

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: P145160

Luminaire Tested: **LDRL-SL3-E05-E**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P145160  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33702)  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: LDRL-SL3-E05-E  
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE  
(5) LIGHTBARS WITH AccuLED OPTICS - TYPE 3 W/ SPILL LIGHT CONTROL  
Light Source: (105) 4000K CCT, 70 CRI LEDs  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 14843.5 lumens  
Efficiency: N/A  
Efficacy: 116.6 lumens/watt  
Luminous Opening: Rectangular (W 0.83' x L: 1' x H: 0')  
IES Classification: Type III - Short - Semi-Cutoff  
BUG Rating: B2 - U0 - G3

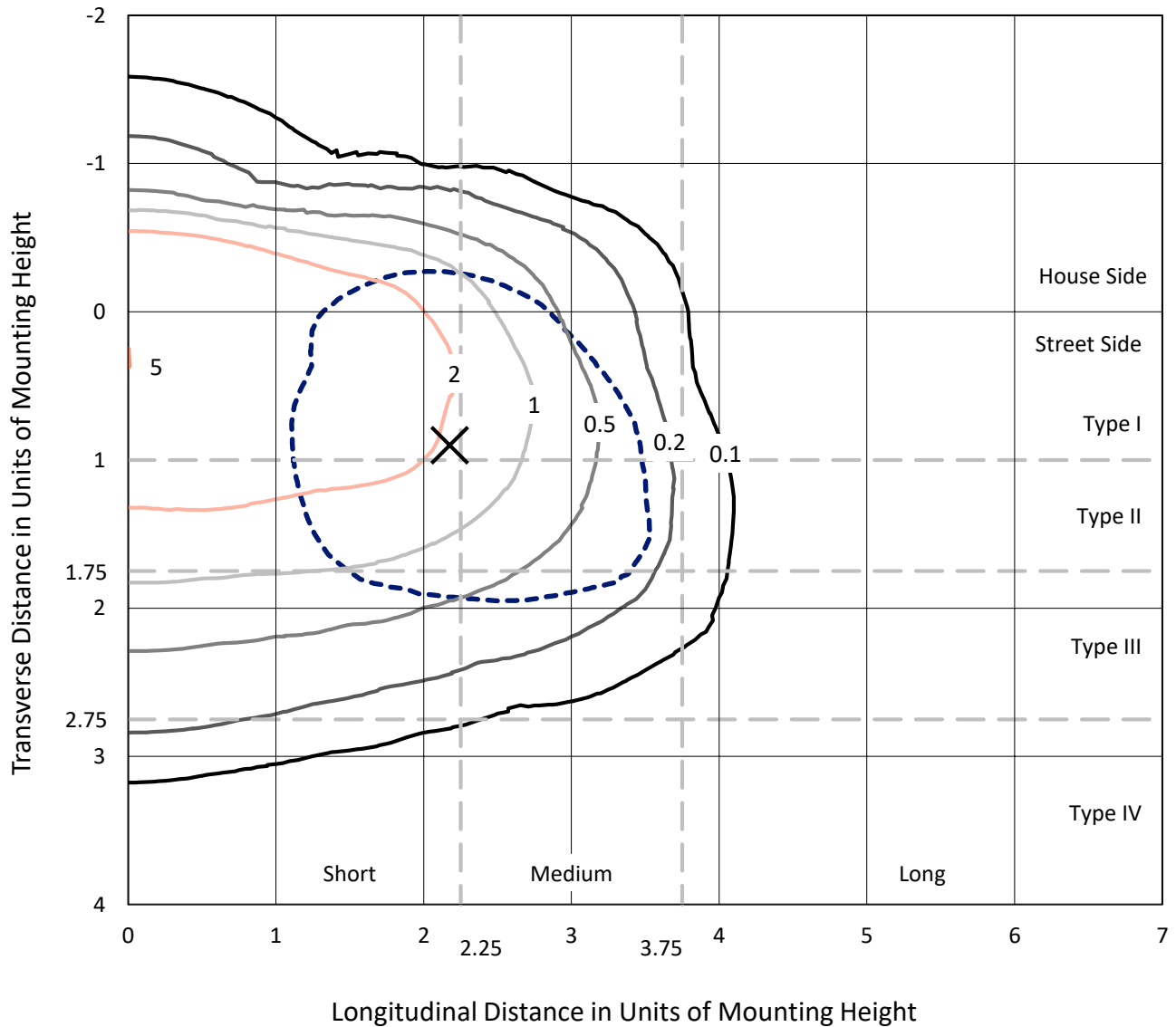
Input Watts (W): 127.3  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

