

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: P163800

Luminaire Tested: **LDRL-SL4-F02-E-8030-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P163800  
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-F02-E-8030-HSS  
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE  
(2) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 W/ SPILL LIGHT CONTROL AND HOUSE SIDE SHIELD  
Light Source: (14) 3000K CCT, 80 CRI LEDs  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2750.3 lumens  
Efficiency: N/A  
Efficacy: 50.0 lumens/watt  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 1' x H: 0.1')  
IES Classification: Type IV - Short - Semi-Cutoff  
BUG Rating: B0 - U0 - G1

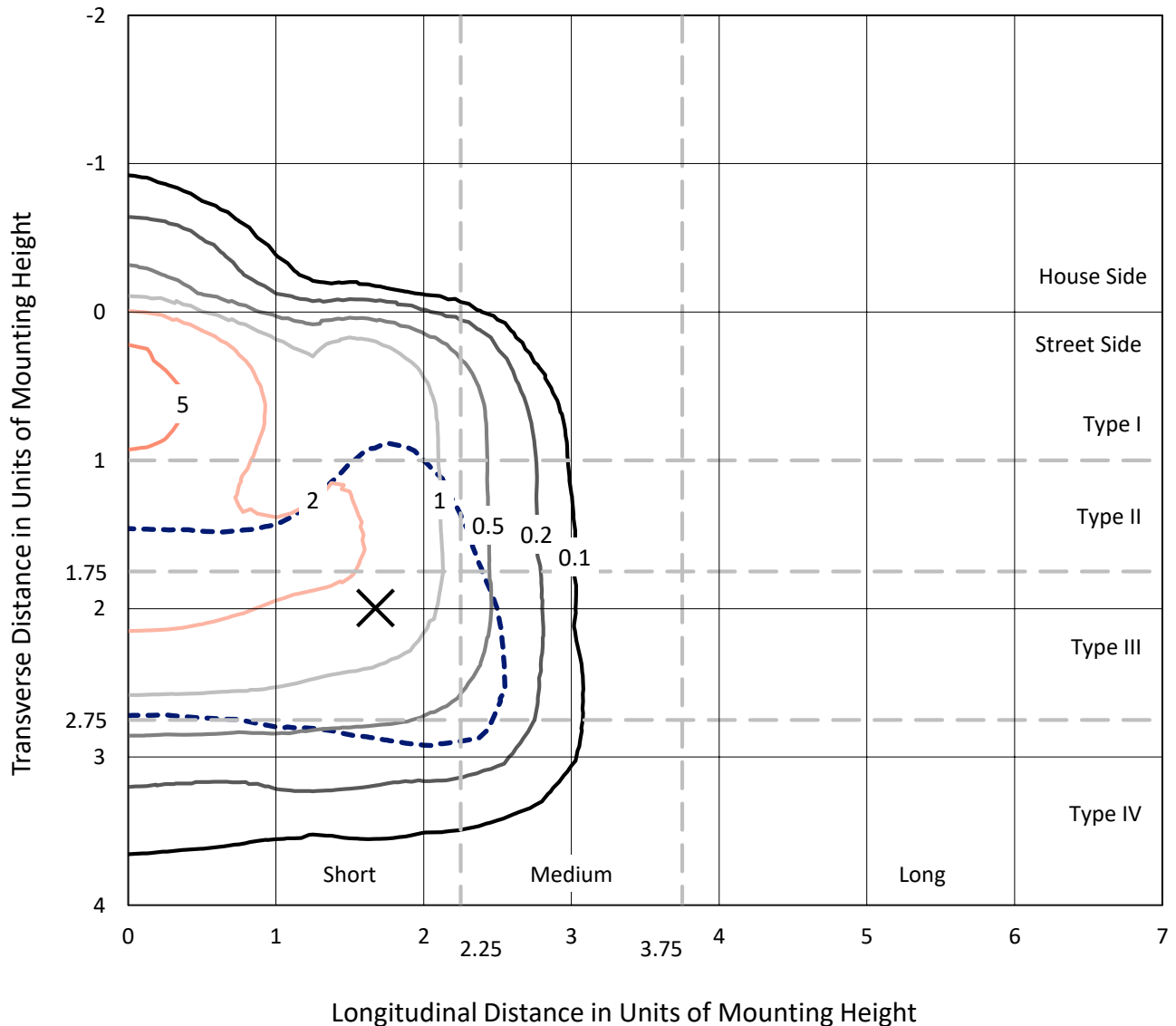
Input Watts (W): 55  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

× Max cd  
 - - - 1/2 Max cd

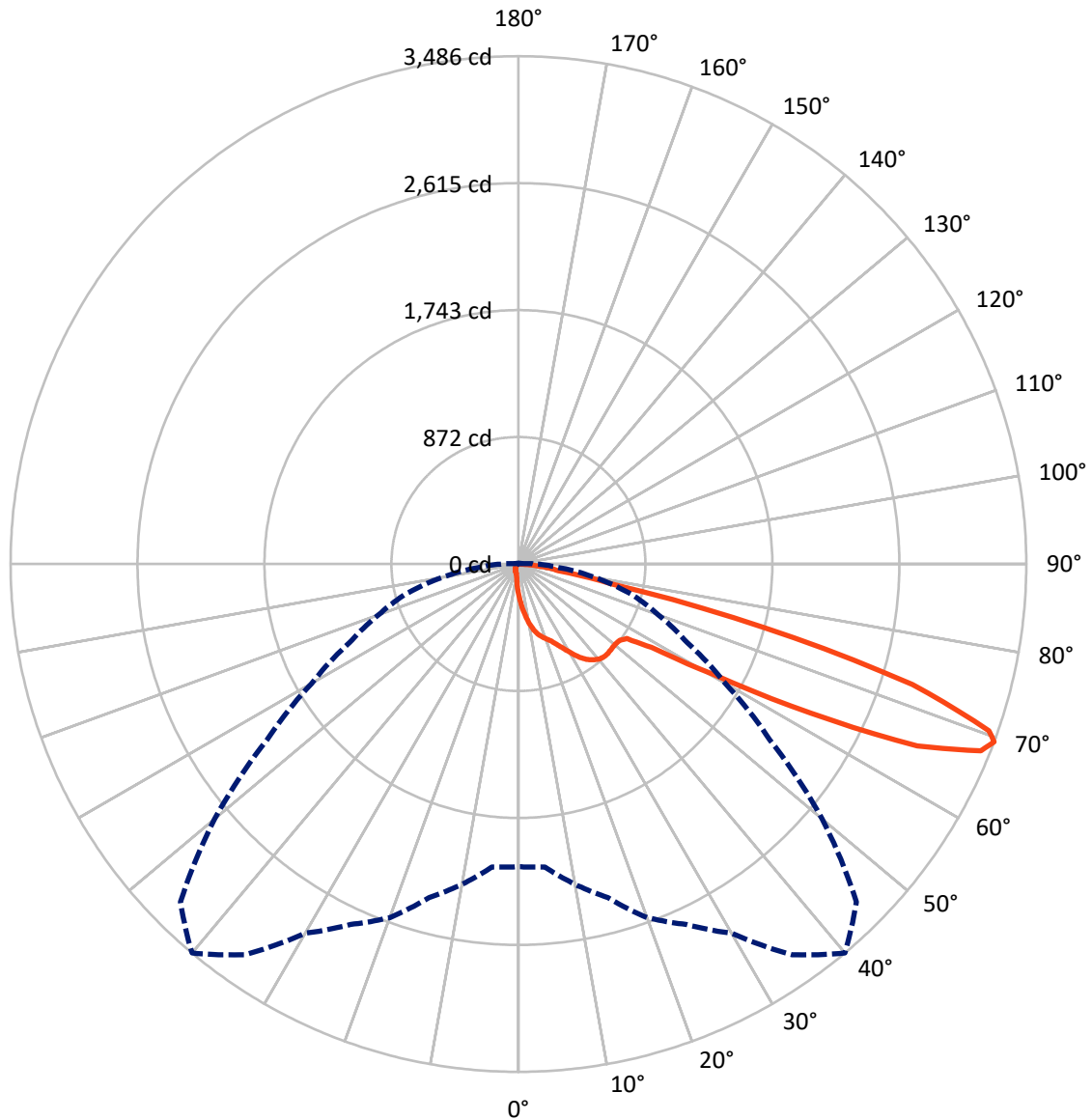


Based on 10 foot mounting height. Maximum calculated value = 6.2 fc  
 Type IV - Short - Semi-Cutoff

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### Luminous Intensity Polar Plot



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

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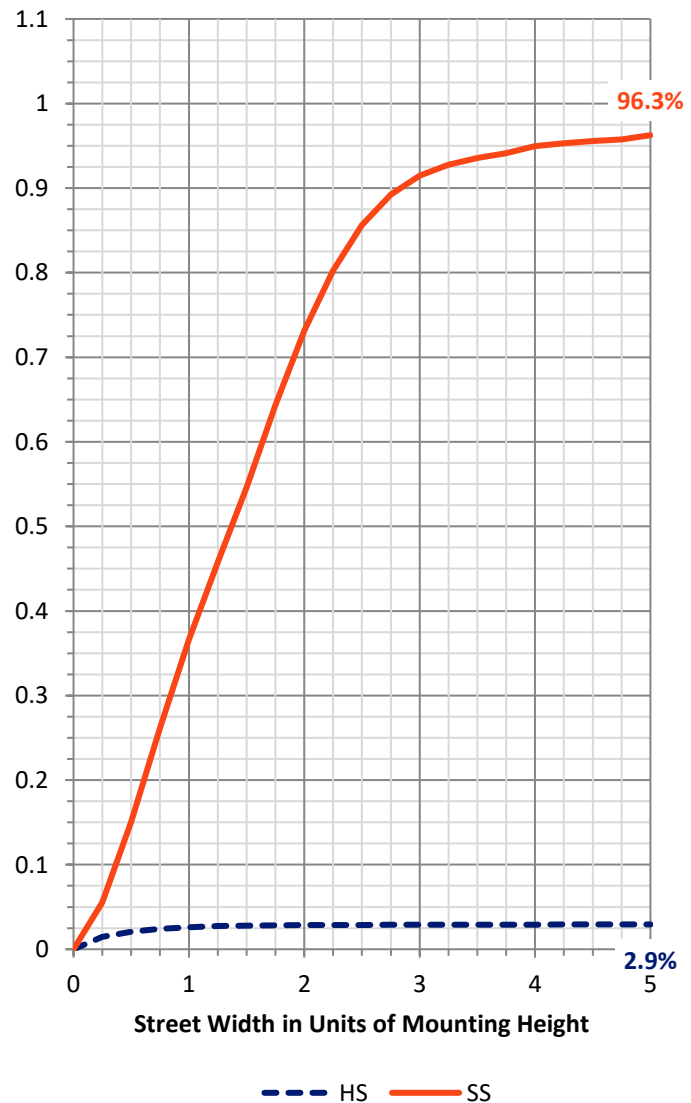
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	81.9	0.0	81.9
	% Fixture	3.0	0.0	3.0
<b>Street Side</b>	Lumens	2668.4	0.0	2668.4
