

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: P144860

Luminaire Tested: **LDRL-SL2-E05-E**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P144860
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33701)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: LDRL-SL2-E05-E
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(5) LIGHTBARS WITH AccuLED OPTICS - TYPE 2 W/ SPILL LIGHT CONTROL
Light Source: (105) 4000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14639.9 lumens
Efficiency: N/A
Efficacy: 115.0 lumens/watt
Luminous Opening: Rectangular (W 0.83' x L: 1' x H: 0')
IES Classification: Type II - Short - Non-Cutoff
BUG Rating: B2 - U0 - G2

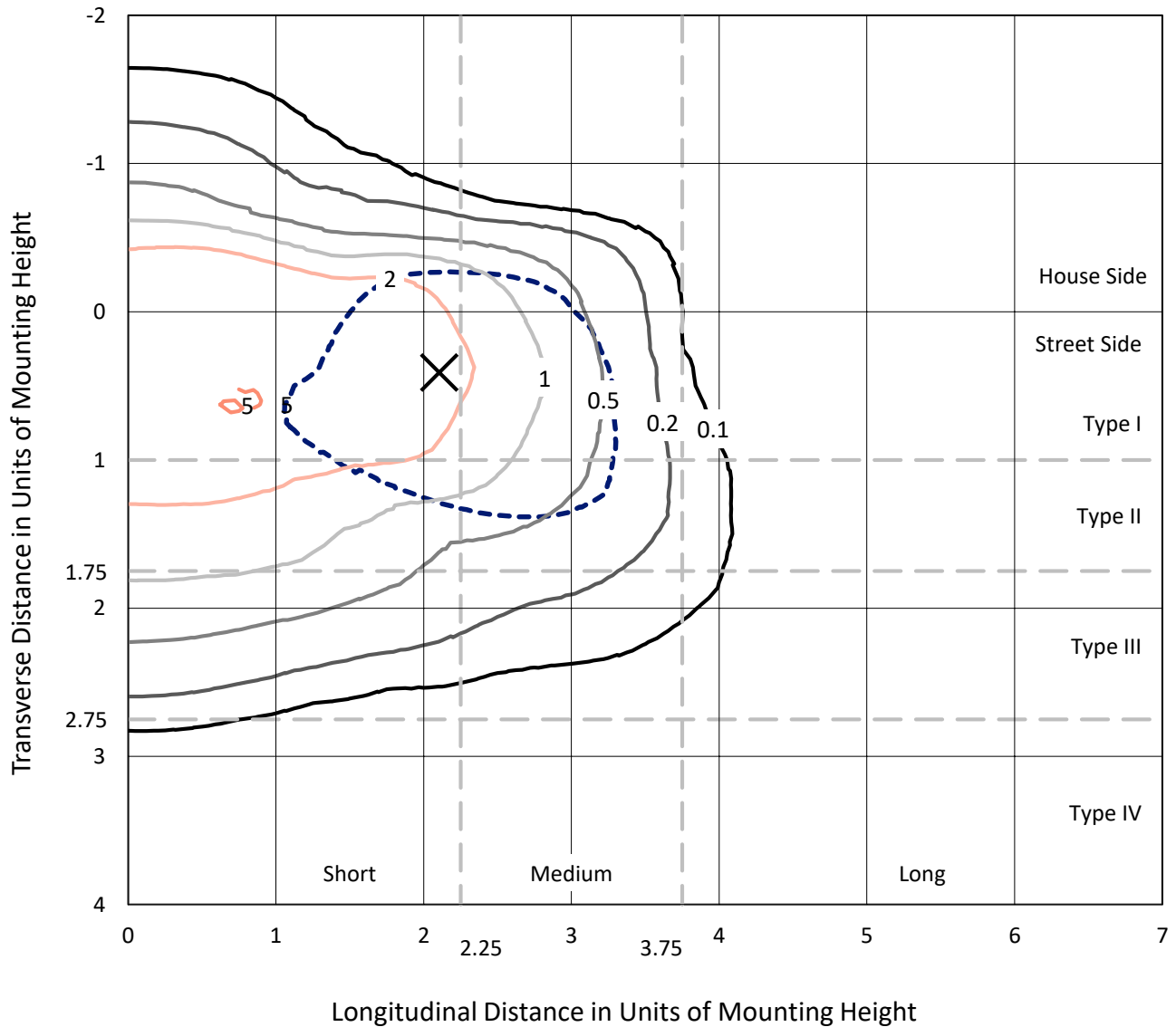
Input Watts (W): 127.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

