

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: P145475

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P145475
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
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(6) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 W/ SPILL LIGHT CONTROL
Light Source: (42) 4000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14275.1 lumens
Efficiency: N/A
Efficacy: 91.2 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B2 - U0 - G3

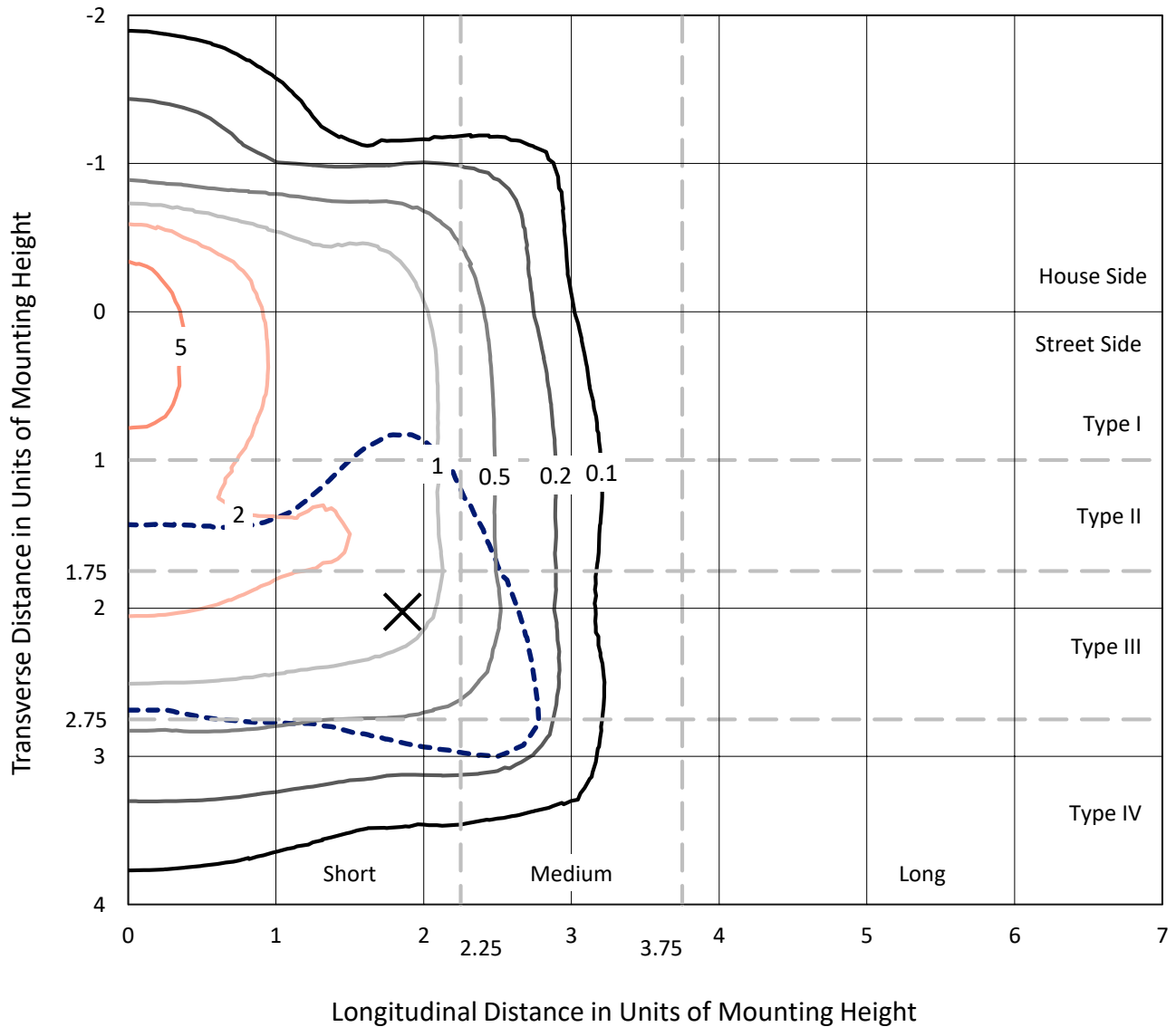
Input Watts (W): 156.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

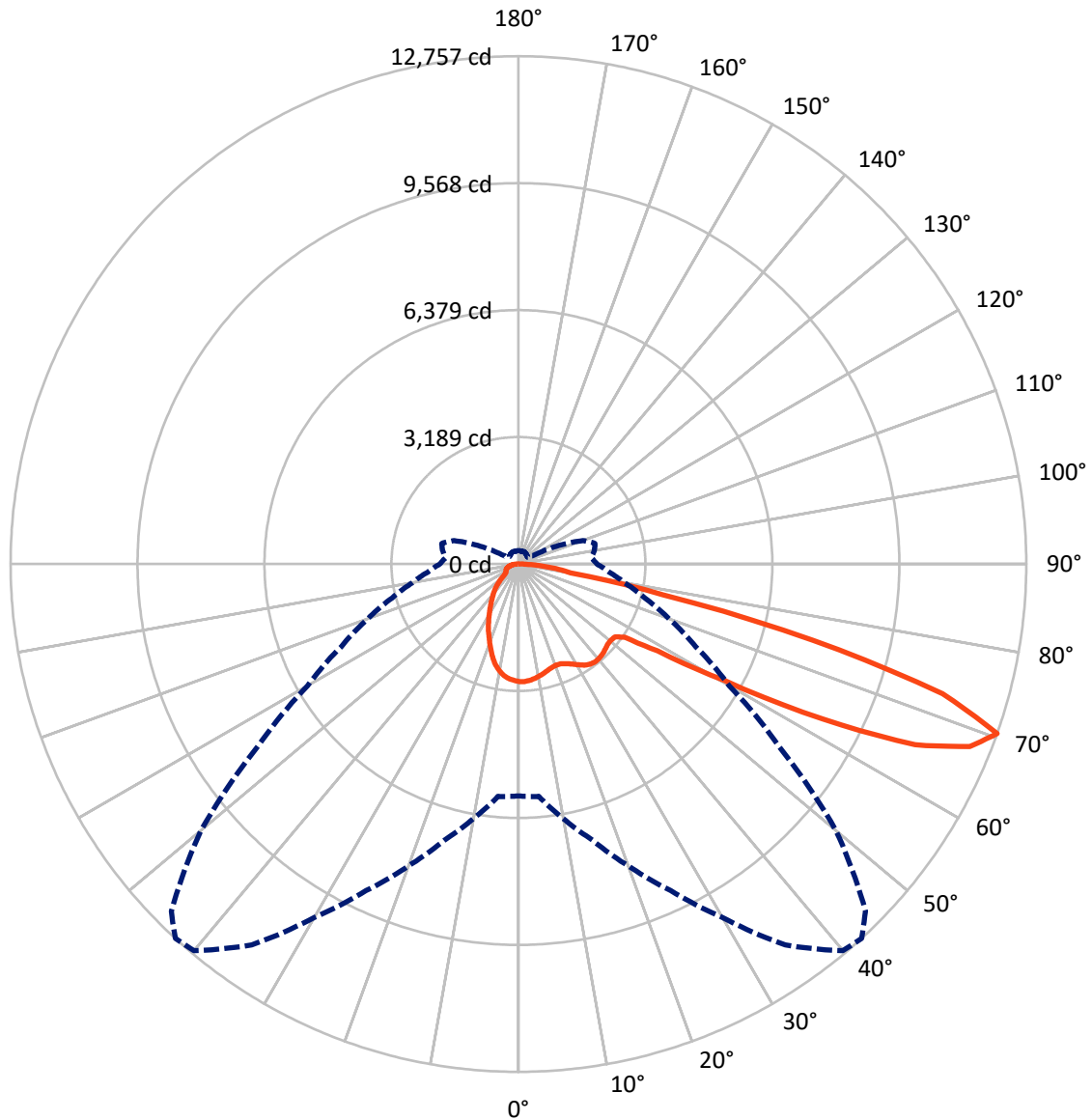
✕ Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 7.4 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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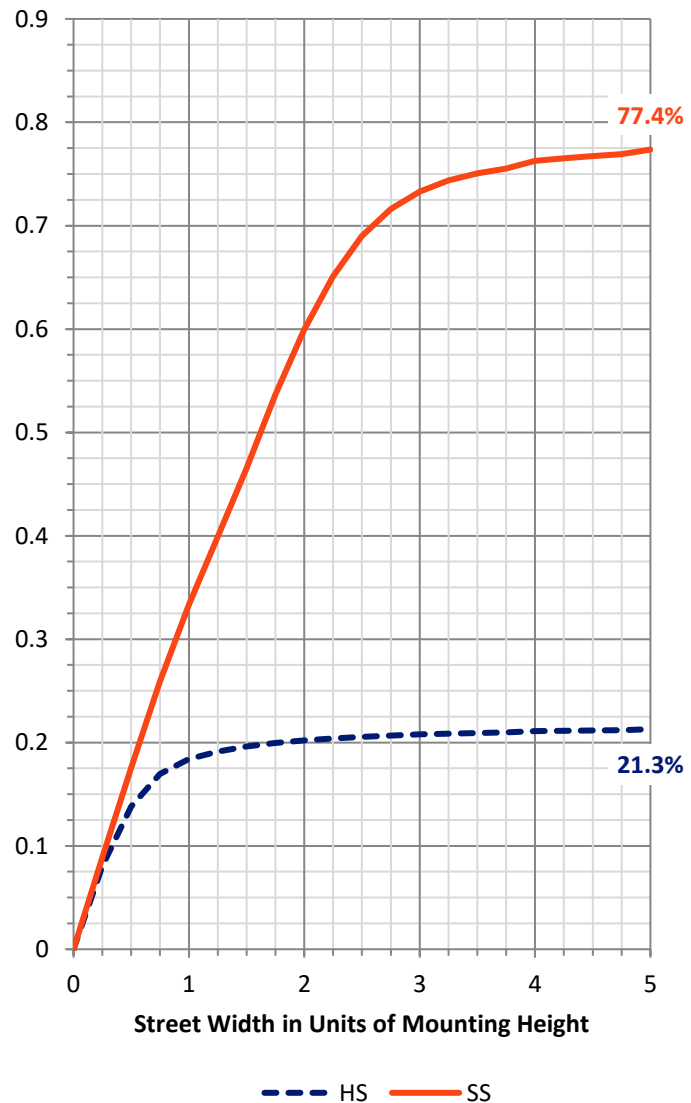
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3083.7	0.0	3083.7
	% Fixture	21.6	0.0	21.6
Street Side	Lumens	11191.4	0.0	11191.4
	% Fixture	78.4	0.0	78.4
Total	Lumens	14275.1	0.0	14275.1
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	274.7	1.9
10°-20°	739.9	5.2
20°-30°	1079.3	7.6
30°-40°	1376.5	9.6
40°-50°	1606.7	11.3
50°-60°	2457.1	17.2
60°-70°	4454.0	31.2
70°-80°	1980.4	13.9
80°-90°	306.4	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°	14275.1	100.0
0°-180°	14275.1	100.0



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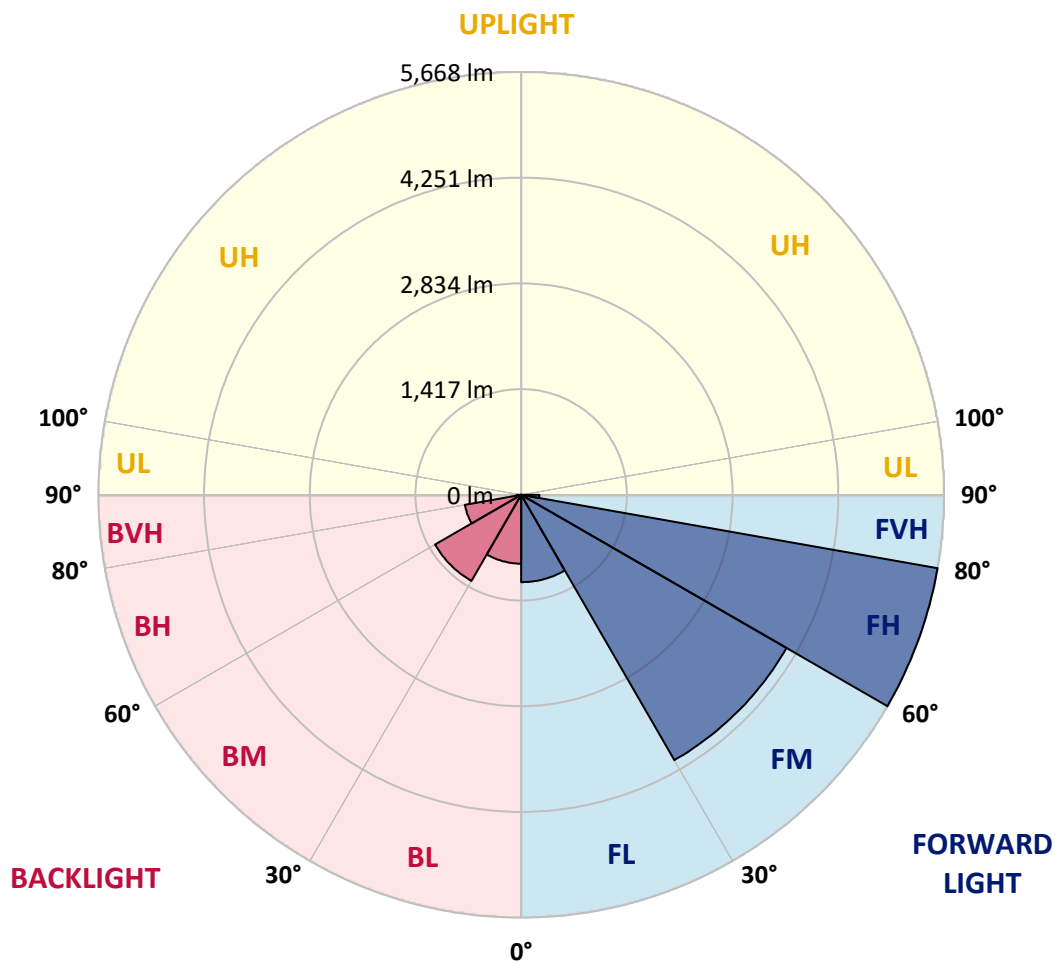
