

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: P163815

Luminaire Tested: **LDRL-SL4-E04-E-8030-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P163815
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-E04-E-8030-HSS
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(4) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 W/ SPILL LIGHT CONTROL AND HOUSE SIDE SHIELD
Light Source: (84) 3000K CCT, 80 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6663.2 lumens
Efficiency: N/A
Efficacy: 68.6 lumens/watt
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 1' x H: 0.1')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B0 - U0 - G2

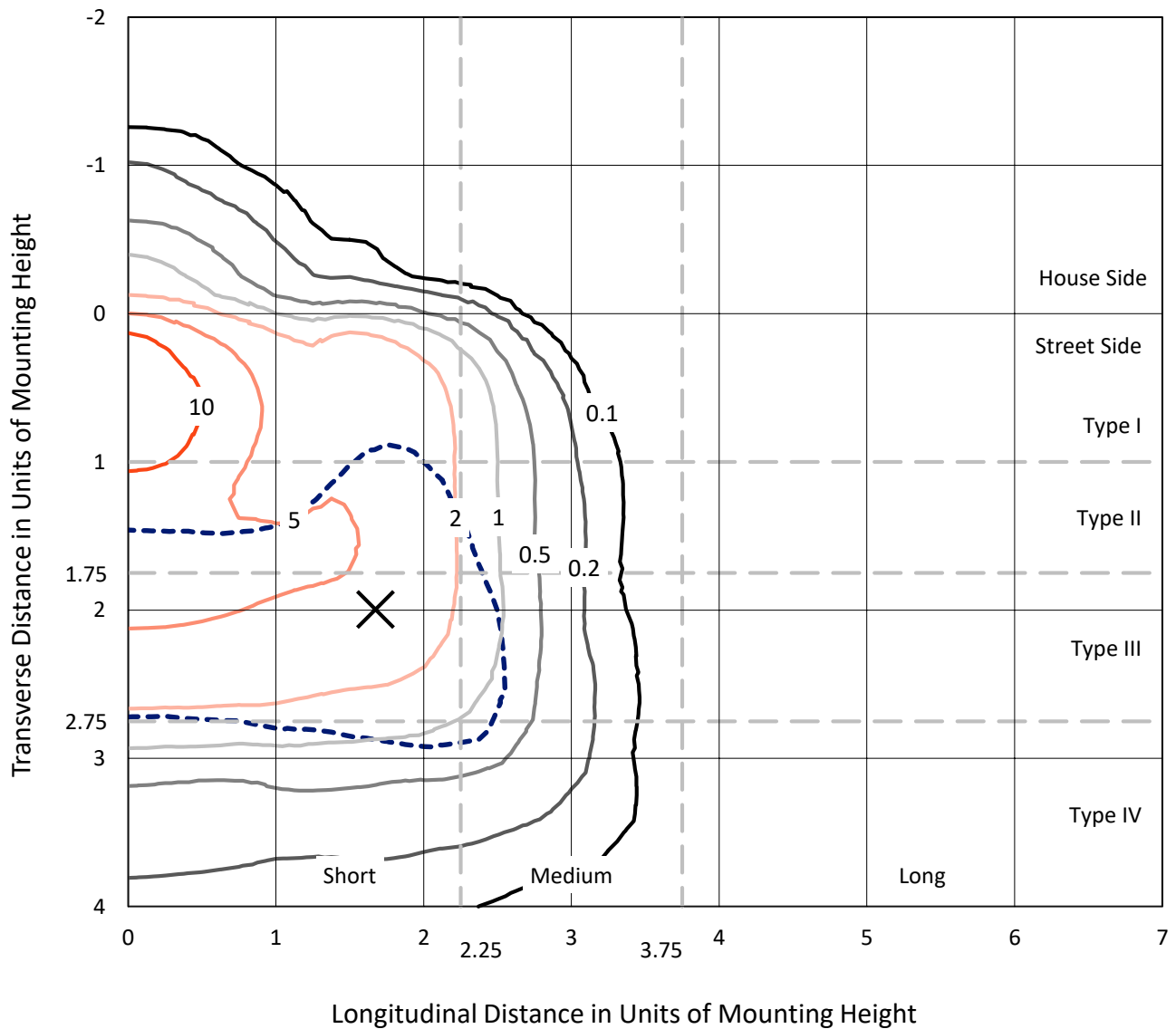
Input Watts (W): 97.2
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

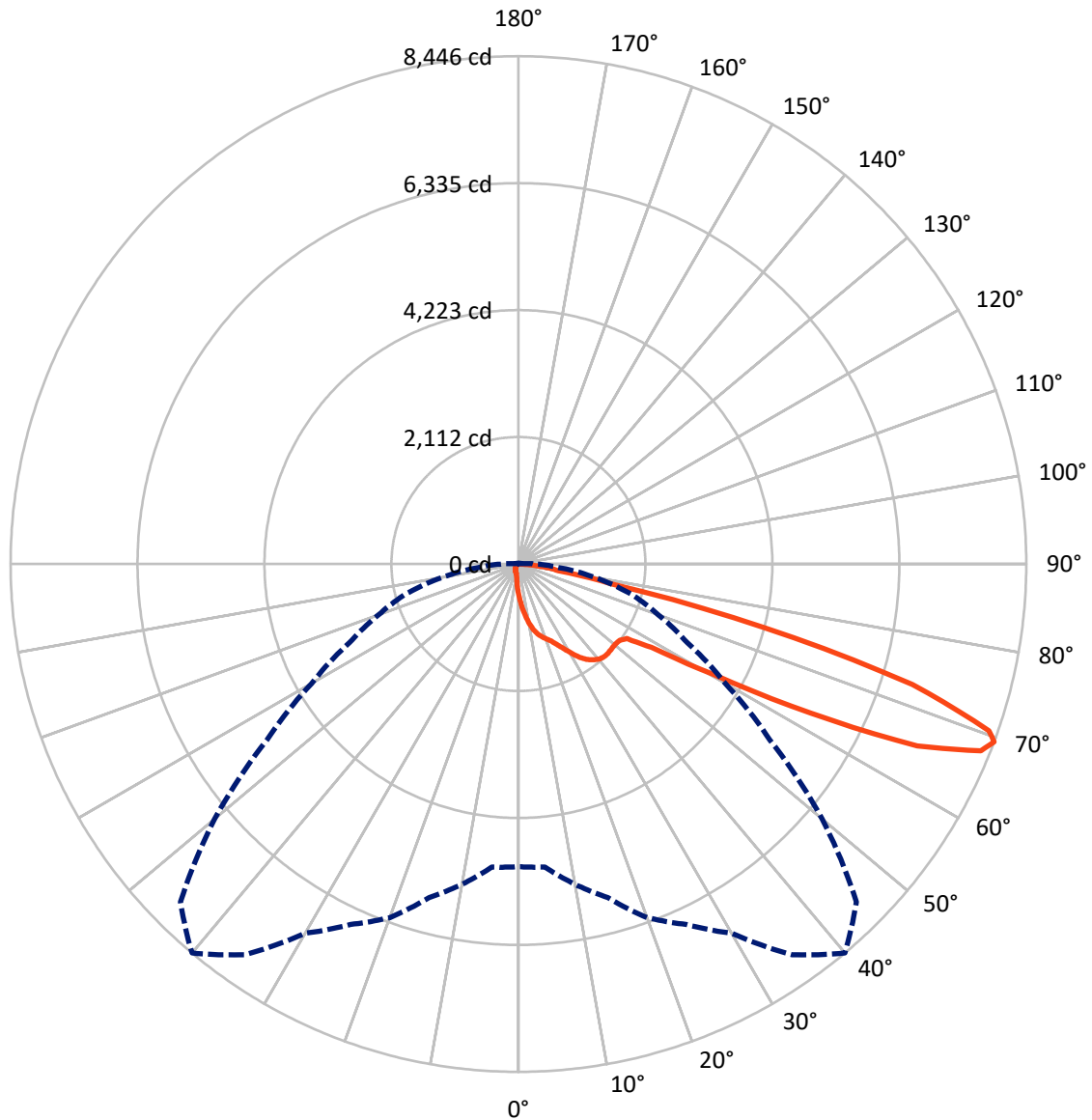
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 14.9 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	198.4	0.0	198.4
	% Fixture	3.0	0.0	3.0
Street Side	Lumens	6464.9	0.0	6464.9
	% Fixture	97.0	0.0	97.0
Total	Lumens	6663.2	0.0	6663.2
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	51.7	0.8
10°-20°	178.3	2.7
20°-30°	341.3	5.1
30°-40°	567.6	8.5
40°-50°	768.0	11.5
50°-60°	1201.1	18.0
60°-70°	2469.5	37.1
70°-80°	993.7	14.9
80°-90°	91.9	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°	6663.2	100.0
0°-180°	6663.2	100.0



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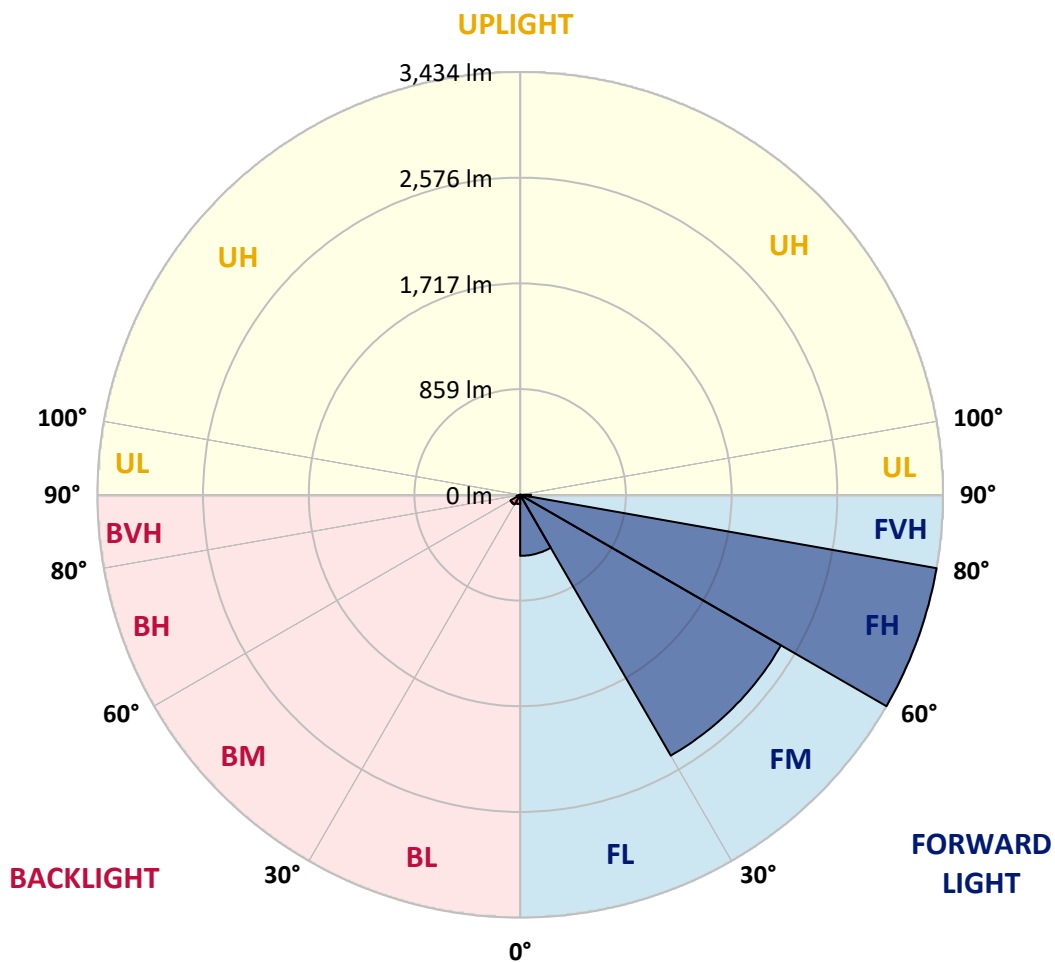
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	495.9	7.4			
FM (30°-60°)	2446.2	36.7			