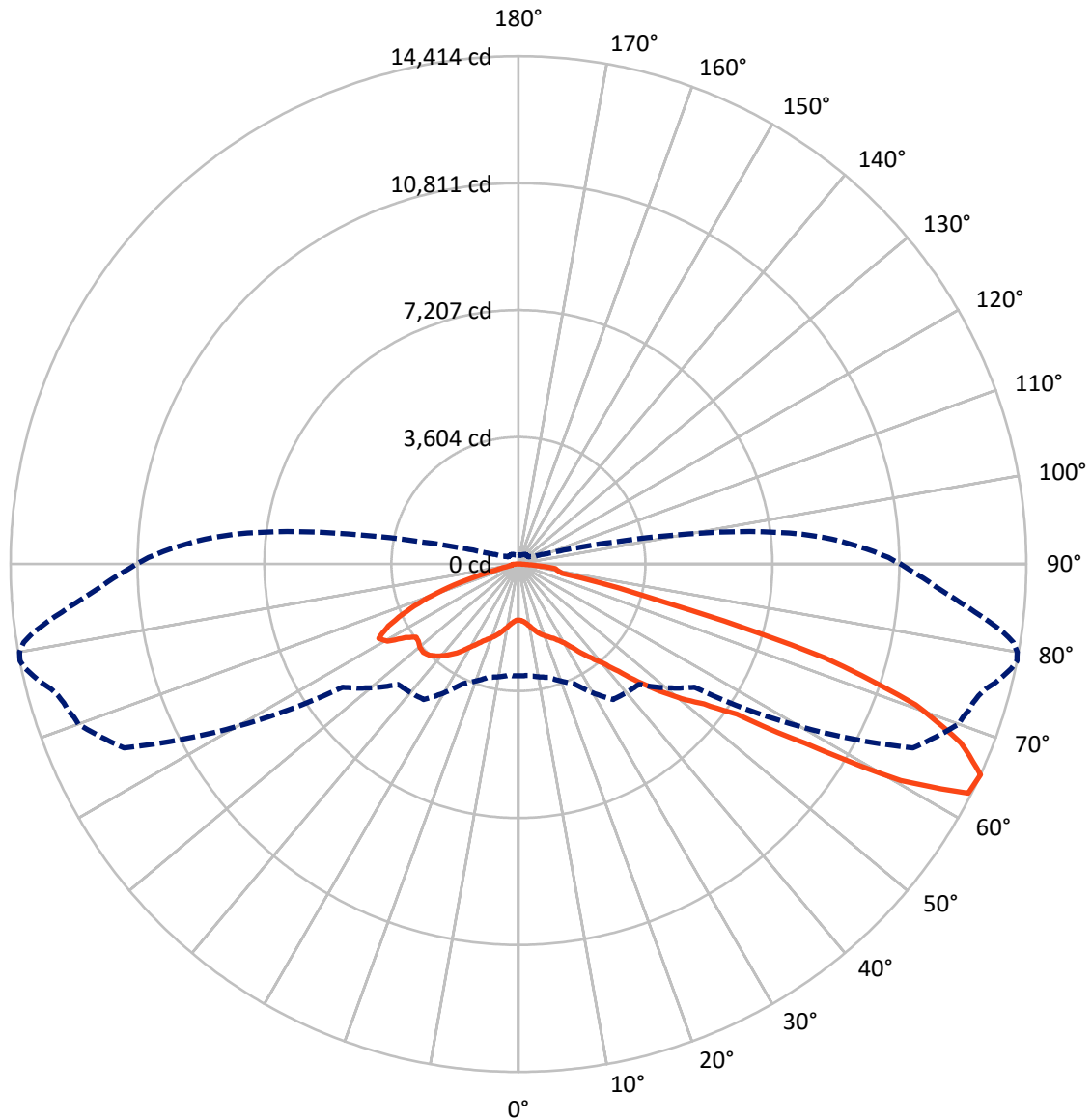
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 5.1 fc
 Type II - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 79-Deg Lateral - - - Horizontal Cone Through 65-Deg Vertical

