

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: P145471

Luminaire Tested: **LDRL-SL4-E06-E-7050**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P145471  
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-E06-E-7050  
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE  
(6) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 W/ SPILL LIGHT CONTROL  
Light Source: (126) 5000K CCT, 70 CRI LEDs  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 17743.6 lumens  
Efficiency: N/A  
Efficacy: 117.9 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short - Semi-Cutoff  
BUG Rating: B3 - U0 - G3

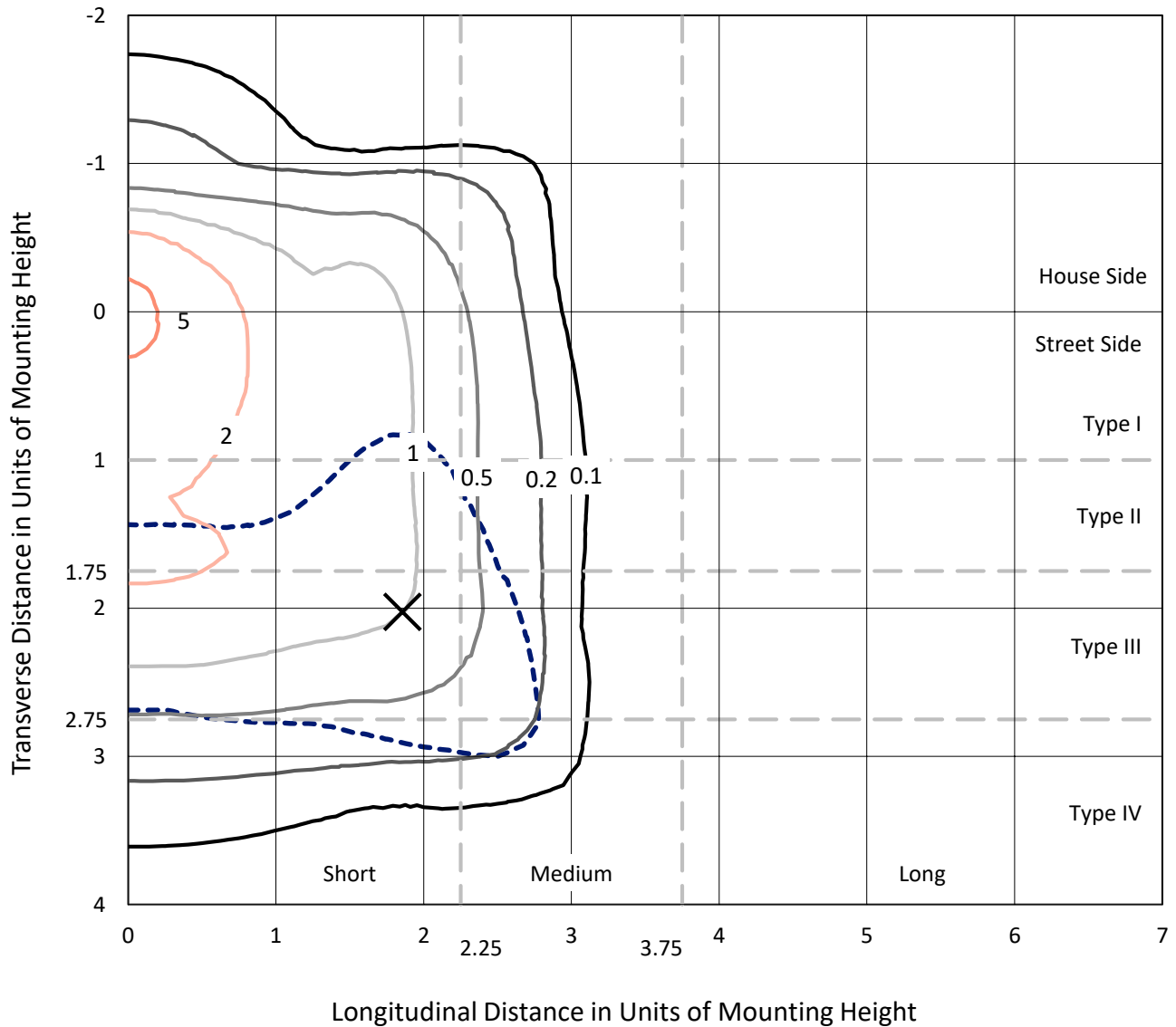
Input Watts (W): 150.5  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

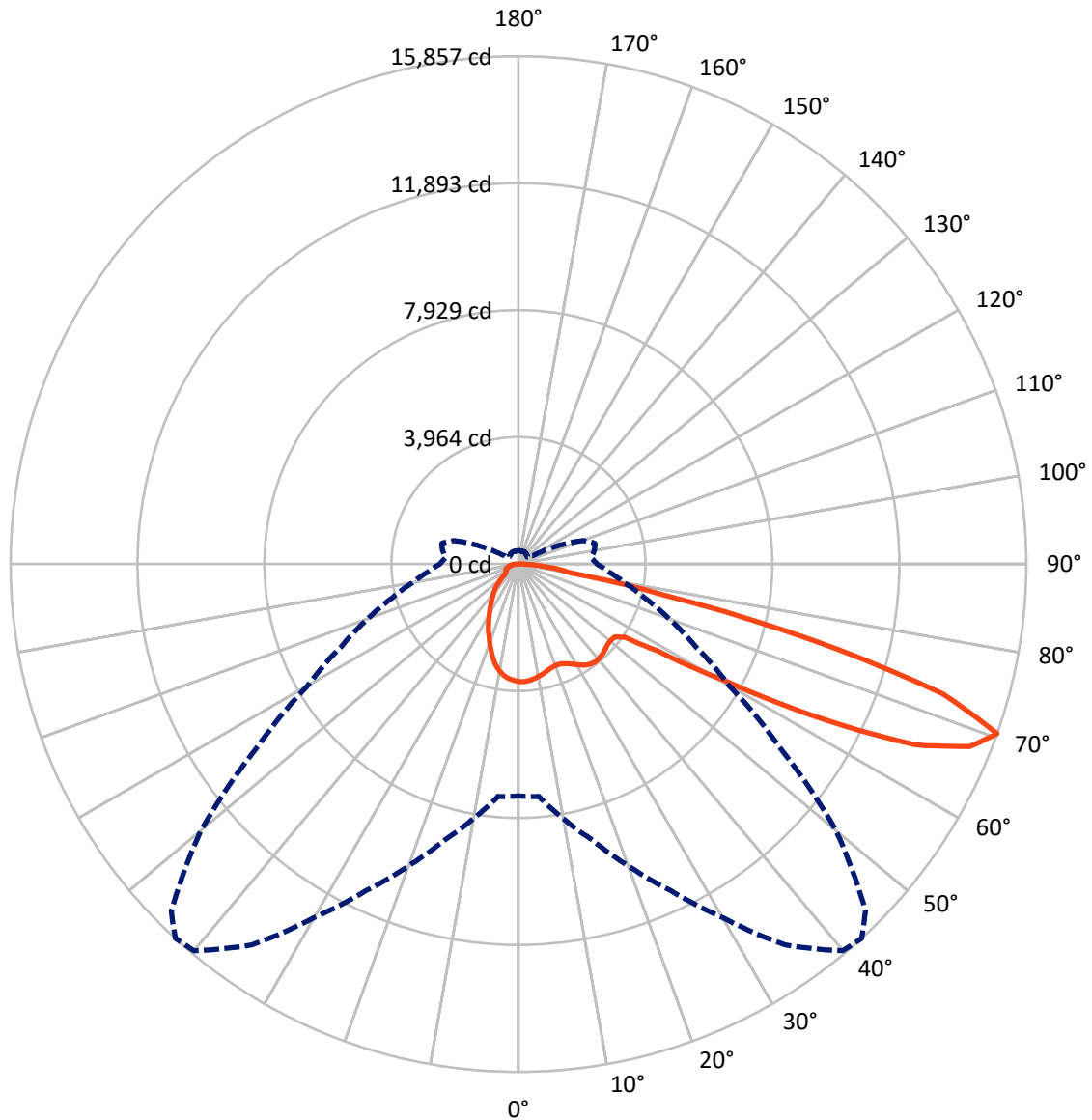
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.9 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
<b>House Side</b>	Lumens	3833.0	0.0	3833.0
	% Fixture	21.6	0.0	21.6
<b>Street Side</b>	Lumens	13910.6	0.0	13910.6
	% Fixture	78.4	0.0	78.4
<b>Total</b>	Lumens	17743.6	0.0	17743.6
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	341.4	1.9
10°-20°	919.7	5.2
20°-30°	1341.5	7.6
30°-40°	1711.0	9.6
40°-50°	1997.1	11.3
50°-60°	3054.1	17.2
60°-70°	5536.3	31.2
70°-80°	2461.6	13.9
80°-90°	380.9	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°	17743.6	100.0
0°-180°	17743.6	100.0



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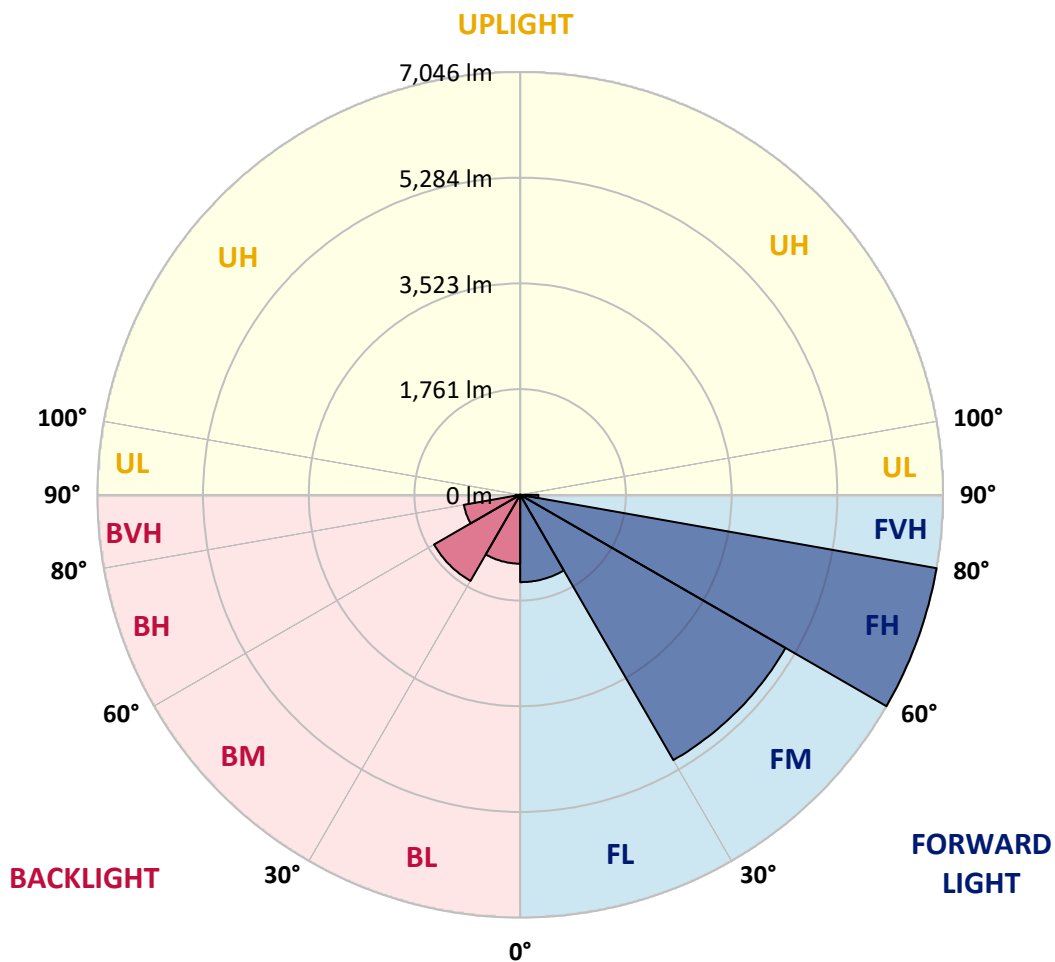
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1455.4	8.2			
FM	(30°-60°)	5105.3	28.8			
FH	(60°-80°)	7045.6	39.7			G3/7500
FVH	(80°-90°)	304.3	1.7			G3/500
BL	(0°-30°)	1147.2	6.5	B3/2500		
BM	(30°-60°)	1656.9	9.3	B2/2500		
