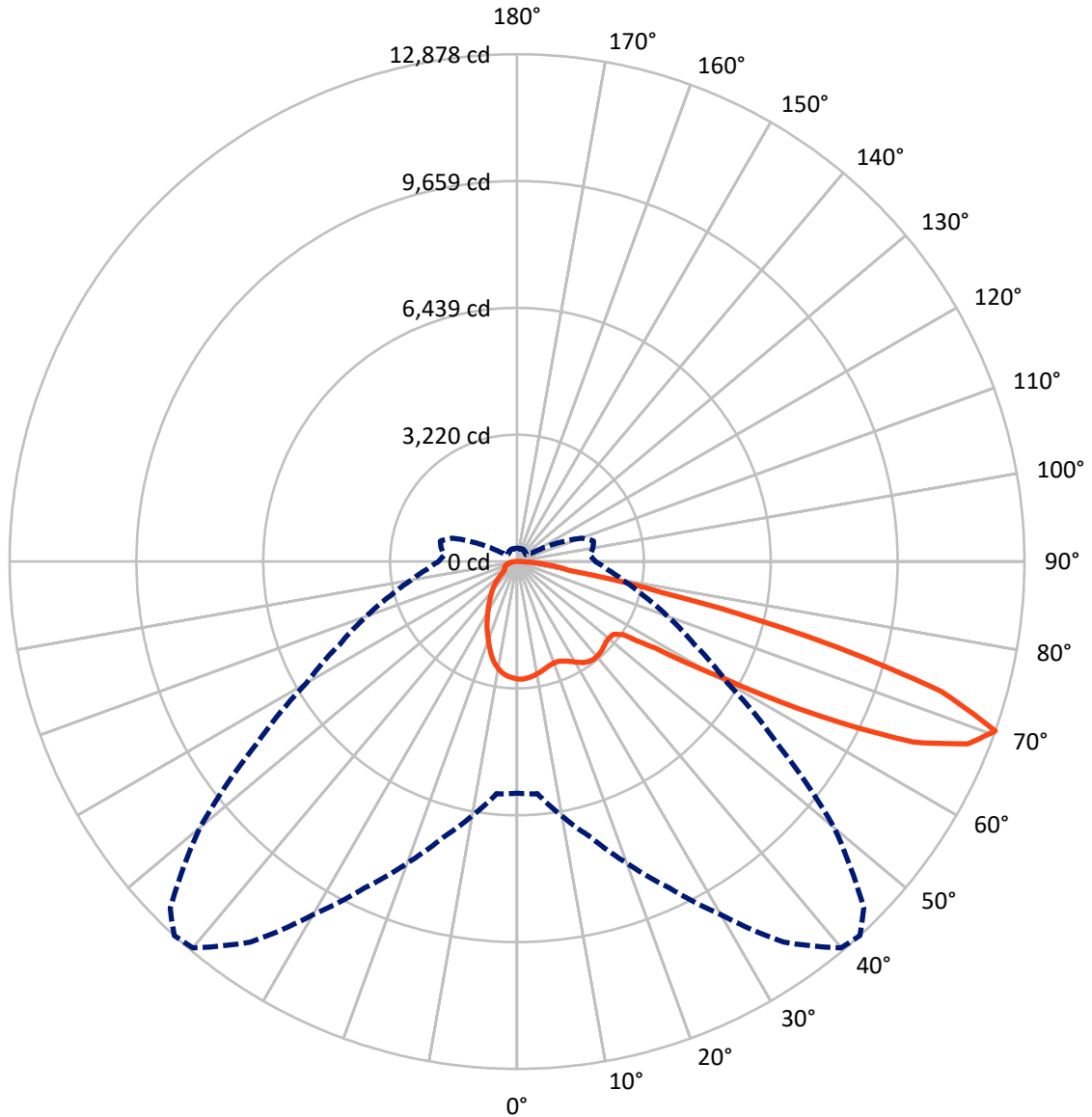
✕ Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 7.4 fc  
 Type IV - Short - Semi-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 42.5-Deg Lateral    - - - Horizontal Cone Through 70-Deg Vertical

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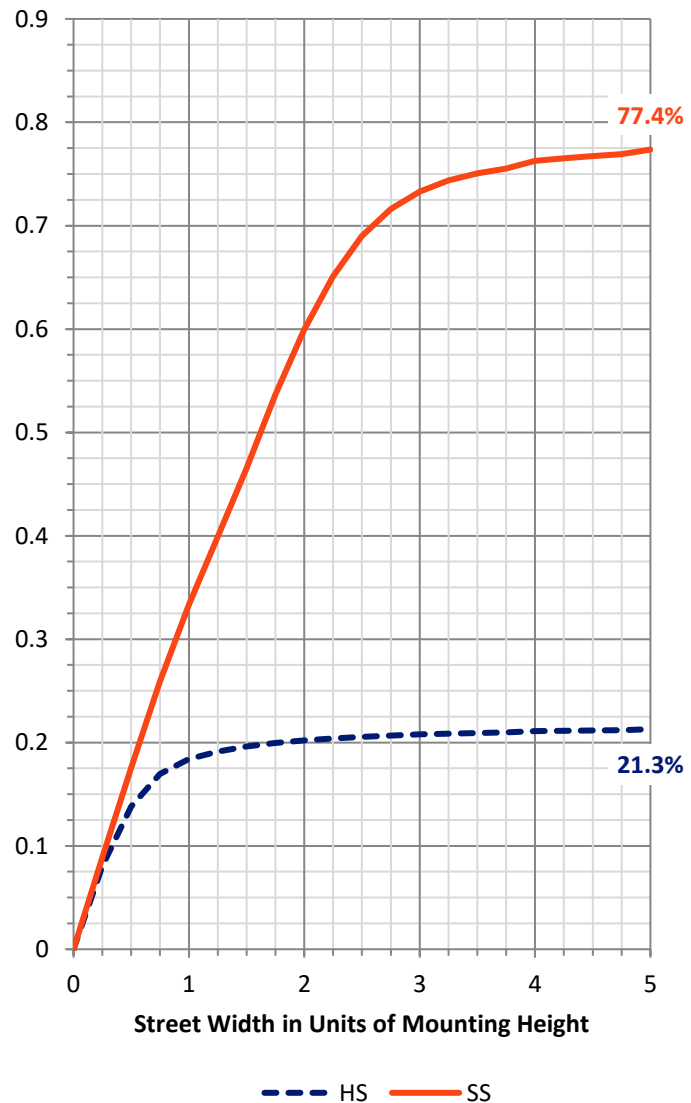
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	3112.9	0.0	3112.9
	% Fixture	21.6	0.0	21.6
<b>Street Side</b>	Lumens	11297.3	0.0	11297.3
	% Fixture	78.4	0.0	78.4
<b>Total</b>	Lumens	14410.1	0.0	14410.1
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	277.3	1.9
10°-20°	746.9	5.2
20°-30°	1089.5	7.6
30°-40°	1389.6	9.6
40°-50°	1621.9	11.3
50°-60°	2480.3	17.2
60°-70°	4496.2	31.2
70°-80°	1999.1	13.9
80°-90°	309.4	2.1
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-90°	14410.1	100.0
0°-180°	14410.1	100.0



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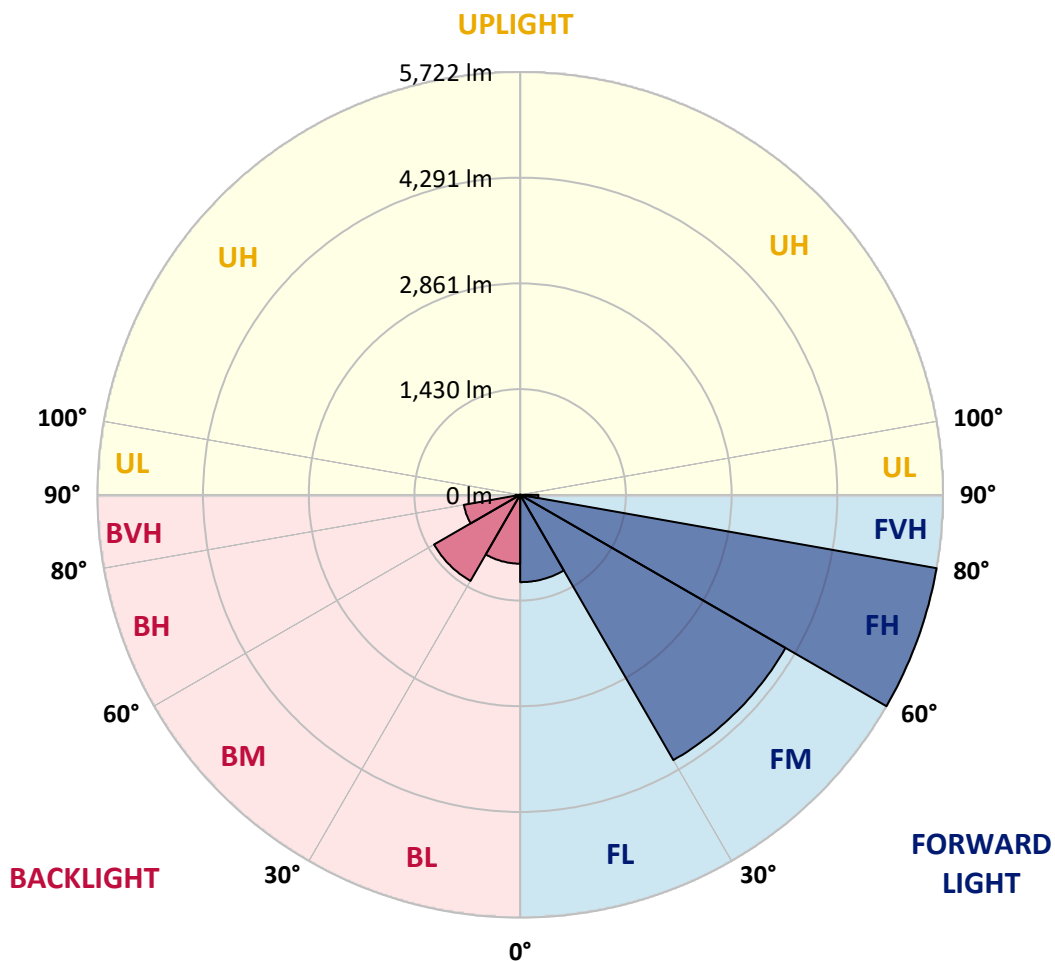
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1182.0	8.2			
FM	(30°-60°)	4146.2	28.8			
FH	(60°-80°)	5722.0	39.7			G3/7500
FVH	(80°-90°)	247.2	1.7			G3/500
BL	(0°-30°)	931.7	6.5	B2/1000		
BM	(30°-60°)	1345.6	9.3	B2/2500		
BH	(60°-80°)	773.3	5.4	B2/1000		G2/1000
BVH	(80°-90°)	62.2	0.4			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B2-U0-G3**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	42.5°	45°
0°	2980	2980	2980	2980	2980	2980	2980	2980	2980	2980	2980
2.5°	2994	2991	2993	2995	2995	2996	2987	2988	2984	2985	2986
5°	2983	2980	2982	2982	2982	2981	2969	2968	2963	2963	2961
7.5°	2962	2951	2957	2958	2956	2951	2944	2937	2934	2934	2927
10°	2930	2918	2921	2923	2922	2912	2909	2902	2894	2891	2883
12.5°	2889	2881	2885	2884	2884	2875	2870	2860	2850	2845	2835
15°	2863	2853	2857	2857	2853	2844	2837	2819	2802	2796	2783