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1170.9	8.2			
FM	(30°-60°)	4107.3	28.8			
FH	(60°-80°)	5668.4	39.7			G3/7500
FVH	(80°-90°)	244.8	1.7			G3/500
BL	(0°-30°)	923.0	6.5	B2/1000		
BM	(30°-60°)	1333.0	9.3	B2/2500		
BH	(60°-80°)	766.1	5.4	B2/1000		G2/1000
BVH	(80°-90°)	61.6	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°	2952.1	2952.1	2952.1	2952.1	2952.1	2952.1	2952.1	2952.1	2952.1	2952.1	2952.1
2.5°	2965.9	2963.0	2965.0	2966.9	2966.9	2967.9	2959.0	2960.0	2956.0	2957.0	2958.0
5°	2955.0	2952.1	2954.1	2954.1	2954.1	2953.1	2941.2	2940.2	2935.2	2935.2	2933.3
7.5°	2934.2	2923.3	2929.3	2930.3	2928.3	2923.3	2916.4	2909.5	2906.5	2906.5	2899.6
10°	2902.5	2890.7	2893.6	2895.6	2894.6	2884.7	2881.7	2874.8	2866.9	2863.9	2856.0
12.5°	2861.9	2854.0	2858.0	2857.0	2857.0	2848.1	2843.1	2833.2	2823.3	2818.3	2808.4
15°	2836.2	2826.3	2830.2	2830.2	2826.3	2817.4	2810.4	2792.6	2775.7	2769.8	2756.9
17.5°	2852.0	2842.1	2846.1	2843.1	2836.2	2817.4	2799.5	2770.8	2744.0	2728.2	2711.4
20°	2915.4	2905.5	2908.5	2906.5	2896.6	2865.9	2833.2	2783.7	2734.1	2710.4	2684.6
22.5°	3016.5	3008.5	3013.5	3010.5	2994.7	2955.0	2906.5	2835.2	2760.9	2725.2	2688.6
25°	3166.1	3164.1	3172.0	3163.1	3140.3	3080.9	3010.5	2914.4	2817.4	2772.8	2721.3
27.5°	3346.3	3329.5	3341.4	3333.5	3317.6	3242.3	3147.2	3025.4	2901.6	2843.1	2781.7
30°	3508.8	3494.0	3515.7	3511.8	3488.0	3410.7	3290.9	3148.2	3008.5	2934.2	2863.9
32.5°	3697.0	3678.2	3695.0	3695.0	3659.4	3555.4	3418.7	3255.2	3108.6	3029.3	2945.1
