

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: P163515

Luminaire Tested: **LDRL-SL3-E02-E-8030-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P163515  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33727)  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: LDRL-SL3-E02-E-8030-HSS  
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE  
(2) LIGHTBARS WITH AccuLED OPTICS - TYPE 3 W/ SPILL LIGHT CONTROL AND HOUSE SIDE SHIELD  
Light Source: (42) 3000K CCT, 80 CRI LEDs  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2838.8 lumens  
Efficiency: N/A  
Efficacy: 54.5 lumens/watt  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 1' x H: 0.1')  
IES Classification: Type III - Short - Non-Cutoff  
BUG Rating: B0 - U0 - G1

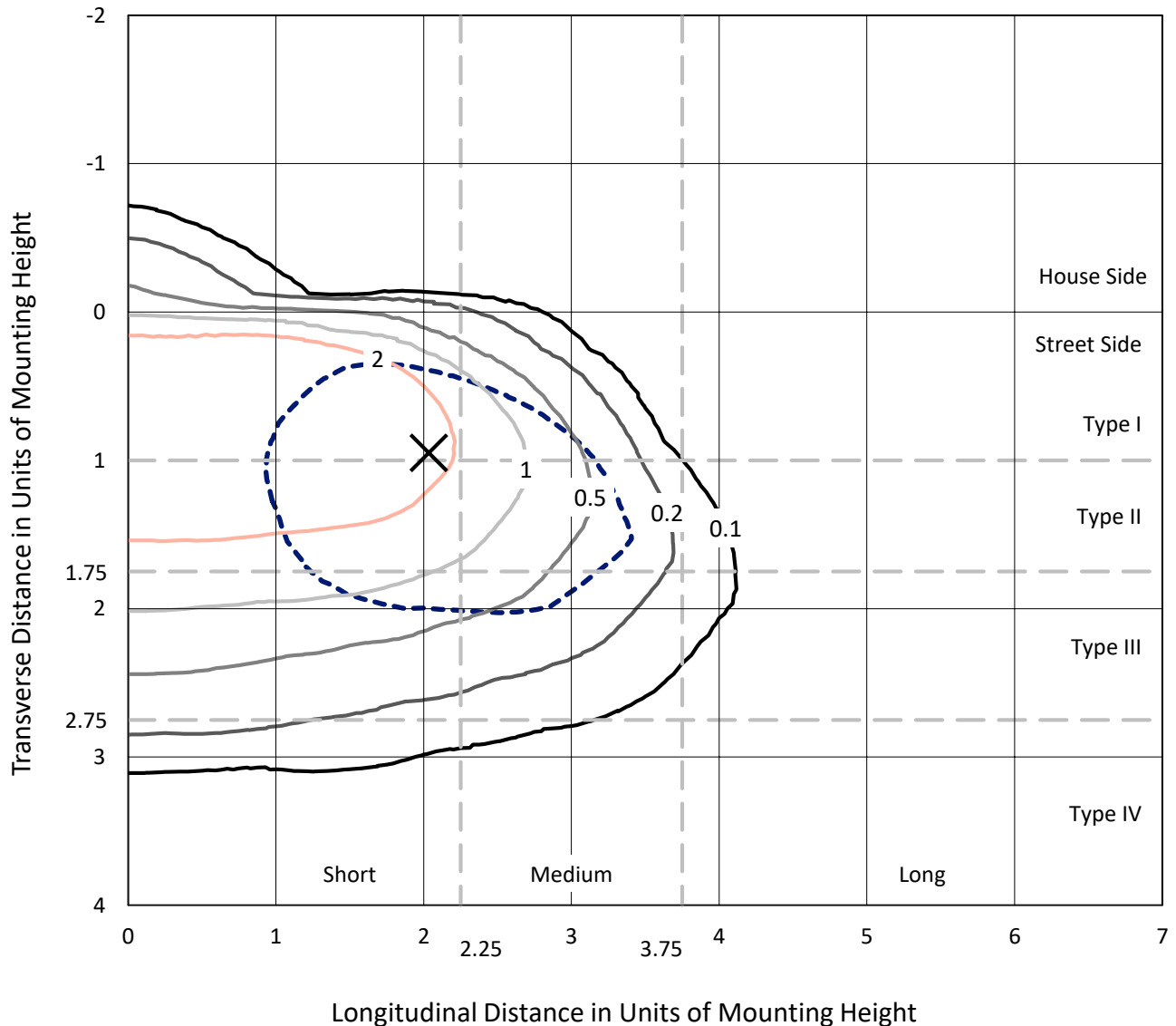
Input Watts (W): 52.1  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

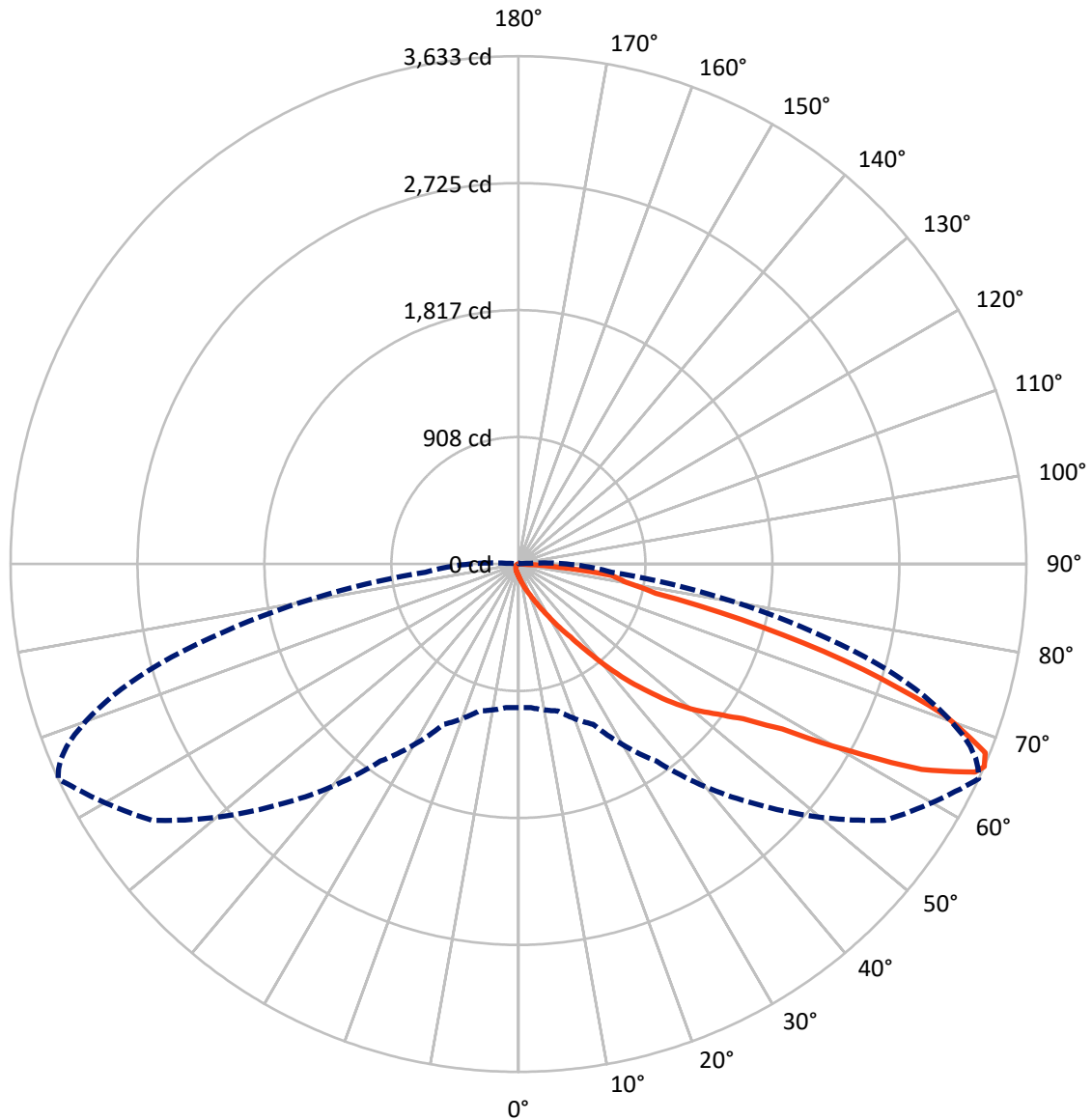
× Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 4.7 fc  
 Type III - Short - Non-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 65-Deg Lateral    - - - Horizontal Cone Through 66-Deg Vertical

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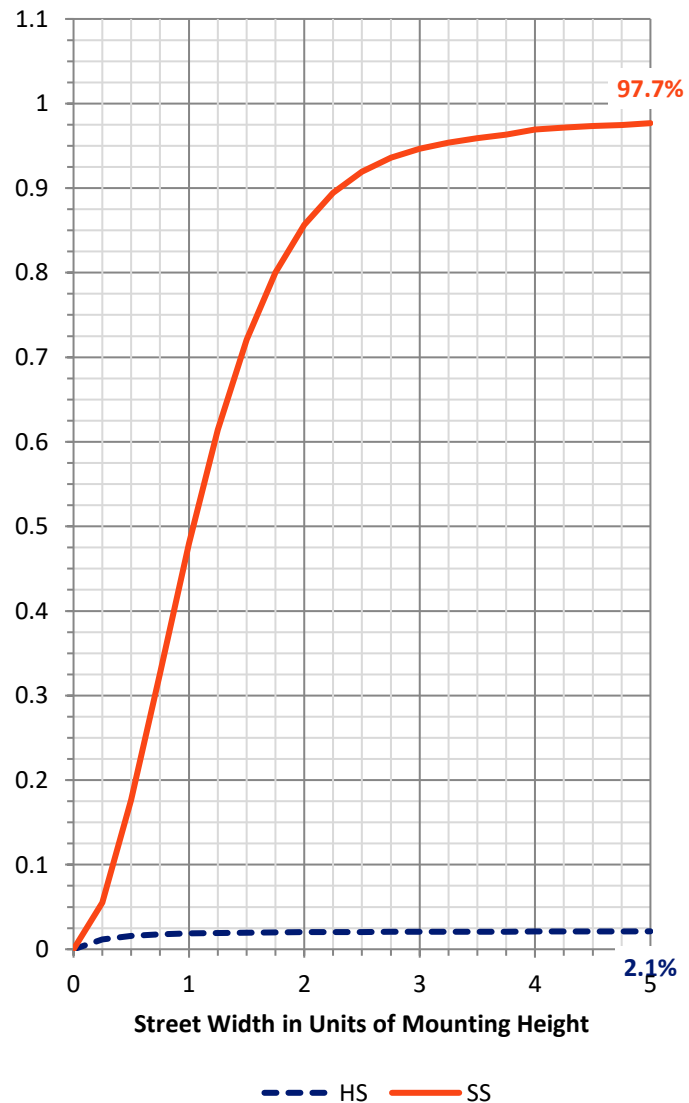
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	61.5	0.0	61.5
	% Fixture	2.2	0.0	2.2
<b>Street Side</b>	Lumens	2777.3	0.0	2777.3
	% Fixture	97.8	0.0	97.8
<b>Total</b>	Lumens	2838.8	0.0	2838.8
