

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: P145433

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P145433
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33703)
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
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(2) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 W/ SPILL LIGHT CONTROL
Light Source: (14) 3000K CCT, 80 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4016 lumens
Efficiency: N/A
Efficacy: 73.0 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 - G1

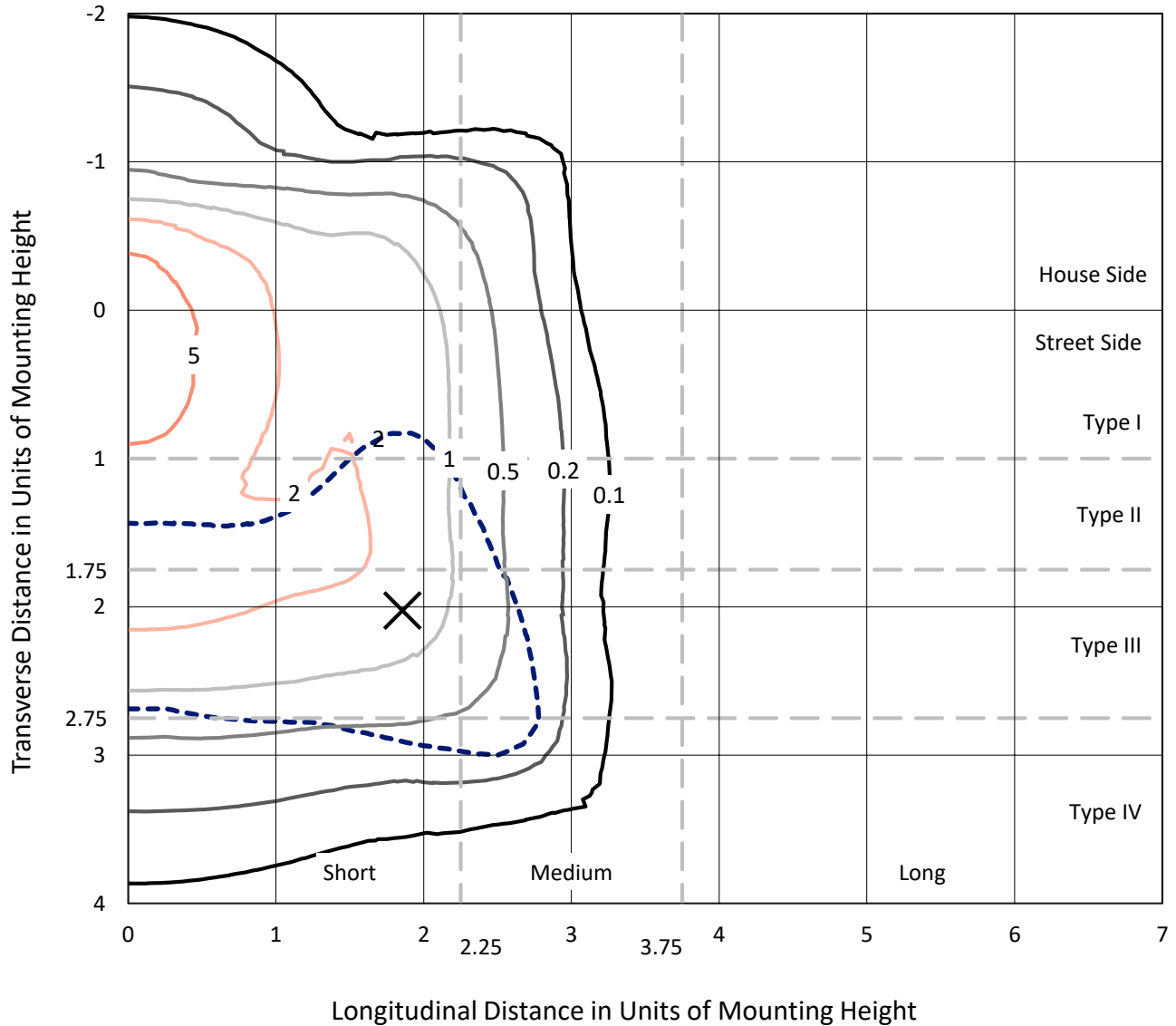
Input Watts (W): 55
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

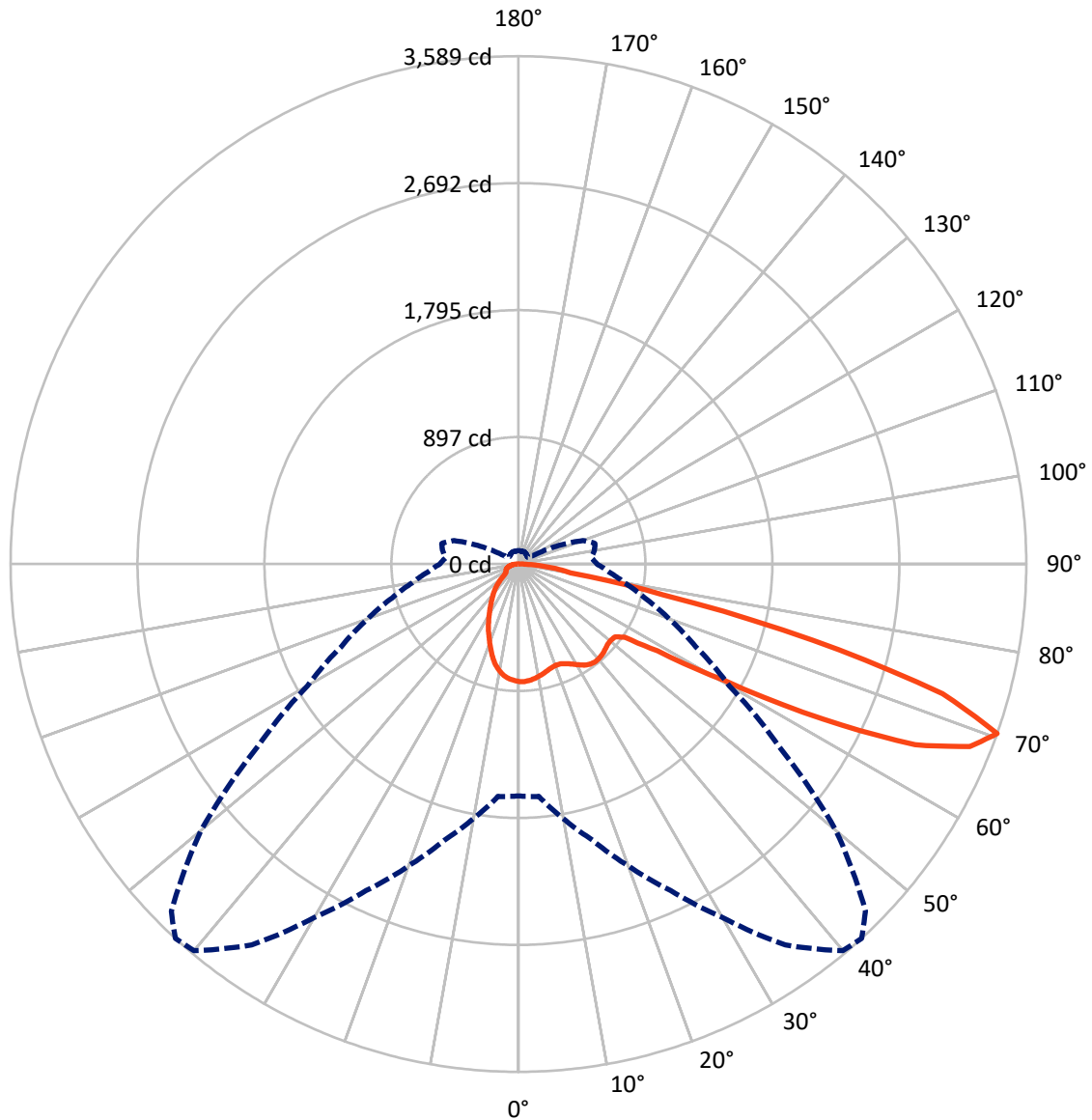
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 8.3 fc
 Type IV - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 42.5-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

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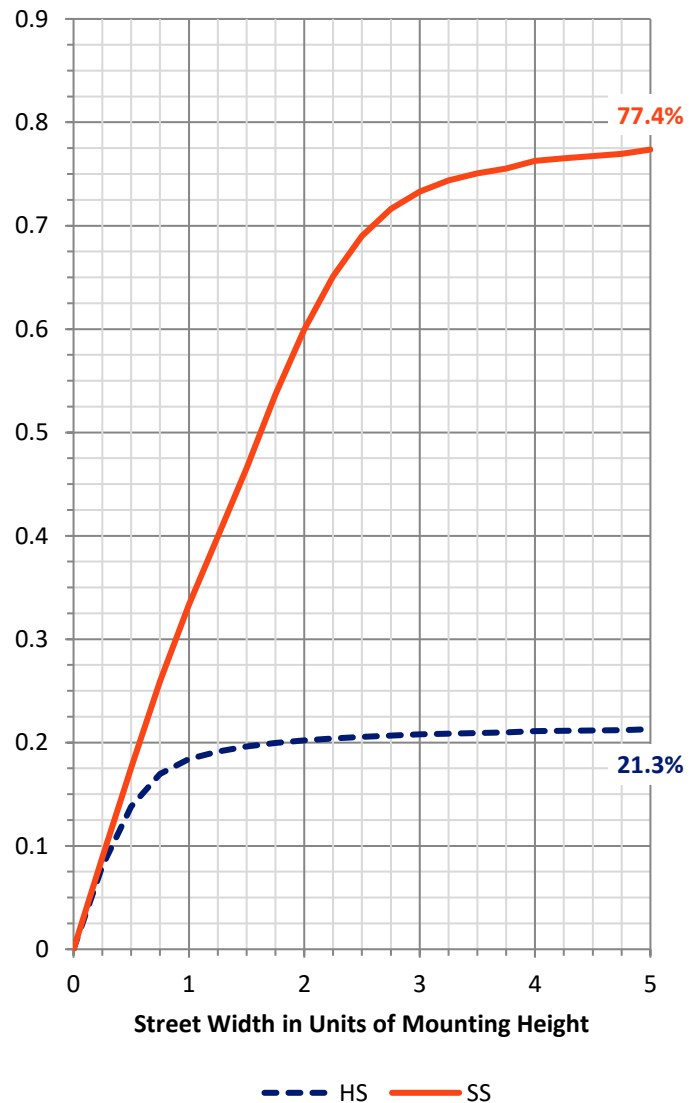
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	867.5	0.0	867.5
	% Fixture	21.6	0.0	21.6
Street Side	Lumens	3148.5	0.0	3148.5
	% Fixture	78.4	0.0	78.4
Total	Lumens	4016.0	0.0	4016.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	77.3	1.9
10°-20°	208.2	5.2
20°-30°	303.6	7.6
30°-40°	387.3	9.6
40°-50°	452.0	11.3
50°-60°	691.3	17.2
60°-70°	1253.1	31.2
70°-80°	557.1	13.9
80°-90°	86.2	2.1
