

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: P146855

Luminaire Tested: **LDRL-T4-F02-E**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P146855
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33696)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: LDRL-T4-F02-E
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(2) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 SHORT
Light Source: (14) 4000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4851.8 lumens
Efficiency: N/A
Efficacy: 88.2 lumens/watt
Luminous Opening: Rectangular (W 0.33' x L: 1' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B1 - U0 - G2

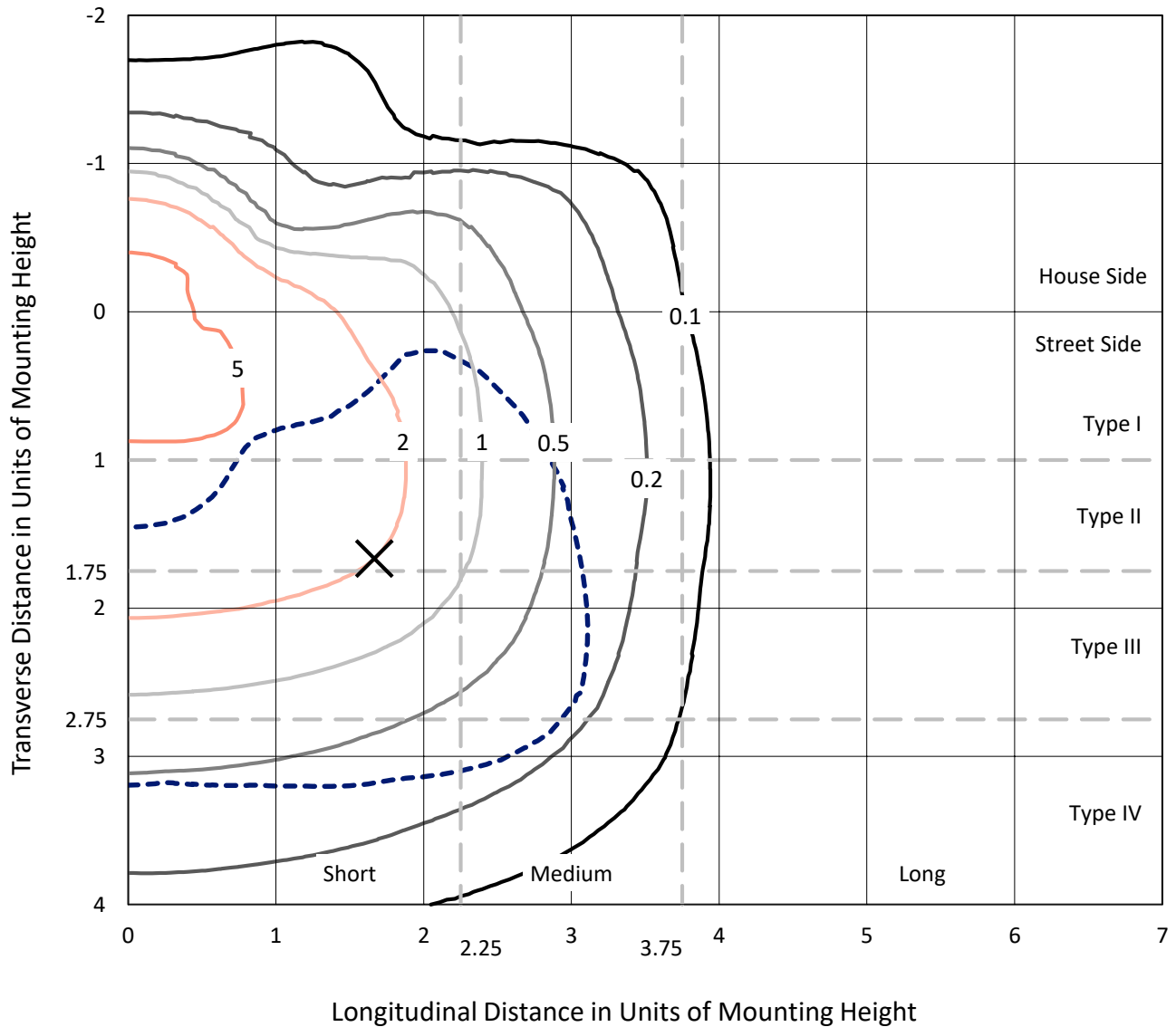
Input Watts (W): 55
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

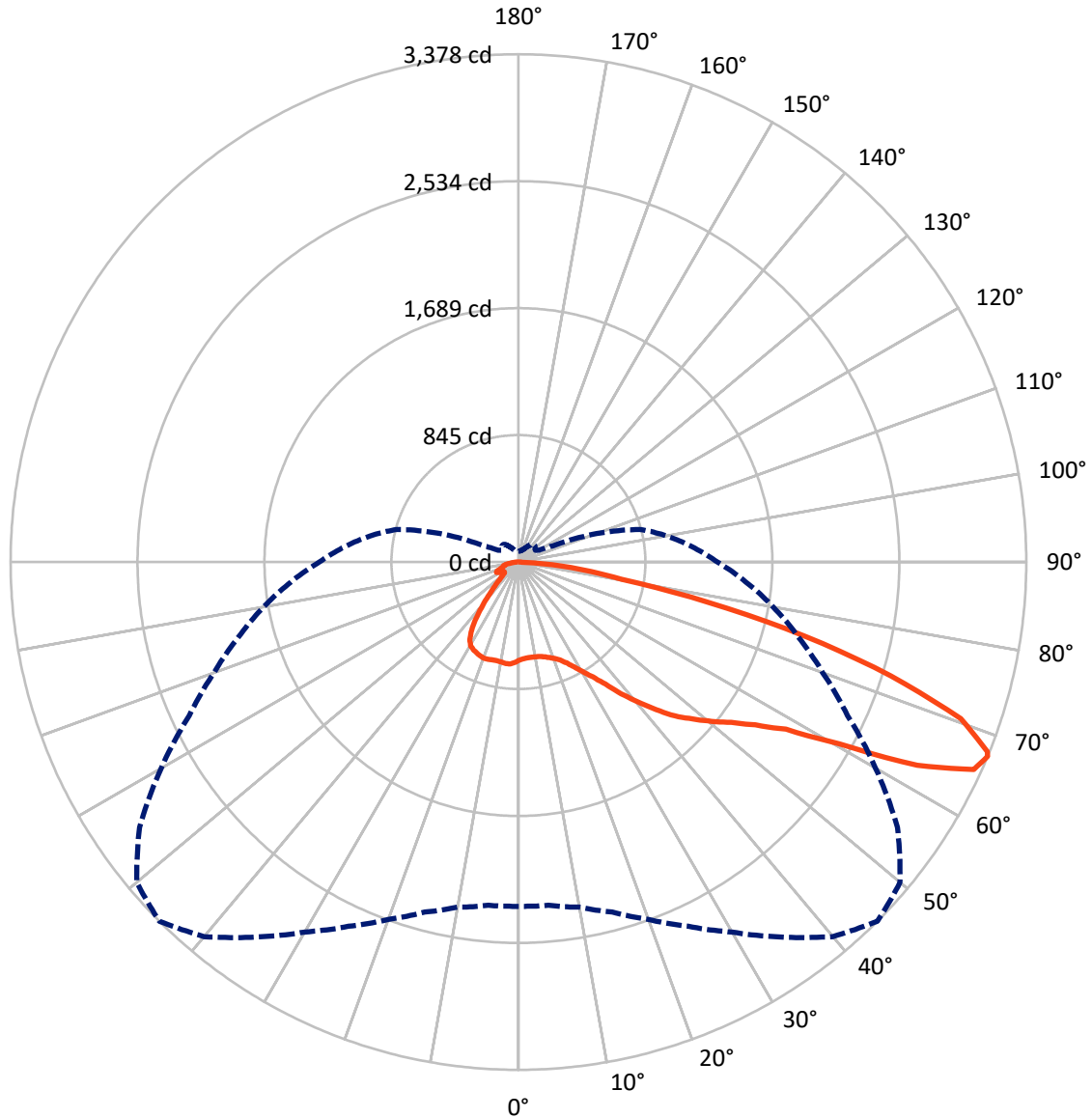
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 6.7 fc
 Type IV - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral - - - Horizontal Cone Through 67-Deg Vertical

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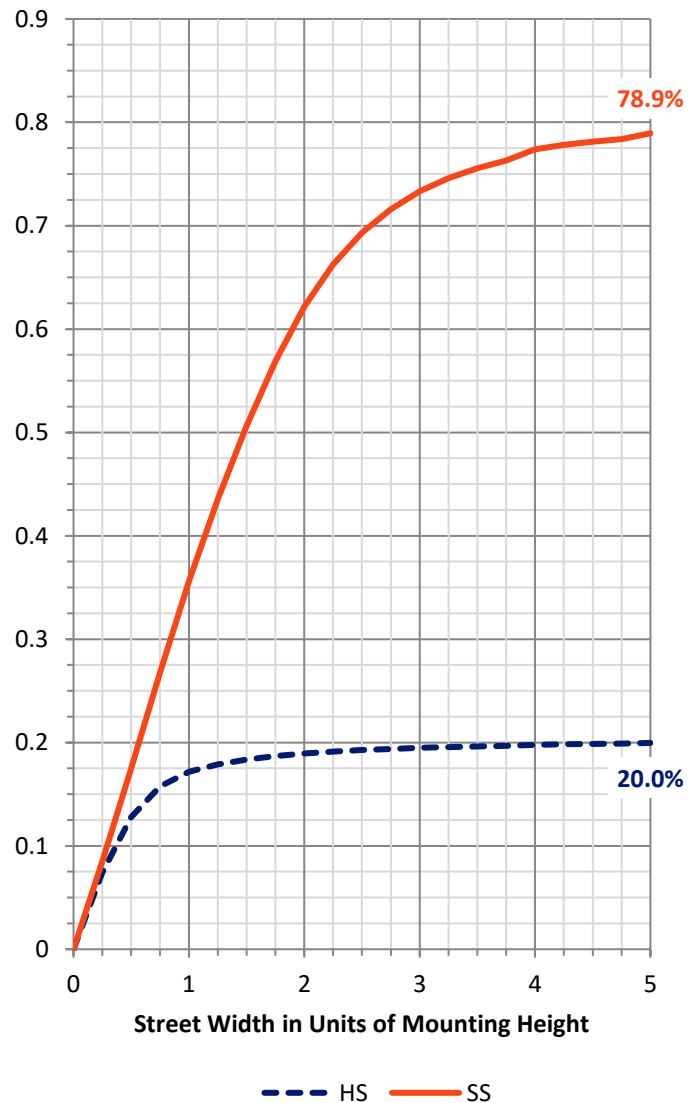
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	983.1	0.0	983.1
	% Fixture	20.3	0.0	20.3
Street Side	Lumens	3868.7	0.0	3868.7
	% Fixture	79.7	0.0	79.7
Total	Lumens	4851.8	0.0	4851.8
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	63.0	1.3
10°-20°	189.0	3.9
20°-30°	321.3	6.6
30°-40°	482.8	10.0
40°-50°	627.8	12.9
50°-60°	862.0	17.8
