

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: P144550

Luminaire Tested: **LDRL-RW-E04-E**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P144550
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33700)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: LDRL-RW-E04-E
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(4) LIGHTBARS WITH AccuLED OPTICS - RECTANGULAR WIDE
Light Source: (84) 4000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12014.7 lumens
Efficiency: N/A
Efficacy: 123.6 lumens/watt
Luminous Opening: Rectangular (W 0.67' x L: 1' x H: 0')
IES Classification: Type I - Short - Full Cutoff
BUG Rating: B3 - U0 - G3

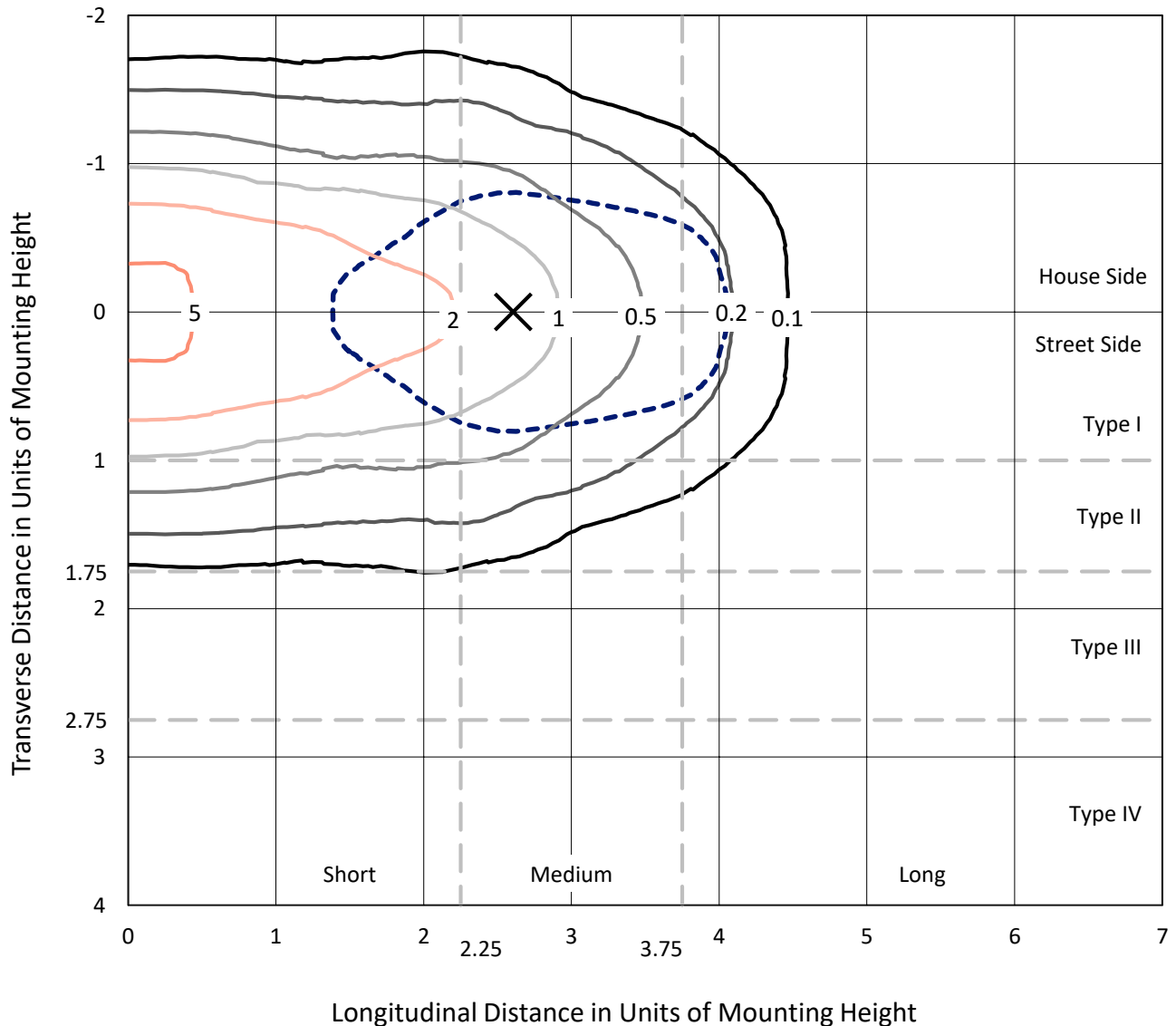
Input Watts (W): 97.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

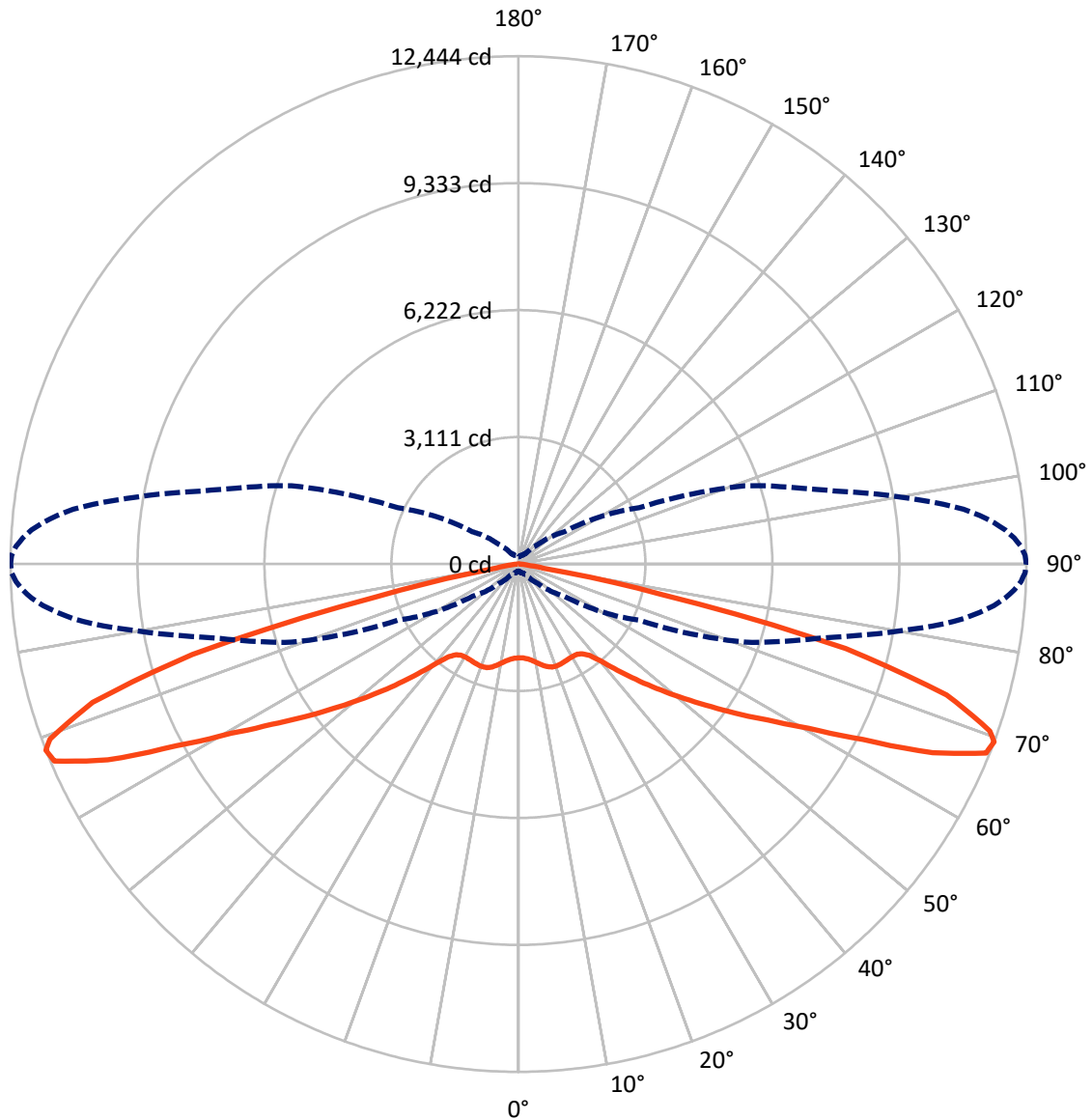
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 5.9 fc
 Type I - Short - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 90-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	6007.3	0.0	6007.3
	% Fixture	50.0	0.0	50.0
Street Side	Lumens	6007.3	0.0	6007.3
	% Fixture	50.0	0.0	50.0
Total	Lumens	12014.7	0.0	12014.7
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	225.1	1.9
10°-20°	709.0	5.9
20°-30°	1148.2	9.6
30°-40°	1430.4	11.9
40°-50°	1780.7	14.8
50°-60°	2185.0	18.2
60°-70°	2694.7	22.4
70°-80°	1675.2	13.9
80°-90°	166.4	1.4
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°	12014.7	100.0
0°-180°	12014.7	100.0



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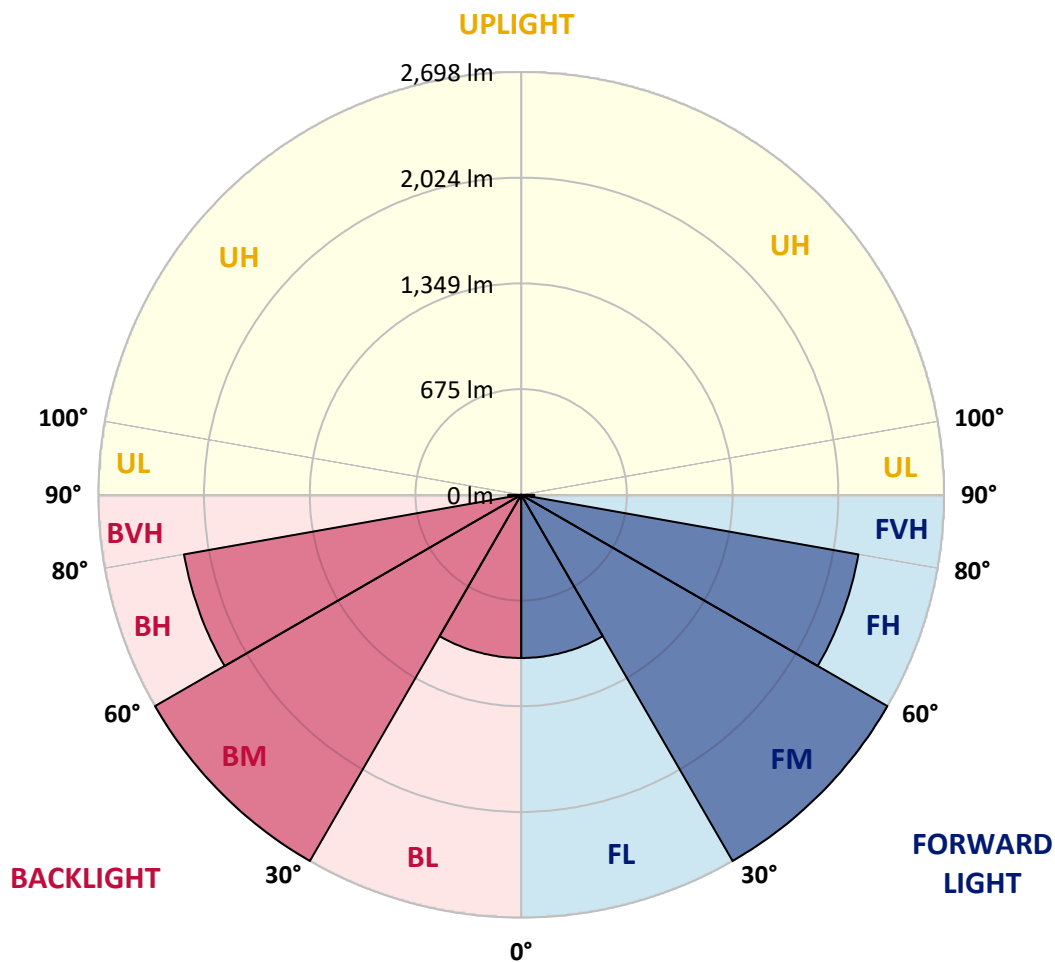
CATALOG NUMBER: LDRL-RW-E04-E

