

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: P163522

Luminaire Tested: **LDRL-SL3-F02-E-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P163522  
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-F02-E-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: (14) 4000K CCT, 70 CRI LEDs  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2776.7 lumens  
Efficiency: N/A  
Efficacy: 50.5 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

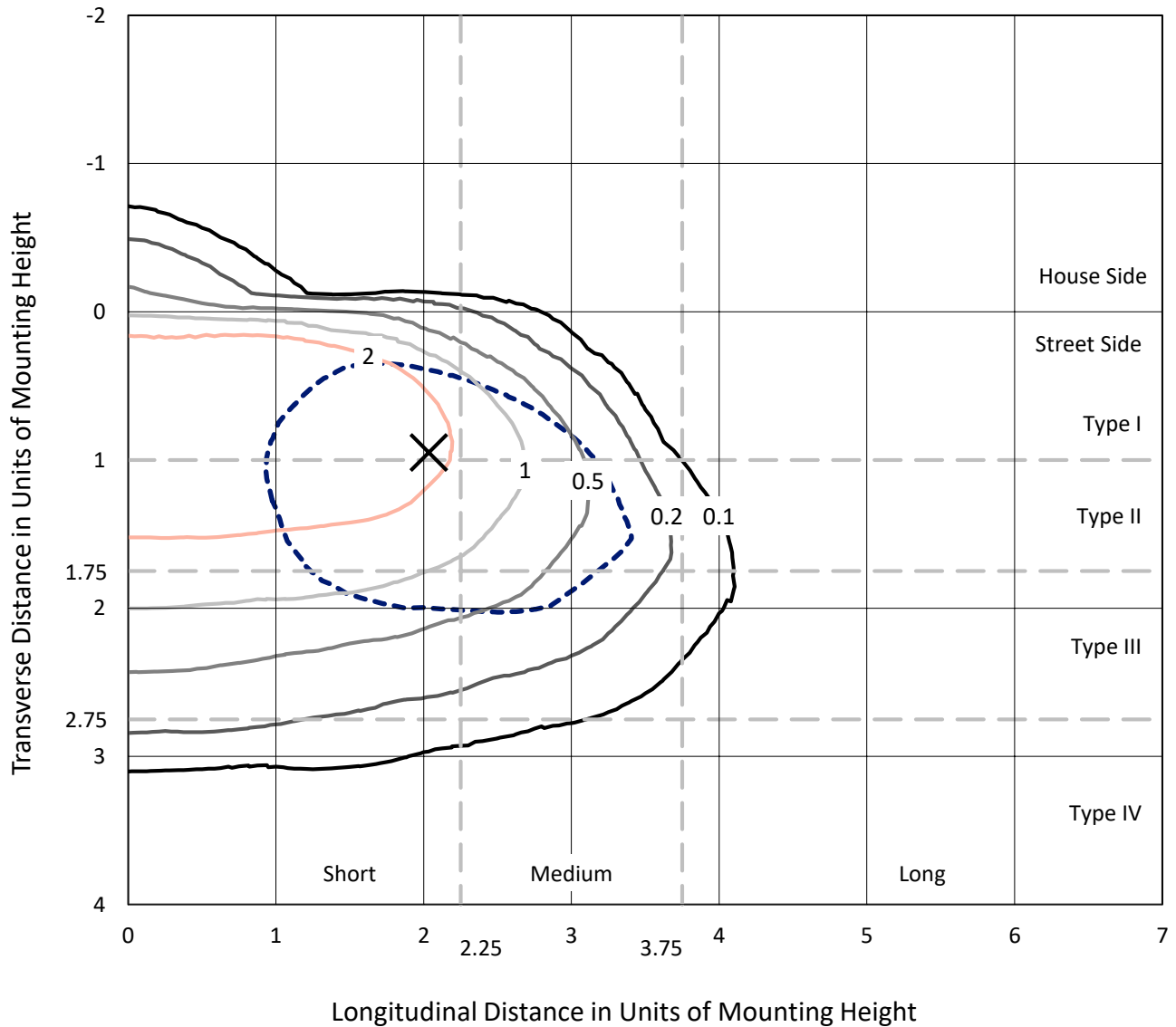
Input Watts (W): 55  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

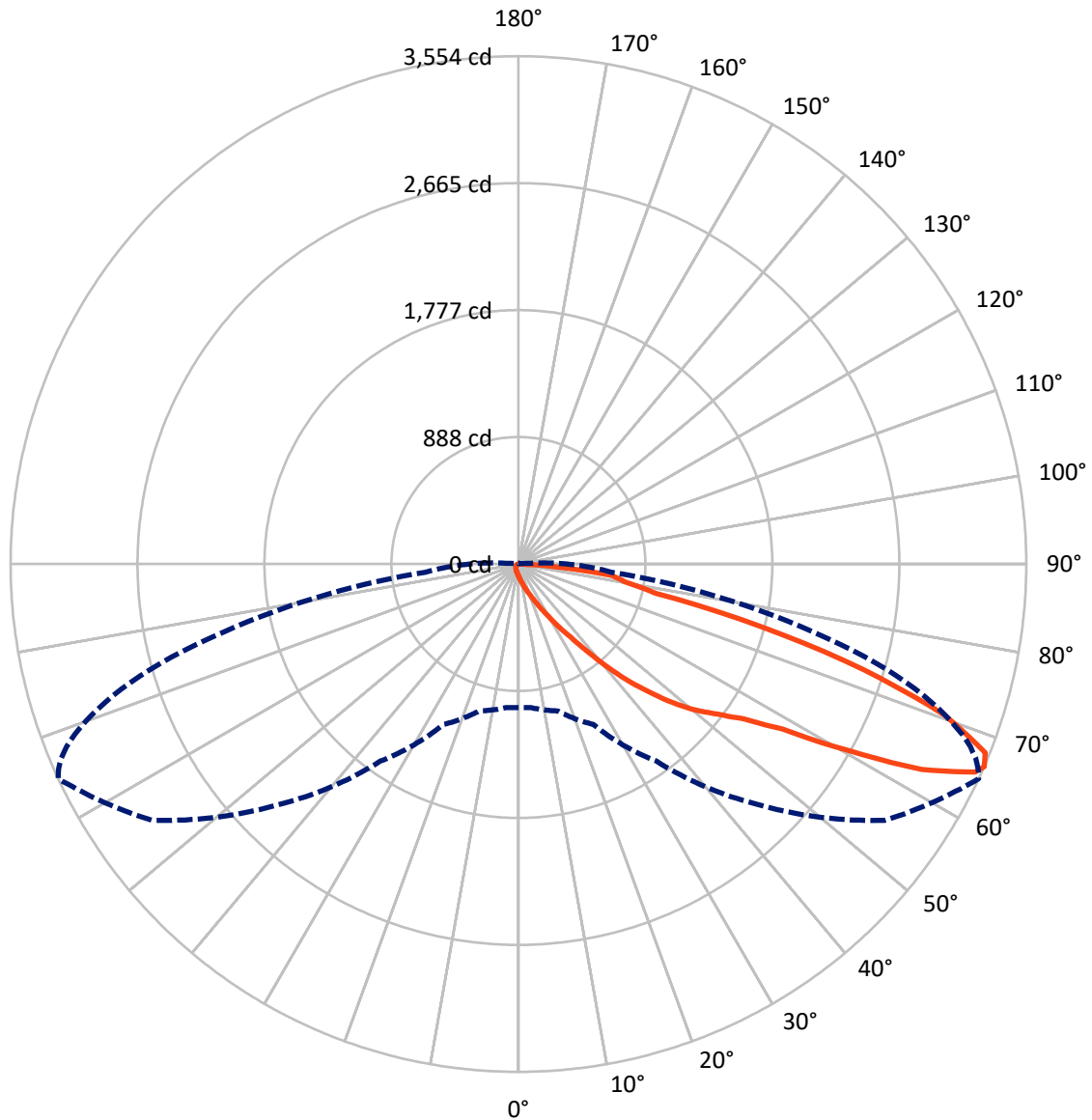
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 4.6 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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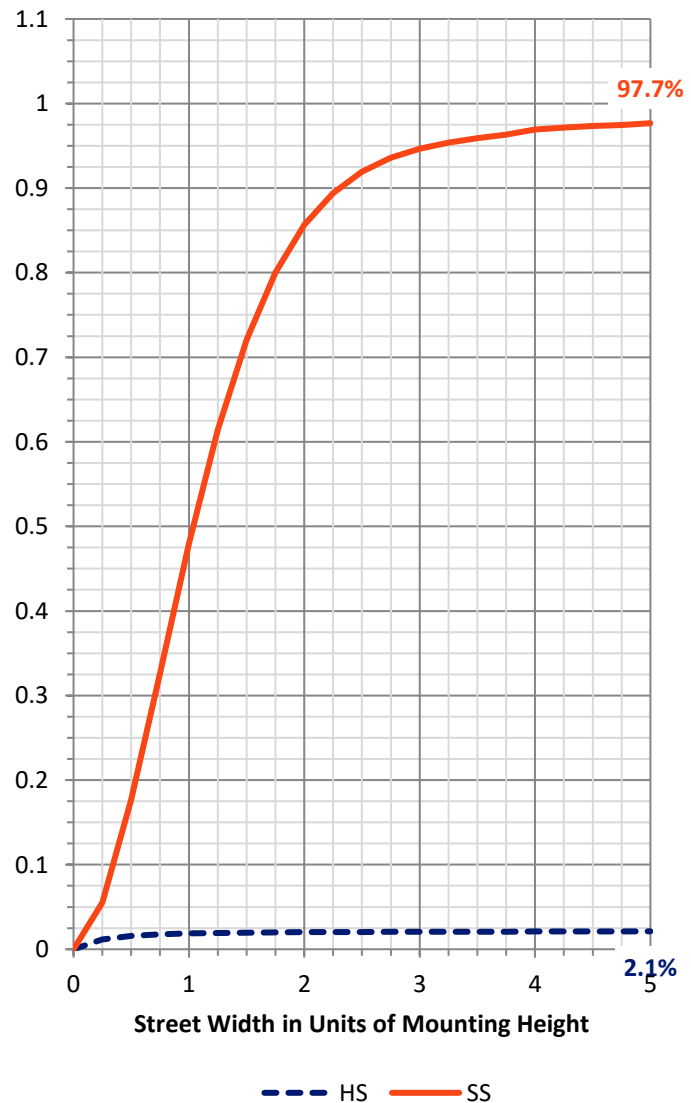
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	60.2	0.0	60.2
	% Fixture	2.2	0.0	2.2
<b>Street Side</b>	Lumens	2716.5	0.0	2716.5
	% Fixture	97.8	0.0	97.8
<b>Total</b>	Lumens	2776.7	0.0	2776.7
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	9.4	0.3
10°-20°	39.8	1.4
20°-30°	85.8	3.1
30°-40°	183.2	6.6
40°-50°	405.2	14.6
50°-60°	686.7	24.7
60°-70°	916.4	33.0
70°-80°	403.7	14.5
80°-90°	46.5	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°	2776.7	100.0
0°-180°	2776.7	100.0