17.5°	2879	2869	2873	2870	2863	2844	2826	2797	2770	2754	2737
20°	2943	2933	2936	2934	2924	2893	2860	2810	2760	2736	2710
22.5°	3045	3037	3042	3039	3023	2983	2934	2862	2787	2751	2714
25°	3196	3194	3202	3193	3170	3110	3039	2942	2844	2799	2747
27.5°	3378	3361	3373	3365	3349	3273	3177	3054	2929	2870	2808
30°	3542	3527	3549	3545	3521	3443	3322	3178	3037	2962	2891
32.5°	3732	3713	3730	3730	3694	3589	3451	3286	3138	3058	2973
35°	3931	3911	3927	3922	3858	3719	3546	3367	3204	3122	3035
37.5°	4116	4113	4117	4084	3995	3817	3610	3410	3237	3151	3060
40°	4301	4294	4277	4219	4089	3875	3643	3425	3239	3149	3057
42.5°	4417	4404	4375	4296	4133	3889	3633	3402	3215	3123	3033
45°	4457	4444	4409	4320	4134	3867	3594	3356	3170	3086	2995
47.5°	4424	4416	4384	4295	4102	3826	3545	3310	3127	3045	2960
50°	4368	4363	4335	4253	4072	3801	3522	3288	3115	3039	2959
52.5°	4508	4493	4443	4346	4135	3846	3558	3321	3143	3066	2984
55°	6229	6118	5870	5405	4754	4249	3824	3538	3346	3271	3193
57.5°	8192	8076	7973	7618	6845	5891	5033	4531	4187	4154	4123
60°	8948	8985	8976	8844	8448	7995	7277	6684	6027	6000	6039
62.5°	9469	9500	9504	9464	9335	9184	9034	8844	8719	8665	8316
65°	9684	9729	9828	9902	9923	9975	10111	10628	11059	11056	10647
67.5°	8863	8917	9292	9660	9969	10327	10878	11719	12368	12348	12013
70°	5882	5916	6553	7246	8145	9139	10343	11793	12799	12878	12446
72.5°	3608	3686	3894	4175	4655	5576	7366	9844	11320	11246	10902
75°	2436	2440	2434	2464	2491	2677	3398	5413	7668	7708	7560
77.5°	1665	1687	1699	1691	1718	1710	1752	1855	2939	3751	3447
80°	1455	1464	1477	1458	1408	1380	1419	1382	1302	1345	1288
82.5°	921	948	951	1017	1115	1119	1169	1132	1030	963	881
85°	662	672	690	694	660	631	649	618	557	521	461
87.5°	386	396	414	403	369	327	295	254	201	188	166
90°	0	0	0	0	0	0	0	0	0	0	0



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**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°
