

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: P163843

Luminaire Tested: **LDRL-SL4-F06-E-7050-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P163843
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-F06-E-7050-HSS
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(6) 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: 10031.4 lumens
Efficiency: N/A
Efficacy: 64.1 lumens/watt
Luminous Opening: Rectangular w/ Sides (W: 1' x L: 1' x H: 0.1')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B1 - U0 - G3

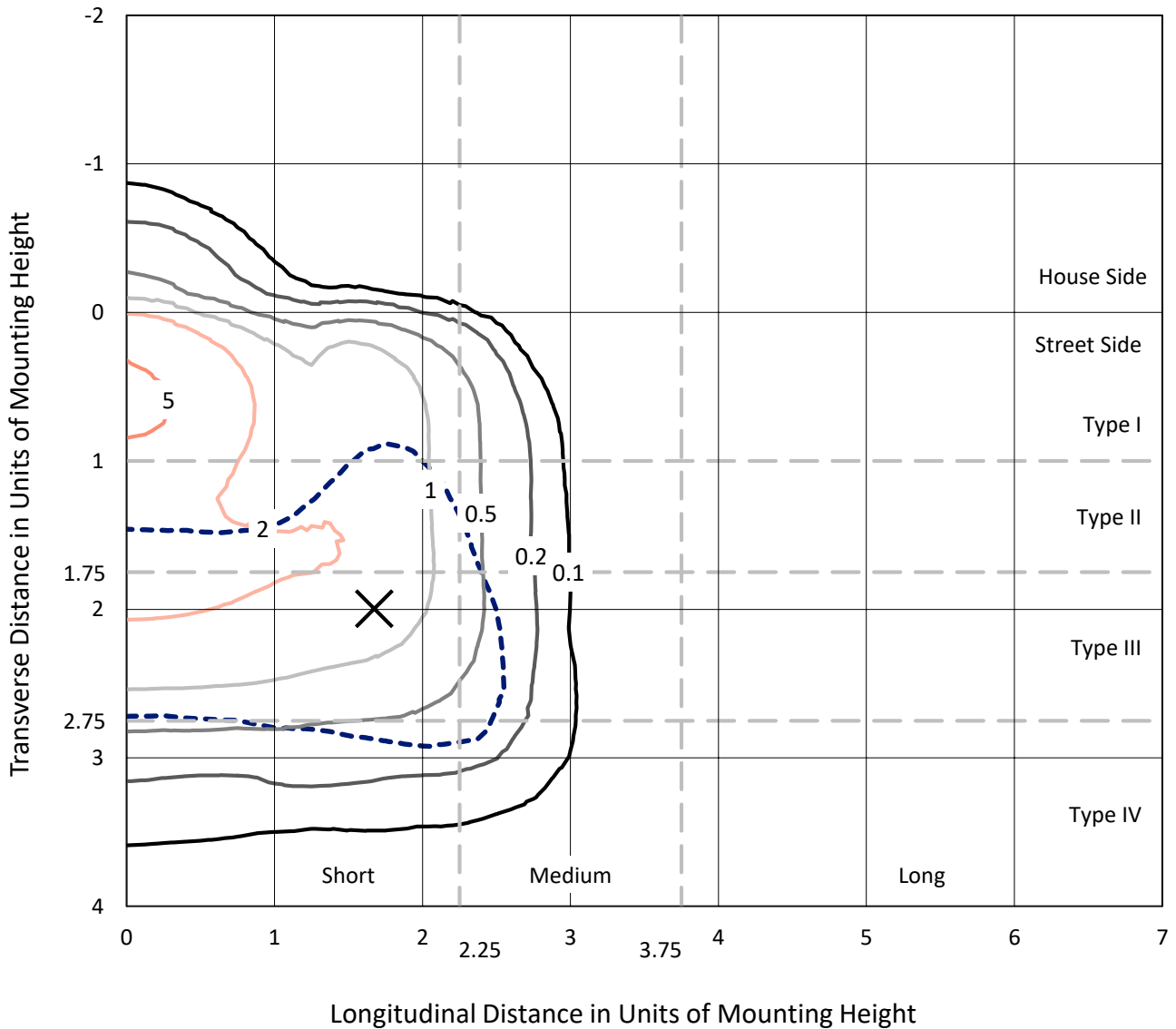
Input Watts (W): 156.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd
 - - - 1/2 Max cd

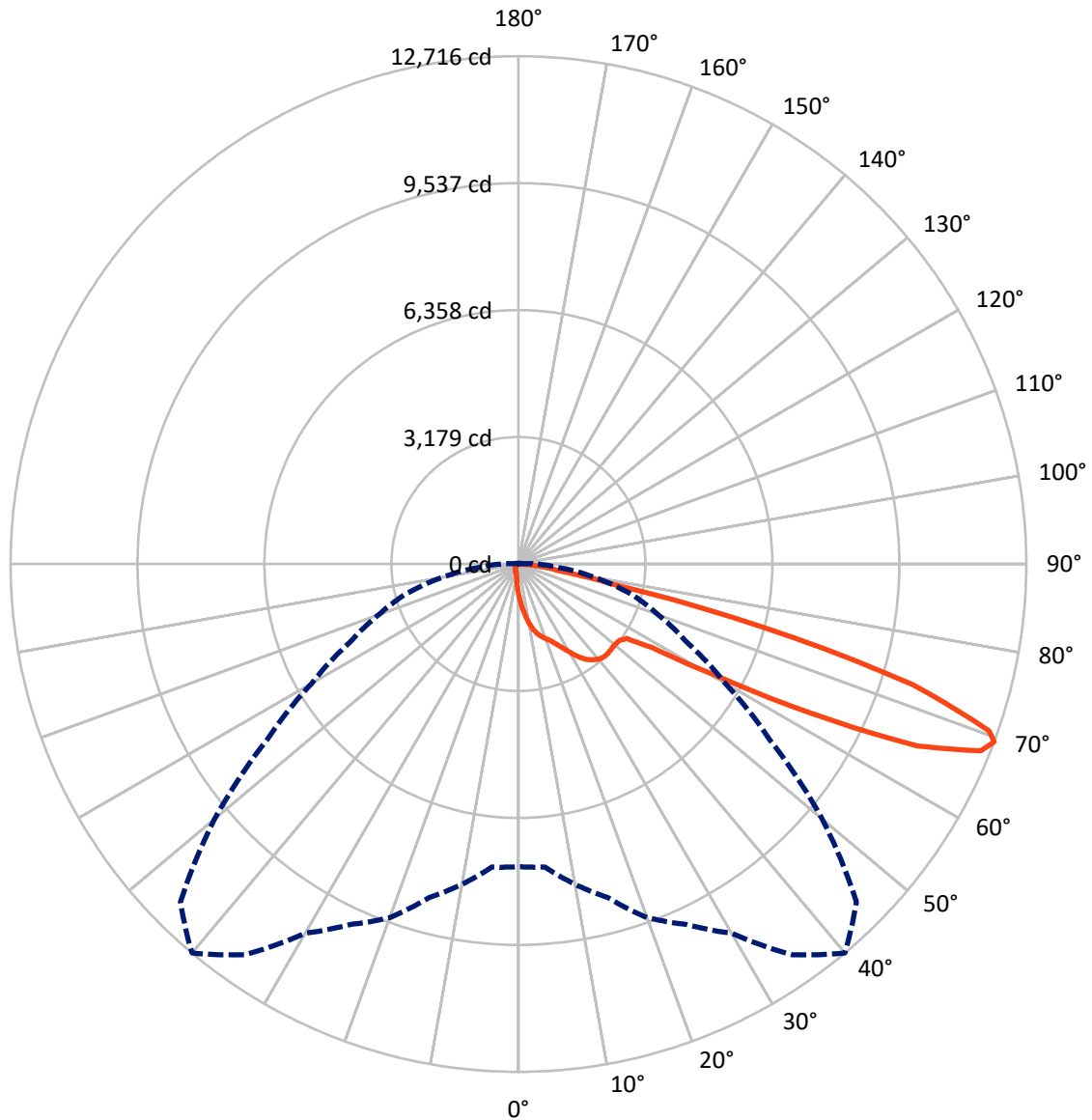


Based on 20 foot mounting height. Maximum calculated value = 5.6 fc
 Type IV - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



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

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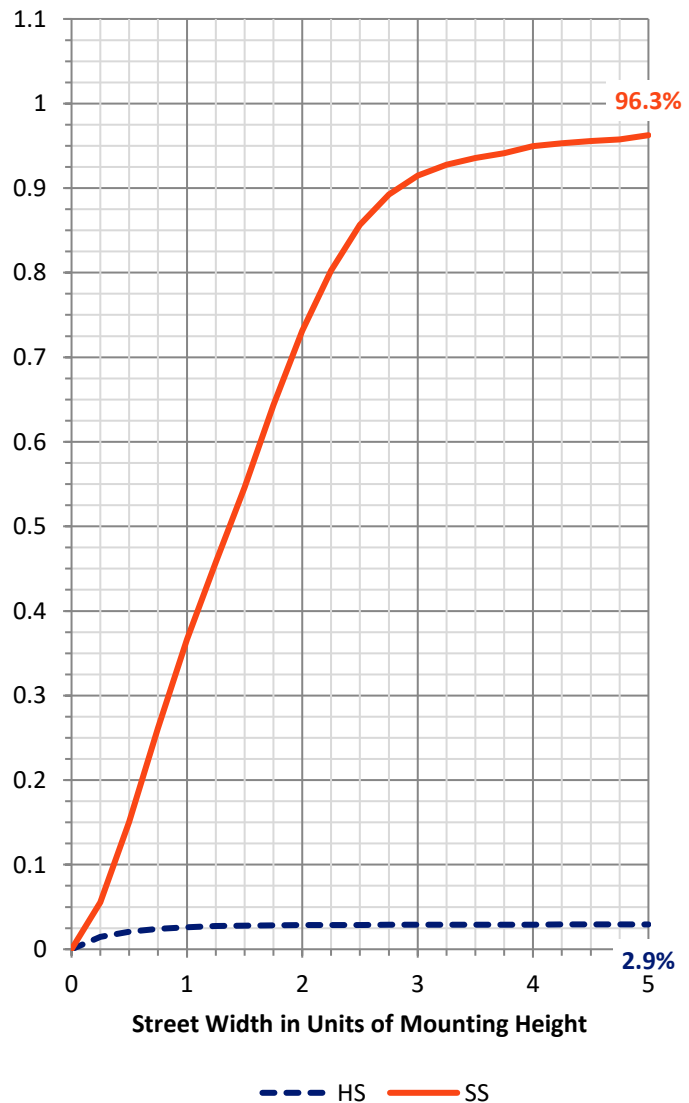
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	298.7	0.0	298.7
	% Fixture	3.0	0.0	3.0
Street Side	Lumens	9732.7	0.0	9732.7
	% Fixture	97.0	0.0	97.0
Total	Lumens	10031.4	0.0	10031.4
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	77.9	0.8
10°-20°	268.5	2.7
20°-30°	513.8	5.1
30°-40°	854.5	8.5
40°-50°	1156.3	11.5
50°-60°	1808.3	18.0
60°-70°	3717.8	37.1
70°-80°	1496.0	14.9
