

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: P146853

Luminaire Tested: **LDRL-T4-F02-E-8030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P146853
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-8030
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(2) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 SHORT
Light Source: (14) 3000K CCT, 80 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4094.9 lumens
Efficiency: N/A
Efficacy: 74.5 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

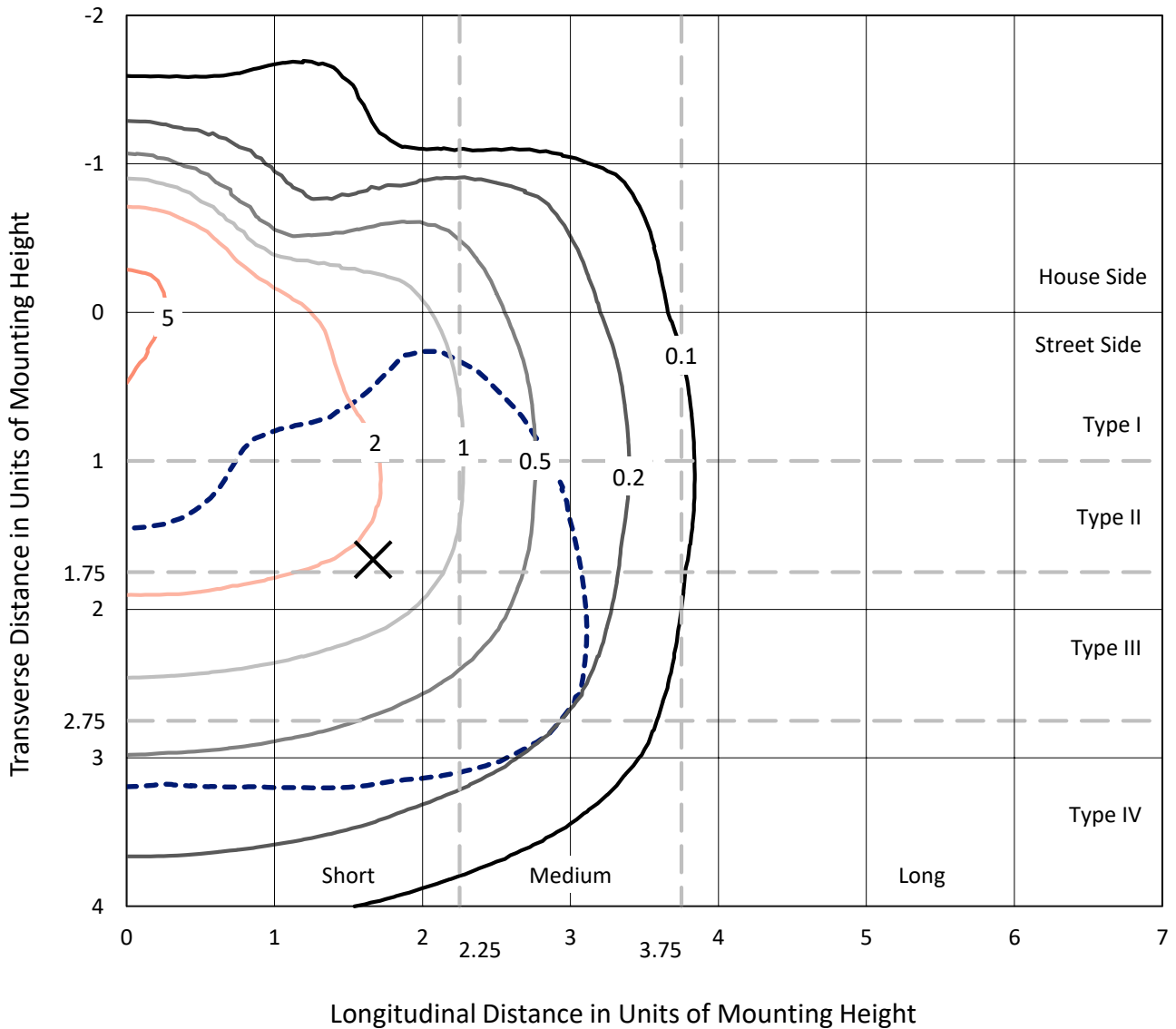
Input Watts (W): 55
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

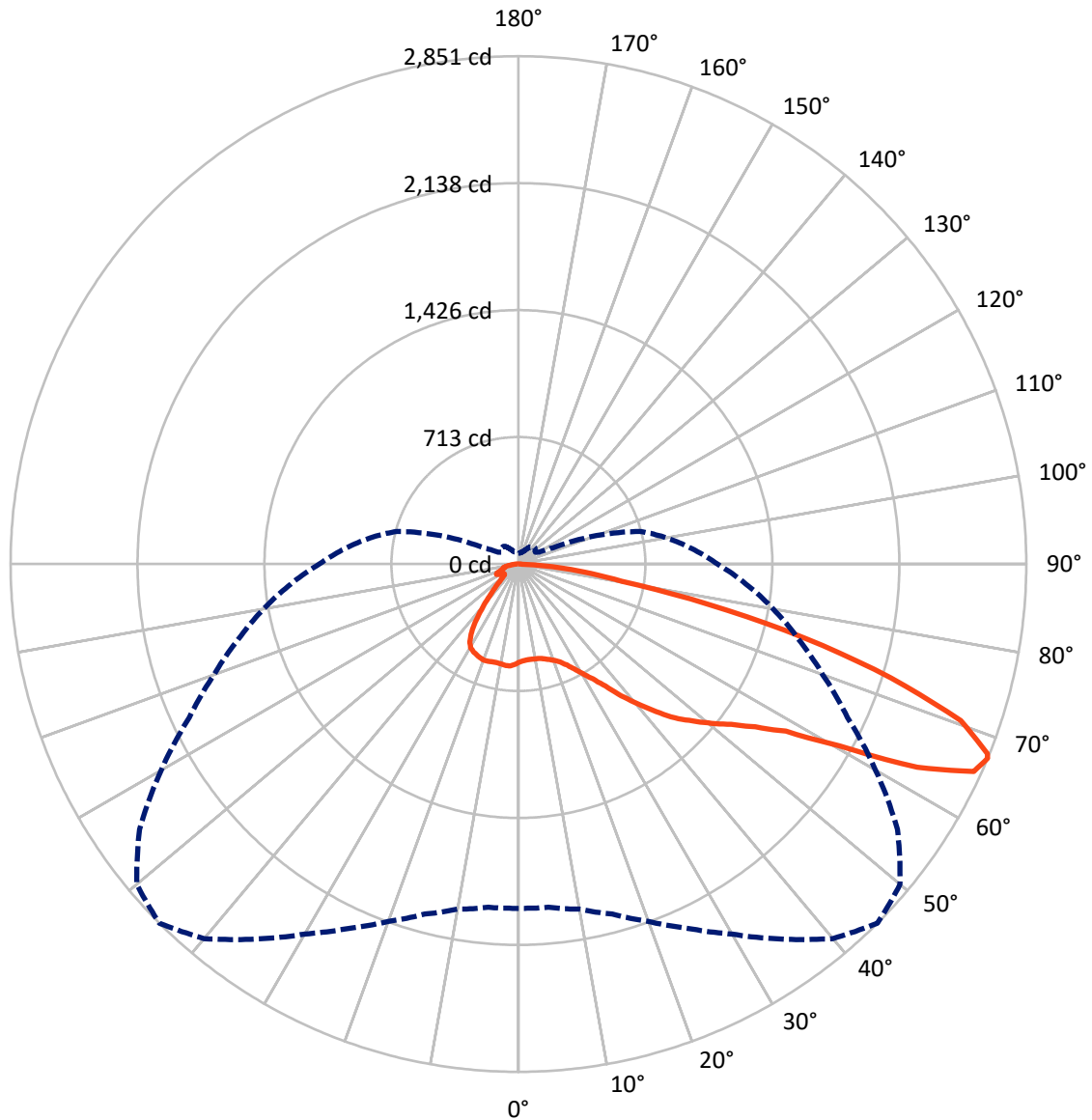
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 5.6 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	829.7	0.0	829.7
	% Fixture	20.3	0.0	20.3
Street Side	Lumens	3265.2	0.0	3265.2
	% Fixture	79.7	0.0	79.7
Total	Lumens	4094.9	0.0	4094.9
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	53.1	1.3
10°-20°	159.5	3.9
20°-30°	271.2	6.6
30°-40°	407.5	10.0
40°-50°	529.9	12.9
50°-60°	727.5	17.8
60°-70°	1147.7	28.0
70°-80°	693.4	16.9
80°-90°	105.0	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°	4094.9	100.0
0°-180°	4094.9	100.0



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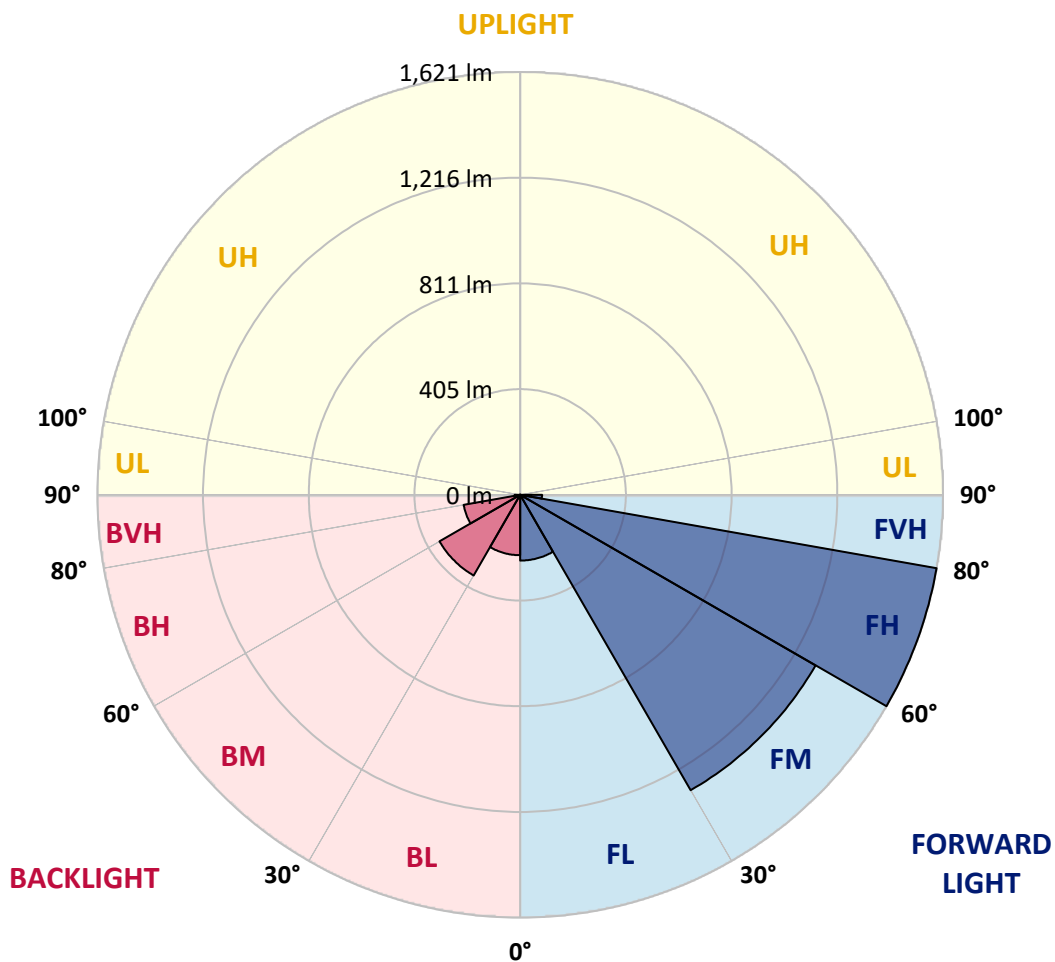
CATALOG NUMBER: LDRL-T4-F02-E-8030

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	252.2	6.2			
FM	(30°-60°)	1307.9	31.9			
FH	(60°-80°)	1621.2	39.6			G1/1800
FVH	(80°-90°)	83.9	2.0			G1/100
BL	(0°-30°)	231.7	5.7	B1/500		