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	9.6	0.3
10°-20°	40.7	1.4
20°-30°	87.7	3.1
30°-40°	187.3	6.6
40°-50°	414.3	14.6
50°-60°	702.1	24.7
60°-70°	936.9	33.0
70°-80°	412.7	14.5
80°-90°	47.5	1.7
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°	2838.8	100.0
0°-180°	2838.8	100.0



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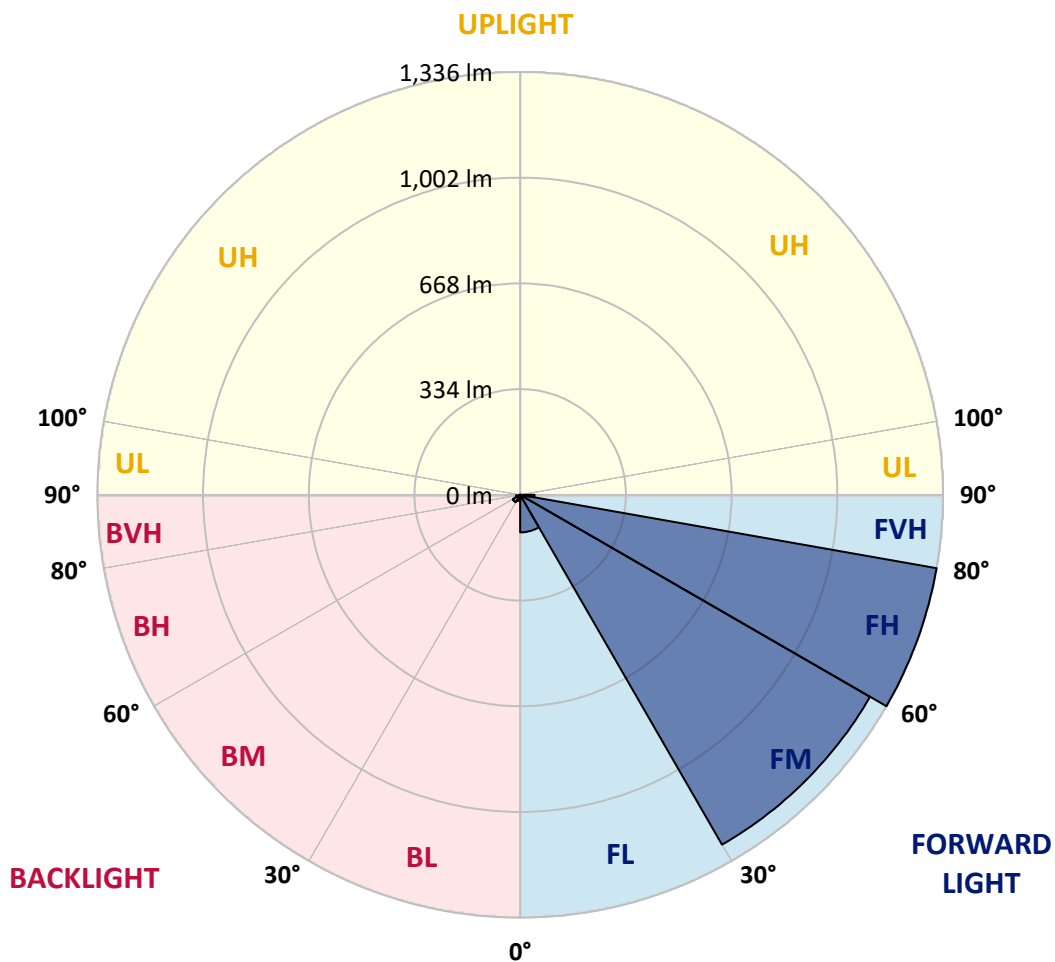
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	118.6	4.2			
FM	(30°-60°)	1276.7	45.0			
FH	(60°-80°)	1336.4	47.1			G1/1800
FVH	(80°-90°)	45.6	1.6			G1/100
BL	(0°-30°)	19.4	0.7	B0/110		
BM	(30°-60°)	27.0	1.0	B0/220		
BH	(60°-80°)	13.2	0.5	B0/110		G0/110
BVH	(80°-90°)	1.9	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 III Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	66°	67°	68°
0°	85.7	85.7	85.7	85.7	85.7	85.7	85.7	85.7	85.7	85.7	85.7
2.5°	108.1	107.5	105.3	105.3	102.1	99.9	97.2	94.4	94.4	93.9	93.3
5°	143.0	139.7	139.2	133.2	128.3	121.2	114.6	105.9	104.8	103.7	103.1
7.5°	181.7	181.2	176.3	169.2	159.4	146.3	133.2	119.0	116.8	115.7	113.5
10°	232.0	229.2	222.7	210.7	195.9	178.5	157.2	134.8	132.1	129.9	128.8
12.5°	280.0	275.1	271.3	256.0	237.4	211.8	186.1	153.9	151.7	149.0	144.6
15°	324.7	320.4	313.8	300.7	280.0	247.8	217.7	178.5	173.0	169.2	165.9
17.5°	359.7	356.9	349.3	334.6	312.2	283.8	247.8	203.6	199.2	194.3	188.3
20°	393.0	389.1	377.1	356.9	332.9	311.1	283.2	236.3	230.3	224.3	217.7
