

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: P145473

Luminaire Tested: **LDRL-SL4-F06-E-8030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P145473
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-F06-E-8030
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(6) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 W/ SPILL LIGHT CONTROL
Light Source: (42) 3000K CCT, 80 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12048.1 lumens
Efficiency: N/A
Efficacy: 77.0 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B2 - U0 - G2

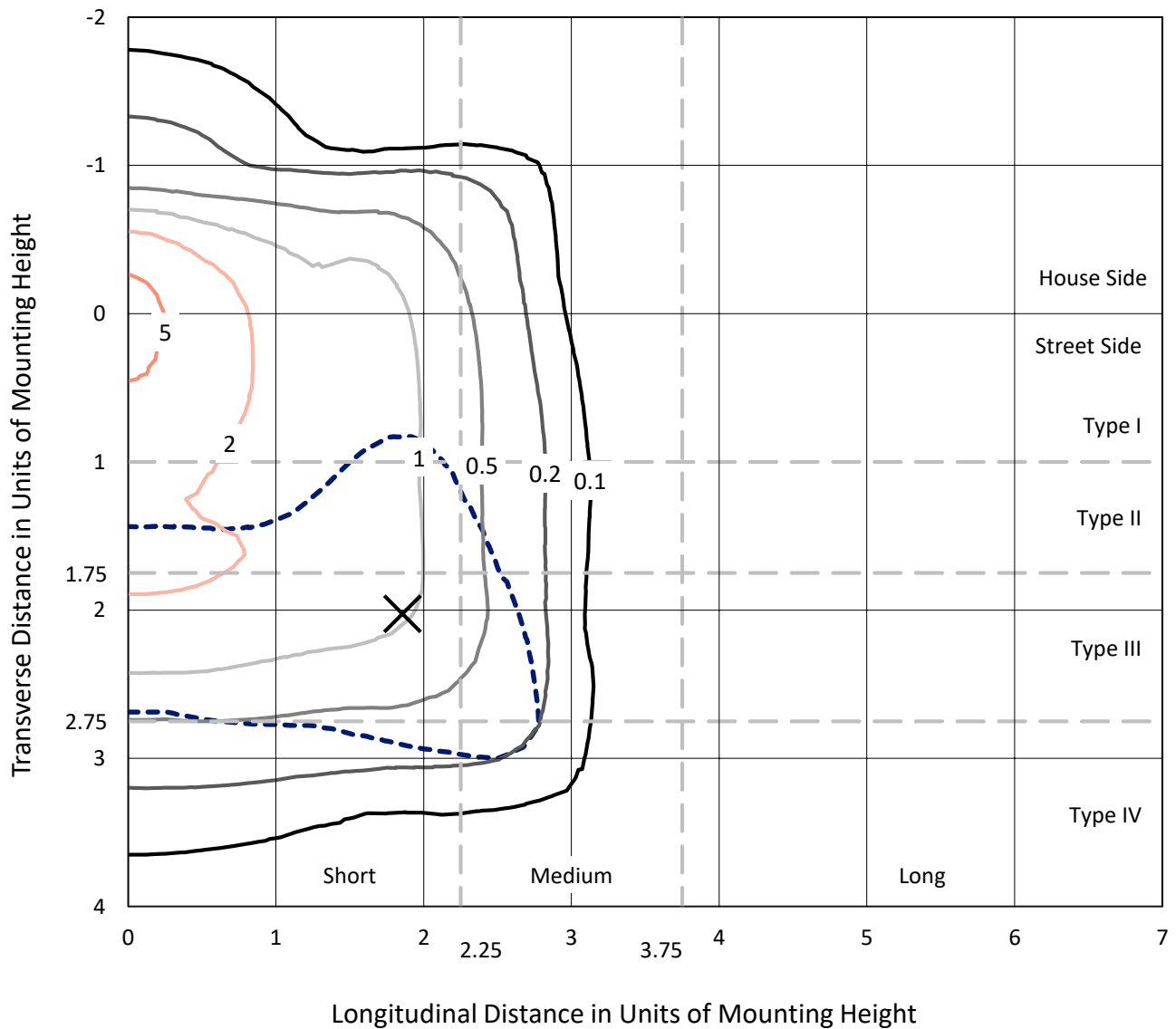
Input Watts (W): 156.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

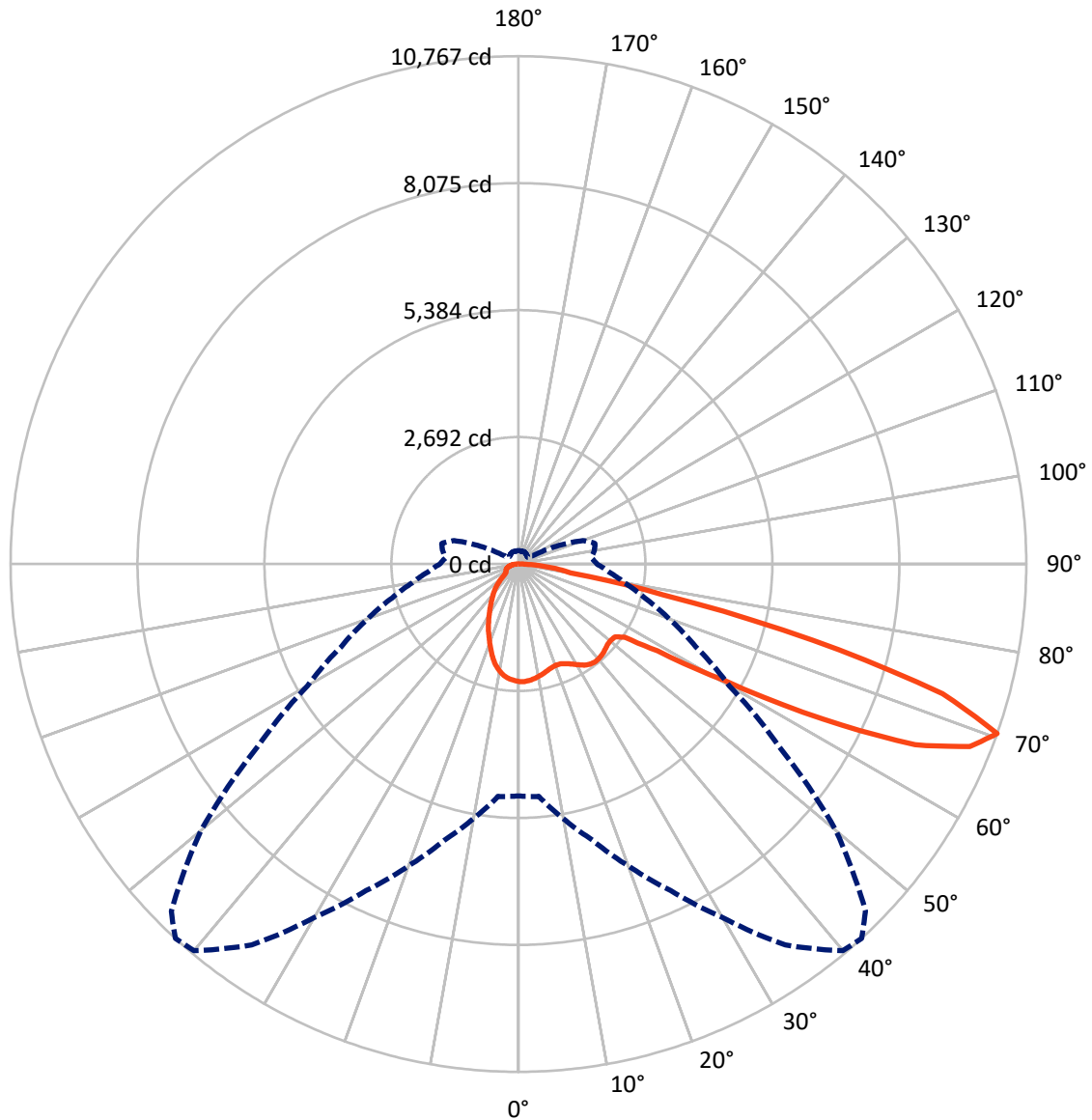
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 6.2 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	2602.6	0.0	2602.6
	% Fixture	21.6	0.0	21.6
Street Side	Lumens	9445.5	0.0	9445.5
	% Fixture	78.4	0.0	78.4
Total	Lumens	12048.1	0.0	12048.1
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	231.8	1.9
10°-20°	624.5	5.2
20°-30°	910.9	7.6
30°-40°	1161.8	9.6
40°-50°	1356.0	11.3
50°-60°	2073.8	17.2
60°-70°	3759.2	31.2
70°-80°	1671.4	13.9
80°-90°	258.6	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°	12048.1	100.0
0°-180°	12048.1	100.0



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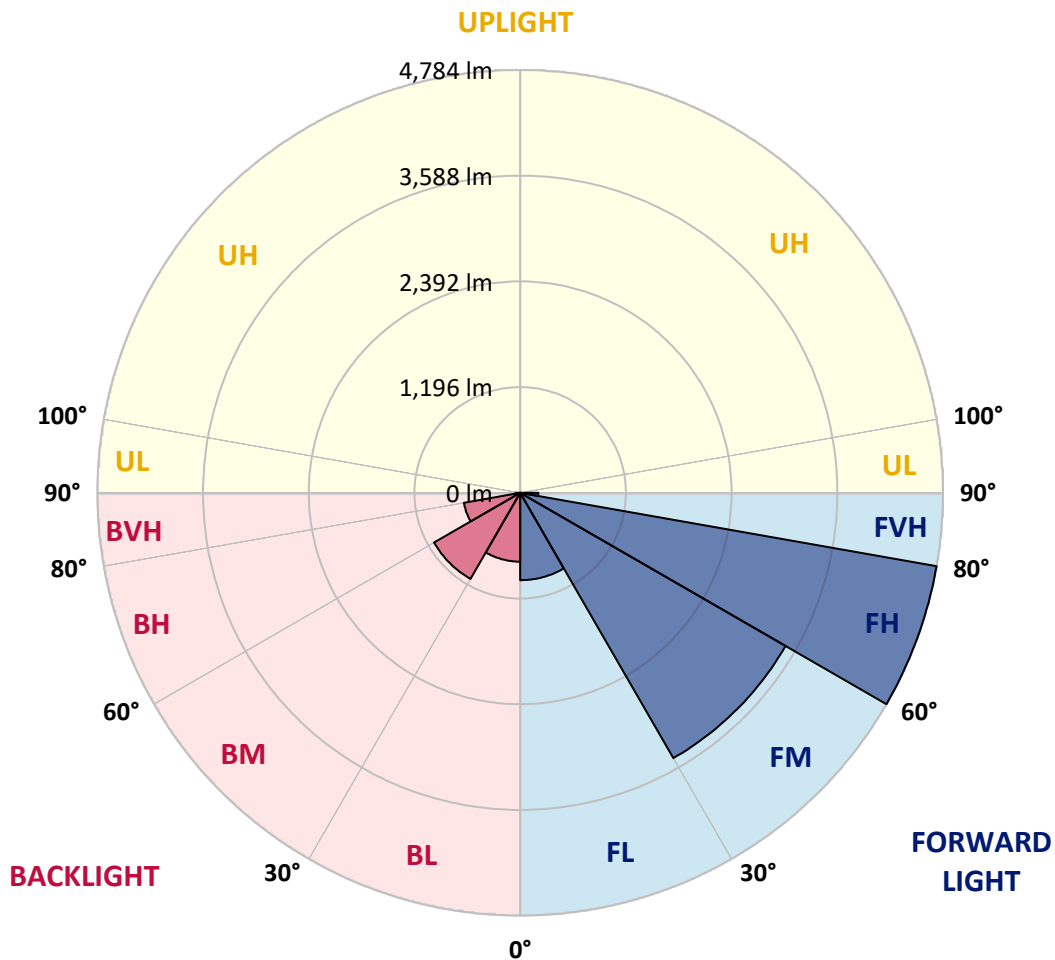
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	988.3	8.2			
FM (30°-60°)	3466.5	28.8			
FH (60°-80°)	4784.0	39.7			G2/5000
FVH (80°-90°)	206.6	1.7			G2/225
BL (0°-30°)	779.0	6.5	B2/1000		
BM (30°-60°)	1125.1	9.3	B2/2500		
BH (60°-80°)	646.6	5.4	B2/1000		G2/1000
BVH (80°-90°)	52.0	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-G2