80°-90°	138.4	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°	10031.4	100.0
0°-180°	10031.4	100.0



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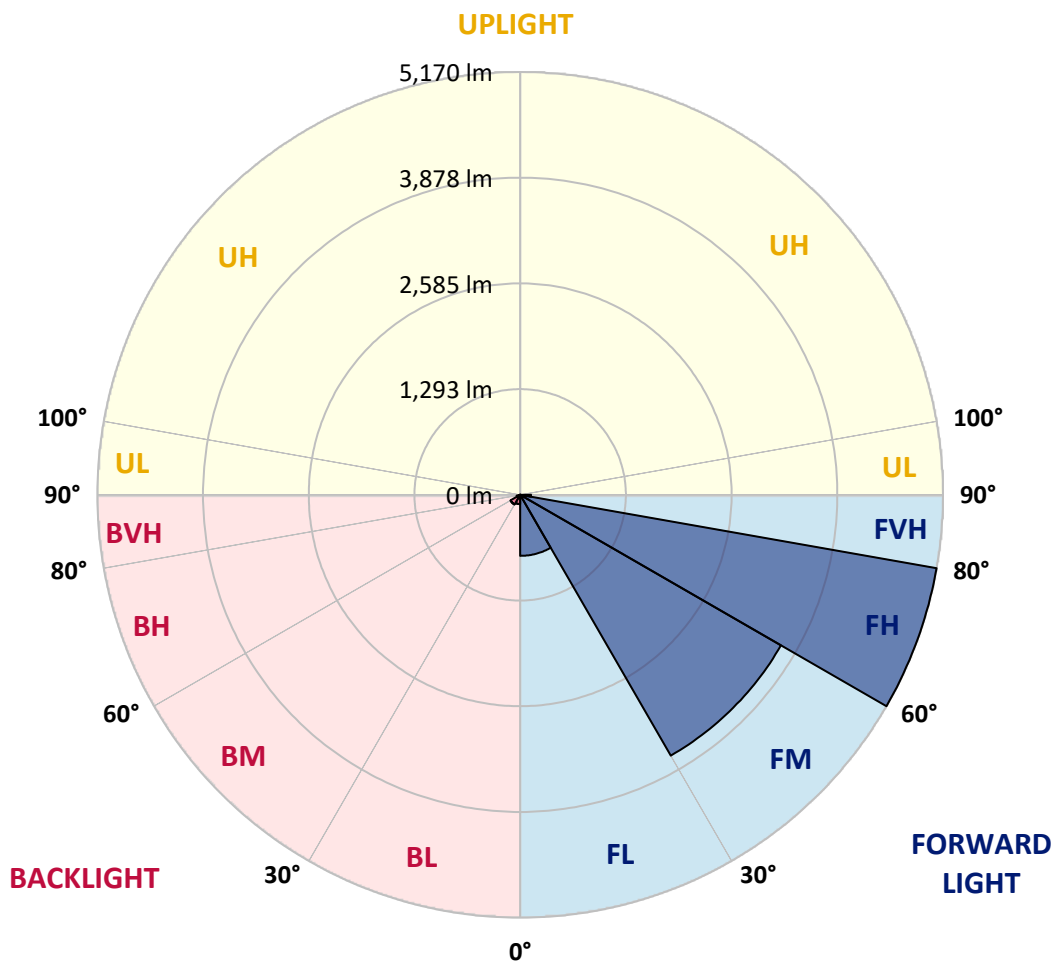
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	746.5	7.4			
FM (30°-60°)	3682.7	36.7			
FH (60°-80°)	5170.3	51.5			G3/7500
FVH (80°-90°)	133.2	1.3			G2/225
BL (0°-30°)	113.6	1.1	B1/500		
BM (30°-60°)	136.4	1.4	B0/220		
BH (60°-80°)	43.6	0.4	B0/110		G0/110
BVH (80°-90°)	5.1	0.1			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G3

Type IV Short



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	757.6	757.6	757.6	757.6	757.6	757.6	757.6	757.6	757.6	757.6	757.6
2.5°	1010.6	999.1	986.0	986.0	969.5	969.5	959.7	933.4	930.1	915.3	900.5
5°	1290.0	1280.2	1263.7	1249.0	1235.7	1212.8	1196.3	1165.1	1130.6	1097.7	1068.1
7.5°	1562.8	1557.9	1528.3	1523.3	1502.0	1464.2	1431.3	1385.3	1326.1	1280.2	1225.9
10°	1815.9	1804.4	1797.8	1769.8	1738.6	1697.5	1646.6	1590.7	1521.7	1449.4	1372.2
12.5°	2016.3	2009.8	1980.2	1968.6	1935.8	1894.7	1830.6	1758.3	1689.3	1595.7	1505.3
15°	2165.8	2154.4	2134.6	2116.5	2077.1	2041.0	1981.9	1903.0	1819.1	1717.3	1608.8
17.5°	2290.8	2269.4	2264.4	2236.6	2195.4	2152.7	2087.0	2014.7	1916.1	1814.2	1695.9
20°	2458.4	2428.8	2418.9	2377.9	2330.2	2271.0	2195.4	2105.1	2001.6	1889.8	1768.2
22.5°	2655.6	2634.2	2612.9	2576.7	2515.9	2432.1	2322.0	2223.4	2091.9	1968.6	1837.2
