

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: P163837

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

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P163837  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33728)  
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-HSS  
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE  
(6) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 W/ SPILL LIGHT CONTROL AND HOUSE SIDE SHIELD  
Light Source: (126) 4000K CCT, 70 CRI LEDs  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 11842.4 lumens  
Efficiency: N/A  
Efficacy: 78.7 lumens/watt  
Luminous Opening: Rectangular w/ Sides (W: 1' x L: 1' x H: 0.1')  
IES Classification: Type IV - Short - Semi-Cutoff  
BUG Rating: B1 - U0 - G3

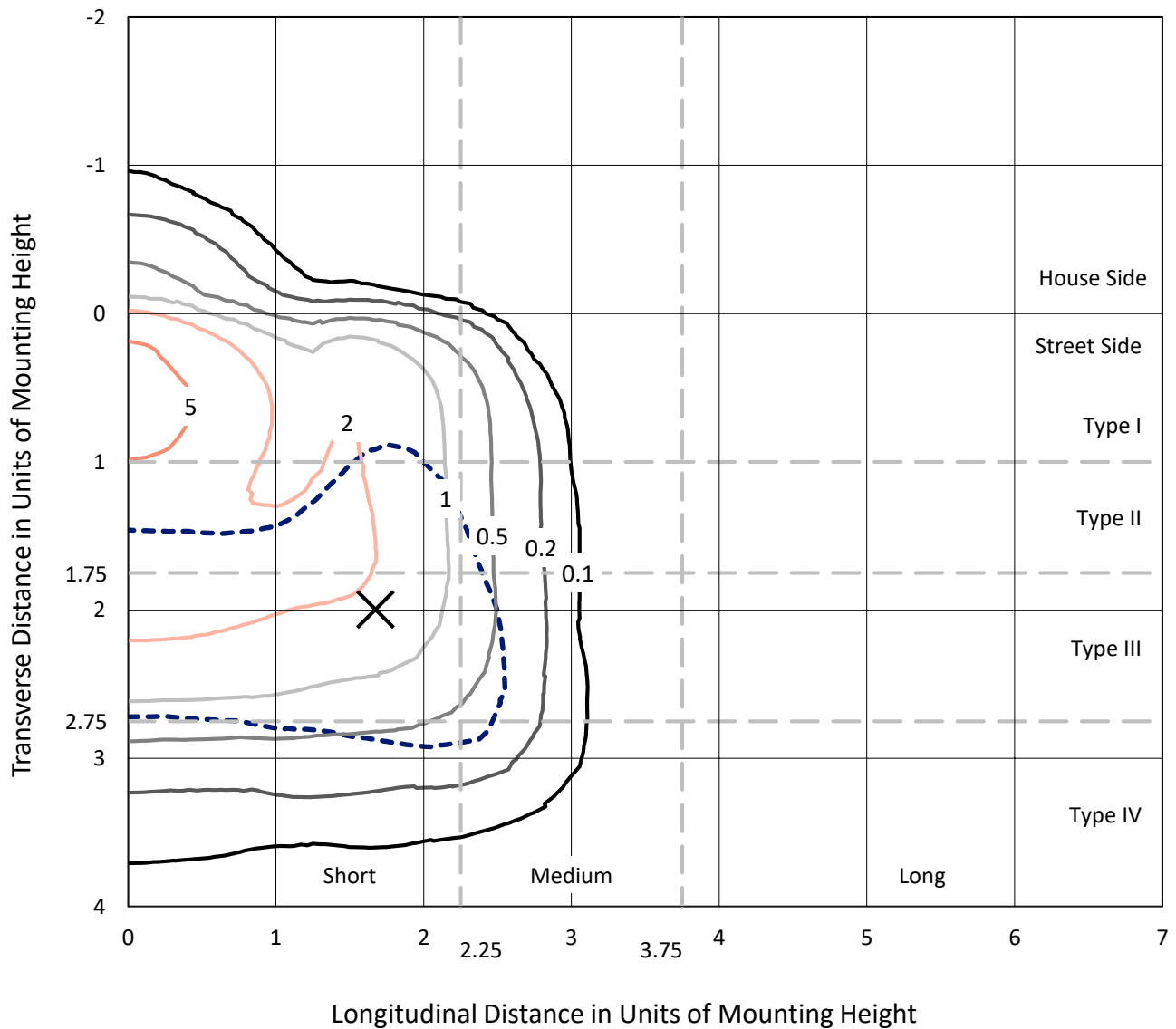
Input Watts (W): 150.5  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

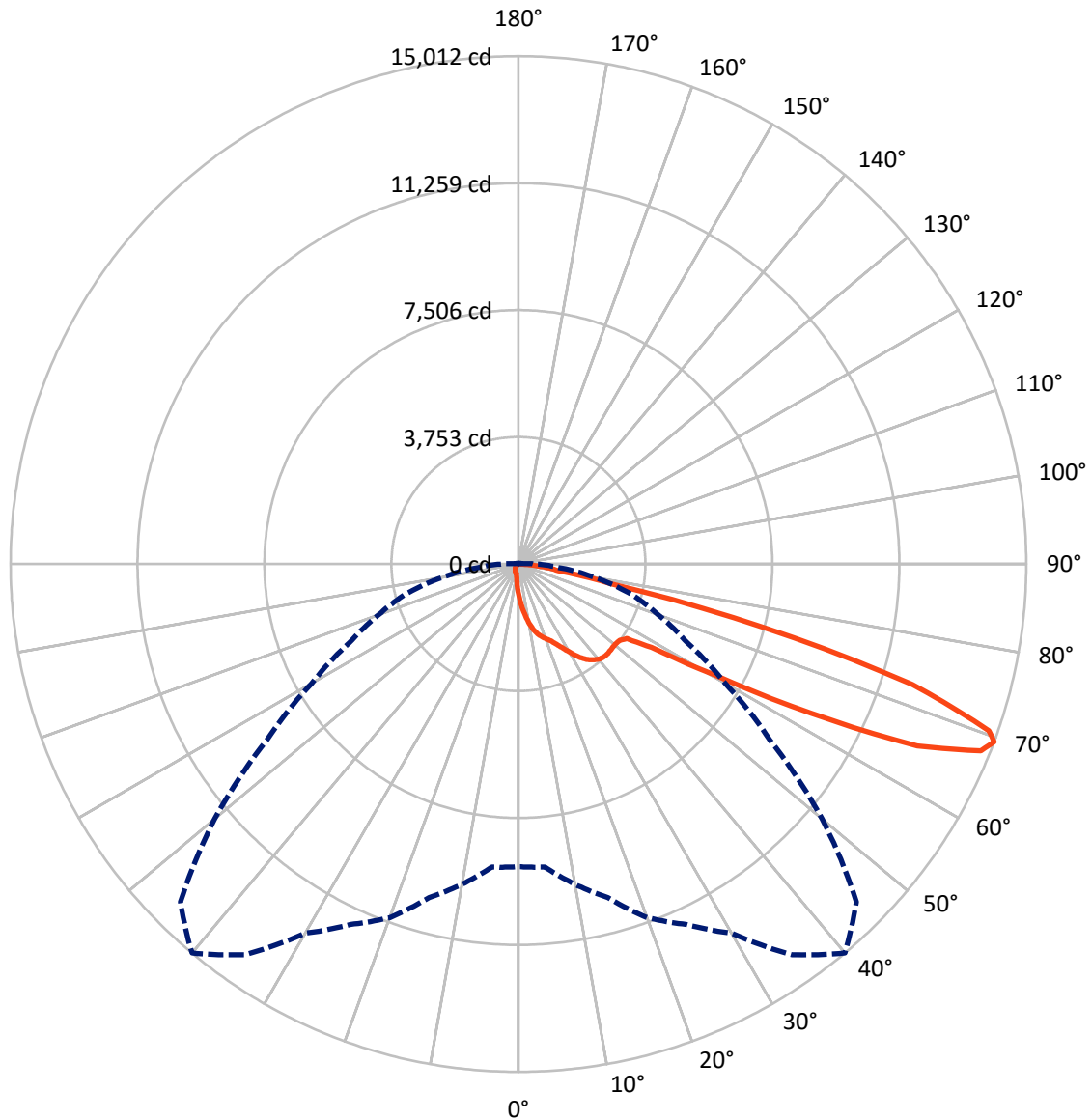
✕ Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 6.6 fc  
 Type IV - Short - Semi-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 40-Deg Lateral    - - - Horizontal Cone Through 69-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	352.6	0.0	352.6
	% Fixture	3.0	0.0	3.0
<b>Street Side</b>	Lumens	11489.8	0.0	11489.8
	% Fixture	97.0	0.0	97.0
<b>Total</b>	Lumens	11842.4	0.0	11842.4
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	91.9	0.8
10°-20°	316.9	2.7
20°-30°	606.6	5.1
30°-40°	1008.8	8.5
40°-50°	1365.0	11.5
50°-60°	2134.8	18.0
60°-70°	4389.0	37.1
70°-80°	1766.1	14.9
80°-90°	163.4	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°	11842.4	100.0
0°-180°	11842.4	100.0



