

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: P145466

Luminaire Tested: **LDRL-SL4-F05-E-7050**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P145466
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-F05-E-7050
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(5) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 W/ SPILL LIGHT CONTROL
Light Source: (35) 5000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12206.5 lumens
Efficiency: N/A
Efficacy: 91.6 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 - G2

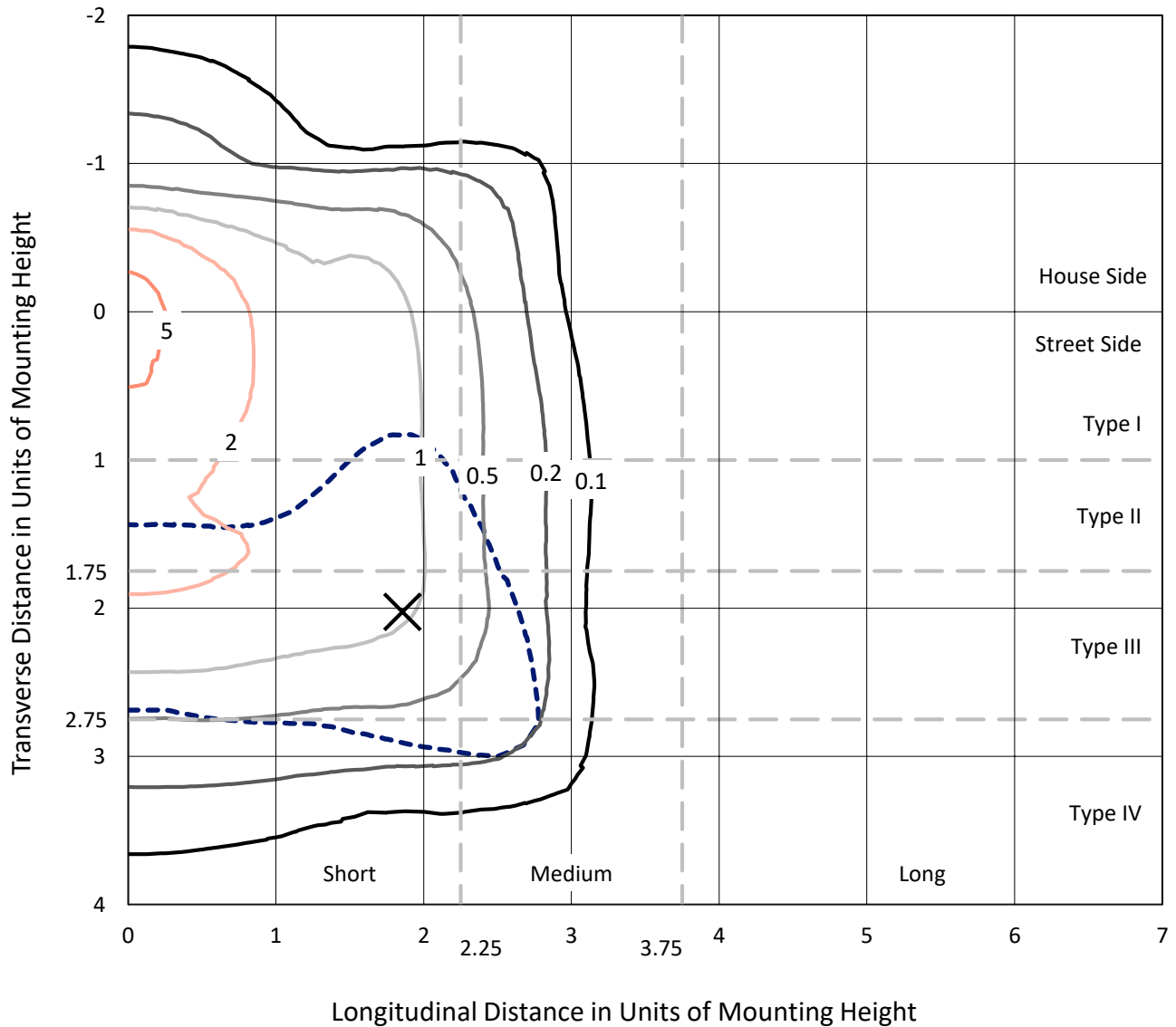
Input Watts (W): 133.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

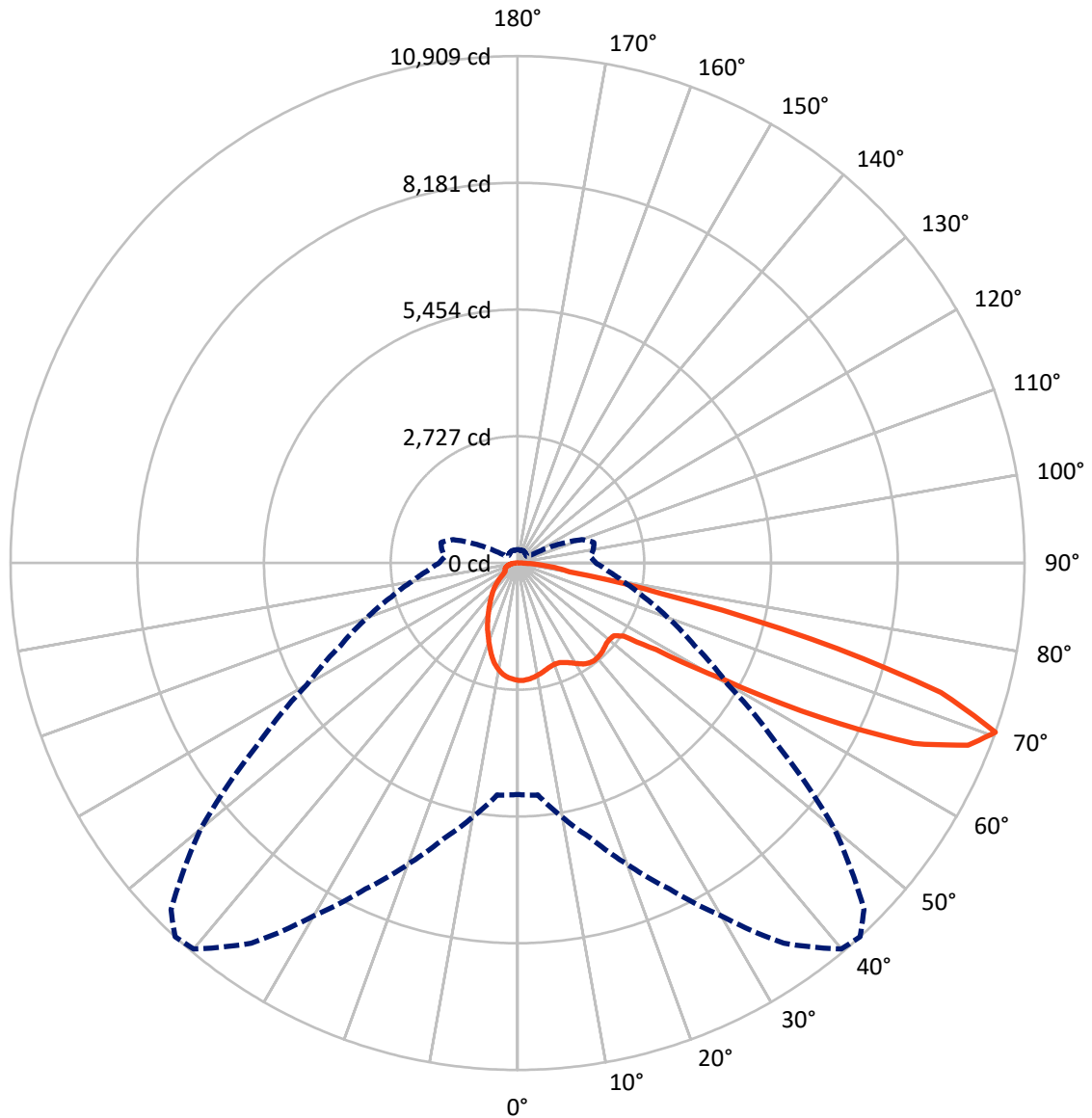
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 6.3 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	2636.8	0.0	2636.8
	% Fixture	21.6	0.0	21.6
Street Side	Lumens	9569.6	0.0	9569.6
	% Fixture	78.4	0.0	78.4
Total	Lumens	12206.5	0.0	12206.5
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	234.9	1.9
10°-20°	632.7	5.2
20°-30°	922.9	7.6
30°-40°	1177.1	9.6
40°-50°	1373.9	11.3
50°-60°	2101.0	17.2
60°-70°	3808.6	31.2
70°-80°	1693.4	13.9
80°-90°	262.0	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°	12206.5	100.0
0°-180°	12206.5	100.0



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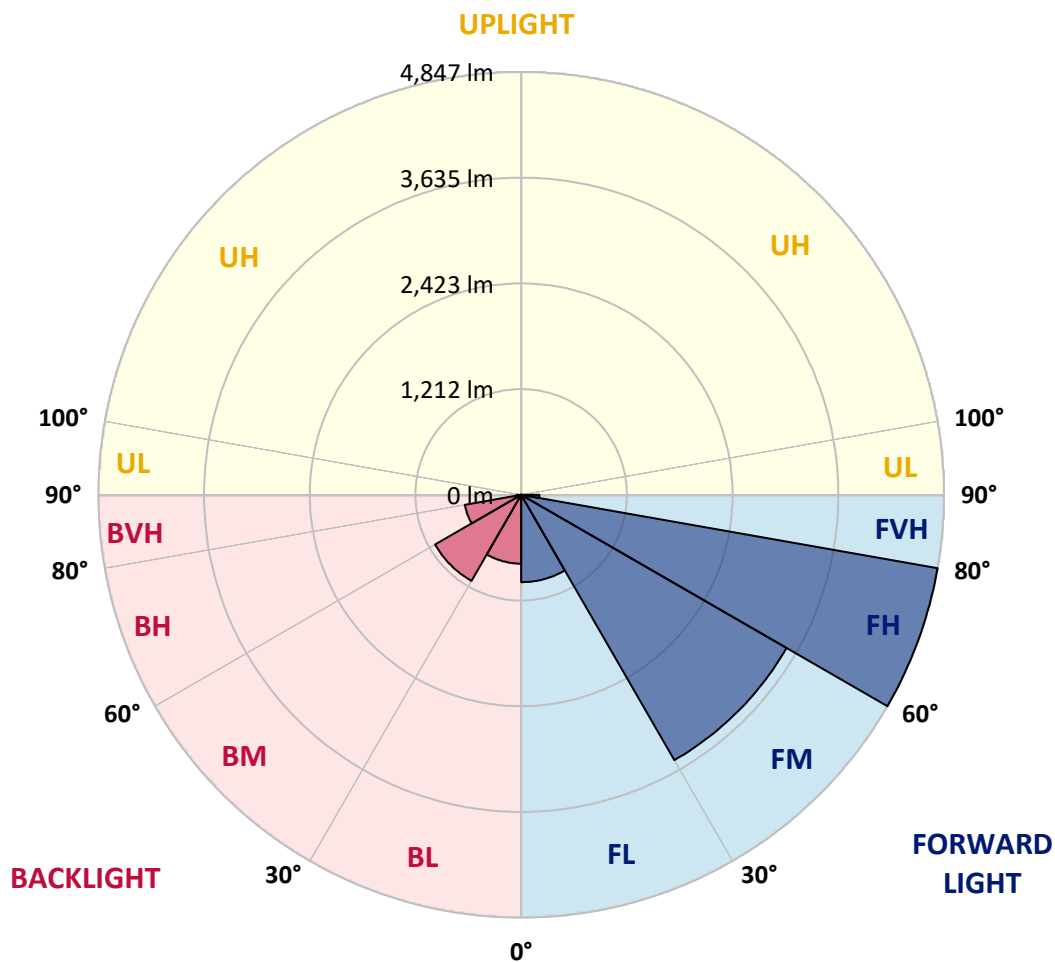
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1001.2	8.2			
FM	(30°-60°)	3512.1	28.8			
FH	(60°-80°)	4846.9	39.7			G2/5000
FVH	(80°-90°)	209.4	1.7			G2/225
BL	(0°-30°)	789.2	6.5	B2/1000		
BM	(30°-60°)	1139.8	9.3	B2/2500		
BH	(60°-80°)	655.1	5.4	B2/1000		G2/1000
BVH	(80°-90°)	52.7	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-G2

