

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: P163798

Luminaire Tested: **LDRL-SL4-E02-E-7050-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P163798
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-E02-E-7050-HSS
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(2) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 W/ SPILL LIGHT CONTROL AND HOUSE SIDE SHIELD
Light Source: (42) 5000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4050.5 lumens
Efficiency: N/A
Efficacy: 77.7 lumens/watt
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 1' x H: 0.1')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B0 - 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

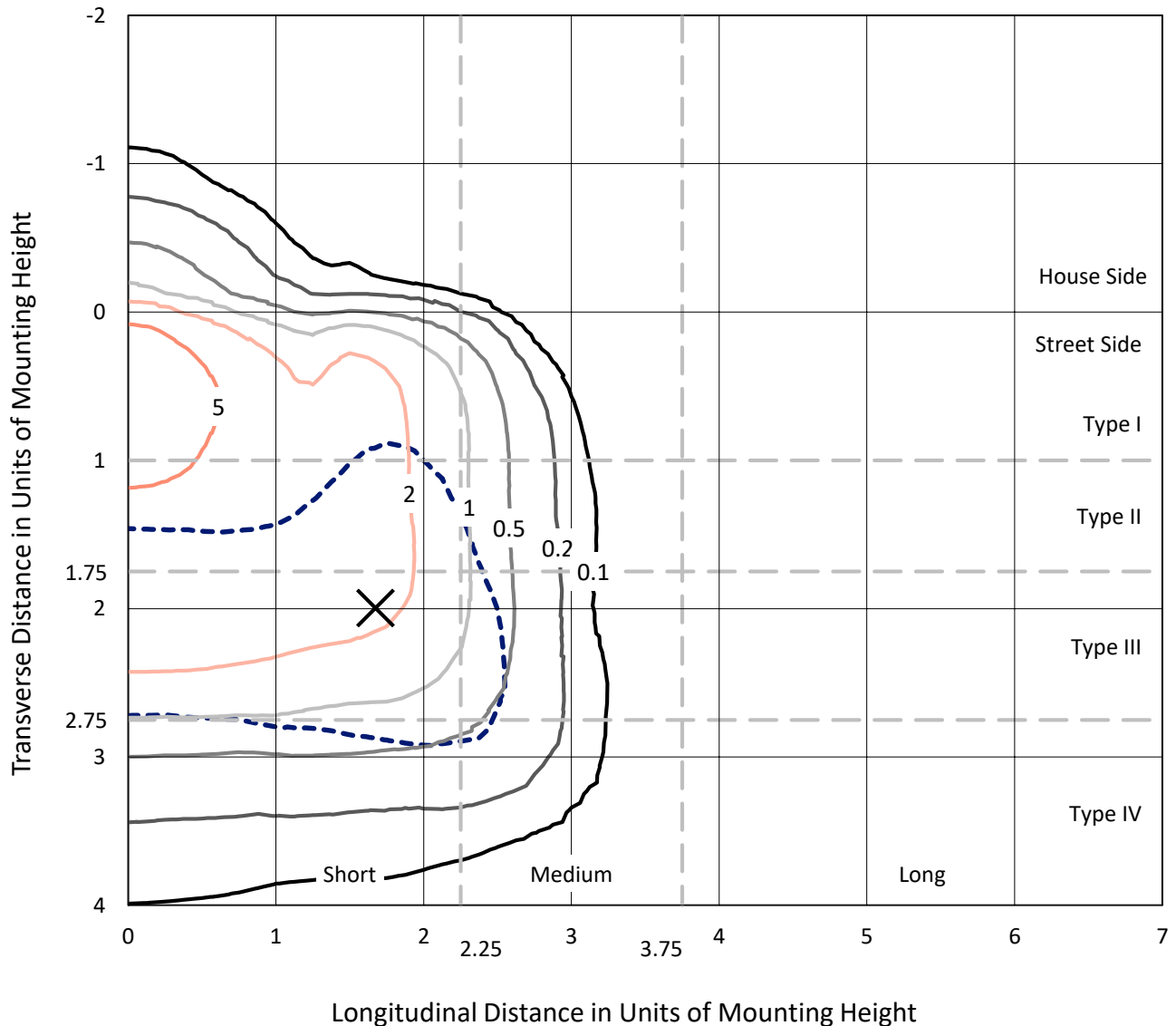


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Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd
 - - - 1/2 Max cd

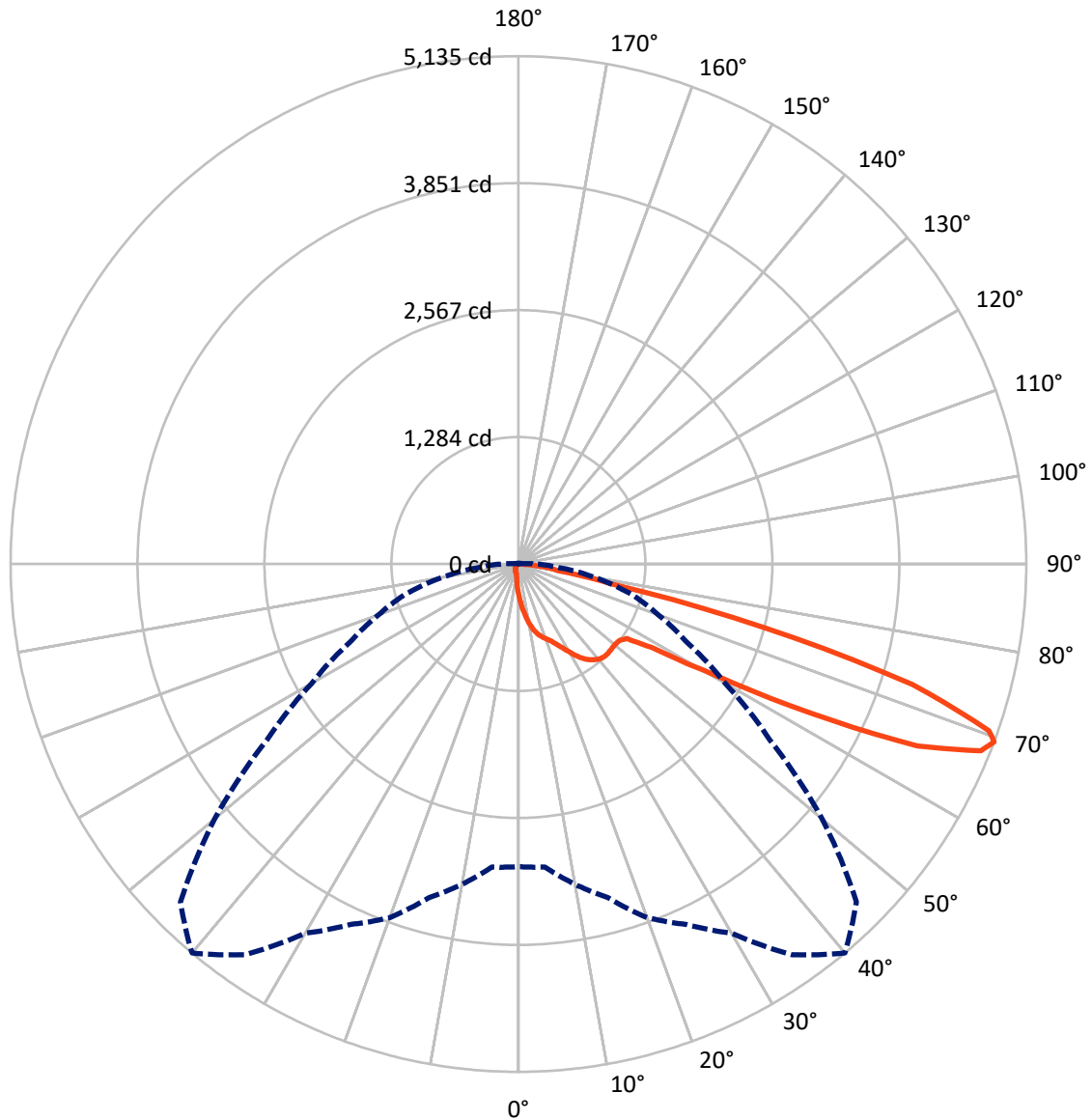


Based on 10 foot mounting height. Maximum calculated value = 9.1 fc
 Type IV - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



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

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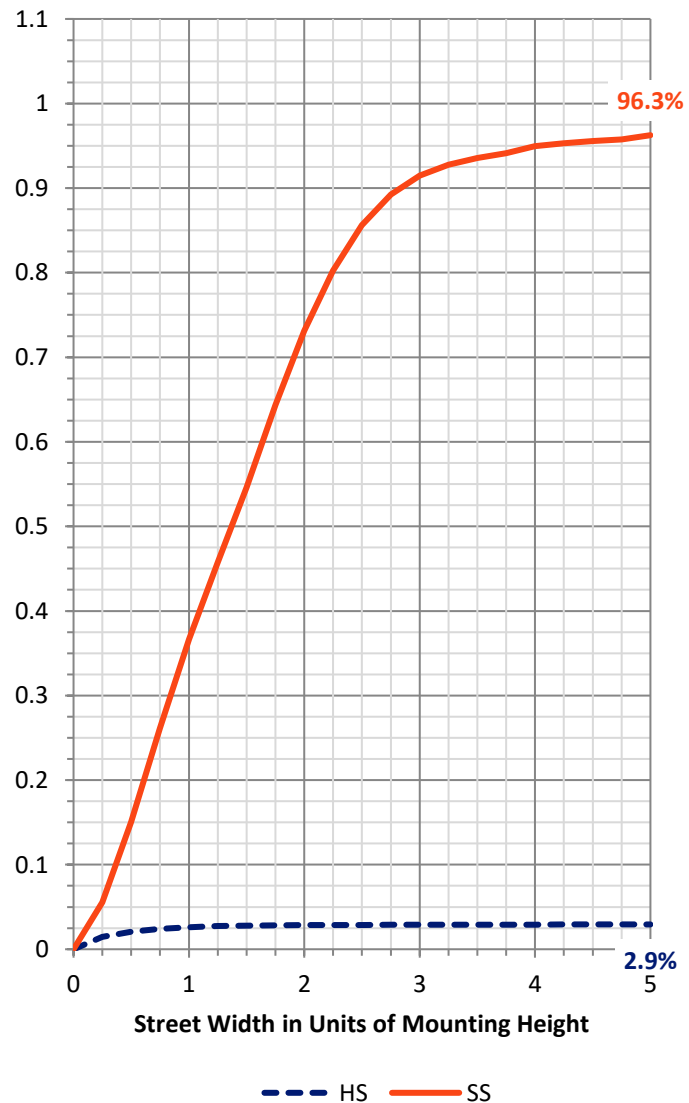
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	120.6	0.0	120.6
	% Fixture	3.0	0.0	3.0
Street Side	Lumens	3929.9	0.0	3929.9
	% Fixture	97.0	0.0	97.0
