

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: P163835

Luminaire Tested: **LDRL-SL4-E06-E-8030-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P163835
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-E06-E-8030-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: (126) 3000K CCT, 80 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9994.9 lumens
Efficiency: N/A
Efficacy: 66.4 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

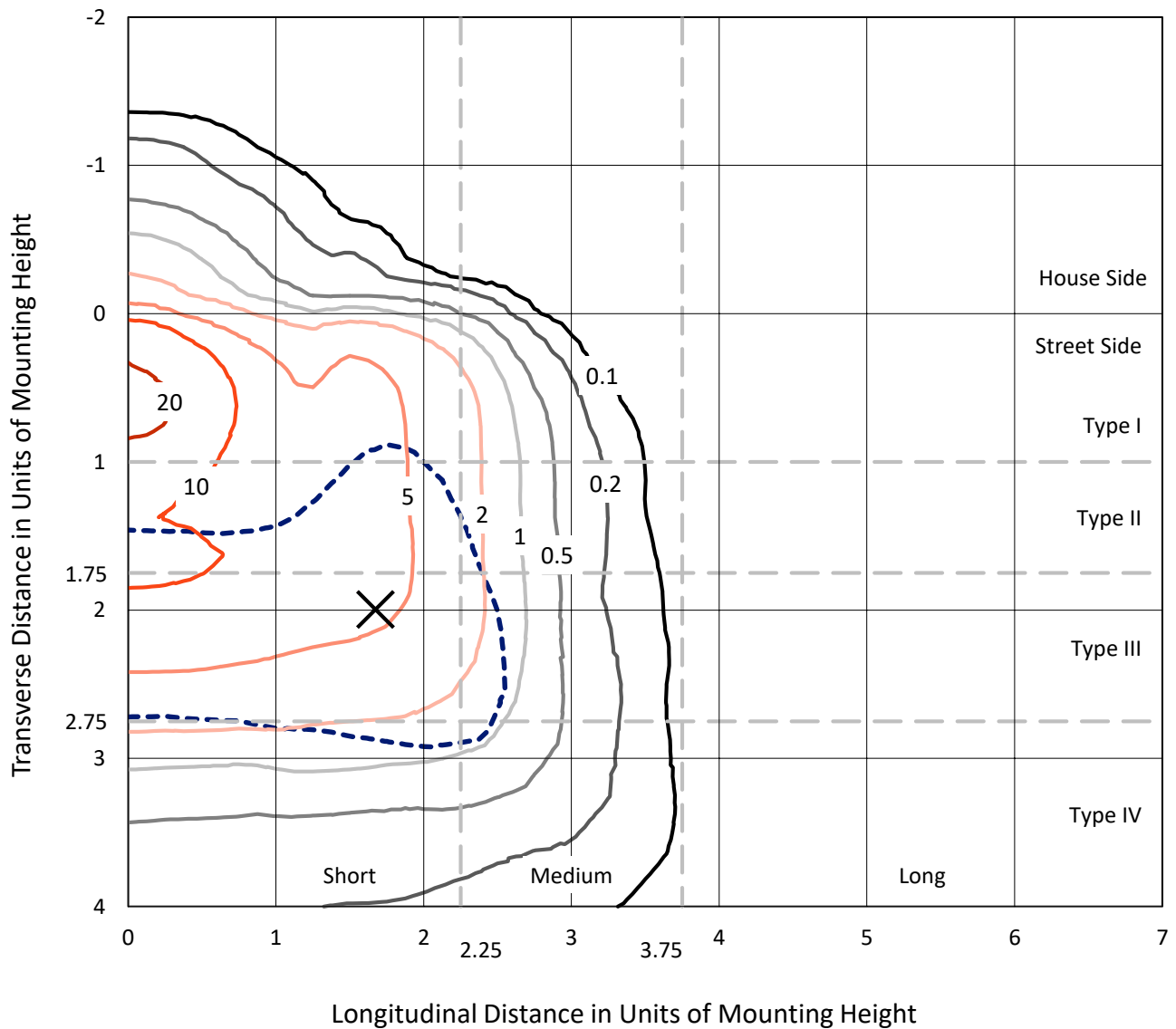
Input Watts (W): 150.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

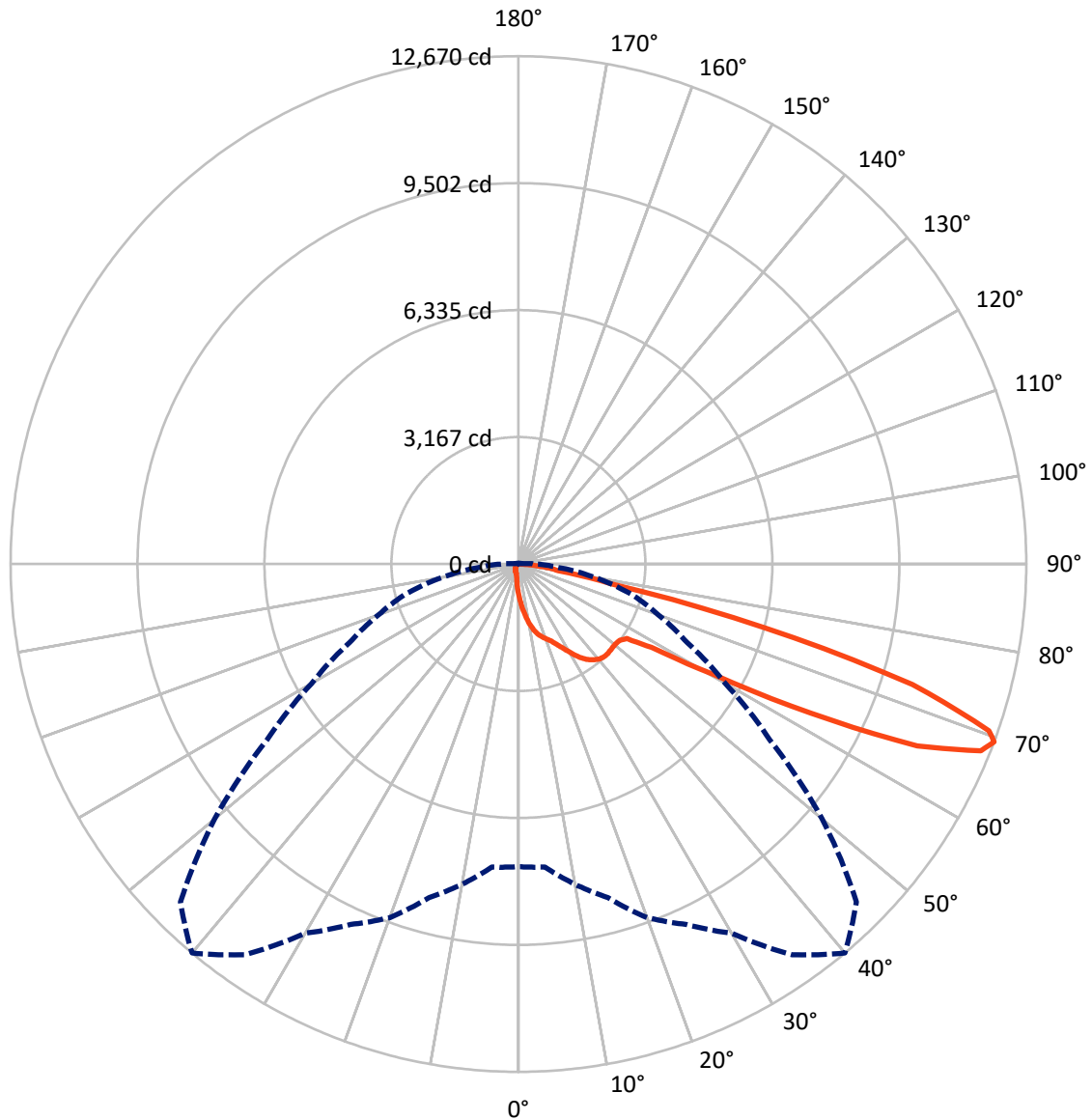
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 22.4 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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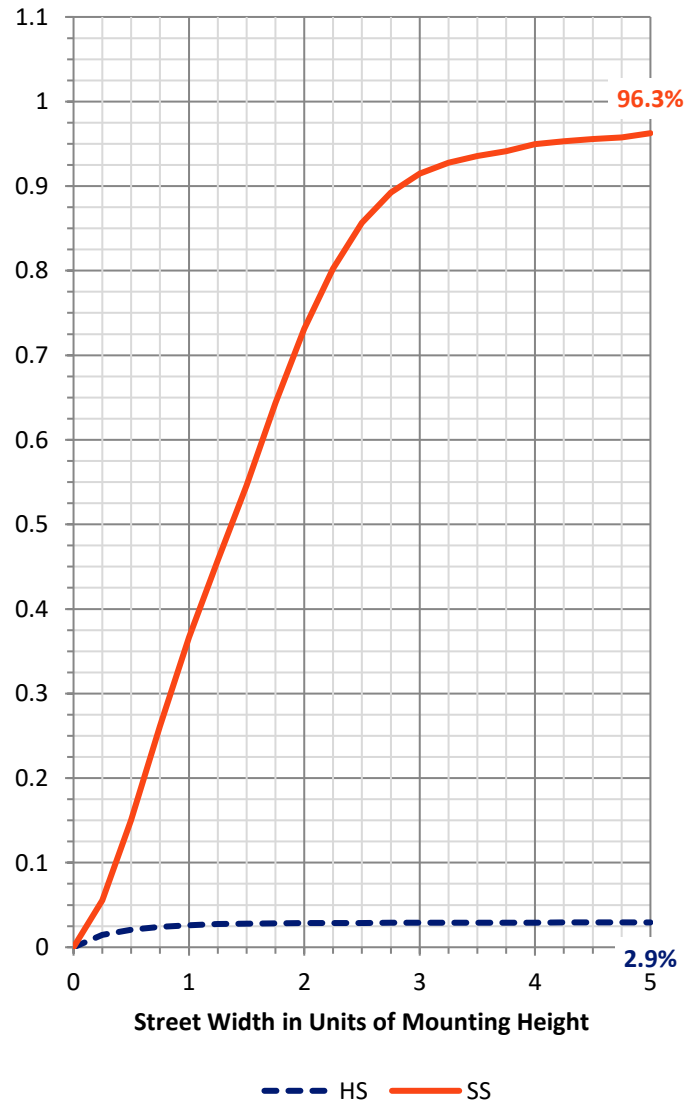
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	297.6	0.0	297.6
	% Fixture	3.0	0.0	3.0
Street Side	Lumens	9697.3	0.0	9697.3
	% Fixture	97.0	0.0	97.0
Total	Lumens	9994.9	0.0	9994.9
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	77.6	0.8
10°-20°	267.5	2.7
20°-30°	511.9	5.1
30°-40°	851.4	8.5
40°-50°	1152.1	11.5
50°-60°	1801.7	18.0
60°-70°	3704.3	37.1
70°-80°	1490.5	14.9
80°-90°	137.9	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°	9994.9	100.0
0°-180°	9994.9	100.0



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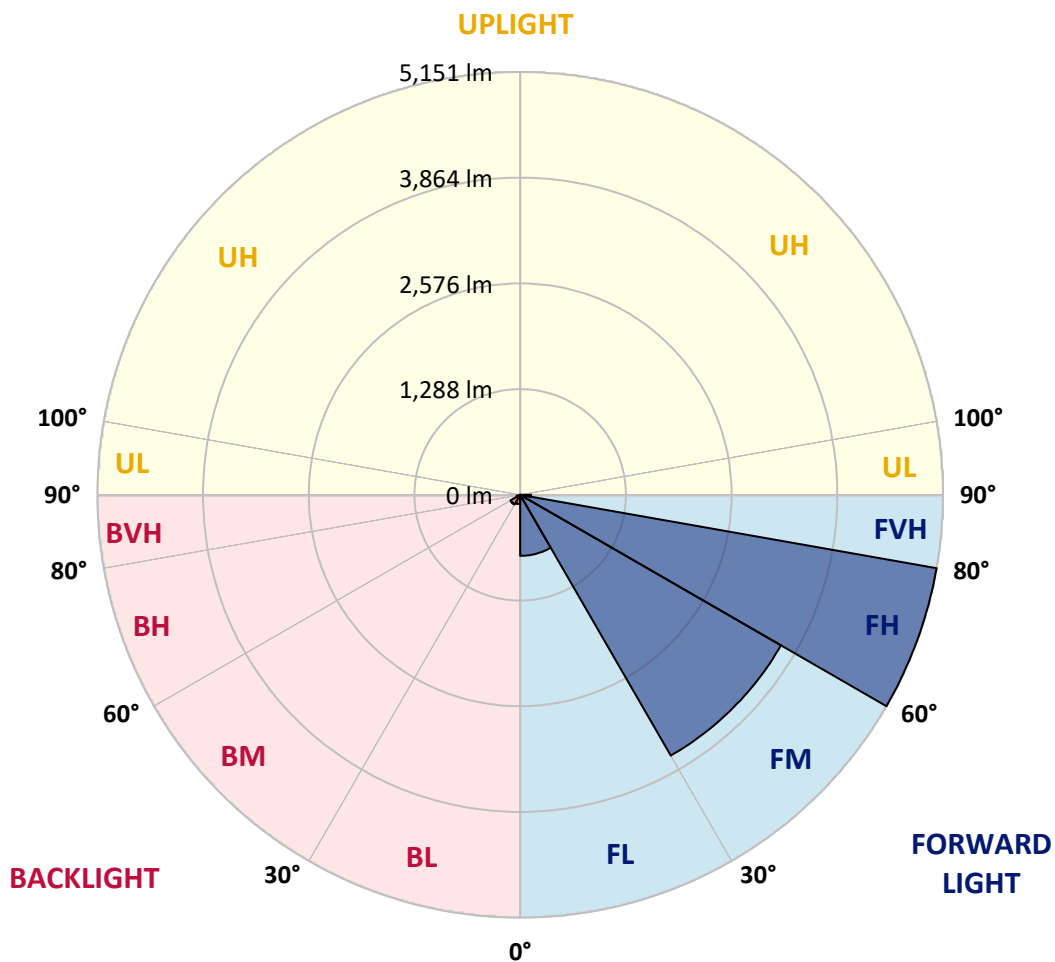