35°	3894.2	3874.4	3890.2	3885.3	3821.9	3684.2	3512.8	3335.5	3174.0	3092.7	3006.6
37.5°	4077.4	4074.5	4078.4	4045.7	3957.6	3781.2	3576.2	3378.0	3206.7	3121.5	3031.3
40°	4260.7	4253.8	4236.9	4179.5	4050.7	3838.7	3608.9	3392.9	3208.7	3119.5	3028.4
42.5°	4375.6	4362.7	4334.0	4255.7	4094.3	3852.6	3599.0	3370.1	3184.9	3093.7	3004.6
45°	4415.2	4402.4	4367.7	4279.5	4095.3	3830.8	3560.3	3324.6	3140.3	3057.1	2966.9
47.5°	4382.5	4374.6	4342.9	4254.8	4063.6	3790.2	3511.8	3279.0	3097.7	3016.5	2932.3
50°	4327.1	4322.1	4294.4	4213.1	4033.8	3765.4	3489.0	3257.2	3085.8	3010.5	2931.3
52.5°	4465.8	4450.9	4401.4	4305.3	4096.3	3810.0	3524.7	3289.9	3113.5	3037.3	2956.0
55°	6170.6	6060.7	5815.0	5354.4	4709.5	4209.2	3788.2	3504.8	3314.6	3240.4	3163.1
57.5°	8115.2	8000.3	7898.3	7546.6	6780.9	5835.8	4985.8	4488.5	4147.8	4115.1	4084.4
60°	8864.2	8900.8	8891.9	8761.1	8368.8	7920.1	7208.8	6621.4	5970.5	5943.8	5982.4
62.5°	9380.3	9411.0	9414.9	9375.3	9247.5	9097.9	8949.4	8761.1	8637.3	8583.8	8238.1
65°	9593.3	9637.8	9735.9	9809.2	9830.0	9881.5	10016.3	10528.4	10955.4	10952.4	10547.2
67.5°	8780.0	8833.4	9204.9	9569.5	9875.6	10230.2	10776.1	11609.2	12252.1	12232.3	11900.4
70°	5826.9	5860.6	6491.6	7178.1	8068.7	9053.4	10246.1	11682.5	12679.1	12757.3	12329.4
72.5°	3574.2	3651.5	3857.5	4135.9	4611.4	5523.8	7297.0	9751.8	11213.9	11140.6	10799.8
75°	2413.2	2417.1	2411.2	2440.9	2467.7	2651.9	3366.2	5362.3	7596.2	7635.8	7489.2
77.5°	1649.4	1671.2	1683.1	1675.2	1701.9	1694.0	1735.6	1837.6	2911.5	3715.9	3414.7