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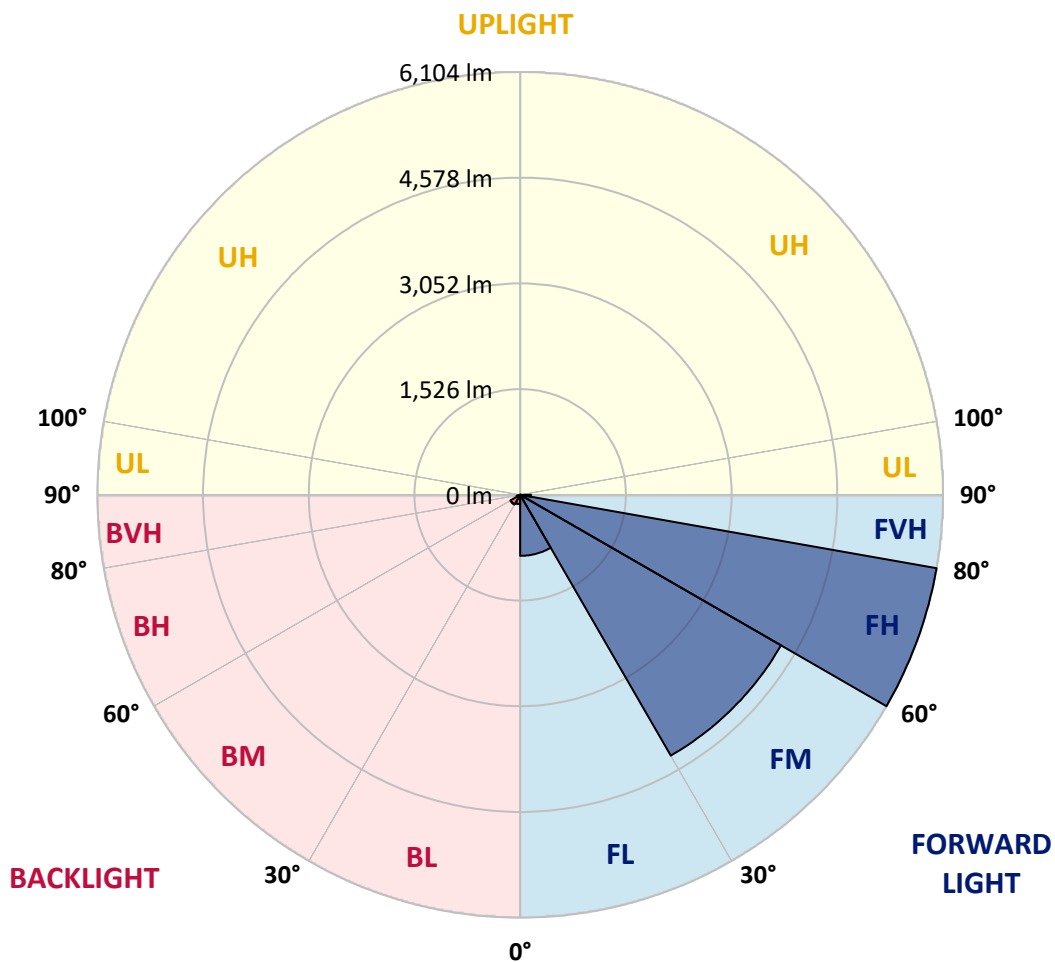
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	881.3	7.4			
FM (30°-60°)	4347.6	36.7			
FH (60°-80°)	6103.6	51.5			G3/7500
FVH (80°-90°)	157.3	1.3			G2/225
BL (0°-30°)	134.1	1.1	B1/500		
BM (30°-60°)	161.0	1.4	B0/220		
BH (60°-80°)	51.4	0.4	B0/110		G0/110
BVH (80°-90°)	6.1	0.1			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G3**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	894.4	894.4	894.4	894.4	894.4	894.4	894.4	894.4	894.4	894.4	894.4
2.5°	1193.0	1179.5	1164.0	1164.0	1144.6	1144.6	1132.9	1102.0	1098.0	1080.6	1063.1
5°	1522.9	1511.3	1491.8	1474.4	1458.8	1431.7	1412.3	1375.4	1334.8	1295.9	1261.0
7.5°	1844.9	1839.1	1804.2	1798.3	1773.1	1728.5	1689.7	1635.4	1565.5	1511.3	1447.2
10°	2143.7	2130.1	2122.3	2089.3	2052.5	2004.0	1943.9	1877.9	1796.4	1711.1	1619.9
12.5°	2380.3	2372.6	2337.7	2324.0	2285.3	2236.8	2161.1	2075.8	1994.3	1883.8	1777.1
15°	2556.8	2543.3	2520.0	2498.6	2452.1	2409.5	2339.6	2246.5	2147.5	2027.3	1899.2
17.5°	2704.3	2679.1	2673.2	2640.4	2591.8	2541.4	2463.7	2378.4	2262.0	2141.8	2002.1
20°	2902.2	2867.3	2855.6	2807.2	2750.9	2681.0	2591.8	2485.1	2362.9	2230.9	2087.4
22.5°	3135.0	3109.8	3084.6	3041.9	2970.1	2871.1	2741.2	2624.8	2469.6	2324.0	2168.9
25°	3464.8	3443.5	3402.7	3344.5	3255.2	3136.9	2979.8	2809.1	2626.7	2440.4	2258.2
27.5°	3784.9	3765.5	3736.4	3691.8	3590.9	3460.9	3266.9	3049.7	2818.8	2593.8	2392.0
30°	4085.6	4068.1	4039.1	3994.4	3905.2	3777.1	3557.9	3325.1	3038.0	2776.1	2533.6
32.5°	4409.5	4403.8	4370.8	4306.8	4229.2	4056.5	3817.9	3567.6	3276.6	2974.0	2690.8
35°	4776.2	4731.6	4700.5	4636.6	4504.7	4320.4	4041.0	3767.4	3460.9	3150.5	2834.3