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	743.8	7.4			
FM (30°-60°)	3669.3	36.7			
FH (60°-80°)	5151.4	51.5			G3/7500
FVH (80°-90°)	132.7	1.3			G2/225
BL (0°-30°)	113.2	1.1	B1/500		
BM (30°-60°)	135.9	1.4	B0/220		
BH (60°-80°)	43.4	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°	754.8	754.8	754.8	754.8	754.8	754.8	754.8	754.8	754.8	754.8	754.8
2.5°	1006.9	995.5	982.4	982.4	966.0	966.0	956.2	930.0	926.7	912.0	897.2
5°	1285.3	1275.5	1259.1	1244.4	1231.2	1208.4	1192.0	1160.9	1126.5	1093.7	1064.2
7.5°	1557.1	1552.2	1522.7	1517.8	1496.5	1458.8	1426.1	1380.2	1321.3	1275.5	1221.4
10°	1809.2	1797.8	1791.2	1763.4	1732.3	1691.4	1640.6	1584.9	1516.1	1444.1	1367.2
12.5°	2009.0	2002.5	1973.0	1961.5	1928.8	1887.8	1823.9	1751.9	1683.2	1589.9	1499.8
15°	2157.9	2146.5	2126.9	2108.8	2069.5	2033.6	1974.6	1896.0	1812.5	1711.0	1602.9
17.5°	2282.4	2261.2	2256.2	2228.4	2187.4	2144.9	2079.4	2007.3	1909.1	1807.6	1689.7
20°	2449.4	2420.0	2410.1	2369.2	2321.7	2262.8	2187.4	2097.4	1994.3	1882.9	1761.7
22.5°	2645.9	2624.6	2603.4	2567.3	2506.8	2423.2	2313.5	2215.3	2084.3	1961.5	1830.5
25°	2924.2	2906.3	2871.9	2822.7	2747.4	2647.5	2515.0	2370.8	2216.9	2059.7	1905.9
27.5°	3194.4	3178.0	3153.5	3115.8	3030.7	2921.0	2757.2	2573.9	2379.0	2189.1	2018.8
30°	3448.2	3433.5	3408.9	3371.3	3295.9	3187.9	3002.8	2806.3	2564.1	2343.0	2138.3