0°	2980	2980	2980	2980	2980	2980	2980	2980	2980	2980	2980
2.5°	2987	2982	2978	2976	2980	2976	2972	2970	2966	2967	2962
5°	2959	2952	2946	2941	2945	2938	2932	2928	2923	2922	2917
7.5°	2920	2909	2901	2892	2882	2876	2869	2862	2851	2850	2848
10°	2869	2860	2844	2830	2816	2801	2786	2775	2762	2757	2750
12.5°	2818	2800	2781	2759	2742	2718	2698	2677	2658	2646	2633
15°	2758	2739	2712	2691	2667	2640	2614	2583	2552	2533	2515
17.5°	2706	2682	2660	2630	2606	2575	2536	2503	2466	2435	2402
20°	2666	2639	2613	2586	2557	2522	2479	2432	2385	2341	2292
22.5°	2650	2607	2578	2553	2523	2483	2435	2377	2319	2263	2206
25°	2664	2600	2555	2527	2500	2459	2405	2339	2271	2200	2132
27.5°	2702	2621	2557	2513	2482	2442	2382	2313	2236	2156	2083
30°	2757	2656	2576	2513	2467	2421	2356	2278	2197	2113	2031
32.5°	2817	2695	2599	2516	2445	2387	2319	2243	2157	2068	1980
35°	2862	2723	2609	2505	2414	2341	2268	2194	2110	2020	1932
37.5°	2881	2734	2607	2482	2371	2291	2215	2141	2060	1975	1894
40°	2882	2734	2595	2451	2326	2239	2159	2090	2014	1941	1869
42.5°	2863	2720	2573	2422	2293	2195	2113	2042	1981	1916	1855
45°	2829	2692	2553	2406	2281	2184	2096	2029	1974	1916	1863
47.5°	2803	2676	2554	2429	2310	2210	2115	2044	1997	1951	1913
50°	2808	2682	2566	2447	2330	2229	2137	2076	2048	2033	2024
52.5°	2834	2706	2618	2539	2501	2439	2388	2342	2349	2313	2267
55°	3102	3059	3160	3233	3269	3332	3423	3336	3324	3213	2883
57.5°	4165	4267	4422	4532	4543	4524	4449	4377	4260	4093	3631
60°	5948	5924	5780	5587	5437	5240	5042	4875	4687	4431	3939
62.5°	7823	7245	6732	6295	5924	5595	5296	5045	4787	4419	3895
65°	9337	8225	7321	6618	6066	5601	5215	4869	4524	4098	3590
67.5°	10419	8655	7291	6302	5528	4888	4326	3932	3578	3243	3014
70°	10505	8060	6168	4958	4065	3313	2730	2300	1992	1853	1952