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	42.5°	45°
0°	2491.5	2491.5	2491.5	2491.5	2491.5	2491.5	2491.5	2491.5	2491.5	2491.5	2491.5
2.5°	2503.2	2500.7	2502.4	2504.1	2504.1	2504.9	2497.4	2498.2	2494.9	2495.7	2496.5
5°	2494.0	2491.5	2493.2	2493.2	2493.2	2492.4	2482.3	2481.5	2477.3	2477.3	2475.6
7.5°	2476.5	2467.3	2472.3	2473.1	2471.5	2467.3	2461.4	2455.6	2453.1	2453.1	2447.2
10°	2449.7	2439.7	2442.2	2443.9	2443.0	2434.7	2432.2	2426.3	2419.6	2417.1	2410.4
12.5°	2415.4	2408.8	2412.1	2411.3	2411.3	2403.7	2399.6	2391.2	2382.8	2378.7	2370.3
15°	2393.7	2385.3	2388.7	2388.7	2385.3	2377.8	2372.0	2356.9	2342.7	2337.7	2326.8
17.5°	2407.1	2398.7	2402.1	2399.6	2393.7	2377.8	2362.8	2338.5	2315.9	2302.6	2288.4
20°	2460.6	2452.2	2454.7	2453.1	2444.7	2418.8	2391.2	2349.4	2307.6	2287.5	2265.8
22.5°	2545.9	2539.2	2543.4	2540.9	2527.5	2494.0	2453.1	2392.9	2330.2	2300.1	2269.1
25°	2672.1	2670.4	2677.1	2669.6	2650.4	2600.2	2540.9	2459.8	2377.8	2340.2	2296.7
27.5°	2824.3	2810.1	2820.1	2813.4	2800.0	2736.5	2656.2	2553.4	2448.9	2399.6	2347.7
30°	2961.4	2948.9	2967.3	2963.9	2943.8	2878.6	2777.5	2657.1	2539.2	2476.5	2417.1
32.5°	3120.3	3104.4	3118.6	3118.6	3088.5	3000.7	2885.3	2747.4	2623.6	2556.7	2485.7
35°	3286.6	3269.9	3283.3	3279.1	3225.6	3109.4	2964.7	2815.1	2678.8	2610.3	2537.5
37.5°	3441.3	3438.8	3442.2	3414.6	3340.2	3191.3	3018.3	2851.0	2706.4	2634.5	2558.4
40°	3596.0	3590.1	3575.9	3527.4	3418.7	3239.8	3045.8	2863.6	2708.1	2632.8	2555.9
42.5°	3693.0	3682.1	3657.9	3591.8	3455.5	3251.5	3037.5	2844.4	2688.0	2611.1	2535.8
45°	3726.4	3715.6	3686.3	3611.9	3456.4	3233.1	3004.9	2805.9	2650.4	2580.2	2504.1
47.5°	3698.8	3692.1	3665.4	3591.0	3429.6	3198.9	2963.9	2767.4	2614.4	2545.9	2474.8