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	42.5°	45°
0°	2524.3	2524.3	2524.3	2524.3	2524.3	2524.3	2524.3	2524.3	2524.3	2524.3	2524.3
2.5°	2536.1	2533.6	2535.3	2537.0	2537.0	2537.8	2530.2	2531.1	2527.7	2528.5	2529.4
5°	2526.8	2524.3	2526.0	2526.0	2526.0	2525.1	2515.0	2514.1	2509.9	2509.9	2508.2
7.5°	2509.0	2499.7	2504.8	2505.6	2504.0	2499.7	2493.8	2487.9	2485.3	2485.3	2479.4
10°	2481.9	2471.8	2474.3	2476.0	2475.2	2466.7	2464.1	2458.2	2451.4	2448.9	2442.1
12.5°	2447.2	2440.4	2443.8	2443.0	2443.0	2435.3	2431.1	2422.6	2414.2	2409.9	2401.5
15°	2425.2	2416.7	2420.1	2420.1	2416.7	2409.1	2403.2	2387.9	2373.5	2368.4	2357.4
17.5°	2438.7	2430.3	2433.6	2431.1	2425.2	2409.1	2393.8	2369.3	2346.4	2332.8	2318.4
20°	2492.9	2484.5	2487.0	2485.3	2476.8	2450.6	2422.6	2380.3	2337.9	2317.6	2295.6
22.5°	2579.3	2572.6	2576.8	2574.3	2560.7	2526.8	2485.3	2424.3	2360.8	2330.3	2299.0
25°	2707.3	2705.6	2712.3	2704.7	2685.2	2634.4	2574.3	2492.1	2409.1	2371.0	2326.9
27.5°	2861.4	2847.0	2857.2	2850.4	2836.9	2772.5	2691.2	2587.0	2481.1	2431.1	2378.6
30°	3000.3	2987.6	3006.3	3002.9	2982.6	2916.5	2814.0	2692.0	2572.6	2509.0	2448.9
32.5°	3161.3	3145.2	3159.6	3159.6	3129.1	3040.2	2923.3	2783.5	2658.1	2590.4	2518.4
35°	3329.9	3312.9	3326.5	3322.2	3268.0	3150.3	3003.7	2852.1	2714.0	2644.6	2570.9
37.5°	3486.6	3484.0	3487.4	3459.5	3384.1	3233.3	3057.9	2888.5	2742.0	2669.1	2592.1
40°	3643.3	3637.3	3622.9	3573.8	3463.7	3282.4	3085.9	2901.2	2743.7	2667.4	2589.5
42.5°	3741.5	3730.5	3706.0	3639.0	3501.0	3294.3	3077.4	2881.8	2723.3	2645.4	2569.2
45°	3775.4	3764.4	3734.8	3659.4	3501.8	3275.6	3044.4	2842.8	2685.2	2614.1	2537.0
47.5°	3747.5	3740.7	3713.6	3638.2	3474.7	3240.9	3002.9	2803.8	2648.8	2579.3	2507.3