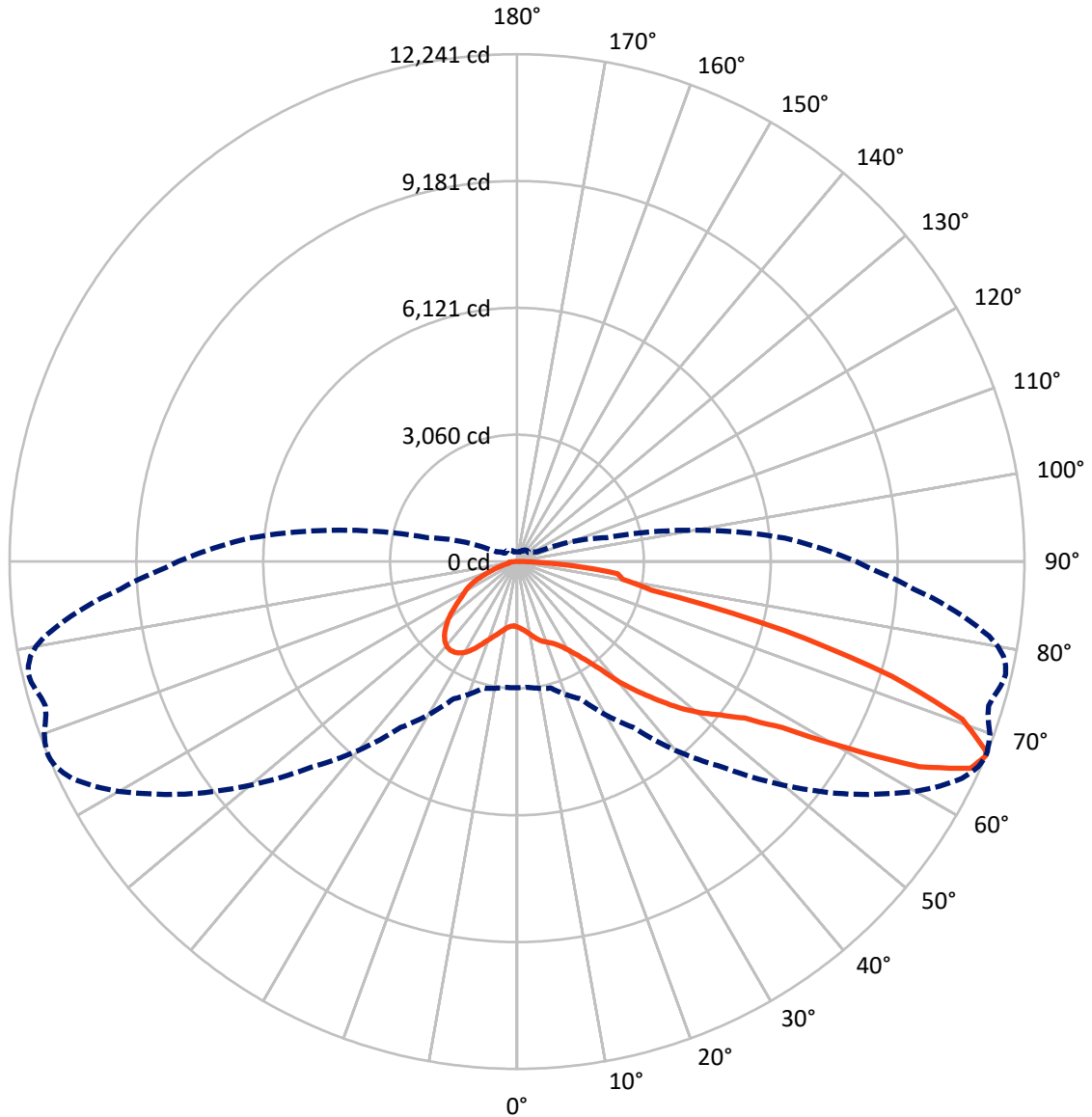
× Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 5 fc  
 Type III - Short - Semi-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 67.5-Deg Lateral    - - - Horizontal Cone Through 67-Deg Vertical