50°	3652.0	3647.8	3624.4	3555.9	3404.5	3178.0	2944.7	2749.0	2604.4	2540.9	2474.0
52.5°	3769.1	3756.5	3714.7	3633.6	3457.2	3215.6	2974.8	2776.6	2627.8	2563.4	2494.9
55°	5208.0	5115.2	4907.8	4519.0	3974.7	3552.5	3197.2	2958.1	2797.5	2734.8	2669.6
57.5°	6849.2	6752.2	6666.1	6369.3	5723.0	4925.4	4208.0	3788.3	3500.7	3473.1	3447.2
60°	7481.3	7512.2	7504.7	7394.3	7063.2	6684.5	6084.2	5588.4	5039.1	5016.5	5049.1
62.5°	7916.9	7942.8	7946.1	7912.7	7804.8	7678.6	7553.2	7394.3	7289.8	7244.7	6952.9
65°	8096.6	8134.2	8217.0	8278.9	8296.4	8339.9	8453.6	8885.9	9246.2	9243.7	8901.8
67.5°	7410.2	7455.3	7768.9	8076.6	8334.9	8634.2	9094.9	9798.1	10340.7	10323.9	10043.9
70°	4917.8	4946.3	5478.8	6058.3	6809.9	7641.0	8647.6	9859.9	10701.0	10767.1	10405.9
72.5°	3016.6	3081.8	3255.7	3490.6	3892.0	4662.0	6158.6	8230.4	9464.5	9402.6	9115.0
75°	2036.7	2040.0	2035.0	2060.1	2082.7	2238.2	2841.0	4525.7	6411.1	6444.5	6320.8
77.5°	1392.1	1410.5	1420.5	1413.8	1436.4	1429.7	1464.8	1550.9	2457.2	3136.1	2882.0
80°	1216.5	1224.0	1234.9	1219.0	1177.2	1153.8	1186.4	1155.5	1088.6	1124.5	1076.9
82.5°	770.0	792.6	795.1	850.3	932.2	935.6	977.4	946.4	861.2	805.1	736.6
85°	553.5	561.8	576.9	580.2	551.8	527.6	542.6	516.7	465.7	435.6	385.4
87.5°	322.7	331.1	346.1	336.9	308.5	273.4	246.6	212.4	168.1	157.2	138.8
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°	2491.5	2491.5	2491.5	2491.5	2491.5	2491.5	2491.5	2491.5	2491.5	2491.5	2491.5
2.5°	2497.4	2493.2	2489.9	2488.2	2491.5	2488.2	2484.8	2483.2	2479.8	2480.7	2476.5
5°	2474.0	2468.1	2463.1	2458.9	2462.3	2456.4	2451.4	2448.1	2443.9	2443.0	2438.9
7.5°	2441.4	2432.2	2425.5	2418.0	2409.6	2404.6	2398.7	2392.9	2383.7	2382.8	2381.2
