

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: P163802

Luminaire Tested: **LDRL-SL4-F02-E-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P163802
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-F02-E-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: (14) 4000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3258.7 lumens
Efficiency: N/A
Efficacy: 59.2 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 - G1

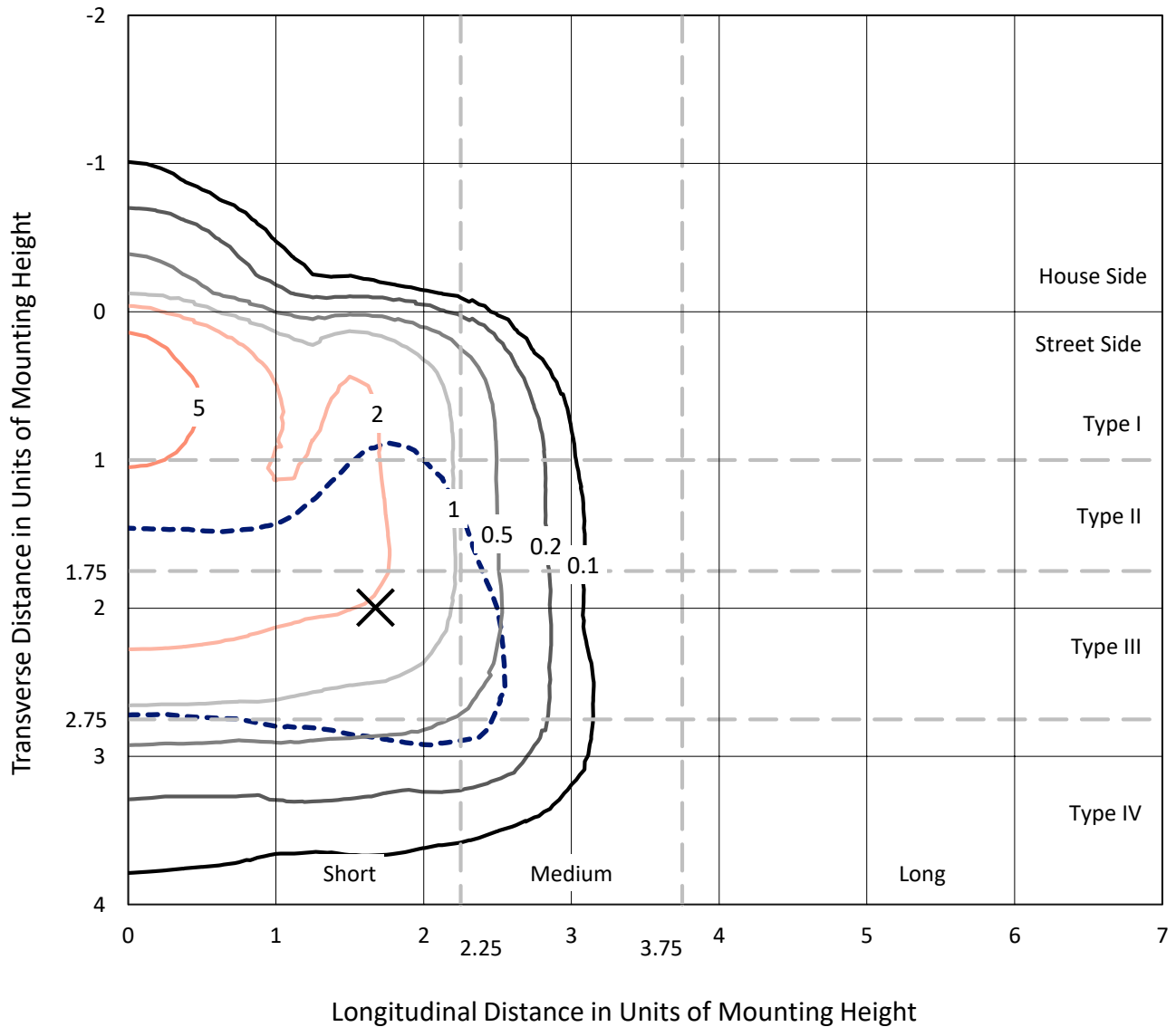
Input Watts (W): 55
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

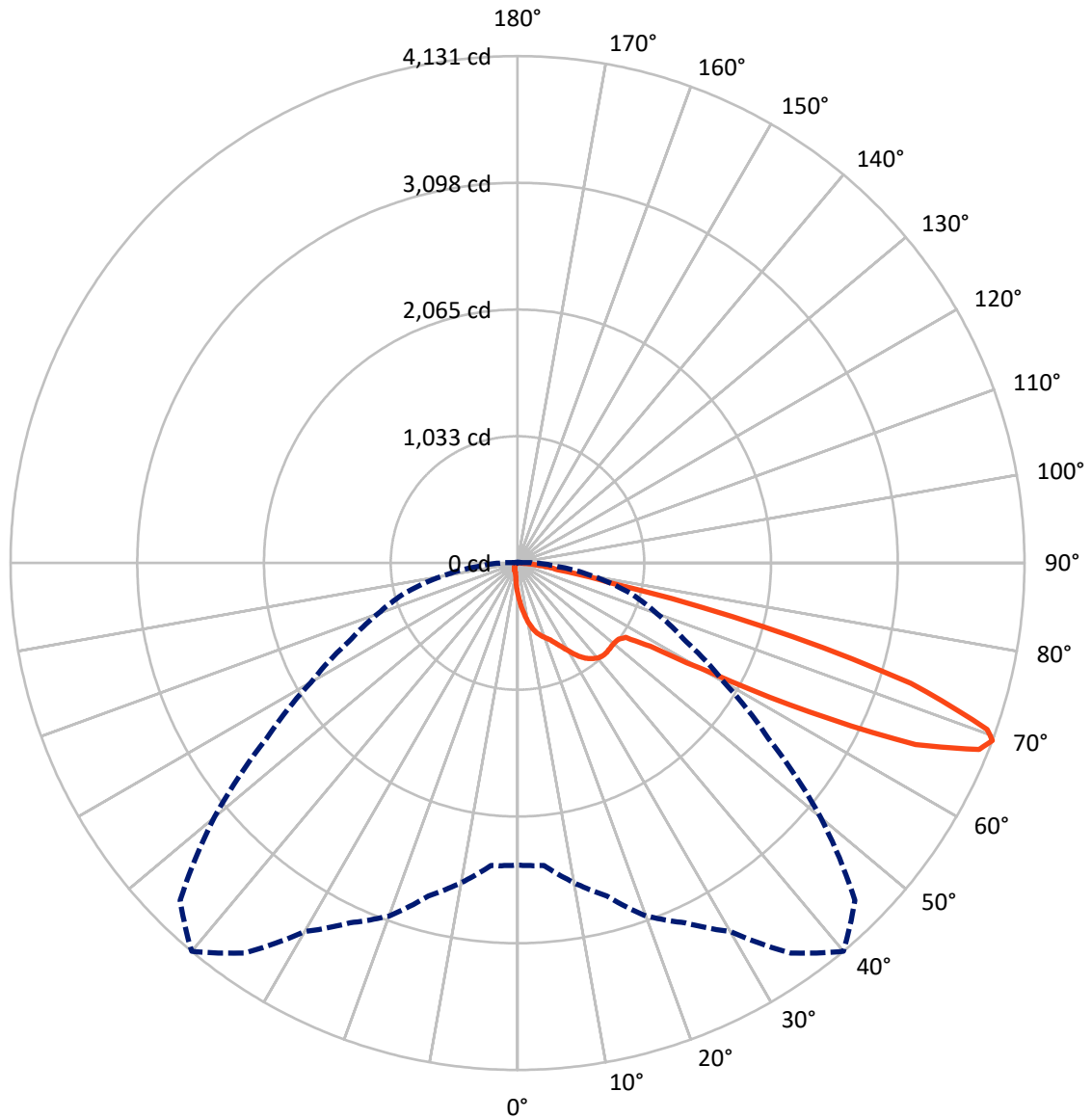
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 7.3 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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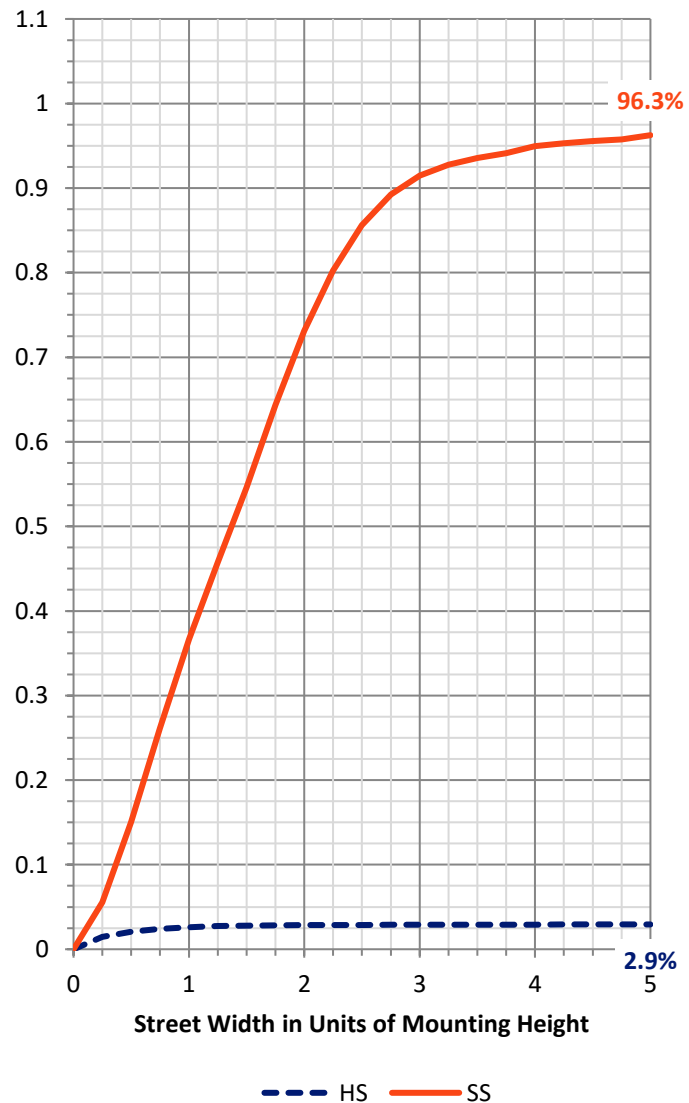
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	97.0	0.0	97.0
	% Fixture	3.0	0.0	3.0
Street Side	Lumens	3161.7	0.0	3161.7
	% Fixture	97.0	0.0	97.0
Total	Lumens	3258.7	0.0	3258.7
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	25.3	0.8
10°-20°	87.2	2.7
20°-30°	166.9	5.1
30°-40°	277.6	8.5
40°-50°	375.6	11.5
50°-60°	587.4	18.0
60°-70°	1207.7	37.1
70°-80°	486.0	14.9
80°-90°	45.0	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°	3258.7	100.0
0°-180°	3258.7	100.0



