

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: P146848

Luminaire Tested: **LDRL-T4-E02-E-8030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P146848
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-E02-E-8030
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(2) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 SHORT
Light Source: (42) 3000K CCT, 80 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4960.3 lumens
Efficiency: N/A
Efficacy: 95.2 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

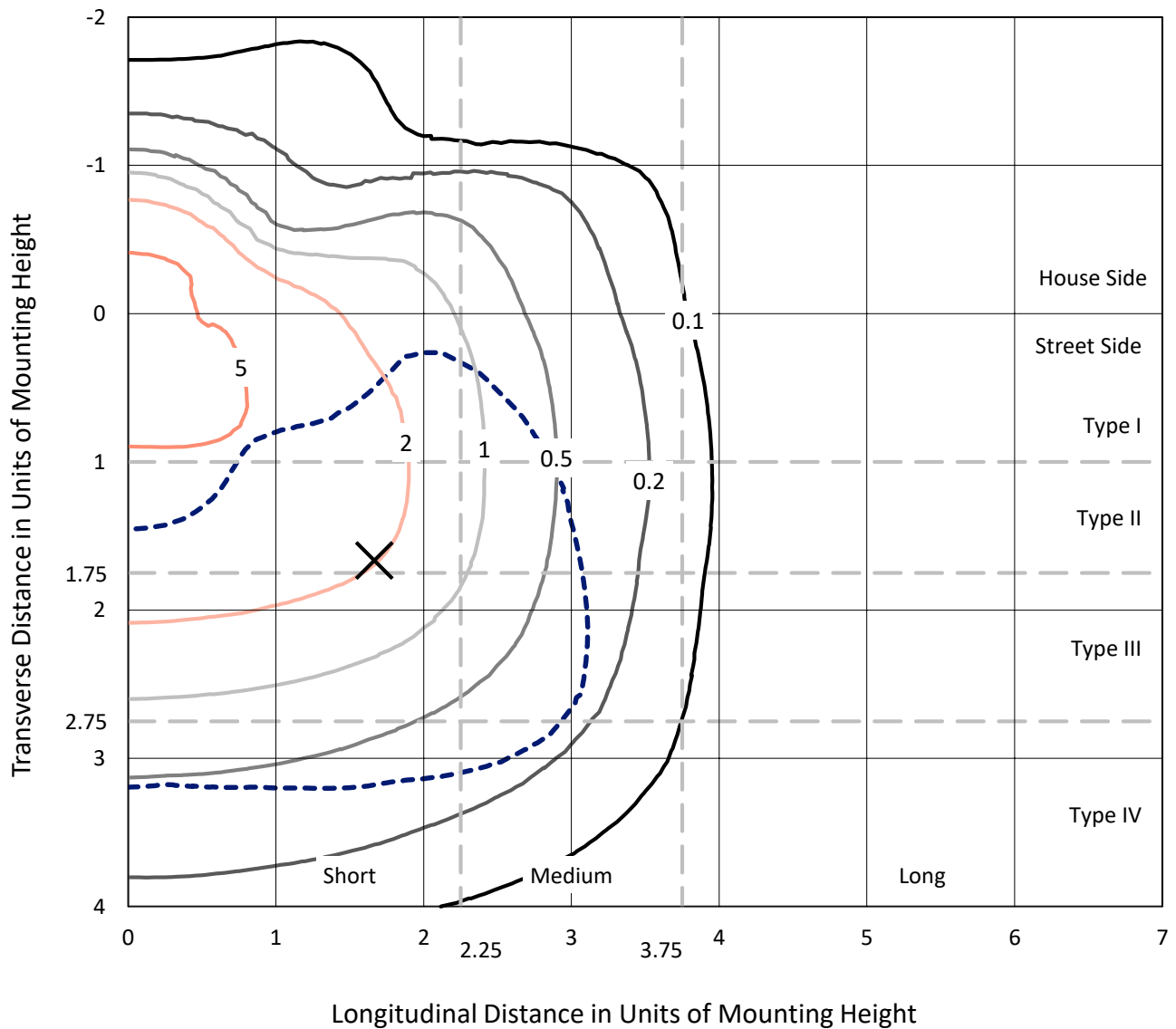
Input Watts (W): 52.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

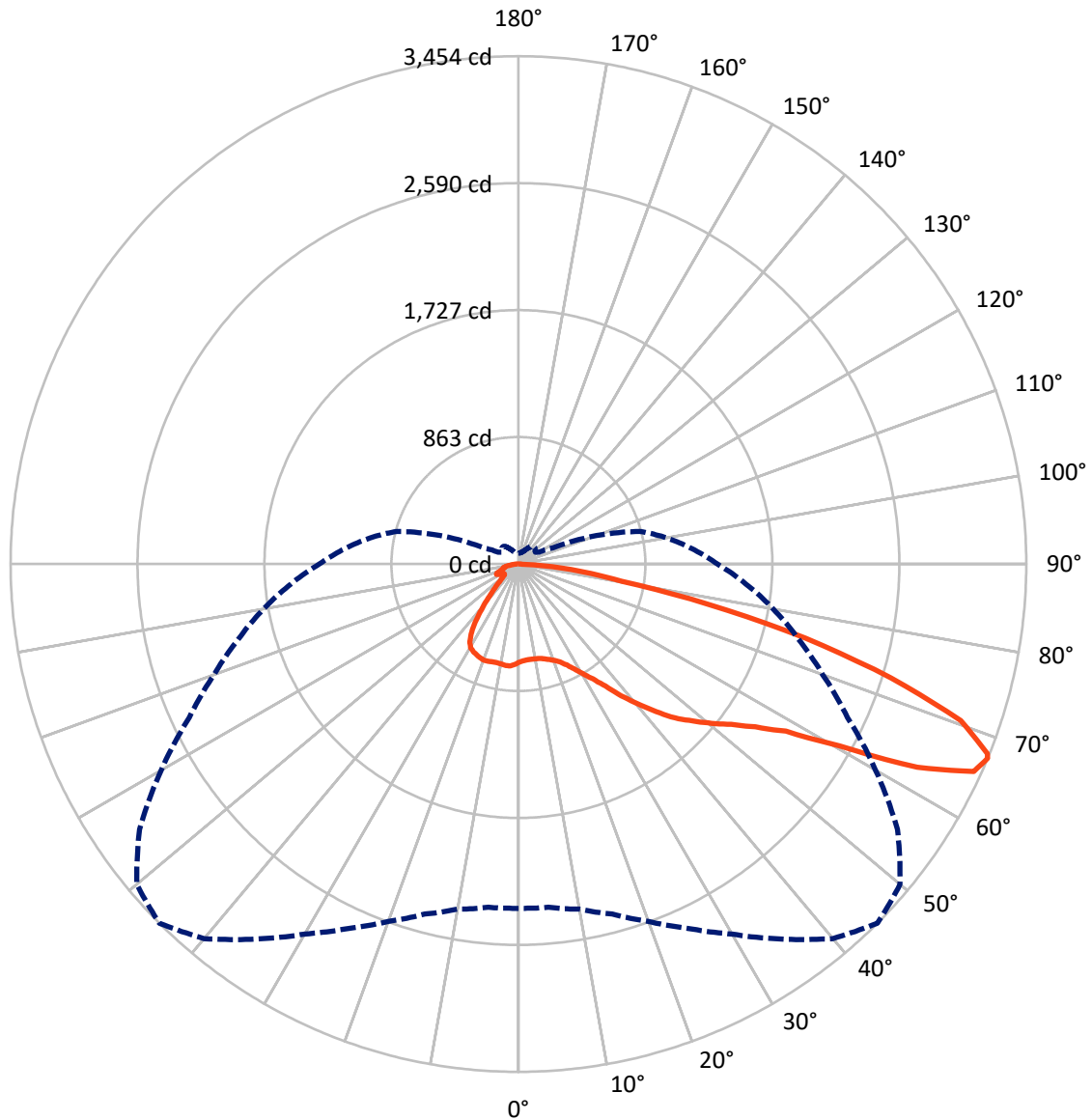
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 6.8 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	1005.1	0.0	1005.1
	% Fixture	20.3	0.0	20.3
Street Side	Lumens	3955.2	0.0	3955.2
	% Fixture	79.7	0.0	79.7
Total	Lumens	4960.3	0.0	4960.3
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	64.4	1.3
10°-20°	193.3	3.9
20°-30°	328.5	6.6
30°-40°	493.6	10.0
40°-50°	641.9	12.9
50°-60°	881.3	17.8
60°-70°	1390.2	28.0
70°-80°	840.0	16.9
80°-90°	127.3	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°	4960.3	100.0
0°-180°	4960.3	100.0



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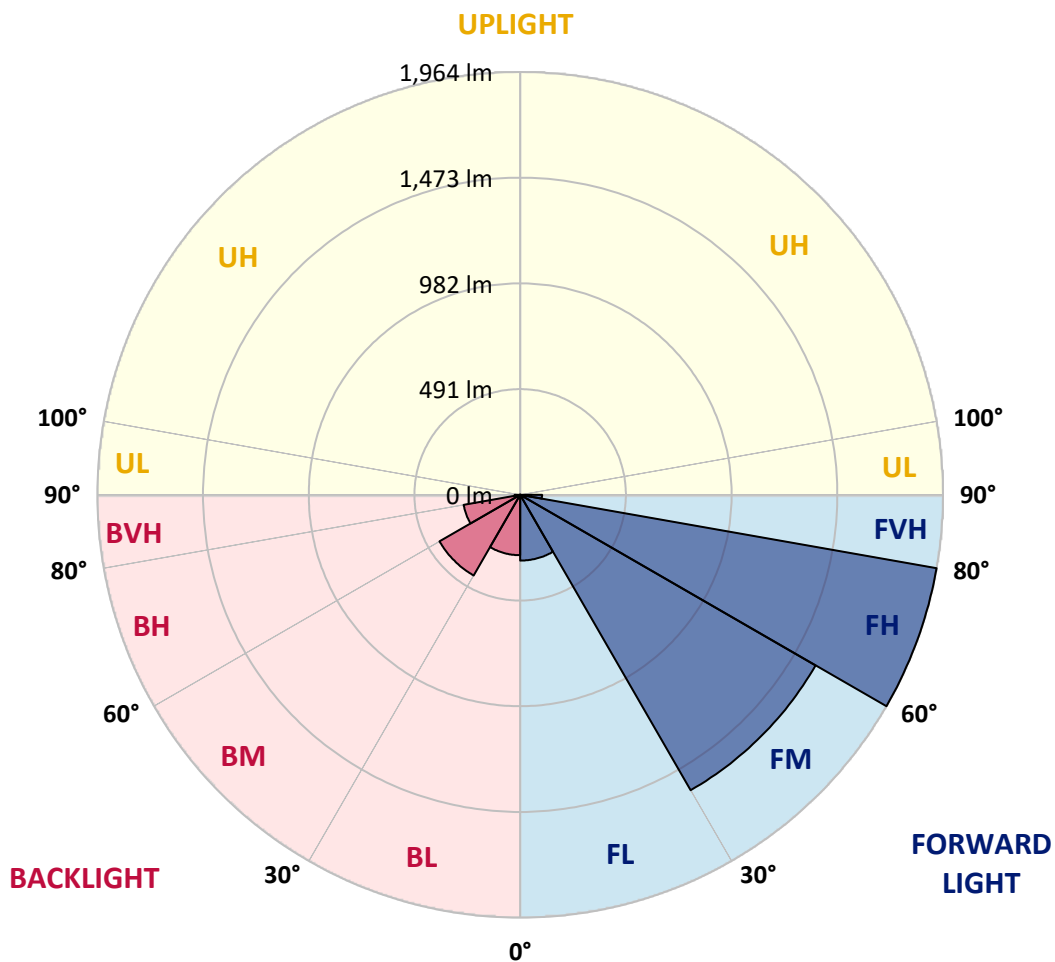
CATALOG NUMBER: LDRL-T4-E02-E-8030

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	305.5	6.2			
FM	(30°-60°)	1584.3	31.9			
FH	(60°-80°)	1963.9	39.6			G2/5000
FVH	(80°-90°)	101.6	2.0			G2/225
BL	(0°-30°)	280.6	5.7	B1/500		
BM	(30°-60°)	432.5	8.7	B1/1000		