10°	2398.7	2391.2	2377.8	2366.1	2354.4	2341.9	2329.3	2320.1	2309.3	2305.1	2299.2
12.5°	2356.1	2341.0	2325.1	2306.8	2292.5	2272.5	2255.8	2238.2	2222.3	2212.3	2201.4
15°	2305.9	2290.0	2267.5	2249.9	2229.8	2207.3	2185.5	2159.6	2133.7	2117.8	2102.7
17.5°	2262.4	2242.4	2224.0	2198.9	2178.8	2152.9	2120.3	2092.7	2061.8	2035.9	2008.3
20°	2229.0	2206.4	2184.7	2162.1	2137.9	2108.6	2072.6	2033.4	1994.1	1957.3	1916.3
22.5°	2215.6	2179.7	2155.4	2134.5	2109.4	2076.0	2035.9	1987.4	1938.9	1892.1	1844.4
25°	2227.3	2173.8	2136.2	2112.8	2090.2	2055.9	2010.8	1955.6	1898.7	1839.4	1782.5
27.5°	2259.1	2191.4	2137.9	2101.1	2075.2	2041.7	1991.5	1933.9	1869.5	1802.6	1741.6
30°	2305.1	2220.6	2153.7	2101.1	2062.6	2024.2	1969.8	1904.6	1836.9	1766.6	1698.1
32.5°	2355.2	2253.2	2173.0	2103.6	2044.2	1995.7	1938.9	1875.3	1803.4	1729.0	1655.4
35°	2392.9	2276.7	2181.3	2094.4	2018.3	1957.3	1896.2	1834.4	1764.1	1688.9	1615.3
37.5°	2408.8	2285.8	2179.7	2075.2	1982.4	1915.5	1851.9	1790.1	1722.3	1651.3	1583.5
40°	2409.6	2285.8	2169.6	2049.2	1944.7	1872.0	1805.1	1747.4	1683.9	1622.8	1562.6
42.5°	2393.7	2274.1	2151.2	2025.0	1917.1	1835.2	1766.6	1707.3	1656.3	1601.9	1550.9
45°	2365.3	2250.7	2134.5	2011.6	1907.1	1826.0	1752.4	1696.4	1650.4	1601.9	1557.6
47.5°	2343.5	2237.4	2135.4	2030.8	1931.4	1847.7	1768.3	1709.0	1669.7	1631.2	1599.4
50°	2347.7	2242.4	2145.4	2045.9	1948.1	1863.6	1786.7	1735.7	1712.3	1699.8	1692.2
52.5°	2369.5	2262.4	2188.9	2122.8	2091.0	2039.2	1996.6	1958.1	1964.0	1933.9	1895.4
55°	2593.5	2557.6	2642.0	2703.1	2733.2	2785.8	2861.9	2789.2	2779.1	2686.3	2410.4
57.5°	3482.3	3567.6	3697.2	3789.1	3798.3	3782.4	3719.7	3659.5	3561.7	3422.1	3035.8
60°	4973.0	4953.0	4832.6	4671.2	4545.8	4381.1	4215.5	4075.9	3918.7	3704.7	3293.3