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1041.1	8.7			
FM	(30°-60°)	2698.0	22.5			
FH	(60°-80°)	2185.0	18.2			G2/5000
FVH	(80°-90°)	83.2	0.7			G1/100
BL	(0°-30°)	1041.1	8.7	B3/2500		
BM	(30°-60°)	2698.0	22.5	B3/5000		
BH	(60°-80°)	2185.0	18.2	B3/2500		G3/2500
BVH	(80°-90°)	83.2	0.7			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G3

Type I Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	66°	67°	68°
0°	2300.8	2300.8	2300.8	2300.8	2300.8	2300.8	2300.8	2300.8	2300.8	2300.8	2300.8
2.5°	2306.8	2304.4	2308.8	2312.8	2311.6	2312.4	2310.8	2308.8	2309.0	2309.1	2309.3
5°	2324.8	2322.4	2326.4	2330.0	2331.2	2334.0	2334.8	2333.6	2334.2	2334.7	2335.3
7.5°	2346.4	2344.4	2349.6	2354.4	2363.6	2368.4	2373.2	2378.0	2378.4	2378.8	2379.2
10°	2366.8	2365.6	2374.0	2384.4	2399.2	2410.4	2424.0	2437.2	2438.2	2439.3	2440.3
12.5°	2380.0	2380.0	2392.8	2411.6	2437.2	2460.0	2483.2	2505.6	2507.7	2509.8	2511.8
15°	2379.2	2380.8	2400.4	2434.8	2478.8	2519.2	2547.6	2572.0	2574.0	2576.0	2578.0
17.5°	2362.8	2363.2	2391.2	2446.0	2514.8	2574.8	2611.6	2624.8	2625.5	2626.2	2627.0
20°	2316.8	2320.0	2359.6	2439.2	2542.8	2625.6	2660.4	2654.8	2653.6	2652.4	2651.2
22.5°	2238.0	2242.0	2294.8	2401.6	2548.0	2658.4	2694.4	2669.2	2665.4	2661.5	2657.7
25°	2128.4	2135.2	2192.4	2329.2	2512.8	2668.0	2716.4	2676.0	2670.0	2664.0	2658.0
27.5°	2001.6	2004.8	2072.4	2216.0	2430.8	2636.0	2726.4	2690.0	2682.5	2675.0	2667.4
30°	1854.8	1863.2	1933.6	2083.6	2315.2	2561.6	2722.4	2717.2	2708.8	2700.4	2692.0
32.5°	1708.8	1716.0	1785.2	1946.8	2182.0	2458.0	2702.4	2758.4	2751.4	2744.3	2737.3