BH	(60°-80°)	266.3	5.4	B1/500		G1/500
BVH	(80°-90°)	25.6	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°	667.8	667.8	667.8	667.8	667.8	667.8	667.8	667.8	667.8	667.8	667.8
2.5°	652.9	654.3	653.2	653.2	653.6	653.9	654.6	655.9	656.3	658.3	658.7
5°	639.7	640.1	640.1	640.4	642.4	644.1	645.8	648.2	650.2	653.9	656.3
7.5°	635.0	636.4	636.0	636.7	638.7	640.4	642.4	645.8	650.9	653.9	657.3
10°	642.8	643.8	642.8	643.1	643.5	645.1	645.8	648.2	652.2	654.9	658.0
12.5°	660.7	660.7	659.7	659.0	658.0	658.3	657.0	656.6	658.7	659.0	659.3
15°	684.3	687.0	683.6	680.9	679.6	678.2	673.8	672.2	671.8	668.8	665.7
17.5°	708.3	709.0	706.9	703.9	701.9	698.8	695.1	691.7	687.7	683.0	676.9
20°	734.9	735.3	732.6	728.2	725.8	722.1	717.4	711.7	706.6	699.2	692.4
22.5°	772.1	771.7	766.3	762.6	759.3	754.9	748.1	740.3	732.2	723.5	714.0
25°	814.6	814.6	810.9	804.8	803.1	796.7	789.3	780.2	771.7	759.3	747.8
27.5°	863.2	863.6	856.8	853.4	849.7	843.0	837.9	830.8	819.3	806.9	795.0
30°	921.0	919.3	913.9	906.8	905.4	900.0	892.9	887.9	873.7	864.9	851.8
32.5°	975.7	978.4	977.0	968.9	970.3	964.9	958.8	955.1	940.2	931.8	919.6
35°	1057.4	1059.7	1061.7	1058.7	1060.4	1057.4	1052.3	1042.5	1030.3	1019.2	1002.3
37.5°	1120.8	1123.2	1124.5	1132.0	1142.8	1153.2	1158.0	1152.9	1153.6	1136.7	1114.1
40°	1172.8	1178.5	1186.7	1200.8	1222.4	1242.4	1253.2	1261.6	1266.0	1250.1	1220.7
42.5°	1224.8	1230.9	1242.0	1264.6	1294.3	1323.0	1345.7	1371.7	1376.4	1372.3	1347.3
45°	1279.2	1286.2	1300.1	1325.7	1360.5	1398.0	1434.4	1471.2	1489.8	1492.9	1462.5
47.5°	1344.6	1354.8	1367.6	1396.6	1430.4	1472.6	1518.2	1565.4	1594.5	1594.5	1559.4
