

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: P144566

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

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P144566  
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-F05-E-7050  
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE  
(5) LIGHTBARS WITH AccuLED OPTICS - RECTANGULAR WIDE  
Light Source: (35) 5000K CCT, 70 CRI LEDs  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 12721.7 lumens  
Efficiency: N/A  
Efficacy: 95.4 lumens/watt  
Luminous Opening: Rectangular (W 0.83' x L: 1' x H: 0')  
IES Classification: Type I - Short - Full Cutoff  
BUG Rating: B3 - U0 - G3

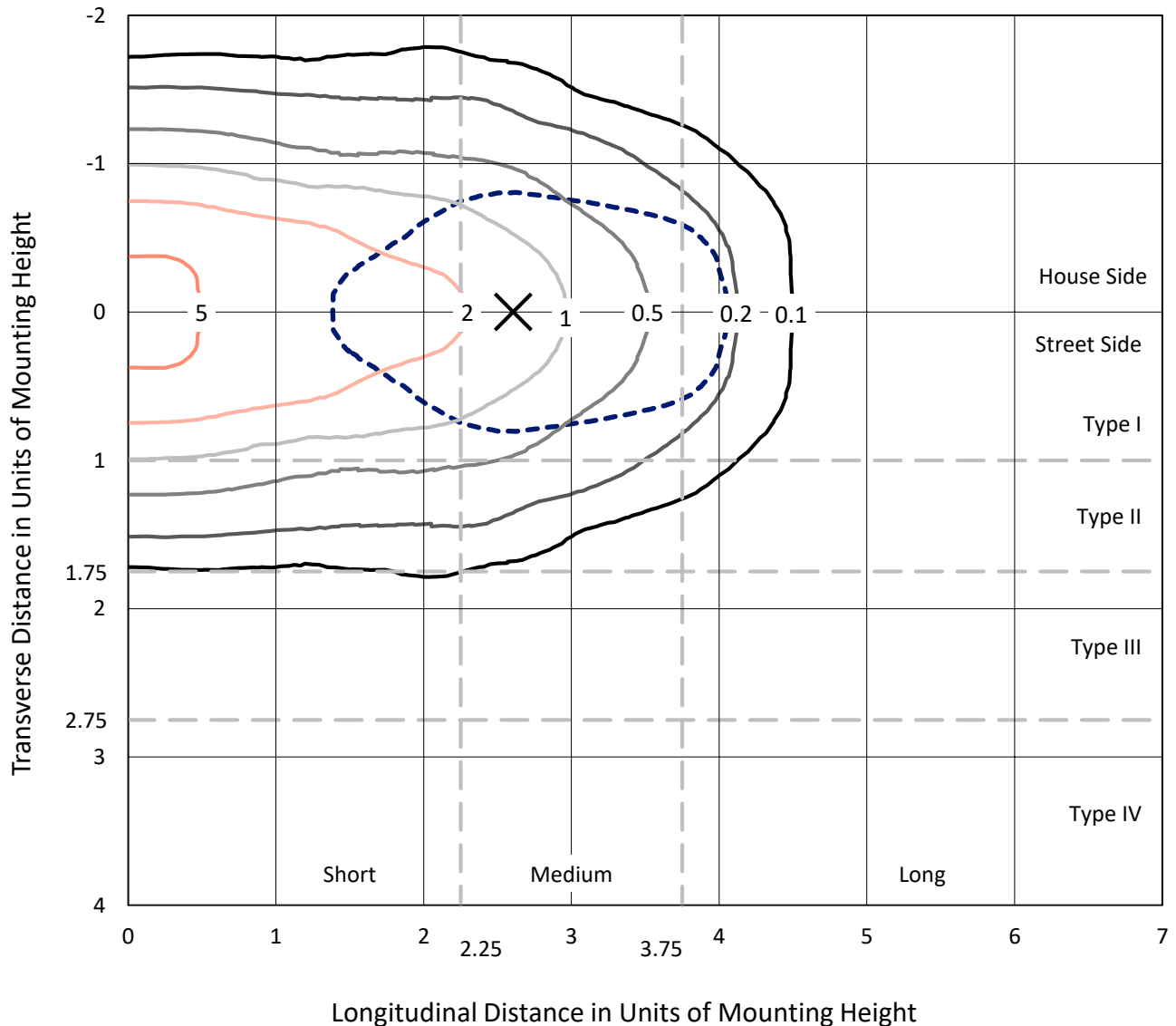
Input Watts (W): 133.3  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

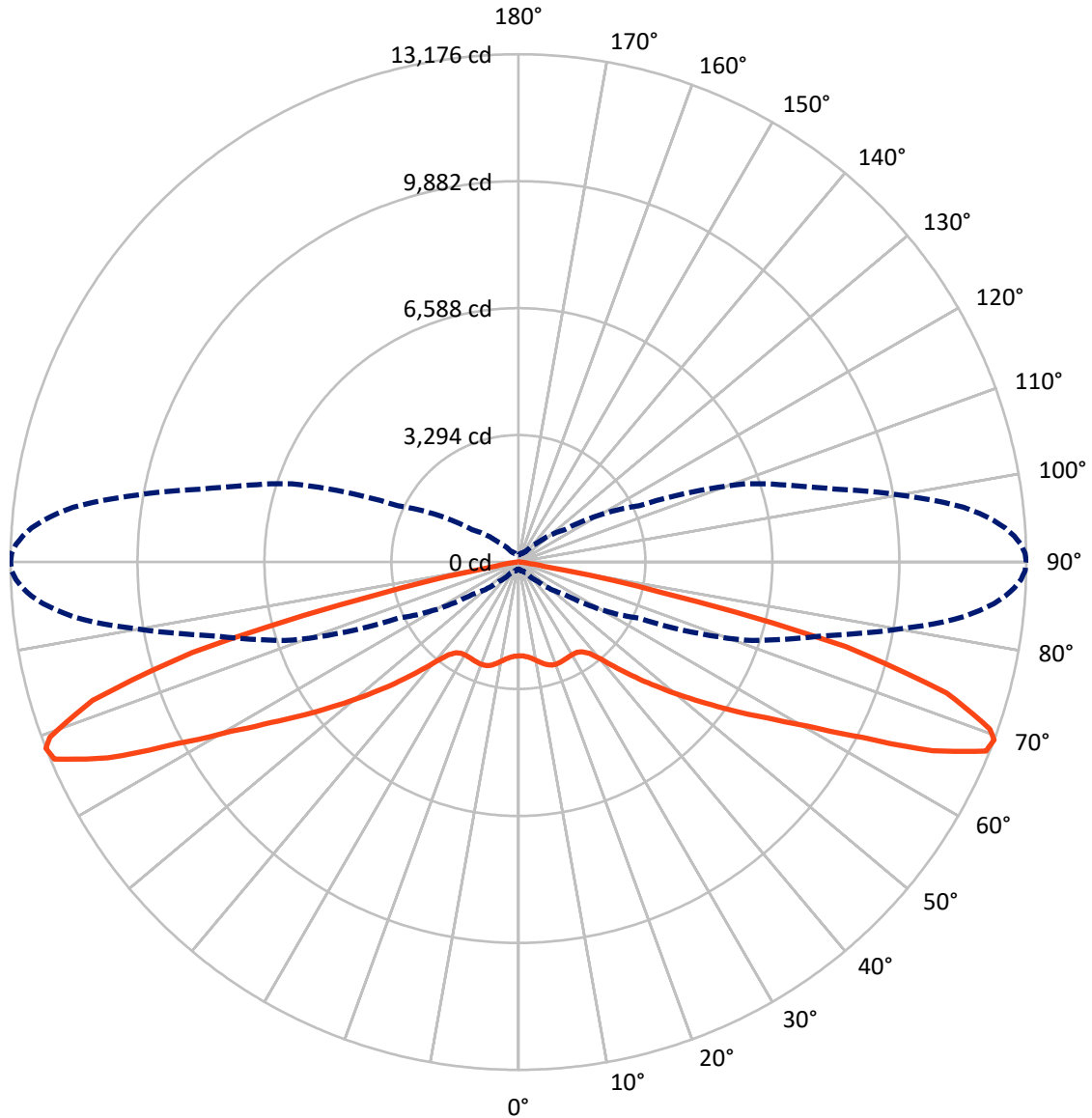
× Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 6.2 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
<b>House Side</b>	Lumens	6360.8	0.0	6360.8
	% Fixture	50.0	0.0	50.0
<b>Street Side</b>	Lumens	6360.8	0.0	6360.8
	% Fixture	50.0	0.0	50.0
<b>Total</b>	Lumens	12721.7	0.0	12721.7
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	238.4	1.9
10°-20°	750.7	5.9
20°-30°	1215.8	9.6
30°-40°	1514.6	11.9
40°-50°	1885.5	14.8
50°-60°	2313.6	18.2
60°-70°	2853.3	22.4
70°-80°	1773.8	13.9
80°-90°	176.2	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°	12721.7	100.0
0°-180°	12721.7	100.0



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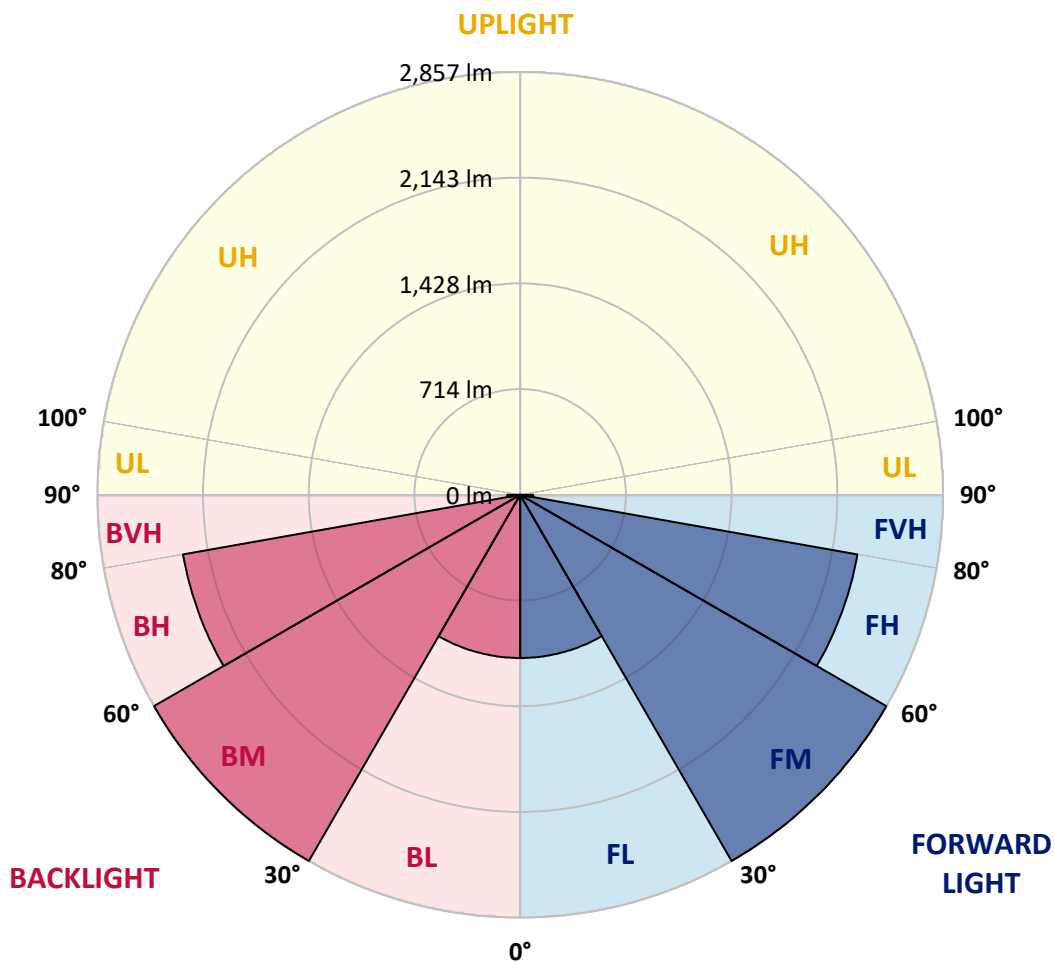
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1102.4	8.7			