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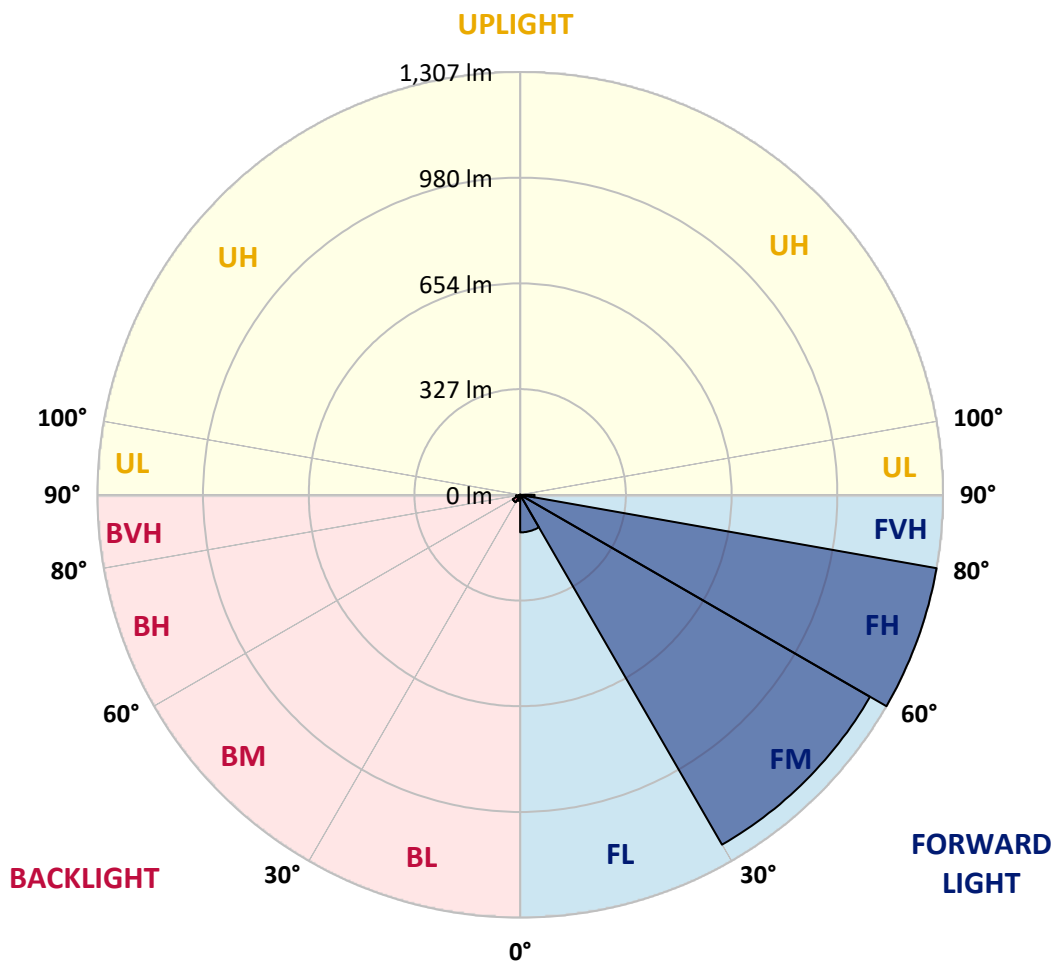
CATALOG NUMBER: LDRL-SL3-F02-E-HSS

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

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	116.0	4.2			
FM	(30°-60°)	1248.8	45.0			
FH	(60°-80°)	1307.1	47.1			G1/1800
FVH	(80°-90°)	44.6	1.6			G1/100
BL	(0°-30°)	19.0	0.7	B0/110		
BM	(30°-60°)	26.4	1.0	B0/220		
BH	(60°-80°)	12.9	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°	83.8	83.8	83.8	83.8	83.8	83.8	83.8	83.8	83.8	83.8	83.8
2.5°	105.7	105.2	103.0	103.0	99.8	97.7	95.0	92.4	92.4	91.8	91.3
5°	139.9	136.7	136.1	130.3	125.4	118.5	112.1	103.6	102.5	101.4	100.9
7.5°	177.8	177.2	172.4	165.5	155.9	143.1	130.3	116.4	114.3	113.2	111.0
10°	226.9	224.2	217.8	206.1	191.7	174.5	153.7	131.9	129.2	127.1	126.0
12.5°	273.8	269.1	265.3	250.4	232.2	207.1	182.0	150.5	148.4	145.7	141.5
15°	317.6	313.4	307.0	294.2	273.8	242.4	213.0	174.5	169.2	165.5	162.3
17.5°	351.8	349.1	341.7	327.2	305.3	277.6	242.4	199.1	194.9	190.0	184.2
20°	384.4	380.6	368.9	349.1	325.7	304.3	277.0	231.1	225.3	219.4	213.0
22.5°	415.3	411.6	392.4	359.8	334.7	325.7	316.0	267.4	258.4	253.6	247.2
25°	458.6	450.6	420.7	368.9	335.3	342.2	358.7	314.4	305.9	298.9	288.8
27.5°	516.7	506.1	459.1	382.2	337.4	360.3	407.8	371.6	362.5	354.5	343.3
30°	582.4	575.5	519.4	414.2	352.9	387.0	462.8	444.2	433.5	423.9	410.5