37.5°	5086.7	5044.0	5005.2	4923.7	4762.7	4528.0	4211.6	3911.0	3594.8	3278.5	2956.6
40°	5313.6	5292.2	5245.7	5139.0	4958.6	4679.3	4337.8	4009.9	3691.8	3373.7	3055.4
42.5°	5482.4	5449.4	5397.0	5286.5	5073.0	4754.9	4388.3	4050.7	3736.4	3431.9	3119.5
45°	5544.5	5517.4	5468.8	5348.5	5117.6	4776.2	4386.2	4039.1	3738.4	3449.3	3162.1
47.5°	5507.6	5480.4	5437.8	5325.2	5098.3	4751.0	4351.3	4006.1	3718.9	3455.2	3201.0
50°	5385.4	5369.9	5336.9	5241.8	5038.1	4702.6	4320.4	3988.6	3715.1	3484.2	3255.2
52.5°	5373.7	5364.0	5323.3	5228.3	5020.7	4687.0	4316.4	3998.3	3748.1	3521.0	3294.1
55°	6566.9	6429.1	6120.6	5858.8	5428.1	4915.9	4512.4	4155.5	3887.8	3666.6	3507.5
57.5°	9333.2	9127.6	8722.2	8223.6	7234.2	6262.2	5484.4	4921.7	4644.4	4543.4	4603.6
60°	10629.1	10592.3	10528.3	10291.6	9785.3	8949.1	8017.9	7011.1	6607.6	6572.6	6694.9
62.5°	11244.1	11220.8	11240.3	11211.1	11054.0	10809.6	10541.9	10107.2	9707.6	9449.6	8902.6
65°	11527.3	11542.9	11653.4	11740.8	11760.1	11824.2	12020.2	12561.4	12957.1	12291.7	10772.8
67.5°	10807.7	10898.8	11152.9	11471.2	11843.5	12204.4	12786.4	13927.1	14740.0	13958.2	11800.9
69°	8947.2	8991.8	9612.6	10212.0	11122.0	11758.2	12602.2	14097.8	15011.5	14128.9	11719.4
70°	7044.1	7084.8	7750.2	8565.0	10103.4	10922.0	12025.9	13808.8	14757.5	13901.9	11300.4
72.5°	3177.7	3119.5	3354.2	3790.7	5463.0	6762.7	8693.0	11187.8	12175.3	11137.4	8454.5
75°	2219.3	2194.1	2219.3	2221.3	2481.2	3201.0	4039.1	6064.3	7500.0	6471.7	4039.1
77.5°	1718.9	1701.4	1684.0	1664.5	1695.6	1899.2	1980.7	2151.5	2793.6	2642.3	1540.3
80°	1360.0	1344.4	1387.1	1373.5	1373.5	1396.8	1381.3	1317.2	1197.0	1109.6	993.2