FH (60°-80°)	3434.3	51.5			G2/5000
FVH (80°-90°)	88.5	1.3			G1/100
BL (0°-30°)	75.5	1.1	B0/110		
BM (30°-60°)	90.6	1.4	B0/220		
BH (60°-80°)	28.9	0.4	B0/110		G0/110
BVH (80°-90°)	3.4	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°	503.2	503.2	503.2	503.2	503.2	503.2	503.2	503.2	503.2	503.2	503.2
2.5°	671.3	663.6	654.9	654.9	644.0	644.0	637.4	620.0	617.8	608.0	598.2
5°	856.9	850.3	839.4	829.6	820.8	805.6	794.6	773.9	751.0	729.1	709.5
7.5°	1038.0	1034.8	1015.2	1011.8	997.7	972.5	950.7	920.2	880.9	850.3	814.3
10°	1206.2	1198.5	1194.1	1175.6	1154.8	1127.6	1093.7	1056.6	1010.8	962.8	911.4
12.5°	1339.3	1335.0	1315.3	1307.6	1285.8	1258.6	1216.0	1167.9	1122.1	1059.9	999.9
15°	1438.6	1431.0	1417.9	1405.9	1379.7	1355.7	1316.4	1264.0	1208.3	1140.7	1068.6
17.5°	1521.6	1507.4	1504.1	1485.6	1458.3	1429.9	1386.2	1338.2	1272.7	1205.1	1126.5
20°	1633.0	1613.3	1606.8	1579.5	1547.8	1508.5	1458.3	1398.3	1329.5	1255.3	1174.5
22.5°	1763.9	1749.8	1735.6	1711.5	1671.2	1615.5	1542.3	1476.8	1389.5	1307.6	1220.3
25°	1949.5	1937.5	1914.6	1881.8	1831.6	1765.0	1676.6	1580.6	1477.9	1373.1	1270.6
27.5°	2129.6	2118.7	2102.3	2077.2	2020.4	1947.3	1838.1	1715.9	1586.0	1459.4	1345.9
30°	2298.8	2289.0	2272.6	2247.5	2197.3	2125.2	2001.9	1870.9	1709.4	1562.0	1425.5
32.5°	2481.1	2477.8	2459.3	2423.3	2379.6	2282.4	2148.2	2007.3	1843.6	1673.3	1514.0
35°	2687.4	2662.3	2644.8	2608.8	2534.6	2430.9	2273.7	2119.8	1947.3	1772.7	1594.7
37.5°	2862.1	2838.0	2816.2	2770.4	2679.8	2547.7	2369.7	2200.6	2022.7	1844.7	1663.5
40°	2989.8	2977.7	2951.5	2891.5	2790.0	2632.8	2440.7	2256.2	2077.2	1898.2	1719.2