32.5°	648.6	639.0	583.5	475.1	394.5	438.8	531.7	528.5	514.6	505.6	491.1
35°	706.8	702.0	660.9	574.9	489.5	529.6	623.5	627.3	615.0	605.4	589.4
37.5°	746.3	746.3	738.3	682.2	640.6	670.5	758.6	759.1	746.8	724.9	717.0
40°	766.6	772.5	801.3	812.0	809.8	848.3	935.8	926.2	916.1	904.8	878.2
42.5°	808.2	813.6	875.0	948.6	996.7	1047.4	1107.7	1104.5	1092.2	1071.9	1047.4
45°	878.7	885.6	958.8	1075.7	1174.4	1246.5	1284.9	1270.0	1257.7	1238.5	1225.7
47.5°	968.4	981.7	1064.5	1209.1	1328.2	1447.2	1487.3	1447.8	1437.1	1422.1	1401.3
50°	1063.9	1076.7	1164.8	1330.3	1464.8	1606.8	1673.6	1606.8	1591.3	1586.6	1563.1
52.5°	1146.7	1157.4	1242.2	1423.7	1569.5	1736.0	1833.2	1745.1	1733.9	1717.9	1700.8
55°	1195.8	1204.3	1283.9	1468.6	1640.5	1852.4	1987.5	1910.1	1893.5	1887.1	1862.5
57.5°	1212.3	1220.9	1292.4	1474.5	1678.9	1958.6	2174.8	2177.5	2157.8	2134.8	2127.3
60°	1212.3	1221.9	1282.3	1460.0	1716.3	2071.8	2424.7	2647.3	2604.6	2600.3	2573.1
62.5°	1162.1	1171.2	1232.1	1415.7	1766.5	2224.5	2772.7	3165.6	3153.4	3125.6	3080.8
65°	1053.3	1058.6	1118.4	1302.5	1747.2	2364.9	3074.4	3510.5	3490.7	3436.3	3378.6
66°	1004.1	1008.4	1064.5	1238.0	1684.2	2384.1	3127.7	3553.7	3521.2	3475.3	3410.1
67.5°	933.1	940.6	980.1	1117.9	1533.2	2317.4	3094.1	3523.3	3495.0	3439.5	3374.3
70°	623.0	617.7	757.0	857.9	1168.0	1888.2	2775.9	3163.5	3164.0	3137.9	3111.7