FM (30°-60°)	2856.8	22.5			
FH (60°-80°)	2313.6	18.2			G2/5000
FVH (80°-90°)	88.1	0.7			G1/100
BL (0°-30°)	1102.4	8.7	B3/2500		
BM (30°-60°)	2856.8	22.5	B3/5000		
BH (60°-80°)	2313.6	18.2	B3/2500		G3/2500
BVH (80°-90°)	88.1	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°	2436.2	2436.2	2436.2	2436.2	2436.2	2436.2	2436.2	2436.2	2436.2	2436.2	2436.2
2.5°	2442.5	2440.0	2444.6	2448.9	2447.6	2448.4	2446.8	2444.6	2444.8	2445.0	2445.2
5°	2461.6	2459.0	2463.3	2467.1	2468.4	2471.4	2472.2	2470.9	2471.5	2472.1	2472.7
7.5°	2484.4	2482.4	2487.9	2493.0	2502.6	2507.8	2512.8	2518.0	2518.4	2518.8	2519.2
10°	2506.1	2504.8	2513.7	2524.7	2540.4	2552.2	2566.6	2580.6	2581.8	2582.9	2584.0
12.5°	2520.0	2520.0	2533.6	2553.5	2580.6	2604.8	2629.4	2653.0	2655.2	2657.4	2659.6
15°	2519.2	2520.9	2541.6	2578.0	2624.7	2667.4	2697.5	2723.4	2725.5	2727.6	2729.7
17.5°	2501.8	2502.2	2531.9	2590.0	2662.8	2726.3	2765.3	2779.2	2780.0	2780.8	2781.6
20°	2453.2	2456.5	2498.4	2582.8	2692.4	2780.1	2817.0	2811.0	2809.8	2808.5	2807.2
22.5°	2369.7	2373.9	2429.8	2543.0	2698.0	2814.8	2853.0	2826.2	2822.2	2818.1	2814.1
25°	2253.6	2260.8	2321.4	2466.2	2660.6	2825.0	2876.2	2833.5	2827.1	2820.8	2814.4
27.5°	2119.4	2122.8	2194.4	2346.4	2573.9	2791.2	2886.8	2848.3	2840.3	2832.4	2824.4
30°	1964.0	1972.8	2047.4	2206.2	2451.4	2712.4	2882.6	2877.1	2868.2	2859.3	2850.4
32.5°	1809.4	1817.0	1890.2	2061.4	2310.4	2602.6	2861.4	2920.7	2913.2	2905.8	2898.4
35°	1653.5	1662.8	1738.2	1922.0	2170.2	2478.1	2828.0	2983.0	2979.7	2976.5	2973.3
37.5°	1516.7	1522.6	1596.8	1787.8	2047.4	2364.2	2784.4	3066.4	3073.7	3081.0	3088.3
