

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: P145459

Luminaire Tested: **LDRL-SL4-E05-E-7030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P145459
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-7030
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(5) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 W/ SPILL LIGHT CONTROL
Light Source: (105) 3000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13161.5 lumens
Efficiency: N/A
Efficacy: 103.4 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

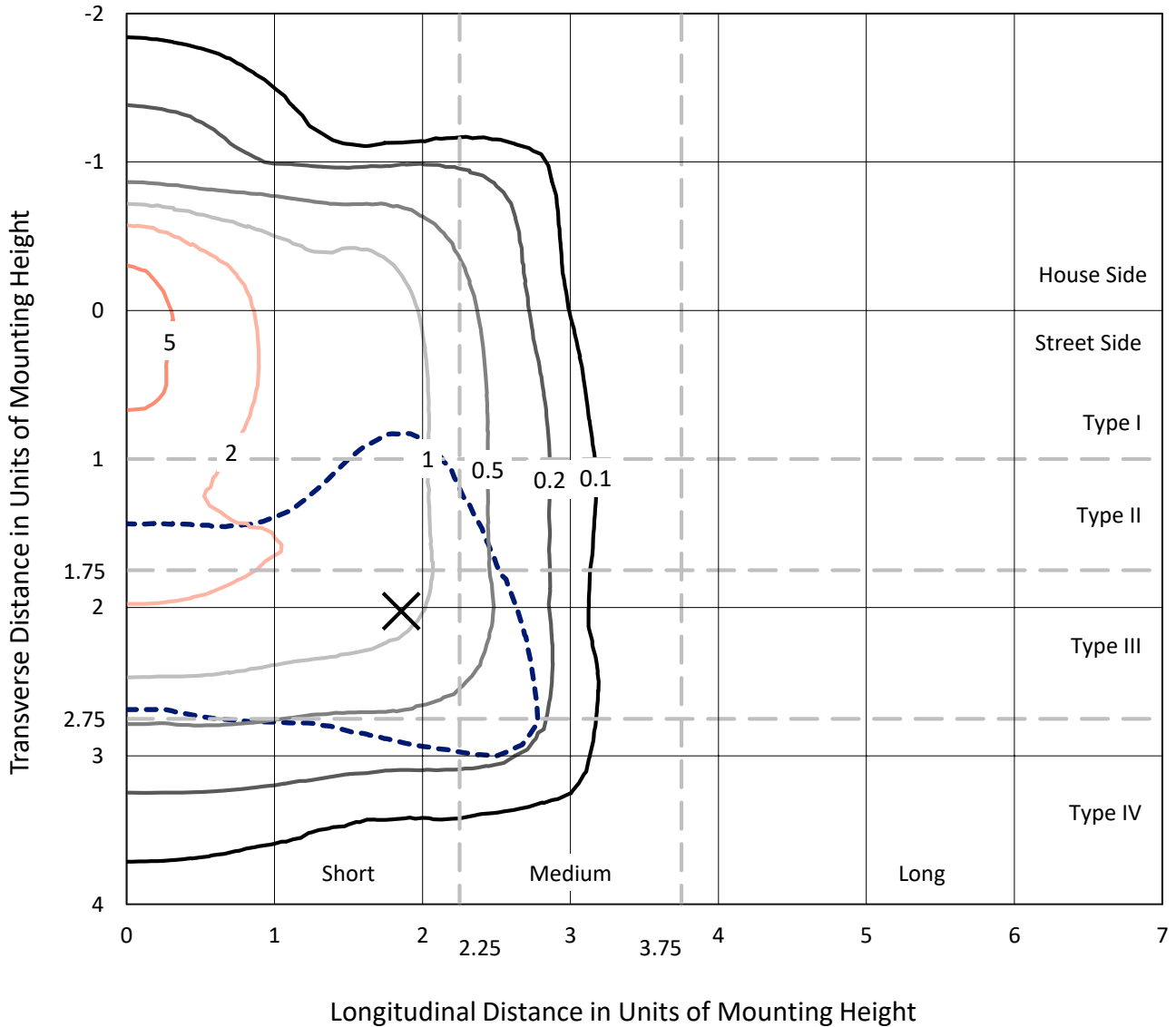
Input Watts (W): 127.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

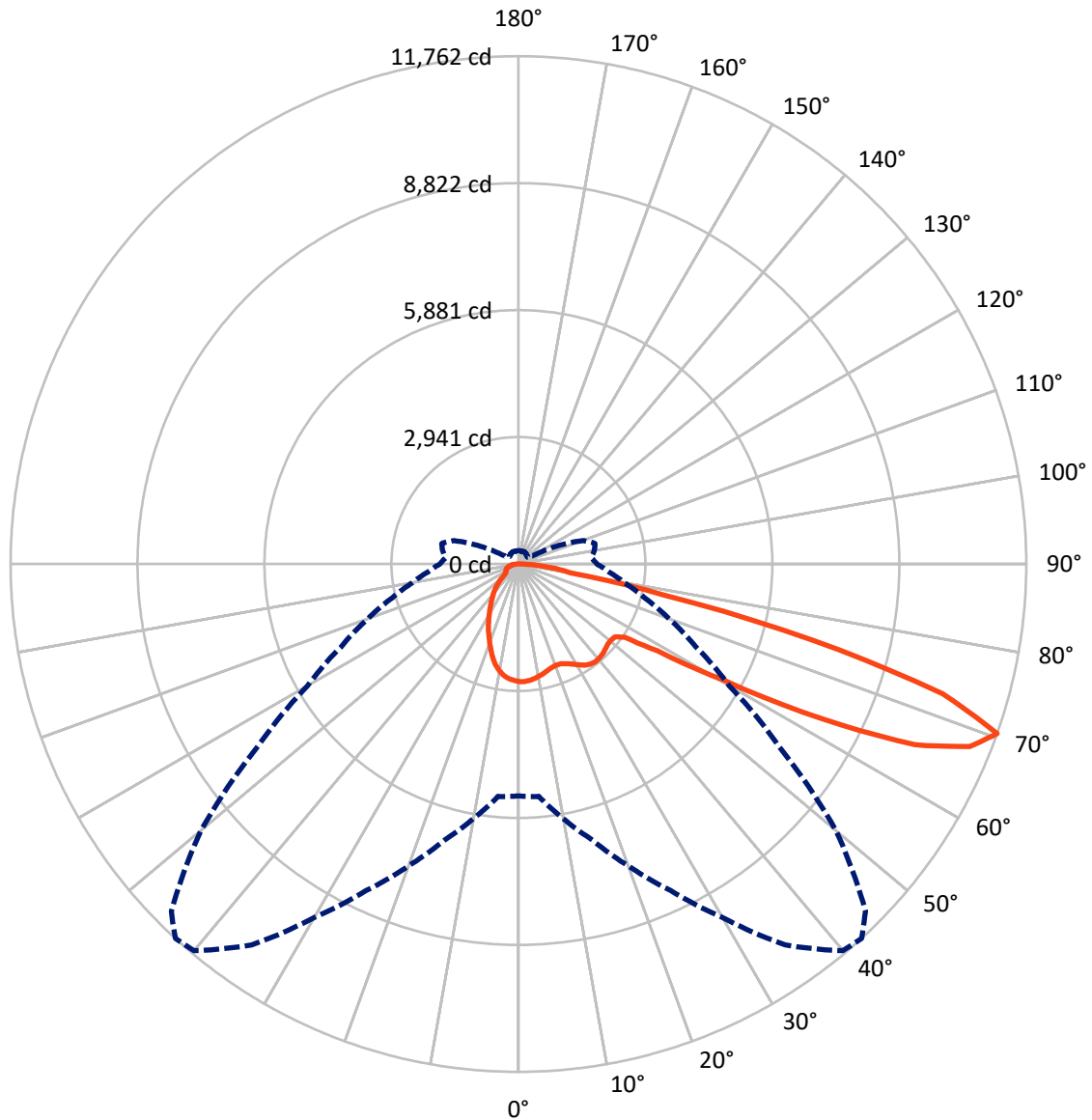
✕ Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 6.8 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
House Side	Lumens	2843.1	0.0	2843.1
	% Fixture	21.6	0.0	21.6
Street Side	Lumens	10318.4	0.0	10318.4
	% Fixture	78.4	0.0	78.4
Total	Lumens	13161.5	0.0	13161.5
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	253.2	1.9
10°-20°	682.2	5.2
20°-30°	995.1	7.6
30°-40°	1269.2	9.6
40°-50°	1481.3	11.3
50°-60°	2265.4	17.2
60°-70°	4106.6	31.2
70°-80°	1825.9	13.9
80°-90°	282.5	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°	13161.5	100.0
0°-180°	13161.5	100.0



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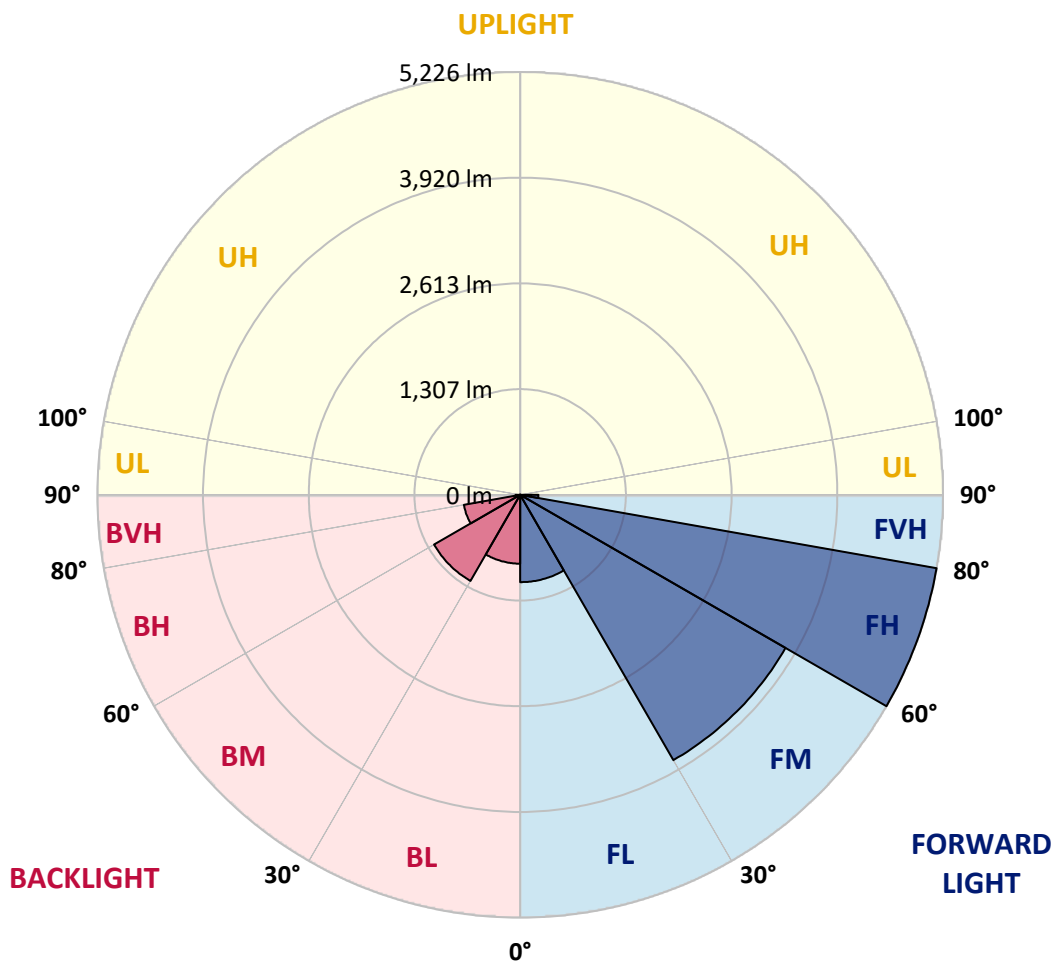
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1079.6	8.2			
FM (30°-60°)	3786.9	28.8			
FH (60°-80°)	5226.2	39.7			G3/7500
FVH (80°-90°)	225.7	1.7			G3/500
BL (0°-30°)	851.0	6.5	B2/1000		
BM (30°-60°)	1229.0	9.3	B2/2500		
BH (60°-80°)	706.3	5.4	B2/1000		G2/1000