50°	1426.3	1437.8	1448.6	1477.7	1511.4	1555.0	1607.6	1660.3	1699.8	1702.2	1659.6
52.5°	1540.8	1542.5	1548.9	1575.6	1604.9	1653.5	1703.5	1764.6	1810.2	1812.2	1763.3
55°	1679.9	1679.9	1687.3	1709.6	1736.9	1777.1	1828.8	1896.6	1944.6	1955.0	1892.2
57.5°	1862.9	1869.6	1873.3	1899.3	1917.9	1960.4	2003.6	2077.6	2138.7	2145.4	2081.6
60°	2160.6	2147.8	2168.4	2191.3	2234.9	2265.9	2339.5	2413.8	2491.8	2510.4	2441.8
62.5°	2454.0	2467.8	2493.1	2534.7	2609.3	2678.8	2784.2	2896.9	3018.1	3043.1	2990.8
65°	2472.2	2480.7	2515.8	2587.3	2689.3	2813.2	2958.4	3128.2	3308.8	3402.3	3314.5
67°	2341.2	2343.6	2383.4	2464.8	2587.0	2733.9	2905.7	3113.0	3325.0	3453.6	3388.1
67.5°	2299.7	2304.1	2343.3	2426.3	2549.9	2700.1	2875.3	3088.3	3305.4	3439.8	3380.7
70°	2056.0	2056.0	2098.2	2181.9	2297.7	2444.2	2627.5	2842.6	3078.5	3191.6	3141.3
72.5°	1750.1	1739.0	1786.6	1850.0	1944.6	2072.5	2220.0	2389.8	2567.4	2649.8	2629.9
75°	1272.1	1293.0	1317.6	1364.6	1446.6	1547.5	1634.0	1785.5	1925.0	2016.1	1992.2
77.5°	694.1	702.2	770.4	798.4	870.3	945.3	1040.1	1146.5	1256.2	1313.6	1290.3
80°	412.5	428.4	468.9	502.3	541.2	598.2	667.1	690.4	712.0	710.6	668.4
82.5°	260.6	279.9	323.8	352.5	372.7	405.8	443.3	472.6	479.0	447.3	398.4
85°	42.2	69.9	182.6	214.7	227.5	245.4	273.1	285.6	266.7	232.9	241.4
87.5°	16.5	19.9	55.7	70.6	74.6	39.2	67.9	79.7	40.5	20.6	46.6
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°	667.8	667.8	667.8	667.8	667.8	667.8	667.8	667.8	667.8	667.8	667.8
2.5°	660.7	662.4	664.1	666.1	666.8	668.4	671.5	671.1	673.5	674.5	676.2