	% Fixture	97.0	0.0	97.0
<b>Total</b>	Lumens	2750.3	0.0	2750.3
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	21.3	0.8
10°-20°	73.6	2.7
20°-30°	140.9	5.1
30°-40°	234.3	8.5
40°-50°	317.0	11.5
50°-60°	495.8	18.0
60°-70°	1019.3	37.1
70°-80°	410.2	14.9
80°-90°	37.9	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°	2750.3	100.0
0°-180°	2750.3	100.0



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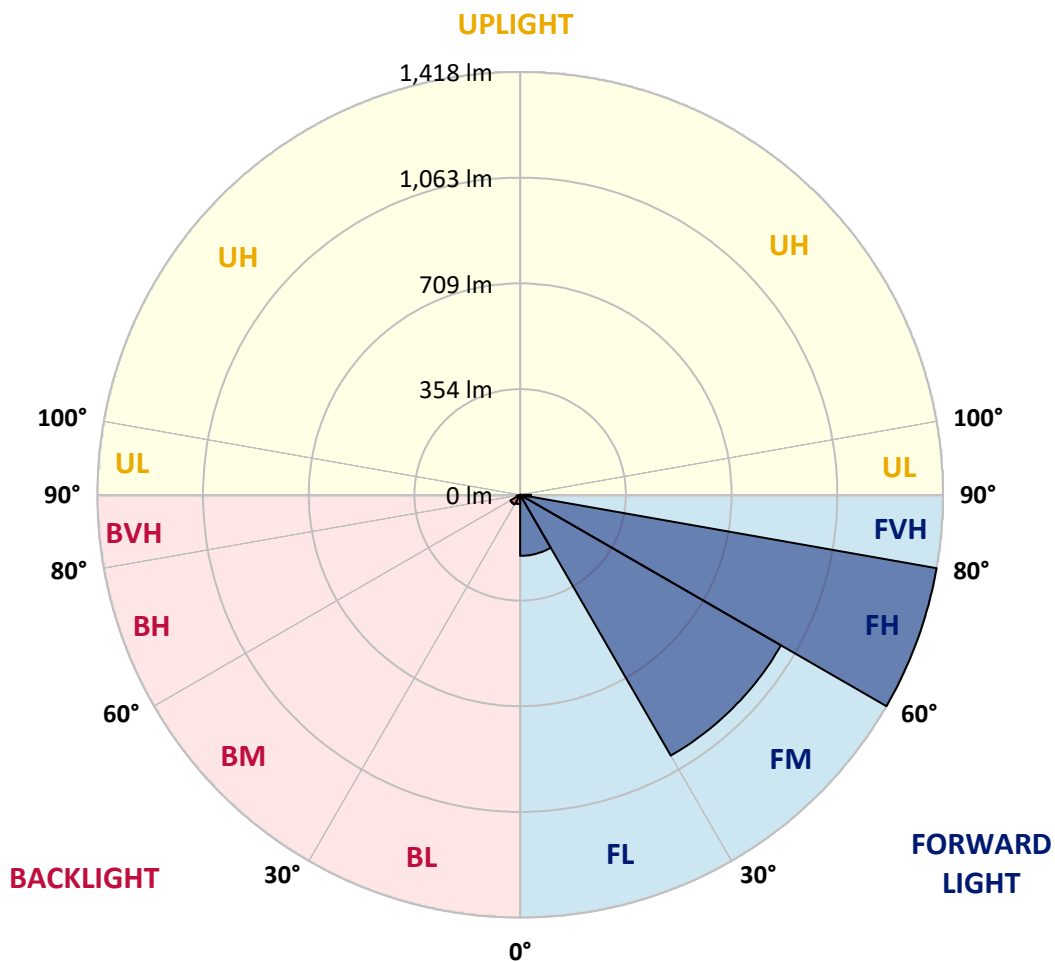
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	204.7	7.4			
FM (30°-60°)	1009.7	36.7			
FH (60°-80°)	1417.5	51.5			G1/1800
FVH (80°-90°)	36.5	1.3			G1/100
BL (0°-30°)	31.2	1.1	B0/110		
BM (30°-60°)	37.4	1.4	B0/220		
BH (60°-80°)	11.9	0.4	B0/110		G0/110
BVH (80°-90°)	1.4	0.1			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B0-U0-G1**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	207.7	207.7	207.7	207.7	207.7	207.7	207.7	207.7	207.7	207.7	207.7
2.5°	277.1	273.9	270.3	270.3	265.8	265.8	263.1	255.9	255.0	251.0	246.9
5°	353.7	351.0	346.5	342.4	338.8	332.5	328.0	319.4	310.0	301.0	292.9
7.5°	428.5	427.1	419.0	417.7	411.8	401.4	392.4	379.8	363.6	351.0	336.1
10°	497.9	494.7	492.9	485.2	476.7	465.4	451.5	436.1	417.2	397.4	376.2
12.5°	552.8	551.0	542.9	539.7	530.7	519.5	501.9	482.1	463.2	437.5	412.7
15°	593.8	590.7	585.3	580.3	569.5	559.6	543.4	521.7	498.8	470.8	441.1