40°	1377.4	1383.2	1460.8	1656.4	1934.3	2266.8	2744.1	3171.4	3191.4	3211.2	3231.2
42.5°	1243.5	1248.6	1323.6	1518.8	1808.5	2182.5	2720.0	3298.5	3336.7	3374.9	3413.1
45°	1106.2	1109.6	1180.0	1370.1	1664.9	2084.2	2713.6	3441.2	3496.4	3551.5	3606.6
47.5°	971.1	979.2	1051.6	1232.0	1501.0	1943.6	2704.2	3599.2	3672.4	3745.4	3818.6
50°	842.0	850.8	925.4	1096.5	1342.6	1776.8	2656.8	3778.4	3867.5	3956.6	4045.7
52.5°	710.2	719.2	793.8	957.2	1195.6	1588.7	2524.8	3966.4	4072.4	4178.4	4284.3
55°	569.6	573.0	649.8	813.7	1048.6	1431.1	2314.2	4138.8	4267.1	4395.5	4523.8
57.5°	414.2	425.6	501.4	654.0	898.8	1291.8	2046.6	4226.9	4387.1	4547.3	4707.4
60°	299.0	306.6	373.2	493.0	728.9	1155.0	1808.9	4162.6	4376.4	4590.2	4804.0
62.5°	236.3	244.8	296.1	371.4	563.8	1004.6	1653.9	3985.9	4285.8	4585.8	4885.8
65°	209.2	216.8	264.3	301.6	431.2	850.0	1556.5	3811.0	4215.8	4620.6	5025.4
67.5°	191.0	199.1	240.6	266.0	356.2	750.5	1510.3	3678.8	4146.4	4613.9	5081.4
69°	182.5	189.8	227.8	251.6	335.8	716.6	1460.8	3455.2	3918.7	4382.3	4845.8
70°	177.9	184.2	219.0	242.7	327.8	688.6	1387.5	3189.2	3636.5	4083.7	4531.0
72.5°	164.8	169.0	198.2	220.2	299.8	549.8	1046.6	2250.2	2629.4	3008.6	3387.7
75°	146.1	151.2	177.0	197.4	228.7	330.4	655.2	1306.2	1566.0	1825.8	2085.6
77.5°	125.4	131.2	152.5	184.7	184.2	215.2	397.7	750.1	876.3	1002.5	1128.7
80°	107.6	112.7	131.7	182.6	154.2	170.2	296.5	559.5	610.3	661.2	712.0
82.5°	84.3	88.5	110.6	150.8	123.2	129.6	225.8	509.5	544.0	578.5	612.9
85°	53.0	54.6	80.4	104.2	87.6	78.4	145.3	392.2	417.3	442.3	467.4