5°	659.3	663.0	665.7	669.5	670.8	674.5	678.6	679.9	683.0	685.3	687.3
7.5°	662.0	666.1	669.5	673.8	676.9	679.9	683.0	686.7	689.4	691.1	692.4
10°	663.0	667.4	671.5	675.2	678.6	680.9	684.3	687.3	690.0	691.1	691.4
12.5°	663.4	666.4	670.5	674.5	677.6	680.6	683.0	686.3	688.4	688.7	688.0
15°	666.1	666.4	669.1	673.8	676.9	679.9	681.6	683.3	684.6	683.6	682.6
17.5°	674.2	671.8	671.8	674.2	675.9	677.2	677.6	677.2	675.9	673.8	672.2
20°	687.3	682.6	678.9	677.6	674.9	671.5	667.1	663.0	658.0	655.6	655.3
22.5°	707.9	700.9	694.1	687.3	678.6	668.8	658.7	649.9	642.8	639.1	639.4
25°	743.0	732.6	724.8	713.0	698.8	685.0	671.8	660.0	651.6	644.8	646.2
27.5°	790.3	778.5	771.7	758.2	742.0	724.5	709.0	692.7	680.6	672.2	673.8
30°	845.7	842.3	831.2	817.7	802.5	782.5	759.3	734.9	713.0	699.2	696.5
32.5°	912.5	908.8	896.7	885.2	865.6	843.7	813.3	774.8	740.3	714.0	702.5
35°	994.9	985.8	970.9	959.8	937.8	909.5	870.3	818.3	766.0	726.5	697.8
37.5°	1097.5	1074.9	1050.3	1021.2	988.8	954.4	909.1	848.4	783.6	727.5	676.5
40°	1195.4	1159.0	1118.1	1072.2	1032.7	991.2	944.3	874.7	795.4	720.4	644.5
42.5°	1304.5	1247.8	1192.4	1129.3	1077.3	1028.0	974.3	893.3	797.7	701.2	602.9
45°	1409.5	1336.5	1262.3	1184.3	1118.1	1063.4	1002.3	909.1	797.1	680.9	561.8
47.5°	1503.0	1415.9	1324.1	1236.3	1159.3	1099.2	1032.4	930.8	806.2	675.2	534.4
50°	1590.4	1489.8	1382.1	1284.6	1200.8	1139.4	1070.5	964.9	834.2	688.4	530.4
52.5°	1680.6	1571.2	1448.0	1343.0	1255.5	1184.3	1114.7	1008.4	873.4	715.4	539.5
55°	1798.0	1672.5	1541.1	1424.7	1324.4	1247.8	1167.4	1061.1	915.6	746.8	556.7
57.5°	1972.9	1826.1	1676.8	1551.6	1435.8	1340.3	1252.1	1130.3	985.4	794.0	594.5