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°	4016.0	100.0
0°-180°	4016.0	100.0



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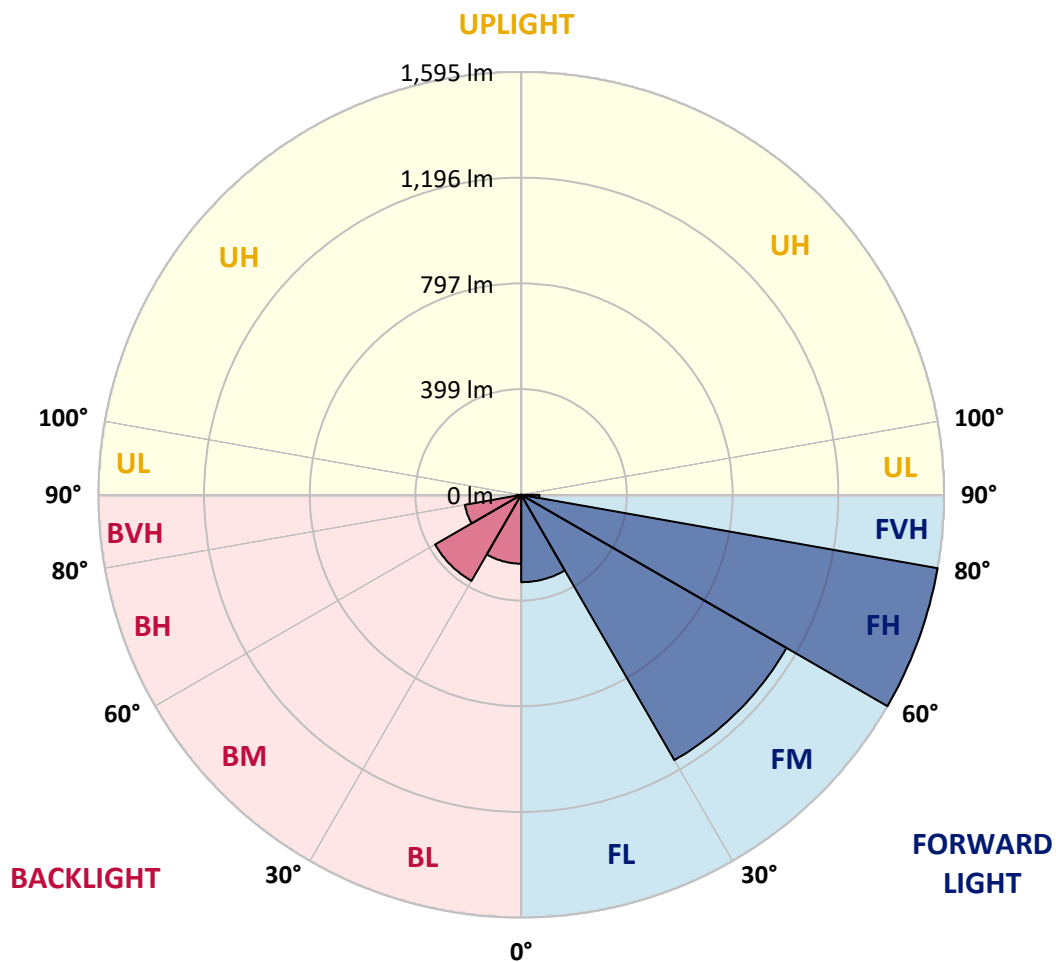
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	329.4	8.2			
FM (30°-60°)	1155.5	28.8			
FH (60°-80°)	1594.7	39.7			G1/1800
FVH (80°-90°)	68.9	1.7			G1/100
BL (0°-30°)	259.7	6.5	B1/500		
BM (30°-60°)	375.0	9.3	B1/1000		
BH (60°-80°)	215.5	5.4	B1/500		G1/500
BVH (80°-90°)	17.3	0.4			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G1

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	42.5°	45°
0°	830.5	830.5	830.5	830.5	830.5	830.5	830.5	830.5	830.5	830.5	830.5
2.5°	834.4	833.6	834.1	834.7	834.7	835.0	832.5	832.7	831.6	831.9	832.2
5°	831.3	830.5	831.1	831.1	831.1	830.8	827.4	827.2	825.8	825.8	825.2
7.5°	825.5	822.4	824.1	824.4	823.8	822.4	820.5	818.5	817.7	817.7	815.7
10°	816.6	813.2	814.1	814.6	814.3	811.6	810.7	808.8	806.5	805.7	803.5
12.5°	805.1	802.9	804.0	803.8	803.8	801.2	799.9	797.1	794.3	792.9	790.1
15°	797.9	795.1	796.2	796.2	795.1	792.6	790.7	785.6	780.9	779.2	775.6
17.5°	802.4	799.6	800.7	799.9	797.9	792.6	787.6	779.5	772.0	767.5	762.8
20°	820.2	817.4	818.2	817.7	814.9	806.3	797.1	783.1	769.2	762.5	755.3
22.5°	848.6	846.4	847.8	847.0	842.5	831.3	817.7	797.6	776.7	766.7	756.4
25°	890.7	890.1	892.4	889.9	883.5	866.7	847.0	819.9	792.6	780.1	765.6
27.5°	941.4	936.7	940.0	937.8	933.3	912.2	885.4	851.1	816.3	799.9	782.6