82.5°	632.4	636.4	636.4	690.6	832.2	971.9	1016.5	952.6	845.9	719.8	580.1
85°	60.1	67.9	114.5	176.5	351.1	395.8	397.7	329.8	329.8	259.9	209.5
87.5°	0.0	1.9	1.9	1.9	17.4	48.5	40.7	11.6	5.8	5.8	9.7
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°	894.4	894.4	894.4	894.4	894.4	894.4	894.4	894.4	894.4	894.4	894.4
2.5°	1032.1	1026.2	1003.0	979.7	958.3	935.0	913.7	892.4	869.2	851.6	830.3
5°	1206.7	1164.0	1115.5	1069.0	1022.4	973.9	923.4	878.8	832.2	789.6	748.8
7.5°	1383.2	1299.8	1233.8	1150.4	1074.7	999.1	929.3	857.5	791.5	729.5	671.3
10°	1532.6	1431.7	1328.9	1222.2	1113.6	1012.7	915.7	830.3	743.0	667.3	595.6
12.5°	1654.8	1526.8	1400.6	1266.8	1144.6	1016.5	896.3	793.4	690.6	605.3	531.6
15°	1765.4	1618.0	1466.6	1311.5	1156.2	1010.8	876.8	748.8	644.0	547.1	463.7
17.5°	1854.6	1685.9	1515.1	1340.5	1173.7	1003.0	851.6	717.8	595.6	494.6	413.2
20°	1932.2	1755.7	1571.4	1375.4	1185.4	1001.0	830.3	679.0	552.8	446.2	366.6
22.5°	2004.0	1827.5	1629.6	1420.1	1202.8	999.1	811.0	649.9	516.0	409.3	329.8
25°	2085.5	1899.2	1691.6	1466.6	1233.8	1006.8	799.3	626.6	483.0	374.4	300.7
27.5°	2176.7	1980.7	1765.4	1524.8	1274.5	1022.4	795.4	601.4	454.0	341.4	277.4
30°	2304.7	2077.7	1839.1	1583.0	1311.5	1039.8	791.5	585.8	424.8	316.2	254.2
32.5°	2417.2	2172.7	1920.6	1643.2	1352.2	1057.3	789.6	564.5	397.7	291.0	236.6
35°	2535.6	2260.1	1990.4	1701.4	1387.1	1076.6	787.7	549.0	372.5	265.8	219.2
37.5°	2638.3	2333.8	2044.7	1751.8	1425.8	1094.2	789.6	535.4	349.2	244.4	203.6
40°	2725.7	2409.5	2104.9	1798.3	1466.6	1121.3	791.5	521.9	325.9	225.0	190.1
42.5°	2803.3	2481.2	2168.9	1850.8	1513.2	1152.4	803.2	510.2	306.5	207.6	176.5
45°	2863.4	2547.2	2238.7	1924.4	1588.8	1202.8	824.5	502.4	287.2	192.0	164.9
