

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: P163805

Luminaire Tested: **LDRL-SL4-E03-E-8030-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P163805
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33728)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: LDRL-SL4-E03-E-8030-HSS
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(3) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 W/ SPILL LIGHT CONTROL AND HOUSE SIDE SHIELD
Light Source: (63) 3000K CCT, 80 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4997.4 lumens
Efficiency: N/A
Efficacy: 66.5 lumens/watt
Luminous Opening: Rectangular w/ Sides (W: 0.5' x L: 1' x H: 0.1')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B0 - U0 - G2

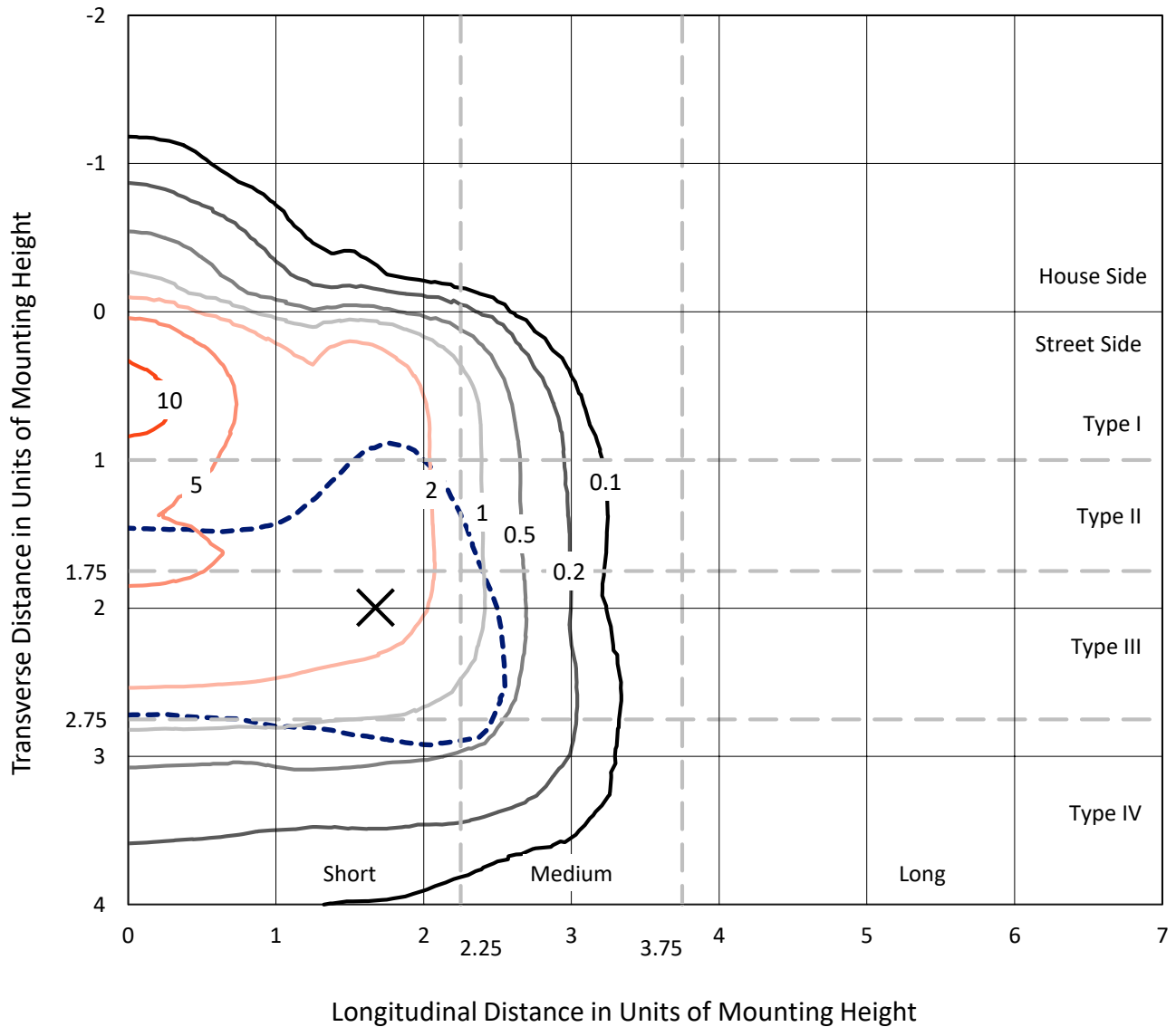
Input Watts (W): 75.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

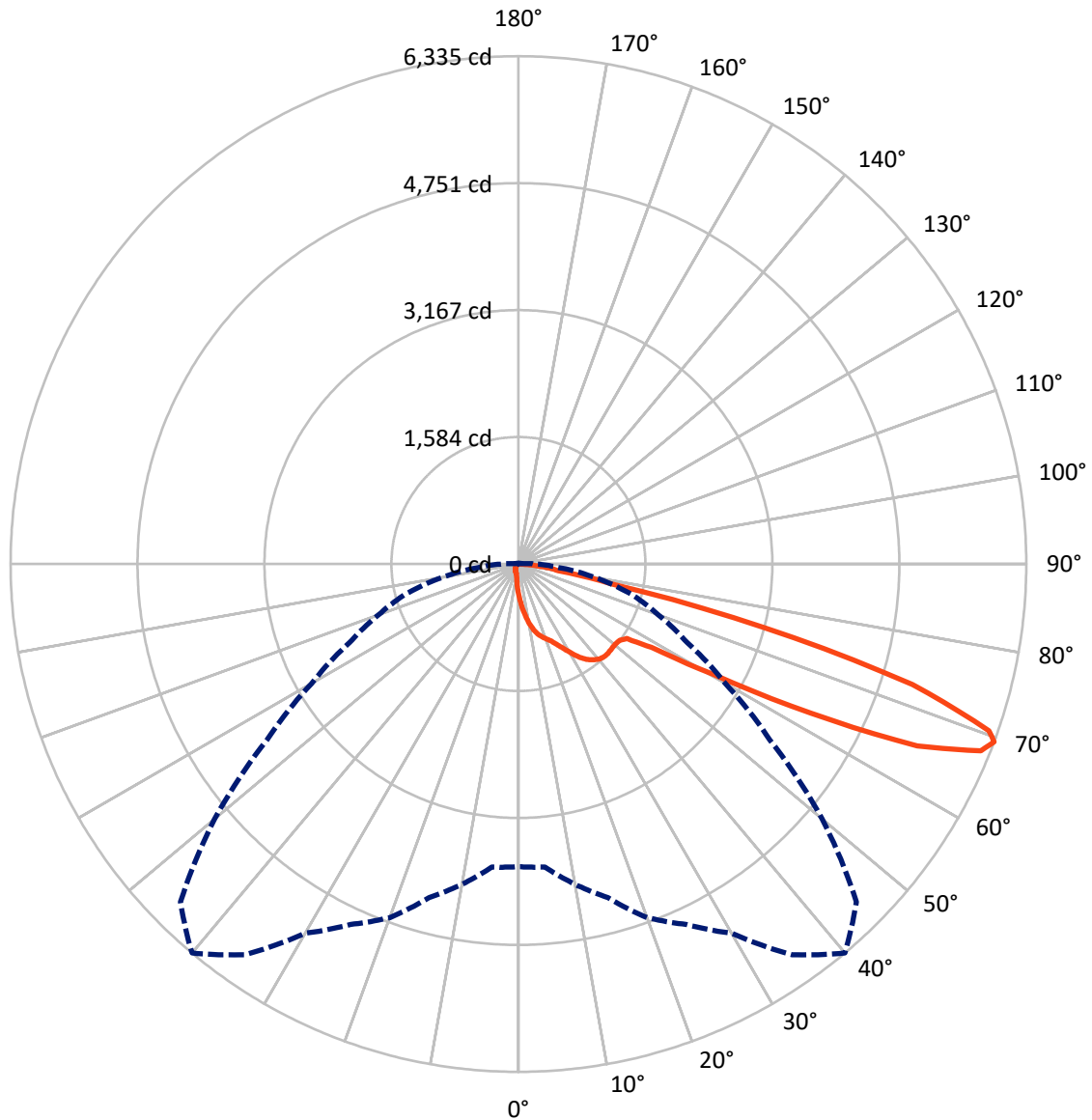
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 11.2 fc
 Type IV - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 40-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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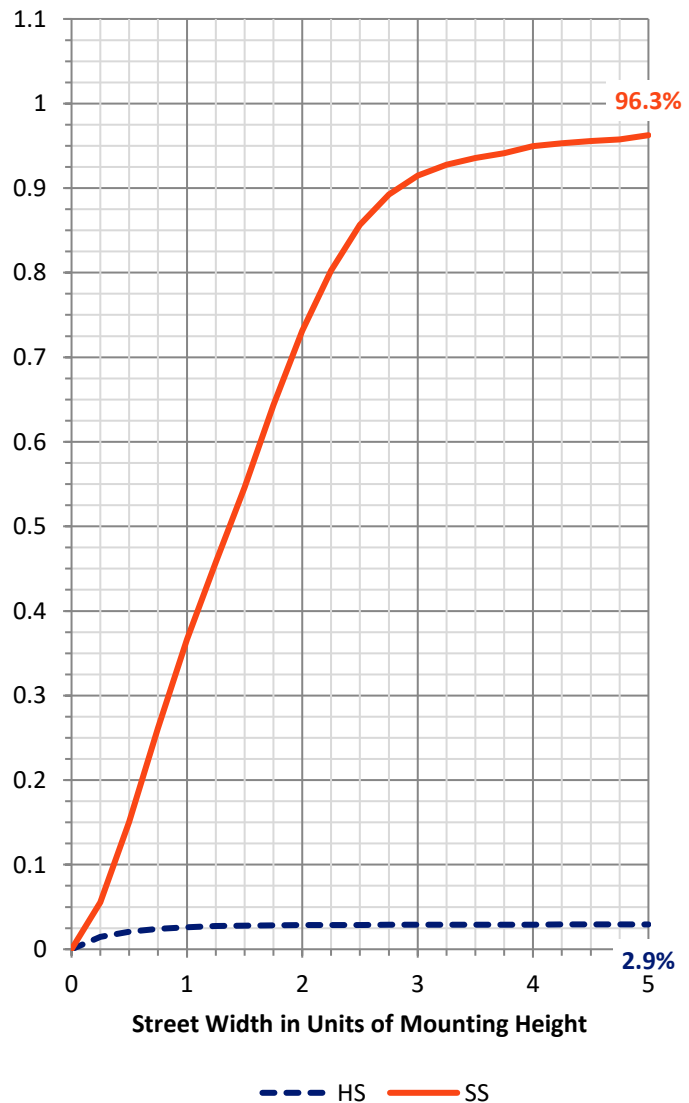
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	148.8	0.0	148.8
	% Fixture	3.0	0.0	3.0
Street Side	Lumens	4848.6	0.0	4848.6
	% Fixture	97.0	0.0	97.0
Total	Lumens	4997.4	0.0	4997.4