BM	(30°-60°)	357.0	8.7	B1/1000		
BH	(60°-30°)	219.9	5.4	B1/500		G1/500
BVH	(80°-90°)	21.2	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-G1

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3
2.5°	539.0	540.1	539.3	539.3	539.6	539.8	540.4	541.5	541.8	543.5	543.7
5°	528.1	528.4	528.4	528.7	530.4	531.7	533.1	535.1	536.8	539.8	541.8
7.5°	524.2	525.3	525.1	525.6	527.3	528.7	530.4	533.1	537.3	539.8	542.6
10°	530.6	531.5	530.6	530.9	531.2	532.6	533.1	535.1	538.4	540.7	543.2
12.5°	545.4	545.4	544.6	544.0	543.2	543.5	542.3	542.1	543.7	544.0	544.3
15°	564.9	567.1	564.4	562.1	561.0	559.9	556.3	554.9	554.6	552.1	549.6
17.5°	584.7	585.3	583.6	581.1	579.4	576.9	573.8	571.0	567.7	563.8	558.8
20°	606.7	607.0	604.8	601.1	599.2	596.1	592.2	587.5	583.3	577.2	571.6
22.5°	637.4	637.1	632.6	629.6	626.8	623.2	617.6	611.2	604.5	597.2	589.4
25°	672.5	672.5	669.4	664.4	663.0	657.7	651.6	644.1	637.1	626.8	617.3
27.5°	712.6	712.9	707.3	704.5	701.5	695.9	691.7	685.9	676.4	666.1	656.3
30°	760.3	758.9	754.4	748.6	747.5	743.0	737.1	733.0	721.3	714.0	703.1
32.5°	805.4	807.7	806.5	799.9	801.0	796.5	791.5	788.4	776.2	769.2	759.2
35°	872.9	874.8	876.5	874.0	875.4	872.9	868.7	860.6	850.6	841.4	827.4
37.5°	925.3	927.2	928.3	934.5	943.4	952.0	955.9	951.7	952.3	938.4	919.7
40°	968.2	972.9	979.6	991.3	1009.2	1025.6	1034.5	1041.5	1045.1	1032.0	1007.8
42.5°	1011.1	1016.1	1025.3	1044.0	1068.5	1092.2	1110.9	1132.3	1136.2	1132.9	1112.3
45°	1056.0	1061.8	1073.3	1094.4	1123.1	1154.1	1184.2	1214.5	1229.9	1232.4	1207.3
47.5°	1110.0	1118.4	1129.0	1153.0	1180.8	1215.7	1253.3	1292.3	1316.3	1316.3	1287.3