Total	Lumens	4050.5	0.0	4050.5
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	31.4	0.8
10°-20°	108.4	2.7
20°-30°	207.5	5.1
30°-40°	345.0	8.5
40°-50°	466.9	11.5
50°-60°	730.2	18.0
60°-70°	1501.2	37.1
70°-80°	604.1	14.9
80°-90°	55.9	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°	4050.5	100.0
0°-180°	4050.5	100.0



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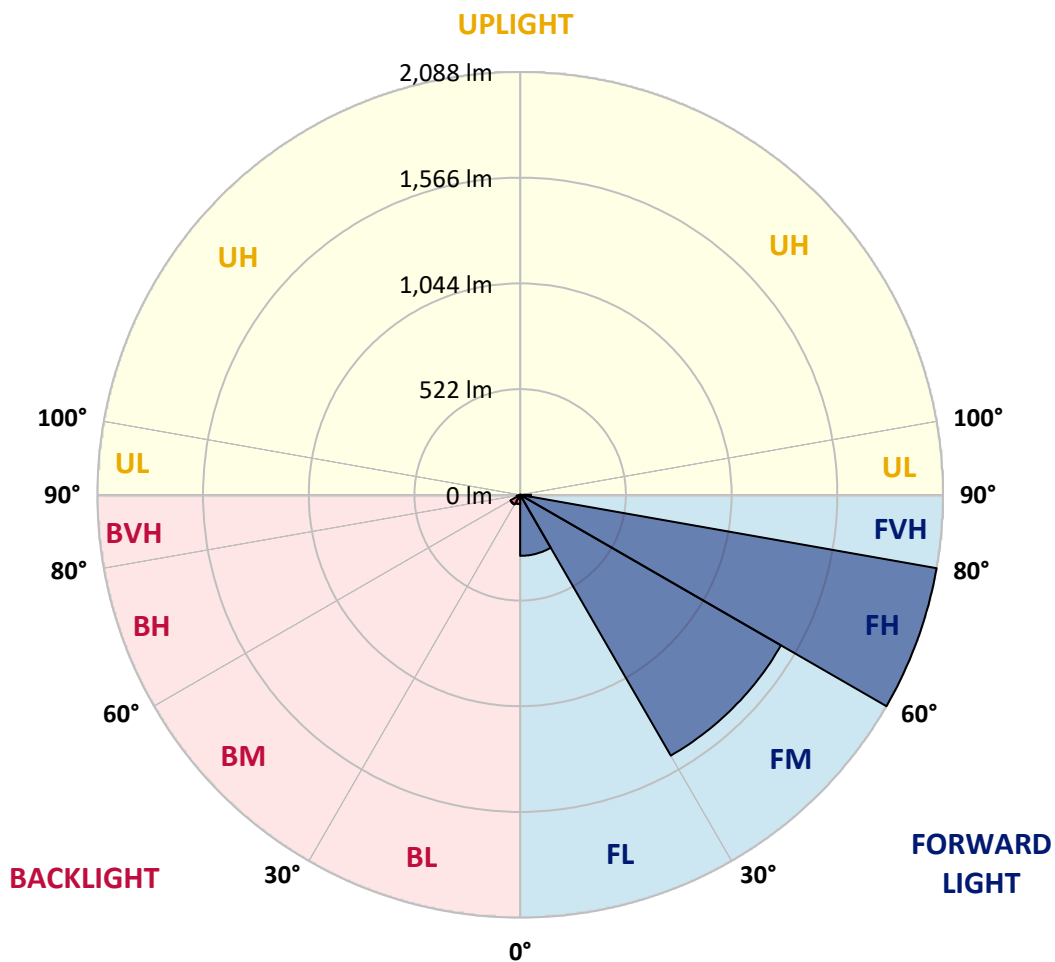
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	301.4	7.4			
FM (30°-60°)	1487.0	36.7			
FH (60°-80°)	2087.7	51.5			G2/5000
FVH (80°-90°)	53.8	1.3			G1/100
BL (0°-30°)	45.9	1.1	B0/110		
BM (30°-60°)	55.1	1.4	B0/220		
BH (60°-80°)	17.6	0.4	B0/110		G0/110
BVH (80°-90°)	2.1	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°	305.9	305.9	305.9	305.9	305.9	305.9	305.9	305.9	305.9	305.9	305.9
2.5°	408.1	403.4	398.1	398.1	391.5	391.5	387.5	376.9	375.6	369.6	363.6
5°	520.9	516.9	510.3	504.3	499.0	489.7	483.0	470.4	456.5	443.2	431.3
7.5°	631.0	629.0	617.1	615.1	606.5	591.2	577.9	559.4	535.5	516.9	495.0
10°	733.2	728.6	725.9	714.6	702.0	685.4	664.9	642.3	614.4	585.2	554.1
12.5°	814.2	811.5	799.6	794.9	781.6	765.1	739.2	710.0	682.1	644.3	607.8
15°	874.5	869.9	861.9	854.6	838.7	824.1	800.2	768.4	734.5	693.4	649.6
17.5°	925.0	916.4	914.3	903.1	886.5	869.2	842.7	813.5	773.7	732.6	684.8
20°	992.7	980.7	976.7	960.1	940.9	917.0	886.5	850.0	808.2	763.1	714.0