62.5°	6540.7	6057.4	5628.5	5263.1	4953.0	4677.9	4427.9	4218.0	4002.3	3694.6	3256.5
65°	7806.5	6876.8	6121.0	5533.2	5071.7	4682.9	4360.2	4070.9	3782.4	3426.3	3001.5
67.5°	8711.1	7236.3	6095.9	5269.0	4621.9	4086.8	3616.9	3287.5	2991.5	2711.4	2520.0
70°	8783.0	6738.8	5157.0	4145.3	3398.7	2769.9	2282.5	1923.0	1665.5	1549.3	1632.0
72.5°	7505.5	4985.6	3428.8	2537.5	2014.1	1565.1	1258.3	1005.8	798.5	696.5	710.7
75°	4420.4	2393.7	1544.2	1150.4	939.8	750.8	649.6	548.5	484.1	387.9	310.2
77.5°	1683.0	1040.9	779.2	647.1	461.5	331.9	261.7	225.7	207.3	204.8	194.0
80°	969.9	763.3	534.3	349.5	255.8	216.5	185.6	158.9	148.0	145.5	149.7
82.5°	612.8	475.7	293.5	224.9	186.4	160.5	133.8	116.2	107.0	103.7	109.5
85°	316.9	238.3	178.9	153.8	143.0	130.4	107.0	89.5	88.6	92.8	107.0
87.5°	117.1	102.0	80.3	69.4	74.4	69.4	50.2	43.5	39.3	51.8	75.2
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°	2491.5	2491.5	2491.5	2491.5	2491.5	2491.5	2491.5	2491.5	2491.5	2491.5	2491.5
2.5°	2476.5	2474.8	2475.6	2474.0	2474.0	2476.5	2473.1	2470.6	2474.8	2474.8	2477.3
5°	2438.0	2439.7	2439.7	2438.9	2440.5	2444.7	2443.9	2443.9	2450.6	2453.1	2456.4
7.5°	2377.0	2379.5	2380.3	2382.8	2383.7	2389.5	2393.7	2398.7	2408.8	2411.3	2418.8
10°	2294.2	2292.5	2298.4	2297.6	2305.1	2310.1	2313.4	2324.3	2339.4	2347.7	2355.2
12.5°	2196.4	2196.4	2199.7	2200.6	2207.3	2213.9	2218.1	2231.5	2244.0	2254.9	2271.6
15°	2092.7	2089.4	2081.8	2081.0	2083.5	2090.2	2099.4	2109.4	2128.7	2144.6	2158.8
17.5°	1984.0	1974.0	1964.8	1953.1	1952.3	1951.4	1956.4	1964.0	1994.1	2009.9	2030.0
20°	1887.9	1866.1	1844.4	1820.2	1805.9	1799.2	1801.8	1811.8	1840.2	1861.1	1882.0
22.5°	1801.8	1769.2	1734.9	1696.4	1673.0	1658.8	1660.5	1664.6	1685.5	1698.1	1709.0