17.5°	628.1	622.2	620.8	613.2	601.9	590.2	572.2	552.4	525.3	497.4	465.0
20°	674.0	665.9	663.2	651.9	638.9	622.7	601.9	577.1	548.8	518.1	484.8
22.5°	728.1	722.2	716.4	706.5	689.8	666.8	636.6	609.6	573.6	539.7	503.7
25°	804.7	799.7	790.3	776.7	756.0	728.5	692.1	652.4	610.0	566.8	524.4
27.5°	879.0	874.5	867.8	857.4	834.0	803.8	758.7	708.3	654.7	602.4	555.5
30°	948.9	944.8	938.1	927.7	907.0	877.2	826.3	772.2	705.6	644.7	588.4
32.5°	1024.1	1022.8	1015.1	1000.2	982.2	942.1	886.7	828.6	761.0	690.7	624.9
35°	1109.3	1098.9	1091.7	1076.8	1046.2	1003.4	938.5	875.0	803.8	731.7	658.2
37.5°	1181.4	1171.4	1162.4	1143.5	1106.1	1051.6	978.1	908.3	834.9	761.4	686.6
40°	1234.1	1229.1	1218.3	1193.5	1151.6	1086.7	1007.4	931.3	857.4	783.5	709.6
42.5°	1273.3	1265.6	1253.4	1227.8	1178.2	1104.3	1019.2	940.8	867.8	797.0	724.5
45°	1287.7	1281.4	1270.1	1242.2	1188.5	1109.3	1018.7	938.1	868.2	801.1	734.4
47.5°	1279.1	1272.8	1262.9	1236.8	1184.1	1103.4	1010.6	930.4	863.7	802.4	743.4
50°	1250.7	1247.1	1239.5	1217.4	1170.1	1092.1	1003.4	926.3	862.8	809.2	756.0
52.5°	1248.0	1245.8	1236.3	1214.2	1166.0	1088.5	1002.5	928.6	870.5	817.7	765.0
55°	1525.1	1493.1	1421.5	1360.7	1260.6	1141.7	1048.0	965.1	902.9	851.6	814.6
57.5°	2167.6	2119.8	2025.7	1909.9	1680.1	1454.4	1273.7	1143.0	1078.6	1055.2	1069.2
60°	2468.6	2460.0	2445.2	2390.2	2272.6	2078.4	1862.1	1628.3	1534.6	1526.5	1554.9