22.5°	424.6	420.8	401.1	367.8	342.2	332.9	323.1	273.4	264.2	259.2	252.7
25°	468.8	460.7	430.1	377.1	342.8	349.9	366.8	321.5	312.7	305.6	295.3
27.5°	528.3	517.4	469.4	390.8	344.9	368.4	417.0	379.9	370.6	362.4	350.9
30°	595.5	588.3	531.0	423.5	360.8	395.7	473.2	454.1	443.2	433.3	419.7
32.5°	663.1	653.3	596.5	485.7	403.3	448.6	543.6	540.3	526.1	516.9	502.1
35°	722.6	717.7	675.7	587.8	500.5	541.4	637.4	641.3	628.7	618.9	602.5
37.5°	763.0	763.0	754.8	697.5	654.9	685.5	775.6	776.1	763.5	741.2	733.0
40°	783.7	789.7	819.2	830.1	828.0	867.3	956.7	946.9	936.6	925.1	897.8
42.5°	826.3	831.8	894.5	969.8	1019.0	1070.8	1132.5	1129.2	1116.7	1095.9	1070.8
45°	898.3	905.4	980.2	1099.7	1200.7	1274.4	1313.7	1298.4	1285.8	1266.2	1253.1
47.5°	990.0	1003.7	1088.3	1236.2	1357.9	1479.6	1520.5	1480.2	1469.2	1454.0	1432.7
50°	1087.7	1100.8	1190.9	1360.1	1497.6	1642.8	1711.0	1642.8	1626.9	1622.0	1598.0
52.5°	1172.3	1183.2	1270.0	1455.6	1604.6	1774.8	1874.2	1784.1	1772.7	1756.3	1738.8
55°	1222.5	1231.3	1312.6	1501.4	1677.2	1893.8	2031.9	1952.8	1935.9	1929.3	1904.2
57.5°	1239.5	1248.2	1321.3	1507.4	1716.5	2002.5	2223.5	2226.2	2206.0	2182.6	2174.9
60°	1239.5	1249.3	1311.0	1492.7	1754.7	2118.1	2478.9	2706.5	2662.8	2658.5	2630.7
62.5°	1188.1	1197.4	1259.6	1447.4	1806.0	2274.3	2834.8	3236.4	3223.9	3195.5	3149.7
65°	1076.8	1082.3	1143.4	1331.7	1786.3	2417.8	3143.1	3589.0	3568.8	3513.2	3454.2