60°	2286.9	2124.2	1951.3	1787.6	1654.2	1542.5	1430.4	1279.2	1114.4	901.4	681.3
62.5°	2799.7	2574.5	2335.5	2120.1	1936.8	1785.5	1627.6	1445.9	1253.8	1031.7	812.6
65°	3107.9	2797.3	2493.1	2243.3	2026.6	1832.8	1641.7	1446.6	1260.6	1066.5	871.7
67°	3146.1	2805.4	2468.8	2202.8	1970.6	1759.6	1552.3	1352.7	1186.3	1023.6	855.5
67.5°	3134.6	2789.2	2445.9	2177.2	1942.5	1738.3	1534.4	1330.1	1168.1	1005.4	843.3
70°	2908.4	2570.5	2230.8	1969.5	1744.7	1535.7	1343.0	1138.4	1013.1	896.7	756.6
72.5°	2413.8	2150.2	1865.6	1647.8	1453.7	1272.7	1103.3	932.1	831.5	749.1	650.5
75°	1789.9	1548.2	1307.5	1176.5	1026.0	881.1	750.1	623.5	584.7	565.1	507.1
77.5°	1105.3	888.2	706.9	588.4	467.9	366.6	291.7	237.3	247.5	288.0	306.5
80°	550.3	406.5	314.6	250.2	202.2	163.4	119.8	87.8	105.0	124.6	141.1
82.5°	331.2	261.6	206.9	175.2	142.5	110.1	78.0	59.4	65.8	88.5	97.2
85°	205.6	164.7	131.7	110.1	91.2	67.5	44.2	43.9	46.6	58.7	67.2
87.5°	60.4	40.8	32.4	33.8	37.5	31.1	23.3	19.9	24.6	33.8	37.8
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°	667.8	667.8	667.8	667.8	667.8	667.8	667.8	667.8	667.8	667.8	667.8
2.5°	676.5	678.9	679.9	680.3	680.6	682.6	682.6	684.6	685.3	685.3	686.0
5°	689.4	691.7	692.7	693.1	693.8	694.8	694.4	695.8	696.5	696.1	696.1
7.5°	694.1	694.8	694.8	695.8	696.8	695.8	695.1	695.8	695.4	695.8	695.8
10°	692.4	691.7	691.7	691.1	692.1	690.0	690.0	690.7	690.4	691.1	692.1
12.5°	688.4	688.0	687.0	686.7	688.0	686.7	687.0	688.0	688.7	690.0	691.7
15°	682.6	681.6	681.6	683.0	686.3	687.3	688.7	690.4	690.7	691.4	692.1
17.5°	672.8	674.5	678.6	683.3	689.7	692.1	692.7	691.7	688.4	685.7	683.0