35°	1561.6	1570.4	1641.6	1815.2	2049.6	2340.4	2670.8	2817.2	2814.2	2811.1	2808.1
37.5°	1432.4	1438.0	1508.0	1688.4	1933.6	2232.8	2629.6	2896.0	2902.9	2909.8	2916.6
40°	1300.8	1306.4	1379.6	1564.4	1826.8	2140.8	2591.6	2995.2	3014.0	3032.8	3051.6
42.5°	1174.4	1179.2	1250.0	1434.4	1708.0	2061.2	2568.8	3115.2	3151.3	3187.4	3223.4
45°	1044.8	1048.0	1114.4	1294.0	1572.4	1968.4	2562.8	3250.0	3302.1	3354.2	3406.2
47.5°	917.2	924.8	993.2	1163.6	1417.6	1835.6	2554.0	3399.2	3468.2	3537.3	3606.3
50°	795.2	803.6	874.0	1035.6	1268.0	1678.0	2509.2	3568.4	3652.6	3736.7	3820.9
52.5°	670.8	679.2	749.6	904.0	1129.2	1500.4	2384.4	3746.0	3846.1	3946.2	4046.2
55°	538.0	541.2	613.6	768.4	990.4	1351.6	2185.6	3908.8	4030.0	4151.2	4272.4
57.5°	391.2	402.0	473.6	617.6	848.8	1220.0	1932.8	3992.0	4143.3	4294.6	4445.8
60°	282.4	289.6	352.4	465.6	688.4	1090.8	1708.4	3931.2	4133.1	4335.0	4537.0
62.5°	223.2	231.2	279.6	350.8	532.4	948.8	1562.0	3764.4	4047.7	4331.0	4614.2
65°	197.6	204.8	249.6	284.8	407.2	802.8	1470.0	3599.2	3981.5	4363.8	4746.2
67.5°	180.4	188.0	227.2	251.2	336.4	708.8	1426.4	3474.4	3915.9	4357.4	4799.0
69°	172.4	179.2	215.2	237.6	317.2	676.8	1379.6	3263.2	3701.0	4138.7	4576.5
70°	168.0	174.0	206.8	229.2	309.6	650.4	1310.4	3012.0	3434.4	3856.8	4279.2
72.5°	155.6	159.6	187.2	208.0	283.2	519.2	988.4	2125.2	2483.3	2841.4	3199.4
75°	138.0	142.8	167.2	186.4	216.0	312.0	618.8	1233.6	1479.0	1724.3	1969.7
77.5°	118.4	124.0	144.0	174.4	174.0	203.2	375.6	708.4	827.6	946.8	1066.0
80°	101.6	106.4	124.4	172.4	145.6	160.8	280.0	528.4	576.4	624.4	672.4
82.5°	79.6	83.6	104.4	142.4	116.4	122.4	213.2	481.2	513.8	546.3	578.9