66°	1026.6	1031.0	1088.3	1265.6	1721.9	2437.4	3197.7	3633.2	3599.9	3553.0	3486.4
67.5°	954.0	961.6	1002.1	1142.9	1567.5	2369.2	3163.3	3602.1	3573.2	3516.4	3449.8
70°	636.9	631.5	773.9	877.1	1194.1	1930.4	2838.0	3234.3	3234.8	3208.1	3181.3
72.5°	302.4	305.6	347.1	539.8	781.5	1289.7	2259.0	2581.5	2618.6	2570.6	2537.3
75°	217.2	222.1	247.2	330.2	466.1	773.9	1464.3	1805.4	1806.5	1721.4	1645.5
77.5°	63.3	66.0	92.8	203.6	349.3	522.3	841.1	1003.7	980.2	919.1	861.8
80°	26.2	26.2	27.3	65.0	140.3	354.7	588.3	772.8	770.1	746.6	712.8
82.5°	9.8	10.4	13.1	26.7	33.3	87.3	392.4	670.8	669.1	635.8	611.8
85°	1.1	1.1	3.3	11.4	12.6	16.4	78.6	295.8	294.2	295.8	259.2
87.5°	0.0	0.0	0.5	1.1	1.6	2.2	3.3	11.4	12.6	12.0	10.9
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°	85.7	85.7	85.7	85.7	85.7	85.7	85.7	85.7	85.7	85.7	85.7
2.5°	93.3	92.2	92.2	91.7	91.7	91.7	91.2	90.6	90.6	90.0	89.5
5°	102.1	101.0	100.4	99.3	98.8	98.2	97.2	96.6	95.5	95.0	94.4
7.5°	112.4	110.3	109.7	108.1	106.4	105.3	104.2	102.6	101.5	99.3	98.8
10°	125.5	122.8	120.6	118.4	116.8	114.1	112.4	110.3	108.1	106.4	104.8
12.5°	142.4	138.6	135.3	133.2	129.3	126.1	122.8	121.2	116.8	114.6	111.9
15°	161.0	156.6	152.8	148.4	145.7	140.3	135.9	131.0	128.8	125.0	120.6
17.5°	185.0	177.9	171.9	167.5	162.1	156.6	151.7	146.8	140.3	135.9	130.4
20°	210.7	204.7	196.5	188.9	182.3	175.8	168.6	162.1	156.1	149.0	142.4
22.5°	243.4	234.7	224.9	217.2	208.5	201.4	191.6	182.8	173.0	163.7	156.1