80°	1441.4	1450.3	1463.2	1444.3	1394.8	1367.1	1405.7	1369.1	1289.8	1332.4	1275.9
82.5°	912.4	939.1	942.1	1007.5	1104.6	1108.5	1158.0	1121.4	1020.3	954.0	872.7
85°	655.8	665.7	683.5	687.5	653.8	625.1	642.9	612.2	551.8	516.1	456.7
87.5°	382.4	392.3	410.1	399.2	365.5	323.9	292.2	251.6	199.1	186.2	164.4
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°	2952.1	2952.1	2952.1	2952.1	2952.1	2952.1	2952.1	2952.1	2952.1	2952.1	2952.1
2.5°	2959.0	2954.1	2950.1	2948.1	2952.1	2948.1	2944.2	2942.2	2938.2	2939.2	2934.2
5°	2931.3	2924.3	2918.4	2913.4	2917.4	2910.5	2904.5	2900.6	2895.6	2894.6	2889.7
7.5°	2892.6	2881.7	2873.8	2864.9	2855.0	2849.1	2842.1	2835.2	2824.3	2823.3	2821.3
10°	2842.1	2833.2	2817.4	2803.5	2789.6	2774.8	2759.9	2749.0	2736.1	2731.2	2724.2
12.5°	2791.6	2773.8	2754.9	2733.1	2716.3	2692.5	2672.7	2651.9	2633.1	2621.2	2608.3
15°	2732.2	2713.3	2686.6	2665.8	2642.0	2615.3	2589.5	2558.8	2528.1	2509.3	2491.4
17.5°	2680.6	2656.9	2635.1	2605.4	2581.6	2550.9	2512.2	2479.5	2442.9	2412.2	2379.5
20°	2641.0	2614.3	2588.5	2561.8	2533.0	2498.4	2455.8	2409.2	2362.7	2319.1	2270.5
22.5°	2625.2	2582.6	2553.8	2529.1	2499.4	2459.7	2412.2	2354.7	2297.3	2241.8	2185.3
25°	2639.0	2575.6	2531.1	2503.3	2476.6	2436.0	2382.5	2317.1	2249.7	2179.4	2112.0
27.5°	2676.7	2596.4	2533.0	2489.5	2458.7	2419.1	2359.7	2291.3	2215.0	2135.8	2063.5
30°	2731.2	2631.1	2551.9	2489.5	2443.9	2398.3	2333.9	2256.7	2176.4	2093.2	2012.0
32.5°	2790.6	2669.7	2574.6	2492.4	2422.1	2364.6	2297.3	2222.0	2136.8	2048.6	1961.4