60°-70°	1359.8	28.0
70°-80°	821.6	16.9
80°-90°	124.5	2.6
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°	4851.8	100.0
0°-180°	4851.8	100.0



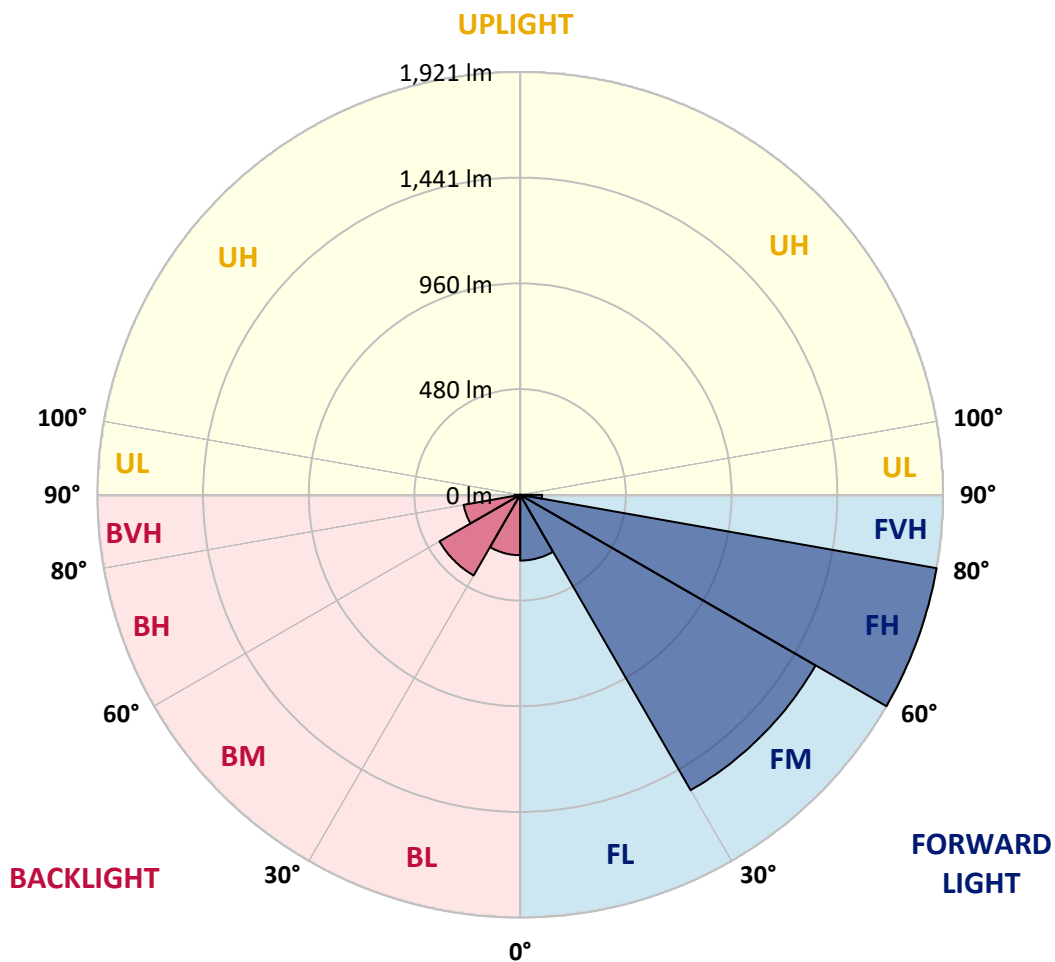
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	298.8	6.2			
FM	(30°-60°)	1549.6	31.9			
FH	(60°-80°)	1920.9	39.6			G2/5000
FVH	(80°-90°)	99.4	2.0			G1/100
BL	(0°-30°)	274.5	5.7	B1/500		
BM	(30°-60°)	423.0	8.7	B1/1000		
BH	(60°-80°)	260.5	5.4	B1/500		G1/500
BVH	(80°-90°)	25.1	0.5			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G2

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	653.2	653.2	653.2	653.2	653.2	653.2	653.2	653.2	653.2	653.2	653.2
2.5°	638.6	639.9	639.0	639.0	639.3	639.6	640.3	641.6	641.9	643.9	644.2
5°	625.7	626.1	626.1	626.4	628.4	630.0	631.7	634.0	636.0	639.6	641.9
7.5°	621.1	622.4	622.1	622.8	624.8	626.4	628.4	631.7	636.6	639.6	642.9
10°	628.7	629.7	628.7	629.0	629.4	631.0	631.7	634.0	638.0	640.6	643.6
12.5°	646.2	646.2	645.2	644.6	643.6	643.9	642.6	642.3	644.2	644.6	644.9
15°	669.3	672.0	668.7	666.0	664.7	663.4	659.1	657.4	657.1	654.1	651.2
17.5°	692.8	693.4	691.5	688.5	686.5	683.5	679.9	676.6	672.6	668.0	662.1
20°	718.9	719.2	716.6	712.3	710.0	706.3	701.7	696.1	691.1	683.9	677.3
22.5°	755.2	754.9	749.6	745.9	742.6	738.3	731.7	724.2	716.2	707.6	698.4
25°	796.8	796.8	793.2	787.2	785.6	779.3	772.0	763.1	754.9	742.6	731.4
27.5°	844.3	844.7	838.1	834.8	831.1	824.5	819.6	812.6	801.4	789.2	777.6