72.5°	295.7	298.9	339.5	528.0	764.4	1261.4	2209.5	2525.0	2561.3	2514.4	2481.8
75°	212.5	217.3	241.8	323.0	455.9	757.0	1432.3	1765.9	1767.0	1683.7	1609.5
77.5°	61.9	64.6	90.7	199.1	341.7	510.9	822.7	981.7	958.8	899.0	842.9
80°	25.6	25.6	26.7	63.5	137.2	347.0	575.5	755.9	753.2	730.3	697.2
82.5°	9.6	10.1	12.8	26.2	32.6	85.4	383.8	656.1	654.5	621.9	598.4
85°	1.1	1.1	3.2	11.2	12.3	16.0	76.9	289.3	287.7	289.3	253.6
87.5°	0.0	0.0	0.5	1.1	1.6	2.1	3.2	11.2	12.3	11.8	10.7
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):**

	69°	70°	71°	72°	73°	74°	75°	76°	77°	78°	79°
0°	83.8	83.8	83.8	83.8	83.8	83.8	83.8	83.8	83.8	83.8	83.8
2.5°	91.3	90.2	90.2	89.7	89.7	89.7	89.2	88.6	88.6	88.1	87.5
5°	99.8	98.8	98.2	97.1	96.6	96.1	95.0	94.5	93.4	92.9	92.4
7.5°	110.0	107.8	107.3	105.7	104.1	103.0	102.0	100.4	99.3	97.1	96.6
10°	122.8	120.1	118.0	115.8	114.3	111.6	110.0	107.8	105.7	104.1	102.5
12.5°	139.3	135.6	132.4	130.3	126.5	123.3	120.1	118.5	114.3	112.1	109.4
15°	157.5	153.2	149.5	145.2	142.5	137.2	132.9	128.1	126.0	122.2	118.0
17.5°	181.0	174.0	168.1	163.9	158.5	153.2	148.4	143.6	137.2	132.9	127.6
20°	206.1	200.2	192.2	184.7	178.3	171.9	164.9	158.5	152.7	145.7	139.3
22.5°	238.1	229.6	220.0	212.5	203.9	197.0	187.4	178.8	169.2	160.2	152.7
25°	278.7	267.4	258.4	247.7	237.6	226.9	215.1	204.5	192.2	183.6	170.8
27.5°	328.9	318.2	305.9	292.0	281.9	265.9	250.4	237.0	222.6	209.3	194.9