25°	2934.9	2916.9	2882.4	2833.1	2757.4	2657.2	2524.1	2379.5	2225.0	2067.2	1912.8
27.5°	3206.1	3189.6	3165.0	3127.2	3041.7	2931.7	2767.3	2583.3	2387.7	2197.1	2026.2
30°	3460.8	3446.0	3421.4	3383.6	3308.0	3199.5	3013.8	2816.6	2573.4	2351.5	2146.1
32.5°	3735.2	3730.3	3702.4	3648.2	3582.4	3436.1	3234.1	3022.0	2775.5	2519.2	2279.3
35°	4045.8	4008.0	3981.7	3927.5	3815.8	3659.7	3423.0	3191.3	2931.7	2668.7	2400.8
37.5°	4308.8	4272.6	4239.8	4170.8	4034.4	3835.5	3567.6	3312.9	3045.1	2777.2	2504.4
40°	4501.0	4482.9	4443.5	4353.1	4200.3	3963.7	3674.4	3396.7	3127.2	2857.8	2588.2
42.5°	4644.0	4616.1	4571.7	4478.0	4297.2	4027.7	3717.2	3431.3	3165.0	2907.1	2642.5
45°	4696.6	4673.6	4632.5	4530.6	4335.0	4045.8	3715.5	3421.4	3166.7	2921.8	2678.6
47.5°	4665.4	4642.3	4606.2	4510.9	4318.7	4024.5	3685.9	3393.5	3150.2	2926.8	2711.5
50°	4561.8	4548.7	4520.7	4440.2	4267.6	3983.4	3659.7	3378.6	3147.0	2951.4	2757.4
52.5°	4551.9	4543.7	4509.3	4428.7	4252.9	3970.2	3656.3	3386.8	3174.9	2982.6	2790.4
55°	5562.6	5446.0	5184.6	4962.8	4598.0	4164.2	3822.3	3520.0	3293.2	3105.9	2971.1
57.5°	7906.0	7731.7	7388.4	6966.0	6127.9	5304.6	4645.7	4169.0	3934.1	3848.6	3899.6
60°	9003.7	8972.5	8918.3	8717.7	8288.9	7580.6	6791.8	5938.9	5597.1	5567.5	5671.1
62.5°	9524.6	9504.9	9521.4	9496.7	9363.6	9156.5	8929.8	8561.6	8223.1	8004.6	7541.1
65°	9764.5	9777.7	9871.3	9945.3	9961.7	10016.0	10182.0	10640.4	10975.7	10412.0	9125.3
67.5°	9154.9	9232.1	9447.4	9716.9	10032.4	10338.0	10831.0	11797.3	12485.9	11823.6	9996.3