BVH (80°-90°)	56.8	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°	2721.8	2721.8	2721.8	2721.8	2721.8	2721.8	2721.8	2721.8	2721.8	2721.8	2721.8
2.5°	2734.6	2731.8	2733.7	2735.5	2735.5	2736.4	2728.2	2729.1	2725.4	2726.4	2727.3
5°	2724.5	2721.8	2723.6	2723.6	2723.6	2722.7	2711.7	2710.8	2706.3	2706.3	2704.4
7.5°	2705.3	2695.3	2700.8	2701.7	2699.9	2695.3	2688.9	2682.5	2679.8	2679.8	2673.4
10°	2676.1	2665.2	2667.9	2669.7	2668.8	2659.7	2656.9	2650.5	2643.2	2640.5	2633.2
12.5°	2638.7	2631.4	2635.0	2634.1	2634.1	2625.9	2621.3	2612.2	2603.0	2598.5	2589.3
15°	2614.9	2605.8	2609.4	2609.4	2605.8	2597.6	2591.2	2574.7	2559.2	2553.7	2541.9
17.5°	2629.5	2620.4	2624.1	2621.3	2614.9	2597.6	2581.1	2554.6	2530.0	2515.4	2499.8
20°	2688.0	2678.9	2681.6	2679.8	2670.6	2642.3	2612.2	2566.5	2520.8	2498.9	2475.2
22.5°	2781.2	2773.8	2778.4	2775.7	2761.1	2724.5	2679.8	2614.0	2545.5	2512.6	2478.8
25°	2919.1	2917.2	2924.5	2916.3	2895.3	2840.5	2775.7	2687.1	2597.6	2556.5	2509.0
27.5°	3085.3	3069.8	3080.7	3073.4	3058.8	2989.4	2901.7	2789.4	2675.2	2621.3	2564.7
30°	3235.1	3221.4	3241.5	3237.8	3215.9	3144.7	3034.1	2902.6	2773.8	2705.3	2640.5
32.5°	3408.6	3391.3	3406.8	3406.8	3373.9	3278.0	3152.0	3001.3	2866.1	2793.0	2715.4
35°	3590.4	3572.1	3586.7	3582.2	3523.7	3396.7	3238.7	3075.3	2926.4	2851.5	2772.0
37.5°	3759.4	3756.6	3760.3	3730.1	3648.8	3486.3	3297.2	3114.5	2956.5	2878.0	2794.9
40°	3928.3	3921.9	3906.4	3853.4	3734.7	3539.2	3327.3	3128.2	2958.3	2876.1	2792.1
42.5°	4034.3	4022.4	3995.9	3923.8	3774.9	3552.0	3318.2	3107.2	2936.4	2852.4	2770.2
45°	4070.8	4058.9	4027.0	3945.7	3775.8	3531.9	3282.6	3065.2	2895.3	2818.6	2735.5
47.5°	4040.7	4033.4	4004.1	3922.8	3746.6	3494.5	3237.8	3023.2	2856.0	2781.2	2703.5
50°	3989.5	3984.9	3959.4	3884.5	3719.2	3471.6	3216.8	3003.1	2845.1	2775.7	2702.6