22.5°	1072.3	1063.7	1055.0	1040.4	1015.9	982.0	937.6	897.8	844.7	794.9	741.8
25°	1185.1	1177.8	1163.8	1143.9	1113.4	1072.9	1019.2	960.8	898.4	834.7	772.4
27.5°	1294.6	1287.9	1278.0	1262.7	1228.2	1183.8	1117.4	1043.1	964.1	887.2	818.1
30°	1397.4	1391.4	1381.5	1366.2	1335.7	1291.9	1216.9	1137.3	1039.1	949.5	866.6
32.5°	1508.2	1506.2	1495.0	1473.1	1446.5	1387.5	1305.9	1220.2	1120.7	1017.2	920.3
35°	1633.6	1618.4	1607.7	1585.9	1540.8	1477.7	1382.2	1288.6	1183.8	1077.6	969.4
37.5°	1739.8	1725.2	1712.0	1684.1	1629.0	1548.7	1440.5	1337.7	1229.6	1121.4	1011.2
40°	1817.4	1810.1	1794.2	1757.7	1696.0	1600.5	1483.7	1371.5	1262.7	1153.9	1045.1
42.5°	1875.2	1863.9	1846.0	1808.2	1735.1	1626.3	1500.9	1385.5	1278.0	1173.8	1067.0
45°	1896.4	1887.1	1870.5	1829.4	1750.4	1633.6	1500.2	1381.5	1278.7	1179.8	1081.6
47.5°	1883.8	1874.5	1859.9	1821.4	1743.8	1625.0	1488.3	1370.2	1272.0	1181.8	1094.9
50°	1842.0	1836.7	1825.4	1792.9	1723.2	1608.4	1477.7	1364.2	1270.7	1191.7	1113.4
52.5°	1838.0	1834.7	1820.8	1788.3	1717.2	1603.1	1476.4	1367.6	1282.0	1204.3	1126.7
55°	2246.1	2199.0	2093.5	2003.9	1856.6	1681.4	1543.4	1421.3	1329.8	1254.1	1199.7
57.5°	3192.3	3121.9	2983.3	2812.8	2474.4	2141.9	1875.8	1683.4	1588.5	1554.0	1574.6
60°	3635.5	3622.9	3601.1	3520.1	3346.9	3060.9	2742.4	2398.0	2260.0	2248.1	2289.9
62.5°	3845.9	3837.9	3844.6	3834.6	3780.9	3697.3	3605.7	3457.0	3320.4	3232.1	3045.0