42.5°	3084.8	3066.2	3036.7	2974.5	2854.4	2675.4	2469.1	2279.2	2102.3	1931.0	1755.2
45°	3119.7	3104.4	3077.1	3009.4	2879.5	2687.4	2468.0	2272.6	2103.4	1940.8	1779.2
47.5°	3098.9	3083.6	3059.6	2996.3	2868.6	2673.2	2448.3	2254.1	2092.5	1944.1	1801.1
50°	3030.1	3021.4	3002.9	2949.4	2834.7	2645.9	2430.9	2244.2	2090.3	1960.4	1831.6
52.5°	3023.6	3018.1	2995.2	2941.7	2824.9	2637.2	2428.7	2249.7	2108.9	1981.2	1853.5
55°	3694.9	3617.4	3443.8	3296.5	3054.2	2766.0	2538.9	2338.1	2187.5	2063.1	1973.5
57.5°	5251.4	5135.7	4907.6	4627.1	4070.4	3523.5	3085.8	2769.2	2613.2	2556.4	2590.2
60°	5980.6	5959.9	5923.9	5790.7	5505.8	5035.3	4511.4	3944.9	3717.8	3698.2	3767.0
62.5°	6326.6	6313.5	6324.5	6308.1	6219.7	6082.1	5931.5	5686.9	5462.1	5316.9	5009.1
65°	6486.0	6494.7	6556.9	6606.1	6617.0	6653.0	6763.3	7067.8	7290.5	6916.1	6061.4
67.5°	6081.1	6132.3	6275.3	6454.4	6663.9	6866.9	7194.4	7836.2	8293.6	7853.7	6639.9
69°	5034.2	5059.4	5408.6	5745.9	6257.9	6615.9	7090.7	7932.3	8446.4	7949.8	6594.1
70°	3963.4	3986.3	4360.7	4819.2	5684.8	6145.4	6766.5	7769.6	8303.5	7822.0	6358.3
72.5°	1788.0	1755.2	1887.3	2132.9	3073.8	3805.1	4891.2	6295.0	6850.6	6266.6	4757.0
75°	1248.7	1234.5	1248.7	1249.8	1396.1	1801.1	2272.6	3412.2	4220.0	3641.4	2272.6
77.5°	967.1	957.3	947.5	936.6	954.0	1068.6	1114.5	1210.6	1571.8	1486.7	866.7
80°	765.2	756.4	780.5	772.8	772.8	785.9	777.2	741.2	673.5	624.4	558.9
82.5°	355.8	358.1	358.1	388.6	468.2	546.8	572.0	536.0	475.9	405.0	326.4
85°	33.8	38.2	64.4	99.3	197.6	222.7	223.8	185.5	185.5	146.2	117.9
