

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: P146864

Luminaire Tested: **LDRL-T4-F03-E-7030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P146864
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-F03-E-7030
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(3) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 SHORT
Light Source: (21) 3000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6647.1 lumens
Efficiency: N/A
Efficacy: 84.9 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B1 - U0 - G2

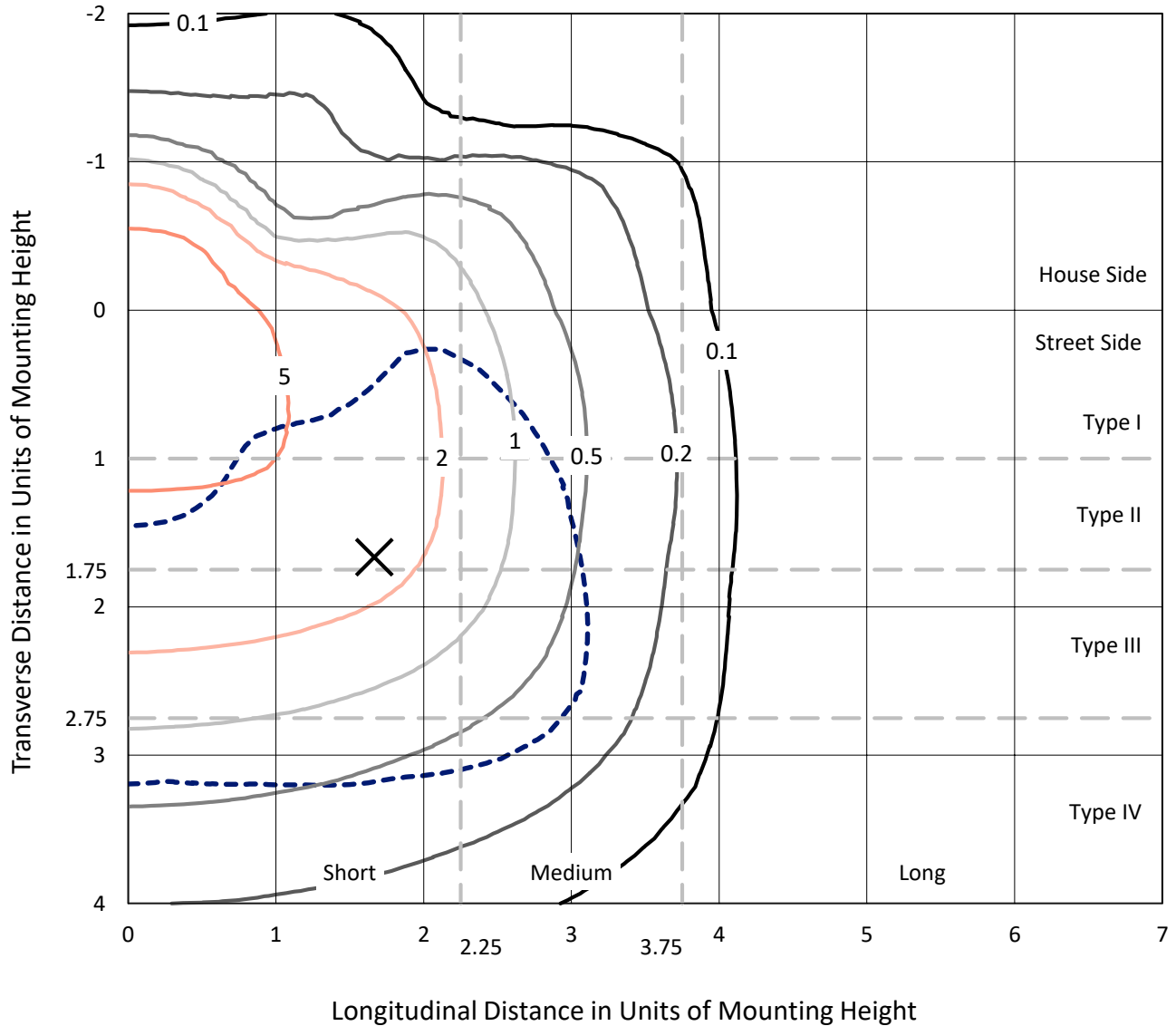
Input Watts (W): 78.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

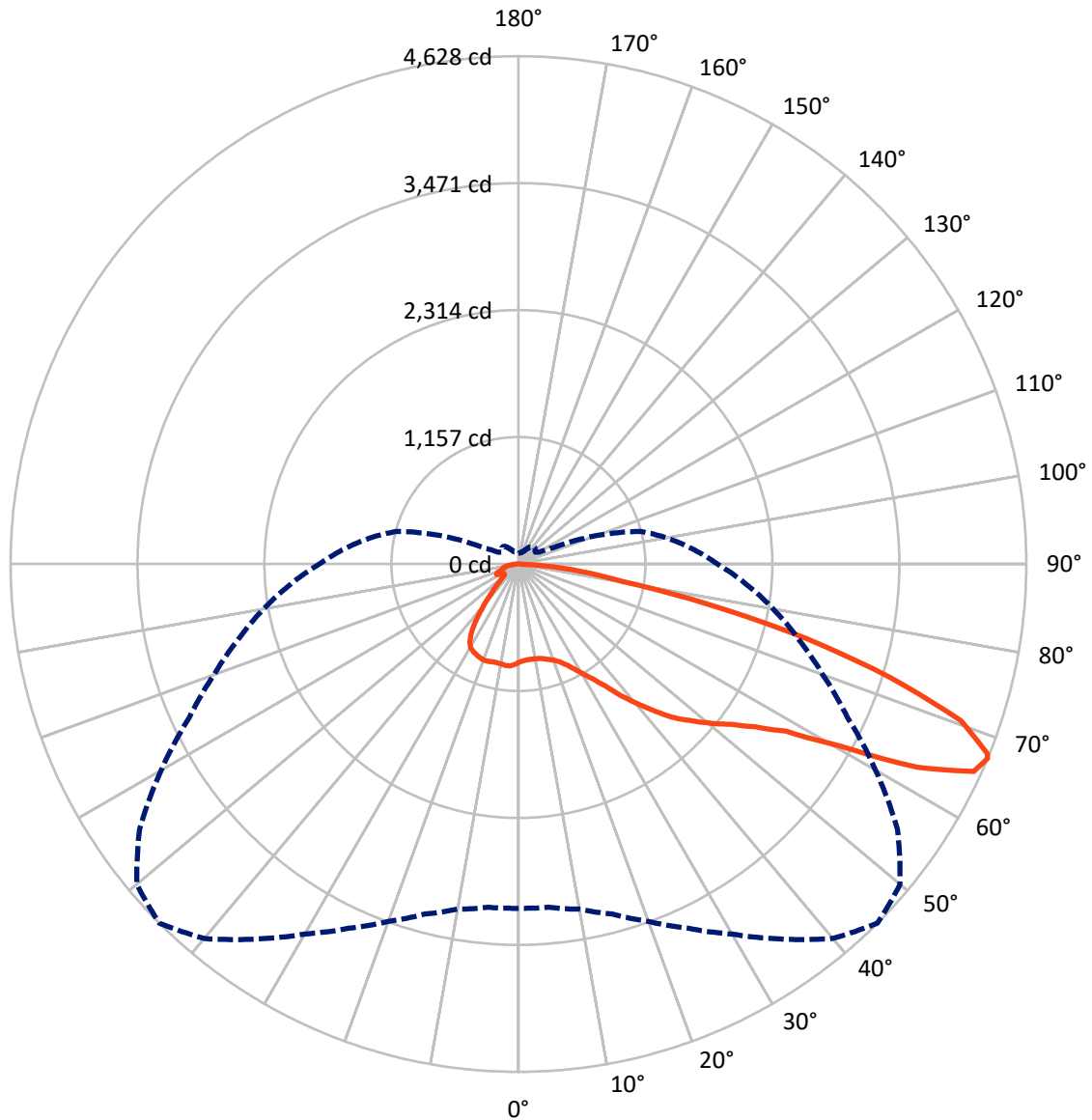
✕ Max cd
 - - - 1/2 Max cd



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 45-Deg Lateral - - - Horizontal Cone Through 67-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1346.8	0.0	1346.8
	% Fixture	20.3	0.0	20.3
Street Side	Lumens	5300.2	0.0	5300.2
	% Fixture	79.7	0.0	79.7
Total	Lumens	6647.1	0.0	6647.1
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	86.2	1.3
10°-20°	259.0	3.9
20°-30°	440.2	6.6
30°-40°	661.5	10.0
40°-50°	860.2	12.9
50°-60°	1180.9	17.8
60°-70°	1862.9	28.0
70°-80°	1125.6	16.9
80°-90°	170.5	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°	6647.1	100.0
0°-180°	6647.1	100.0

Coefficient of Utilization



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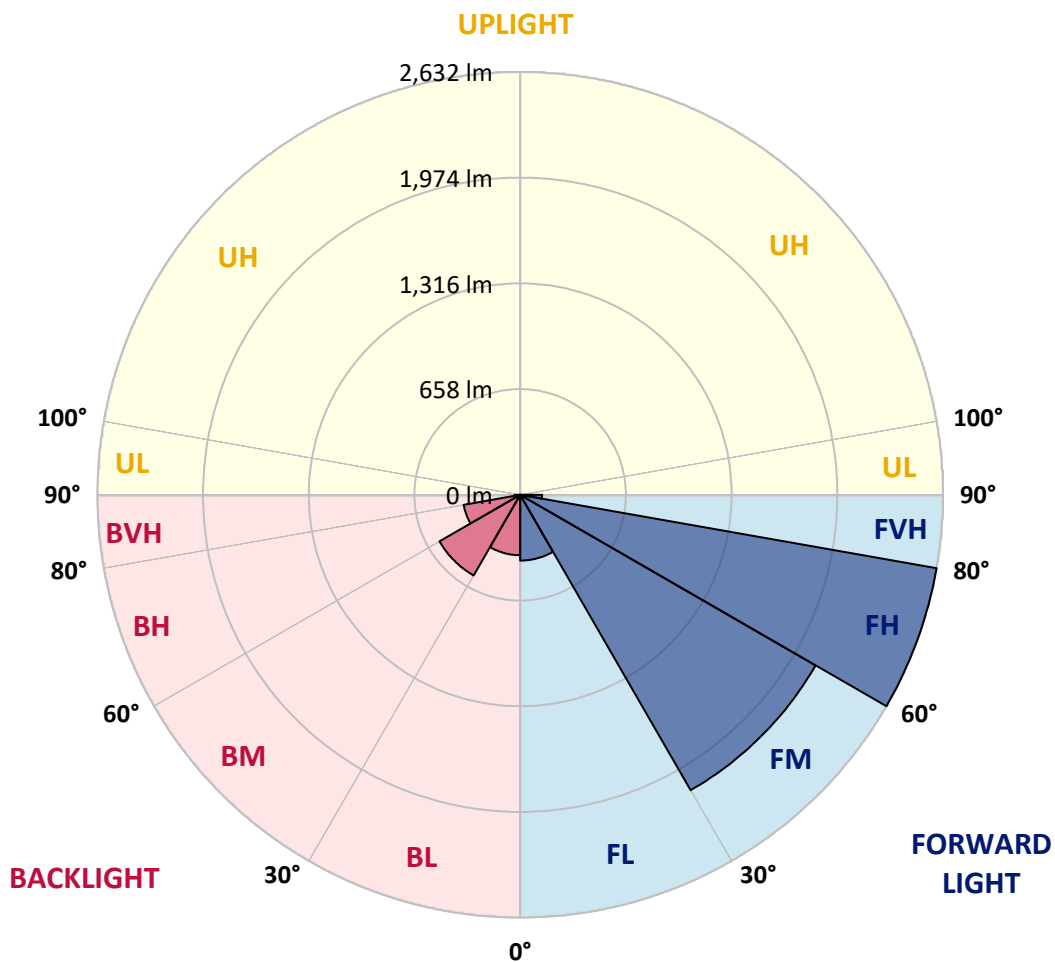
CATALOG NUMBER: LDRL-T4-F03-E-7030

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	409.3	6.2			
FM	(30°-60°)	2123.0	31.9			
FH	(60°-80°)	2631.7	39.6			G2/5000
FVH	(80°-90°)	136.2	2.0			G2/225