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	38.8	0.8
10°-20°	133.7	2.7
20°-30°	256.0	5.1
30°-40°	425.7	8.5
40°-50°	576.0	11.5
50°-60°	900.9	18.0
60°-70°	1852.1	37.1
70°-80°	745.3	14.9
80°-90°	68.9	1.4
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°	4997.4	100.0
0°-180°	4997.4	100.0



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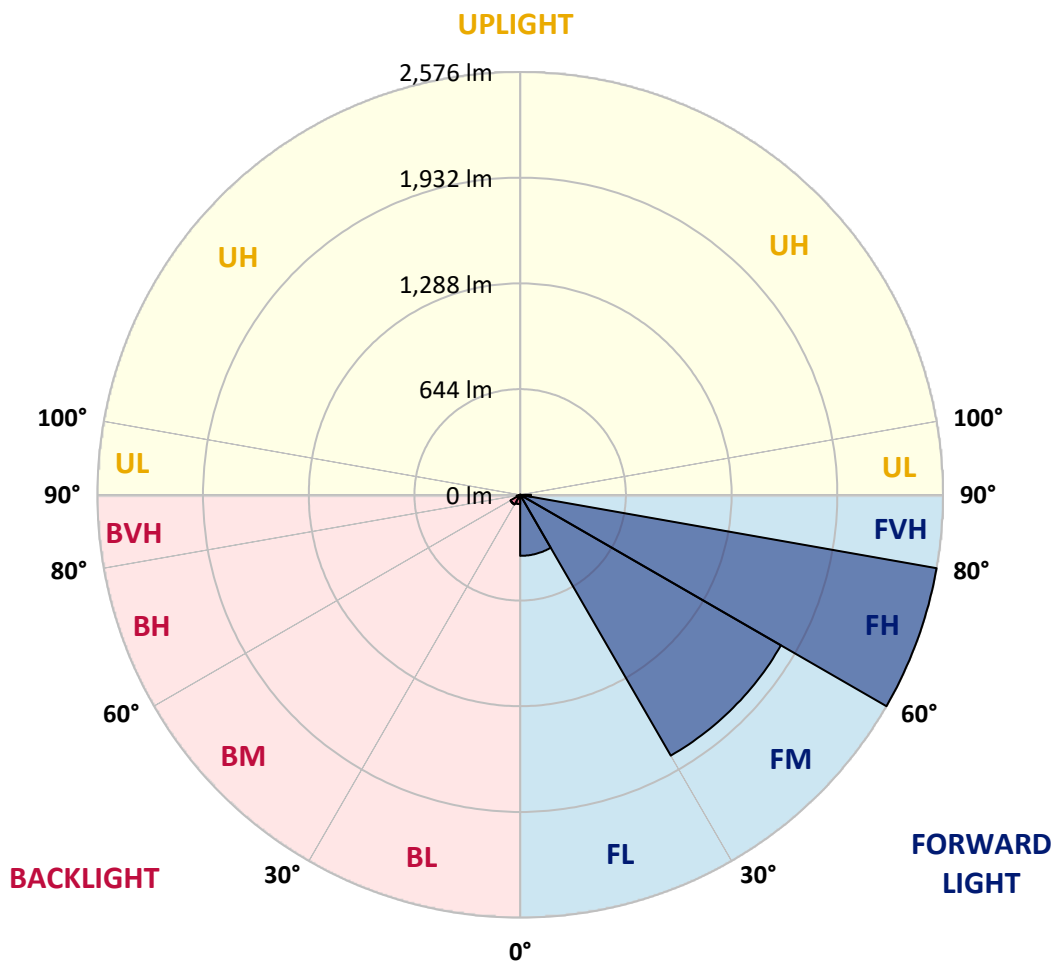
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	371.9	7.4			
FM	(30°-60°)	1834.6	36.7			
FH	(60°-80°)	2575.7	51.5			G2/5000
FVH	(80°-90°)	66.4	1.3			G1/100
BL	(0°-30°)	56.6	1.1	B0/110		
BM	(30°-60°)	67.9	1.4	B0/220		
BH	(60°-80°)	21.7	0.4	B0/110		G0/110
BVH	(80°-90°)	2.6	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-G2

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	377.4	377.4	377.4	377.4	377.4	377.4	377.4	377.4	377.4	377.4	377.4
2.5°	503.5	497.7	491.2	491.2	483.0	483.0	478.1	465.0	463.4	456.0	448.6
5°	642.7	637.8	629.5	622.2	615.6	604.2	596.0	580.4	563.3	546.9	532.1
7.5°	778.5	776.1	761.4	758.9	748.2	729.4	713.1	690.1	660.6	637.8	610.7
10°	904.6	898.9	895.6	881.7	866.1	845.7	820.3	792.5	758.1	722.1	683.6
12.5°	1004.5	1001.2	986.5	980.7	964.4	943.9	912.0	876.0	841.6	794.9	749.9
15°	1079.0	1073.3	1063.4	1054.4	1034.8	1016.8	987.3	948.0	906.2	855.5	801.5
17.5°	1141.2	1130.6	1128.1	1114.2	1093.7	1072.4	1039.7	1003.7	954.6	903.8	844.9
20°	1224.7	1210.0	1205.1	1184.6	1160.9	1131.4	1093.7	1048.7	997.1	941.4	880.9