35°	2835.2	2697.5	2584.6	2481.5	2391.4	2319.1	2246.7	2173.4	2090.2	2001.1	1913.9
37.5°	2854.0	2708.4	2582.6	2458.7	2348.8	2269.5	2194.2	2120.9	2040.7	1956.5	1876.3
40°	2855.0	2708.4	2570.7	2428.0	2304.2	2218.0	2138.8	2070.4	1995.1	1922.8	1851.5
42.5°	2836.2	2694.5	2548.9	2399.3	2271.5	2174.4	2093.2	2022.9	1962.4	1898.0	1837.6
45°	2802.5	2666.8	2529.1	2383.5	2259.6	2163.5	2076.4	2010.0	1955.5	1898.0	1845.5
47.5°	2776.7	2650.9	2530.1	2406.2	2288.4	2189.3	2095.2	2024.8	1978.3	1932.7	1895.1
50°	2781.7	2656.9	2542.0	2424.1	2308.2	2208.1	2117.0	2056.5	2028.8	2014.0	2005.0
52.5°	2807.4	2680.6	2593.5	2515.2	2477.6	2416.1	2365.6	2320.1	2327.0	2291.3	2245.8
55°	3072.9	3030.3	3130.4	3202.7	3238.4	3300.8	3390.9	3304.7	3292.9	3182.9	2856.0
57.5°	4126.0	4227.0	4380.6	4489.5	4500.4	4481.6	4407.3	4336.0	4220.1	4054.6	3597.0
60°	5892.3	5868.5	5725.8	5534.6	5386.1	5190.9	4994.8	4829.3	4643.1	4389.5	3902.1
62.5°	7749.7	7177.1	6668.9	6236.0	5868.5	5542.6	5246.4	4997.7	4742.1	4377.6	3858.5
65°	9249.5	8147.9	7252.4	6556.0	6009.2	5548.5	5166.1	4823.4	4481.6	4059.6	3556.4
67.5°	10321.4	8573.9	7222.7	6242.9	5476.2	4842.2	4285.5	3895.2	3544.5	3212.6	2985.8
70°	10406.6	7984.5	6110.2	4911.5	4026.9	3282.0	2704.4	2278.4	1973.3	1835.6	1933.7
72.5°	8892.9	5907.1	4062.6	3006.6	2386.4	1854.5	1490.9	1191.7	946.1	825.2	842.0
75°	5237.5	2836.2	1829.7	1363.1	1113.5	889.6	769.7	649.9	573.6	459.7	367.5
77.5°	1994.1	1233.3	923.3	766.7	546.8	393.3	310.1	267.5	245.7	242.7	229.8
80°	1149.1	904.4	633.0	414.1	303.1	256.6	219.9	188.2	175.3	172.4	177.3