BH	(60°-80°)	952.2	5.4	B2/1000		G2/1000
BVH	(80°-90°)	76.6	0.4			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B3-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°	3669.4	3669.4	3669.4	3669.4	3669.4	3669.4	3669.4	3669.4	3669.4	3669.4	3669.4
2.5°	3686.6	3682.9	3685.4	3687.8	3687.8	3689.1	3678.0	3679.2	3674.3	3675.5	3676.7
5°	3673.0	3669.4	3671.8	3671.8	3671.8	3670.6	3655.8	3654.6	3648.4	3648.4	3646.0
7.5°	3647.2	3633.6	3641.0	3642.3	3639.8	3633.6	3625.0	3616.4	3612.7	3612.7	3604.1
10°	3607.8	3593.0	3596.7	3599.2	3597.9	3585.6	3581.9	3573.3	3563.5	3559.8	3549.9
12.5°	3557.3	3547.5	3552.4	3551.1	3551.1	3540.1	3533.9	3521.6	3509.3	3503.1	3490.8
15°	3525.3	3513.0	3517.9	3517.9	3513.0	3501.9	3493.3	3471.1	3450.2	3442.8	3426.8
17.5°	3545.0	3532.7	3537.6	3533.9	3525.3	3501.9	3479.7	3444.0	3410.8	3391.1	3370.1
20°	3623.8	3611.5	3615.2	3612.7	3600.4	3562.2	3521.6	3460.0	3398.5	3368.9	3336.9
22.5°	3749.4	3739.5	3745.7	3742.0	3722.3	3673.0	3612.7	3524.1	3431.7	3387.4	3341.8
25°	3935.3	3932.9	3942.7	3931.6	3903.3	3829.4	3742.0	3622.6	3501.9	3446.5	3382.5
27.5°	4159.4	4138.5	4153.3	4143.4	4123.7	4030.1	3911.9	3760.5	3606.6	3533.9	3457.6
30°	4361.4	4342.9	4370.0	4365.1	4335.5	4239.5	4090.5	3913.2	3739.5	3647.2	3559.8
32.5°	4595.3	4571.9	4592.8	4592.8	4548.5	4419.2	4249.3	4046.1	3863.9	3765.4	3660.7
35°	4840.3	4815.7	4835.4	4829.3	4750.5	4579.3	4366.3	4145.9	3945.2	3844.2	3737.1
37.5°	5068.1	5064.4	5069.4	5028.7	4919.1	4700.0	4445.1	4198.8	3985.8	3879.9	3767.9
40°	5295.9	5287.3	5266.4	5195.0	5034.9	4771.4	4485.7	4217.3	3988.3	3877.4	3764.2
42.5°	5438.8	5422.8	5387.1	5289.8	5089.1	4788.6	4473.4	4189.0	3958.7	3845.4	3734.6
45°	5488.0	5472.0	5428.9	5319.3	5090.3	4761.5	4425.4	4132.3	3903.3	3799.9	3687.8