69°	7579.0	7616.8	8142.6	8650.3	9421.1	9960.1	10675.0	11941.9	12715.9	11968.3	9927.3
70°	5966.9	6001.4	6565.0	7255.2	8558.3	9251.8	10186.9	11697.1	12500.7	11775.9	9572.3
72.5°	2691.8	2642.5	2841.3	3211.0	4627.6	5728.5	7363.7	9476.9	10313.4	9434.3	7161.6
75°	1879.9	1858.6	1879.9	1881.6	2101.8	2711.5	3421.4	5136.9	6353.1	5482.0	3421.4
77.5°	1456.0	1441.2	1426.4	1410.0	1436.3	1608.8	1677.8	1822.5	2366.4	2238.2	1304.8
80°	1152.0	1138.8	1175.0	1163.5	1163.5	1183.2	1170.1	1115.8	1013.9	939.9	841.3
82.5°	535.7	539.0	539.0	585.0	704.9	823.3	861.1	806.9	716.5	609.7	491.4
85°	50.9	57.5	97.0	149.5	297.4	335.2	336.9	279.3	279.3	220.2	177.5
87.5°	0.0	1.6	1.6	1.6	14.7	41.1	34.5	9.9	4.9	4.9	8.2
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):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	757.6	757.6	757.6	757.6	757.6	757.6	757.6	757.6	757.6	757.6	757.6
2.5°	874.3	869.3	849.6	829.9	811.8	792.0	774.0	756.0	736.2	721.4	703.3
5°	1022.2	986.0	944.9	905.5	866.1	825.0	782.2	744.4	704.9	668.9	634.3
7.5°	1171.7	1101.1	1045.2	974.5	910.4	846.3	787.2	726.4	670.5	617.9	568.6
10°	1298.3	1212.8	1125.7	1035.3	943.3	857.8	775.7	703.3	629.4	565.3	504.5
12.5°	1401.7	1293.3	1186.4	1073.1	969.5	861.1	759.2	672.1	585.0	512.7	450.3
15°	1495.5	1370.5	1242.4	1110.9	979.4	856.2	742.7	634.3	545.6	463.4	392.8
17.5°	1571.0	1428.1	1283.4	1135.5	994.2	849.6	721.4	608.1	504.5	419.0	350.0