30°	987.1	983.0	989.1	988.0	981.3	959.5	925.8	885.7	846.4	825.5	805.7
32.5°	1040.1	1034.8	1039.5	1039.5	1029.5	1000.2	961.8	915.8	874.5	852.2	828.6
35°	1095.5	1090.0	1094.4	1093.0	1075.2	1036.5	988.2	938.4	892.9	870.1	845.8
37.5°	1147.1	1146.3	1147.4	1138.2	1113.4	1063.8	1006.1	950.3	902.1	878.2	852.8
40°	1198.7	1196.7	1192.0	1175.8	1139.6	1079.9	1015.3	954.5	902.7	877.6	852.0
42.5°	1231.0	1227.4	1219.3	1197.3	1151.8	1083.8	1012.5	948.1	896.0	870.4	845.3
45°	1242.1	1238.5	1228.8	1204.0	1152.1	1077.7	1001.6	935.3	883.5	860.1	834.7
47.5°	1232.9	1230.7	1221.8	1197.0	1143.2	1066.3	988.0	922.5	871.5	848.6	824.9
50°	1217.3	1215.9	1208.1	1185.3	1134.8	1059.3	981.6	916.3	868.1	847.0	824.7
52.5°	1256.4	1252.2	1238.2	1211.2	1152.4	1071.9	991.6	925.5	875.9	854.5	831.6
55°	1736.0	1705.1	1635.9	1506.3	1324.9	1184.2	1065.7	986.0	932.5	911.6	889.9
57.5°	2283.1	2250.7	2222.0	2123.1	1907.7	1641.8	1402.7	1262.8	1166.9	1157.7	1149.1
60°	2493.8	2504.1	2501.6	2464.8	2354.4	2228.2	2028.1	1862.8	1679.7	1672.2	1683.0
62.5°	2639.0	2647.6	2648.7	2637.6	2601.6	2559.5	2517.7	2464.8	2429.9	2414.9	2317.6
65°	2698.9	2711.4	2739.0	2759.6	2765.5	2780.0	2817.9	2962.0	3082.1	3081.2	2967.3
67.5°	2470.1	2485.1	2589.6	2692.2	2778.3	2878.1	3031.6	3266.0	3446.9	3441.3	3348.0
70°	1639.3	1648.8	1826.3	2019.4	2270.0	2547.0	2882.5	3286.6	3567.0	3589.0	3468.6
72.5°	1005.5	1027.3	1085.2	1163.5	1297.3	1554.0	2052.9	2743.5	3154.8	3134.2	3038.3