52.5°	4117.4	4103.7	4058.0	3969.4	3776.7	3512.7	3249.7	3033.2	2870.7	2800.3	2725.4
55°	5689.3	5587.9	5361.4	4936.7	4342.1	3880.8	3492.7	3231.4	3056.1	2987.6	2916.3
57.5°	7482.2	7376.2	7282.1	6957.9	6251.9	5380.5	4596.9	4138.4	3824.2	3794.1	3765.7
60°	8172.7	8206.5	8198.2	8077.7	7716.0	7302.2	6646.5	6104.8	5504.8	5480.1	5515.7
62.5°	8648.5	8676.8	8680.5	8643.9	8526.1	8388.2	8251.2	8077.7	7963.5	7914.2	7595.4
65°	8844.9	8886.0	8976.4	9044.0	9063.2	9110.7	9234.9	9707.1	10100.7	10098.0	9724.4
67.5°	8095.0	8144.3	8486.9	8823.0	9105.2	9432.2	9935.4	10703.6	11296.3	11278.0	10972.1
70°	5372.3	5403.4	5985.2	6618.1	7439.2	8347.1	9446.8	10771.1	11690.0	11762.1	11367.6
72.5°	3295.4	3366.6	3556.6	3813.2	4251.6	5092.8	6727.7	8991.0	10339.1	10271.5	9957.3
75°	2224.9	2228.6	2223.1	2250.5	2275.2	2445.0	3103.6	4944.0	7003.6	7040.1	6904.9
77.5°	1520.7	1540.8	1551.8	1544.5	1569.1	1561.8	1600.2	1694.3	2684.3	3426.0	3148.3
80°	1328.9	1337.1	1349.0	1331.7	1286.0	1260.4	1296.0	1262.3	1189.2	1228.5	1176.4
82.5°	841.2	865.9	868.6	928.9	1018.4	1022.0	1067.7	1033.9	940.8	879.6	804.7
85°	604.6	613.8	630.2	633.9	602.8	576.3	592.8	564.5	508.7	475.9	421.1
87.5°	352.6	361.7	378.1	368.1	337.0	298.7	269.4	232.0	183.6	171.7	151.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	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°	2721.8	2721.8	2721.8	2721.8	2721.8	2721.8	2721.8	2721.8	2721.8	2721.8	2721.8
2.5°	2728.2	2723.6	2720.0	2718.1	2721.8	2718.1	2714.5	2712.7	2709.0	2709.9	2705.3
5°	2702.6	2696.2	2690.7	2686.2	2689.8	2683.4	2677.9	2674.3	2669.7	2668.8	2664.2
7.5°	2667.0	2656.9	2649.6	2641.4	2632.3	2626.8	2620.4	2614.0	2604.0	2603.0	2601.2
10°	2620.4	2612.2	2597.6	2584.8	2572.0	2558.3	2544.6	2534.5	2522.7	2518.1	2511.7