20°	1636.8	1487.2	1331.1	1165.1	1004.1	848.0	703.3	575.1	468.3	377.9	310.5
22.5°	1697.5	1548.0	1380.4	1202.9	1018.8	846.3	686.9	550.5	437.1	346.7	279.3
25°	1766.6	1608.8	1432.9	1242.4	1045.2	852.8	677.1	530.8	409.1	317.1	254.7
27.5°	1843.8	1677.8	1495.5	1291.7	1079.6	866.1	673.7	509.5	384.5	289.2	235.0
30°	1952.3	1760.0	1557.9	1341.0	1110.9	880.8	670.5	496.3	359.8	267.8	215.3
32.5°	2047.5	1840.5	1626.9	1391.9	1145.4	895.6	668.9	478.2	336.9	246.5	200.5
35°	2147.8	1914.5	1686.1	1441.2	1175.0	912.0	667.2	465.0	315.5	225.2	185.7
37.5°	2234.9	1976.9	1732.0	1483.9	1207.8	926.8	668.9	453.6	295.8	207.1	172.5
40°	2308.9	2041.0	1783.0	1523.3	1242.4	949.8	670.5	442.1	276.1	190.6	161.0
42.5°	2374.6	2101.8	1837.2	1567.7	1281.8	976.1	680.3	432.2	259.6	175.9	149.5
45°	2425.6	2157.7	1896.4	1630.1	1345.8	1018.8	698.4	425.6	243.2	162.6	139.7
47.5°	2478.1	2239.8	1996.6	1728.7	1439.6	1086.2	729.6	424.0	230.0	152.8	131.4
50°	2550.4	2322.0	2085.3	1829.0	1525.0	1155.2	767.5	425.6	213.7	142.9	123.2
52.5°	2603.0	2405.8	2200.4	2003.2	1728.7	1365.6	913.7	455.2	205.4	134.8	113.3
55°	2913.6	2879.1	2884.0	2916.9	2704.9	2323.6	1528.3	657.4	241.5	152.8	111.7
57.5°	4108.2	4229.9	4300.6	4298.9	3948.9	3275.1	2052.5	844.7	269.5	177.5	133.1
60°	5679.2	5587.2	5457.4	5136.9	4671.9	3738.6	2295.7	908.7	233.4	141.3	121.6
62.5°	7067.9	6528.9	6050.7	5531.3	4921.7	3899.6	2345.0	903.9	203.8	106.8	85.5
65°	7933.9	6964.4	6192.0	5541.2	4823.1	3764.8	2218.5	829.9	172.5	87.1	70.6