25°	1728.2	1683.0	1635.4	1586.0	1553.4	1531.7	1530.9	1530.9	1521.7	1523.3	1517.5
27.5°	1678.0	1615.3	1554.3	1496.6	1453.9	1432.2	1402.9	1382.0	1363.7	1338.6	1327.7
30°	1629.5	1565.1	1495.8	1432.2	1381.2	1338.6	1284.2	1239.1	1203.1	1168.8	1139.6
32.5°	1586.0	1519.2	1453.1	1383.7	1313.5	1239.9	1168.8	1117.0	1066.0	1013.3	978.2
35°	1547.6	1484.9	1418.8	1340.2	1241.6	1145.4	1065.2	994.9	934.7	871.2	820.2
37.5°	1525.9	1469.0	1400.4	1293.4	1169.7	1060.2	970.7	892.1	811.8	735.8	673.0
40°	1515.0	1464.8	1381.2	1245.8	1105.3	988.2	888.8	794.3	699.8	610.3	545.1
42.5°	1513.3	1464.8	1352.8	1197.3	1050.1	924.7	813.5	699.8	585.3	498.3	440.6
45°	1528.4	1463.1	1322.7	1153.8	1000.8	867.9	734.1	600.3	482.4	406.3	374.6
47.5°	1571.8	1469.0	1299.3	1117.0	954.0	805.1	643.8	489.9	389.6	355.3	354.5
50°	1642.1	1495.8	1294.3	1090.3	908.0	726.6	537.6	392.1	343.6	342.0	351.2
52.5°	1753.3	1545.9	1306.8	1071.9	852.8	624.6	425.6	338.6	329.4	338.6	350.3
55°	1998.2	1635.4	1323.5	1039.3	763.3	495.0	350.3	321.1	325.2	336.1	347.0
57.5°	2443.9	1821.0	1341.1	965.7	618.7	380.4	315.2	314.4	321.9	331.1	341.1
60°	2726.5	2050.1	1383.7	857.0	467.4	314.4	301.8	310.2	319.4	326.1	334.4
62.5°	2735.7	2110.3	1406.3	740.8	347.8	287.6	290.1	306.0	316.9	319.4	323.6
65°	2559.2	1996.6	1304.3	602.8	288.4	272.6	281.8	296.0	306.8	308.5	311.9
67.5°	2235.7	1760.8	1105.3	454.8	262.5	260.9	270.9	281.8	289.3	296.0	301.0
70°	1683.9	1453.1	888.8	352.8	246.6	245.0	255.0	264.2	270.9	279.3	287.6
72.5°	853.6	1005.8	673.9	288.4	224.9	226.6	237.4	245.8	250.8	258.3	266.7
75°	291.0	438.9	426.4	233.3	200.7	207.3	212.4	221.6	229.1	234.1	238.3
77.5°	182.3	190.6	219.9	188.1	177.2	178.9	187.3	195.6	204.0	207.3	209.0