50°	1177.5	1187.0	1195.9	1219.8	1247.7	1283.7	1327.1	1370.6	1403.2	1405.2	1370.1
52.5°	1272.0	1273.4	1278.6	1300.7	1324.9	1365.0	1406.3	1456.7	1494.4	1496.0	1455.6
55°	1386.8	1386.8	1392.9	1411.3	1433.9	1467.0	1509.7	1565.7	1605.3	1613.9	1562.1
57.5°	1537.8	1543.4	1546.5	1567.9	1583.3	1618.4	1654.1	1715.1	1765.5	1771.1	1718.4
60°	1783.6	1773.1	1790.1	1809.0	1845.0	1870.6	1931.4	1992.7	2057.0	2072.4	2015.8
62.5°	2025.8	2037.3	2058.2	2092.4	2154.0	2211.4	2298.4	2391.5	2491.5	2512.1	2469.0
65°	2040.9	2047.8	2076.8	2135.9	2220.1	2322.4	2442.2	2582.4	2731.5	2808.7	2736.2
67°	1932.7	1934.7	1967.6	2034.7	2135.6	2256.9	2398.7	2569.8	2744.9	2851.0	2797.0
67.5°	1898.5	1902.1	1934.4	2003.0	2105.0	2229.0	2373.6	2549.5	2728.7	2839.6	2790.8
70°	1697.2	1697.2	1732.1	1801.2	1896.8	2017.7	2169.1	2346.6	2541.4	2634.8	2593.2
72.5°	1444.8	1435.6	1474.8	1527.2	1605.3	1710.9	1832.7	1972.9	2119.5	2187.5	2171.0
75°	1050.1	1067.4	1087.7	1126.5	1194.2	1277.5	1348.9	1474.0	1589.1	1664.4	1644.6
77.5°	573.0	579.7	636.0	659.1	718.5	780.3	858.7	946.4	1037.0	1084.4	1065.2
80°	340.6	353.7	387.1	414.7	446.7	493.8	550.7	569.9	587.8	586.7	551.8
82.5°	215.2	231.0	267.3	291.0	307.7	335.0	365.9	390.2	395.5	369.3	328.9
85°	34.8	57.7	150.8	177.2	187.8	202.6	225.5	235.8	220.2	192.3	199.3
87.5°	13.7	16.4	46.0	58.2	61.6	32.3	56.0	65.8	33.4	17.0	38.5
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°	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3
2.5°	545.4	546.8	548.2	549.9	550.4	551.8	554.3	554.0	556.0	556.8	558.2