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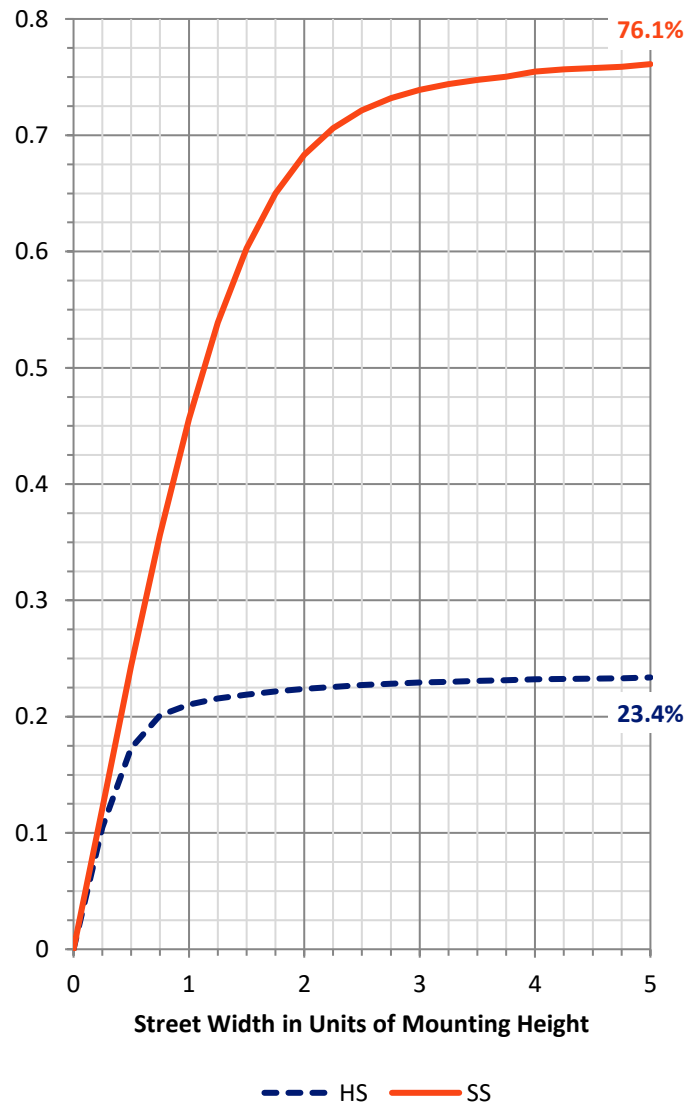
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	3514.9	0.0	3514.9
	% Fixture	23.7	0.0	23.7
<b>Street Side</b>	Lumens	11328.6	0.0	11328.6
	% Fixture	76.3	0.0	76.3
<b>Total</b>	Lumens	14843.5	0.0	14843.5
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	157.6	1.1
10°-20°	539.7	3.6
20°-30°	960.7	6.5
30°-40°	1399.4	9.4
40°-50°	2156.2	14.5
50°-60°	3157.8	21.3
60°-70°	4193.3	28.3
70°-80°	1976.6	13.3
80°-90°	302.2	2.0
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°	14843.5	100.0
0°-180°	14843.5	100.0