32.5°	3721.6	3716.7	3688.9	3634.9	3569.4	3423.6	3222.3	3011.0	2765.4	2510.0	2271.0
35°	4031.1	3993.4	3967.2	3913.2	3801.9	3646.3	3410.6	3179.7	2921.0	2659.0	2392.1
37.5°	4293.1	4257.1	4224.3	4155.6	4019.7	3821.6	3554.6	3300.9	3034.0	2767.0	2495.3
40°	4484.6	4466.6	4427.3	4337.3	4185.0	3949.3	3661.0	3384.3	3115.8	2847.4	2578.8
42.5°	4627.1	4599.3	4555.0	4461.7	4281.6	4013.1	3703.7	3418.8	3153.5	2896.5	2632.8
45°	4679.5	4656.6	4615.6	4514.1	4319.2	4031.1	3701.9	3408.9	3155.1	2911.2	2668.8
47.5°	4648.4	4625.4	4589.5	4494.5	4302.9	4009.8	3672.5	3381.1	3138.7	2916.1	2701.6
50°	4545.2	4532.1	4504.3	4424.1	4252.1	3968.9	3646.3	3366.3	3135.5	2940.6	2747.4
52.5°	4535.4	4527.2	4492.8	4412.6	4237.4	3955.8	3643.0	3374.5	3163.3	2971.7	2780.2
55°	5542.4	5426.1	5165.7	4944.7	4581.3	4149.0	3808.4	3507.2	3281.2	3094.6	2960.3
57.5°	7877.2	7703.6	7361.5	6940.6	6105.6	5285.2	4628.8	4153.9	3919.8	3834.6	3885.4
60°	8970.9	8939.8	8885.8	8686.0	8258.7	7553.0	6767.1	5917.3	5576.7	5547.2	5650.5
62.5°	9489.9	9470.3	9486.7	9462.1	9329.5	9123.2	8897.3	8530.4	8193.2	7975.4	7513.7
65°	9729.0	9742.1	9835.4	9909.1	9925.4	9979.5	10144.9	10601.7	10935.7	10374.1	9092.1
67.5°	9121.6	9198.5	9413.0	9681.6	9995.8	10300.4	10791.6	11754.3	12440.4	11780.6	9959.9
69°	7551.4	7589.0	8112.9	8618.8	9386.8	9923.8	10636.1	11898.4	12669.6	11924.7	9891.1