67.5°	8141.0	6729.4	5636.5	4806.7	4029.4	2930.0	1628.5	624.4	134.8	72.3	62.4
69°	7689.0	5981.6	4670.3	3728.7	2931.7	1944.0	1007.3	394.4	103.5	65.8	57.5
70°	7072.8	5202.7	3804.2	2992.4	2170.8	1365.6	704.9	277.7	83.8	60.8	52.6
72.5°	4550.3	2732.8	1870.0	1301.5	895.6	543.9	276.1	124.9	64.0	50.9	42.7
75°	1764.9	1010.6	732.9	557.0	435.5	302.4	167.6	80.5	54.2	42.7	32.8
77.5°	869.3	665.5	543.9	373.1	216.9	134.8	90.4	62.4	44.3	31.2	21.3
80°	686.9	456.8	272.8	169.2	128.2	97.0	69.0	50.9	32.8	19.7	14.7
82.5°	351.7	192.2	141.3	115.1	95.3	75.6	55.9	36.2	21.3	13.1	11.5
85°	110.1	80.5	72.3	70.6	65.8	54.2	39.4	23.0	13.1	8.2	8.2
87.5°	8.2	11.5	14.7	11.5	13.1	11.5	14.7	9.9	6.6	6.6	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):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	757.6	757.6	757.6	757.6	757.6	757.6	757.6	757.6	757.6	757.6	757.6
2.5°	690.2	670.5	652.4	640.9	619.6	611.3	603.1	599.8	585.0	588.3	575.1
5°	603.1	568.6	542.3	516.0	491.4	473.3	458.4	440.4	425.6	419.0	405.9
7.5°	524.2	479.9	445.3	417.4	387.8	364.8	345.1	332.0	318.8	305.7	299.1
10°	455.2	407.5	368.1	340.1	312.3	292.5	277.7	267.8	259.6	254.7	253.1
12.5°	391.1	345.1	308.9	284.3	263.0	253.1	246.5	241.5	239.9	238.3	238.3
15°	341.8	295.8	267.8	249.8	239.9	235.0	233.4	230.0	226.8	225.2	225.2
17.5°	295.8	261.2	241.5	231.7	226.8	223.5	220.2	216.9	213.7	211.9	211.9
20°	264.6	236.6	226.8	220.2	215.3	211.9	207.1	203.8	202.1	200.5	198.8