50°	3700.0	3695.8	3672.1	3602.6	3449.3	3219.7	2983.4	2785.2	2638.6	2574.3	2506.5
52.5°	3818.6	3805.9	3763.6	3681.4	3502.7	3257.9	3013.9	2813.1	2662.4	2597.1	2527.7
55°	5276.4	5182.4	4972.3	4578.4	4027.0	3599.2	3239.2	2997.0	2834.3	2770.8	2704.7
57.5°	6939.2	6841.0	6753.7	6453.0	5798.2	4990.1	4263.3	3838.1	3546.7	3518.8	3492.5
60°	7579.6	7611.0	7603.4	7491.5	7156.1	6772.4	6164.2	5661.9	5105.3	5082.5	5115.5
62.5°	8021.0	8047.2	8050.6	8016.7	7907.5	7779.5	7652.5	7491.5	7385.7	7339.9	7044.3
65°	8203.1	8241.2	8325.1	8387.7	8405.5	8449.6	8564.8	9002.7	9367.8	9365.3	9018.8
67.5°	7507.6	7553.4	7871.0	8182.8	8444.5	8747.7	9214.5	9926.9	10476.6	10459.7	10175.9
70°	4982.5	5011.3	5550.9	6137.9	6899.4	7741.4	8761.3	9989.6	10841.7	10908.6	10542.7
72.5°	3056.2	3122.3	3298.5	3536.5	3943.1	4723.3	6239.6	8338.6	9588.9	9526.2	9234.8
75°	2063.5	2066.9	2061.8	2087.2	2110.1	2267.6	2878.4	4585.2	6495.4	6529.3	6403.9
77.5°	1410.4	1429.0	1439.2	1432.4	1455.3	1448.5	1484.1	1571.3	2489.6	3177.4	2919.9
80°	1232.5	1240.1	1251.1	1235.0	1192.7	1169.0	1202.0	1170.7	1102.9	1139.3	1091.0
82.5°	780.2	803.0	805.6	861.5	944.5	947.9	990.2	958.9	872.5	815.7	746.3
85°	560.8	569.2	584.5	587.9	559.1	534.5	549.8	523.5	471.8	441.3	390.5
87.5°	327.0	335.4	350.7	341.4	312.6	277.0	249.9	215.2	170.3	159.3	140.6
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°	2524.3	2524.3	2524.3	2524.3	2524.3	2524.3	2524.3	2524.3	2524.3	2524.3	2524.3
2.5°	2530.2	2526.0	2522.6	2520.9	2524.3	2520.9	2517.5	2515.8	2512.4	2513.3	2509.0
5°	2506.5	2500.6	2495.5	2491.2	2494.6	2488.7	2483.6	2480.2	2476.0	2475.2	2470.9
7.5°	2473.5	2464.1	2457.4	2449.7	2441.3	2436.2	2430.3	2424.3	2415.0	2414.2	2412.5