30°	900.8	899.2	893.9	886.9	885.6	880.3	873.4	868.5	854.6	846.0	833.1
32.5°	954.3	956.9	955.6	947.7	949.0	943.7	937.8	934.2	919.6	911.4	899.5
35°	1034.2	1036.5	1038.5	1035.5	1037.2	1034.2	1029.3	1019.7	1007.8	996.9	980.4
37.5°	1096.3	1098.6	1099.9	1107.2	1117.8	1128.0	1132.6	1127.7	1128.3	1111.8	1089.7
40°	1147.1	1152.8	1160.7	1174.6	1195.7	1215.2	1225.7	1234.0	1238.3	1222.8	1194.0
42.5°	1198.0	1203.9	1214.8	1237.0	1266.0	1294.1	1316.2	1341.6	1346.3	1342.3	1317.9
45°	1251.2	1258.1	1271.6	1296.7	1330.7	1367.4	1403.1	1439.1	1457.2	1460.2	1430.5
47.5°	1315.2	1325.1	1337.7	1366.1	1399.1	1440.4	1485.0	1531.2	1559.6	1559.6	1525.2
50°	1395.1	1406.4	1416.9	1445.3	1478.4	1520.9	1572.5	1624.0	1662.6	1664.9	1623.3
52.5°	1507.1	1508.7	1515.0	1541.1	1569.8	1617.4	1666.2	1726.0	1770.6	1772.6	1724.7
55°	1643.1	1643.1	1650.4	1672.2	1698.9	1738.2	1788.7	1855.1	1902.0	1912.2	1850.8
57.5°	1822.1	1828.7	1832.3	1857.8	1875.9	1917.5	1959.8	2032.1	2091.9	2098.5	2036.1
60°	2113.3	2100.8	2120.9	2143.4	2186.0	2216.4	2288.4	2361.0	2437.3	2455.4	2388.4
62.5°	2400.3	2413.8	2438.6	2479.2	2552.2	2620.2	2723.2	2833.5	2952.1	2976.5	2925.3
65°	2418.1	2426.4	2460.7	2530.7	2630.5	2751.6	2893.6	3059.7	3236.4	3327.9	3242.0
67°	2290.0	2292.3	2331.3	2410.9	2530.4	2674.0	2842.1	3044.9	3252.2	3378.0	3314.0
67.5°	2249.4	2253.7	2292.0	2373.2	2494.1	2641.0	2812.4	3020.8	3233.1	3364.5	3306.7
70°	2011.0	2011.0	2052.3	2134.1	2247.4	2390.7	2570.0	2780.4	3011.2	3121.8	3072.6
