

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: P146890

Luminaire Tested: **LDRL-T4-E06-E**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P146890
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33696)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: LDRL-T4-E06-E
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(6) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 SHORT
Light Source: (126) 4000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 17631.6 lumens
Efficiency: N/A
Efficacy: 117.2 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

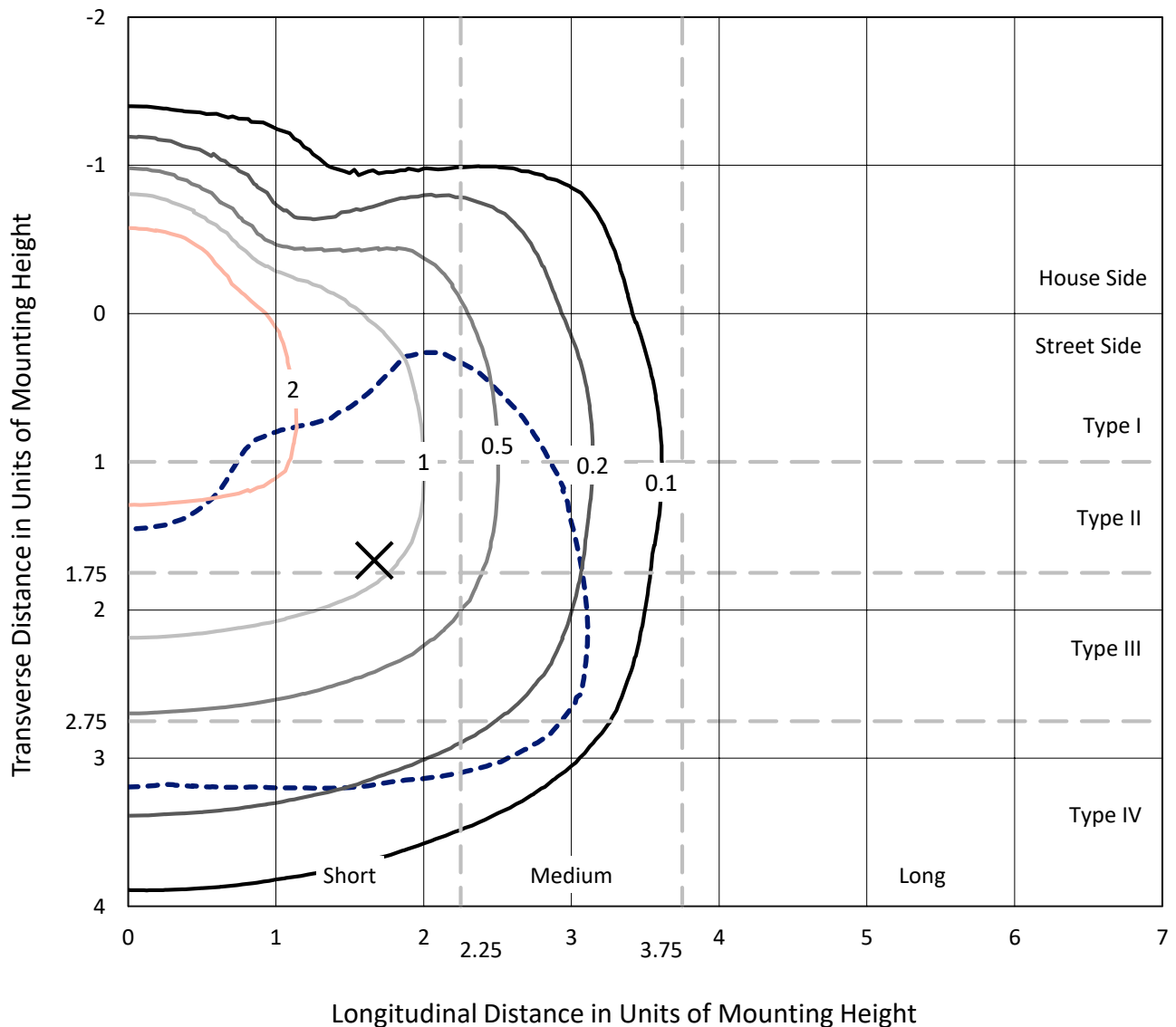
Input Watts (W): 150.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

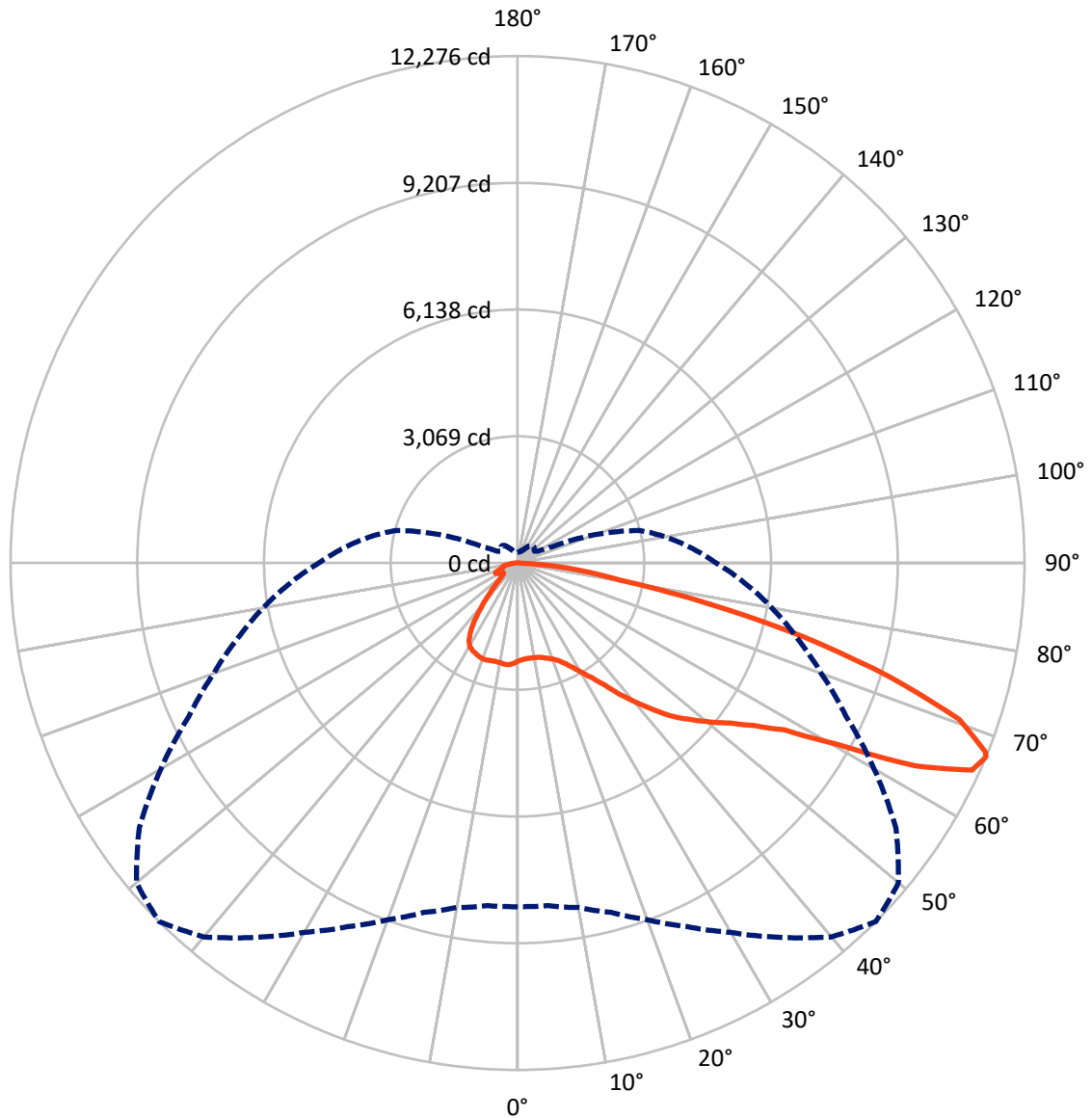
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.9 fc
 Type IV - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral - - - Horizontal Cone Through 67-Deg Vertical

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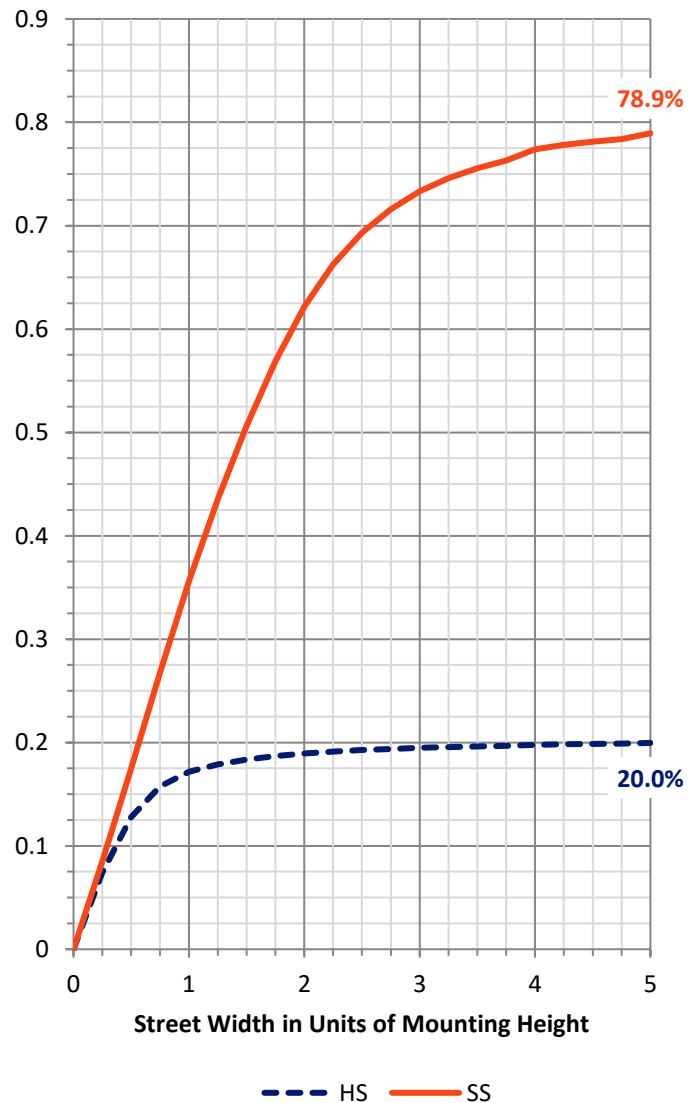
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3572.6	0.0	3572.6
	% Fixture	20.3	0.0	20.3
Street Side	Lumens	14059.1	0.0	14059.1
	% Fixture	79.7	0.0	79.7
Total	Lumens	17631.6	0.0	17631.6
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	228.8	1.3
10°-20°	686.9	3.9
20°-30°	1167.5	6.6
30°-40°	1754.7	10.0
40°-50°	2281.6	12.9
50°-60°	3132.5	17.8
60°-70°	4941.6	28.0
70°-80°	2985.8	16.9
80°-90°	452.3	2.6
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°	17631.6	100.0
0°-180°	17631.6	100.0