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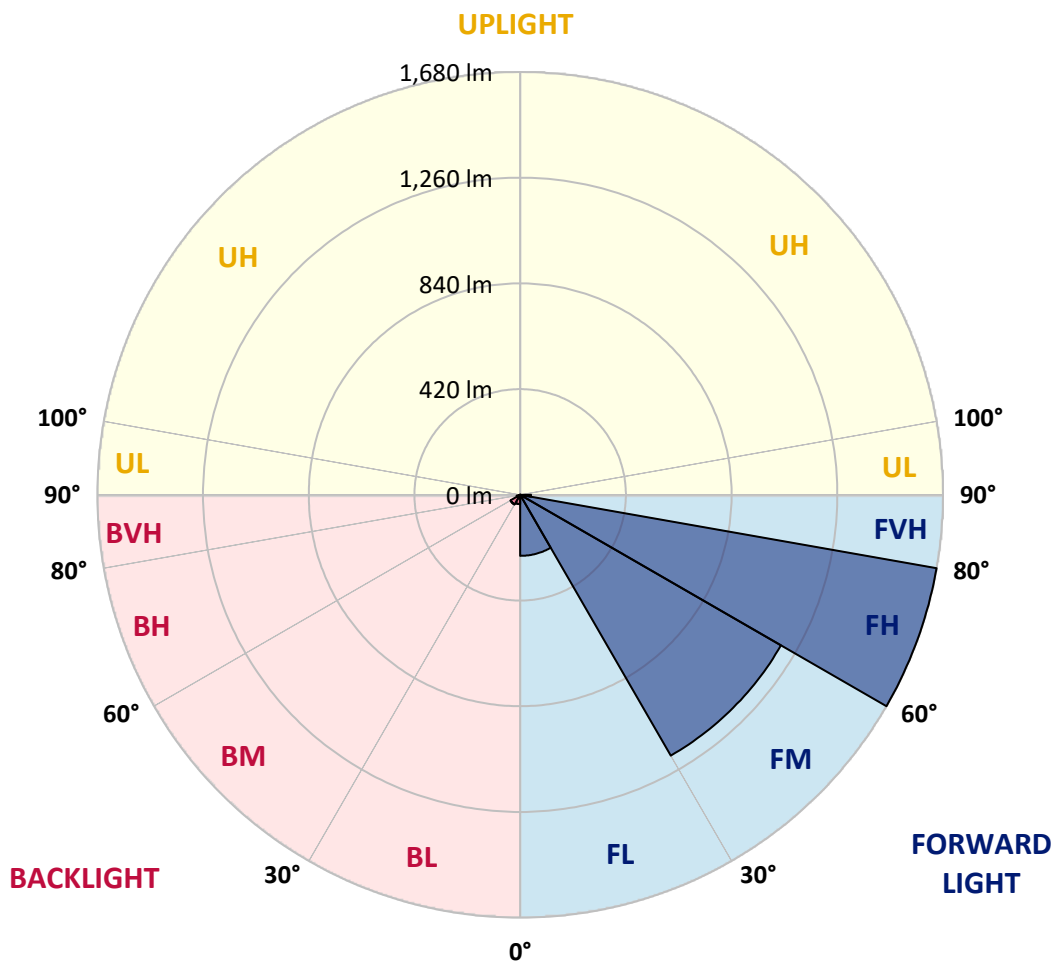
CATALOG NUMBER: LDRL-SL4-F02-E-HSS

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	242.5	7.4			
FM (30°-60°)	1196.3	36.7			
FH (60°-80°)	1679.6	51.5			G1/1800
FVH (80°-90°)	43.3	1.3			G1/100
BL (0°-30°)	36.9	1.1	B0/110		
BM (30°-60°)	44.3	1.4	B0/220		
BH (60°-80°)	14.1	0.4	B0/110		G0/110
BVH (80°-90°)	1.7	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-G1

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	246.1	246.1	246.1	246.1	246.1	246.1	246.1	246.1	246.1	246.1	246.1
2.5°	328.3	324.6	320.3	320.3	315.0	315.0	311.8	303.2	302.1	297.4	292.5
5°	419.1	415.9	410.5	405.7	401.4	394.0	388.6	378.5	367.3	356.6	347.0
7.5°	507.7	506.1	496.5	494.9	487.9	475.6	465.0	450.0	430.8	415.9	398.2
10°	589.9	586.2	584.0	574.9	564.8	551.5	534.9	516.7	494.3	470.8	445.8
12.5°	655.0	652.9	643.3	639.5	628.9	615.5	594.7	571.2	548.8	518.4	489.0
15°	703.6	699.8	693.4	687.6	674.8	663.0	643.8	618.2	590.9	557.9	522.6
17.5°	744.2	737.2	735.6	726.6	713.2	699.3	678.0	654.5	622.4	589.4	550.9
20°	798.6	789.0	785.8	772.5	757.0	737.8	713.2	683.8	650.2	613.9	574.4
22.5°	862.7	855.7	848.8	837.0	817.3	790.1	754.3	722.3	679.6	639.5	596.8
25°	953.4	947.6	936.3	920.3	895.8	863.2	820.0	773.0	722.8	671.5	621.4