47.5°	5447.4	5437.5	5398.1	5288.5	5050.9	4711.1	4365.1	4075.7	3850.4	3749.4	3644.7
50°	5378.4	5372.3	5337.8	5236.8	5014.0	4680.3	4336.7	4048.6	3835.6	3742.0	3643.5
52.5°	5550.8	5532.4	5470.8	5351.3	5091.5	4735.7	4381.1	4089.2	3870.1	3775.2	3674.3
55°	7669.9	7533.3	7227.9	6655.3	5853.7	5231.9	4708.6	4356.4	4120.0	4027.7	3931.6
57.5°	10087.0	9944.2	9817.4	9380.2	8428.4	7253.7	6197.3	5579.1	5155.6	5114.9	5076.8
60°	11017.9	11063.5	11052.4	10889.9	10402.2	9844.5	8960.4	8230.2	7421.2	7388.0	7436.0
62.5°	11659.4	11697.6	11702.5	11653.3	11494.4	11308.5	11123.8	10889.9	10735.9	10669.4	10239.7
65°	11924.2	11979.6	12101.5	12192.6	12218.5	12282.5	12449.9	13086.5	13617.2	13613.5	13109.9
67.5°	10913.2	10979.7	11441.5	11894.6	12275.1	12715.9	13394.4	14429.9	15229.0	15204.4	14791.9
70°	7242.7	7284.5	8068.9	8922.2	10029.2	11253.1	12735.6	14521.0	15759.7	15857.0	15325.1
72.5°	4442.6	4538.7	4794.8	5140.8	5731.8	6865.9	9070.0	12121.2	13938.6	13847.5	13423.9
75°	2999.5	3004.4	2997.0	3034.0	3067.2	3296.3	4184.0	6665.2	9441.8	9491.1	9308.8
77.5°	2050.2	2077.2	2092.0	2082.2	2115.4	2105.6	2157.3	2284.1	3618.9	4618.7	4244.4
80°	1791.6	1802.7	1818.7	1795.3	1733.7	1699.2	1747.3	1701.7	1603.2	1656.1	1585.9
82.5°	1134.1	1167.3	1171.0	1252.3	1372.9	1377.9	1439.4	1393.9	1268.3	1185.8	1084.8
85°	815.1	827.5	849.6	854.5	812.7	777.0	799.1	761.0	685.8	641.5	567.6
87.5°	475.3	487.6	509.8	496.2	454.4	402.6	363.2	312.8	247.5	231.5	204.4
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°	3669.4	3669.4	3669.4	3669.4	3669.4	3669.4	3669.4	3669.4	3669.4	3669.4	3669.4
2.5°	3678.0	3671.8	3666.9	3664.4	3669.4	3664.4	3659.5	3657.0	3652.1	3653.3	3647.2
5°	3643.5	3634.9	3627.5	3621.3	3626.3	3617.6	3610.2	3605.3	3599.2	3597.9	3591.8