62.5°	2611.4	2606.0	2610.5	2603.7	2567.2	2510.5	2448.3	2347.4	2254.6	2194.6	2067.6
65°	2677.2	2680.8	2706.5	2726.7	2731.2	2746.1	2791.6	2917.3	3009.2	2854.7	2501.9
67.5°	2510.0	2531.2	2590.2	2664.1	2750.6	2834.4	2969.6	3234.5	3423.3	3241.7	2740.7
69°	2077.9	2088.3	2232.5	2371.7	2583.0	2730.8	2926.8	3274.2	3486.4	3281.4	2721.8
70°	1636.0	1645.4	1799.9	1989.2	2346.5	2536.6	2793.0	3207.0	3427.4	3228.6	2624.5
72.5°	738.0	724.5	779.0	880.4	1268.8	1570.6	2018.9	2598.3	2827.7	2586.6	1963.5
75°	515.4	509.6	515.4	515.9	576.3	743.4	938.1	1408.4	1741.8	1503.0	938.1
77.5°	399.2	395.1	391.1	386.6	393.8	441.1	460.0	499.7	648.8	613.7	357.7
80°	315.8	312.2	322.1	319.0	319.0	324.4	320.8	305.9	278.0	257.7	230.7
82.5°	146.9	147.8	147.8	160.4	193.3	225.7	236.1	221.2	196.5	167.2	134.7
85°	14.0	15.8	26.6	41.0	81.5	91.9	92.4	76.6	76.6	60.4	48.7
87.5°	0.0	0.4	0.4	0.4	4.0	11.3	9.4	2.7	1.3	1.3	2.3
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):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	207.7	207.7	207.7	207.7	207.7	207.7	207.7	207.7	207.7	207.7	207.7
2.5°	239.7	238.3	232.9	227.5	222.6	217.2	212.2	207.3	201.9	197.8	192.8
5°	280.3	270.3	259.1	248.3	237.4	226.2	214.5	204.1	193.3	183.4	173.9
7.5°	321.3	301.9	286.6	267.2	249.6	232.0	215.8	199.2	183.8	169.4	155.9
10°	355.9	332.5	308.6	283.9	258.6	235.2	212.7	192.8	172.6	155.0	138.3