75°	678.9	680.0	678.3	686.7	694.2	746.1	947.0	1508.6	2137.0	2148.2	2106.9
77.5°	464.0	470.2	473.5	471.3	478.8	476.6	488.3	517.0	819.1	1045.4	960.7
80°	405.5	408.0	411.6	406.3	392.4	384.6	395.5	385.2	362.9	374.8	359.0
82.5°	256.7	264.2	265.0	283.4	310.7	311.9	325.8	315.5	287.1	268.4	245.5
85°	184.5	187.3	192.3	193.4	183.9	175.9	180.9	172.2	155.2	145.2	128.5
87.5°	107.6	110.4	115.4	112.3	102.8	91.1	82.2	70.8	56.0	52.4	46.3
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):

	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°
0°	830.5	830.5	830.5	830.5	830.5	830.5	830.5	830.5	830.5	830.5	830.5
2.5°	832.5	831.1	830.0	829.4	830.5	829.4	828.3	827.7	826.6	826.9	825.5
5°	824.7	822.7	821.0	819.6	820.8	818.8	817.1	816.0	814.6	814.3	813.0
7.5°	813.8	810.7	808.5	806.0	803.2	801.5	799.6	797.6	794.6	794.3	793.7
10°	799.6	797.1	792.6	788.7	784.8	780.6	776.4	773.4	769.8	768.4	766.4
12.5°	785.4	780.3	775.0	768.9	764.2	757.5	751.9	746.1	740.8	737.4	733.8
15°	768.6	763.3	755.8	750.0	743.3	735.8	728.5	719.9	711.2	705.9	700.9
17.5°	754.1	747.5	741.3	733.0	726.3	717.6	706.8	697.6	687.3	678.6	669.4
20°	743.0	735.5	728.2	720.7	712.6	702.9	690.9	677.8	664.7	652.4	638.8
22.5°	738.5	726.6	718.5	711.5	703.1	692.0	678.6	662.5	646.3	630.7	614.8
25°	742.4	724.6	712.1	704.3	696.7	685.3	670.3	651.9	632.9	613.1	594.2
27.5°	753.0	730.5	712.6	700.4	691.7	680.6	663.8	644.6	623.2	600.9	580.5