7.5°	3595.5	3581.9	3572.1	3561.0	3548.7	3541.3	3532.7	3524.1	3510.5	3509.3	3506.8
10°	3532.7	3521.6	3501.9	3484.7	3467.4	3448.9	3430.5	3416.9	3400.9	3394.8	3386.1
12.5°	3469.9	3447.7	3424.3	3397.2	3376.3	3346.7	3322.1	3296.3	3272.9	3258.1	3242.1
15°	3396.0	3372.6	3339.4	3313.5	3283.9	3250.7	3218.7	3180.5	3142.3	3119.0	3096.8
17.5°	3332.0	3302.4	3275.3	3238.4	3208.8	3170.7	3122.6	3082.0	3036.5	2998.3	2957.6
20°	3282.7	3249.5	3217.5	3184.2	3148.5	3105.4	3052.5	2994.6	2936.7	2882.5	2822.2
22.5°	3263.0	3210.1	3174.4	3143.6	3106.6	3057.4	2998.3	2926.9	2855.4	2786.5	2716.3
25°	3280.3	3201.4	3146.0	3111.6	3078.3	3027.8	2961.3	2880.1	2796.3	2708.9	2625.2
27.5°	3327.0	3227.3	3148.5	3094.3	3056.2	3006.9	2933.0	2848.1	2753.2	2654.7	2564.9
30°	3394.8	3270.4	3171.9	3094.3	3037.7	2981.0	2901.0	2805.0	2705.2	2601.8	2500.8
32.5°	3468.6	3318.4	3200.2	3098.0	3010.6	2939.2	2855.4	2761.9	2656.0	2546.4	2438.0
35°	3524.1	3352.9	3212.5	3084.5	2972.4	2882.5	2792.6	2701.5	2598.1	2487.3	2378.9
37.5°	3547.5	3366.4	3210.1	3056.2	2919.5	2821.0	2727.4	2636.3	2536.5	2431.9	2332.1
40°	3548.7	3366.4	3195.3	3018.0	2864.1	2756.9	2658.4	2573.5	2479.9	2390.0	2301.3
42.5°	3525.3	3349.2	3168.2	2982.3	2823.4	2702.8	2601.8	2514.4	2439.3	2359.2	2284.1
45°	3483.4	3314.7	3143.6	2962.6	2808.7	2689.2	2580.9	2498.4	2430.6	2359.2	2294.0
47.5°	3451.4	3295.0	3144.8	2990.9	2844.4	2721.2	2604.3	2516.8	2459.0	2402.3	2355.5
50°	3457.6	3302.4	3159.6	3013.1	2869.0	2744.6	2631.3	2556.2	2521.8	2503.3	2492.2
52.5°	3489.6	3332.0	3223.6	3126.3	3079.5	3003.2	2940.4	2883.8	2892.4	2848.1	2791.4
55°	3819.6	3766.6	3891.0	3980.9	4025.2	4102.8	4214.8	4107.7	4092.9	3956.3	3549.9
57.5°	5128.5	5254.1	5444.9	5580.4	5593.9	5570.5	5478.2	5389.5	5245.5	5039.8	4470.9