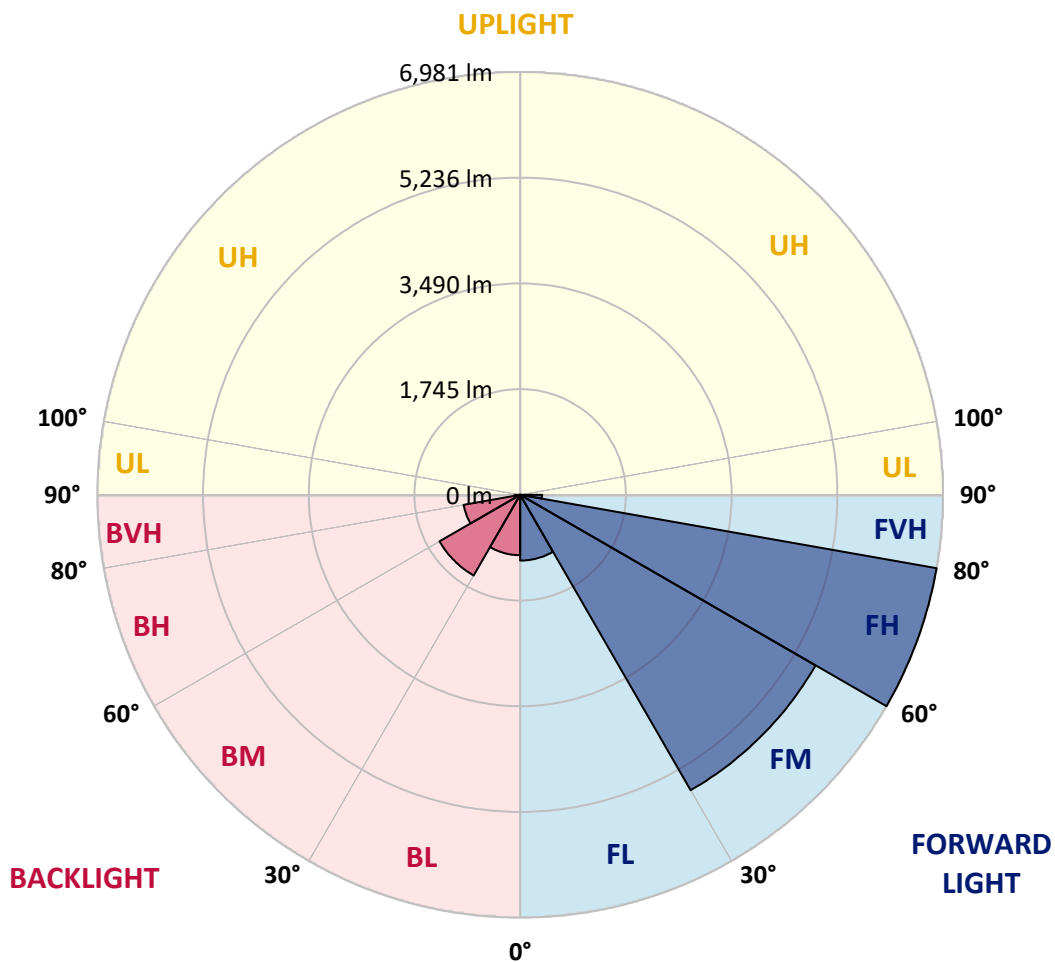
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1085.8	6.2			
FM (30°-60°)	5631.4	31.9			
FH (60°-80°)	6980.7	39.6			G3/7500
FVH (80°-90°)	361.2	2.0			G3/500
BL (0°-30°)	997.5	5.7	B2/1000		
BM (30°-60°)	1537.4	8.7	B2/2500		
BH (60°-80°)	946.6	5.4	B2/1000		G2/1000
BVH (80°-90°)	91.1	0.5			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°	45°	50°
0°	2373.6	2373.6	2373.6	2373.6	2373.6	2373.6	2373.6	2373.6	2373.6	2373.6	2373.6
2.5°	2320.8	2325.6	2322.0	2322.0	2323.2	2324.4	2326.8	2331.6	2332.8	2340.0	2341.2
5°	2274.0	2275.2	2275.2	2276.4	2283.6	2289.6	2295.6	2304.0	2311.2	2324.4	2332.8
7.5°	2257.2	2262.0	2260.8	2263.2	2270.4	2276.4	2283.6	2295.6	2313.6	2324.4	2336.4
10°	2284.8	2288.4	2284.8	2286.0	2287.2	2293.2	2295.6	2304.0	2318.4	2328.0	2338.8
12.5°	2348.4	2348.4	2344.8	2342.4	2338.8	2340.0	2335.2	2334.0	2341.2	2342.4	2343.6
15°	2432.4	2442.0	2430.0	2420.4	2415.6	2410.8	2395.2	2389.2	2388.0	2377.2	2366.4
17.5°	2517.6	2520.0	2512.8	2502.0	2494.8	2484.0	2470.8	2458.8	2444.4	2427.6	2406.0
20°	2612.4	2613.6	2604.0	2588.4	2580.0	2566.8	2550.0	2529.6	2511.6	2485.2	2461.2
22.5°	2744.4	2743.2	2724.0	2710.8	2698.8	2683.2	2659.2	2631.6	2602.8	2571.6	2538.0
25°	2895.6	2895.6	2882.4	2860.8	2854.8	2832.0	2805.6	2773.2	2743.2	2698.8	2658.0
27.5°	3068.4	3069.6	3045.6	3033.6	3020.4	2996.4	2978.4	2953.2	2912.4	2868.0	2826.0
30°	3273.6	3267.6	3248.4	3223.2	3218.4	3199.2	3174.0	3156.0	3105.6	3074.4	3027.6
32.5°	3468.0	3477.6	3472.8	3444.0	3448.8	3429.6	3408.0	3394.8	3342.0	3312.0	3268.8