72.5°	1711.8	1700.9	1747.5	1809.6	1902.0	2027.2	2171.5	2337.6	2511.2	2591.8	2572.3
75°	1244.2	1264.7	1288.8	1334.7	1414.9	1513.7	1598.2	1746.5	1882.9	1972.0	1948.6
77.5°	678.9	686.8	753.5	780.9	851.3	924.6	1017.4	1121.4	1228.7	1284.8	1262.1
80°	403.5	419.0	458.7	491.4	529.3	585.1	652.5	675.3	696.4	695.1	653.8
82.5°	254.9	273.7	316.7	344.7	364.6	396.9	433.6	462.3	468.6	437.5	389.6
85°	41.3	68.4	178.6	210.0	222.6	240.1	267.1	279.4	260.9	227.8	236.1
87.5°	16.2	19.5	54.5	69.0	73.0	38.3	66.4	77.9	39.6	20.1	45.6
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):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	653.2	653.2	653.2	653.2	653.2	653.2	653.2	653.2	653.2	653.2	653.2
2.5°	646.2	647.9	649.5	651.5	652.2	653.8	656.8	656.5	658.8	659.8	661.4
5°	644.9	648.5	651.2	654.8	656.1	659.8	663.7	665.0	668.0	670.3	672.3
7.5°	647.5	651.5	654.8	659.1	662.1	665.0	668.0	671.6	674.3	675.9	677.3
10°	648.5	652.8	656.8	660.4	663.7	666.0	669.3	672.3	674.9	675.9	676.3
12.5°	648.9	651.8	655.8	659.8	662.7	665.7	668.0	671.3	673.3	673.6	673.0
15°	651.5	651.8	654.5	659.1	662.1	665.0	666.7	668.3	669.7	668.7	667.7
17.5°	659.4	657.1	657.1	659.4	661.1	662.4	662.7	662.4	661.1	659.1	657.4
20°	672.3	667.7	664.1	662.7	660.1	656.8	652.5	648.5	643.6	641.3	640.9
22.5°	692.5	685.5	678.9	672.3	663.7	654.1	644.2	635.7	628.7	625.1	625.4
25°	726.8	716.6	709.0	697.4	683.5	670.0	657.1	645.6	637.3	630.7	632.0
