

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: P163808

Luminaire Tested: **LDRL-SL4-E03-E-7050-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P163808  
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-E03-E-7050-HSS  
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE  
(3) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 W/ SPILL LIGHT CONTROL AND HOUSE SIDE SHIELD  
Light Source: (63) 5000K CCT, 70 CRI LEDs  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6075.8 lumens  
Efficiency: N/A  
Efficacy: 80.8 lumens/watt  
Luminous Opening: Rectangular w/ Sides (W: 0.5' x L: 1' x H: 0.1')  
IES Classification: Type IV - Short - Semi-Cutoff  
BUG Rating: B0 - U0 - G2

Input Watts (W): 75.2  
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

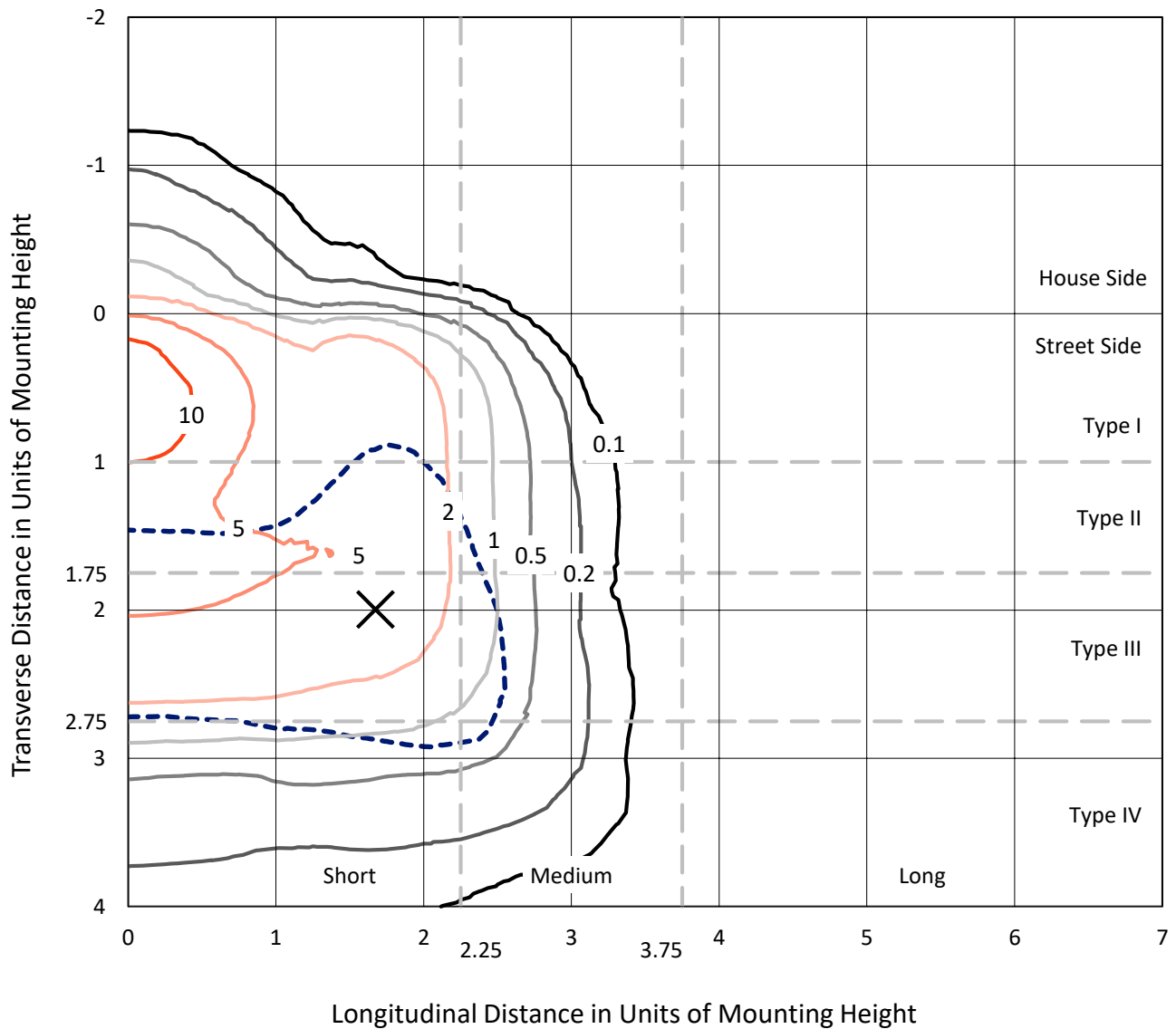


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### Iso-Footcandle Lines of Horizontal Illumination

× Max cd  
 - - - 1/2 Max cd

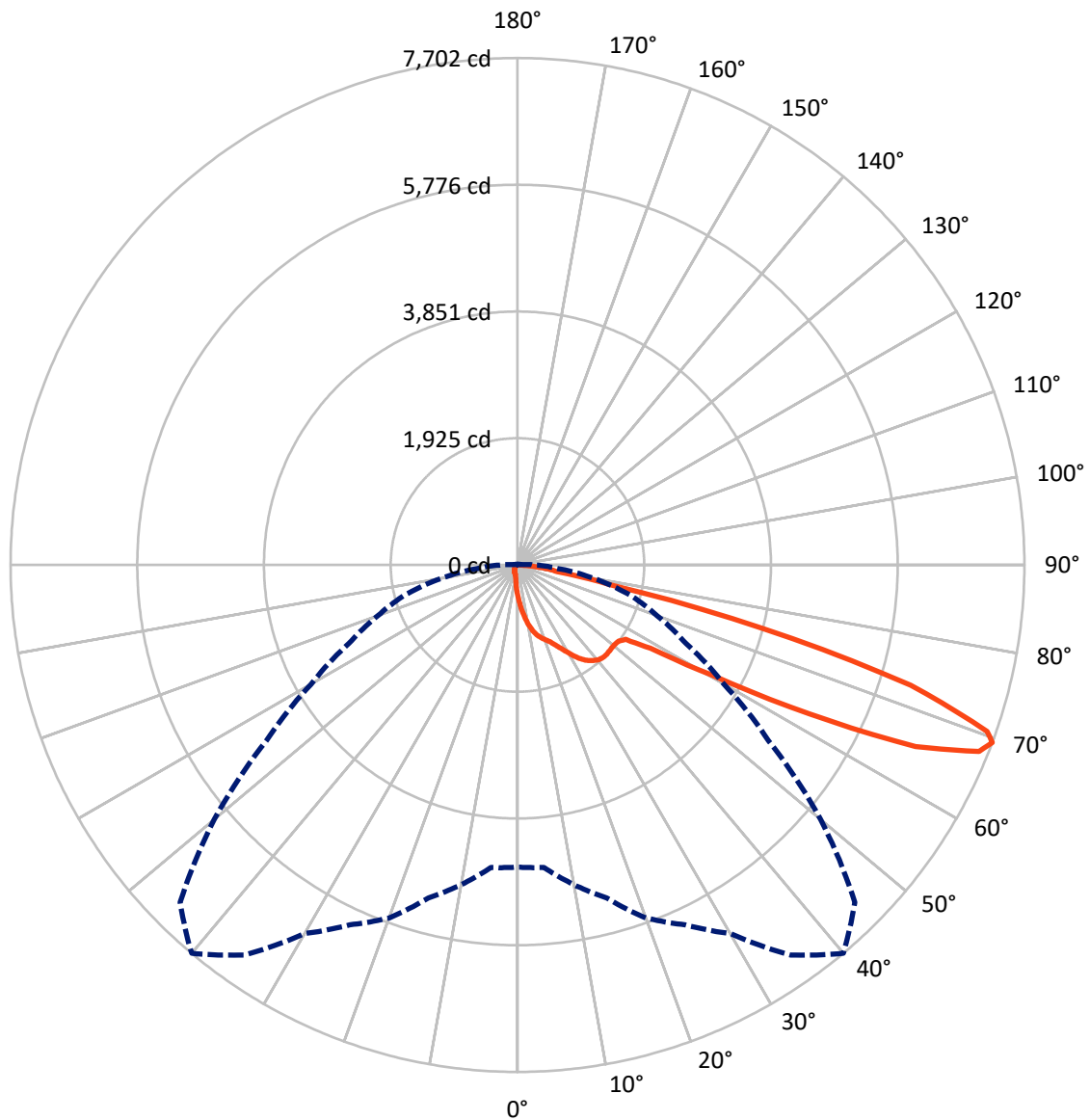


Based on 10 foot mounting height. Maximum calculated value = 13.6 fc  
 Type IV - Short - Semi-Cutoff

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### Luminous Intensity Polar Plot



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

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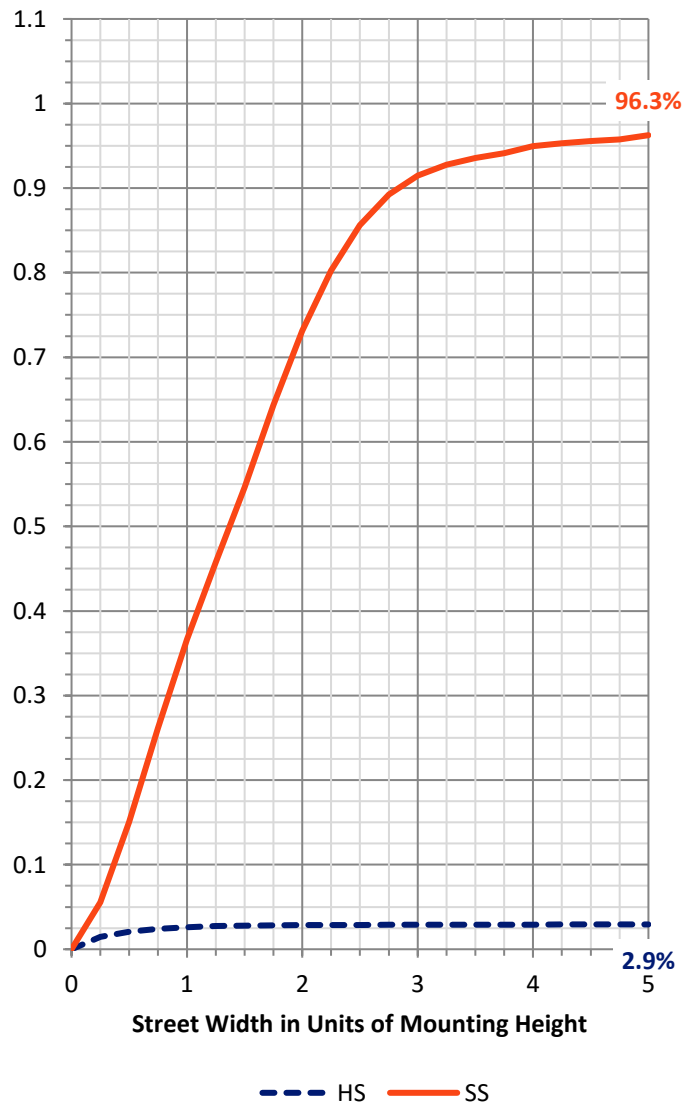
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	180.9	0.0	180.9