47.5°	2925.5	2644.2	2357.0	2040.8	1699.4	1282.3	861.4	500.5	271.6	180.4	155.2
50°	3010.8	2741.2	2461.8	2159.2	1800.4	1363.8	906.0	502.4	252.2	168.7	145.4
52.5°	3073.0	2840.2	2597.6	2364.8	2040.8	1612.1	1078.7	537.4	242.5	159.1	133.8
55°	3439.6	3398.9	3404.6	3443.5	3193.2	2743.1	1804.2	776.0	285.1	180.4	131.9
57.5°	4849.9	4993.6	5077.0	5075.0	4661.8	3866.4	2423.0	997.2	318.1	209.5	157.1
60°	6704.5	6595.9	6442.7	6064.3	5515.3	4413.5	2710.2	1072.8	275.5	166.8	143.5
62.5°	8343.8	7707.6	7143.0	6529.9	5810.3	4603.6	2768.4	1067.0	240.6	126.1	100.9
65°	9366.2	8221.7	7309.8	6541.6	5693.9	4444.4	2619.0	979.7	203.6	102.8	83.4
67.5°	9610.7	7944.2	6654.1	5674.4	4756.8	3459.0	1922.5	737.2	159.1	85.3	73.7
69°	9077.2	7061.5	5513.4	4401.8	3460.9	2295.0	1189.2	465.6	122.2	77.6	67.9
70°	8349.7	6142.0	4491.0	3532.7	2562.7	1612.1	832.2	327.8	98.9	71.8	62.0
72.5°	5371.8	3226.2	2207.6	1536.5	1057.3	642.1	325.9	147.5	75.6	60.1	50.4
75°	2083.6	1193.0	865.2	657.6	514.1	357.0	197.9	95.0	64.0	50.4	38.8
77.5°	1026.2	785.6	642.1	440.4	256.1	159.1	106.7	73.7	52.3	36.8	25.2
80°	811.0	539.3	322.1	199.8	151.3	114.5	81.5	60.1	38.8	23.3	17.4
82.5°	415.2	226.9	166.8	135.8	112.6	89.3	66.0	42.7	25.2	15.5	13.6
85°	130.0	95.0	85.3	83.4	77.6	64.0	46.6	27.1	15.5	9.7	9.7
87.5°	9.7	13.6	17.4	13.6	15.5	13.6	17.4	11.6	7.8	7.8	5.8
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):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	894.4	894.4	894.4	894.4	894.4	894.4	894.4	894.4	894.4	894.4	894.4
2.5°	814.8	791.5	770.2	756.6	731.4	721.7	712.0	708.1	690.6	694.6	679.0
5°	712.0	671.3	640.2	609.1	580.1	558.7	541.2	520.0	502.4	494.6	479.2