22.5°	1323.0	1312.3	1301.7	1283.7	1253.4	1211.6	1156.8	1107.6	1042.2	980.7	915.3
25°	1462.1	1453.1	1435.9	1411.4	1373.7	1323.8	1257.5	1185.4	1108.4	1029.9	952.9
27.5°	1597.2	1589.0	1576.8	1557.9	1515.3	1460.5	1378.6	1287.0	1189.5	1094.6	1009.4
30°	1724.1	1716.7	1704.5	1685.6	1648.0	1593.9	1501.4	1403.2	1282.0	1171.5	1069.2
32.5°	1860.8	1858.4	1844.4	1817.5	1784.7	1711.8	1611.1	1505.5	1382.7	1255.0	1135.5
35°	2015.6	1996.7	1983.6	1956.6	1901.0	1823.2	1705.3	1589.8	1460.5	1329.5	1196.1
37.5°	2146.6	2128.5	2112.2	2077.8	2009.8	1910.8	1777.3	1650.4	1517.0	1383.5	1247.7
40°	2242.3	2233.3	2213.7	2168.6	2092.5	1974.6	1830.5	1692.2	1557.9	1423.7	1289.4
42.5°	2313.6	2299.6	2277.5	2230.9	2140.8	2006.5	1851.8	1709.4	1576.8	1448.2	1316.4
45°	2339.7	2328.3	2307.8	2257.1	2159.6	2015.6	1851.0	1704.5	1577.6	1455.6	1334.4
47.5°	2324.2	2312.7	2294.7	2247.2	2151.5	2004.9	1836.2	1690.5	1569.4	1458.1	1350.8
50°	2272.6	2266.1	2252.1	2212.0	2126.0	1984.5	1823.2	1683.2	1567.7	1470.3	1373.7
52.5°	2267.7	2263.6	2246.4	2206.3	2118.7	1977.9	1821.5	1687.3	1581.7	1485.9	1390.1
55°	2771.2	2713.1	2582.9	2472.4	2290.6	2074.5	1904.2	1753.6	1640.6	1547.3	1480.1
57.5°	3938.6	3851.8	3680.7	3470.3	3052.8	2642.6	2314.4	2076.9	1959.9	1917.3	1942.7
60°	4485.4	4469.9	4442.9	4343.0	4129.3	3776.5	3383.5	2958.7	2788.4	2773.6	2825.2