BL	(0°-30°)	376.0	5.7	B1/500		
BM	(30°-60°)	579.6	8.7	B1/1000		
BH	(60°-80°)	356.9	5.4	B1/500		G1/500
BVH	(80°-90°)	34.4	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-G2

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	894.8	894.8	894.8	894.8	894.8	894.8	894.8	894.8	894.8	894.8	894.8
2.5°	874.9	876.7	875.4	875.4	875.8	876.3	877.2	879.0	879.5	882.2	882.6
5°	857.3	857.7	857.7	858.2	860.9	863.2	865.4	868.6	871.3	876.3	879.5
7.5°	851.0	852.8	852.3	853.2	855.9	858.2	860.9	865.4	872.2	876.3	880.8
10°	861.4	862.7	861.4	861.8	862.3	864.5	865.4	868.6	874.0	877.6	881.7
12.5°	885.3	885.3	884.0	883.1	881.7	882.2	880.4	879.9	882.6	883.1	883.5
15°	917.0	920.6	916.1	912.5	910.7	908.9	903.0	900.7	900.3	896.2	892.1
17.5°	949.1	950.0	947.3	943.2	940.5	936.5	931.5	927.0	921.5	915.2	907.1
20°	984.9	985.3	981.7	975.8	972.7	967.7	961.3	953.7	946.9	936.9	927.9
22.5°	1034.6	1034.2	1026.9	1022.0	1017.4	1011.6	1002.5	992.1	981.2	969.5	956.8
25°	1091.6	1091.6	1086.7	1078.5	1076.3	1067.7	1057.7	1045.5	1034.2	1017.4	1002.1
27.5°	1156.8	1157.2	1148.2	1143.7	1138.7	1129.6	1122.8	1113.3	1098.0	1081.2	1065.4
30°	1234.1	1231.9	1224.6	1215.1	1213.3	1206.1	1196.6	1189.8	1170.8	1159.0	1141.4
32.5°	1307.4	1311.0	1309.2	1298.4	1300.2	1292.9	1284.8	1279.8	1259.9	1248.6	1232.3
35°	1416.9	1420.1	1422.8	1418.7	1421.0	1416.9	1410.1	1397.0	1380.7	1365.8	1343.2
37.5°	1502.0	1505.1	1506.9	1516.9	1531.4	1545.4	1551.7	1544.9	1545.8	1523.2	1492.9
40°	1571.6	1579.3	1590.2	1609.2	1638.1	1664.8	1679.3	1690.6	1696.5	1675.2	1635.9
42.5°	1641.3	1649.4	1664.4	1694.7	1734.5	1772.9	1803.3	1838.1	1844.4	1839.0	1805.5
45°	1714.1	1723.6	1742.2	1776.6	1823.2	1873.4	1922.2	1971.5	1996.4	2000.5	1959.8