27.5°	1041.5	1036.2	1028.2	1015.9	988.1	952.4	899.0	839.2	775.7	713.7	658.2
30°	1124.3	1119.4	1111.5	1099.2	1074.6	1039.4	979.0	915.0	836.0	763.9	697.2
32.5°	1213.4	1211.8	1202.7	1185.1	1163.8	1116.2	1050.6	981.7	901.6	818.4	740.4
35°	1314.3	1302.0	1293.5	1275.9	1239.6	1188.9	1112.0	1036.7	952.4	866.9	779.9
37.5°	1399.7	1388.0	1377.3	1354.9	1310.6	1246.0	1158.9	1076.2	989.2	902.2	813.6
40°	1462.2	1456.3	1443.5	1414.1	1364.5	1287.6	1193.6	1103.4	1015.9	928.4	840.8
42.5°	1508.6	1499.5	1485.1	1454.7	1396.0	1308.4	1207.5	1114.7	1028.2	944.4	858.4
45°	1525.7	1518.2	1504.9	1471.8	1408.2	1314.3	1207.0	1111.5	1028.7	949.2	870.1
47.5°	1515.6	1508.1	1496.3	1465.4	1402.9	1307.4	1197.4	1102.4	1023.4	950.8	880.8
50°	1481.9	1477.7	1468.6	1442.4	1386.4	1294.0	1188.9	1097.6	1022.3	958.8	895.8
52.5°	1478.7	1476.0	1464.8	1438.7	1381.6	1289.7	1187.8	1100.2	1031.4	968.9	906.5
55°	1807.0	1769.1	1684.2	1612.2	1493.7	1352.7	1241.7	1143.5	1069.8	1009.0	965.2
57.5°	2568.3	2511.7	2400.1	2262.9	1990.7	1723.2	1509.2	1354.3	1278.0	1250.2	1266.8
60°	2924.9	2914.7	2897.1	2832.0	2692.7	2462.6	2206.3	1929.3	1818.2	1808.6	1842.3
62.5°	3094.1	3087.7	3093.0	3085.0	3041.8	2974.5	2900.9	2781.3	2671.3	2600.3	2449.8
65°	3172.0	3176.3	3206.7	3230.8	3236.1	3253.7	3307.6	3456.6	3565.5	3382.4	2964.4
67.5°	2974.0	2999.1	3069.0	3156.6	3259.0	3358.3	3518.5	3832.4	4056.1	3840.9	3247.3