5°	544.3	547.4	549.6	552.7	553.8	556.8	560.2	561.3	563.8	565.7	567.4
7.5°	546.5	549.9	552.7	556.3	558.8	561.3	563.8	566.9	569.1	570.5	571.6
10°	547.4	551.0	554.3	557.4	560.2	562.1	564.9	567.4	569.7	570.5	570.8
12.5°	547.6	550.1	553.5	556.8	559.3	561.8	563.8	566.6	568.3	568.5	568.0
15°	549.9	550.1	552.4	556.3	558.8	561.3	562.7	564.1	565.2	564.4	563.5
17.5°	556.6	554.6	554.6	556.6	557.9	559.1	559.3	559.1	557.9	556.3	554.9
20°	567.4	563.5	560.5	559.3	557.1	554.3	550.7	547.4	543.2	541.2	540.9
22.5°	584.4	578.6	573.0	567.4	560.2	552.1	543.7	536.5	530.6	527.6	527.8
25°	613.4	604.8	598.4	588.6	576.9	565.5	554.6	544.8	537.9	532.3	533.4
27.5°	652.4	642.7	637.1	625.9	612.6	598.1	585.3	571.9	561.8	554.9	556.3
30°	698.1	695.3	686.1	675.0	662.5	646.0	626.8	606.7	588.6	577.2	574.9
32.5°	753.3	750.2	740.2	730.7	714.6	696.5	671.4	639.6	611.2	589.4	580.0
35°	821.3	813.8	801.5	792.3	774.2	750.8	718.5	675.6	632.4	599.7	576.1
37.5°	906.0	887.4	867.0	843.1	816.3	787.9	750.5	700.4	646.8	600.6	558.5
40°	986.9	956.8	923.0	885.1	852.5	818.2	779.5	722.1	656.6	594.7	532.0
42.5°	1076.9	1030.1	984.3	932.2	889.3	848.6	804.3	737.4	658.6	578.8	497.7
45°	1163.5	1103.4	1042.0	977.7	923.0	877.9	827.4	750.5	658.0	562.1	463.7
47.5°	1240.7	1168.8	1093.0	1020.6	957.0	907.4	852.2	768.4	665.5	557.4	441.2
50°	1312.9	1229.9	1141.0	1060.4	991.3	940.6	883.7	796.5	688.7	568.3	437.8
52.5°	1387.3	1297.0	1195.3	1108.6	1036.5	977.7	920.2	832.5	721.0	590.6	445.4
55°	1484.3	1380.7	1272.2	1176.1	1093.3	1030.1	963.7	875.9	755.8	616.5	459.6
57.5°	1628.7	1507.5	1384.3	1280.9	1185.3	1106.4	1033.7	933.1	813.5	655.5	490.8