85°	50.0	51.6	76.0	98.4	82.8	74.0	137.2	370.4	394.1	417.8	441.4
87.5°	20.0	24.4	36.8	35.2	35.6	29.6	44.4	133.6	145.8	157.9	170.1
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):

	69°	70°	71°	72°	73°	74°	75°	76°	77°	78°	79°
0°	2300.8	2300.8	2300.8	2300.8	2300.8	2300.8	2300.8	2300.8	2300.8	2300.8	2300.8
2.5°	2309.4	2309.6	2308.8	2307.6	2308.8	2307.6	2308.0	2309.2	2308.8	2308.8	2308.0
5°	2335.8	2336.4	2336.4	2334.0	2335.2	2335.6	2336.0	2335.2	2335.6	2336.4	2334.8
7.5°	2379.6	2380.0	2381.2	2382.4	2381.6	2382.0	2382.8	2382.0	2380.8	2383.6	2381.6
10°	2441.4	2442.4	2442.4	2446.0	2444.4	2445.6	2449.2	2449.2	2447.2	2450.0	2449.2
12.5°	2513.9	2516.0	2515.6	2515.2	2516.8	2518.0	2522.0	2522.8	2523.6	2528.0	2526.4
15°	2580.0	2582.0	2583.6	2584.4	2587.2	2588.0	2590.4	2592.0	2593.2	2594.8	2595.6
17.5°	2627.7	2628.4	2630.8	2629.6	2633.6	2632.8	2635.6	2636.8	2638.0	2640.0	2641.2
20°	2650.0	2648.8	2649.2	2648.0	2648.0	2648.8	2649.2	2650.8	2650.0	2652.0	2653.6
22.5°	2653.8	2650.0	2647.6	2644.8	2643.6	2641.2	2641.2	2642.0	2639.2	2641.2	2643.6
25°	2652.0	2646.0	2641.6	2636.8	2632.4	2628.4	2626.0	2625.2	2623.2	2623.2	2625.2
27.5°	2659.9	2652.4	2646.0	2638.0	2632.4	2626.8	2621.6	2617.6	2613.6	2612.8	2612.8
30°	2683.6	2675.2	2668.0	2658.0	2649.2	2642.0	2634.8	2629.2	2621.6	2618.4	2614.8
32.5°	2730.2	2723.2	2713.2	2704.4	2694.0	2685.2	2675.6	2666.8	2658.0	2650.0	2646.8
35°	2805.0	2802.0	2796.4	2790.4	2780.4	2769.2	2761.2	2750.8	2740.8	2729.2	2726.0
37.5°	2923.5	2930.4	2927.2	2922.8	2920.0	2916.4	2905.6	2898.8	2892.0	2882.4	2880.4
40°	3070.4	3089.2	3108.0	3120.4	3116.0	3130.8	3133.2	3134.4	3128.4	3136.4	3138.0