27.5°	773.0	761.5	754.9	741.7	725.8	708.6	693.4	677.6	665.7	657.4	659.1
30°	827.2	823.9	813.0	799.8	784.9	765.4	742.6	718.9	697.4	683.9	681.2
32.5°	892.6	888.9	877.0	865.8	846.7	825.2	795.5	757.8	724.2	698.4	687.2
35°	973.1	964.2	949.7	938.8	917.3	889.6	851.3	800.4	749.2	710.6	682.5
37.5°	1073.5	1051.4	1027.3	998.9	967.2	933.5	889.3	829.8	766.4	711.6	661.7
40°	1169.3	1133.6	1093.7	1048.7	1010.1	969.5	923.6	855.6	778.0	704.7	630.4
42.5°	1275.9	1220.5	1166.3	1104.6	1053.7	1005.5	953.0	873.7	780.3	685.8	589.8
45°	1378.6	1307.3	1234.7	1158.4	1093.7	1040.2	980.4	889.3	779.6	666.0	549.5
47.5°	1470.1	1384.9	1295.1	1209.2	1133.9	1075.2	1009.8	910.4	788.5	660.4	522.7
50°	1555.6	1457.2	1351.9	1256.4	1174.6	1114.5	1047.1	943.7	815.9	673.3	518.8
52.5°	1643.8	1536.8	1416.3	1313.6	1228.1	1158.4	1090.4	986.3	854.3	699.7	527.7
55°	1758.7	1635.9	1507.4	1393.5	1295.4	1220.5	1141.9	1037.8	895.5	730.4	544.5
57.5°	1929.7	1786.1	1640.2	1517.6	1404.4	1310.9	1224.7	1105.5	963.9	776.7	581.5
60°	2236.8	2077.7	1908.6	1748.5	1618.0	1508.7	1399.1	1251.2	1090.0	881.7	666.4
62.5°	2738.4	2518.2	2284.4	2073.7	1894.4	1746.5	1591.9	1414.3	1226.4	1009.1	794.8
65°	3039.9	2736.1	2438.6	2194.2	1982.3	1792.7	1605.8	1414.9	1233.0	1043.1	852.6
67°	3077.2	2744.0	2414.8	2154.6	1927.4	1721.1	1518.3	1323.2	1160.4	1001.2	836.8
67.5°	3066.0	2728.2	2392.4	2129.5	1900.0	1700.3	1500.8	1301.0	1142.5	983.4	824.9