69°	2462.0	2474.3	2645.1	2810.1	3060.5	3235.6	3467.8	3879.4	4130.8	3887.9	3224.9
70°	1938.4	1949.6	2132.7	2356.9	2780.2	3005.5	3309.2	3799.8	4060.9	3825.4	3109.6
72.5°	874.4	858.4	923.0	1043.1	1503.3	1860.9	2392.1	3078.6	3350.3	3064.7	2326.5
75°	610.7	603.8	610.7	611.3	682.8	880.8	1111.5	1668.7	2063.8	1780.9	1111.5
77.5°	473.0	468.2	463.4	458.0	466.6	522.6	545.0	592.0	768.7	727.1	423.9
80°	374.2	369.9	381.7	378.0	378.0	384.4	380.1	362.5	329.4	305.3	273.3
82.5°	174.0	175.1	175.1	190.0	229.0	267.4	279.7	262.1	232.8	198.1	159.6
85°	16.5	18.7	31.5	48.6	96.6	108.9	109.4	90.7	90.7	71.5	57.7
87.5°	0.0	0.5	0.5	0.5	4.8	13.3	11.2	3.2	1.6	1.6	2.7
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):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	246.1	246.1	246.1	246.1	246.1	246.1	246.1	246.1	246.1	246.1	246.1
2.5°	284.0	282.4	276.0	269.6	263.7	257.3	251.4	245.6	239.2	234.4	228.5
5°	332.1	320.3	307.0	294.2	281.3	268.0	254.1	241.8	229.0	217.3	206.1
7.5°	380.6	357.7	339.5	316.6	295.7	274.9	255.7	236.0	217.8	200.7	184.7
10°	421.7	394.0	365.7	336.3	306.4	278.7	252.0	228.5	204.5	183.6	163.9
12.5°	455.4	420.1	385.4	348.6	315.0	279.7	246.6	218.3	190.0	166.6	146.3
15°	485.8	445.2	403.6	360.9	318.2	278.1	241.3	206.1	177.2	150.5	127.6