30°	392.9	377.4	364.6	351.3	331.0	315.5	297.4	279.2	259.4	246.1	224.2
32.5°	469.8	453.2	434.0	414.8	396.1	374.2	351.8	329.4	307.5	282.9	260.5
35°	563.7	544.0	522.1	501.3	472.4	449.0	420.7	389.7	365.1	336.8	308.5
37.5°	688.1	655.5	636.3	614.5	575.5	543.4	512.0	481.0	437.8	407.8	367.8
40°	844.0	824.8	793.3	758.0	722.8	680.6	637.9	596.8	546.6	505.0	458.6
42.5°	1027.1	998.8	966.8	916.1	880.3	830.6	782.1	727.6	666.2	612.8	558.4
45°	1199.0	1165.3	1140.8	1090.1	1052.7	994.0	935.3	877.6	806.6	737.8	674.8
47.5°	1384.8	1357.0	1316.4	1275.3	1237.4	1171.2	1107.7	1037.8	963.0	881.4	799.7
50°	1548.1	1526.2	1498.5	1448.8	1406.7	1351.1	1276.4	1200.0	1105.6	1024.4	931.6
52.5°	1686.9	1669.8	1630.9	1595.6	1557.7	1505.4	1438.7	1365.6	1263.6	1174.4	1068.7
55°	1850.8	1838.5	1804.4	1782.5	1748.8	1698.7	1636.2	1568.4	1460.6	1363.4	1243.8
57.5°	2119.3	2109.7	2079.8	2070.7	2037.7	1993.9	1917.0	1844.4	1718.4	1597.8	1461.1
60°	2564.0	2544.8	2501.0	2478.6	2408.7	2349.9	2250.1	2150.3	1998.1	1844.4	1680.0
62.5°	3040.2	2986.3	2903.0	2831.5	2732.2	2630.2	2496.8	2344.1	2165.7	1983.2	1794.2
65°	3296.9	3205.2	3100.0	2986.3	2857.6	2707.6	2539.4	2356.3	2164.7	1972.0	1772.3
66°	3326.3	3222.8	3111.2	2984.7	2841.6	2682.0	2511.1	2319.0	2119.8	1932.0	1732.3
67.5°	3289.5	3181.1	3063.1	2922.8	2767.9	2602.5	2423.1	2223.4	2031.8	1841.2	1646.9
70°	3031.7	2923.8	2818.6	2670.8	2505.8	2339.3	2169.5	1946.4	1764.8	1589.8	1416.8