	% Fixture	3.0	0.0	3.0
<b>Street Side</b>	Lumens	5894.9	0.0	5894.9
	% Fixture	97.0	0.0	97.0
<b>Total</b>	Lumens	6075.8	0.0	6075.8
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	47.2	0.8
10°-20°	162.6	2.7
20°-30°	311.2	5.1
30°-40°	517.6	8.5
40°-50°	700.3	11.5
50°-60°	1095.2	18.0
60°-70°	2251.8	37.1
70°-80°	906.1	14.9
80°-90°	83.8	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°	6075.8	100.0
0°-180°	6075.8	100.0



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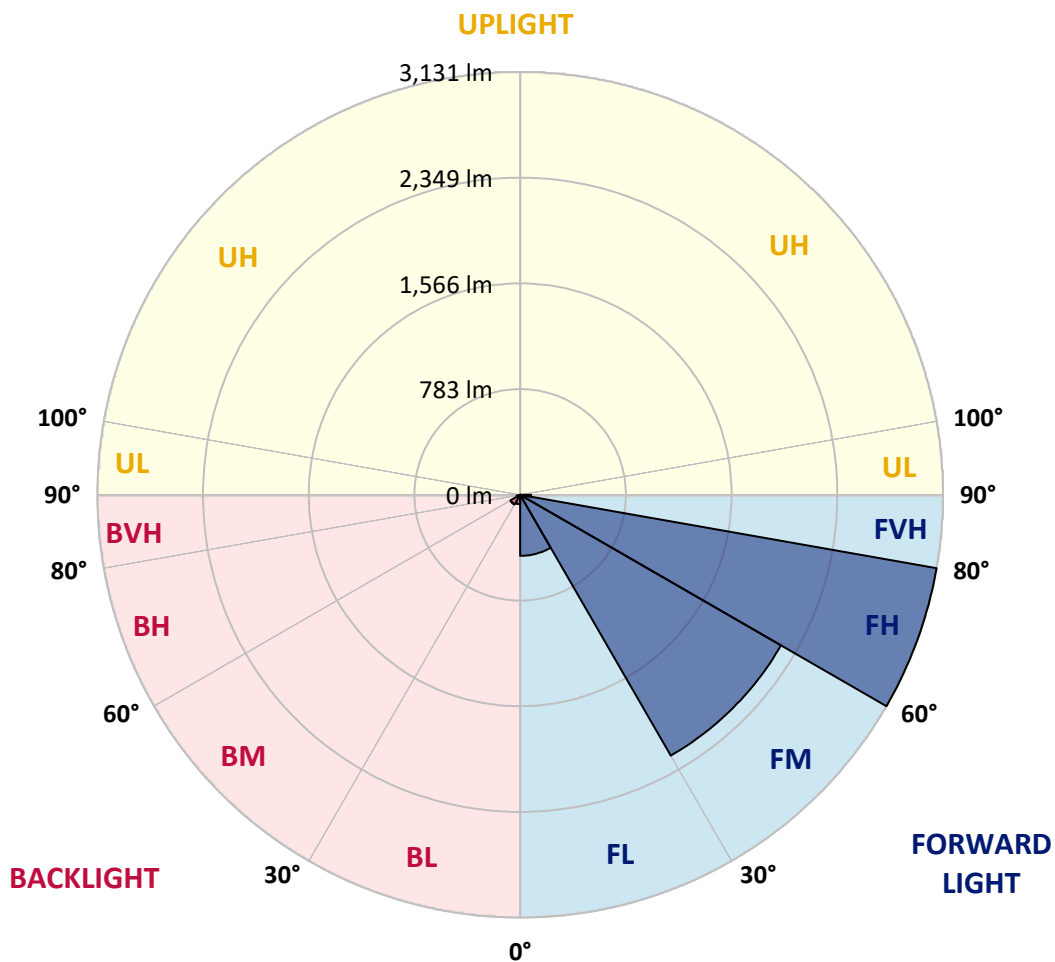
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	452.2	7.4			
FM	(30°-60°)	2230.5	36.7			
FH	(60°-80°)	3131.5	51.5			G2/5000
FVH	(80°-90°)	80.7	1.3			G1/100
BL	(0°-30°)	68.8	1.1	B0/110		
BM	(30°-60°)	82.6	1.4	B0/220		
BH	(60°-80°)	26.4	0.4	B0/110		G0/110
BVH	(80°-90°)	3.1	0.1			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B0-U0-G2**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	458.9	458.9	458.9	458.9	458.9	458.9	458.9	458.9	458.9	458.9	458.9
2.5°	612.1	605.1	597.2	597.2	587.2	587.2	581.2	565.4	563.3	554.4	545.4
5°	781.3	775.4	765.4	756.5	748.5	734.5	724.6	705.7	684.8	664.9	646.9
7.5°	946.5	943.6	925.6	922.6	909.7	886.8	866.9	839.0	803.2	775.4	742.5
10°	1099.8	1092.9	1088.9	1071.9	1053.0	1028.2	997.3	963.5	921.6	877.9	831.1
12.5°	1221.2	1217.3	1199.4	1192.4	1172.5	1147.6	1108.7	1065.0	1023.2	966.5	911.7
15°	1311.8	1304.8	1292.9	1281.9	1258.0	1236.2	1200.4	1152.6	1101.8	1040.1	974.4