12.5°	2573.8	2557.4	2540.0	2519.9	2504.4	2482.5	2464.2	2445.0	2427.7	2416.7	2404.9
15°	2519.0	2501.7	2477.0	2457.8	2435.9	2411.2	2387.5	2359.2	2330.9	2313.5	2297.1
17.5°	2471.5	2449.6	2429.5	2402.1	2380.2	2351.9	2316.3	2286.1	2252.3	2224.0	2193.9
20°	2435.0	2410.3	2386.6	2361.9	2335.4	2303.5	2264.2	2221.3	2178.3	2138.2	2093.4
22.5°	2420.4	2381.1	2354.6	2331.8	2304.4	2267.8	2224.0	2171.0	2118.1	2066.9	2014.9
25°	2433.2	2374.7	2333.6	2308.0	2283.4	2245.9	2196.6	2136.3	2074.2	2009.4	1947.3
27.5°	2467.9	2393.9	2335.4	2295.2	2266.9	2230.4	2175.6	2112.6	2042.3	1969.2	1902.5
30°	2518.1	2425.9	2352.8	2295.2	2253.2	2211.2	2151.9	2080.6	2006.6	1929.9	1855.0
32.5°	2572.9	2461.5	2373.8	2298.0	2233.1	2180.2	2118.1	2048.6	1970.1	1888.8	1808.4
35°	2614.0	2487.1	2382.9	2287.9	2204.8	2138.2	2071.5	2003.9	1927.2	1845.0	1764.6
37.5°	2631.4	2497.1	2381.1	2266.9	2165.6	2092.5	2023.1	1955.5	1881.5	1803.9	1729.9
40°	2632.3	2497.1	2370.1	2238.6	2124.5	2045.0	1971.9	1908.9	1839.5	1772.8	1707.1
42.5°	2614.9	2484.3	2350.1	2212.1	2094.3	2004.8	1929.9	1865.1	1809.3	1750.0	1694.3
45°	2583.9	2458.7	2331.8	2197.5	2083.4	1994.8	1914.4	1853.2	1803.0	1750.0	1701.6
47.5°	2560.1	2444.1	2332.7	2218.5	2109.8	2018.5	1931.7	1866.9	1824.0	1781.9	1747.2
50°	2564.7	2449.6	2343.7	2235.0	2128.1	2035.9	1951.8	1896.1	1870.5	1856.8	1848.6
52.5°	2588.4	2471.5	2391.2	2319.0	2284.3	2227.7	2181.1	2139.1	2145.5	2112.6	2070.6
55°	2833.2	2793.9	2886.2	2952.9	2985.7	3043.3	3126.4	3046.9	3036.0	2934.6	2633.2
57.5°	3804.1	3897.3	4038.8	4139.3	4149.4	4132.0	4063.5	3997.7	3890.9	3738.3	3316.4
60°	5432.6	5410.7	5279.2	5102.9	4965.9	4786.0	4605.1	4452.6	4280.9	4047.1	3597.7