62.5°	4745.0	4735.1	4743.3	4731.0	4664.8	4561.6	4448.6	4265.2	4096.6	3987.7	3756.8
65°	4864.5	4871.1	4917.7	4954.6	4962.7	4989.8	5072.5	5300.8	5467.8	5187.1	4546.1
67.5°	4560.8	4599.2	4706.5	4840.8	4997.9	5150.2	5395.8	5877.2	6220.2	5890.3	4979.9
69°	3775.7	3794.5	4056.5	4309.4	4693.4	4961.9	5318.1	5949.2	6334.8	5962.3	4945.6
70°	2972.6	2989.8	3270.5	3614.4	4263.6	4609.1	5074.9	5827.2	6227.6	5866.5	4768.7
72.5°	1341.0	1316.4	1415.5	1599.6	2305.4	2853.8	3668.4	4721.2	5137.9	4699.9	3567.8
75°	936.5	925.9	936.5	937.4	1047.1	1350.8	1704.5	2559.1	3165.0	2731.0	1704.5
77.5°	725.4	718.0	710.6	702.4	715.5	801.5	835.9	907.9	1178.9	1115.0	650.0
80°	573.9	567.3	585.3	579.6	579.6	589.4	582.9	555.9	505.1	468.3	419.1
82.5°	266.9	268.5	268.5	291.4	351.2	410.1	429.0	402.0	357.0	303.7	244.8
85°	25.4	28.7	48.3	74.5	148.2	167.0	167.8	139.2	139.2	109.7	88.4
87.5°	0.0	0.8	0.8	0.8	7.3	20.5	17.2	4.9	2.4	2.4	4.1
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):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	377.4	377.4	377.4	377.4	377.4	377.4	377.4	377.4	377.4	377.4	377.4
2.5°	435.5	433.1	423.2	413.4	404.4	394.6	385.6	376.6	366.8	359.4	350.4
5°	509.2	491.2	470.7	451.1	431.4	411.0	389.7	370.8	351.2	333.2	316.0
7.5°	583.7	548.5	520.7	485.5	453.5	421.6	392.2	361.9	334.0	307.8	283.3
10°	646.8	604.2	560.8	515.8	469.9	427.3	386.4	350.4	313.6	281.6	251.3
12.5°	698.3	644.3	591.1	534.6	483.0	429.0	378.2	334.8	291.4	255.4	224.3