72.5°	2420.9	2347.8	2243.7	2117.2	1956.5	1761.1	1619.6	1420.0	1262.5	1092.8	958.8
75°	1512.9	1409.9	1281.2	1120.0	997.2	838.7	755.9	604.3	514.6	436.1	360.3
77.5°	773.5	696.1	605.9	515.2	428.2	341.7	264.2	186.8	126.0	87.5	65.1
80°	639.0	570.7	495.9	413.2	336.3	261.0	187.9	128.1	81.7	53.4	41.6
82.5°	528.0	470.3	403.6	326.7	260.0	205.0	142.5	92.9	57.7	37.4	29.4
85°	224.7	203.9	157.5	124.9	93.9	69.4	48.6	32.6	22.9	18.7	17.1
87.5°	9.6	10.7	10.1	8.0	5.9	5.9	5.3	4.3	4.3	4.3	4.3
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):**

	80°	81°	82°	83°	84°	85°	95°	105°	115°	125°	135°
0°	83.8	83.8	83.8	83.8	83.8	83.8	83.8	83.8	83.8	83.8	83.8
2.5°	87.5	87.0	86.5	86.5	86.0	85.4	82.2	79.5	76.3	74.2	72.1
5°	91.3	90.7	89.7	89.2	88.1	87.5	80.6	74.7	69.9	66.2	63.5
7.5°	95.0	94.5	92.9	91.3	90.7	89.7	78.5	71.0	64.6	60.3	57.7
10°	99.8	98.2	96.6	94.5	92.9	91.3	76.3	66.7	59.8	56.0	53.4
12.5°	106.8	104.1	101.4	98.8	96.6	93.9	75.3	63.0	56.0	51.8	49.1
15°	114.8	111.0	107.8	104.6	100.9	98.2	73.1	59.8	52.8	48.6	45.4
17.5°	122.2	118.0	113.2	108.4	104.6	100.9	71.0	56.6	49.6	45.4	42.2
20°	132.9	126.5	120.7	114.8	109.4	104.6	67.8	53.4	47.0	42.2	39.0
22.5°	144.7	137.2	129.7	121.7	114.8	108.4	65.1	50.7	44.3	39.5	35.8
25°	159.6	150.5	140.4	130.3	122.2	113.7	62.4	48.0	41.6	36.8	33.1
27.5°	180.4	167.6	156.4	143.6	131.3	121.7	60.3	45.9	39.0	34.2	30.4