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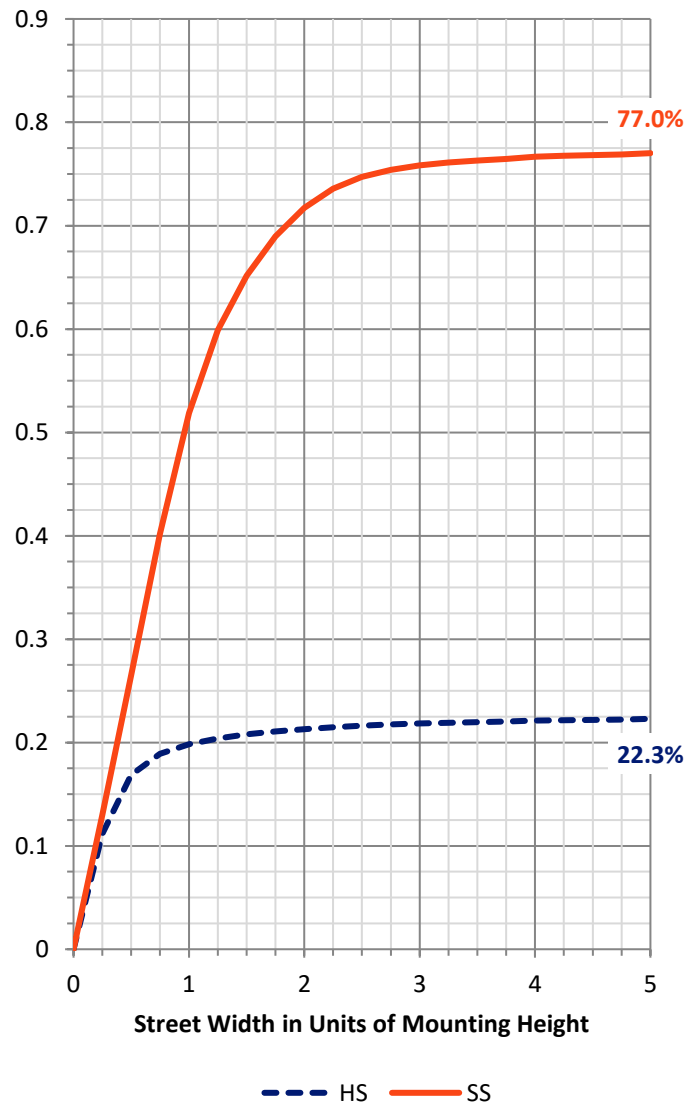
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3323.1	0.0	3323.1
	% Fixture	22.7	0.0	22.7
Street Side	Lumens	11316.8	0.0	11316.8
	% Fixture	77.3	0.0	77.3
Total	Lumens	14639.9	0.0	14639.9
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	158.0	1.1
10°-20°	514.1	3.5
20°-30°	886.3	6.1
30°-40°	1445.3	9.9
40°-50°	2412.8	16.5
50°-60°	3262.5	22.3
60°-70°	4053.0	27.7
70°-80°	1622.9	11.1
80°-90°	285.2	1.9
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°	14639.9	100.0
0°-180°	14639.9	100.0