12.5°	384.3	354.6	325.3	294.2	265.8	236.1	208.2	184.3	160.4	140.6	123.5
15°	410.0	375.8	340.6	304.6	268.5	234.7	203.6	173.9	149.6	127.1	107.7
17.5°	430.7	391.5	351.9	311.3	272.6	232.9	197.8	166.7	138.3	114.9	96.0
20°	448.8	407.8	365.0	319.4	275.3	232.5	192.8	157.7	128.4	103.6	85.1
22.5°	465.4	424.4	378.5	329.8	279.3	232.0	188.3	150.9	119.8	95.1	76.6
25°	484.3	441.1	392.9	340.6	286.6	233.8	185.6	145.5	112.2	87.0	69.8
27.5°	505.5	460.0	410.0	354.1	296.0	237.4	184.7	139.7	105.4	79.3	64.4
30°	535.3	482.5	427.1	367.7	304.6	241.5	183.8	136.1	98.7	73.4	59.0
32.5°	561.4	504.6	446.1	381.6	314.0	245.6	183.4	131.1	92.4	67.6	55.0
35°	588.9	524.9	462.3	395.1	322.1	250.0	182.9	127.5	86.5	61.7	50.9
37.5°	612.7	542.0	474.9	406.8	331.1	254.1	183.4	124.4	81.1	56.8	47.3
40°	633.0	559.6	488.9	417.7	340.6	260.4	183.8	121.2	75.7	52.3	44.1
42.5°	651.1	576.3	503.7	429.8	351.4	267.6	186.5	118.5	71.2	48.2	41.0
45°	665.0	591.6	519.9	446.9	369.0	279.3	191.5	116.7	66.7	44.6	38.3
47.5°	679.4	614.1	547.4	474.0	394.7	297.8	200.0	116.2	63.1	41.9	36.0
50°	699.2	636.6	571.7	501.5	418.1	316.7	210.4	116.7	58.6	39.2	33.8
52.5°	713.7	659.6	603.3	549.2	474.0	374.4	250.5	124.8	56.3	37.0	31.1
55°	798.8	789.4	790.7	799.7	741.6	637.1	419.0	180.2	66.2	41.9	30.6
57.5°	1126.4	1159.7	1179.1	1178.7	1082.7	898.0	562.7	231.6	73.9	48.7	36.5
60°	1557.1	1531.9	1496.3	1408.4	1280.9	1025.0	629.4	249.2	64.0	38.7	33.3