25°	284.9	273.4	264.2	253.2	242.9	232.0	219.9	209.0	196.5	187.7	174.6
27.5°	336.2	325.3	312.7	298.5	288.2	271.8	256.0	242.3	227.6	213.9	199.2
30°	401.7	385.9	372.8	359.1	338.4	322.5	304.0	285.4	265.2	251.6	229.2
32.5°	480.3	463.4	443.7	424.1	405.0	382.6	359.7	336.8	314.4	289.3	266.3
35°	576.3	556.2	533.8	512.5	483.0	459.0	430.1	398.4	373.3	344.4	315.5
37.5°	703.5	670.2	650.5	628.2	588.3	555.6	523.4	491.7	447.6	417.0	376.0
40°	862.9	843.2	811.0	775.0	739.0	695.9	652.2	610.2	558.9	516.3	468.8
42.5°	1050.1	1021.2	988.4	936.6	900.0	849.2	799.6	743.9	681.1	626.5	570.9
45°	1225.8	1191.4	1166.3	1114.5	1076.3	1016.2	956.2	897.3	824.7	754.3	689.8
47.5°	1415.7	1387.4	1345.9	1303.9	1265.1	1197.4	1132.5	1061.0	984.6	901.1	817.6
50°	1582.8	1560.4	1532.0	1481.2	1438.1	1381.3	1304.9	1226.9	1130.3	1047.4	952.4
52.5°	1724.6	1707.2	1667.4	1631.3	1592.6	1539.1	1470.9	1396.1	1291.8	1200.7	1092.6
55°	1892.2	1879.6	1844.7	1822.3	1787.9	1736.7	1672.8	1603.5	1493.3	1393.9	1271.7
57.5°	2166.7	2156.9	2126.4	2117.1	2083.2	2038.5	1959.9	1885.6	1756.9	1633.5	1493.8
60°	2621.4	2601.7	2557.0	2534.0	2462.5	2402.5	2300.4	2198.4	2042.8	1885.6	1717.6
62.5°	3108.2	3053.1	2967.9	2894.8	2793.3	2689.0	2552.6	2396.5	2214.2	2027.6	1834.4
65°	3370.7	3276.8	3169.3	3053.1	2921.5	2768.2	2596.3	2409.1	2213.1	2016.1	1812.0
66°	3400.7	3294.8	3180.8	3051.4	2905.2	2742.0	2567.3	2370.8	2167.3	1975.2	1771.0