15°	745.0	682.8	618.9	553.4	487.9	426.5	370.0	316.0	271.8	230.9	195.7
17.5°	782.6	711.4	639.4	565.7	495.3	423.2	359.4	302.9	251.3	208.7	174.4
20°	815.4	740.9	663.1	580.4	500.2	422.4	350.4	286.5	233.3	188.3	154.7
22.5°	845.7	771.2	687.7	599.3	507.6	421.6	342.2	274.3	217.7	172.7	139.2
25°	880.1	801.5	713.9	618.9	520.7	424.9	337.3	264.4	203.8	158.0	126.9
27.5°	918.5	835.9	745.0	643.5	537.8	431.4	335.6	253.8	191.6	144.1	117.1
30°	972.6	876.8	776.1	668.0	553.4	438.8	334.0	247.2	179.3	133.4	107.3
32.5°	1020.0	916.9	810.5	693.4	570.6	446.2	333.2	238.2	167.8	122.8	99.9
35°	1070.0	953.7	840.0	718.0	585.3	454.3	332.4	231.7	157.2	112.2	92.5
37.5°	1113.4	984.8	862.8	739.2	601.7	461.7	333.2	226.0	147.4	103.2	85.9
40°	1150.2	1016.8	888.3	758.9	618.9	473.2	334.0	220.2	137.5	94.9	80.2
42.5°	1183.0	1047.1	915.3	781.0	638.6	486.3	338.9	215.3	129.3	87.6	74.5
45°	1208.4	1074.9	944.7	812.1	670.5	507.6	347.9	212.0	121.2	81.0	69.6
47.5°	1234.5	1115.8	994.7	861.2	717.2	541.1	363.5	211.2	114.6	76.1	65.5
50°	1270.5	1156.8	1038.9	911.2	759.7	575.5	382.3	212.0	106.4	71.2	61.4
52.5°	1296.8	1198.5	1096.2	998.0	861.2	680.3	455.2	226.8	102.3	67.1	56.5
55°	1451.5	1434.3	1436.7	1453.1	1347.5	1157.6	761.4	327.5	120.3	76.1	55.7
57.5°	2046.6	2107.3	2142.5	2141.6	1967.2	1631.6	1022.5	420.8	134.2	88.4	66.3
60°	2829.3	2783.4	2718.8	2559.1	2327.4	1862.5	1143.7	452.7	116.3	70.4	60.6