35°	3758.4	3766.8	3774.0	3763.2	3769.2	3758.4	3740.4	3705.6	3662.4	3622.8	3562.8
37.5°	3984.0	3992.4	3997.2	4023.6	4062.0	4099.2	4116.0	4098.0	4100.4	4040.4	3960.0
40°	4168.8	4189.2	4218.0	4268.4	4345.2	4416.0	4454.4	4484.4	4500.0	4443.6	4339.2
42.5°	4353.6	4375.2	4414.8	4495.2	4600.8	4702.8	4783.2	4875.6	4892.4	4878.0	4789.2
45°	4546.8	4572.0	4621.2	4712.4	4836.0	4969.2	5098.8	5229.6	5295.6	5306.4	5198.4
47.5°	4779.6	4815.6	4861.2	4964.4	5084.4	5234.4	5396.4	5564.4	5667.6	5667.6	5542.8
50°	5070.0	5110.8	5149.2	5252.4	5372.4	5527.2	5714.4	5901.6	6042.0	6050.4	5899.2
52.5°	5476.8	5482.8	5505.6	5600.4	5704.8	5877.6	6055.2	6272.4	6434.4	6441.6	6267.6
55°	5971.2	5971.2	5997.6	6076.8	6174.0	6316.8	6500.4	6741.6	6912.0	6949.2	6726.0
57.5°	6621.6	6645.6	6658.8	6751.2	6817.2	6968.4	7122.0	7384.8	7602.0	7626.0	7399.2
60°	7680.0	7634.4	7707.6	7789.2	7944.0	8054.4	8316.0	8580.0	8857.2	8923.2	8679.6
62.5°	8722.8	8772.0	8862.0	9009.6	9274.8	9522.0	9896.4	10297.2	10728.0	10816.8	10630.8
65°	8787.6	8817.6	8942.4	9196.8	9559.2	9999.6	10515.6	11119.2	11761.2	12093.6	11781.6
67°	8322.0	8330.4	8472.0	8761.2	9195.6	9717.6	10328.4	11065.2	11818.8	12276.0	12043.2
67.5°	8174.4	8190.0	8329.2	8624.4	9063.6	9597.6	10220.4	10977.6	11749.2	12226.8	12016.8
70°	7308.0	7308.0	7458.0	7755.6	8167.2	8688.0	9339.6	10104.0	10942.8	11344.8	11166.0
72.5°	6220.8	6181.2	6350.4	6576.0	6912.0	7366.8	7891.2	8494.8	9126.0	9418.8	9348.0
75°	4521.6	4596.0	4683.6	4850.4	5142.0	5500.8	5808.0	6346.8	6842.4	7166.4	7081.2