30°	768.4	740.2	717.9	700.4	687.5	674.7	656.6	634.9	612.3	588.9	566.0
32.5°	785.1	751.1	724.3	701.2	681.4	665.2	646.3	625.1	601.1	576.3	551.8
35°	797.6	758.9	727.1	698.1	672.8	652.4	632.1	611.5	588.0	563.0	538.4
37.5°	802.9	761.9	726.6	691.7	660.8	638.5	617.3	596.7	574.1	550.4	527.8
40°	803.2	761.9	723.2	683.1	648.2	624.0	601.7	582.5	561.3	540.9	520.9
42.5°	797.9	758.0	717.1	675.0	639.0	611.7	588.9	569.1	552.1	534.0	517.0
45°	788.4	750.2	711.5	670.5	635.7	608.7	584.1	565.5	550.1	534.0	519.2
47.5°	781.2	745.8	711.8	676.9	643.8	615.9	589.4	569.7	556.6	543.7	533.1
50°	782.6	747.5	715.1	682.0	649.4	621.2	595.6	578.6	570.8	566.6	564.1
52.5°	789.8	754.1	729.6	707.6	697.0	679.7	665.5	652.7	654.7	644.6	631.8
55°	864.5	852.5	880.7	901.0	911.1	928.6	954.0	929.7	926.4	895.4	803.5
57.5°	1160.8	1189.2	1232.4	1263.0	1266.1	1260.8	1239.9	1219.8	1187.2	1140.7	1011.9
60°	1657.7	1651.0	1610.9	1557.1	1515.3	1460.4	1405.2	1358.6	1306.2	1234.9	1097.8
62.5°	2180.2	2019.1	1876.2	1754.4	1651.0	1559.3	1476.0	1406.0	1334.1	1231.5	1085.5
65°	2602.2	2292.3	2040.3	1844.4	1690.6	1561.0	1453.4	1357.0	1260.8	1142.1	1000.5
67.5°	2903.7	2412.1	2032.0	1756.3	1540.6	1362.3	1205.6	1095.8	997.2	903.8	840.0
70°	2927.7	2246.3	1719.0	1381.8	1132.9	923.3	760.8	641.0	555.2	516.4	544.0
72.5°	2501.8	1661.9	1142.9	845.8	671.4	521.7	419.4	335.3	266.2	232.2	236.9
75°	1473.5	797.9	514.7	383.5	313.3	250.3	216.5	182.8	161.4	129.3	103.4