87.5°	0.0	1.1	1.1	1.1	9.8	27.3	22.9	6.5	3.2	3.2	5.5
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):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	503.2	503.2	503.2	503.2	503.2	503.2	503.2	503.2	503.2	503.2	503.2
2.5°	580.7	577.4	564.3	551.2	539.2	526.1	514.1	502.1	489.0	479.2	467.2
5°	679.0	654.9	627.7	601.5	575.3	548.0	519.6	494.4	468.2	444.3	421.3
7.5°	778.3	731.4	694.2	647.3	604.7	562.2	522.9	482.5	445.4	410.4	377.7
10°	862.4	805.6	747.7	687.7	626.6	569.8	515.2	467.2	418.1	375.5	335.1
12.5°	931.1	859.0	788.1	712.8	644.0	572.0	504.3	446.4	388.6	340.6	299.1
15°	993.3	910.4	825.2	737.9	650.5	568.7	493.4	421.3	362.4	307.8	260.9
17.5°	1043.5	948.6	852.5	754.3	660.4	564.3	479.2	403.9	335.1	278.3	232.5
20°	1087.2	987.9	884.2	773.9	667.0	563.2	467.2	382.0	311.1	251.0	206.3
22.5°	1127.6	1028.3	916.9	799.0	676.7	562.2	456.3	365.7	290.3	230.3	185.5
25°	1173.4	1068.6	951.8	825.2	694.2	566.5	449.7	352.6	271.8	210.7	169.2
27.5°	1224.7	1114.5	993.3	858.0	717.1	575.3	447.5	338.4	255.4	192.1	156.1
30°	1296.8	1169.0	1034.8	890.7	737.9	585.1	445.4	329.6	239.0	177.9	143.0
32.5°	1360.0	1222.5	1080.6	924.5	760.8	594.9	444.3	317.6	223.8	163.7	133.1
35°	1426.7	1271.7	1119.9	957.3	780.5	605.8	443.2	308.9	209.6	149.6	123.4
37.5°	1484.5	1313.1	1150.5	985.6	802.3	615.6	444.3	301.3	196.5	137.5	114.6
40°	1533.6	1355.7	1184.4	1011.8	825.2	630.9	445.4	293.6	183.4	126.6	107.0
42.5°	1577.3	1396.1	1220.3	1041.3	851.4	648.4	451.9	287.1	172.4	116.8	99.3
45°	1611.1	1433.2	1259.6	1082.8	894.0	676.7	463.9	282.7	161.6	108.0	92.8