77.5°	2467.2	2496.0	2738.4	2838.0	3093.6	3360.0	3697.2	4075.2	4465.2	4669.2	4586.4
80°	1466.4	1522.8	1666.8	1785.6	1923.6	2126.4	2371.2	2454.0	2530.8	2526.0	2376.0
82.5°	926.4	994.8	1150.8	1252.8	1324.8	1442.4	1575.6	1680.0	1702.8	1590.0	1416.0
85°	150.0	248.4	649.2	763.2	808.8	872.4	970.8	1015.2	948.0	828.0	858.0
87.5°	58.8	70.8	198.0	250.8	265.2	139.2	241.2	283.2	144.0	73.2	165.6
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):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	2373.6	2373.6	2373.6	2373.6	2373.6	2373.6	2373.6	2373.6	2373.6	2373.6	2373.6
2.5°	2348.4	2354.4	2360.4	2367.6	2370.0	2376.0	2386.8	2385.6	2394.0	2397.6	2403.6
5°	2343.6	2356.8	2366.4	2379.6	2384.4	2397.6	2412.0	2416.8	2427.6	2436.0	2443.2
7.5°	2353.2	2367.6	2379.6	2395.2	2406.0	2416.8	2427.6	2440.8	2450.4	2456.4	2461.2
10°	2356.8	2372.4	2386.8	2400.0	2412.0	2420.4	2432.4	2443.2	2452.8	2456.4	2457.6
12.5°	2358.0	2368.8	2383.2	2397.6	2408.4	2419.2	2427.6	2439.6	2446.8	2448.0	2445.6
15°	2367.6	2368.8	2378.4	2395.2	2406.0	2416.8	2422.8	2428.8	2433.6	2430.0	2426.4
17.5°	2396.4	2388.0	2388.0	2396.4	2402.4	2407.2	2408.4	2407.2	2402.4	2395.2	2389.2
20°	2443.2	2426.4	2413.2	2408.4	2398.8	2386.8	2371.2	2356.8	2338.8	2330.4	2329.2
22.5°	2516.4	2491.2	2467.2	2443.2	2412.0	2377.2	2341.2	2310.0	2284.8	2271.6	2272.8
25°	2641.2	2604.0	2576.4	2534.4	2484.0	2434.8	2388.0	2346.0	2316.0	2292.0	2296.8
27.5°	2809.2	2767.2	2743.2	2695.2	2637.6	2575.2	2520.0	2462.4	2419.2	2389.2	2395.2
30°	3006.0	2994.0	2954.4	2906.4	2852.4	2781.6	2698.8	2612.4	2534.4	2485.2	2475.6