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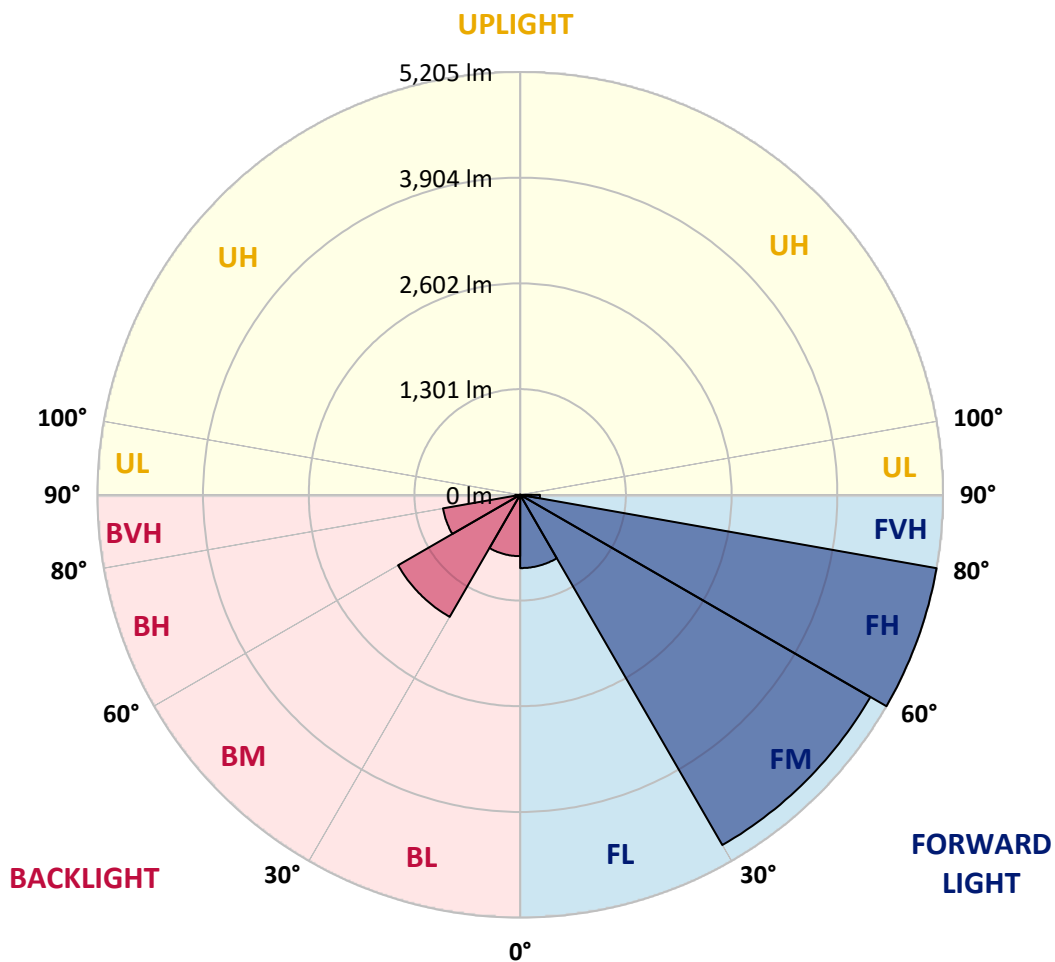
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	902.4	6.1			
FM	(30°-60°)	4977.8	33.5			
FH	(60°-80°)	5204.9	35.1			G3/7500
FVH	(80°-90°)	243.5	1.6			G3/500
BL	(0°-30°)	755.6	5.1	B2/1000		
BM	(30°-60°)	1735.7	11.7	B2/2500		
BH	(60°-80°)	964.9	6.5	B2/1000		G2/1000
BVH	(80°-90°)	58.7	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 III Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	60°	61°	62°	64°
0°	1579	1579	1579	1579	1579	1579	1579	1579	1579	1579	1579
2.5°	1658	1651	1652	1655	1645	1640	1629	1622	1621	1620	1616
5°	1755	1748	1751	1743	1724	1711	1688	1676	1674	1672	1667
7.5°	1856	1847	1837	1828	1807	1786	1756	1738	1736	1733	1730
10°	1976	1963	1955	1927	1891	1862	1832	1813	1812	1809	1803
12.5°	2111	2097	2082	2045	1989	1946	1911	1900	1891	1892	1886
15°	2245	2230	2210	2163	2089	2025	1980	1964	1965	1960	1963
17.5°	2358	2345	2316	2256	2170	2082	2025	2018	2020	2019	2022
20°	2432	2424	2380	2308	2211	2114	2056	2056	2057	2061	2068
22.5°	2477	2465	2407	2306	2210	2129	2084	2094	2100	2103	2114
25°	2502	2487	2408	2274	2176	2140	2126	2151	2161	2166	2184
27.5°	2502	2484	2395	2234	2137	2173	2206	2249	2256	2271	2292
30°	2474	2460	2375	2204	2127	2235	2335	2384	2401	2418	2445
32.5°	2444	2432	2365	2220	2183	2365	2532	2599	2609	2623	2651