60°	1887.9	1753.5	1610.9	1475.7	1365.6	1273.4	1180.8	1056.0	920.0	744.1	562.4
62.5°	2311.2	2125.3	1928.0	1750.2	1598.9	1474.0	1343.6	1193.6	1035.1	851.7	670.8
65°	2565.7	2309.3	2058.2	1851.9	1673.0	1513.0	1355.3	1194.2	1040.6	880.4	719.6
67°	2597.2	2315.9	2038.1	1818.5	1626.7	1452.6	1281.4	1116.7	979.3	845.0	706.2
67.5°	2587.7	2302.6	2019.1	1797.3	1603.6	1435.0	1266.7	1098.1	964.3	830.0	696.2
70°	2401.0	2122.0	1841.6	1625.9	1440.3	1267.8	1108.6	939.8	836.4	740.2	624.6
72.5°	1992.7	1775.0	1540.1	1360.3	1200.1	1050.7	910.8	769.5	686.4	618.4	537.0
75°	1477.6	1278.1	1079.4	971.2	847.0	727.4	619.3	514.7	482.7	466.5	418.6
77.5°	912.4	733.2	583.6	485.8	386.3	302.7	240.8	195.9	204.3	237.7	253.1
80°	454.3	335.5	259.7	206.5	166.9	134.9	98.9	72.5	86.7	102.8	116.5
82.5°	273.4	216.0	170.8	144.6	117.6	90.9	64.4	49.1	54.3	73.0	80.3
85°	169.7	136.0	108.7	90.9	75.2	55.7	36.5	36.2	38.5	48.5	55.5
87.5°	49.9	33.7	26.8	27.9	30.9	25.6	19.2	16.4	20.3	27.9	31.2
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°	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3
2.5°	558.5	560.5	561.3	561.6	561.8	563.5	563.5	565.2	565.7	565.7	566.3
5°	569.1	571.0	571.9	572.2	572.7	573.6	573.3	574.4	574.9	574.7	574.7
7.5°	573.0	573.6	573.6	574.4	575.2	574.4	573.8	574.4	574.1	574.4	574.4
10°	571.6	571.0	571.0	570.5	571.3	569.7	569.7	570.2	569.9	570.5	571.3
12.5°	568.3	568.0	567.1	566.9	568.0	566.9	567.1	568.0	568.5	569.7	571.0
15°	563.5	562.7	562.7	563.8	566.6	567.4	568.5	569.9	570.2	570.8	571.3
17.5°	555.4	556.8	560.2	564.1	569.4	571.3	571.9	571.0	568.3	566.0	563.8