87.5°	21.2	25.8	39.0	37.3	37.7	31.4	47.0	141.4	154.3	167.2	180.1
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°	2436.2	2436.2	2436.2	2436.2	2436.2	2436.2	2436.2	2436.2	2436.2	2436.2	2436.2
2.5°	2445.3	2445.5	2444.7	2443.4	2444.6	2443.4	2443.8	2445.0	2444.6	2444.6	2443.8
5°	2473.3	2473.8	2473.9	2471.4	2472.6	2473.0	2473.4	2472.6	2473.0	2473.9	2472.2
7.5°	2519.6	2520.0	2521.4	2522.6	2521.8	2522.2	2523.0	2522.2	2520.9	2523.9	2521.8
10°	2585.0	2586.2	2586.1	2590.0	2588.2	2589.5	2593.4	2593.3	2591.2	2594.2	2593.4
12.5°	2661.9	2664.0	2663.6	2663.2	2664.9	2666.1	2670.4	2671.2	2672.1	2676.8	2675.1
15°	2731.8	2734.0	2735.6	2736.5	2739.4	2740.3	2742.9	2744.6	2745.8	2747.5	2748.4
17.5°	2782.3	2783.1	2785.6	2784.4	2788.6	2787.7	2790.7	2792.0	2793.2	2795.4	2796.6
20°	2805.9	2804.6	2805.1	2803.8	2803.8	2804.7	2805.0	2806.8	2806.0	2808.1	2809.8
22.5°	2810.0	2806.0	2803.4	2800.4	2799.2	2796.6	2796.6	2797.5	2794.5	2796.6	2799.1
25°	2808.1	2801.7	2797.0	2792.0	2787.3	2783.0	2780.6	2779.6	2777.6	2777.6	2779.7
27.5°	2816.5	2808.5	2801.7	2793.2	2787.3	2781.4	2775.9	2771.6	2767.4	2766.6	2766.5
30°	2841.5	2832.6	2825.0	2814.4	2805.1	2797.5	2789.8	2784.0	2775.9	2772.4	2768.7
32.5°	2890.9	2883.4	2872.8	2863.6	2852.5	2843.2	2833.0	2823.7	2814.4	2805.9	2802.6
35°	2970.1	2966.9	2961.0	2954.6	2944.0	2932.1	2923.7	2912.6	2902.1	2889.8	2886.4
37.5°	3095.6	3102.9	3099.4	3094.8	3091.9	3088.0	3076.6	3069.4	3062.2	3052.0	3049.9
40°	3251.0	3271.0	3290.9	3304.0	3299.4	3315.0	3317.6	3318.8	3312.4	3321.0	3322.6
42.5°	3451.3	3489.6	3525.5	3551.8	3582.3	3605.2	3634.8	3647.5	3671.6	3696.6	3711.0