67.5°	3363.1	3252.3	3131.6	2988.1	2829.8	2660.7	2477.3	2273.1	2077.2	1882.4	1683.7
70°	3099.5	2989.2	2881.7	2730.5	2561.9	2391.6	2218.0	1989.9	1804.3	1625.3	1448.5
72.5°	2475.1	2400.3	2293.9	2164.5	2000.3	1800.5	1655.9	1451.8	1290.8	1117.2	980.2
75°	1546.7	1441.4	1309.9	1145.0	1019.5	857.4	772.8	617.8	526.1	445.9	368.4
77.5°	790.8	711.7	619.5	526.7	437.7	349.3	270.1	191.0	128.8	89.5	66.6
80°	653.3	583.4	507.0	422.4	343.8	266.9	192.1	131.0	83.5	54.6	42.6
82.5°	539.8	480.8	412.6	334.0	265.8	209.6	145.7	95.0	58.9	38.2	30.0
85°	229.8	208.5	161.0	127.7	96.0	71.0	49.7	33.3	23.5	19.1	17.5
87.5°	9.8	10.9	10.4	8.2	6.0	6.0	5.5	4.4	4.4	4.4	4.4
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):**

	80°	81°	82°	83°	84°	85°	95°	105°	115°	125°	135°
0°	85.7	85.7	85.7	85.7	85.7	85.7	85.7	85.7	85.7	85.7	85.7
2.5°	89.5	89.0	88.4	88.4	87.9	87.3	84.1	81.3	78.1	75.9	73.7
5°	93.3	92.8	91.7	91.2	90.0	89.5	82.4	76.4	71.5	67.7	65.0
7.5°	97.2	96.6	95.0	93.3	92.8	91.7	80.2	72.6	66.0	61.7	58.9
10°	102.1	100.4	98.8	96.6	95.0	93.3	78.1	68.2	61.1	57.3	54.6
12.5°	109.1	106.4	103.7	101.0	98.8	96.0	76.9	64.4	57.3	52.9	50.2
15°	117.3	113.5	110.3	107.0	103.1	100.4	74.8	61.1	54.0	49.7	46.4
17.5°	125.0	120.6	115.7	110.8	107.0	103.1	72.6	57.9	50.7	46.4	43.1
20°	135.9	129.3	123.4	117.3	111.9	107.0	69.3	54.6	48.0	43.1	39.8
22.5°	147.9	140.3	132.6	124.4	117.3	110.8	66.6	51.9	45.3	40.4	36.6
25°	163.2	153.9	143.5	133.2	125.0	116.2	63.8	49.1	42.6	37.6	33.8