20°	544.3	550.4	559.1	567.4	573.8	573.6	569.9	564.6	557.9	553.2	550.1
22.5°	534.8	546.8	560.2	570.2	574.4	569.1	560.7	552.7	544.8	537.9	531.7
25°	541.5	552.9	564.4	570.5	570.2	561.0	549.9	540.9	530.4	520.6	510.3
27.5°	563.2	570.2	573.6	571.6	565.7	553.5	541.2	528.7	515.0	503.3	491.3
30°	578.0	578.0	574.7	566.9	556.6	542.9	527.8	511.7	495.5	481.9	468.2
32.5°	573.3	562.4	552.7	542.1	530.4	515.6	498.3	480.7	462.4	446.5	434.8
35°	552.7	529.2	508.9	493.8	481.6	464.0	444.0	423.9	408.8	398.0	391.3
37.5°	515.9	478.5	449.0	430.6	411.6	393.5	370.4	361.2	347.8	341.1	338.6
40°	471.3	416.6	379.6	355.9	335.8	313.3	297.6	291.8	286.8	285.4	284.3
42.5°	420.0	351.7	307.7	283.2	258.9	242.5	235.5	231.9	231.0	231.0	232.4
45°	366.8	285.7	234.9	215.2	195.1	186.4	184.8	183.1	183.4	182.5	183.1
47.5°	325.5	229.4	177.2	159.1	148.8	146.0	144.1	143.5	143.5	142.1	140.5
50°	304.1	191.7	139.1	124.9	119.0	117.1	117.1	115.9	113.7	112.3	108.7
52.5°	298.5	172.2	120.4	108.1	103.1	101.4	99.8	98.1	94.8	91.7	87.5
55°	302.9	166.1	114.5	103.1	97.5	95.6	94.2	91.4	86.7	82.2	77.5
57.5°	321.6	170.0	116.8	104.5	99.5	98.1	96.7	92.5	86.7	80.3	75.0
60°	372.6	188.4	126.2	112.0	107.9	108.1	106.2	100.9	92.5	83.3	75.5
62.5°	438.4	214.0	138.5	122.6	122.1	124.9	124.9	115.7	102.0	88.1	77.5
65°	476.0	222.1	140.2	124.0	128.8	136.8	136.3	124.0	105.3	88.1	76.6
67°	466.5	213.5	133.2	115.9	121.5	130.7	129.6	117.9	100.3	84.4	74.4
67.5°	459.0	210.7	131.5	114.0	119.6	127.1	127.1	115.4	98.1	83.3	73.6
70°	404.1	186.2	123.2	106.5	106.5	108.4	107.0	98.7	87.0	76.6	70.2