17.5°	1387.5	1374.5	1371.5	1354.6	1329.7	1303.9	1264.0	1220.2	1160.5	1098.8	1027.2
20°	1489.0	1471.1	1465.1	1440.2	1411.3	1375.5	1329.7	1275.0	1212.3	1144.6	1070.9
22.5°	1608.4	1595.5	1582.6	1560.6	1523.8	1473.0	1406.4	1346.6	1267.0	1192.4	1112.7
25°	1777.6	1766.7	1745.8	1715.9	1670.1	1609.4	1528.8	1441.2	1347.6	1252.1	1158.6
27.5°	1941.9	1931.9	1917.0	1894.1	1842.3	1775.6	1676.1	1564.6	1446.2	1330.8	1227.2
30°	2096.1	2087.2	2072.3	2049.4	2003.6	1937.9	1825.4	1705.9	1558.7	1424.3	1299.8
32.5°	2262.3	2259.4	2242.4	2209.6	2169.8	2081.2	1958.8	1830.4	1681.1	1525.8	1380.5
35°	2450.5	2427.6	2411.6	2378.8	2311.1	2216.6	2073.2	1932.9	1775.6	1616.4	1454.1
37.5°	2609.7	2587.8	2567.9	2526.1	2443.5	2323.1	2160.8	2006.6	1844.3	1682.1	1516.9
40°	2726.2	2715.2	2691.3	2636.6	2544.0	2400.7	2225.5	2057.3	1894.1	1730.9	1567.6
42.5°	2812.8	2795.9	2768.9	2712.2	2602.7	2439.5	2251.4	2078.2	1917.0	1760.7	1600.5
45°	2844.6	2830.7	2805.8	2744.1	2625.6	2450.5	2250.4	2072.3	1918.0	1769.7	1622.3
47.5°	2825.7	2811.7	2789.9	2732.1	2615.7	2437.5	2232.5	2055.3	1908.0	1772.7	1642.3
50°	2763.0	2755.0	2738.1	2689.3	2584.8	2412.7	2216.6	2046.3	1906.0	1787.6	1670.1
52.5°	2757.0	2752.0	2731.1	2682.4	2575.9	2404.7	2214.5	2051.3	1923.0	1806.5	1690.1
55°	3369.2	3298.5	3140.2	3005.9	2784.9	2522.1	2315.1	2132.0	1994.6	1881.2	1799.5
57.5°	4788.4	4682.9	4474.9	4219.1	3711.5	3212.8	2813.8	2525.1	2382.8	2331.0	2361.9