7.5°	618.8	566.5	525.7	492.7	457.8	430.7	407.4	391.9	376.3	360.8	353.0
10°	537.4	481.1	434.5	401.5	368.6	345.4	327.8	316.2	306.5	300.7	298.8
12.5°	461.8	407.4	364.7	335.6	310.4	298.8	291.0	285.1	283.2	281.3	281.3
15°	403.6	349.2	316.2	294.8	283.2	277.4	275.5	271.6	267.7	265.8	265.8
17.5°	349.2	308.4	285.1	273.5	267.7	263.9	259.9	256.1	252.2	250.2	250.2
20°	312.4	279.4	267.7	259.9	254.2	250.2	244.4	240.6	238.6	236.6	234.7
22.5°	283.2	261.8	254.2	248.3	240.6	234.7	230.9	226.9	223.1	221.2	219.2
25°	261.8	248.3	242.5	234.7	226.9	221.2	215.3	209.5	205.7	203.6	199.8
27.5°	246.4	236.6	229.0	219.2	211.4	205.7	199.8	194.0	190.1	186.2	184.3
30°	232.8	223.1	213.4	205.7	196.0	190.1	182.4	176.5	174.6	170.8	166.8
32.5°	219.2	209.5	199.8	190.1	180.4	172.7	168.7	161.0	157.1	155.2	151.3
35°	203.6	194.0	182.4	174.6	164.9	157.1	151.3	145.4	141.6	137.8	135.8
37.5°	190.1	178.4	166.8	157.1	149.4	141.6	135.8	130.0	126.1	122.2	120.2
40°	174.6	163.0	151.3	141.6	133.8	128.0	122.2	116.4	112.6	110.5	110.5
42.5°	161.0	147.5	135.8	128.0	122.2	114.5	108.6	102.8	100.9	98.9	100.9
45°	147.5	133.8	124.2	116.4	110.5	102.8	97.0	93.1	91.2	93.1	95.0
47.5°	135.8	122.2	112.6	106.7	100.9	95.0	89.3	85.3	85.3	89.3	93.1
50°	124.2	110.5	102.8	98.9	93.1	87.2	79.6	77.6	79.6	83.4	87.2
52.5°	112.6	97.0	91.2	89.3	83.4	77.6	71.8	69.8	71.8	75.6	73.7
55°	100.9	85.3	83.4	81.5	75.6	67.9	62.0	62.0	62.0	60.1	56.3
57.5°	97.0	75.6	73.7	71.8	66.0	58.2	54.4	50.4	48.5	42.7	40.7
60°	100.9	67.9	67.9	64.0	58.2	50.4	44.6	38.8	34.9	31.1	31.1
62.5°	81.5	62.0	60.1	56.3	48.5	40.7	34.9	29.0	27.1	25.2	25.2
65°	66.0	56.3	52.3	46.6	40.7	33.0	27.1	23.3	21.4	21.4	23.3
67.5°	60.1	50.4	44.6	38.8	33.0	25.2	21.4	19.4	19.4	21.4	21.4