10°	2430.3	2422.6	2409.1	2397.2	2385.4	2372.7	2360.0	2350.6	2339.6	2335.4	2329.5
12.5°	2387.1	2371.8	2355.7	2337.1	2322.7	2302.4	2285.4	2267.6	2251.5	2241.4	2230.4
15°	2336.2	2320.1	2297.3	2279.5	2259.2	2236.3	2214.3	2188.0	2161.7	2145.6	2130.4
17.5°	2292.2	2271.9	2253.2	2227.8	2207.5	2181.2	2148.2	2120.2	2088.9	2062.6	2034.7
20°	2258.3	2235.4	2213.4	2190.5	2166.0	2136.3	2099.9	2060.1	2020.3	1983.0	1941.5
22.5°	2244.8	2208.3	2183.8	2162.6	2137.2	2103.3	2062.6	2013.5	1964.4	1916.9	1868.6
25°	2256.6	2202.4	2164.3	2140.6	2117.7	2083.0	2037.2	1981.3	1923.7	1863.6	1806.0
27.5°	2288.8	2220.2	2166.0	2128.7	2102.4	2068.6	2017.7	1959.3	1894.1	1826.3	1764.5
30°	2335.4	2249.8	2182.1	2128.7	2089.7	2050.8	1995.7	1929.6	1861.0	1789.9	1720.4
32.5°	2386.2	2282.9	2201.5	2131.2	2071.1	2022.0	1964.4	1900.0	1827.1	1751.8	1677.2
35°	2424.3	2306.6	2210.0	2121.9	2044.8	1983.0	1921.2	1858.5	1787.3	1711.1	1636.6
37.5°	2440.4	2315.9	2208.3	2102.4	2008.4	1940.7	1876.3	1813.6	1745.0	1673.0	1604.4
40°	2441.3	2315.9	2198.2	2076.2	1970.3	1896.6	1828.8	1770.4	1706.0	1644.2	1583.2
42.5°	2425.2	2304.0	2179.5	2051.6	1942.3	1859.3	1789.9	1729.7	1678.1	1623.0	1571.3
45°	2396.4	2280.3	2162.6	2038.1	1932.2	1850.0	1775.5	1718.7	1672.1	1623.0	1578.1
47.5°	2374.4	2266.8	2163.4	2057.5	1956.7	1872.0	1791.6	1731.4	1691.6	1652.6	1620.5
50°	2378.6	2271.9	2173.6	2072.8	1973.7	1888.1	1810.2	1758.5	1734.8	1722.1	1714.5
52.5°	2400.6	2292.2	2217.6	2150.7	2118.5	2066.0	2022.8	1983.9	1989.8	1959.3	1920.3
55°	2627.6	2591.2	2676.8	2738.6	2769.1	2822.5	2899.5	2825.8	2815.7	2721.7	2442.1
57.5°	3528.1	3614.5	3745.8	3838.9	3848.3	3832.2	3768.6	3707.6	3608.5	3467.1	3075.7
60°	5038.4	5018.1	4896.1	4732.6	4605.6	4438.7	4271.0	4129.5	3970.2	3753.4	3336.6