62.5°	1937.8	1790.1	1658.9	1516.5	1349.4	1069.2	642.9	247.8	55.9	29.3	23.4
65°	2175.3	1909.4	1697.7	1519.2	1322.4	1032.2	608.3	227.5	47.3	23.9	19.4
67.5°	2232.0	1845.0	1545.4	1317.9	1104.7	803.3	446.5	171.2	37.0	19.8	17.1
69°	2108.1	1640.0	1280.5	1022.3	803.8	533.0	276.2	108.1	28.4	18.0	15.8
70°	1939.2	1426.4	1043.0	820.4	595.2	374.4	193.3	76.1	23.0	16.7	14.4
72.5°	1247.6	749.3	512.7	356.8	245.6	149.1	75.7	34.3	17.6	14.0	11.7
75°	483.9	277.1	200.9	152.7	119.4	82.9	46.0	22.1	14.9	11.7	9.0
77.5°	238.3	182.5	149.1	102.3	59.5	37.0	24.8	17.1	12.2	8.6	5.9
80°	188.3	125.2	74.8	46.4	35.1	26.6	18.9	14.0	9.0	5.4	4.0
82.5°	96.4	52.7	38.7	31.5	26.1	20.7	15.3	9.9	5.9	3.6	3.1
85°	30.2	22.1	19.8	19.4	18.0	14.9	10.8	6.3	3.6	2.3	2.3
87.5°	2.3	3.1	4.0	3.1	3.6	3.1	4.0	2.7	1.8	1.8	1.3
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):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	207.7	207.7	207.7	207.7	207.7	207.7	207.7	207.7	207.7	207.7	207.7
2.5°	189.2	183.8	178.9	175.7	169.9	167.6	165.3	164.5	160.4	161.3	157.7
5°	165.3	155.9	148.7	141.5	134.7	129.8	125.7	120.8	116.7	114.9	111.3
7.5°	143.7	131.6	122.1	114.4	106.3	100.0	94.6	91.0	87.4	83.8	82.0
10°	124.8	111.7	100.9	93.3	85.6	80.2	76.1	73.4	71.2	69.8	69.4
12.5°	107.2	94.6	84.7	78.0	72.1	69.4	67.6	66.2	65.8	65.3	65.3
15°	93.7	81.1	73.4	68.5	65.8	64.4	64.0	63.1	62.2	61.7	61.7