60°	7323.9	7294.4	7117.1	6879.4	6694.7	6452.2	6208.3	6002.7	5771.2	5456.0	4850.2
62.5°	9632.7	8921.0	8289.3	7751.2	7294.4	6889.3	6521.1	6212.0	5894.4	5441.2	4796.0
65°	11496.9	10127.7	9014.5	8148.9	7469.2	6896.7	6421.4	5995.3	5570.5	5046.0	4420.5
67.5°	12829.2	10657.1	8977.6	7759.8	6806.8	6018.7	5326.7	4841.6	4405.7	3993.2	3711.2
70°	12935.1	9924.5	7594.8	6104.9	5005.3	4079.4	3361.5	2832.1	2452.8	2281.6	2403.5
72.5°	11053.6	7342.4	5049.7	3737.1	2966.3	2305.0	1853.1	1481.3	1175.9	1025.7	1046.6
75°	6510.0	3525.3	2274.3	1694.3	1384.0	1105.7	956.7	807.8	712.9	571.3	456.8
77.5°	2478.7	1533.0	1147.6	953.0	679.7	488.8	385.4	332.5	305.4	301.7	285.7
80°	1428.3	1124.2	786.8	514.7	376.8	318.9	273.4	234.0	217.9	214.3	220.4
82.5°	902.6	700.6	432.2	331.2	274.6	236.4	197.0	171.2	157.6	152.7	161.3
85°	466.7	350.9	263.5	226.6	210.6	192.1	157.6	131.8	130.5	136.7	157.6
87.5°	172.4	150.2	118.2	102.2	109.6	102.2	73.9	64.0	57.9	76.3	110.8
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°	3669.4	3669.4	3669.4	3669.4	3669.4	3669.4	3669.4	3669.4	3669.4	3669.4	3669.4
2.5°	3647.2	3644.7	3646.0	3643.5	3643.5	3647.2	3642.3	3638.6	3644.7	3644.7	3648.4
5°	3590.5	3593.0	3593.0	3591.8	3594.2	3600.4	3599.2	3599.2	3609.0	3612.7	3617.6
7.5°	3500.7	3504.4	3505.6	3509.3	3510.5	3519.1	3525.3	3532.7	3547.5	3551.1	3562.2
10°	3378.8	3376.3	3384.9	3383.7	3394.8	3402.2	3407.1	3423.1	3445.3	3457.6	3468.6
12.5°	3234.7	3234.7	3239.6	3240.9	3250.7	3260.6	3266.7	3286.4	3304.9	3320.9	3345.5
15°	3082.0	3077.1	3066.0	3064.8	3068.5	3078.3	3091.9	3106.6	3135.0	3158.4	3179.3
17.5°	2921.9	2907.2	2893.6	2876.4	2875.1	2873.9	2881.3	2892.4	2936.7	2960.1	2989.7
20°	2780.3	2748.3	2716.3	2680.6	2659.7	2649.8	2653.5	2668.3	2710.1	2740.9	2771.7