62.5°	6626.7	6137.1	5702.5	5332.3	5018.1	4739.4	4486.1	4273.5	4055.0	3743.2	3299.4
65°	7909.1	6967.2	6201.4	5605.9	5138.4	4744.5	4417.5	4124.4	3832.2	3471.3	3041.0
67.5°	8825.7	7331.4	6176.0	5338.3	4682.6	4140.5	3664.4	3330.7	3030.8	2747.1	2553.1
70°	8898.5	6827.4	5224.8	4199.8	3443.4	2806.4	2312.5	1948.3	1687.4	1569.6	1653.5
72.5°	7604.2	5051.1	3473.9	2570.9	2040.6	1585.7	1274.8	1019.0	809.0	705.6	720.0
75°	4478.5	2425.2	1564.5	1165.6	952.1	760.7	658.2	555.7	490.5	393.0	314.3
77.5°	1705.2	1054.6	789.5	655.6	467.6	336.3	265.1	228.7	210.1	207.5	196.5
80°	982.6	773.4	541.3	354.1	259.2	219.4	188.1	160.9	149.9	147.4	151.6
82.5°	620.9	482.0	297.3	227.9	188.9	162.6	135.5	117.7	108.4	105.0	111.0
85°	321.0	241.4	181.3	155.9	144.8	132.1	108.4	90.6	89.8	94.0	108.4
87.5°	118.6	103.3	81.3	70.3	75.4	70.3	50.8	44.0	39.8	52.5	76.2
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°	2524.3	2524.3	2524.3	2524.3	2524.3	2524.3	2524.3	2524.3	2524.3	2524.3	2524.3
2.5°	2509.0	2507.3	2508.2	2506.5	2506.5	2509.0	2505.6	2503.1	2507.3	2507.3	2509.9
5°	2470.1	2471.8	2471.8	2470.9	2472.6	2476.8	2476.0	2476.0	2482.8	2485.3	2488.7
7.5°	2408.2	2410.8	2411.6	2414.2	2415.0	2420.9	2425.2	2430.3	2440.4	2443.0	2450.6
10°	2324.4	2322.7	2328.6	2327.8	2335.4	2340.5	2343.9	2354.9	2370.1	2378.6	2386.2
12.5°	2225.3	2225.3	2228.7	2229.5	2236.3	2243.1	2247.3	2260.8	2273.6	2284.6	2301.5
15°	2120.2	2116.8	2109.2	2108.4	2110.9	2117.7	2127.0	2137.2	2156.7	2172.7	2187.1
17.5°	2010.1	1999.9	1990.6	1978.8	1977.9	1977.1	1982.2	1989.8	2020.3	2036.4	2056.7
20°	1912.7	1890.7	1868.6	1844.1	1829.7	1822.9	1825.4	1835.6	1864.4	1885.6	1906.8
22.5°	1825.4	1792.4	1757.7	1718.7	1695.0	1680.6	1682.3	1686.5	1707.7	1720.4	1731.4