30°	208.7	190.0	172.4	158.5	144.1	130.3	58.2	43.2	36.8	31.5	27.2
32.5°	240.2	218.3	198.1	177.2	159.1	143.1	56.0	41.1	34.2	28.8	25.1
35°	279.2	251.4	224.2	200.2	178.3	156.9	53.9	39.0	32.0	26.2	22.4
37.5°	335.3	300.6	264.8	233.8	205.5	177.2	52.3	36.8	29.4	23.5	19.7
40°	412.1	367.3	323.5	281.3	244.5	209.3	50.2	34.7	27.2	21.4	17.6
42.5°	495.4	441.0	383.3	335.8	285.1	240.8	48.0	32.6	25.1	19.2	15.5
45°	599.0	531.2	461.2	396.6	334.7	277.6	45.9	30.4	22.4	17.1	13.3
47.5°	712.1	625.6	546.6	465.5	391.8	323.5	43.2	28.8	20.3	15.0	11.8
50°	828.5	737.2	637.4	545.0	457.5	369.4	40.6	26.2	18.2	13.3	9.6
52.5°	954.0	846.1	744.2	629.4	527.4	429.7	37.9	24.0	16.5	11.8	8.0
55°	1113.6	992.9	873.3	744.7	621.9	499.7	35.2	21.4	14.4	10.1	6.4
57.5°	1314.3	1171.2	1024.4	879.2	730.3	591.5	33.1	18.7	12.3	8.6	5.3
60°	1503.8	1336.7	1158.9	991.9	823.7	661.9	29.9	16.5	10.7	6.9	5.3
62.5°	1602.0	1411.4	1219.8	1035.6	856.3	687.0	26.7	13.9	9.1	5.9	4.8
65°	1578.0	1383.7	1197.9	1012.2	836.5	671.0	23.5	12.3	8.0	5.3	4.8
66°	1543.3	1351.1	1164.3	987.6	820.0	653.9	21.9	11.8	7.5	5.3	4.3
67.5°	1467.5	1281.7	1103.4	939.0	774.6	621.4	19.7	10.7	6.9	4.8	4.3
70°	1253.4	1084.7	942.2	795.9	661.9	523.7	16.0	9.1	5.9	4.3	4.3
72.5°	829.6	714.8	619.8	533.3	445.8	345.9	13.3	7.5	4.8	4.3	3.7
75°	312.8	282.9	242.9	218.3	190.6	167.1	10.7	4.8	3.7	3.7	3.7