45°	3661.8	3717.0	3768.6	3822.4	3875.4	3933.4	3989.7	4029.6	4087.6	4130.8	4157.8
47.5°	3891.6	3964.8	4026.6	4107.0	4183.8	4252.3	4351.0	4430.2	4501.0	4568.3	4639.0
50°	4134.8	4223.9	4300.2	4398.5	4491.6	4599.2	4714.8	4815.6	4926.6	5033.8	5129.0
52.5°	4390.3	4496.2	4599.2	4700.0	4813.1	4930.0	5055.3	5201.0	5334.0	5495.4	5611.0
55°	4652.1	4780.5	4890.2	4995.6	5115.5	5245.1	5394.2	5566.6	5735.5	5912.2	6087.5
57.5°	4867.6	5027.8	5147.7	5270.9	5400.1	5528.4	5713.5	5890.2	6104.4	6321.3	6540.7
60°	5017.8	5231.6	5376.8	5532.7	5682.2	5838.0	6037.5	6260.8	6528.8	6791.4	7089.6
62.5°	5185.7	5485.6	5689.4	5897.3	6079.0	6266.2	6533.1	6790.2	7134.5	7436.9	7812.2
65°	5430.2	5835.0	6135.0	6415.3	6659.3	6914.2	7230.6	7552.1	7946.0	8364.0	8834.6
67.5°	5548.9	6016.4	6409.0	6755.0	7066.8	7391.6	7718.2	8098.4	8542.4	9045.5	9562.2
69°	5309.3	5772.8	6224.3	6574.2	6902.4	7249.3	7598.6	7982.4	8419.5	8941.7	9489.4
70°	4978.3	5425.5	5905.4	6256.1	6587.3	6947.3	7303.0	7690.6	8108.6	8646.6	9200.6
72.5°	3766.9	4146.0	4611.9	4982.5	5330.6	5694.4	6060.8	6397.1	6821.1	7338.6	7849.0
75°	2345.4	2605.2	3024.0	3396.4	3676.3	3988.0	4332.0	4650.5	5076.1	5442.9	5933.8
77.5°	1254.9	1381.2	1625.6	1892.4	2048.2	2200.3	2424.4	2597.2	2776.3	2988.5	3191.4
80°	762.8	813.7	897.0	954.6	933.0	870.8	850.8	788.6	811.0	772.9	745.4
82.5°	647.4	681.9	732.7	767.4	742.0	642.5	529.8	446.0	386.7	329.9	280.4
85°	492.5	517.6	543.8	559.5	558.2	508.6	404.0	313.0	244.0	188.9	157.2
87.5°	193.0	205.8	224.9	221.9	231.6	233.3	182.6	141.0	100.4	67.8	59.3
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):**