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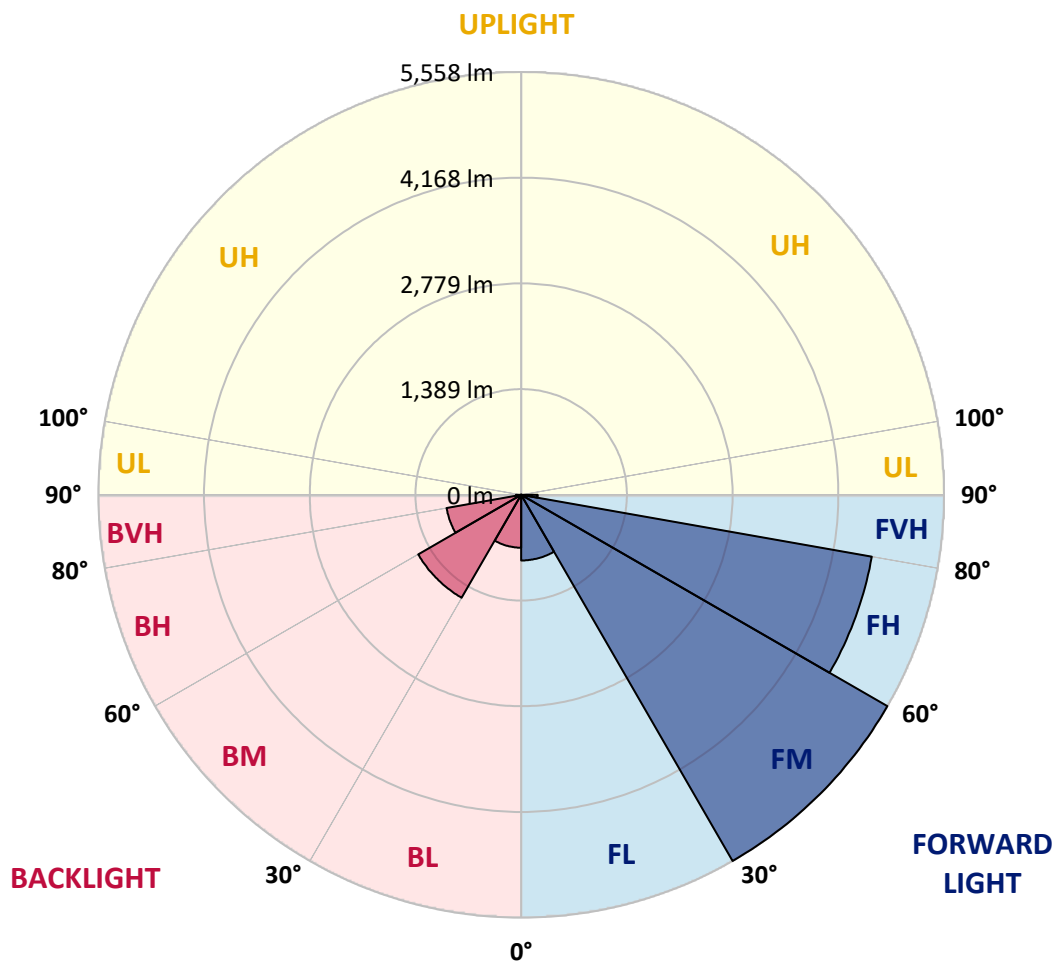
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	863.3	5.9			
FM (30°-60°)	5557.5	38.0			
FH (60°-80°)	4679.7	32.0			G2/5000
FVH (80°-90°)	216.3	1.5			G2/225
BL (0°-30°)	695.0	4.7	B2/1000		
BM (30°-60°)	1563.0	10.7	B2/2500		
BH (60°-80°)	996.2	6.8	B2/1000		G2/1000
BVH (80°-90°)	68.9	0.5			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G2

