

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: P163796

Luminaire Tested: **LDRL-SL4-E02-E-7030-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P163796
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-E02-E-7030-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: (42) 3000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3605.4 lumens
Efficiency: N/A
Efficacy: 69.2 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 - G2

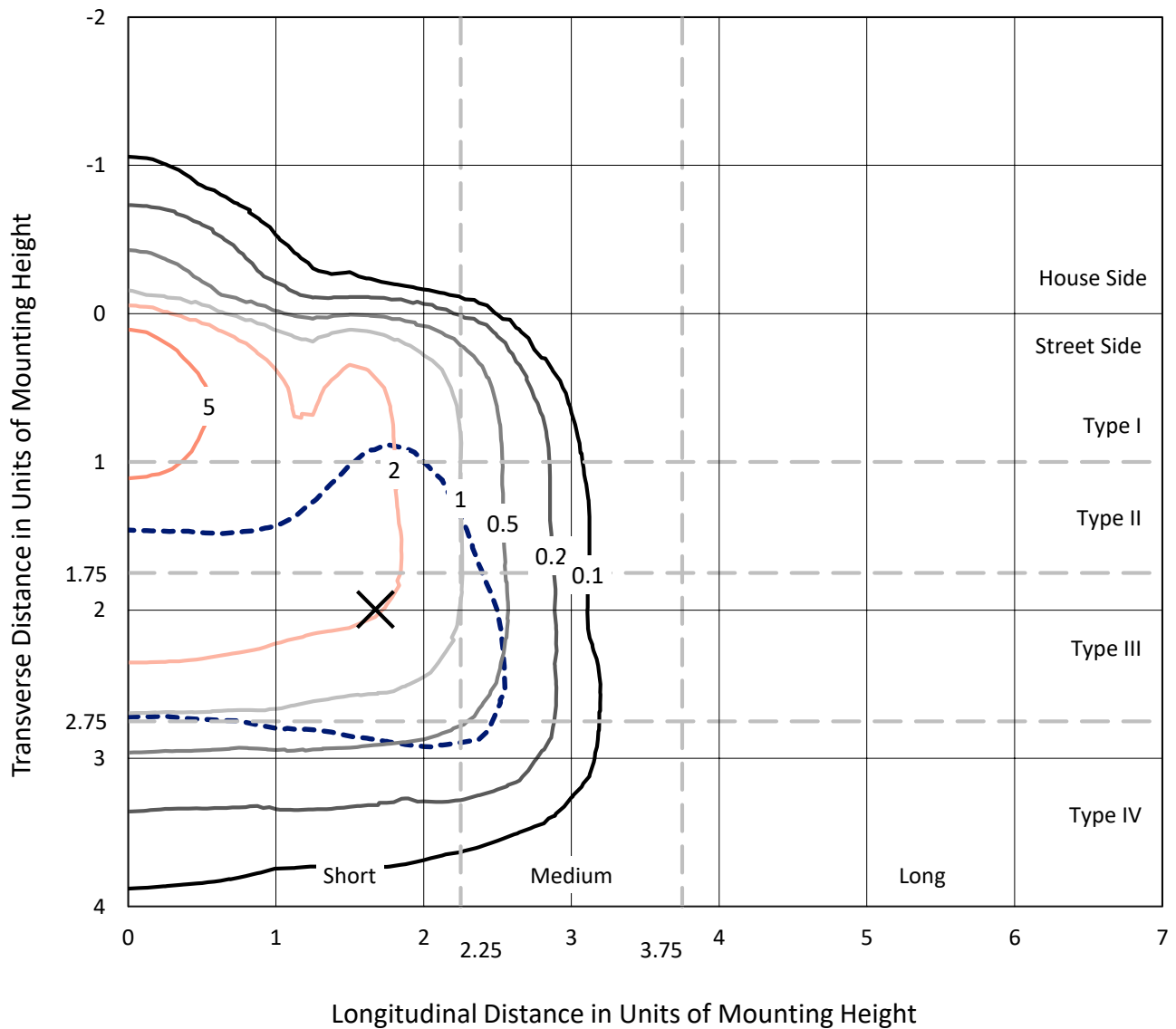
Input Watts (W): 52.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd
 - - - 1/2 Max cd