47.5°	1801.9	1815.5	1832.7	1871.6	1916.8	1973.4	2034.4	2097.8	2136.7	2136.7	2089.6
50°	1911.4	1926.8	1941.2	1980.1	2025.4	2083.7	2154.3	2224.9	2277.8	2281.0	2224.0
52.5°	2064.7	2067.0	2075.6	2111.3	2150.7	2215.8	2282.8	2364.7	2425.7	2428.5	2362.9
55°	2251.1	2251.1	2261.1	2290.9	2327.6	2381.4	2450.6	2541.6	2605.8	2619.8	2535.7
57.5°	2496.3	2505.4	2510.3	2545.2	2570.1	2627.1	2685.0	2784.0	2865.9	2875.0	2789.5
60°	2895.3	2878.1	2905.7	2936.5	2994.9	3036.5	3135.1	3234.6	3339.1	3364.0	3272.2
62.5°	3288.5	3307.0	3340.9	3396.6	3496.6	3589.8	3730.9	3882.0	4044.4	4077.9	4007.8
65°	3312.9	3324.2	3371.3	3467.2	3603.8	3769.8	3964.3	4191.9	4433.9	4559.2	4441.6
67°	3137.4	3140.5	3193.9	3302.9	3466.7	3663.5	3893.8	4171.5	4455.6	4628.0	4540.2
67.5°	3081.7	3087.6	3140.1	3251.4	3416.9	3618.3	3853.1	4138.5	4429.4	4609.5	4530.3
70°	2755.1	2755.1	2811.6	2923.8	3079.0	3275.3	3521.0	3809.2	4125.4	4277.0	4209.5
72.5°	2345.2	2330.3	2394.1	2479.1	2605.8	2777.3	2975.0	3202.5	3440.5	3550.9	3524.2
75°	1704.6	1732.7	1765.7	1828.6	1938.5	2073.8	2189.6	2392.7	2579.6	2701.7	2669.6
77.5°	930.1	941.0	1032.4	1069.9	1166.3	1266.7	1393.8	1536.3	1683.4	1760.3	1729.1
80°	552.8	574.1	628.4	673.2	725.2	801.6	893.9	925.1	954.1	952.3	895.7
82.5°	349.2	375.0	433.8	472.3	499.4	543.8	594.0	633.4	642.0	599.4	533.8
85°	56.5	93.6	244.7	287.7	304.9	328.9	366.0	382.7	357.4	312.2	323.5
87.5°	22.2	26.7	74.6	94.6	100.0	52.5	90.9	106.8	54.3	27.6	62.4
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):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	894.8	894.8	894.8	894.8	894.8	894.8	894.8	894.8	894.8	894.8	894.8