70°	2844.8	2514.2	2182.0	1926.4	1706.5	1502.1	1313.6	1113.5	991.0	877.0	740.0
72.5°	2361.0	2103.1	1824.7	1611.8	1421.9	1244.9	1079.1	911.7	813.3	732.7	636.3
75°	1750.8	1514.3	1278.9	1150.8	1003.5	861.8	733.7	609.9	571.9	552.8	496.0
77.5°	1081.1	868.8	691.5	575.6	457.7	358.6	285.3	232.1	242.0	281.7	299.8
80°	538.2	397.6	307.8	244.7	197.8	159.8	117.2	85.9	102.7	121.8	138.0
82.5°	323.9	255.9	202.4	171.4	139.3	107.6	76.3	58.1	64.4	86.5	95.1
85°	201.1	161.1	128.8	107.6	89.2	66.0	43.3	42.9	45.6	57.5	65.7
87.5°	59.1	40.0	31.7	33.0	36.7	30.4	22.8	19.5	24.1	33.0	37.0
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°	653.2	653.2	653.2	653.2	653.2	653.2	653.2	653.2	653.2	653.2	653.2
2.5°	661.7	664.1	665.0	665.4	665.7	667.7	667.7	669.7	670.3	670.3	671.0
5°	674.3	676.6	677.6	677.9	678.6	679.6	679.2	680.6	681.2	680.9	680.9
7.5°	678.9	679.6	679.6	680.6	681.6	680.6	679.9	680.6	680.2	680.6	680.6
10°	677.3	676.6	676.6	675.9	676.9	674.9	674.9	675.6	675.3	675.9	676.9
12.5°	673.3	673.0	672.0	671.6	673.0	671.6	672.0	673.0	673.6	674.9	676.6
15°	667.7	666.7	666.7	668.0	671.3	672.3	673.6	675.3	675.6	676.3	676.9
17.5°	658.1	659.8	663.7	668.3	674.6	676.9	677.6	676.6	673.3	670.7	668.0
20°	644.9	652.2	662.4	672.3	679.9	679.6	675.3	669.0	661.1	655.5	651.8
22.5°	633.7	647.9	663.7	675.6	680.6	674.3	664.4	654.8	645.6	637.3	630.0
25°	641.6	655.1	668.7	675.9	675.6	664.7	651.5	640.9	628.4	616.8	604.6
27.5°	667.4	675.6	679.6	677.3	670.3	655.8	641.3	626.4	610.2	596.4	582.2