65°	3942.7	3948.1	3985.9	4015.8	4022.4	4044.3	4111.3	4296.4	4431.8	4204.2	3684.7
67.5°	3696.6	3727.8	3814.7	3923.5	4050.9	4174.3	4373.4	4763.6	5041.6	4774.2	4036.3
69°	3060.3	3075.5	3287.8	3492.9	3804.1	4021.7	4310.4	4822.0	5134.5	4832.6	4008.5
70°	2409.3	2423.3	2650.8	2929.5	3455.7	3735.7	4113.3	4723.1	5047.6	4754.9	3865.1
72.5°	1086.9	1067.0	1147.3	1296.5	1868.5	2313.1	2973.3	3826.6	4164.4	3809.4	2891.7
75°	759.1	750.5	759.1	759.8	848.7	1094.9	1381.5	2074.2	2565.3	2213.6	1381.5
77.5°	587.9	581.9	576.0	569.3	580.0	649.6	677.5	735.9	955.5	903.8	526.8
80°	465.2	459.8	474.4	469.8	469.8	477.8	472.5	450.5	409.4	379.5	339.7
82.5°	216.3	217.7	217.7	236.2	284.6	332.4	347.7	325.8	289.3	246.2	198.4
85°	20.6	23.2	39.2	60.4	120.1	135.4	136.0	112.8	112.8	88.9	71.7
87.5°	0.0	0.7	0.7	0.7	6.0	16.6	13.9	4.0	2.0	2.0	3.3
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):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	305.9	305.9	305.9	305.9	305.9	305.9	305.9	305.9	305.9	305.9	305.9
2.5°	353.0	351.0	343.0	335.1	327.8	319.8	312.5	305.2	297.3	291.3	284.0
5°	412.7	398.1	381.5	365.6	349.7	333.1	315.8	300.6	284.6	270.1	256.1
7.5°	473.1	444.6	422.0	393.5	367.6	341.7	317.8	293.3	270.7	249.5	229.6
10°	524.2	489.7	454.5	418.0	380.9	346.4	313.2	284.0	254.1	228.2	203.7
12.5°	566.0	522.2	479.1	433.3	391.5	347.7	306.6	271.4	236.2	207.0	181.8