70°	5945.2	5979.5	6541.1	7228.8	8527.2	9218.1	10149.8	11654.5	12455.2	11733.1	9537.4
72.5°	2682.0	2632.8	2830.9	3199.3	4610.7	5707.7	7336.8	9442.4	10275.9	9399.9	7135.5
75°	1873.1	1851.8	1873.1	1874.8	2094.1	2701.6	3408.9	5118.2	6329.9	5462.1	3408.9
77.5°	1450.7	1435.9	1421.2	1404.8	1431.1	1602.9	1671.7	1815.8	2357.8	2230.1	1300.0
80°	1147.8	1134.6	1170.7	1159.2	1159.2	1178.9	1165.8	1111.7	1010.3	936.5	838.3
82.5°	533.7	537.1	537.1	582.9	702.4	820.3	857.9	804.0	713.9	607.5	489.6
85°	50.7	57.3	96.6	149.0	296.3	334.0	335.6	278.3	278.3	219.4	176.8
87.5°	0.0	1.6	1.6	1.6	14.7	40.9	34.3	9.8	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°	754.8	754.8	754.8	754.8	754.8	754.8	754.8	754.8	754.8	754.8	754.8
2.5°	871.1	866.1	846.5	826.8	808.8	789.2	771.1	753.2	733.6	718.8	700.7
5°	1018.5	982.4	941.5	902.2	862.9	822.0	779.3	741.7	702.4	666.4	632.0
7.5°	1167.4	1097.1	1041.3	971.0	907.1	843.2	784.3	723.7	668.0	615.7	566.6
10°	1293.5	1208.4	1121.6	1031.5	939.9	854.7	772.9	700.7	627.1	563.2	502.6
12.5°	1396.6	1288.6	1182.1	1069.2	966.0	857.9	756.5	669.7	582.9	510.9	448.7
15°	1490.0	1365.5	1237.8	1106.9	975.8	853.1	740.0	632.0	543.6	461.7	391.3
17.5°	1565.3	1422.9	1278.7	1131.4	990.6	846.5	718.8	605.9	502.6	417.5	348.7
20°	1630.8	1481.8	1326.2	1160.9	1000.4	844.9	700.7	573.0	466.6	376.6	309.4
22.5°	1691.4	1542.4	1375.4	1198.5	1015.1	843.2	684.4	548.5	435.5	345.5	278.3