Type II Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	70°	71°	72°
0°	1591	1591	1591	1591	1591	1591	1591	1591	1591	1591	1591
2.5°	1603	1602	1607	1611	1611	1613	1612	1606	1607	1609	1607
5°	1621	1617	1622	1628	1632	1637	1642	1643	1647	1647	1646
7.5°	1660	1657	1664	1666	1675	1683	1693	1700	1704	1706	1709
10°	1727	1725	1727	1731	1735	1744	1761	1776	1785	1785	1789
12.5°	1808	1800	1802	1794	1796	1815	1835	1860	1875	1877	1879
15°	1871	1867	1864	1853	1861	1886	1917	1953	1966	1977	1976
17.5°	1930	1925	1918	1903	1911	1951	1998	2038	2060	2062	2064
20°	2000	1994	1981	1950	1948	2004	2067	2110	2130	2139	2142
22.5°	2089	2081	2057	1997	1981	2047	2122	2175	2196	2205	2210
25°	2203	2187	2149	2055	2022	2091	2181	2245	2274	2283	2289
27.5°	2306	2294	2248	2137	2080	2150	2253	2335	2375	2386	2395
30°	2426	2409	2372	2254	2178	2240	2371	2475	2524	2525	2545
32.5°	2708	2697	2663	2533	2405	2409	2531	2674	2723	2731	2749
35°	3126	3122	3121	3049	2954	2856	2865	2974	3007	3020	3026
37.5°	3401	3436	3521	3573	3549	3570	3460	3327	3308	3294	3300
40°	3638	3669	3841	4081	4227	4330	4233	3825	3673	3629	3612
42.5°	3778	3813	4059	4443	4815	5059	5085	4518	4132	4127	4063
45°	3854	3889	4183	4700	5226	5666	5894	5371	4804	4762	4673
47.5°	3839	3872	4178	4795	5469	6069	6525	6233	5579	5478	5355
50°	3656	3680	4001	4640	5404	6237	6957	7024	6456	6319	6135
52.5°	3467	3510	3776	4365	5109	6133	7215	7744	7275	7181	6945
55°	3365	3399	3616	4119	4798	5778	7322	8423	8270	8232	8065
57.5°	3361	3394	3567	3970	4545	5408	7353	9472	9921	9931	9883
60°	3525	3559	3704	4042	4467	5091	7242	10960	11952	12040	12187
62.5°	3548	3564	3739	4195	4751	4854	6785	12199	13348	13429	13510
65°	3174	3173	3328	3748	4692	4830	6098	12351	13292	13341	13442
67.5°	2367	2347	2435	2819	3723	4836	5284	11204	12256	12349	12383
70°	1220	1251	1311	1546	2364	3893	4539	9453	10759	10794	10915
72.5°	501	488	529	650	1183	2573	3755	7460	8886	8862	8884
75°	279	283	295	339	575	1292	3226	5281	6043	5629	5504
77.5°	224	226	227	235	314	689	2476	3478	3039	2822	2739
80°	164	175	187	189	216	391	1358	2928	2565	2385	2237
82.5°	132	137	163	167	172	233	615	2750	2555	2371	2167
85°	79	88	133	134	136	142	340	1120	1393	1231	1127
87.5°	28	36	66	55	70	58	149	375	462	439	389
90°	0	0	0	0	0	0	0	0	0	0	0



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CANDELA DISTRIBUTION (continued):

	73°	74°	75°	76°	77°	78°	79°	80°	81°	82°	83°
0°	1591	1591	1591	1591	1591	1591	1591	1591	1591	1591	1591
2.5°	1606	1606	1608	1607	1607	1607	1607	1605	1605	1602	1604
5°	1646	1645	1646	1647	1646	1648	1647	1646	1647	1646	1647
7.5°	1710	1705	1712	1708	1707	1713	1710	1713	1714	1713	1712
10°	1791	1794	1794	1794	1792	1798	1799	1801	1802	1806	1806
12.5°	1884	1885	1889	1888	1890	1897	1902	1903	1904	1907	1903
15°	1984	1986	1986	1995	1992	2002	2005	2005	2006	2018	2019
17.5°	2073	2073	2081	2081	2089	2091	2100	2101	2105	2116	2117
20°	2148	2152	2157	2163	2166	2172	2178	2184	2189	2198	2199
22.5°	2219	2223	2231	2235	2242	2246	2251	2258	2266	2278	2281
25°	2301	2305	2314	2320	2328	2334	2343	2352	2357	2369	2378
27.5°	2405	2417	2429	2432	2438	2452	2464	2476	2487	2493	2504
30°	2557	2557	2582	2582	2593	2606	2614	2627	2647	2653	2667
32.5°	2761	2766	2775	2802	2822	2828	2834	2853	2865	2880	2897
35°	3052	3057	3062	3088	3111	3117	3123	3135	3155	3181	3173
37.5°	3313	3316	3332	3361	3374	3390	3395	3417	3428	3452	3453
40°	3627	3620	3629	3662	3682	3681	3697	3737	3745	3756	3784
42.5°	4065	4039	4067	4078	4108	4127	4159	4186	4205	4247	4267
45°	4631	4604	4627	4632	4694	4713	4761	4797	4838	4886	4900
47.5°	5276	5226	5198	5229	5303	5334	5381	5415	5458	5483	5475
50°	6023	5903	5847	5831	5884	5928	6001	6017	6037	6036	6037
52.5°	6856	6731	6614	6533	6525	6584	6602	6606	6600	6555	6527
55°	7944	7935	7812	7644	7633	7626	7521	7508	7484	7415	7320
57.5°	9918	10018	9937	9933	9845	9787	9594	9498	9397	9210	9061
60°	12200	12345	12425	12460	12632	12632	12474	12338	12174	11889	11611
62.5°	13574	13701	13819	14004	14223	14320	14328	14207	14000	13675	13282
65°	13487	13581	13724	13942	14123	14297	14414	14377	14219	13894	13466
67.5°	12502	12639	12824	13025	13193	13357	13546	13560	13518	13209	12822
70°	10982	11158	11275	11528	11604	11770	11960	12051	11983	11745	11518
72.5°	8922	9061	9081	8971	9009	9050	9096	8883	8801	8483	8337
75°	5410	5227	5073	4920	4463	4301	4052	3561	3505	3168	2934
77.5°	2573	2496	2357	2124	1814	1517	1259	1023	935	770	656
80°	2154	2062	1937	1764	1547	1331	1127	952	776	632	505
82.5°	1976	1816	1640	1491	1338	1191	1054	896	803	648	529
85°	999	875	709	597	504	410	355	303	270	215	187
87.5°	335	274	204	173	156	134	123	117	114	101	90
90°	0	0	0	0	0	0	0	0	0	0	0