30°	684.9	684.9	680.9	671.6	659.4	643.2	625.4	606.3	587.1	570.9	554.8
32.5°	679.2	666.4	654.8	642.3	628.4	610.9	590.4	569.6	547.8	529.0	515.1
35°	654.8	627.1	603.0	585.1	570.6	549.8	526.0	502.2	484.4	471.5	463.6
37.5°	611.2	567.0	532.0	510.2	487.7	466.3	438.8	428.0	412.1	404.2	401.2
40°	558.4	493.7	449.7	421.7	397.9	371.2	352.7	345.7	339.8	338.1	336.8
42.5°	497.6	416.7	364.6	335.5	306.8	287.3	279.0	274.7	273.7	273.7	275.4
45°	434.6	338.5	278.4	254.9	231.1	220.9	218.9	216.9	217.3	216.3	216.9
47.5°	385.7	271.8	210.0	188.5	176.3	173.0	170.7	170.1	170.1	168.4	166.4
50°	360.3	227.2	164.8	147.9	141.0	138.7	138.7	137.4	134.7	133.1	128.8
52.5°	353.7	204.1	142.7	128.1	122.2	120.2	118.2	116.2	112.3	108.6	103.7
55°	358.9	196.8	135.7	122.2	115.6	113.3	111.6	108.3	102.7	97.4	91.8
57.5°	381.1	201.4	138.4	123.8	117.9	116.2	114.6	109.6	102.7	95.1	88.8
60°	441.5	223.2	149.6	132.7	127.8	128.1	125.8	119.5	109.6	98.7	89.5
62.5°	519.4	253.6	164.1	145.3	144.6	147.9	147.9	137.0	120.9	104.3	91.8
65°	564.0	263.2	166.1	146.9	152.6	162.1	161.5	146.9	124.8	104.3	90.8
67°	552.8	252.9	157.8	137.4	144.0	154.9	153.5	139.7	118.9	100.1	88.2
67.5°	543.9	249.6	155.9	135.1	141.7	150.6	150.6	136.7	116.2	98.7	87.2
70°	478.8	220.6	146.0	126.1	126.1	128.5	126.8	116.9	103.0	90.8	83.2
72.5°	399.2	192.8	138.0	119.9	113.6	112.3	110.0	103.0	94.1	85.5	78.9
75°	309.4	170.7	131.8	113.3	105.0	102.0	99.7	94.4	87.5	80.2	74.6