72.5°	336.9	162.8	116.5	101.2	95.9	94.8	92.8	87.0	79.4	72.2	66.6
75°	261.1	144.1	111.2	95.6	88.6	86.1	84.2	79.7	73.9	67.7	63.0
77.5°	182.8	123.5	104.2	90.9	83.3	81.4	78.3	73.3	68.6	63.3	58.8
80°	113.4	102.0	90.9	81.9	74.1	71.3	67.4	63.0	59.1	56.0	52.7
82.5°	80.8	75.0	67.7	63.0	54.9	46.5	49.9	50.2	47.7	45.7	44.9
85°	54.1	48.8	45.1	41.0	36.2	32.6	33.4	36.0	36.2	35.4	35.4
87.5°	29.5	25.1	24.2	25.1	21.7	20.6	20.9	23.1	23.4	23.4	23.7
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°	551.3	551.3	551.3	551.3
2.5°	566.6	567.4	567.1	567.7
5°	575.2	575.8	575.5	575.8
7.5°	573.8	574.9	575.5	574.7
10°	571.6	573.3	574.4	574.4
12.5°	572.2	574.9	576.6	576.6
15°	571.6	573.8	574.4	574.4
17.5°	563.0	563.0	563.2	562.1
20°	547.9	546.2	545.7	543.7
22.5°	526.5	522.6	520.0	518.6
25°	501.9	495.8	491.9	489.7
27.5°	481.6	476.3	472.4	470.2
30°	459.0	452.9	450.6	449.0
32.5°	426.4	420.5	418.9	417.5
35°	384.0	382.1	377.6	374.6
37.5°	335.0	332.5	330.8	329.7
40°	283.7	284.0	282.6	280.1
42.5°	232.4	235.2	232.4	231.9
45°	182.5	185.6	185.6	186.4
47.5°	140.7	140.2	141.3	141.6
50°	106.5	104.8	104.2	103.4
52.5°	84.4	82.5	81.4	80.0
55°	74.4	72.2	71.1	70.8
57.5°	71.1	68.3	66.6	66.3
60°	70.2	66.3	64.1	63.5
62.5°	70.2	65.5	63.0	62.1
65°	69.4	64.7	62.4	61.6
67°	68.3	64.1	61.9	61.3
67.5°	67.7	63.8	61.9	61.0
70°	66.3	63.0	60.8	59.9
72.5°	63.3	60.5	58.2	57.7
75°	59.9	57.4	56.0	55.5
77.5°	56.0	53.8	52.1	50.7
80°	50.2	47.7	45.1	44.6
82.5°	42.6	39.9	37.9	37.6
85°	34.3	32.0	29.8	29.8
87.5°	24.0	22.6	21.2	19.8
90°	0.0	0.0	0.0	0.0

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