25°	1760.1	1602.9	1427.7	1237.8	1041.3	849.7	674.6	528.9	407.6	316.0	253.8
27.5°	1837.1	1671.7	1490.0	1287.0	1075.7	862.9	671.3	507.6	383.1	288.1	234.2
30°	1945.2	1753.5	1552.2	1336.1	1106.9	877.6	668.0	494.4	358.5	266.9	214.5
32.5°	2040.1	1833.8	1621.0	1386.8	1141.2	892.4	666.4	476.4	335.6	245.6	199.7
35°	2140.0	1907.5	1679.9	1435.9	1170.7	908.7	664.8	463.4	314.4	224.3	185.0
37.5°	2226.7	1969.7	1725.7	1478.5	1203.4	923.5	666.4	451.9	294.7	206.3	171.9
40°	2300.4	2033.6	1776.5	1517.8	1237.8	946.4	668.0	440.5	275.1	189.9	160.4
42.5°	2366.0	2094.1	1830.5	1562.0	1277.1	972.6	677.9	430.6	258.7	175.2	149.0
45°	2416.7	2149.8	1889.5	1624.2	1340.9	1015.1	695.9	424.1	242.4	162.0	139.2
47.5°	2469.1	2231.7	1989.3	1722.5	1434.3	1082.3	727.0	422.4	229.2	152.2	131.0
50°	2541.1	2313.5	2077.7	1822.3	1519.5	1151.0	764.7	424.1	212.9	142.4	122.8
52.5°	2593.6	2397.1	2192.4	1995.9	1722.5	1360.6	910.4	453.5	204.7	134.3	112.9
55°	2903.0	2868.6	2873.5	2906.3	2695.0	2315.1	1522.7	655.0	240.6	152.2	111.3
57.5°	4093.3	4214.5	4284.9	4283.3	3934.5	3263.2	2045.0	841.6	268.5	176.8	132.6
60°	5658.6	5566.9	5437.6	5118.2	4654.9	3724.9	2287.4	905.4	232.5	140.8	121.1
62.5°	7042.1	6505.1	6028.6	5511.2	4903.8	3885.4	2336.5	900.6	203.1	106.4	85.2
65°	7905.0	6939.0	6169.4	5521.0	4805.6	3751.1	2210.4	826.8	171.9	86.8	70.4
67.5°	8111.3	6704.9	5616.0	4789.2	4014.7	2919.4	1622.6	622.2	134.3	72.0	62.2