80°	152.2	153.0	153.8	150.5	151.3	156.3	161.4	170.6	178.9	180.6	181.4
82.5°	120.4	128.8	127.9	127.1	131.3	136.3	139.6	143.0	146.3	148.0	150.5
85°	106.2	104.5	105.3	107.9	104.5	101.2	100.3	100.3	105.3	111.2	113.7
87.5°	97.0	82.8	61.9	58.5	58.5	56.9	53.5	53.5	58.5	63.5	66.1
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°	2491.5	2491.5	2491.5	2491.5	2491.5
2.5°	2476.5	2477.3	2476.5	2476.5	2480.7
5°	2458.1	2461.4	2459.8	2462.3	2464.8
7.5°	2420.5	2428.8	2430.5	2437.2	2434.7
10°	2366.1	2372.0	2380.3	2387.0	2384.5
12.5°	2280.0	2294.2	2306.8	2314.3	2312.6
15°	2170.5	2190.5	2207.3	2213.1	2206.4
17.5°	2053.4	2066.0	2086.0	2090.2	2096.9
20°	1905.4	1904.6	1922.2	1922.2	1918.8
22.5°	1712.3	1724.8	1724.8	1713.1	1707.3
25°	1515.0	1519.2	1506.6	1509.1	1493.2
27.5°	1316.8	1306.0	1295.9	1300.1	1288.4
30°	1127.9	1104.5	1094.4	1096.1	1083.6
32.5°	946.4	918.9	908.8	895.4	884.6
35°	781.7	738.3	712.3	705.7	713.2
37.5°	620.4	589.4	558.5	535.9	538.4
40°	490.8	459.0	438.9	429.7	428.1
42.5°	405.5	387.1	382.9	383.8	383.8
45°	367.9	368.7	372.1	375.4	376.2
47.5°	360.4	365.4	371.2	375.4	376.2
50°	359.5	364.5	368.7	373.7	375.4
52.5°	358.7	362.0	364.5	367.0	369.5
55°	355.3	357.0	356.2	357.8	360.4
57.5°	347.0	347.8	346.1	347.0	352.0
60°	339.4	340.3	336.9	341.1	342.0
62.5°	330.3	329.4	327.7	330.3	330.3
65°	316.9	311.9	313.5	316.0	316.9
67.5°	301.0	296.0	296.0	297.6	300.2
70°	280.9	278.4	278.4	281.8	285.1
72.5°	258.3	260.0	265.0	270.1	275.1
75°	240.0	244.1	249.2	261.7	269.2
77.5°	216.5	217.4	221.6	234.1	247.5
80°	183.9	183.1	183.9	185.6	188.1
82.5°	145.5	143.8	138.8	140.5	137.1
85°	107.0	104.5	98.7	94.5	93.6
87.5°	61.9	61.9	59.4	56.0	52.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)