82.5°	726.1	563.7	347.7	266.5	220.9	190.2	158.5	137.7	126.8	122.8	129.8
85°	375.4	282.3	212.0	182.3	169.4	154.5	126.8	106.0	105.0	110.0	126.8
87.5°	138.7	120.9	95.1	82.2	88.2	82.2	59.4	51.5	46.6	61.4	89.2
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°	2952.1	2952.1	2952.1	2952.1	2952.1	2952.1	2952.1	2952.1	2952.1	2952.1	2952.1
2.5°	2934.2	2932.3	2933.3	2931.3	2931.3	2934.2	2930.3	2927.3	2932.3	2932.3	2935.2
5°	2888.7	2890.7	2890.7	2889.7	2891.6	2896.6	2895.6	2895.6	2903.5	2906.5	2910.5
7.5°	2816.4	2819.3	2820.3	2823.3	2824.3	2831.2	2836.2	2842.1	2854.0	2857.0	2865.9
10°	2718.3	2716.3	2723.2	2722.3	2731.2	2737.1	2741.1	2754.0	2771.8	2781.7	2790.6
12.5°	2602.4	2602.4	2606.3	2607.3	2615.3	2623.2	2628.1	2644.0	2658.9	2671.7	2691.5
15°	2479.5	2475.6	2466.7	2465.7	2468.6	2476.6	2487.5	2499.4	2522.1	2541.0	2557.8
17.5°	2350.8	2338.9	2328.0	2314.1	2313.1	2312.1	2318.1	2327.0	2362.7	2381.5	2405.2
20°	2236.8	2211.1	2185.3	2156.6	2139.8	2131.8	2134.8	2146.7	2180.4	2205.1	2229.9
22.5°	2134.8	2096.2	2055.6	2010.0	1982.3	1965.4	1967.4	1972.3	1997.1	2012.0	2024.8
25°	2047.6	1994.1	1937.7	1879.2	1840.6	1814.8	1813.8	1813.8	1802.9	1804.9	1798.0
27.5°	1988.2	1913.9	1841.6	1773.2	1722.7	1696.9	1662.3	1637.5	1615.7	1586.0	1573.1
30°	1930.7	1854.5	1772.2	1696.9	1636.5	1586.0	1521.6	1468.1	1425.5	1384.9	1350.2
32.5°	1879.2	1800.0	1721.7	1639.5	1556.3	1469.1	1384.9	1323.5	1263.1	1200.6	1159.0
35°	1833.7	1759.4	1681.1	1588.0	1471.1	1357.2	1262.1	1178.8	1107.5	1032.2	971.8