32.5°	3243.6	3230.4	3187.2	3146.4	3076.8	2998.8	2890.8	2754.0	2631.6	2538.0	2497.2
35°	3536.4	3504.0	3451.2	3411.6	3333.6	3232.8	3093.6	2908.8	2722.8	2582.4	2480.4
37.5°	3901.2	3820.8	3733.2	3630.0	3514.8	3392.4	3231.6	3015.6	2785.2	2586.0	2404.8
40°	4249.2	4119.6	3974.4	3811.2	3670.8	3523.2	3356.4	3109.2	2827.2	2560.8	2290.8
42.5°	4636.8	4435.2	4238.4	4014.0	3829.2	3654.0	3463.2	3175.2	2835.6	2492.4	2143.2
45°	5010.0	4750.8	4486.8	4209.6	3974.4	3780.0	3562.8	3231.6	2833.2	2420.4	1996.8
47.5°	5342.4	5032.8	4706.4	4394.4	4120.8	3907.2	3669.6	3308.4	2865.6	2400.0	1899.6
50°	5653.2	5295.6	4912.8	4566.0	4268.4	4050.0	3805.2	3429.6	2965.2	2446.8	1885.2
52.5°	5973.6	5584.8	5146.8	4773.6	4462.8	4209.6	3962.4	3584.4	3104.4	2542.8	1917.6
55°	6391.2	5944.8	5478.0	5064.0	4707.6	4435.2	4149.6	3771.6	3254.4	2654.4	1978.8
57.5°	7012.8	6490.8	5960.4	5515.2	5103.6	4764.0	4450.8	4017.6	3502.8	2822.4	2113.2
60°	8128.8	7550.4	6936.0	6354.0	5880.0	5482.8	5084.4	4546.8	3961.2	3204.0	2421.6
62.5°	9951.6	9151.2	8301.6	7536.0	6884.4	6346.8	5785.2	5139.6	4456.8	3667.2	2888.4
65°	11047.2	9943.2	8862.0	7974.0	7203.6	6514.8	5835.6	5142.0	4480.8	3790.8	3098.4
67°	11182.8	9972.0	8775.6	7830.0	7004.4	6254.4	5517.6	4808.4	4216.8	3638.4	3040.8
67.5°	11142.0	9914.4	8694.0	7738.8	6904.8	6178.8	5454.0	4728.0	4152.0	3573.6	2997.6
70°	10338.0	9136.8	7929.6	7000.8	6201.6	5458.8	4773.6	4046.4	3601.2	3187.2	2689.2
72.5°	8580.0	7642.8	6631.2	5857.2	5167.2	4524.0	3921.6	3313.2	2955.6	2662.8	2312.4
75°	6362.4	5503.2	4647.6	4182.0	3646.8	3132.0	2666.4	2216.4	2078.4	2008.8	1802.4