22.5°	239.9	221.8	215.3	210.3	203.8	198.8	195.6	192.2	189.0	187.3	185.7
25°	221.8	210.3	205.4	198.8	192.2	187.3	182.4	177.5	174.2	172.5	169.2
27.5°	208.7	200.5	193.9	185.7	179.1	174.2	169.2	164.4	161.0	157.8	156.1
30°	197.2	189.0	180.7	174.2	166.0	161.0	154.5	149.5	147.9	144.6	141.3
32.5°	185.7	177.5	169.2	161.0	152.8	146.3	142.9	136.4	133.1	131.4	128.2
35°	172.5	164.4	154.5	147.9	139.7	133.1	128.2	123.2	119.9	116.7	115.1
37.5°	161.0	151.2	141.3	133.1	126.6	119.9	115.1	110.1	106.8	103.5	101.9
40°	147.9	138.0	128.2	119.9	113.3	108.5	103.5	98.6	95.3	93.6	93.6
42.5°	136.4	124.9	115.1	108.5	103.5	97.0	92.0	87.1	85.5	83.8	85.5
45°	124.9	113.3	105.2	98.6	93.6	87.1	82.1	78.9	77.3	78.9	80.5
47.5°	115.1	103.5	95.3	90.4	85.5	80.5	75.6	72.3	72.3	75.6	78.9
50°	105.2	93.6	87.1	83.8	78.9	73.9	67.4	65.8	67.4	70.6	73.9
52.5°	95.3	82.1	77.3	75.6	70.6	65.8	60.8	59.2	60.8	64.0	62.4
55°	85.5	72.3	70.6	69.0	64.0	57.5	52.6	52.6	52.6	50.9	47.7
57.5°	82.1	64.0	62.4	60.8	55.9	49.3	46.0	42.7	41.1	36.2	34.5
60°	85.5	57.5	57.5	54.2	49.3	42.7	37.8	32.8	29.6	26.3	26.3
62.5°	69.0	52.6	50.9	47.7	41.1	34.5	29.6	24.6	23.0	21.3	21.3
65°	55.9	47.7	44.3	39.4	34.5	28.0	23.0	19.7	18.1	18.1	19.7
67.5°	50.9	42.7	37.8	32.8	28.0	21.3	18.1	16.5	16.5	18.1	18.1
69°	47.7	39.4	34.5	29.6	24.6	19.7	16.5	16.5	16.5	16.5	18.1
70°	44.3	37.8	32.8	28.0	21.3	16.5	14.7	14.7	16.5	16.5	18.1
72.5°	34.5	29.6	28.0	23.0	16.5	14.7	13.1	14.7	14.7	16.5	16.5