77.5°	216.6	146.3	123.5	107.6	98.7	96.4	92.8	86.8	81.2	75.0	69.7
80°	134.4	120.9	107.6	97.1	87.8	84.5	79.9	74.6	70.0	66.4	62.4
82.5°	95.8	88.8	80.2	74.6	65.1	55.1	59.1	59.4	56.5	54.2	53.2
85°	64.1	57.8	53.5	48.5	42.9	38.6	39.6	42.6	42.9	41.9	41.9
87.5°	35.0	29.7	28.7	29.7	25.8	24.4	24.8	27.4	27.7	27.7	28.1
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°	653.2	653.2	653.2	653.2
2.5°	671.3	672.3	672.0	672.6
5°	681.6	682.2	681.9	682.2
7.5°	679.9	681.2	681.9	680.9
10°	677.3	679.2	680.6	680.6
12.5°	677.9	681.2	683.2	683.2
15°	677.3	679.9	680.6	680.6
17.5°	667.0	667.0	667.4	666.0
20°	649.2	647.2	646.6	644.2
22.5°	623.8	619.1	616.2	614.5
25°	594.7	587.4	582.8	580.2
27.5°	570.6	564.3	559.7	557.1
30°	543.9	536.6	533.9	532.0
32.5°	505.2	498.3	496.3	494.7
35°	455.0	452.7	447.4	443.8
37.5°	396.9	393.9	392.0	390.6
40°	336.2	336.5	334.8	331.9
42.5°	275.4	278.7	275.4	274.7
45°	216.3	219.9	219.9	220.9
47.5°	166.8	166.1	167.4	167.7
50°	126.1	124.2	123.5	122.5
52.5°	100.1	97.7	96.4	94.8
55°	88.2	85.5	84.2	83.9
57.5°	84.2	80.9	78.9	78.6
60°	83.2	78.6	75.9	75.3
62.5°	83.2	77.6	74.6	73.6
65°	82.2	76.6	74.0	73.0
67°	80.9	75.9	73.3	72.6
67.5°	80.2	75.6	73.3	72.3
70°	78.6	74.6	72.0	71.0
72.5°	75.0	71.7	69.0	68.4
75°	71.0	68.0	66.4	65.7
77.5°	66.4	63.7	61.7	60.1
80°	59.4	56.5	53.5	52.8
82.5°	50.5	47.2	44.9	44.6
85°	40.6	38.0	35.3	35.3
87.5°	28.4	26.7	25.1	23.4
90°	0.0	0.0	0.0	0.0

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