77.5°	561.0	347.0	259.7	215.7	153.8	110.6	87.2	75.2	69.1	68.3	64.7
80°	323.3	254.4	178.1	116.5	85.3	72.2	61.9	53.0	49.3	48.5	49.9
82.5°	204.3	158.6	97.8	75.0	62.1	53.5	44.6	38.7	35.7	34.6	36.5
85°	105.6	79.4	59.6	51.3	47.7	43.5	35.7	29.8	29.5	30.9	35.7
87.5°	39.0	34.0	26.8	23.1	24.8	23.1	16.7	14.5	13.1	17.3	25.1
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):

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°
0°	830.5	830.5	830.5	830.5	830.5	830.5	830.5	830.5	830.5	830.5	830.5
2.5°	825.5	824.9	825.2	824.7	824.7	825.5	824.4	823.5	824.9	824.9	825.8
5°	812.7	813.2	813.2	813.0	813.5	814.9	814.6	814.6	816.9	817.7	818.8
7.5°	792.3	793.2	793.4	794.3	794.6	796.5	797.9	799.6	802.9	803.8	806.3
10°	764.7	764.2	766.1	765.9	768.4	770.0	771.1	774.8	779.8	782.6	785.1
12.5°	732.1	732.1	733.2	733.5	735.8	738.0	739.4	743.8	748.0	751.6	757.2
15°	697.6	696.5	693.9	693.7	694.5	696.7	699.8	703.1	709.6	714.9	719.6
17.5°	661.3	658.0	654.9	651.0	650.8	650.5	652.1	654.7	664.7	670.0	676.7
20°	629.3	622.0	614.8	606.7	602.0	599.7	600.6	603.9	613.4	620.4	627.3
22.5°	600.6	589.7	578.3	565.5	557.7	552.9	553.5	554.9	561.8	566.0	569.7
25°	576.1	561.0	545.1	528.7	517.8	510.6	510.3	510.3	507.2	507.8	505.8
27.5°	559.3	538.4	518.1	498.9	484.6	477.4	467.6	460.7	454.6	446.2	442.6
30°	543.2	521.7	498.6	477.4	460.4	446.2	428.1	413.0	401.0	389.6	379.9
32.5°	528.7	506.4	484.4	461.2	437.8	413.3	389.6	372.3	355.3	337.8	326.1