75°	26.3	21.3	21.3	18.1	13.1	11.5	11.5	13.1	13.1	14.7	14.7
77.5°	18.1	14.7	14.7	13.1	11.5	9.9	9.9	11.5	13.1	13.1	14.7
80°	13.1	11.5	9.9	11.5	9.9	8.2	9.9	11.5	11.5	13.1	13.1
82.5°	9.9	9.9	9.9	9.9	8.2	8.2	9.9	9.9	11.5	13.1	13.1
85°	8.2	8.2	8.2	8.2	8.2	8.2	8.2	9.9	9.9	11.5	11.5
87.5°	4.9	4.9	4.9	6.6	6.6	8.2	8.2	8.2	8.2	9.9	9.9
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°	757.6	757.6	757.6	757.6
2.5°	571.9	570.3	563.6	565.3
5°	401.0	391.1	397.7	396.0
7.5°	294.2	292.5	290.8	294.2
10°	251.4	251.4	249.8	251.4
12.5°	236.6	236.6	236.6	236.6
15°	225.2	225.2	223.5	223.5
17.5°	211.9	211.9	211.9	210.3
20°	198.8	197.2	197.2	197.2
22.5°	184.1	182.4	182.4	182.4
25°	169.2	167.6	167.6	167.6
27.5°	154.5	152.8	151.2	151.2
30°	139.7	138.0	136.4	136.4
32.5°	124.9	123.2	121.6	121.6
35°	111.7	111.7	110.1	108.5
37.5°	100.2	100.2	100.2	100.2
40°	92.0	93.6	93.6	93.6
42.5°	87.1	88.7	90.4	92.0
45°	83.8	87.1	88.7	88.7
47.5°	82.1	83.8	85.5	85.5
50°	75.6	73.9	73.9	73.9
52.5°	60.8	57.5	55.9	54.2
55°	44.3	42.7	39.4	39.4
57.5°	31.2	31.2	29.6	29.6
60°	24.6	24.6	23.0	24.6
62.5°	21.3	21.3	21.3	21.3
65°	19.7	19.7	19.7	19.7
67.5°	19.7	19.7	19.7	19.7
69°	18.1	18.1	18.1	18.1
70°	18.1	18.1	18.1	18.1
72.5°	16.5	16.5	16.5	16.5
75°	14.7	16.5	16.5	16.5
77.5°	14.7	14.7	14.7	14.7
80°	13.1	13.1	14.7	14.7
82.5°	13.1	13.1	13.1	13.1
85°	11.5	11.5	13.1	13.1
87.5°	9.9	9.9	11.5	11.5
90°	0.0	0.0	0.0	0.0

(END OF REPORT)