	80°	81°	82°	83°	84°	85°	86°	87°	88°	89°	90°
0°	2436.2	2436.2	2436.2	2436.2	2436.2	2436.2	2436.2	2436.2	2436.2	2436.2	2436.2
2.5°	2442.1	2441.7	2442.1	2443.4	2443.4	2444.2	2443.4	2443.8	2442.6	2441.3	2442.1
5°	2472.2	2471.4	2472.2	2473.0	2473.0	2472.2	2474.3	2474.3	2473.4	2472.2	2472.6
7.5°	2523.8	2524.2	2523.0	2527.2	2523.4	2523.8	2526.4	2526.0	2525.1	2525.6	2526.0
10°	2595.8	2595.4	2596.3	2598.8	2595.0	2597.6	2600.5	2601.4	2599.2	2599.2	2599.7
12.5°	2675.5	2678.9	2679.3	2681.0	2681.0	2683.2	2683.6	2684.0	2685.6	2686.0	2683.5
15°	2751.7	2754.3	2756.0	2757.7	2755.6	2758.5	2761.9	2761.9	2761.4	2763.2	2760.6
17.5°	2798.8	2800.9	2803.8	2803.4	2803.8	2806.4	2808.5	2809.3	2810.2	2810.2	2810.6
20°	2813.6	2814.8	2816.5	2818.2	2819.0	2821.6	2823.3	2824.5	2825.4	2824.6	2825.0
22.5°	2801.7	2803.4	2806.8	2808.1	2808.5	2812.3	2814.0	2815.2	2816.1	2817.0	2815.7
25°	2781.4	2783.0	2786.5	2787.8	2788.6	2792.0	2794.0	2797.0	2797.9	2798.4	2798.7
27.5°	2767.4	2768.2	2770.8	2772.5	2772.9	2776.7	2779.7	2781.8	2782.2	2782.6	2782.6
30°	2767.8	2767.8	2770.8	2771.2	2770.8	2774.1	2775.9	2777.2	2778.0	2778.0	2778.4
32.5°	2797.0	2795.4	2797.9	2794.1	2794.5	2794.0	2793.6	2795.0	2794.1	2794.5	2792.8
35°	2879.6	2875.0	2871.2	2872.8	2866.9	2858.4	2863.1	2861.0	2856.4	2856.8	2858.0
37.5°	3038.0	3033.4	3037.6	3033.8	3035.0	3023.2	3026.2	3015.6	3012.6	3016.4	3005.4
40°	3319.2	3317.2	3325.2	3321.8	3324.0	3327.3	3330.3	3320.1	3303.2	3318.4	3318.8
42.5°	3708.9	3728.0	3735.6	3746.2	3757.6	3752.6	3762.7	3765.7	3747.0	3761.0	3764.4