22.5°	2653.5	2605.5	2555.0	2498.4	2463.9	2443.0	2445.4	2451.6	2482.4	2500.8	2516.8
25°	2545.2	2478.7	2408.5	2335.8	2287.8	2255.8	2254.6	2254.6	2241.0	2243.5	2234.9
27.5°	2471.3	2378.9	2289.0	2204.1	2141.3	2109.3	2066.2	2035.4	2008.3	1971.4	1955.3
30°	2399.9	2305.0	2202.8	2109.3	2034.2	1971.4	1891.3	1824.8	1771.9	1721.4	1678.3
32.5°	2335.8	2237.3	2140.0	2037.8	1934.4	1826.1	1721.4	1645.1	1569.9	1492.4	1440.7
35°	2279.2	2186.8	2089.6	1973.8	1828.5	1686.9	1568.7	1465.3	1376.6	1283.0	1207.9
37.5°	2247.2	2163.4	2062.5	1904.9	1722.6	1561.3	1429.6	1313.8	1195.6	1083.6	991.2
40°	2231.2	2157.3	2034.2	1834.7	1627.8	1455.4	1308.9	1169.8	1030.6	898.9	802.8
42.5°	2228.7	2157.3	1992.3	1763.3	1546.5	1361.8	1198.1	1030.6	861.9	733.9	648.9
45°	2250.9	2154.8	1948.0	1699.2	1473.9	1278.1	1081.1	884.1	710.5	598.4	551.6
47.5°	2314.9	2163.4	1913.5	1645.1	1404.9	1185.8	948.1	721.6	573.8	523.3	522.1
50°	2418.3	2202.8	1906.1	1605.6	1337.2	1070.0	791.7	577.5	506.1	503.6	517.2
52.5°	2582.1	2276.7	1924.6	1578.6	1256.0	919.8	626.7	498.7	485.1	498.7	515.9
55°	2942.9	2408.5	1949.2	1530.5	1124.2	728.9	515.9	472.8	479.0	495.0	511.0
57.5°	3599.2	2681.8	1975.0	1422.2	911.2	560.3	464.2	463.0	474.1	487.6	502.4
60°	4015.4	3019.2	2037.8	1262.1	688.3	463.0	444.5	456.8	470.4	480.2	492.5
62.5°	4028.9	3107.9	2071.1	1091.0	512.2	423.6	427.3	450.7	466.7	470.4	476.5
65°	3769.1	2940.4	1920.9	887.8	424.8	401.4	415.0	435.9	451.9	454.4	459.3
67.5°	3292.6	2593.2	1627.8	669.8	386.6	384.2	398.9	415.0	426.0	435.9	443.3
70°	2479.9	2140.0	1308.9	519.6	363.2	360.8	375.6	389.1	398.9	411.3	423.6
72.5°	1257.2	1481.3	992.4	424.8	331.2	333.7	349.7	362.0	369.4	380.5	392.8
75°	428.5	646.4	628.0	343.5	295.5	305.4	312.8	326.3	337.4	344.8	350.9
77.5°	268.4	280.7	323.8	277.0	261.0	263.5	275.8	288.1	300.4	305.4	307.8