72.5°	8977	5963	4101	3035	2409	1872	1505	1203	955	833	850
75°	5287	2863	1847	1376	1124	898	777	656	579	464	371
77.5°	2013	1245	932	774	552	397	313	270	248	245	232
80°	1160	913	639	418	306	259	222	190	177	174	179
82.5°	733	569	351	269	223	192	160	139	128	124	131
85°	379	285	214	184	171	156	128	107	106	111	128
87.5°	140	122	96	83	89	83	60	52	47	62	90
90°	0	0	0	0	0	0	0	0	0	0	0





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**CANDELA DISTRIBUTION (continued):**

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°
0°	2980	2980	2980	2980	2980	2980	2980	2980	2980	2980	2980
2.5°	2962	2960	2961	2959	2959	2962	2958	2955	2960	2960	2963
5°	2916	2918	2918	2917	2919	2924	2923	2923	2931	2934	2938
7.5°	2843	2846	2847	2850	2851	2858	2863	2869	2881	2884	2893
10°	2744	2742	2749	2748	2757	2763	2767	2780	2798	2808	2817
12.5°	2627	2627	2631	2632	2640	2648	2653	2669	2684	2697	2717
15°	2503	2499	2490	2489	2492	2500	2511	2523	2546	2565	2582
17.5°	2373	2361	2350	2336	2335	2334	2340	2349	2385	2404	2428
20°	2258	2232	2206	2177	2160	2152	2155	2167	2201	2226	2251
22.5°	2155	2116	2075	2029	2001	1984	1986	1991	2016	2031	2044
25°	2067	2013	1956	1897	1858	1832	1831	1831	1820	1822	1815
27.5°	2007	1932	1859	1790	1739	1713	1678	1653	1631	1601	1588
30°	1949	1872	1789	1713	1652	1601	1536	1482	1439	1398	1363
32.5°	1897	1817	1738	1655	1571	1483	1398	1336	1275	1212	1170
35°	1851	1776	1697	1603	1485	1370	1274	1190	1118	1042	981
37.5°	1825	1757	1675	1547	1399	1268	1161	1067	971	880	805
40°	1812	1752	1652	1490	1322	1182	1063	950	837	730	652
42.5°	1810	1752	1618	1432	1256	1106	973	837	700	596	527
45°	1828	1750	1582	1380	1197	1038	878	718	577	486	448
47.5°	1880	1757	1554	1336	1141	963	770	586	466	425	424
50°	1964	1789	1548	1304	1086	869	643	469	411	409	420
52.5°	2097	1849	1563	1282	1020	747	509	405	394	405	419
55°	2390	1956	1583	1243	913	592	419	384	389	402	415