27.5°	184.5	171.4	159.9	146.8	134.3	124.4	61.7	46.9	39.8	34.9	31.1
30°	213.4	194.3	176.3	162.1	147.4	133.2	59.5	44.2	37.6	32.2	27.8
32.5°	245.6	223.2	202.5	181.2	162.7	146.3	57.3	42.0	34.9	29.5	25.7
35°	285.4	257.0	229.2	204.7	182.3	160.5	55.1	39.8	32.7	26.7	22.9
37.5°	342.8	307.3	270.7	239.1	210.1	181.2	53.5	37.6	30.0	24.0	20.2
40°	421.4	375.5	330.7	287.6	250.0	213.9	51.3	35.5	27.8	21.8	18.0
42.5°	506.5	450.8	391.9	343.3	291.4	246.1	49.1	33.3	25.7	19.6	15.8
45°	612.4	543.1	471.6	405.5	342.2	283.8	46.9	31.1	22.9	17.5	13.6
47.5°	728.1	639.6	558.9	475.9	400.6	330.7	44.2	29.5	20.7	15.3	12.0
50°	847.0	753.7	651.7	557.2	467.7	377.7	41.5	26.7	18.6	13.6	9.8
52.5°	975.3	865.1	760.8	643.5	539.2	439.3	38.8	24.5	16.9	12.0	8.2
55°	1138.5	1015.2	892.9	761.3	635.8	510.9	36.0	21.8	14.7	10.4	6.5
57.5°	1343.7	1197.4	1047.4	898.9	746.6	604.7	33.8	19.1	12.6	8.7	5.5
60°	1537.4	1366.6	1184.9	1014.0	842.1	676.7	30.6	16.9	10.9	7.1	5.5
62.5°	1637.9	1443.0	1247.1	1058.8	875.4	702.4	27.3	14.2	9.3	6.0	4.9
65°	1613.3	1414.7	1224.7	1034.8	855.2	686.0	24.0	12.6	8.2	5.5	4.9
66°	1577.8	1381.3	1190.3	1009.7	838.3	668.6	22.4	12.0	7.6	5.5	4.4
67.5°	1500.3	1310.4	1128.1	960.0	791.9	635.3	20.2	10.9	7.1	4.9	4.4
70°	1281.5	1109.0	963.3	813.7	676.7	535.4	16.4	9.3	6.0	4.4	4.4
72.5°	848.1	730.8	633.6	545.2	455.7	353.7	13.6	7.6	4.9	4.4	3.8
75°	319.8	289.3	248.3	223.2	194.8	170.8	10.9	4.9	3.8	3.8	3.8