2.5°	885.3	887.6	889.9	892.6	893.5	895.7	899.8	899.4	902.5	903.9	906.1
5°	883.5	888.5	892.1	897.1	898.9	903.9	909.3	911.1	915.2	918.4	921.1
7.5°	887.1	892.6	897.1	903.0	907.1	911.1	915.2	920.2	923.8	926.1	927.9
10°	888.5	894.4	899.8	904.8	909.3	912.5	917.0	921.1	924.7	926.1	926.5
12.5°	889.0	893.0	898.5	903.9	908.0	912.0	915.2	919.7	922.4	922.9	922.0
15°	892.6	893.0	896.6	903.0	907.1	911.1	913.4	915.6	917.5	916.1	914.7
17.5°	903.4	900.3	900.3	903.4	905.7	907.5	908.0	907.5	905.7	903.0	900.7
20°	921.1	914.7	909.8	908.0	904.3	899.8	893.9	888.5	881.7	878.6	878.1
22.5°	948.7	939.2	930.1	921.1	909.3	896.2	882.6	870.9	861.4	856.4	856.8
25°	995.7	981.7	971.3	955.5	936.5	917.9	900.3	884.4	873.1	864.1	865.9
27.5°	1059.1	1043.2	1034.2	1016.1	994.4	970.8	950.0	928.3	912.0	900.7	903.0
30°	1133.3	1128.7	1113.8	1095.7	1075.3	1048.7	1017.4	984.9	955.5	936.9	933.3
32.5°	1222.8	1217.9	1201.6	1186.2	1159.9	1130.5	1089.8	1038.2	992.1	956.8	941.4
35°	1333.2	1321.0	1301.1	1286.2	1256.8	1218.8	1166.3	1096.6	1026.5	973.6	935.1
37.5°	1470.7	1440.4	1407.4	1368.5	1325.1	1278.9	1218.3	1136.9	1050.0	974.9	906.6
40°	1601.9	1553.1	1498.3	1436.8	1383.9	1328.2	1265.4	1172.2	1065.8	965.4	863.6
42.5°	1748.1	1672.1	1597.9	1513.3	1443.6	1377.5	1305.6	1197.0	1069.0	939.6	808.0
45°	1888.8	1791.0	1691.5	1587.0	1498.3	1425.0	1343.2	1218.3	1068.1	912.5	752.8
47.5°	2014.1	1897.3	1774.3	1656.7	1553.5	1473.0	1383.4	1247.3	1080.3	904.8	716.1
50°	2131.2	1996.4	1852.1	1721.4	1609.2	1526.8	1434.5	1292.9	1117.9	922.4	710.7
52.5°	2252.0	2105.5	1940.3	1799.6	1682.5	1587.0	1493.8	1351.3	1170.3	958.6	722.9
55°	2409.5	2241.2	2065.2	1909.1	1774.7	1672.1	1564.4	1421.9	1226.9	1000.7	746.0