69°	7661.0	5959.9	4653.3	3715.1	2921.0	1937.0	1003.7	393.0	103.1	65.5	57.3
70°	7047.1	5183.8	3790.4	2981.5	2162.9	1360.6	702.4	276.7	83.5	60.6	52.4
72.5°	4533.8	2722.9	1863.2	1296.8	892.4	541.9	275.1	124.5	63.8	50.7	42.5
75°	1758.5	1006.9	730.2	555.0	433.9	301.3	167.0	80.2	54.0	42.5	32.7
77.5°	866.1	663.1	541.9	371.7	216.1	134.3	90.0	62.2	44.2	31.1	21.3
80°	684.4	455.1	271.8	168.6	127.7	96.6	68.8	50.7	32.7	19.6	14.7
82.5°	350.4	191.5	140.8	114.6	95.0	75.4	55.7	36.1	21.3	13.1	11.4
85°	109.7	80.2	72.0	70.4	65.5	54.0	39.3	22.9	13.1	8.2	8.2
87.5°	8.2	11.4	14.7	11.4	13.1	11.4	14.7	9.8	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°	754.8	754.8	754.8	754.8	754.8	754.8	754.8	754.8	754.8	754.8	754.8
2.5°	687.7	668.0	650.0	638.6	617.3	609.1	600.9	597.6	582.9	586.2	573.0
5°	600.9	566.6	540.3	514.1	489.6	471.6	456.8	438.8	424.1	417.5	404.4
7.5°	522.3	478.1	443.7	415.9	386.4	363.5	343.8	330.8	317.6	304.5	298.0
10°	453.5	406.0	366.7	338.9	311.1	291.5	276.7	266.9	258.7	253.8	252.2
12.5°	389.7	343.8	307.8	283.3	262.0	252.2	245.6	240.6	239.0	237.4	237.4
15°	340.6	294.7	266.9	248.8	239.0	234.2	232.5	229.2	226.0	224.3	224.3
17.5°	294.7	260.3	240.6	230.8	226.0	222.7	219.4	216.1	212.9	211.2	211.2
20°	263.6	235.8	226.0	219.4	214.5	211.2	206.3	203.1	201.3	199.7	198.1
22.5°	239.0	221.0	214.5	209.5	203.1	198.1	194.9	191.5	188.3	186.7	185.0