69°	56.3	46.6	40.7	34.9	29.0	23.3	19.4	19.4	19.4	19.4	21.4
70°	52.3	44.6	38.8	33.0	25.2	19.4	17.4	17.4	19.4	19.4	21.4
72.5°	40.7	34.9	33.0	27.1	19.4	17.4	15.5	17.4	17.4	19.4	19.4
75°	31.1	25.2	25.2	21.4	15.5	13.6	13.6	15.5	15.5	17.4	17.4
77.5°	21.4	17.4	17.4	15.5	13.6	11.6	11.6	13.6	15.5	15.5	17.4
80°	15.5	13.6	11.6	13.6	11.6	9.7	11.6	13.6	13.6	15.5	15.5
82.5°	11.6	11.6	11.6	11.6	9.7	9.7	11.6	11.6	13.6	15.5	15.5
85°	9.7	9.7	9.7	9.7	9.7	9.7	9.7	11.6	11.6	13.6	13.6
87.5°	5.8	5.8	5.8	7.8	7.8	9.7	9.7	9.7	9.7	11.6	11.6
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):**

	165°	170°	175°	180°
0°	894.4	894.4	894.4	894.4
2.5°	675.1	673.2	665.4	667.3
5°	473.4	461.8	469.4	467.5
7.5°	347.3	345.4	343.3	347.3
10°	296.8	296.8	294.8	296.8
12.5°	279.4	279.4	279.4	279.4
15°	265.8	265.8	263.9	263.9
17.5°	250.2	250.2	250.2	248.3
20°	234.7	232.8	232.8	232.8
22.5°	217.3	215.3	215.3	215.3
25°	199.8	197.9	197.9	197.9
27.5°	182.4	180.4	178.4	178.4
30°	164.9	163.0	161.0	161.0
32.5°	147.5	145.4	143.5	143.5
35°	131.9	131.9	130.0	128.0
37.5°	118.3	118.3	118.3	118.3
40°	108.6	110.5	110.5	110.5
42.5°	102.8	104.8	106.7	108.6
45°	98.9	102.8	104.8	104.8
47.5°	97.0	98.9	100.9	100.9
50°	89.3	87.2	87.2	87.2
52.5°	71.8	67.9	66.0	64.0
55°	52.3	50.4	46.6	46.6
57.5°	36.8	36.8	34.9	34.9
60°	29.0	29.0	27.1	29.0
62.5°	25.2	25.2	25.2	25.2
65°	23.3	23.3	23.3	23.3
67.5°	23.3	23.3	23.3	23.3
69°	21.4	21.4	21.4	21.4
70°	21.4	21.4	21.4	21.4
72.5°	19.4	19.4	19.4	19.4
75°	17.4	19.4	19.4	19.4
77.5°	17.4	17.4	17.4	17.4
80°	15.5	15.5	17.4	17.4
82.5°	15.5	15.5	15.5	15.5
85°	13.6	13.6	15.5	15.5
87.5°	11.6	11.6	13.6	13.6
90°	0.0	0.0	0.0	0.0

(END OF REPORT)