62.5°	7145.1	6617.2	6148.7	5749.5	5410.7	5110.2	4837.1	4607.9	4372.2	4036.1	3557.5
65°	8528.0	7512.3	6686.6	6044.6	5540.4	5115.7	4763.1	4447.1	4132.0	3742.9	3278.9
67.5°	9516.2	7905.0	6659.2	5755.9	5049.0	4464.5	3951.2	3591.3	3268.0	2962.0	2752.8
70°	9594.7	7361.6	5633.5	4528.4	3712.8	3025.9	2493.4	2100.7	1819.4	1692.4	1782.9
72.5°	8199.1	5446.3	3745.6	2772.0	2200.3	1709.8	1374.6	1098.8	872.2	760.8	776.3
75°	4828.9	2614.9	1687.0	1256.8	1026.6	820.2	709.7	599.2	528.8	423.8	338.9
77.5°	1838.6	1137.1	851.2	706.9	504.2	362.6	285.9	246.6	226.5	223.8	211.9
80°	1059.5	833.9	583.6	381.8	279.5	236.6	202.8	173.5	161.7	158.9	163.5
82.5°	669.5	519.7	320.6	245.7	203.7	175.4	146.1	127.0	116.9	113.3	119.6
85°	346.2	260.3	195.5	168.1	156.2	142.5	116.9	97.7	96.8	101.4	116.9
87.5°	127.9	111.4	87.7	75.8	81.3	75.8	54.8	47.5	42.9	56.6	82.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	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°	2721.8	2721.8	2721.8	2721.8	2721.8	2721.8	2721.8	2721.8	2721.8	2721.8	2721.8
2.5°	2705.3	2703.5	2704.4	2702.6	2702.6	2705.3	2701.7	2699.0	2703.5	2703.5	2706.3
5°	2663.3	2665.2	2665.2	2664.2	2666.1	2670.6	2669.7	2669.7	2677.0	2679.8	2683.4
7.5°	2596.7	2599.4	2600.3	2603.0	2604.0	2610.4	2614.9	2620.4	2631.4	2634.1	2642.3
10°	2506.2	2504.4	2510.8	2509.9	2518.1	2523.6	2527.2	2539.1	2555.6	2564.7	2572.9
12.5°	2399.4	2399.4	2403.0	2403.9	2411.2	2418.6	2423.1	2437.7	2451.4	2463.3	2481.6
15°	2286.1	2282.5	2274.2	2273.3	2276.1	2283.4	2293.4	2304.4	2325.4	2342.7	2358.3
17.5°	2167.4	2156.4	2146.4	2133.6	2132.7	2131.8	2137.2	2145.5	2178.3	2195.7	2217.6
20°	2062.3	2038.6	2014.9	1988.4	1972.8	1965.5	1968.3	1979.2	2010.3	2033.1	2056.0
22.5°	1968.3	1932.6	1895.2	1853.2	1827.6	1812.1	1813.9	1818.5	1841.3	1855.0	1866.9