17.5°	510.3	463.9	416.9	368.9	323.0	276.0	234.4	197.5	163.9	136.1	113.7
20°	531.7	483.1	432.4	378.5	326.2	275.5	228.5	186.8	152.1	122.8	100.9
22.5°	551.5	502.9	448.4	390.8	331.0	274.9	223.2	178.8	142.0	112.6	90.7
25°	573.9	522.6	465.5	403.6	339.5	277.0	220.0	172.4	132.9	103.0	82.8
27.5°	599.0	545.0	485.8	419.6	350.7	281.3	218.9	165.5	124.9	93.9	76.3
30°	634.2	571.7	506.1	435.6	360.9	286.1	217.8	161.2	116.9	87.0	69.9
32.5°	665.1	597.9	528.5	452.2	372.1	290.9	217.3	155.3	109.4	80.1	65.1
35°	697.7	621.9	547.7	468.2	381.7	296.3	216.7	151.1	102.5	73.1	60.3
37.5°	726.0	642.2	562.6	482.0	392.4	301.1	217.3	147.3	96.1	67.3	56.0
40°	750.0	663.0	579.2	494.9	403.6	308.5	217.8	143.6	89.7	61.9	52.3
42.5°	771.4	682.8	596.8	509.3	416.4	317.1	221.0	140.4	84.3	57.1	48.6
45°	787.9	700.9	616.0	529.6	437.2	331.0	226.9	138.3	79.0	52.8	45.4
47.5°	805.0	727.6	648.6	561.6	467.6	352.9	237.0	137.7	74.7	49.6	42.7
50°	828.5	754.3	677.4	594.1	495.4	375.3	249.3	138.3	69.4	46.4	40.0
52.5°	845.6	781.5	714.8	650.7	561.6	443.6	296.8	147.9	66.7	43.8	36.8
55°	946.5	935.3	936.9	947.6	878.7	754.8	496.5	213.5	78.5	49.6	36.3
57.5°	1334.6	1374.1	1397.1	1396.5	1282.8	1063.9	666.8	274.4	87.5	57.7	43.2
60°	1844.9	1815.0	1772.9	1668.7	1517.7	1214.5	745.8	295.2	75.8	45.9	39.5
62.5°	2296.0	2120.9	1965.6	1796.9	1598.8	1266.8	761.8	293.6	66.2	34.7	27.8