57.5°	2643.8	2447.0	2247.1	2079.2	1924.0	1796.0	1677.9	1514.6	1320.5	1064.0	796.7
60°	3064.5	2846.5	2614.8	2395.4	2216.7	2067.0	1916.8	1714.1	1493.4	1207.9	912.9
62.5°	3751.7	3450.0	3129.7	2841.0	2595.4	2392.7	2181.0	1937.6	1680.2	1382.5	1088.9
65°	4164.8	3748.6	3340.9	3006.2	2715.7	2456.1	2200.0	1938.5	1689.2	1429.1	1168.1
67°	4215.9	3759.4	3308.4	2951.9	2640.6	2357.9	2080.1	1812.8	1589.7	1371.7	1146.4
67.5°	4200.5	3737.7	3277.6	2917.5	2603.1	2329.4	2056.1	1782.4	1565.3	1347.2	1130.1
70°	3897.4	3444.5	2989.4	2639.3	2338.0	2057.9	1799.6	1525.5	1357.6	1201.6	1013.8
72.5°	3234.6	2881.3	2499.9	2208.1	1948.0	1705.5	1478.4	1249.1	1114.3	1003.9	871.8
75°	2398.6	2074.7	1752.1	1576.6	1374.8	1180.8	1005.2	835.6	783.6	757.3	679.5
77.5°	1481.1	1190.3	947.3	788.5	627.0	491.3	390.9	318.0	331.6	385.9	410.8
80°	737.4	544.7	421.6	335.2	271.0	219.0	160.6	117.6	140.7	166.9	189.1
82.5°	443.8	350.6	277.3	234.8	190.9	147.5	104.5	79.6	88.2	118.5	130.3
85°	275.5	220.8	176.4	147.5	122.1	90.5	59.3	58.8	62.4	78.7	90.0
87.5°	81.0	54.7	43.4	45.2	50.2	41.6	31.2	26.7	33.0	45.2	50.7
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):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	894.8	894.8	894.8	894.8	894.8	894.8	894.8	894.8	894.8	894.8	894.8
2.5°	906.6	909.8	911.1	911.6	912.0	914.7	914.7	917.5	918.4	918.4	919.3
5°	923.8	927.0	928.3	928.8	929.7	931.0	930.6	932.4	933.3	932.8	932.8
7.5°	930.1	931.0	931.0	932.4	933.7	932.4	931.5	932.4	931.9	932.4	932.4
10°	927.9	927.0	927.0	926.1	927.4	924.7	924.7	925.6	925.1	926.1	927.4
12.5°	922.4	922.0	920.6	920.2	922.0	920.2	920.6	922.0	922.9	924.7	927.0