25°	221.0	209.5	204.7	198.1	191.5	186.7	181.7	176.8	173.6	171.9	168.6
27.5°	207.9	199.7	193.2	185.0	178.5	173.6	168.6	163.8	160.4	157.2	155.6
30°	196.5	188.3	180.1	173.6	165.4	160.4	153.9	149.0	147.4	144.1	140.8
32.5°	185.0	176.8	168.6	160.4	152.2	145.7	142.4	135.9	132.6	131.0	127.7
35°	171.9	163.8	153.9	147.4	139.2	132.6	127.7	122.8	119.5	116.3	114.6
37.5°	160.4	150.6	140.8	132.6	126.1	119.5	114.6	109.7	106.4	103.1	101.5
40°	147.4	137.5	127.7	119.5	112.9	108.1	103.1	98.2	95.0	93.3	93.3
42.5°	135.9	124.5	114.6	108.1	103.1	96.6	91.7	86.8	85.2	83.5	85.2
45°	124.5	112.9	104.8	98.2	93.3	86.8	81.8	78.6	77.0	78.6	80.2
47.5°	114.6	103.1	95.0	90.0	85.2	80.2	75.4	72.0	72.0	75.4	78.6
50°	104.8	93.3	86.8	83.5	78.6	73.6	67.1	65.5	67.1	70.4	73.6
52.5°	95.0	81.8	77.0	75.4	70.4	65.5	60.6	58.9	60.6	63.8	62.2
55°	85.2	72.0	70.4	68.8	63.8	57.3	52.4	52.4	52.4	50.7	47.5
57.5°	81.8	63.8	62.2	60.6	55.7	49.1	45.9	42.5	40.9	36.1	34.3
60°	85.2	57.3	57.3	54.0	49.1	42.5	37.7	32.7	29.5	26.2	26.2
62.5°	68.8	52.4	50.7	47.5	40.9	34.3	29.5	24.5	22.9	21.3	21.3
65°	55.7	47.5	44.2	39.3	34.3	27.9	22.9	19.6	18.0	18.0	19.6
67.5°	50.7	42.5	37.7	32.7	27.9	21.3	18.0	16.4	16.4	18.0	18.0
69°	47.5	39.3	34.3	29.5	24.5	19.6	16.4	16.4	16.4	16.4	18.0
70°	44.2	37.7	32.7	27.9	21.3	16.4	14.7	14.7	16.4	16.4	18.0
72.5°	34.3	29.5	27.9	22.9	16.4	14.7	13.1	14.7	14.7	16.4	16.4