65°	2577.4	2262.4	2011.5	1800.1	1566.8	1223.0	720.7	269.6	56.0	28.3	22.9
67.5°	2644.6	2186.1	1831.0	1561.5	1309.0	951.8	529.0	202.8	43.8	23.5	20.3
69°	2497.8	1943.2	1517.1	1211.3	952.4	631.5	327.2	128.1	33.6	21.4	18.7
70°	2297.6	1690.1	1235.8	972.1	705.2	443.6	229.0	90.2	27.2	19.7	17.1
72.5°	1478.2	887.8	607.5	422.8	290.9	176.7	89.7	40.6	20.8	16.5	13.9
75°	573.3	328.3	238.1	181.0	141.5	98.2	54.5	26.2	17.6	13.9	10.7
77.5°	282.4	216.2	176.7	121.2	70.5	43.8	29.4	20.3	14.4	10.1	6.9
80°	223.2	148.4	88.6	55.0	41.6	31.5	22.4	16.5	10.7	6.4	4.8
82.5°	114.3	62.4	45.9	37.4	31.0	24.6	18.2	11.8	6.9	4.3	3.7
85°	35.8	26.2	23.5	22.9	21.4	17.6	12.8	7.5	4.3	2.7	2.7
87.5°	2.7	3.7	4.8	3.7	4.3	3.7	4.8	3.2	2.1	2.1	1.6
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°	246.1	246.1	246.1	246.1	246.1	246.1	246.1	246.1	246.1	246.1	246.1
2.5°	224.2	217.8	211.9	208.2	201.3	198.6	195.9	194.9	190.0	191.1	186.8
5°	195.9	184.7	176.2	167.6	159.6	153.7	148.9	143.1	138.3	136.1	131.9
7.5°	170.3	155.9	144.7	135.6	126.0	118.5	112.1	107.8	103.6	99.3	97.1
10°	147.9	132.4	119.6	110.5	101.4	95.0	90.2	87.0	84.3	82.8	82.2
12.5°	127.1	112.1	100.4	92.4	85.4	82.2	80.1	78.5	77.9	77.4	77.4
15°	111.0	96.1	87.0	81.1	77.9	76.3	75.8	74.7	73.7	73.1	73.1
17.5°	96.1	84.9	78.5	75.3	73.7	72.6	71.5	70.5	69.4	68.8	68.8