77.5°	3928.8	3157.2	2512.8	2091.6	1663.2	1303.2	1036.8	843.6	879.6	1023.6	1089.6
80°	1956.0	1444.8	1118.4	889.2	718.8	580.8	426.0	312.0	373.2	442.8	501.6
82.5°	1177.2	930.0	735.6	622.8	506.4	391.2	277.2	211.2	234.0	314.4	345.6
85°	730.8	585.6	468.0	391.2	324.0	240.0	157.2	156.0	165.6	208.8	238.8
87.5°	214.8	145.2	115.2	120.0	133.2	110.4	82.8	70.8	87.6	120.0	134.4
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):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	2373.6	2373.6	2373.6	2373.6	2373.6	2373.6	2373.6	2373.6	2373.6	2373.6	2373.6
2.5°	2404.8	2413.2	2416.8	2418.0	2419.2	2426.4	2426.4	2433.6	2436.0	2436.0	2438.4
5°	2450.4	2458.8	2462.4	2463.6	2466.0	2469.6	2468.4	2473.2	2475.6	2474.4	2474.4
7.5°	2467.2	2469.6	2469.6	2473.2	2476.8	2473.2	2470.8	2473.2	2472.0	2473.2	2473.2
10°	2461.2	2458.8	2458.8	2456.4	2460.0	2452.8	2452.8	2455.2	2454.0	2456.4	2460.0
12.5°	2446.8	2445.6	2442.0	2440.8	2445.6	2440.8	2442.0	2445.6	2448.0	2452.8	2458.8
15°	2426.4	2422.8	2422.8	2427.6	2439.6	2443.2	2448.0	2454.0	2455.2	2457.6	2460.0
17.5°	2391.6	2397.6	2412.0	2428.8	2451.6	2460.0	2462.4	2458.8	2446.8	2437.2	2427.6
20°	2343.6	2370.0	2407.2	2443.2	2470.8	2469.6	2454.0	2431.2	2402.4	2382.0	2368.8
22.5°	2302.8	2354.4	2412.0	2455.2	2473.2	2450.4	2414.4	2379.6	2346.0	2316.0	2289.6
25°	2331.6	2380.8	2430.0	2456.4	2455.2	2415.6	2367.6	2329.2	2283.6	2241.6	2197.2
27.5°	2425.2	2455.2	2469.6	2461.2	2436.0	2383.2	2330.4	2276.4	2217.6	2167.2	2115.6
30°	2488.8	2488.8	2474.4	2440.8	2396.4	2337.6	2272.8	2203.2	2133.6	2074.8	2016.0