62.5°	3521.1	3252.6	3014.3	2755.6	2451.9	1942.7	1168.3	450.3	101.5	53.2	42.6
65°	3952.5	3469.5	3084.7	2760.5	2402.8	1875.5	1105.2	413.4	85.9	43.4	35.2
67.5°	4055.7	3352.4	2808.0	2394.6	2007.3	1459.7	811.3	311.1	67.1	36.0	31.1
69°	3830.5	2979.9	2326.6	1857.6	1460.5	968.5	501.8	196.5	51.6	32.8	28.7
70°	3523.5	2591.9	1895.2	1490.8	1081.5	680.3	351.2	138.3	41.7	30.3	26.2
72.5°	2266.9	1361.4	931.6	648.4	446.2	271.0	137.5	62.2	31.9	25.4	21.3
75°	879.3	503.5	365.1	277.5	216.9	150.7	83.5	40.1	27.0	21.3	16.4
77.5°	433.1	331.5	271.0	185.8	108.1	67.1	45.0	31.1	22.1	15.5	10.6
80°	342.2	227.6	135.9	84.3	63.9	48.3	34.4	25.4	16.4	9.8	7.3
82.5°	175.2	95.8	70.4	57.3	47.5	37.7	27.9	18.0	10.6	6.5	5.7
85°	54.8	40.1	36.0	35.2	32.8	27.0	19.6	11.4	6.5	4.1	4.1
87.5°	4.1	5.7	7.3	5.7	6.5	5.7	7.3	4.9	3.3	3.3	2.4
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°	377.4	377.4	377.4	377.4	377.4	377.4	377.4	377.4	377.4	377.4	377.4
2.5°	343.8	334.0	325.0	319.3	308.6	304.5	300.4	298.8	291.4	293.1	286.5
5°	300.4	283.3	270.2	257.0	244.8	235.8	228.4	219.4	212.0	208.7	202.2
7.5°	261.1	239.1	221.9	207.9	193.2	181.7	171.9	165.4	158.8	152.3	149.0
10°	226.8	203.0	183.4	169.4	155.6	145.7	138.3	133.4	129.3	126.9	126.1
12.5°	194.9	171.9	153.9	141.6	131.0	126.1	122.8	120.3	119.5	118.7	118.7
15°	170.3	147.4	133.4	124.4	119.5	117.1	116.3	114.6	113.0	112.2	112.2
17.5°	147.4	130.1	120.3	115.4	113.0	111.4	109.7	108.1	106.4	105.6	105.6