47.5°	1646.1	1487.8	1326.2	1148.3	956.2	721.5	484.7	281.6	152.8	101.5	87.3
50°	1694.1	1542.3	1385.2	1214.9	1013.0	767.4	509.8	282.7	141.9	94.9	81.8
52.5°	1729.0	1598.0	1461.6	1330.6	1148.3	907.1	606.9	302.4	136.5	89.5	75.3
55°	1935.3	1912.4	1915.7	1937.5	1796.7	1543.4	1015.2	436.6	160.4	101.5	74.2
57.5°	2728.9	2809.7	2856.6	2855.5	2623.0	2175.5	1363.3	561.1	179.0	117.9	88.4
60°	3772.4	3711.3	3625.0	3412.2	3103.3	2483.3	1524.9	603.6	155.0	93.9	80.8
62.5°	4694.8	4336.8	4019.1	3674.1	3269.2	2590.2	1557.7	600.4	135.4	71.0	56.8
65°	5270.0	4626.0	4112.9	3680.7	3203.7	2500.7	1473.6	551.2	114.6	57.9	46.9
67.5°	5407.6	4469.9	3744.0	3192.8	2676.5	1946.2	1081.7	414.8	89.5	48.0	41.5
69°	5107.4	3973.2	3102.2	2476.7	1947.3	1291.3	669.1	262.0	68.7	43.7	38.2
70°	4698.1	3455.8	2526.9	1987.7	1441.9	907.1	468.2	184.5	55.6	40.4	34.9
72.5°	3022.5	1815.3	1242.2	864.5	594.9	361.3	183.4	83.0	42.5	33.8	28.4
75°	1172.3	671.3	486.8	370.0	289.3	200.9	111.3	53.5	36.0	28.4	21.8
77.5°	577.4	442.0	361.3	247.8	144.1	89.5	60.0	41.5	29.4	20.7	14.2
80°	456.3	303.4	181.2	112.4	85.1	64.4	45.8	33.8	21.8	13.1	9.8
82.5°	233.6	127.7	93.9	76.4	63.3	50.2	37.1	24.0	14.2	8.7	7.6
85°	73.1	53.5	48.0	46.9	43.7	36.0	26.2	15.3	8.7	5.5	5.5
87.5°	5.5	7.6	9.8	7.6	8.7	7.6	9.8	6.5	4.4	4.4	3.2
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):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	503.2	503.2	503.2	503.2	503.2	503.2	503.2	503.2	503.2	503.2	503.2
2.5°	458.5	445.4	433.3	425.7	411.5	406.1	400.6	398.4	388.6	390.8	382.0
5°	400.6	377.7	360.2	342.7	326.4	314.4	304.5	292.6	282.7	278.3	269.6