60°	5453.3	5434.4	5401.6	5280.1	5020.4	4591.4	4113.6	3597.1	3390.0	3372.1	3434.8
62.5°	5768.8	5756.9	5766.9	5751.9	5671.3	5545.9	5408.5	5185.5	4980.5	4848.2	4567.5
65°	5914.1	5922.1	5978.8	6023.6	6033.6	6066.4	6167.0	6444.6	6647.7	6306.3	5527.0
67.5°	5544.9	5591.6	5722.0	5885.3	6076.4	6261.5	6560.1	7145.3	7562.4	7161.3	6054.5
69°	4590.4	4613.3	4931.8	5239.3	5706.2	6032.6	6465.6	7232.9	7701.7	7248.9	6012.7
70°	3614.0	3634.9	3976.3	4394.3	5183.6	5603.6	6169.9	7084.6	7571.4	7132.4	5797.7
72.5°	1630.3	1600.5	1720.9	1944.8	2802.8	3469.6	4460.0	5740.0	6246.6	5714.1	4337.6
75°	1138.6	1125.7	1138.6	1139.7	1273.0	1642.3	2072.3	3111.3	3847.9	3320.3	2072.3
77.5°	881.9	872.9	864.0	854.0	869.9	974.4	1016.2	1103.8	1433.3	1355.6	790.3
80°	697.7	689.7	711.6	704.7	704.7	716.6	708.7	675.8	614.1	569.3	509.6
82.5°	324.5	326.5	326.5	354.3	427.0	498.6	521.5	488.7	434.0	369.3	297.6
85°	30.8	34.8	58.7	90.6	180.1	203.0	204.0	169.2	169.2	133.4	107.5
87.5°	0.0	1.0	1.0	1.0	8.9	24.9	20.9	6.0	3.0	3.0	5.0
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):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	458.9	458.9	458.9	458.9	458.9	458.9	458.9	458.9	458.9	458.9	458.9
2.5°	529.5	526.5	514.6	502.6	491.7	479.7	468.8	457.9	445.9	436.9	426.0
5°	619.1	597.2	572.3	548.4	524.5	499.7	473.8	450.9	427.0	405.1	384.2
7.5°	709.7	666.9	633.0	590.2	551.4	512.6	476.8	440.0	406.1	374.3	344.4
10°	786.3	734.5	681.8	627.1	571.3	519.6	469.8	426.0	381.2	342.4	305.6