20°	131.8	117.9	113.0	109.7	107.3	105.6	103.2	101.5	100.7	99.9	99.1
22.5°	119.5	110.5	107.3	104.8	101.5	99.1	97.4	95.8	94.1	93.3	92.5
25°	110.5	104.8	102.3	99.1	95.8	93.3	90.8	88.4	86.8	85.9	84.3
27.5°	104.0	99.9	96.6	92.5	89.2	86.8	84.3	81.9	80.2	78.6	77.8
30°	98.2	94.1	90.0	86.8	82.7	80.2	77.0	74.5	73.7	72.1	70.4
32.5°	92.5	88.4	84.3	80.2	76.1	72.9	71.2	68.0	66.3	65.5	63.9
35°	85.9	81.9	77.0	73.7	69.6	66.3	63.9	61.4	59.8	58.1	57.3
37.5°	80.2	75.3	70.4	66.3	63.0	59.8	57.3	54.8	53.2	51.6	50.7
40°	73.7	68.8	63.9	59.8	56.5	54.0	51.6	49.1	47.5	46.6	46.6
42.5°	68.0	62.2	57.3	54.0	51.6	48.3	45.8	43.4	42.6	41.7	42.6
45°	62.2	56.5	52.4	49.1	46.6	43.4	40.9	39.3	38.5	39.3	40.1
47.5°	57.3	51.6	47.5	45.0	42.6	40.1	37.7	36.0	36.0	37.7	39.3
50°	52.4	46.6	43.4	41.7	39.3	36.8	33.6	32.8	33.6	35.2	36.8
52.5°	47.5	40.9	38.5	37.7	35.2	32.8	30.3	29.5	30.3	31.9	31.1
55°	42.6	36.0	35.2	34.4	31.9	28.7	26.2	26.2	26.2	25.4	23.7
57.5°	40.9	31.9	31.1	30.3	27.9	24.6	22.9	21.3	20.5	18.0	17.2
60°	42.6	28.7	28.7	27.0	24.6	21.3	18.8	16.4	14.7	13.1	13.1
62.5°	34.4	26.2	25.4	23.7	20.5	17.2	14.7	12.3	11.4	10.6	10.6
65°	27.9	23.7	22.1	19.6	17.2	13.9	11.4	9.8	9.0	9.0	9.8
67.5°	25.4	21.3	18.8	16.4	13.9	10.6	9.0	8.2	8.2	9.0	9.0
69°	23.7	19.6	17.2	14.7	12.3	9.8	8.2	8.2	8.2	8.2	9.0
70°	22.1	18.8	16.4	13.9	10.6	8.2	7.3	7.3	8.2	8.2	9.0
72.5°	17.2	14.7	13.9	11.4	8.2	7.3	6.5	7.3	7.3	8.2	8.2