32.5°	2468.4	2421.6	2379.6	2334.0	2283.6	2220.0	2145.6	2070.0	1990.8	1922.4	1872.0
35°	2379.6	2278.8	2191.2	2126.4	2073.6	1998.0	1911.6	1825.2	1760.4	1713.6	1684.8
37.5°	2221.2	2060.4	1933.2	1854.0	1772.4	1694.4	1594.8	1555.2	1497.6	1468.8	1458.0
40°	2029.2	1794.0	1634.4	1532.4	1446.0	1348.8	1281.6	1256.4	1234.8	1228.8	1224.0
42.5°	1808.4	1514.4	1324.8	1219.2	1114.8	1044.0	1014.0	998.4	994.8	994.8	1000.8
45°	1579.2	1230.0	1011.6	926.4	840.0	802.8	795.6	788.4	789.6	786.0	788.4
47.5°	1401.6	987.6	763.2	685.2	640.8	628.8	620.4	618.0	618.0	612.0	604.8
50°	1309.2	825.6	598.8	537.6	512.4	504.0	504.0	499.2	489.6	483.6	468.0
52.5°	1285.2	741.6	518.4	465.6	444.0	436.8	429.6	422.4	408.0	394.8	376.8
55°	1304.4	715.2	493.2	444.0	420.0	411.6	405.6	393.6	373.2	354.0	333.6
57.5°	1384.8	732.0	502.8	450.0	428.4	422.4	416.4	398.4	373.2	345.6	322.8
60°	1604.4	811.2	543.6	482.4	464.4	465.6	457.2	434.4	398.4	358.8	325.2
62.5°	1887.6	921.6	596.4	528.0	525.6	537.6	537.6	498.0	439.2	379.2	333.6
65°	2049.6	956.4	603.6	534.0	554.4	589.2	586.8	534.0	453.6	379.2	330.0
67°	2008.8	919.2	573.6	499.2	523.2	562.8	558.0	507.6	432.0	363.6	320.4
67.5°	1976.4	907.2	566.4	490.8	514.8	547.2	547.2	496.8	422.4	358.8	316.8
70°	1740.0	801.6	530.4	458.4	458.4	466.8	460.8	424.8	374.4	330.0	302.4
72.5°	1450.8	700.8	501.6	435.6	412.8	408.0	399.6	374.4	342.0	310.8	286.8
75°	1124.4	620.4	478.8	411.6	381.6	370.8	362.4	343.2	318.0	291.6	271.2
77.5°	787.2	531.6	448.8	391.2	358.8	350.4	337.2	315.6	295.2	272.4	253.2