15°	603.8	553.4	501.6	448.6	395.5	345.7	299.9	256.1	220.3	187.1	158.6
17.5°	634.3	576.6	518.2	458.5	401.5	343.0	291.3	245.5	203.7	169.2	141.3
20°	660.9	600.5	537.5	470.4	405.4	342.4	284.0	232.2	189.1	152.6	125.4
22.5°	685.4	625.1	557.4	485.7	411.4	341.7	277.4	222.3	176.5	140.0	112.8
25°	713.3	649.6	578.6	501.6	422.0	344.4	273.4	214.3	165.2	128.1	102.9
27.5°	744.5	677.5	603.8	521.5	435.9	349.7	272.0	205.7	155.3	116.8	94.9
30°	788.3	710.6	629.0	541.5	448.6	355.6	270.7	200.4	145.3	108.2	86.9
32.5°	826.8	743.1	656.9	562.0	462.5	361.6	270.1	193.1	136.0	99.5	80.9
35°	867.3	773.0	680.8	581.9	474.4	368.2	269.4	187.8	127.4	90.9	75.0
37.5°	902.4	798.2	699.4	599.2	487.7	374.2	270.1	183.1	119.4	83.6	69.7
40°	932.3	824.1	720.0	615.1	501.6	383.5	270.7	178.5	111.5	77.0	65.0
42.5°	958.8	848.7	741.8	633.0	517.6	394.1	274.7	174.5	104.8	71.0	60.4
45°	979.4	871.2	765.7	658.2	543.4	411.4	282.0	171.9	98.2	65.7	56.4
47.5°	1000.6	904.4	806.2	698.0	581.3	438.6	294.6	171.2	92.9	61.7	53.1
50°	1029.8	937.6	842.0	738.5	615.8	466.5	309.9	171.9	86.3	57.7	49.7
52.5°	1051.1	971.4	888.5	808.9	698.0	551.4	368.9	183.8	83.0	54.4	45.8
55°	1176.5	1162.5	1164.5	1177.8	1092.2	938.2	617.1	265.4	97.5	61.7	45.1
57.5°	1658.8	1708.0	1736.5	1735.8	1594.5	1322.4	828.8	341.1	108.8	71.7	53.7
60°	2293.2	2256.0	2203.6	2074.2	1886.4	1509.6	927.0	366.9	94.2	57.1	49.1