57.5°	2923	2178	1604	1155	740	455	377	376	385	396	408
60°	3261	2452	1655	1025	559	376	361	371	382	390	400
62.5°	3272	2524	1682	886	416	344	347	366	379	382	387
65°	3061	2388	1560	721	345	326	337	354	367	369	373
67.5°	2674	2106	1322	544	314	312	324	337	346	354	360
70°	2014	1738	1063	422	295	293	305	316	324	334	344
72.5°	1021	1203	806	345	269	271	284	294	300	309	319
75°	348	525	510	279	240	248	254	265	274	280	285
77.5°	218	228	263	225	212	214	224	234	244	248	250
80°	182	183	184	180	181	187	193	204	214	216	217
82.5°	144	154	153	152	157	163	167	171	175	177	180
85°	127	125	126	129	125	121	120	120	126	133	136
87.5°	116	99	74	70	70	68	64	64	70	76	79
90°	0	0	0	0	0	0	0	0	0	0	0



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**CANDELA DISTRIBUTION (continued):**

	160°	165°	170°	175°	180°
0°	2980	2980	2980	2980	2980
2.5°	2962	2963	2962	2962	2967
5°	2940	2944	2942	2945	2948
7.5°	2895	2905	2907	2915	2912
10°	2830	2837	2847	2855	2852
12.5°	2727	2744	2759	2768	2766
15°	2596	2620	2640	2647	2639
17.5°	2456	2471	2495	2500	2508
20°	2279	2278	2299	2299	2295
22.5°	2048	2063	2063	2049	2042
25°	1812	1817	1802	1805	1786
27.5°	1575	1562	1550	1555	1541
30°	1349	1321	1309	1311	1296
32.5°	1132	1099	1087	1071	1058
35°	935	883	852	844	853
37.5°	742	705	668	641	644
40°	587	549	525	514	512
42.5°	485	463	458	459	459
45°	440	441	445	449	450
47.5°	431	437	444	449	450
50°	430	436	441	447	449
52.5°	429	433	436	439	442
55°	425	427	426	428	431
57.5°	415	416	414	415	421
60°	406	407	403	408	409
62.5°	395	394	392	395	395
65°	379	373	375	378	379
67.5°	360	354	354	356	359
70°	336	333	333	337	341
72.5°	309	311	317	323	329
75°	287	292	298	313	322
77.5°	259	260	265	280	296
80°	220	219	220	222	225
82.5°	174	172	166	168	164
85°	128	125	118	113	112
87.5°	74	74	71	67	63
90°	0	0	0	0	0

(END OF REPORT)