20°	659.3	666.8	677.2	687.3	695.1	694.8	690.4	684.0	675.9	670.1	666.4
22.5°	647.8	662.4	678.6	690.7	695.8	689.4	679.2	669.5	660.0	651.6	644.1
25°	655.9	669.8	683.6	691.1	690.7	679.6	666.1	655.3	642.4	630.6	618.1
27.5°	682.3	690.7	694.8	692.4	685.3	670.5	655.6	640.4	623.9	609.7	595.2
30°	700.2	700.2	696.1	686.7	674.2	657.6	639.4	619.8	600.2	583.7	567.2
32.5°	694.4	681.3	669.5	656.6	642.4	624.6	603.6	582.4	560.1	540.8	526.7
35°	669.5	641.1	616.5	598.2	583.4	562.1	537.8	513.5	495.3	482.1	474.0
37.5°	624.9	579.7	543.9	521.6	498.6	476.7	448.7	437.5	421.3	413.2	410.2
40°	570.9	504.7	459.8	431.1	406.8	379.5	360.6	353.5	347.4	345.7	344.3
42.5°	508.8	426.0	372.7	343.0	313.6	293.7	285.3	280.9	279.9	279.9	281.6
45°	444.3	346.0	284.6	260.6	236.3	225.9	223.8	221.8	222.1	221.1	221.8
47.5°	394.3	277.8	214.7	192.8	180.3	176.9	174.5	173.9	173.9	172.2	170.1
50°	368.3	232.3	168.5	151.2	144.2	141.8	141.8	140.4	137.7	136.1	131.7
52.5°	361.6	208.6	145.8	131.0	124.9	122.9	120.9	118.8	114.8	111.1	106.0
55°	367.0	201.2	138.8	124.9	118.2	115.8	114.1	110.7	105.0	99.6	93.9
57.5°	389.6	205.9	141.5	126.6	120.5	118.8	117.1	112.1	105.0	97.2	90.8
60°	451.4	228.2	152.9	135.7	130.6	131.0	128.6	122.2	112.1	100.9	91.5
62.5°	531.0	259.3	167.8	148.5	147.9	151.2	151.2	140.1	123.6	106.7	93.9
65°	576.6	269.1	169.8	150.2	156.0	165.8	165.1	150.2	127.6	106.7	92.8
67°	565.1	258.6	161.4	140.4	147.2	158.3	157.0	142.8	121.5	102.3	90.1
67.5°	556.0	255.2	159.3	138.1	144.8	153.9	153.9	139.8	118.8	100.9	89.1
70°	489.5	225.5	149.2	129.0	129.0	131.3	129.6	119.5	105.3	92.8	85.1