25°	1750.9	1705.2	1656.9	1606.9	1573.9	1551.8	1551.0	1551.0	1541.7	1543.4	1537.4
27.5°	1700.1	1636.6	1574.7	1516.3	1473.1	1451.0	1421.4	1400.2	1381.6	1356.2	1345.2
30°	1651.0	1585.7	1515.4	1451.0	1399.4	1356.2	1301.1	1255.4	1218.9	1184.2	1154.6
32.5°	1606.9	1539.1	1472.2	1401.9	1330.8	1256.2	1184.2	1131.7	1080.0	1026.7	991.1
35°	1567.9	1504.4	1437.5	1357.9	1257.9	1160.5	1079.2	1008.0	947.0	882.7	831.0
37.5°	1545.9	1488.3	1418.9	1310.4	1185.1	1074.1	983.5	903.8	822.5	745.4	681.9
40°	1534.9	1484.1	1399.4	1262.1	1119.8	1001.2	900.4	804.7	709.0	618.4	552.3
42.5°	1533.2	1484.1	1370.6	1213.0	1063.9	936.9	824.2	709.0	593.0	504.9	446.4
45°	1548.5	1482.4	1340.1	1169.0	1013.9	879.3	743.7	608.2	488.8	411.7	379.5
47.5°	1592.5	1488.3	1316.4	1131.7	966.5	815.7	652.2	496.4	394.7	360.0	359.2
50°	1663.7	1515.4	1311.3	1104.6	919.9	736.1	544.7	397.3	348.1	346.5	355.8
52.5°	1776.3	1566.2	1324.0	1086.0	864.0	632.8	431.2	343.1	333.7	343.1	354.9
55°	2024.5	1656.9	1340.9	1052.9	773.4	501.5	354.9	325.3	329.5	340.5	351.5
57.5°	2476.0	1844.9	1358.7	978.4	626.8	385.4	319.3	318.5	326.1	335.4	345.6
60°	2762.3	2077.0	1401.9	868.3	473.5	318.5	305.8	314.3	323.6	330.4	338.8
62.5°	2771.6	2138.0	1424.8	750.5	352.4	291.4	293.9	310.0	321.0	323.6	327.8
65°	2592.9	2022.8	1321.4	610.7	292.2	276.1	285.5	299.9	310.9	312.6	316.0
67.5°	2265.1	1783.9	1119.8	460.8	266.0	264.3	274.5	285.5	293.1	299.9	304.9
70°	1706.0	1472.2	900.4	357.5	249.9	248.2	258.4	267.7	274.5	282.9	291.4
72.5°	864.9	1019.0	682.7	292.2	227.9	229.6	240.6	249.0	254.1	261.7	270.2
75°	294.8	444.7	432.0	236.3	203.3	210.1	215.2	224.5	232.1	237.2	241.4
77.5°	184.7	193.1	222.8	190.6	179.6	181.3	189.7	198.2	206.7	210.1	211.8