77.5°	55.5	51.2	45.4	41.6	38.4	35.2	8.6	3.2	3.2	3.7	3.7
80°	37.4	34.7	31.5	28.8	26.7	24.0	5.9	2.7	3.2	3.2	3.7
82.5°	26.7	25.1	23.5	21.4	19.7	17.6	3.7	2.7	3.2	3.2	3.2
85°	16.0	15.0	13.9	12.8	11.2	10.7	2.7	2.7	2.7	3.2	3.2
87.5°	4.3	3.7	4.3	4.3	3.2	3.7	2.1	2.1	2.1	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°	83.8	83.8	83.8	83.8	83.8
2.5°	71.0	71.0	69.9	71.5	71.5
5°	61.4	61.4	60.9	61.4	61.4
7.5°	56.0	55.5	55.5	55.5	56.0
10°	51.2	50.7	50.7	50.7	50.7
12.5°	47.0	46.4	45.9	46.4	46.4
15°	43.2	42.2	42.2	42.2	42.2
17.5°	40.0	39.0	38.4	38.4	38.4
20°	36.8	35.2	35.2	35.2	35.2
22.5°	33.6	32.0	32.0	32.0	32.0
25°	30.4	28.8	28.8	28.8	28.8
27.5°	27.8	26.2	26.2	26.2	26.2
30°	24.6	23.5	23.5	24.0	23.5
32.5°	22.4	20.8	20.8	21.4	21.4
35°	19.7	18.7	18.7	18.7	18.7
37.5°	17.1	16.0	16.0	16.0	16.0
40°	15.0	13.9	13.3	13.9	13.9
42.5°	12.8	11.8	11.2	11.2	11.2
45°	11.2	9.6	9.1	9.6	9.6
47.5°	9.1	8.0	8.0	8.6	8.6
50°	6.9	6.9	7.5	8.6	8.6
52.5°	6.4	6.4	7.5	8.6	8.6
55°	5.9	6.4	7.5	8.0	8.6
57.5°	5.3	6.4	7.5	8.0	8.0
60°	5.3	5.9	6.9	8.0	8.0
62.5°	4.8	5.3	6.4	7.5	7.5
65°	4.8	5.3	6.4	7.5	7.5
66°	4.8	5.3	6.4	7.5	7.5
67.5°	4.8	5.3	6.4	7.5	7.5
70°	4.8	5.3	6.4	6.9	6.9
72.5°	4.3	4.8	5.9	6.9	6.9
75°	4.3	4.8	5.9	6.9	6.9
77.5°	4.3	4.8	5.9	6.9	6.9
80°	4.3	4.8	5.9	6.4	6.9
82.5°	3.7	4.8	5.3	6.4	6.4
85°	3.7	4.3	5.3	5.9	6.4
87.5°	3.2	3.7	4.3	5.3	5.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)