37.5°	1807.9	1740.5	1659.3	1532.5	1385.9	1256.1	1150.1	1057.0	961.9	871.8	797.5
40°	1795.0	1735.6	1636.5	1476.0	1309.6	1170.9	1053.0	941.1	829.2	723.2	645.9
42.5°	1793.0	1735.6	1602.8	1418.6	1244.2	1095.6	963.9	829.2	693.4	590.4	522.1
45°	1810.9	1733.6	1567.2	1367.1	1185.8	1028.3	869.8	711.3	571.6	481.4	443.8
47.5°	1862.4	1740.5	1539.4	1323.5	1130.3	954.0	762.8	580.5	461.6	421.0	420.0
50°	1945.6	1772.2	1533.5	1291.8	1075.8	860.9	637.0	464.6	407.1	405.2	416.1
52.5°	2077.4	1831.7	1548.4	1270.0	1010.4	740.0	504.2	401.2	390.3	401.2	415.1
55°	2367.6	1937.7	1568.2	1231.4	904.4	586.5	415.1	380.4	385.4	398.2	411.1
57.5°	2895.6	2157.6	1589.0	1144.2	733.1	450.7	373.5	372.5	381.4	392.3	404.2
60°	3230.4	2429.0	1639.5	1015.4	553.8	372.5	357.6	367.5	378.4	386.3	396.3
62.5°	3241.3	2500.3	1666.2	877.7	412.1	340.8	343.7	362.6	375.4	378.4	383.4
65°	3032.3	2365.6	1545.4	714.2	341.8	322.9	333.8	350.7	363.6	365.5	369.5
67.5°	2648.9	2086.3	1309.6	538.9	311.1	309.1	321.0	333.8	342.8	350.7	356.6
70°	1995.1	1721.7	1053.0	418.0	292.2	290.3	302.1	313.0	321.0	330.9	340.8
72.5°	1011.4	1191.7	798.4	341.8	266.5	268.5	281.3	291.2	297.2	306.1	316.0
75°	344.7	520.1	505.2	276.4	237.8	245.7	251.6	262.5	271.4	277.4	282.3
77.5°	216.0	225.9	260.5	222.9	210.0	212.0	221.9	231.8	241.7	245.7	247.7
80°	180.3	181.3	182.3	178.3	179.3	185.2	191.2	202.1	212.0	214.0	215.0
82.5°	142.7	152.6	151.6	150.6	155.5	161.5	165.4	169.4	173.4	175.3	178.3
85°	125.8	123.8	124.8	127.8	123.8	119.9	118.9	118.9	124.8	131.8	134.7