17.5°	81.1	71.6	66.2	63.5	62.2	61.3	60.4	59.5	58.6	58.1	58.1
20°	72.5	64.9	62.2	60.4	59.0	58.1	56.8	55.9	55.4	55.0	54.5
22.5°	65.8	60.8	59.0	57.7	55.9	54.5	53.6	52.7	51.8	51.4	50.9
25°	60.8	57.7	56.3	54.5	52.7	51.4	50.0	48.7	47.8	47.3	46.4
27.5°	57.2	55.0	53.2	50.9	49.1	47.8	46.4	45.1	44.1	43.3	42.8
30°	54.1	51.8	49.6	47.8	45.5	44.1	42.4	41.0	40.6	39.7	38.7
32.5°	50.9	48.7	46.4	44.1	41.9	40.1	39.2	37.4	36.5	36.0	35.1
35°	47.3	45.1	42.4	40.6	38.3	36.5	35.1	33.8	32.9	32.0	31.5
37.5°	44.1	41.4	38.7	36.5	34.7	32.9	31.5	30.2	29.3	28.4	27.9
40°	40.6	37.8	35.1	32.9	31.1	29.7	28.4	27.0	26.1	25.7	25.7
42.5°	37.4	34.3	31.5	29.7	28.4	26.6	25.2	23.9	23.4	23.0	23.4
45°	34.3	31.1	28.8	27.0	25.7	23.9	22.5	21.6	21.2	21.6	22.1
47.5°	31.5	28.4	26.1	24.8	23.4	22.1	20.7	19.8	19.8	20.7	21.6
50°	28.8	25.7	23.9	23.0	21.6	20.3	18.5	18.0	18.5	19.4	20.3
52.5°	26.1	22.5	21.2	20.7	19.4	18.0	16.7	16.2	16.7	17.6	17.1
55°	23.4	19.8	19.4	18.9	17.6	15.8	14.4	14.4	14.4	14.0	13.1
57.5°	22.5	17.6	17.1	16.7	15.3	13.5	12.6	11.7	11.3	9.9	9.4
60°	23.4	15.8	15.8	14.9	13.5	11.7	10.4	9.0	8.1	7.2	7.2
62.5°	18.9	14.4	14.0	13.1	11.3	9.4	8.1	6.7	6.3	5.9	5.9
65°	15.3	13.1	12.2	10.8	9.4	7.7	6.3	5.4	5.0	5.0	5.4
67.5°	14.0	11.7	10.4	9.0	7.7	5.9	5.0	4.5	4.5	5.0	5.0
69°	13.1	10.8	9.4	8.1	6.7	5.4	4.5	4.5	4.5	4.5	5.0
70°	12.2	10.4	9.0	7.7	5.9	4.5	4.0	4.0	4.5	4.5	5.0