35°	515.9	495.0	472.9	446.7	413.9	381.8	355.1	331.6	311.6	290.4	273.4
37.5°	508.6	489.7	466.8	431.1	389.9	353.4	323.6	297.4	270.6	245.3	224.3
40°	505.0	488.3	460.4	415.3	368.4	329.4	296.3	264.8	233.3	203.4	181.7
42.5°	504.4	488.3	450.9	399.1	350.0	308.2	271.2	233.3	195.1	166.1	146.9
45°	509.5	487.7	440.9	384.6	333.6	289.3	244.7	200.1	160.8	135.4	124.9
47.5°	523.9	489.7	433.1	372.3	318.0	268.4	214.6	163.3	129.9	118.4	118.2
50°	547.4	498.6	431.4	363.4	302.7	242.2	179.2	130.7	114.5	114.0	117.1
52.5°	584.4	515.3	435.6	357.3	284.3	208.2	141.9	112.9	109.8	112.9	116.8
55°	666.1	545.1	441.2	346.4	254.4	165.0	116.8	107.0	108.4	112.0	115.7
57.5°	814.6	607.0	447.0	321.9	206.2	126.8	105.1	104.8	107.3	110.4	113.7
60°	908.8	683.4	461.2	285.7	155.8	104.8	100.6	103.4	106.5	108.7	111.5
62.5°	911.9	703.4	468.8	246.9	115.9	95.9	96.7	102.0	105.6	106.5	107.9
65°	853.1	665.5	434.8	200.9	96.1	90.9	93.9	98.7	102.3	102.8	104.0
67.5°	745.2	586.9	368.4	151.6	87.5	87.0	90.3	93.9	96.4	98.7	100.3
70°	561.3	484.4	296.3	117.6	82.2	81.7	85.0	88.1	90.3	93.1	95.9
72.5°	284.5	335.3	224.6	96.1	75.0	75.5	79.1	81.9	83.6	86.1	88.9
75°	97.0	146.3	142.1	77.8	66.9	69.1	70.8	73.9	76.4	78.0	79.4
77.5°	60.8	63.5	73.3	62.7	59.1	59.6	62.4	65.2	68.0	69.1	69.7
80°	50.7	51.0	51.3	50.2	50.4	52.1	53.8	56.9	59.6	60.2	60.5
82.5°	40.1	42.9	42.6	42.4	43.8	45.4	46.5	47.7	48.8	49.3	50.2
85°	35.4	34.8	35.1	36.0	34.8	33.7	33.4	33.4	35.1	37.1	37.9