15°	914.7	913.4	913.4	915.2	919.7	921.1	922.9	925.1	925.6	926.5	927.4
17.5°	901.6	903.9	909.3	915.6	924.2	927.4	928.3	927.0	922.4	918.8	915.2
20°	883.5	893.5	907.5	921.1	931.5	931.0	925.1	916.6	905.7	898.0	893.0
22.5°	868.1	887.6	909.3	925.6	932.4	923.8	910.2	897.1	884.4	873.1	863.2
25°	879.0	897.6	916.1	926.1	925.6	910.7	892.6	878.1	860.9	845.1	828.3
27.5°	914.3	925.6	931.0	927.9	918.4	898.5	878.6	858.2	836.0	817.0	797.6
30°	938.3	938.3	932.8	920.2	903.4	881.3	856.8	830.6	804.4	782.2	760.0
32.5°	930.6	912.9	897.1	879.9	860.9	836.9	808.9	780.4	750.5	724.7	705.7
35°	897.1	859.1	826.1	801.6	781.7	753.2	720.7	688.1	663.7	646.0	635.2
37.5°	837.4	776.8	728.8	699.0	668.2	638.8	601.2	586.3	564.6	553.7	549.7
40°	765.0	676.3	616.2	577.7	545.1	508.5	483.2	473.7	465.5	463.3	461.4
42.5°	681.8	570.9	499.4	459.6	420.3	393.6	382.3	376.4	375.0	375.0	377.3
45°	595.4	463.7	381.4	349.2	316.7	302.7	299.9	297.2	297.7	296.3	297.2
47.5°	528.4	372.3	287.7	258.3	241.6	237.1	233.9	233.0	233.0	230.7	228.0
50°	493.6	311.2	225.7	202.7	193.2	190.0	190.0	188.2	184.6	182.3	176.4
52.5°	484.5	279.6	195.4	175.5	167.4	164.7	162.0	159.2	153.8	148.8	142.1
55°	491.8	269.6	185.9	167.4	158.3	155.2	152.9	148.4	140.7	133.5	125.8
57.5°	522.1	276.0	189.6	169.6	161.5	159.2	157.0	150.2	140.7	130.3	121.7
60°	604.9	305.8	204.9	181.9	175.1	175.5	172.4	163.8	150.2	135.3	122.6
62.5°	711.6	347.4	224.8	199.1	198.1	202.7	202.7	187.7	165.6	143.0	125.8
65°	772.7	360.6	227.6	201.3	209.0	222.1	221.2	201.3	171.0	143.0	124.4
67°	757.3	346.5	216.2	188.2	197.2	212.2	210.4	191.4	162.9	137.1	120.8
67.5°	745.1	342.0	213.5	185.0	194.1	206.3	206.3	187.3	159.2	135.3	119.4
70°	656.0	302.2	200.0	172.8	172.8	176.0	173.7	160.1	141.1	124.4	114.0