35°	2442	2438	2409	2322	2352	2603	2829	2875	2903	2910	2922
37.5°	2463	2471	2496	2487	2595	2957	3218	3310	3332	3320	3331
40°	2512	2532	2625	2740	2966	3385	3748	3854	3878	3871	3868
42.5°	2667	2694	2831	3077	3352	3828	4240	4354	4362	4366	4340
45°	2910	2925	3107	3421	3770	4305	4731	4858	4853	4833	4814
47.5°	3186	3217	3435	3815	4202	4746	5228	5352	5363	5345	5310
50°	3437	3461	3707	4158	4583	5113	5647	5772	5770	5780	5790
52.5°	3635	3657	3891	4387	4863	5421	5963	6117	6141	6157	6177
55°	3737	3760	3976	4482	5033	5722	6328	6549	6590	6626	6659
57.5°	3739	3769	3967	4475	5121	5991	6811	7208	7266	7358	7471
60°	3678	3720	3898	4410	5222	6332	7607	8367	8481	8642	8787
62.5°	3519	3561	3720	4245	5340	6769	8757	9871	10114	10292	10579
65°	3268	3308	3442	3972	5246	7114	9614	10950	11198	11421	11758
67°	3044	3048	3161	3659	4880	7007	9786	11094	11323	11549	11940
67.5°	2965	2987	3075	3555	4741	6928	9718	11016	11238	11479	11878
70°	2397	2403	2488	2836	3762	5744	8729	10021	10173	10526	10918
72.5°	1462	1452	1479	1737	2476	3978	6989	8250	8458	8759	9024
75°	805	853	886	1065	1391	2339	4759	5969	6274	6453	6506
77.5°	492	488	503	687	1141	1600	2629	3502	3672	3723	3526
80°	234	243	240	283	553	1350	1838	2249	2335	2384	2448
82.5°	128	133	151	169	218	581	1586	2074	2132	2216	2310
85°	80	84	116	122	134	179	661	1212	1261	1428	1481
87.5°	33	36	63	57	68	63	200	308	327	348	386
90°	0	0	0	0	0	0	0	0	0	0	0