80°	154.2	155.0	155.9	152.5	153.3	158.4	163.5	172.8	181.3	183.0	183.8
82.5°	122.0	130.4	129.6	128.8	133.0	138.1	141.5	144.8	148.2	149.9	152.5
85°	107.6	105.9	106.7	109.3	105.9	102.5	101.6	101.6	106.7	112.7	115.2
87.5°	98.3	83.9	62.7	59.3	59.3	57.6	54.2	54.2	59.3	64.4	66.9
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°	2524.3	2524.3	2524.3	2524.3	2524.3
2.5°	2509.0	2509.9	2509.0	2509.0	2513.3
5°	2490.4	2493.8	2492.1	2494.6	2497.2
7.5°	2452.3	2460.8	2462.4	2469.2	2466.7
10°	2397.2	2403.2	2411.6	2418.4	2415.9
12.5°	2310.0	2324.4	2337.1	2344.7	2343.0
15°	2199.0	2219.3	2236.3	2242.2	2235.4
17.5°	2080.4	2093.1	2113.5	2117.7	2124.5
20°	1930.5	1929.6	1947.4	1947.4	1944.0
22.5°	1734.8	1747.5	1747.5	1735.7	1729.7
25°	1534.9	1539.1	1526.4	1529.0	1512.9
27.5°	1334.1	1323.1	1313.0	1317.2	1305.3
30°	1142.7	1119.0	1108.8	1110.5	1097.8
32.5°	958.9	930.9	920.8	907.2	896.2
35°	792.0	748.0	721.7	714.9	722.6
37.5°	628.5	597.2	565.8	543.0	545.5
40°	497.2	465.0	444.7	435.4	433.7
42.5°	410.8	392.2	388.0	388.8	388.8
45°	372.7	373.6	376.9	380.3	381.2
47.5°	365.1	370.2	376.1	380.3	381.2
50°	364.2	369.3	373.6	378.6	380.3
52.5°	363.4	366.8	369.3	371.9	374.4
55°	360.0	361.7	360.9	362.5	365.1
57.5°	351.5	352.4	350.7	351.5	356.6
60°	343.9	344.8	341.4	345.6	346.5
62.5°	334.6	333.7	332.1	334.6	334.6
65°	321.0	316.0	317.7	320.2	321.0
67.5°	304.9	299.9	299.9	301.6	304.1
70°	284.6	282.1	282.1	285.5	288.9
72.5°	261.7	263.4	268.5	273.6	278.7
75°	243.1	247.3	252.4	265.1	272.8
77.5°	219.4	220.2	224.5	237.2	250.7
80°	186.4	185.5	186.4	188.1	190.6
82.5°	147.4	145.7	140.6	142.3	138.9
85°	108.4	105.9	100.0	95.7	94.9
87.5°	62.7	62.7	60.1	56.8	53.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)