62.5°	2853.9	2636.3	2443.2	2233.5	1987.3	1574.6	946.9	365.0	82.3	43.1	34.5
65°	3203.6	2812.1	2500.2	2237.4	1947.5	1520.2	895.8	335.1	69.7	35.2	28.5
67.5°	3287.2	2717.2	2275.9	1940.9	1627.0	1183.1	657.6	252.1	54.4	29.2	25.2
69°	3104.7	2415.3	1885.8	1505.6	1183.8	785.0	406.7	159.3	41.8	26.6	23.2
70°	2855.9	2100.8	1536.1	1208.3	876.5	551.4	284.6	112.1	33.8	24.5	21.2
72.5°	1837.3	1103.5	755.1	525.5	361.6	219.6	111.5	50.4	25.9	20.6	17.2
75°	712.7	408.1	295.9	224.9	175.8	122.1	67.7	32.5	21.9	17.2	13.3
77.5°	351.0	268.7	219.6	150.6	87.6	54.4	36.5	25.2	17.9	12.6	8.6
80°	277.4	184.5	110.2	68.3	51.8	39.2	27.9	20.6	13.3	8.0	6.0
82.5°	142.0	77.6	57.1	46.5	38.5	30.5	22.6	14.6	8.6	5.3	4.6
85°	44.5	32.5	29.2	28.5	26.6	21.9	15.9	9.3	5.3	3.3	3.3
87.5°	3.3	4.6	6.0	4.6	5.3	4.6	6.0	4.0	2.7	2.7	2.0
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°	305.9	305.9	305.9	305.9	305.9	305.9	305.9	305.9	305.9	305.9	305.9
2.5°	278.7	270.7	263.4	258.8	250.2	246.8	243.5	242.2	236.2	237.6	232.2
5°	243.5	229.6	219.0	208.3	198.4	191.1	185.1	177.8	171.9	169.2	163.9
7.5°	211.7	193.8	179.8	168.5	156.6	147.3	139.3	134.1	128.7	123.4	120.8
10°	183.8	164.5	148.6	137.3	126.1	118.1	112.1	108.2	104.8	102.9	102.2
12.5°	157.9	139.3	124.7	114.8	106.2	102.2	99.5	97.5	96.9	96.2	96.2
15°	138.0	119.4	108.2	100.8	96.9	94.9	94.2	92.9	91.6	90.9	90.9
17.5°	119.4	105.5	97.5	93.5	91.6	90.3	88.9	87.6	86.3	85.6	85.6