72.5°	408.2	197.2	141.1	122.5	116.1	114.8	112.4	105.3	96.2	87.4	80.7
75°	316.3	174.5	134.7	115.8	107.4	104.3	102.0	96.6	89.5	82.0	76.3
77.5°	221.5	149.6	126.3	110.1	100.9	98.6	94.9	88.8	83.0	76.6	71.2
80°	137.4	123.6	110.1	99.3	89.8	86.4	81.7	76.3	71.6	67.9	63.8
82.5°	97.9	90.8	82.0	76.3	66.5	56.4	60.4	60.8	57.7	55.4	54.4
85°	65.5	59.1	54.7	49.6	43.9	39.5	40.5	43.5	43.9	42.9	42.9
87.5°	35.8	30.4	29.4	30.4	26.3	25.0	25.3	28.0	28.4	28.4	28.7
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):

	165°	170°	175°	180°
0°	667.8	667.8	667.8	667.8
2.5°	686.3	687.3	687.0	687.7
5°	696.8	697.5	697.1	697.5
7.5°	695.1	696.5	697.1	696.1
10°	692.4	694.4	695.8	695.8
12.5°	693.1	696.5	698.5	698.5
15°	692.4	695.1	695.8	695.8
17.5°	681.9	681.9	682.3	680.9
20°	663.7	661.7	661.0	658.7
22.5°	637.7	633.0	630.0	628.3
25°	608.0	600.6	595.9	593.2
27.5°	583.4	577.0	572.2	569.5
30°	556.0	548.6	545.9	543.9
32.5°	516.5	509.4	507.4	505.7
35°	465.2	462.8	457.4	453.7
37.5°	405.8	402.8	400.7	399.4
40°	343.7	344.0	342.3	339.3
42.5°	281.6	284.9	281.6	280.9
45°	221.1	224.8	224.8	225.9
47.5°	170.5	169.8	171.2	171.5
50°	129.0	126.9	126.3	125.2
52.5°	102.3	99.9	98.6	96.9
55°	90.1	87.4	86.1	85.7
57.5°	86.1	82.7	80.7	80.3
60°	85.1	80.3	77.6	77.0
62.5°	85.1	79.3	76.3	75.3
65°	84.1	78.3	75.6	74.6
67°	82.7	77.6	74.9	74.3
67.5°	82.0	77.3	74.9	73.9
70°	80.3	76.3	73.6	72.6
72.5°	76.6	73.3	70.6	69.9
75°	72.6	69.5	67.9	67.2
77.5°	67.9	65.2	63.1	61.4
80°	60.8	57.7	54.7	54.0
82.5°	51.7	48.3	45.9	45.6
85°	41.5	38.8	36.1	36.1
87.5°	29.0	27.3	25.7	24.0
90°	0.0	0.0	0.0	0.0

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