42.5°	3259.5	3295.6	3329.6	3354.4	3383.2	3404.8	3432.8	3444.8	3467.6	3491.2	3504.8
45°	3458.3	3510.4	3559.2	3610.0	3660.0	3714.8	3768.0	3805.6	3860.4	3901.2	3926.8
47.5°	3675.4	3744.4	3802.8	3878.8	3951.2	4016.0	4109.2	4184.0	4250.8	4314.4	4381.2
50°	3905.0	3989.2	4061.2	4154.0	4242.0	4343.6	4452.8	4548.0	4652.8	4754.0	4844.0
52.5°	4146.3	4246.4	4343.6	4438.8	4545.6	4656.0	4774.4	4912.0	5037.6	5190.0	5299.2
55°	4393.6	4514.8	4618.4	4718.0	4831.2	4953.6	5094.4	5257.2	5416.8	5583.6	5749.2
57.5°	4597.1	4748.4	4861.6	4978.0	5100.0	5221.2	5396.0	5562.8	5765.2	5970.0	6177.2
60°	4738.9	4940.8	5078.0	5225.2	5366.4	5513.6	5702.0	5912.8	6166.0	6414.0	6695.6
62.5°	4897.5	5180.8	5373.2	5569.6	5741.2	5918.0	6170.0	6412.8	6738.0	7023.6	7378.0
65°	5128.5	5510.8	5794.0	6058.8	6289.2	6530.0	6828.8	7132.4	7504.4	7899.2	8343.6
67.5°	5240.5	5682.0	6052.8	6379.6	6674.0	6980.8	7289.2	7648.4	8067.6	8542.8	9030.8
69°	5014.2	5452.0	5878.4	6208.8	6518.8	6846.4	7176.4	7538.8	7951.6	8444.8	8962.0
70°	4701.6	5124.0	5577.2	5908.4	6221.2	6561.2	6897.2	7263.2	7658.0	8166.0	8689.2
72.5°	3557.5	3915.6	4355.6	4705.6	5034.4	5378.0	5724.0	6041.6	6442.0	6930.8	7412.8
75°	2215.0	2460.4	2856.0	3207.6	3472.0	3766.4	4091.2	4392.0	4794.0	5140.4	5604.0
77.5°	1185.2	1304.4	1535.2	1787.2	1934.4	2078.0	2289.6	2452.8	2622.0	2822.4	3014.0
80°	720.4	768.4	847.2	901.6	881.2	822.4	803.6	744.8	766.0	730.0	704.0
82.5°	611.4	644.0	692.0	724.8	700.8	606.8	500.4	421.2	365.2	311.6	264.8
85°	465.1	488.8	513.6	528.4	527.2	480.4	381.6	295.6	230.4	178.4	148.4
87.5°	182.2	194.4	212.4	209.6	218.8	220.4	172.4	133.2	94.8	64.0	56.0