77.5°	56.7	52.4	46.4	42.6	39.3	36.0	8.7	3.3	3.3	3.8	3.8
80°	38.2	35.5	32.2	29.5	27.3	24.5	6.0	2.7	3.3	3.3	3.8
82.5°	27.3	25.7	24.0	21.8	20.2	18.0	3.8	2.7	3.3	3.3	3.3
85°	16.4	15.3	14.2	13.1	11.4	10.9	2.7	2.7	2.7	3.3	3.3
87.5°	4.4	3.8	4.4	4.4	3.3	3.8	2.2	2.2	2.2	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):**

	145°	155°	165°	175°	180°
0°	85.7	85.7	85.7	85.7	85.7
2.5°	72.6	72.6	71.5	73.1	73.1
5°	62.8	62.8	62.2	62.8	62.8
7.5°	57.3	56.7	56.7	56.7	57.3
10°	52.4	51.9	51.9	51.9	51.9
12.5°	48.0	47.5	46.9	47.5	47.5
15°	44.2	43.1	43.1	43.1	43.1
17.5°	40.9	39.8	39.3	39.3	39.3
20°	37.6	36.0	36.0	36.0	36.0
22.5°	34.4	32.7	32.7	32.7	32.7
25°	31.1	29.5	29.5	29.5	29.5
27.5°	28.4	26.7	26.7	26.7	26.7
30°	25.1	24.0	24.0	24.5	24.0
32.5°	22.9	21.3	21.3	21.8	21.8
35°	20.2	19.1	19.1	19.1	19.1
37.5°	17.5	16.4	16.4	16.4	16.4
40°	15.3	14.2	13.6	14.2	14.2
42.5°	13.1	12.0	11.4	11.4	11.4
45°	11.4	9.8	9.3	9.8	9.8
47.5°	9.3	8.2	8.2	8.7	8.7
50°	7.1	7.1	7.6	8.7	8.7
52.5°	6.5	6.5	7.6	8.7	8.7
55°	6.0	6.5	7.6	8.2	8.7
57.5°	5.5	6.5	7.6	8.2	8.2
60°	5.5	6.0	7.1	8.2	8.2
62.5°	4.9	5.5	6.5	7.6	7.6
65°	4.9	5.5	6.5	7.6	7.6
66°	4.9	5.5	6.5	7.6	7.6
67.5°	4.9	5.5	6.5	7.6	7.6
70°	4.9	5.5	6.5	7.1	7.1
72.5°	4.4	4.9	6.0	7.1	7.1
75°	4.4	4.9	6.0	7.1	7.1
77.5°	4.4	4.9	6.0	7.1	7.1
80°	4.4	4.9	6.0	6.5	7.1
82.5°	3.8	4.9	5.5	6.5	6.5
85°	3.8	4.4	5.5	6.0	6.5
87.5°	3.3	3.8	4.4	5.5	5.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)