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CANDELA DISTRIBUTION (continued):

	84°	85°	86°	87°	88°	89°	90°	91°	92°	93°	94°
0°	1591	1591	1591	1591	1591	1591	1591	1591	1591	1591	1591
2.5°	1604	1604	1604	1604	1603	1603	1603	1603	1603	1603	1604
5°	1645	1645	1646	1649	1643	1645	1647	1644	1647	1644	1648
7.5°	1711	1714	1712	1716	1714	1720	1716	1713	1715	1715	1716
10°	1804	1808	1805	1807	1807	1811	1806	1807	1808	1806	1807
12.5°	1907	1909	1908	1914	1911	1914	1911	1915	1917	1919	1919
15°	2019	2021	2027	2026	2032	2030	2031	2026	2036	2030	2032
17.5°	2122	2121	2129	2132	2133	2134	2137	2133	2134	2137	2135
20°	2202	2209	2211	2219	2225	2227	2226	2229	2233	2229	2229
22.5°	2287	2297	2300	2305	2311	2312	2318	2321	2323	2322	2323
25°	2389	2396	2403	2413	2420	2421	2426	2430	2431	2430	2436
27.5°	2514	2523	2532	2544	2552	2554	2565	2565	2571	2574	2576
30°	2675	2678	2701	2713	2710	2724	2739	2738	2745	2747	2752
32.5°	2909	2909	2929	2944	2960	2955	2978	2974	2985	2991	2988
35°	3193	3203	3218	3227	3244	3253	3269	3278	3283	3282	3271
37.5°	3486	3502	3508	3530	3547	3562	3564	3554	3558	3538	3532
40°	3821	3844	3858	3891	3889	3908	3910	3881	3876	3850	3823
42.5°	4289	4321	4332	4357	4337	4346	4296	4284	4244	4202	4141
45°	4920	4904	4911	4904	4851	4812	4771	4712	4653	4572	4485
47.5°	5475	5483	5431	5398	5312	5257	5182	5079	5007	4898	4783
50°	6014	5925	5852	5776	5700	5599	5486	5395	5290	5154	5013
52.5°	6452	6337	6249	6141	6038	5926	5808	5676	5538	5402	5228
55°	7228	7061	6948	6759	6642	6485	6393	6222	6030	5850	5665
57.5°	8893	8643	8514	8407	8225	7967	7803	7522	7248	7056	6748
60°	11401	11147	10933	10680	10401	10051	9895	9564	9172	8855	8448
62.5°	12964	12613	12266	11911	11631	11357	11034	10700	10312	9881	9436
65°	13027	12606	12191	11829	11501	11145	10842	10503	10095	9651	9189
67.5°	12373	11902	11457	11060	10685	10355	10038	9719	9282	8910	8437
70°	11070	10640	10237	9785	9498	9127	8818	8482	8169	7821	7378
72.5°	8131	7807	7347	7155	7001	6608	6378	6350	6150	5733	5402
75°	3024	2574	2438	2519	2384	2429	2412	2316	2320	2249	2165
77.5°	592	550	517	526	489	473	507	497	479	484	476
80°	403	341	309	297	282	275	273	270	264	261	252
82.5°	397	295	233	200	188	182	177	176	174	173	176
85°	158	128	117	107	104	101	101	100	99	101	105
87.5°	77	65	59	54	52	51	51	52	53	57	65
90°	0	0	0	0	0	0	0	0	0	0	0