72.5°	546.9	264.2	189.1	164.2	155.6	153.8	150.6	141.1	128.9	117.2	108.1
75°	423.9	233.9	180.5	155.2	143.9	139.8	136.6	129.4	119.9	109.9	102.2
77.5°	296.8	200.4	169.2	147.5	135.3	132.1	127.1	119.0	111.3	102.7	95.5
80°	184.1	165.6	147.5	133.0	120.3	115.8	109.5	102.2	95.9	90.9	85.5
82.5°	131.2	121.7	109.9	102.2	89.1	75.6	81.0	81.4	77.4	74.2	72.8
85°	87.8	79.2	73.3	66.5	58.8	52.9	54.3	58.4	58.8	57.5	57.5
87.5°	48.0	40.7	39.4	40.7	35.3	33.5	33.9	37.5	38.0	38.0	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):

	165°	170°	175°	180°
0°	894.8	894.8	894.8	894.8
2.5°	919.7	921.1	920.6	921.5
5°	933.7	934.7	934.2	934.7
7.5°	931.5	933.3	934.2	932.8
10°	927.9	930.6	932.4	932.4
12.5°	928.8	933.3	936.0	936.0
15°	927.9	931.5	932.4	932.4
17.5°	913.8	913.8	914.3	912.5
20°	889.4	886.7	885.8	882.6
22.5°	854.6	848.2	844.2	841.9
25°	814.8	804.8	798.5	794.9
27.5°	781.7	773.1	766.8	763.2
30°	745.1	735.1	731.5	728.8
32.5°	692.2	682.7	680.0	677.7
35°	623.4	620.2	613.0	608.0
37.5°	543.8	539.7	537.0	535.2
40°	460.5	461.0	458.7	454.7
42.5°	377.3	381.8	377.3	376.4
45°	296.3	301.3	301.3	302.7
47.5°	228.5	227.6	229.4	229.8
50°	172.8	170.1	169.2	167.8
52.5°	137.1	133.9	132.1	129.8
55°	120.8	117.2	115.4	114.9
57.5°	115.4	110.8	108.1	107.7
60°	114.0	107.7	104.1	103.1
62.5°	114.0	106.3	102.2	100.9
65°	112.6	105.0	101.3	100.0
67°	110.8	104.1	100.4	99.5
67.5°	109.9	103.6	100.4	99.1
70°	107.7	102.2	98.6	97.3
72.5°	102.7	98.2	94.6	93.6
75°	97.3	93.2	90.9	90.0
77.5°	90.9	87.3	84.6	82.3
80°	81.4	77.4	73.3	72.4
82.5°	69.2	64.7	61.5	61.1
85°	55.6	52.0	48.4	48.4
87.5°	38.9	36.6	34.4	32.1
90°	0.0	0.0	0.0	0.0

(END OF REPORT)