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**CANDELA DISTRIBUTION (continued):**

	65°	66°	67°	67.5°	68°	69°	70°	71°	72°	73°	74°
0°	1579	1579	1579	1579	1579	1579	1579	1579	1579	1579	1579
2.5°	1617	1616	1612	1611	1613	1613	1611	1608	1607	1606	1604
5°	1665	1663	1660	1658	1657	1657	1654	1651	1648	1644	1643
7.5°	1722	1722	1721	1718	1715	1711	1708	1705	1702	1700	1697
10°	1797	1801	1794	1792	1791	1785	1784	1781	1779	1774	1774
12.5°	1886	1882	1881	1877	1877	1874	1873	1872	1870	1866	1865
15°	1960	1960	1959	1957	1959	1957	1954	1956	1953	1954	1951
17.5°	2020	2024	2023	2024	2023	2023	2025	2025	2027	2023	2024
20°	2070	2076	2079	2077	2079	2080	2085	2087	2090	2092	2092
22.5°	2122	2130	2136	2136	2140	2144	2153	2155	2162	2161	2166
25°	2195	2208	2212	2218	2223	2230	2241	2246	2249	2256	2264
27.5°	2307	2323	2326	2333	2346	2350	2362	2367	2378	2393	2396
30°	2460	2480	2481	2489	2504	2509	2519	2532	2541	2556	2557
32.5°	2668	2688	2685	2700	2699	2714	2711	2731	2739	2747	2769
35°	2945	2943	2958	2963	2960	2972	2970	2979	2987	2987	3011
37.5°	3344	3341	3339	3318	3313	3314	3310	3318	3305	3305	3331
40°	3879	3861	3847	3833	3819	3800	3784	3780	3758	3757	3747
42.5°	4344	4327	4317	4290	4276	4273	4234	4223	4217	4221	4211
45°	4832	4814	4776	4764	4760	4739	4733	4706	4698	4712	4707
47.5°	5335	5309	5288	5274	5269	5251	5225	5247	5236	5228	5213
50°	5787	5758	5758	5733	5737	5725	5698	5704	5673	5685	5677
52.5°	6166	6168	6178	6150	6155	6155	6146	6117	6125	6121	6140
55°	6648	6681	6663	6668	6674	6702	6722	6705	6677	6699	6760
57.5°	7491	7521	7539	7553	7576	7589	7697	7712	7680	7746	7882
60°	8957	8993	9047	9118	9133	9224	9280	9346	9370	9427	9573
62.5°	10720	10801	10811	10901	10971	10886	10908	10989	10897	11023	11029
65°	11874	11992	11996	12029	12055	11975	11939	11903	11816	11811	11898
67°	12072	12180	12225	12241	12237	12196	12137	12033	11949	11901	11937
67.5°	12016	12122	12185	12200	12201	12161	12107	11994	11915	11861	11899
70°	11096	11344	11452	11396	11428	11428	11426	11322	11283	11231	11211
72.5°	9226	9398	9535	9462	9471	9539	9523	9534	9422	9410	9225
75°	6609	6664	6618	6670	6390	6290	6120	5872	5807	5704	5396
77.5°	3511	3449	3326	3316	3201	3112	3002	2930	2748	2647	2416
80°	2480	2510	2557	2585	2611	2631	2590	2475	2323	2153	1992
82.5°	2369	2410	2438	2452	2442	2410	2316	2206	2003	1856	1682
85°	1494	1527	1470	1458	1483	1281	1170	1080	875	814	719
87.5°	401	423	424	411	403	355	314	278	230	216	175
90°	0	0	0	0	0	0	0	0	0	0	0





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**CANDELA DISTRIBUTION (continued):**