87.5°	114.9	98.1	73.3	69.3	69.3	67.4	63.4	63.4	69.3	75.3	78.3
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°	2952.1	2952.1	2952.1	2952.1	2952.1
2.5°	2934.2	2935.2	2934.2	2934.2	2939.2
5°	2912.5	2916.4	2914.4	2917.4	2920.4
7.5°	2867.9	2877.8	2879.8	2887.7	2884.7
10°	2803.5	2810.4	2820.3	2828.2	2825.3
12.5°	2701.4	2718.3	2733.1	2742.1	2740.1
15°	2571.7	2595.5	2615.3	2622.2	2614.3
17.5°	2433.0	2447.8	2471.6	2476.6	2484.5
20°	2257.6	2256.7	2277.5	2277.5	2273.5
22.5°	2028.8	2043.7	2043.7	2029.8	2022.9
25°	1795.0	1800.0	1785.1	1788.1	1769.3
27.5°	1560.2	1547.4	1535.5	1540.4	1526.6
30°	1336.4	1308.6	1296.7	1298.7	1283.9
32.5°	1121.4	1088.7	1076.8	1061.0	1048.1
35°	926.2	874.7	844.0	836.1	845.0
37.5°	735.0	698.4	661.7	635.0	638.0
40°	581.5	543.9	520.1	509.2	507.2
42.5°	480.5	458.7	453.7	454.7	454.7
45°	435.9	436.9	440.8	444.8	445.8
47.5°	427.0	432.9	439.8	444.8	445.8
50°	426.0	431.9	436.9	442.8	444.8
52.5°	425.0	428.9	431.9	434.9	437.9
55°	421.0	423.0	422.0	424.0	427.0
57.5°	411.1	412.1	410.1	411.1	417.1
60°	402.2	403.2	399.2	404.2	405.2
62.5°	391.3	390.3	388.3	391.3	391.3
65°	375.4	369.5	371.5	374.5	375.4
67.5°	356.6	350.7	350.7	352.7	355.6
70°	332.9	329.9	329.9	333.8	337.8
72.5°	306.1	308.1	314.0	320.0	325.9
75°	284.3	289.3	295.2	310.1	319.0
77.5°	256.6	257.6	262.5	277.4	293.2
80°	217.9	216.9	217.9	219.9	222.9
82.5°	172.4	170.4	164.4	166.4	162.5
85°	126.8	123.8	116.9	111.9	111.0
87.5°	73.3	73.3	70.3	66.4	62.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)