20°	86.0	76.9	73.7	71.5	69.9	68.8	67.3	66.2	65.6	65.1	64.6
22.5°	77.9	72.1	69.9	68.3	66.2	64.6	63.5	62.4	61.4	60.9	60.3
25°	72.1	68.3	66.7	64.6	62.4	60.9	59.2	57.7	56.6	56.0	55.0
27.5°	67.8	65.1	63.0	60.3	58.2	56.6	55.0	53.4	52.3	51.2	50.7
30°	64.1	61.4	58.7	56.6	53.9	52.3	50.2	48.6	48.0	47.0	45.9
32.5°	60.3	57.7	55.0	52.3	49.6	47.5	46.4	44.3	43.2	42.7	41.6
35°	56.0	53.4	50.2	48.0	45.4	43.2	41.6	40.0	39.0	37.9	37.4
37.5°	52.3	49.1	45.9	43.2	41.1	39.0	37.4	35.8	34.7	33.6	33.1
40°	48.0	44.8	41.6	39.0	36.8	35.2	33.6	32.0	31.0	30.4	30.4
42.5°	44.3	40.6	37.4	35.2	33.6	31.5	29.9	28.3	27.8	27.2	27.8
45°	40.6	36.8	34.2	32.0	30.4	28.3	26.7	25.6	25.1	25.6	26.2
47.5°	37.4	33.6	31.0	29.4	27.8	26.2	24.6	23.5	23.5	24.6	25.6
50°	34.2	30.4	28.3	27.2	25.6	24.0	21.9	21.4	21.9	22.9	24.0
52.5°	31.0	26.7	25.1	24.6	22.9	21.4	19.7	19.2	19.7	20.8	20.3
55°	27.8	23.5	22.9	22.4	20.8	18.7	17.1	17.1	17.1	16.5	15.5
57.5°	26.7	20.8	20.3	19.7	18.2	16.0	15.0	13.9	13.3	11.8	11.2
60°	27.8	18.7	18.7	17.6	16.0	13.9	12.3	10.7	9.6	8.6	8.6
62.5°	22.4	17.1	16.5	15.5	13.3	11.2	9.6	8.0	7.5	6.9	6.9
65°	18.2	15.5	14.4	12.8	11.2	9.1	7.5	6.4	5.9	5.9	6.4
67.5°	16.5	13.9	12.3	10.7	9.1	6.9	5.9	5.3	5.3	5.9	5.9
69°	15.5	12.8	11.2	9.6	8.0	6.4	5.3	5.3	5.3	5.3	5.9
70°	14.4	12.3	10.7	9.1	6.9	5.3	4.8	4.8	5.3	5.3	5.9
72.5°	11.2	9.6	9.1	7.5	5.3	4.8	4.3	4.8	4.8	5.3	5.3