7.5°	348.2	318.8	295.8	277.2	257.6	242.3	229.2	220.5	211.7	203.0	198.6
10°	302.4	270.7	244.5	225.9	207.4	194.3	184.5	177.9	172.4	169.2	168.1
12.5°	259.8	229.2	205.2	188.9	174.7	168.1	163.7	160.4	159.3	158.3	158.3
15°	227.1	196.5	177.9	165.9	159.3	156.1	155.0	152.8	150.6	149.6	149.6
17.5°	196.5	173.5	160.4	153.9	150.6	148.5	146.2	144.1	141.9	140.8	140.8
20°	175.8	157.2	150.6	146.2	143.0	140.8	137.5	135.4	134.2	133.1	132.1
22.5°	159.3	147.3	143.0	139.7	135.4	132.1	129.9	127.7	125.5	124.4	123.4
25°	147.3	139.7	136.5	132.1	127.7	124.4	121.1	117.9	115.7	114.6	112.4
27.5°	138.6	133.1	128.8	123.4	119.0	115.7	112.4	109.2	107.0	104.8	103.7
30°	131.0	125.5	120.0	115.7	110.3	107.0	102.6	99.3	98.2	96.1	93.9
32.5°	123.4	117.9	112.4	107.0	101.5	97.2	94.9	90.6	88.4	87.3	85.1
35°	114.6	109.2	102.6	98.2	92.8	88.4	85.1	81.8	79.7	77.5	76.4
37.5°	107.0	100.4	93.9	88.4	84.1	79.7	76.4	73.1	71.0	68.7	67.7
40°	98.2	91.7	85.1	79.7	75.3	72.0	68.7	65.5	63.3	62.2	62.2
42.5°	90.6	83.0	76.4	72.0	68.7	64.4	61.1	57.9	56.8	55.6	56.8
45°	83.0	75.3	69.9	65.5	62.2	57.9	54.6	52.4	51.3	52.4	53.5
47.5°	76.4	68.7	63.3	60.0	56.8	53.5	50.2	48.0	48.0	50.2	52.4
50°	69.9	62.2	57.9	55.6	52.4	49.1	44.8	43.7	44.8	46.9	49.1
52.5°	63.3	54.6	51.3	50.2	46.9	43.7	40.4	39.3	40.4	42.5	41.5
55°	56.8	48.0	46.9	45.8	42.5	38.2	34.9	34.9	34.9	33.8	31.7
57.5°	54.6	42.5	41.5	40.4	37.1	32.7	30.6	28.4	27.3	24.0	22.9
60°	56.8	38.2	38.2	36.0	32.7	28.4	25.1	21.8	19.6	17.5	17.5
62.5°	45.8	34.9	33.8	31.7	27.3	22.9	19.6	16.3	15.3	14.2	14.2
65°	37.1	31.7	29.4	26.2	22.9	18.6	15.3	13.1	12.0	12.0	13.1