80°	488.4	439.2	391.2	352.8	319.2	307.2	290.4	271.2	254.4	241.2	226.8
82.5°	348.0	322.8	291.6	271.2	236.4	200.4	214.8	216.0	205.2	196.8	193.2
85°	232.8	210.0	194.4	176.4	156.0	140.4	144.0	154.8	156.0	152.4	152.4
87.5°	127.2	108.0	104.4	108.0	93.6	88.8	90.0	99.6	100.8	100.8	102.0
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):

	165°	170°	175°	180°
0°	2373.6	2373.6	2373.6	2373.6
2.5°	2439.6	2443.2	2442.0	2444.4
5°	2476.8	2479.2	2478.0	2479.2
7.5°	2470.8	2475.6	2478.0	2474.4
10°	2461.2	2468.4	2473.2	2473.2
12.5°	2463.6	2475.6	2482.8	2482.8
15°	2461.2	2470.8	2473.2	2473.2
17.5°	2424.0	2424.0	2425.2	2420.4
20°	2359.2	2352.0	2349.6	2341.2
22.5°	2266.8	2250.0	2239.2	2233.2
25°	2161.2	2134.8	2118.0	2108.4
27.5°	2073.6	2050.8	2034.0	2024.4
30°	1976.4	1950.0	1940.4	1933.2
32.5°	1836.0	1810.8	1803.6	1797.6
35°	1653.6	1645.2	1626.0	1612.8
37.5°	1442.4	1431.6	1424.4	1419.6
40°	1221.6	1222.8	1216.8	1206.0
42.5°	1000.8	1012.8	1000.8	998.4
45°	786.0	799.2	799.2	802.8
47.5°	606.0	603.6	608.4	609.6
50°	458.4	451.2	448.8	445.2
52.5°	363.6	355.2	350.4	344.4
55°	320.4	310.8	306.0	304.8
57.5°	306.0	294.0	286.8	285.6
60°	302.4	285.6	276.0	273.6
62.5°	302.4	282.0	271.2	267.6
65°	298.8	278.4	268.8	265.2
67°	294.0	276.0	266.4	264.0
67.5°	291.6	274.8	266.4	262.8
70°	285.6	271.2	261.6	258.0
72.5°	272.4	260.4	250.8	248.4
75°	258.0	247.2	241.2	238.8
77.5°	241.2	231.6	224.4	218.4
80°	216.0	205.2	194.4	192.0
82.5°	183.6	171.6	163.2	162.0
85°	147.6	138.0	128.4	128.4
87.5°	103.2	97.2	91.2	85.2
90°	0.0	0.0	0.0	0.0

(END OF REPORT)