12.5°	849.0	783.3	718.6	650.0	587.2	521.5	459.8	407.1	354.3	310.5	272.7
15°	905.8	830.1	752.5	672.9	593.2	518.6	449.9	384.2	330.4	280.7	237.9
17.5°	951.5	864.9	777.3	687.8	602.2	514.6	436.9	368.3	305.6	253.8	212.0
20°	991.3	900.8	806.2	705.7	608.2	513.6	426.0	348.3	283.6	228.9	188.1
22.5°	1028.2	937.6	836.1	728.6	617.1	512.6	416.1	333.4	264.7	210.0	169.2
25°	1070.0	974.4	867.9	752.5	633.0	516.5	410.1	321.5	247.8	192.1	154.3
27.5°	1116.8	1016.2	905.8	782.3	653.9	524.5	408.1	308.6	232.9	175.2	142.3
30°	1182.4	1066.0	943.6	812.2	672.9	533.5	406.1	300.6	217.9	162.2	130.4
32.5°	1240.1	1114.7	985.4	843.0	693.7	542.5	405.1	289.6	204.0	149.3	121.4
35°	1300.9	1159.5	1021.2	872.9	711.6	552.4	404.1	281.7	191.1	136.4	112.5
37.5°	1353.6	1197.3	1049.0	898.7	731.5	561.4	405.1	274.7	179.2	125.4	104.5
40°	1398.4	1236.2	1079.9	922.6	752.5	575.3	406.1	267.8	167.2	115.4	97.5
42.5°	1438.3	1273.0	1112.7	949.5	776.4	591.2	412.1	261.8	157.2	106.5	90.6
45°	1469.1	1306.9	1148.6	987.3	815.1	617.1	423.0	257.8	147.3	98.5	84.6
47.5°	1500.9	1356.6	1209.3	1047.1	871.9	657.9	441.9	256.8	139.3	92.5	79.6
50°	1544.7	1406.4	1263.0	1107.8	923.7	699.7	464.8	257.8	129.4	86.6	74.6
52.5°	1576.6	1457.2	1332.7	1213.3	1047.1	827.1	553.4	275.7	124.4	81.6	68.6
55°	1764.7	1743.8	1746.8	1766.7	1638.3	1407.3	925.6	398.1	146.3	92.5	67.7
57.5°	2488.3	2562.0	2604.7	2603.8	2391.7	1983.7	1243.1	511.6	163.2	107.5	80.6
60°	3439.8	3384.1	3305.4	3111.3	2829.6	2264.3	1390.5	550.4	141.4	85.6	73.6