25°	1887.9	1838.6	1786.5	1732.6	1697.0	1673.3	1672.3	1672.3	1662.3	1664.1	1657.7
27.5°	1833.1	1764.6	1697.9	1634.9	1588.3	1564.6	1532.6	1509.8	1489.7	1462.3	1450.4
30°	1780.1	1709.8	1634.0	1564.6	1508.9	1462.3	1402.9	1353.6	1314.3	1276.9	1244.9
32.5°	1732.6	1659.6	1587.4	1511.6	1434.9	1354.5	1276.9	1220.2	1164.5	1107.0	1068.6
35°	1690.6	1622.1	1550.0	1464.1	1356.3	1251.3	1163.6	1086.9	1021.1	951.7	896.0
37.5°	1666.9	1604.8	1529.9	1413.0	1277.8	1158.1	1060.4	974.5	886.9	803.7	735.2
40°	1655.0	1600.2	1508.9	1360.9	1207.4	1079.6	970.9	867.7	764.5	666.7	595.5
42.5°	1653.2	1600.2	1477.8	1307.9	1147.2	1010.2	888.7	764.5	639.3	544.4	481.3
45°	1669.6	1598.4	1444.9	1260.4	1093.3	948.1	801.9	655.8	527.0	443.9	409.2
47.5°	1717.1	1604.8	1419.3	1220.2	1042.1	879.6	703.3	535.2	425.6	388.2	387.3
50°	1793.8	1634.0	1413.9	1191.0	991.9	793.7	587.3	428.4	375.4	373.6	383.6
52.5°	1915.3	1688.8	1427.6	1170.9	931.6	682.3	464.9	369.9	359.9	369.9	382.7
55°	2182.9	1786.5	1445.8	1135.3	833.9	540.7	382.7	350.7	355.3	367.2	379.0
57.5°	2669.7	1989.3	1465.0	1054.9	675.9	415.6	344.3	343.4	351.6	361.7	372.6
60°	2978.4	2239.5	1511.6	936.2	510.6	343.4	329.7	338.9	348.9	356.2	365.3
62.5°	2988.5	2305.3	1536.3	809.2	380.0	314.2	316.9	334.3	346.2	348.9	353.5
65°	2795.8	2181.1	1424.8	658.5	315.1	297.8	307.8	323.3	335.2	337.0	340.7
67.5°	2442.3	1923.5	1207.4	496.9	286.8	285.0	295.9	307.8	316.0	323.3	328.8
70°	1839.5	1587.4	970.9	385.4	269.4	267.6	278.6	288.6	295.9	305.1	314.2
72.5°	932.5	1098.8	736.2	315.1	245.7	247.5	259.4	268.5	274.0	282.2	291.4
75°	317.8	479.5	465.8	254.8	219.2	226.5	232.0	242.0	250.3	255.7	260.3
77.5°	199.1	208.2	240.2	205.5	193.6	195.5	204.6	213.7	222.9	226.5	228.3