20°	106.8	95.6	91.6	88.9	86.9	85.6	83.6	82.3	81.6	80.9	80.3
22.5°	96.9	89.6	86.9	84.9	82.3	80.3	79.0	77.6	76.3	75.6	75.0
25°	89.6	84.9	83.0	80.3	77.6	75.6	73.6	71.7	70.3	69.7	68.3
27.5°	84.3	80.9	78.3	75.0	72.3	70.3	68.3	66.4	65.0	63.7	63.0
30°	79.6	76.3	73.0	70.3	67.0	65.0	62.4	60.4	59.7	58.4	57.1
32.5°	75.0	71.7	68.3	65.0	61.7	59.1	57.7	55.1	53.7	53.1	51.8
35°	69.7	66.4	62.4	59.7	56.4	53.7	51.8	49.7	48.4	47.1	46.5
37.5°	65.0	61.0	57.1	53.7	51.1	48.4	46.5	44.5	43.1	41.8	41.1
40°	59.7	55.7	51.8	48.4	45.8	43.8	41.8	39.8	38.5	37.8	37.8
42.5°	55.1	50.4	46.5	43.8	41.8	39.2	37.1	35.2	34.5	33.8	34.5
45°	50.4	45.8	42.5	39.8	37.8	35.2	33.2	31.9	31.2	31.9	32.5
47.5°	46.5	41.8	38.5	36.5	34.5	32.5	30.5	29.2	29.2	30.5	31.9
50°	42.5	37.8	35.2	33.8	31.9	29.8	27.2	26.6	27.2	28.5	29.8
52.5°	38.5	33.2	31.2	30.5	28.5	26.6	24.5	23.9	24.5	25.9	25.2
55°	34.5	29.2	28.5	27.9	25.9	23.2	21.2	21.2	21.2	20.6	19.2
57.5°	33.2	25.9	25.2	24.5	22.6	19.9	18.6	17.2	16.6	14.6	13.9
60°	34.5	23.2	23.2	21.9	19.9	17.2	15.3	13.3	11.9	10.6	10.6
62.5°	27.9	21.2	20.6	19.2	16.6	13.9	11.9	9.9	9.3	8.6	8.6
65°	22.6	19.2	17.9	15.9	13.9	11.3	9.3	8.0	7.3	7.3	8.0
67.5°	20.6	17.2	15.3	13.3	11.3	8.6	7.3	6.6	6.6	7.3	7.3
69°	19.2	15.9	13.9	11.9	9.9	8.0	6.6	6.6	6.6	6.6	7.3
70°	17.9	15.3	13.3	11.3	8.6	6.6	6.0	6.0	6.6	6.6	7.3
72.5°	13.9	11.9	11.3	9.3	6.6	6.0	5.3	6.0	6.0	6.6	6.6