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):

	80°	81°	82°	83°	84°	85°	86°	87°	88°	89°	90°
0°	2300.8	2300.8	2300.8	2300.8	2300.8	2300.8	2300.8	2300.8	2300.8	2300.8	2300.8
2.5°	2306.4	2306.0	2306.4	2307.6	2307.6	2308.4	2307.6	2308.0	2306.8	2305.6	2306.4
5°	2334.8	2334.0	2334.8	2335.6	2335.6	2334.8	2336.8	2336.8	2336.0	2334.8	2335.2
7.5°	2383.6	2384.0	2382.8	2386.8	2383.2	2383.6	2386.0	2385.6	2384.8	2385.2	2385.6
10°	2451.6	2451.2	2452.0	2454.4	2450.8	2453.2	2456.0	2456.8	2454.8	2454.8	2455.2
12.5°	2526.8	2530.0	2530.4	2532.0	2532.0	2534.0	2534.4	2534.8	2536.4	2536.8	2534.4
15°	2598.8	2601.2	2602.8	2604.4	2602.4	2605.2	2608.4	2608.4	2608.0	2609.6	2607.2
17.5°	2643.2	2645.2	2648.0	2647.6	2648.0	2650.4	2652.4	2653.2	2654.0	2654.0	2654.4
20°	2657.2	2658.4	2660.0	2661.6	2662.4	2664.8	2666.4	2667.6	2668.4	2667.6	2668.0
22.5°	2646.0	2647.6	2650.8	2652.0	2652.4	2656.0	2657.6	2658.8	2659.6	2660.4	2659.2
25°	2626.8	2628.4	2631.6	2632.8	2633.6	2636.8	2638.8	2641.6	2642.4	2642.8	2643.2
27.5°	2613.6	2614.4	2616.8	2618.4	2618.8	2622.4	2625.2	2627.2	2627.6	2628.0	2628.0
30°	2614.0	2614.0	2616.8	2617.2	2616.8	2620.0	2621.6	2622.8	2623.6	2623.6	2624.0
32.5°	2641.6	2640.0	2642.4	2638.8	2639.2	2638.8	2638.4	2639.6	2638.8	2639.2	2637.6
35°	2719.6	2715.2	2711.6	2713.2	2707.6	2699.6	2704.0	2702.0	2697.6	2698.0	2699.2
37.5°	2869.2	2864.8	2868.8	2865.2	2866.4	2855.2	2858.0	2848.0	2845.2	2848.8	2838.4
40°	3134.8	3132.8	3140.4	3137.2	3139.2	3142.4	3145.2	3135.6	3119.6	3134.0	3134.4
42.5°	3502.8	3520.8	3528.0	3538.0	3548.8	3544.0	3553.6	3556.4	3538.8	3552.0	3555.2