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CANDELA DISTRIBUTION (continued):

	95°	96°	97°	98°	99°	100°	101°	102°	103°	104°	105°
0°	1591	1591	1591	1591	1591	1591	1591	1591	1591	1591	1591
2.5°	1602	1603	1601	1602	1601	1599	1598	1601	1600	1599	1599
5°	1643	1647	1645	1643	1643	1642	1642	1642	1641	1642	1639
7.5°	1714	1713	1713	1711	1709	1711	1710	1707	1708	1706	1703
10°	1805	1802	1807	1807	1803	1802	1800	1797	1797	1794	1794
12.5°	1913	1910	1917	1912	1906	1905	1899	1897	1900	1899	1897
15°	2023	2024	2027	2026	2019	2019	2011	2012	2006	2004	1999
17.5°	2130	2131	2128	2128	2123	2120	2111	2112	2108	2100	2094
20°	2226	2225	2218	2224	2214	2212	2204	2196	2198	2190	2178
22.5°	2320	2318	2316	2313	2308	2306	2297	2296	2286	2274	2264
25°	2429	2428	2425	2426	2416	2417	2401	2397	2391	2378	2370
27.5°	2570	2570	2562	2559	2556	2552	2538	2528	2513	2498	2482
30°	2743	2741	2739	2731	2720	2714	2689	2673	2653	2625	2601
32.5°	2990	2973	2959	2941	2923	2904	2865	2838	2806	2761	2723
35°	3265	3236	3221	3184	3150	3112	3065	3010	2966	2907	2845
37.5°	3492	3470	3430	3388	3340	3268	3215	3156	3079	3014	2939
40°	3772	3722	3665	3595	3529	3448	3375	3290	3196	3102	3004
42.5°	4066	3989	3895	3814	3714	3608	3513	3398	3278	3152	3021
45°	4366	4271	4146	4031	3892	3759	3623	3466	3302	3134	2969
47.5°	4641	4502	4360	4205	4045	3874	3681	3475	3259	3038	2832
50°	4857	4683	4504	4325	4129	3907	3664	3395	3129	2864	2627
52.5°	5048	4853	4633	4411	4169	3896	3592	3275	2951	2658	2392
55°	5418	5173	4883	4597	4291	3947	3568	3180	2807	2488	2205
57.5°	6423	6092	5643	5246	4858	4357	3823	3345	2870	2493	2178
60°	8006	7467	6953	6348	5720	5033	4317	3673	3094	2621	2242
62.5°	8924	8355	7694	6961	6147	5310	4488	3736	3101	2586	2166
65°	8676	8104	7377	6627	5761	4905	4089	3367	2751	2275	1873
67.5°	7940	7342	6659	5827	4999	4206	3462	2782	2237	1793	1438
70°	6869	6337	5679	4912	4109	3396	2769	2156	1695	1288	1008
72.5°	5098	4627	4216	3575	2987	2428	1917	1500	1103	834	642
75°	2140	1981	1914	1679	1460	1197	901	718	582	495	393
77.5°	519	519	488	457	420	380	336	300	282	266	253
80°	252	250	242	241	234	225	220	213	210	206	204
82.5°	177	176	173	177	176	180	182	183	183	184	185
85°	112	116	124	134	143	154	164	172	178	183	187
87.5°	71	81	87	102	117	134	153	161	168	169	163
90°	0	0	0	0	0	0	0	0	0	0	0