	75°	76°	77°	78°	79°	80°	81°	82°	83°	84°	85°
0°	1579	1579	1579	1579	1579	1579	1579	1579	1579	1579	1579
2.5°	1604	1603	1603	1600	1598	1597	1596	1593	1591	1591	1590
5°	1642	1640	1637	1636	1632	1630	1626	1624	1621	1619	1618
7.5°	1696	1691	1685	1686	1680	1677	1675	1671	1668	1665	1664
10°	1768	1767	1761	1763	1752	1757	1747	1748	1742	1736	1735
12.5°	1860	1859	1853	1846	1844	1845	1839	1840	1833	1831	1829
15°	1948	1946	1943	1938	1935	1934	1932	1930	1924	1924	1917
17.5°	2024	2025	2021	2017	2015	2012	2011	2011	2006	2001	2002
20°	2091	2093	2093	2090	2091	2089	2088	2090	2085	2083	2080
22.5°	2166	2166	2167	2169	2172	2173	2173	2171	2168	2167	2161
25°	2270	2266	2271	2273	2273	2278	2276	2277	2278	2275	2272
27.5°	2401	2397	2407	2414	2413	2416	2422	2415	2419	2422	2415
30°	2562	2572	2579	2584	2582	2591	2594	2593	2590	2595	2595
32.5°	2767	2762	2780	2791	2792	2790	2795	2801	2796	2804	2800
35°	3011	3014	3018	3030	3035	3027	3035	3042	3040	3041	3045
37.5°	3326	3331	3327	3328	3326	3364	3370	3376	3369	3363	3381
40°	3763	3763	3762	3775	3753	3777	3770	3787	3805	3795	3822
42.5°	4193	4217	4219	4200	4216	4242	4242	4253	4269	4253	4279
45°	4686	4716	4711	4743	4719	4749	4754	4740	4775	4779	4769
47.5°	5224	5230	5231	5242	5247	5271	5270	5296	5288	5248	5262
50°	5685	5700	5708	5715	5740	5757	5780	5784	5778	5766	5755
52.5°	6146	6182	6205	6267	6306	6337	6375	6389	6382	6379	6335
55°	6763	6849	6982	7068	7162	7217	7261	7283	7267	7275	7184
57.5°	7925	8127	8243	8390	8556	8625	8644	8722	8636	8550	8481
60°	9652	9838	10049	10200	10256	10447	10357	10256	10164	9986	9785
62.5°	11211	11451	11559	11700	11662	11646	11586	11425	11228	10963	10695
65°	11980	12115	12182	12228	12185	12074	11876	11638	11356	11013	10661
67°	12011	12073	12095	12051	11955	11782	11532	11195	10848	10455	10059
67.5°	11960	12001	12012	11943	11829	11642	11375	11015	10646	10238	9840
70°	11264	11234	11137	11042	10686	10435	9970	9586	9074	8699	8274
72.5°	9151	9014	8920	8500	8070	7821	7321	6862	6395	6038	5777
75°	5137	5037	4776	4554	4199	3874	3641	3349	3069	2903	2781
77.5°	2321	2035	1838	1589	1284	1032	766	708	604	578	521
80°	1811	1606	1348	1063	750	504	370	314	295	283	277
82.5°	1511	1245	1048	744	476	320	241	218	204	194	185
85°	646	511	421	301	214	169	148	135	122	111	104
87.5°	151	116	106	90	85	84	83	79	74	68	61
90°	0	0	0	0	0	0	0	0	0	0	0



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**CANDELA DISTRIBUTION (continued):**