75°	8.6	6.9	6.9	5.9	4.3	3.7	3.7	4.3	4.3	4.8	4.8
77.5°	5.9	4.8	4.8	4.3	3.7	3.2	3.2	3.7	4.3	4.3	4.8
80°	4.3	3.7	3.2	3.7	3.2	2.7	3.2	3.7	3.7	4.3	4.3
82.5°	3.2	3.2	3.2	3.2	2.7	2.7	3.2	3.2	3.7	4.3	4.3
85°	2.7	2.7	2.7	2.7	2.7	2.7	2.7	3.2	3.2	3.7	3.7
87.5°	1.6	1.6	1.6	2.1	2.1	2.7	2.7	2.7	2.7	3.2	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):

	165°	170°	175°	180°
0°	246.1	246.1	246.1	246.1
2.5°	185.8	185.2	183.1	183.6
5°	130.3	127.1	129.2	128.6
7.5°	95.6	95.0	94.5	95.6
10°	81.7	81.7	81.1	81.7
12.5°	76.9	76.9	76.9	76.9
15°	73.1	73.1	72.6	72.6
17.5°	68.8	68.8	68.8	68.3
20°	64.6	64.1	64.1	64.1
22.5°	59.8	59.2	59.2	59.2
25°	55.0	54.5	54.5	54.5
27.5°	50.2	49.6	49.1	49.1
30°	45.4	44.8	44.3	44.3
32.5°	40.6	40.0	39.5	39.5
35°	36.3	36.3	35.8	35.2
37.5°	32.6	32.6	32.6	32.6
40°	29.9	30.4	30.4	30.4
42.5°	28.3	28.8	29.4	29.9
45°	27.2	28.3	28.8	28.8
47.5°	26.7	27.2	27.8	27.8
50°	24.6	24.0	24.0	24.0
52.5°	19.7	18.7	18.2	17.6
55°	14.4	13.9	12.8	12.8
57.5°	10.1	10.1	9.6	9.6
60°	8.0	8.0	7.5	8.0
62.5°	6.9	6.9	6.9	6.9
65°	6.4	6.4	6.4	6.4
67.5°	6.4	6.4	6.4	6.4
69°	5.9	5.9	5.9	5.9
70°	5.9	5.9	5.9	5.9
72.5°	5.3	5.3	5.3	5.3
75°	4.8	5.3	5.3	5.3
77.5°	4.8	4.8	4.8	4.8
80°	4.3	4.3	4.8	4.8
82.5°	4.3	4.3	4.3	4.3
85°	3.7	3.7	4.3	4.3
87.5°	3.2	3.2	3.7	3.7
90°	0.0	0.0	0.0	0.0

(END OF REPORT)