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CANDELA DISTRIBUTION (continued):

	106°	107°	108°	109°	110°	115°	125°	135°	145°	155°	165°
0°	1591	1591	1591	1591	1591	1591	1591	1591	1591	1591	1591
2.5°	1599	1598	1600	1598	1598	1597	1594	1591	1588	1587	1584
5°	1638	1638	1640	1636	1637	1633	1624	1614	1605	1597	1588
7.5°	1704	1701	1702	1701	1699	1691	1671	1646	1622	1597	1577
10°	1792	1786	1786	1784	1781	1770	1728	1678	1628	1583	1550
12.5°	1890	1891	1883	1878	1873	1850	1787	1707	1628	1556	1503
15°	1992	1991	1982	1979	1968	1934	1839	1722	1609	1503	1424
17.5°	2084	2080	2071	2065	2053	2008	1874	1715	1559	1420	1321
20°	2168	2163	2155	2144	2132	2067	1887	1679	1480	1321	1221
22.5°	2255	2244	2235	2220	2207	2120	1878	1615	1390	1211	1104
25°	2352	2339	2320	2302	2282	2163	1853	1535	1282	1092	984
27.5°	2457	2438	2413	2390	2358	2195	1810	1446	1164	974	862
30°	2568	2533	2502	2467	2426	2210	1748	1336	1034	854	742
32.5°	2676	2629	2583	2532	2476	2204	1660	1206	904	742	648
35°	2786	2718	2654	2585	2517	2174	1539	1062	781	649	581
37.5°	2861	2776	2691	2608	2526	2109	1378	901	670	582	533
40°	2899	2795	2691	2588	2487	2001	1190	754	591	532	497
42.5°	2888	2759	2630	2508	2384	1829	986	633	536	493	462
45°	2797	2643	2496	2367	2212	1608	810	558	494	461	432
47.5°	2626	2454	2274	2128	1983	1352	674	511	457	430	401
50°	2408	2209	2029	1871	1729	1113	581	471	427	404	373
52.5°	2168	1954	1790	1624	1485	929	516	427	398	374	349
55°	1969	1771	1604	1437	1297	813	462	393	371	346	326
57.5°	1916	1690	1508	1350	1206	742	423	362	347	328	306
60°	1938	1689	1485	1312	1161	685	394	341	329	312	289
62.5°	1859	1596	1390	1206	1063	613	373	331	323	300	274
65°	1584	1343	1145	986	863	516	356	340	332	292	264
67.5°	1206	1005	846	727	638	427	352	370	354	296	261
70°	834	682	580	508	452	360	365	403	380	309	278
72.5°	529	442	392	365	338	304	362	399	368	311	278
75°	339	303	286	276	268	265	319	328	296	270	259
77.5°	240	234	231	230	231	238	264	247	215	216	222
80°	203	203	201	202	204	207	211	182	165	178	198
82.5°	186	189	191	193	196	192	179	138	133	173	194
85°	189	189	190	192	193	173	149	104	102	194	183
87.5°	162	160	153	148	141	119	99	58	60	120	128
90°	0	0	0	0	0	0	0	0	0	0	0

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CANDELA DISTRIBUTION (continued):

	175°	180°
0°	1591	1591
2.5°	1583	1583
5°	1583	1583
7.5°	1570	1566
10°	1532	1527
12.5°	1474	1469
15°	1385	1379
17.5°	1274	1264
20°	1158	1144
22.5°	1042	1031
25°	923	913
27.5°	806	796
30°	698	694
32.5°	618	614
35°	559	557
37.5°	519	517
40°	484	482
42.5°	452	449
45°	420	421
47.5°	388	387
50°	360	360
52.5°	337	336
55°	316	315
57.5°	295	294
60°	277	274
62.5°	260	258
65°	249	248
67.5°	241	238
70°	239	231
72.5°	233	223
75°	219	214
77.5°	193	187
80°	149	138
82.5°	125	108
85°	92	85
87.5°	67	53
90°	0	0

(END OF REPORT)