72.5°	9.4	8.1	7.7	6.3	4.5	4.0	3.6	4.0	4.0	4.5	4.5
75°	7.2	5.9	5.9	5.0	3.6	3.1	3.1	3.6	3.6	4.0	4.0
77.5°	5.0	4.0	4.0	3.6	3.1	2.7	2.7	3.1	3.6	3.6	4.0
80°	3.6	3.1	2.7	3.1	2.7	2.3	2.7	3.1	3.1	3.6	3.6
82.5°	2.7	2.7	2.7	2.7	2.3	2.3	2.7	2.7	3.1	3.6	3.6
85°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.7	2.7	3.1	3.1
87.5°	1.3	1.3	1.3	1.8	1.8	2.3	2.3	2.3	2.3	2.7	2.7
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):**

	165°	170°	175°	180°
0°	207.7	207.7	207.7	207.7
2.5°	156.8	156.3	154.5	155.0
5°	109.9	107.2	109.0	108.6
7.5°	80.7	80.2	79.7	80.7
10°	68.9	68.9	68.5	68.9
12.5°	64.9	64.9	64.9	64.9
15°	61.7	61.7	61.3	61.3
17.5°	58.1	58.1	58.1	57.7
20°	54.5	54.1	54.1	54.1
22.5°	50.5	50.0	50.0	50.0
25°	46.4	46.0	46.0	46.0
27.5°	42.4	41.9	41.4	41.4
30°	38.3	37.8	37.4	37.4
32.5°	34.3	33.8	33.3	33.3
35°	30.6	30.6	30.2	29.7
37.5°	27.5	27.5	27.5	27.5
40°	25.2	25.7	25.7	25.7
42.5°	23.9	24.3	24.8	25.2
45°	23.0	23.9	24.3	24.3
47.5°	22.5	23.0	23.4	23.4
50°	20.7	20.3	20.3	20.3
52.5°	16.7	15.8	15.3	14.9
55°	12.2	11.7	10.8	10.8
57.5°	8.6	8.6	8.1	8.1
60°	6.7	6.7	6.3	6.7
62.5°	5.9	5.9	5.9	5.9
65°	5.4	5.4	5.4	5.4
67.5°	5.4	5.4	5.4	5.4
69°	5.0	5.0	5.0	5.0
70°	5.0	5.0	5.0	5.0
72.5°	4.5	4.5	4.5	4.5
75°	4.0	4.5	4.5	4.5
77.5°	4.0	4.0	4.0	4.0
80°	3.6	3.6	4.0	4.0
82.5°	3.6	3.6	3.6	3.6
85°	3.1	3.1	3.6	3.6
87.5°	2.7	2.7	3.1	3.1
90°	0.0	0.0	0.0	0.0

(END OF REPORT)