80°	224.1	225.3	226.6	221.6	222.9	230.3	237.6	251.2	263.5	266.0	267.2
82.5°	177.3	189.6	188.4	187.2	193.3	200.7	205.6	210.6	215.5	217.9	221.6
85°	156.4	153.9	155.1	158.8	153.9	149.0	147.8	147.8	155.1	163.8	167.5
87.5°	142.8	121.9	91.1	86.2	86.2	83.7	78.8	78.8	86.2	93.6	97.3
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°	3669.4	3669.4	3669.4	3669.4	3669.4
2.5°	3647.2	3648.4	3647.2	3647.2	3653.3
5°	3620.1	3625.0	3622.6	3626.3	3630.0
7.5°	3564.7	3577.0	3579.5	3589.3	3585.6
10°	3484.7	3493.3	3505.6	3515.4	3511.7
12.5°	3357.8	3378.8	3397.2	3408.3	3405.8
15°	3196.5	3226.1	3250.7	3259.3	3249.5
17.5°	3024.1	3042.6	3072.2	3078.3	3088.2
20°	2806.2	2805.0	2830.8	2830.8	2825.9
22.5°	2521.8	2540.2	2540.2	2523.0	2514.4
25°	2231.2	2237.3	2218.9	2222.5	2199.1
27.5°	1939.3	1923.3	1908.6	1914.7	1897.5
30°	1661.1	1626.6	1611.8	1614.3	1595.8
32.5°	1393.9	1353.2	1338.5	1318.8	1302.7
35°	1151.3	1087.3	1049.1	1039.2	1050.3
37.5°	913.6	868.1	822.5	789.3	793.0
40°	722.8	676.0	646.4	632.9	630.4
42.5°	597.2	570.1	563.9	565.2	565.2
45°	541.8	543.0	547.9	552.9	554.1
47.5°	530.7	538.1	546.7	552.9	554.1
50°	529.5	536.9	543.0	550.4	552.9
52.5°	528.2	533.2	536.9	540.6	544.2
55°	523.3	525.8	524.5	527.0	530.7
57.5°	511.0	512.2	509.8	511.0	518.4
60°	499.9	501.1	496.2	502.4	503.6
62.5°	486.4	485.1	482.7	486.4	486.4
65°	466.7	459.3	461.7	465.4	466.7
67.5°	443.3	435.9	435.9	438.4	442.0
70°	413.7	410.0	410.0	415.0	419.9
72.5°	380.5	382.9	390.3	397.7	405.1
75°	353.4	359.5	366.9	385.4	396.5
77.5°	318.9	320.1	326.3	344.8	364.5
80°	270.9	269.7	270.9	273.4	277.0
82.5°	214.3	211.8	204.4	206.9	201.9
85°	157.6	153.9	145.3	139.1	137.9
87.5°	91.1	91.1	87.4	82.5	77.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)