75°	13.1	10.6	10.6	9.0	6.5	5.7	5.7	6.5	6.5	7.3	7.3
77.5°	9.0	7.3	7.3	6.5	5.7	4.9	4.9	5.7	6.5	6.5	7.3
80°	6.5	5.7	4.9	5.7	4.9	4.1	4.9	5.7	5.7	6.5	6.5
82.5°	4.9	4.9	4.9	4.9	4.1	4.1	4.9	4.9	5.7	6.5	6.5
85°	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.9	4.9	5.7	5.7
87.5°	2.4	2.4	2.4	3.3	3.3	4.1	4.1	4.1	4.1	4.9	4.9
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°	377.4	377.4	377.4	377.4
2.5°	284.9	284.1	280.8	281.6
5°	199.8	194.9	198.1	197.3
7.5°	146.6	145.7	144.9	146.6
10°	125.2	125.2	124.4	125.2
12.5°	117.9	117.9	117.9	117.9
15°	112.2	112.2	111.4	111.4
17.5°	105.6	105.6	105.6	104.8
20°	99.1	98.2	98.2	98.2
22.5°	91.7	90.8	90.8	90.8
25°	84.3	83.5	83.5	83.5
27.5°	77.0	76.1	75.3	75.3
30°	69.6	68.8	68.0	68.0
32.5°	62.2	61.4	60.6	60.6
35°	55.7	55.7	54.8	54.0
37.5°	49.9	49.9	49.9	49.9
40°	45.8	46.6	46.6	46.6
42.5°	43.4	44.2	45.0	45.8
45°	41.7	43.4	44.2	44.2
47.5°	40.9	41.7	42.6	42.6
50°	37.7	36.8	36.8	36.8
52.5°	30.3	28.7	27.9	27.0
55°	22.1	21.3	19.6	19.6
57.5°	15.5	15.5	14.7	14.7
60°	12.3	12.3	11.4	12.3
62.5°	10.6	10.6	10.6	10.6
65°	9.8	9.8	9.8	9.8
67.5°	9.8	9.8	9.8	9.8
69°	9.0	9.0	9.0	9.0
70°	9.0	9.0	9.0	9.0
72.5°	8.2	8.2	8.2	8.2
75°	7.3	8.2	8.2	8.2
77.5°	7.3	7.3	7.3	7.3
80°	6.5	6.5	7.3	7.3
82.5°	6.5	6.5	6.5	6.5
85°	5.7	5.7	6.5	6.5
87.5°	4.9	4.9	5.7	5.7
90°	0.0	0.0	0.0	0.0

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