	86°	87°	88°	89°	90°	95°	105°	115°	125°	135°	145°
0°	1579	1579	1579	1579	1579	1579	1579	1579	1579	1579	1579
2.5°	1589	1588	1586	1583	1583	1579	1566	1557	1547	1541	1535
5°	1616	1615	1610	1607	1605	1597	1575	1558	1540	1527	1517
7.5°	1661	1658	1654	1652	1646	1636	1604	1580	1554	1533	1516
10°	1734	1729	1723	1717	1719	1703	1666	1631	1593	1560	1537
12.5°	1823	1823	1820	1816	1809	1791	1741	1700	1654	1613	1596
15°	1917	1912	1907	1901	1900	1876	1831	1784	1736	1701	1681
17.5°	1994	1996	1989	1987	1985	1961	1913	1871	1836	1799	1767
20°	2076	2072	2070	2067	2066	2046	2008	1982	1951	1895	1811
22.5°	2164	2159	2161	2155	2154	2140	2112	2104	2058	1940	1794
25°	2278	2269	2272	2272	2273	2260	2257	2243	2127	1929	1726
27.5°	2414	2418	2418	2417	2410	2414	2428	2380	2151	1871	1624
30°	2591	2593	2595	2602	2587	2613	2630	2477	2133	1791	1496
32.5°	2806	2798	2802	2806	2811	2838	2828	2526	2080	1682	1337
35°	3043	3058	3062	3071	3081	3122	3007	2536	1999	1536	1134
37.5°	3396	3420	3420	3452	3433	3483	3167	2512	1876	1333	905
40°	3841	3852	3863	3867	3857	3851	3272	2453	1703	1078	662
42.5°	4295	4291	4292	4299	4272	4159	3337	2350	1488	805	475
45°	4784	4767	4762	4748	4724	4486	3374	2205	1205	566	373
47.5°	5260	5239	5207	5168	5122	4749	3370	2017	924	405	329
50°	5748	5711	5642	5604	5526	5010	3347	1808	665	335	308
52.5°	6306	6240	6176	6100	5971	5331	3312	1573	485	307	294
55°	7138	7030	6925	6767	6642	5761	3253	1320	383	296	286
57.5°	8285	8101	7968	7755	7555	6356	3190	1090	342	293	282
60°	9576	9299	9051	8789	8561	7099	3157	910	333	296	283
62.5°	10386	10059	9749	9429	9101	7454	3014	786	337	309	291
65°	10284	9923	9586	9196	8887	7119	2650	665	344	332	313
67°	9596	9246	8862	8480	8180	6482	2237	560	352	358	337
67.5°	9412	9018	8631	8280	7955	6285	2129	534	354	365	345
70°	7849	7537	7084	6824	6589	5095	1588	415	360	396	383
72.5°	5492	5190	4953	4811	4674	3702	1117	331	351	413	400
75°	2774	2705	2622	2576	2578	2152	673	282	330	396	363
77.5°	548	534	540	591	582	663	334	239	281	305	261
80°	265	256	248	246	241	231	210	199	228	201	173
82.5°	172	162	158	150	151	164	183	191	185	139	117
85°	97	96	94	96	100	131	196	179	149	98	88
87.5°	58	55	56	57	59	97	155	129	95	51	52
90°	0	0	0	0	0	0	0	0	0	0	0



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**CANDELA DISTRIBUTION (continued):**

	155°	165°	175°	180°
0°	1579	1579	1579	1579
2.5°	1534	1530	1530	1529
5°	1509	1503	1502	1502
7.5°	1505	1497	1496	1493
10°	1523	1520	1521	1518
12.5°	1580	1584	1588	1588
15°	1667	1664	1669	1664
17.5°	1731	1705	1699	1696
20°	1733	1679	1661	1658
22.5°	1671	1591	1561	1556
25°	1566	1465	1427	1423
27.5°	1434	1321	1265	1263
30°	1275	1141	1070	1059
32.5°	1081	922	847	823
35°	857	694	624	622
37.5°	640	513	468	466
40°	469	403	386	383
42.5°	383	356	349	346
45°	343	332	328	325
47.5°	319	312	309	309
50°	300	298	296	296
52.5°	287	286	284	283
55°	276	272	273	272
57.5°	269	263	263	263
60°	265	254	254	255
62.5°	266	249	248	248
65°	274	246	240	241
67°	284	243	231	230
67.5°	287	241	228	227
70°	299	235	213	211
72.5°	301	226	198	196
75°	280	214	186	181
77.5°	218	184	168	168
80°	153	141	120	119
82.5°	112	106	88	86
85°	82	77	65	65
87.5°	51	49	42	40
90°	0	0	0	0

(END OF REPORT)