75°	10.6	8.6	8.6	7.3	5.3	4.6	4.6	5.3	5.3	6.0	6.0
77.5°	7.3	6.0	6.0	5.3	4.6	4.0	4.0	4.6	5.3	5.3	6.0
80°	5.3	4.6	4.0	4.6	4.0	3.3	4.0	4.6	4.6	5.3	5.3
82.5°	4.0	4.0	4.0	4.0	3.3	3.3	4.0	4.0	4.6	5.3	5.3
85°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	4.0	4.0	4.6	4.6
87.5°	2.0	2.0	2.0	2.7	2.7	3.3	3.3	3.3	3.3	4.0	4.0
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):

	165°	170°	175°	180°
0°	305.9	305.9	305.9	305.9
2.5°	230.9	230.3	227.6	228.2
5°	161.9	157.9	160.6	159.9
7.5°	118.8	118.1	117.4	118.8
10°	101.5	101.5	100.8	101.5
12.5°	95.6	95.6	95.6	95.6
15°	90.9	90.9	90.3	90.3
17.5°	85.6	85.6	85.6	84.9
20°	80.3	79.6	79.6	79.6
22.5°	74.3	73.6	73.6	73.6
25°	68.3	67.7	67.7	67.7
27.5°	62.4	61.7	61.0	61.0
30°	56.4	55.7	55.1	55.1
32.5°	50.4	49.7	49.1	49.1
35°	45.1	45.1	44.5	43.8
37.5°	40.5	40.5	40.5	40.5
40°	37.1	37.8	37.8	37.8
42.5°	35.2	35.8	36.5	37.1
45°	33.8	35.2	35.8	35.8
47.5°	33.2	33.8	34.5	34.5
50°	30.5	29.8	29.8	29.8
52.5°	24.5	23.2	22.6	21.9
55°	17.9	17.2	15.9	15.9
57.5°	12.6	12.6	11.9	11.9
60°	9.9	9.9	9.3	9.9
62.5°	8.6	8.6	8.6	8.6
65°	8.0	8.0	8.0	8.0
67.5°	8.0	8.0	8.0	8.0
69°	7.3	7.3	7.3	7.3
70°	7.3	7.3	7.3	7.3
72.5°	6.6	6.6	6.6	6.6
75°	6.0	6.6	6.6	6.6
77.5°	6.0	6.0	6.0	6.0
80°	5.3	5.3	6.0	6.0
82.5°	5.3	5.3	5.3	5.3
85°	4.6	4.6	5.3	5.3
87.5°	4.0	4.0	4.6	4.6
90°	0.0	0.0	0.0	0.0

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