45°	4197.7	4218.0	4241.8	4248.9	4267.5	4270.2	4277.8	4279.8	4263.0	4264.6	4268.4
47.5°	4709.8	4747.0	4775.0	4794.4	4814.0	4817.8	4822.0	4814.0	4815.2	4819.0	4819.0
50°	5212.9	5292.5	5342.1	5380.6	5414.0	5396.8	5411.5	5412.8	5417.9	5407.3	5413.7
52.5°	5741.9	5847.4	5930.4	5995.2	6015.5	6077.4	6051.9	6071.4	6084.5	6065.0	6077.8
55°	6258.6	6409.0	6542.4	6636.4	6702.5	6765.2	6774.9	6825.3	6819.4	6838.4	6830.0
57.5°	6749.9	6960.0	7150.6	7289.9	7384.8	7480.6	7545.4	7600.4	7605.9	7660.6	7629.6
60°	7344.2	7636.8	7882.0	8089.6	8229.8	8372.0	8484.3	8574.6	8595.3	8688.8	8658.0
62.5°	8145.9	8503.0	8816.4	9059.9	9372.0	9522.4	9741.0	9877.3	9962.4	9985.8	10029.4
65°	9272.9	9738.0	10151.3	10541.0	10892.2	11135.6	11388.5	11591.8	11754.9	11741.4	11808.2
67.5°	10110.2	10640.6	11138.2	11605.3	11983.2	12296.6	12587.2	12807.0	12952.6	13045.4	13084.8
69°	10023.0	10592.2	11141.2	11640.0	12029.8	12380.0	12663.0	12879.4	13046.2	13147.0	13176.3
70°	9732.9	10317.8	10890.0	11379.6	11776.9	12161.4	12449.5	12690.4	12849.3	12959.4	12976.4
72.5°	8418.7	9052.3	9558.4	10092.5	10475.0	10864.2	11045.4	11344.0	11551.2	11618.0	11616.8
75°	6349.7	6878.2	7323.0	7717.7	8060.0	8323.8	8409.4	8622.0	8794.0	8791.8	8775.7
77.5°	3419.2	3543.8	3710.2	3766.1	3871.6	3869.8	3764.0	3797.4	3894.8	3706.0	3766.9
80°	733.6	722.6	713.2	707.8	704.8	706.0	709.8	685.7	709.4	698.8	653.9
82.5°	255.4	249.4	243.6	247.8	244.8	247.4	246.5	249.4	249.0	248.2	242.3
85°	143.6	138.5	135.5	137.6	133.0	128.8	125.8	124.5	124.1	121.2	119.4
87.5°	54.6	54.2	53.8	51.6	46.6	42.8	40.2	35.2	33.0	30.0	28.0
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)