75°	26.2	21.3	21.3	18.0	13.1	11.4	11.4	13.1	13.1	14.7	14.7
77.5°	18.0	14.7	14.7	13.1	11.4	9.8	9.8	11.4	13.1	13.1	14.7
80°	13.1	11.4	9.8	11.4	9.8	8.2	9.8	11.4	11.4	13.1	13.1
82.5°	9.8	9.8	9.8	9.8	8.2	8.2	9.8	9.8	11.4	13.1	13.1
85°	8.2	8.2	8.2	8.2	8.2	8.2	8.2	9.8	9.8	11.4	11.4
87.5°	4.9	4.9	4.9	6.6	6.6	8.2	8.2	8.2	8.2	9.8	9.8
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):

	165°	170°	175°	180°
0°	754.8	754.8	754.8	754.8
2.5°	569.8	568.2	561.6	563.2
5°	399.5	389.7	396.2	394.6
7.5°	293.1	291.5	289.8	293.1
10°	250.5	250.5	248.8	250.5
12.5°	235.8	235.8	235.8	235.8
15°	224.3	224.3	222.7	222.7
17.5°	211.2	211.2	211.2	209.5
20°	198.1	196.5	196.5	196.5
22.5°	183.4	181.7	181.7	181.7
25°	168.6	167.0	167.0	167.0
27.5°	153.9	152.2	150.6	150.6
30°	139.2	137.5	135.9	135.9
32.5°	124.5	122.8	121.1	121.1
35°	111.3	111.3	109.7	108.1
37.5°	99.9	99.9	99.9	99.9
40°	91.7	93.3	93.3	93.3
42.5°	86.8	88.4	90.0	91.7
45°	83.5	86.8	88.4	88.4
47.5°	81.8	83.5	85.2	85.2
50°	75.4	73.6	73.6	73.6
52.5°	60.6	57.3	55.7	54.0
55°	44.2	42.5	39.3	39.3
57.5°	31.1	31.1	29.5	29.5
60°	24.5	24.5	22.9	24.5
62.5°	21.3	21.3	21.3	21.3
65°	19.6	19.6	19.6	19.6
67.5°	19.6	19.6	19.6	19.6
69°	18.0	18.0	18.0	18.0
70°	18.0	18.0	18.0	18.0
72.5°	16.4	16.4	16.4	16.4
75°	14.7	16.4	16.4	16.4
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°	11.4	11.4	13.1	13.1
87.5°	9.8	9.8	11.4	11.4
90°	0.0	0.0	0.0	0.0

(END OF REPORT)