80°	166.2	167.1	168.1	164.4	165.3	170.8	176.3	186.3	195.5	197.3	198.2
82.5°	131.5	140.7	139.7	138.8	143.4	148.9	152.5	156.2	159.8	161.7	164.4
85°	116.0	114.2	115.1	117.8	114.2	110.5	109.6	109.6	115.1	121.5	124.2
87.5°	105.9	90.4	67.6	63.9	63.9	62.1	58.5	58.5	63.9	69.4	72.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	160°	165°	170°	175°	180°
0°	2721.8	2721.8	2721.8	2721.8	2721.8
2.5°	2705.3	2706.3	2705.3	2705.3	2709.9
5°	2685.2	2688.9	2687.1	2689.8	2692.6
7.5°	2644.1	2653.3	2655.1	2662.4	2659.7
10°	2584.8	2591.2	2600.3	2607.6	2604.9
12.5°	2490.7	2506.2	2519.9	2528.2	2526.3
15°	2371.1	2393.0	2411.2	2417.6	2410.3
17.5°	2243.2	2256.9	2278.8	2283.4	2290.7
20°	2081.5	2080.6	2099.8	2099.8	2096.1
22.5°	1870.5	1884.2	1884.2	1871.5	1865.1
25°	1655.0	1659.6	1645.9	1648.6	1631.2
27.5°	1438.5	1426.7	1415.7	1420.3	1407.5
30°	1232.1	1206.5	1195.6	1197.4	1183.7
32.5°	1033.9	1003.8	992.8	978.2	966.3
35°	854.0	806.5	778.2	770.9	779.1
37.5°	677.7	643.9	610.1	585.5	588.2
40°	536.1	501.4	479.5	469.5	467.6
42.5°	443.0	422.9	418.3	419.2	419.2
45°	401.9	402.8	406.4	410.1	411.0
47.5°	393.7	399.1	405.5	410.1	411.0
50°	392.7	398.2	402.8	408.3	410.1
52.5°	391.8	395.5	398.2	401.0	403.7
55°	388.2	390.0	389.1	390.9	393.7
57.5°	379.0	380.0	378.1	379.0	384.5
60°	370.8	371.7	368.1	372.6	373.6
62.5°	360.8	359.9	358.0	360.8	360.8
65°	346.2	340.7	342.5	345.2	346.2
67.5°	328.8	323.3	323.3	325.2	327.9
70°	306.9	304.1	304.1	307.8	311.5
72.5°	282.2	284.1	289.5	295.0	300.5
75°	262.1	266.7	272.2	285.9	294.1
77.5°	236.6	237.5	242.0	255.7	270.4
80°	200.9	200.0	200.9	202.8	205.5
82.5°	158.9	157.1	151.6	153.4	149.8
85°	116.9	114.2	107.8	103.2	102.3
87.5°	67.6	67.6	64.8	61.2	57.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)