67.5°	33.8	28.4	25.1	21.8	18.6	14.2	12.0	10.9	10.9	12.0	12.0
69°	31.7	26.2	22.9	19.6	16.3	13.1	10.9	10.9	10.9	10.9	12.0
70°	29.4	25.1	21.8	18.6	14.2	10.9	9.8	9.8	10.9	10.9	12.0
72.5°	22.9	19.6	18.6	15.3	10.9	9.8	8.7	9.8	9.8	10.9	10.9
75°	17.5	14.2	14.2	12.0	8.7	7.6	7.6	8.7	8.7	9.8	9.8
77.5°	12.0	9.8	9.8	8.7	7.6	6.5	6.5	7.6	8.7	8.7	9.8
80°	8.7	7.6	6.5	7.6	6.5	5.5	6.5	7.6	7.6	8.7	8.7
82.5°	6.5	6.5	6.5	6.5	5.5	5.5	6.5	6.5	7.6	8.7	8.7
85°	5.5	5.5	5.5	5.5	5.5	5.5	5.5	6.5	6.5	7.6	7.6
87.5°	3.2	3.2	3.2	4.4	4.4	5.5	5.5	5.5	5.5	6.5	6.5
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°	503.2	503.2	503.2	503.2
2.5°	379.9	378.8	374.4	375.5
5°	266.4	259.8	264.1	263.1
7.5°	195.4	194.3	193.2	195.4
10°	167.0	167.0	165.9	167.0
12.5°	157.2	157.2	157.2	157.2
15°	149.6	149.6	148.5	148.5
17.5°	140.8	140.8	140.8	139.7
20°	132.1	131.0	131.0	131.0
22.5°	122.3	121.1	121.1	121.1
25°	112.4	111.3	111.3	111.3
27.5°	102.6	101.5	100.4	100.4
30°	92.8	91.7	90.6	90.6
32.5°	83.0	81.8	80.8	80.8
35°	74.2	74.2	73.1	72.0
37.5°	66.6	66.6	66.6	66.6
40°	61.1	62.2	62.2	62.2
42.5°	57.9	58.9	60.0	61.1
45°	55.6	57.9	58.9	58.9
47.5°	54.6	55.6	56.8	56.8
50°	50.2	49.1	49.1	49.1
52.5°	40.4	38.2	37.1	36.0
55°	29.4	28.4	26.2	26.2
57.5°	20.7	20.7	19.6	19.6
60°	16.3	16.3	15.3	16.3
62.5°	14.2	14.2	14.2	14.2
65°	13.1	13.1	13.1	13.1
67.5°	13.1	13.1	13.1	13.1
69°	12.0	12.0	12.0	12.0
70°	12.0	12.0	12.0	12.0
72.5°	10.9	10.9	10.9	10.9
75°	9.8	10.9	10.9	10.9
77.5°	9.8	9.8	9.8	9.8
80°	8.7	8.7	9.8	9.8
82.5°	8.7	8.7	8.7	8.7
85°	7.6	7.6	8.7	8.7
87.5°	6.5	6.5	7.6	7.6
90°	0.0	0.0	0.0	0.0

(END OF REPORT)