87.5°	32.3	27.6	20.6	19.5	19.5	19.0	17.8	17.8	19.5	21.2	22.0
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):

	160°	165°	170°	175°	180°
0°	830.5	830.5	830.5	830.5	830.5
2.5°	825.5	825.8	825.5	825.5	826.9
5°	819.4	820.5	819.9	820.8	821.6
7.5°	806.8	809.6	810.2	812.4	811.6
10°	788.7	790.7	793.4	795.7	794.8
12.5°	760.0	764.7	768.9	771.4	770.9
15°	723.5	730.2	735.8	737.7	735.5
17.5°	684.5	688.7	695.3	696.7	699.0
20°	635.1	634.9	640.7	640.7	639.6
22.5°	570.8	574.9	574.9	571.0	569.1
25°	505.0	506.4	502.2	503.0	497.7
27.5°	438.9	435.3	432.0	433.4	429.5
30°	376.0	368.2	364.8	365.4	361.2
32.5°	315.5	306.3	302.9	298.5	294.9
35°	260.6	246.1	237.4	235.2	237.7
37.5°	206.8	196.5	186.2	178.6	179.5
40°	163.6	153.0	146.3	143.2	142.7
42.5°	135.2	129.0	127.6	127.9	127.9
45°	122.6	122.9	124.0	125.1	125.4
47.5°	120.1	121.8	123.7	125.1	125.4
50°	119.8	121.5	122.9	124.6	125.1
52.5°	119.6	120.7	121.5	122.3	123.2
55°	118.4	119.0	118.7	119.3	120.1
57.5°	115.7	115.9	115.4	115.7	117.3
60°	113.1	113.4	112.3	113.7	114.0
62.5°	110.1	109.8	109.2	110.1	110.1
65°	105.6	104.0	104.5	105.3	105.6
67.5°	100.3	98.7	98.7	99.2	100.1
70°	93.6	92.8	92.8	93.9	95.0
72.5°	86.1	86.7	88.3	90.0	91.7
75°	80.0	81.4	83.1	87.2	89.7
77.5°	72.2	72.5	73.9	78.0	82.5
80°	61.3	61.0	61.3	61.9	62.7
82.5°	48.5	47.9	46.3	46.8	45.7
85°	35.7	34.8	32.9	31.5	31.2
87.5°	20.6	20.6	19.8	18.7	17.6
90°	0.0	0.0	0.0	0.0	0.0

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