62.5°	4280.8	3954.4	3664.7	3350.2	2981.0	2361.9	1420.3	547.4	123.4	64.7	51.8
65°	4805.4	4218.2	3750.3	3356.2	2921.3	2280.2	1343.7	502.6	104.5	52.8	42.8
67.5°	4930.8	4075.8	3413.9	2911.3	2440.5	1774.6	986.4	378.2	81.6	43.8	37.8
69°	4657.1	3622.9	2828.7	2258.4	1775.6	1177.5	610.1	238.9	62.7	39.8	34.8
70°	4283.8	3151.1	2304.1	1812.5	1314.8	827.1	427.0	168.2	50.7	36.8	31.8
72.5°	2756.0	1655.2	1132.6	788.3	542.5	329.4	167.2	75.7	38.8	30.8	25.9
75°	1069.0	612.1	443.9	337.4	263.8	183.2	101.5	48.8	32.8	25.9	19.9
77.5°	526.5	403.1	329.4	225.9	131.4	81.6	54.7	37.8	26.8	18.9	12.9
80°	416.1	276.7	165.2	102.5	77.6	58.7	41.8	30.8	19.9	11.9	8.9
82.5°	213.0	116.4	85.6	69.7	57.7	45.8	33.9	21.9	12.9	7.9	7.0
85°	66.7	48.8	43.8	42.8	39.8	32.8	23.9	13.9	7.9	5.0	5.0
87.5°	5.0	7.0	8.9	7.0	7.9	7.0	8.9	6.0	4.0	4.0	3.0
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):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	458.9	458.9	458.9	458.9	458.9	458.9	458.9	458.9	458.9	458.9	458.9
2.5°	418.0	406.1	395.1	388.2	375.2	370.3	365.3	363.3	354.3	356.3	348.3
5°	365.3	344.4	328.5	312.5	297.6	286.7	277.7	266.8	257.8	253.8	245.8
7.5°	317.5	290.7	269.7	252.8	234.9	221.0	209.0	201.1	193.1	185.1	181.1
10°	275.7	246.8	222.9	206.0	189.1	177.2	168.2	162.2	157.2	154.3	153.3
12.5°	236.9	209.0	187.1	172.2	159.3	153.3	149.3	146.3	145.3	144.3	144.3
15°	207.0	179.2	162.2	151.3	145.3	142.3	141.4	139.3	137.4	136.4	136.4