45°	3964.4	3983.6	4006.0	4012.8	4030.4	4032.8	4040.0	4042.0	4026.0	4027.6	4031.2
47.5°	4448.0	4483.2	4509.6	4528.0	4546.4	4550.0	4554.0	4546.4	4547.6	4551.2	4551.2
50°	4923.2	4998.4	5045.2	5081.6	5113.2	5096.8	5110.8	5112.0	5116.8	5106.8	5112.8
52.5°	5422.8	5522.4	5600.8	5662.0	5681.2	5739.6	5715.6	5734.0	5746.4	5728.0	5740.0
55°	5910.8	6052.8	6178.8	6267.6	6330.0	6389.2	6398.4	6446.0	6440.4	6458.4	6450.4
57.5°	6374.8	6573.2	6753.2	6884.8	6974.4	7064.8	7126.0	7178.0	7183.2	7234.8	7205.6
60°	6936.0	7212.4	7444.0	7640.0	7772.4	7906.8	8012.8	8098.0	8117.6	8206.0	8176.8
62.5°	7693.2	8030.4	8326.4	8556.4	8851.2	8993.2	9199.6	9328.4	9408.8	9430.8	9472.0
65°	8757.6	9196.8	9587.2	9955.2	10286.8	10516.8	10755.6	10947.6	11101.6	11088.8	11152.0
67.5°	9548.4	10049.2	10519.2	10960.4	11317.2	11613.2	11887.6	12095.2	12232.8	12320.4	12357.6
69°	9466.0	10003.6	10522.0	10993.2	11361.2	11692.0	11959.2	12163.6	12321.2	12416.4	12444.0
70°	9192.0	9744.4	10284.8	10747.2	11122.4	11485.6	11757.6	11985.2	12135.2	12239.2	12255.2
72.5°	7950.8	8549.2	9027.2	9531.6	9892.8	10260.4	10431.6	10713.6	10909.2	10972.4	10971.2
75°	5996.8	6496.0	6916.0	7288.8	7612.0	7861.2	7942.0	8142.8	8305.2	8303.2	8288.0
77.5°	3229.2	3346.8	3504.0	3556.8	3656.4	3654.8	3554.8	3586.4	3678.4	3500.0	3557.6
80°	692.8	682.4	673.6	668.4	665.6	666.8	670.4	647.6	670.0	660.0	617.6
82.5°	241.2	235.6	230.0	234.0	231.2	233.6	232.8	235.6	235.2	234.4	228.8
85°	135.6	130.8	128.0	130.0	125.6	121.6	118.8	117.6	117.2	114.4	112.8
87.5°	51.6	51.2	50.8	48.8	44.0	40.4	38.0	33.2	31.2	28.4	26.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)