17.5°	179.2	158.2	146.3	140.3	137.4	135.4	133.4	131.4	129.4	128.4	128.4
20°	160.3	143.3	137.4	133.4	130.4	128.4	125.4	123.4	122.4	121.4	120.4
22.5°	145.3	134.3	130.4	127.4	123.4	120.4	118.5	116.4	114.5	113.5	112.5
25°	134.3	127.4	124.4	120.4	116.4	113.5	110.4	107.5	105.5	104.5	102.5
27.5°	126.4	121.4	117.5	112.5	108.5	105.5	102.5	99.6	97.5	95.6	94.6
30°	119.4	114.5	109.5	105.5	100.5	97.5	93.6	90.6	89.6	87.6	85.6
32.5°	112.5	107.5	102.5	97.5	92.5	88.6	86.6	82.6	80.6	79.6	77.6
35°	104.5	99.6	93.6	89.6	84.6	80.6	77.6	74.6	72.6	70.7	69.7
37.5°	97.5	91.5	85.6	80.6	76.7	72.6	69.7	66.7	64.7	62.7	61.7
40°	89.6	83.6	77.6	72.6	68.6	65.7	62.7	59.7	57.7	56.7	56.7
42.5°	82.6	75.7	69.7	65.7	62.7	58.7	55.7	52.8	51.8	50.7	51.8
45°	75.7	68.6	63.7	59.7	56.7	52.8	49.7	47.8	46.8	47.8	48.8
47.5°	69.7	62.7	57.7	54.7	51.8	48.8	45.8	43.8	43.8	45.8	47.8
50°	63.7	56.7	52.8	50.7	47.8	44.8	40.8	39.8	40.8	42.8	44.8
52.5°	57.7	49.7	46.8	45.8	42.8	39.8	36.8	35.8	36.8	38.8	37.8
55°	51.8	43.8	42.8	41.8	38.8	34.8	31.8	31.8	31.8	30.8	28.9
57.5°	49.7	38.8	37.8	36.8	33.9	29.9	27.9	25.9	24.9	21.9	20.9
60°	51.8	34.8	34.8	32.8	29.9	25.9	22.9	19.9	17.9	15.9	15.9
62.5°	41.8	31.8	30.8	28.9	24.9	20.9	17.9	14.9	13.9	12.9	12.9
65°	33.9	28.9	26.8	23.9	20.9	16.9	13.9	11.9	11.0	11.0	11.9
67.5°	30.8	25.9	22.9	19.9	16.9	12.9	11.0	10.0	10.0	11.0	11.0
69°	28.9	23.9	20.9	17.9	14.9	11.9	10.0	10.0	10.0	10.0	11.0
70°	26.8	22.9	19.9	16.9	12.9	10.0	8.9	8.9	10.0	10.0	11.0
72.5°	20.9	17.9	16.9	13.9	10.0	8.9	7.9	8.9	8.9	10.0	10.0
75°	15.9	12.9	12.9	11.0	7.9	7.0	7.0	7.9	7.9	8.9	8.9
77.5°	11.0	8.9	8.9	7.9	7.0	6.0	6.0	7.0	7.9	7.9	8.9
80°	7.9	7.0	6.0	7.0	6.0	5.0	6.0	7.0	7.0	7.9	7.9
82.5°	6.0	6.0	6.0	6.0	5.0	5.0	6.0	6.0	7.0	7.9	7.9
85°	5.0	5.0	5.0	5.0	5.0	5.0	5.0	6.0	6.0	7.0	7.0
87.5°	3.0	3.0	3.0	4.0	4.0	5.0	5.0	5.0	5.0	6.0	6.0
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):**

	165°	170°	175°	180°
0°	458.9	458.9	458.9	458.9
2.5°	346.4	345.4	341.4	342.4
5°	242.9	236.9	240.8	239.9
7.5°	178.2	177.2	176.1	178.2
10°	152.3	152.3	151.3	152.3
12.5°	143.3	143.3	143.3	143.3
15°	136.4	136.4	135.4	135.4
17.5°	128.4	128.4	128.4	127.4
20°	120.4	119.4	119.4	119.4
22.5°	111.5	110.4	110.4	110.4
25°	102.5	101.5	101.5	101.5
27.5°	93.6	92.5	91.5	91.5
30°	84.6	83.6	82.6	82.6
32.5°	75.7	74.6	73.6	73.6
35°	67.7	67.7	66.7	65.7
37.5°	60.7	60.7	60.7	60.7
40°	55.7	56.7	56.7	56.7
42.5°	52.8	53.7	54.7	55.7
45°	50.7	52.8	53.7	53.7
47.5°	49.7	50.7	51.8	51.8
50°	45.8	44.8	44.8	44.8
52.5°	36.8	34.8	33.9	32.8
55°	26.8	25.9	23.9	23.9
57.5°	18.9	18.9	17.9	17.9
60°	14.9	14.9	13.9	14.9
62.5°	12.9	12.9	12.9	12.9
65°	11.9	11.9	11.9	11.9
67.5°	11.9	11.9	11.9	11.9
69°	11.0	11.0	11.0	11.0
70°	11.0	11.0	11.0	11.0
72.5°	10.0	10.0	10.0	10.0
75°	8.9	10.0	10.0	10.0
77.5°	8.9	8.9	8.9	8.9
80°	7.9	7.9	8.9	8.9
82.5°	7.9	7.9	7.9	7.9
85°	7.0	7.0	7.9	7.9
87.5°	6.0	6.0	7.0	7.0
90°	0.0	0.0	0.0	0.0

(END OF REPORT)