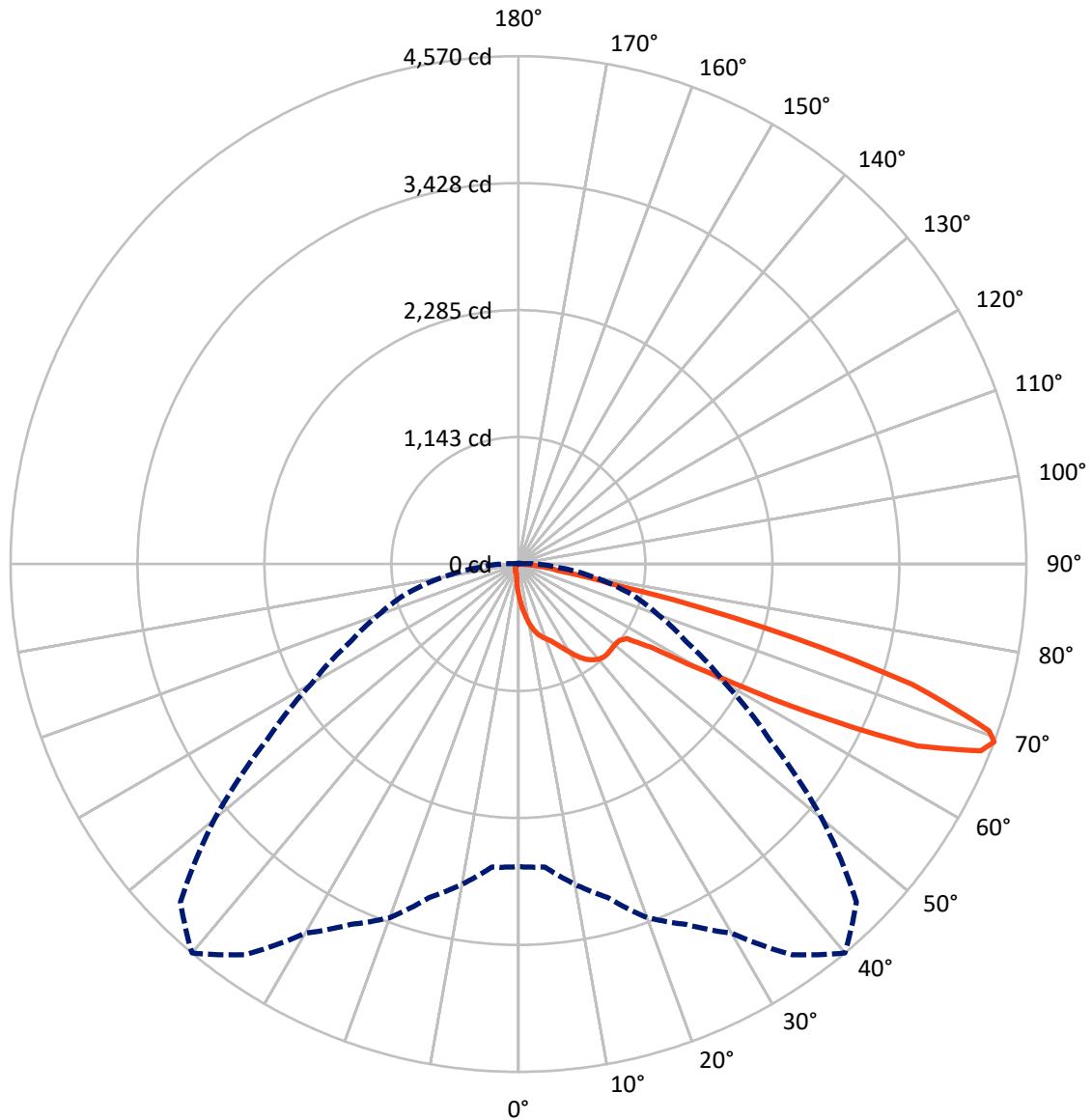


Based on 10 foot mounting height. Maximum calculated value = 8.1 fc
 Type IV - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



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

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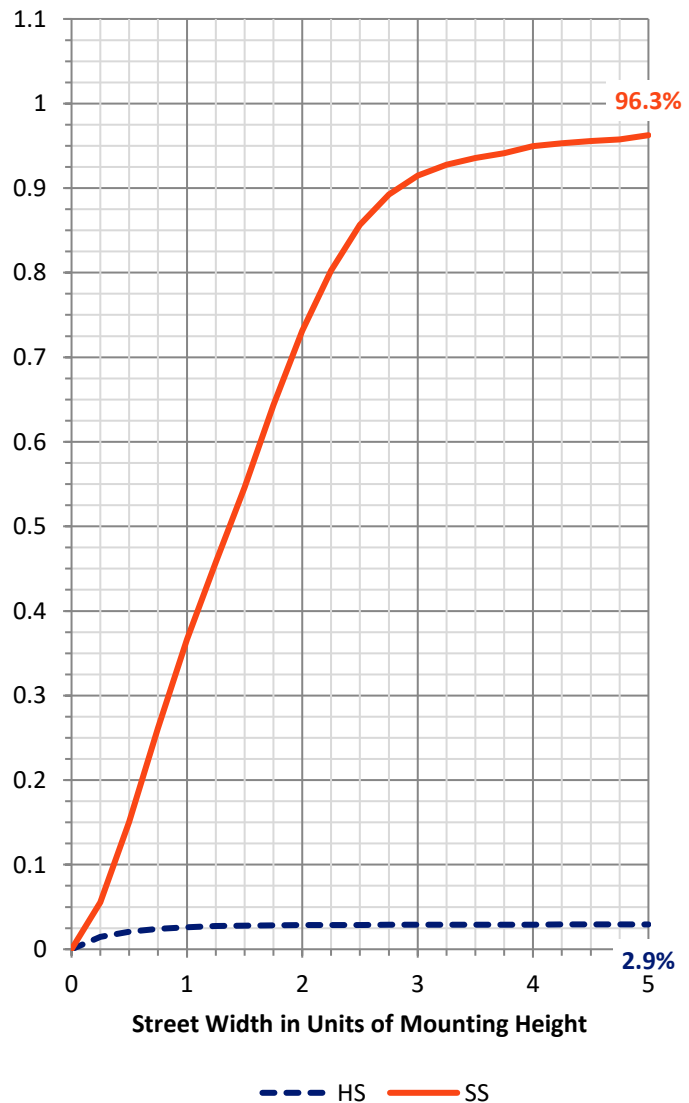
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	107.4	0.0	107.4
	% Fixture	3.0	0.0	3.0
Street Side	Lumens	3498.1	0.0	3498.1
	% Fixture	97.0	0.0	97.0
Total	Lumens	3605.4	0.0	3605.4
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	28.0	0.8
10°-20°	96.5	2.7
20°-30°	184.7	5.1
30°-40°	307.1	8.5
40°-50°	415.6	11.5
50°-60°	649.9	18.0
60°-70°	1336.2	37.1
70°-80°	537.7	14.9
80°-90°	49.7	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°	3605.4	100.0
0°-180°	3605.4	100.0



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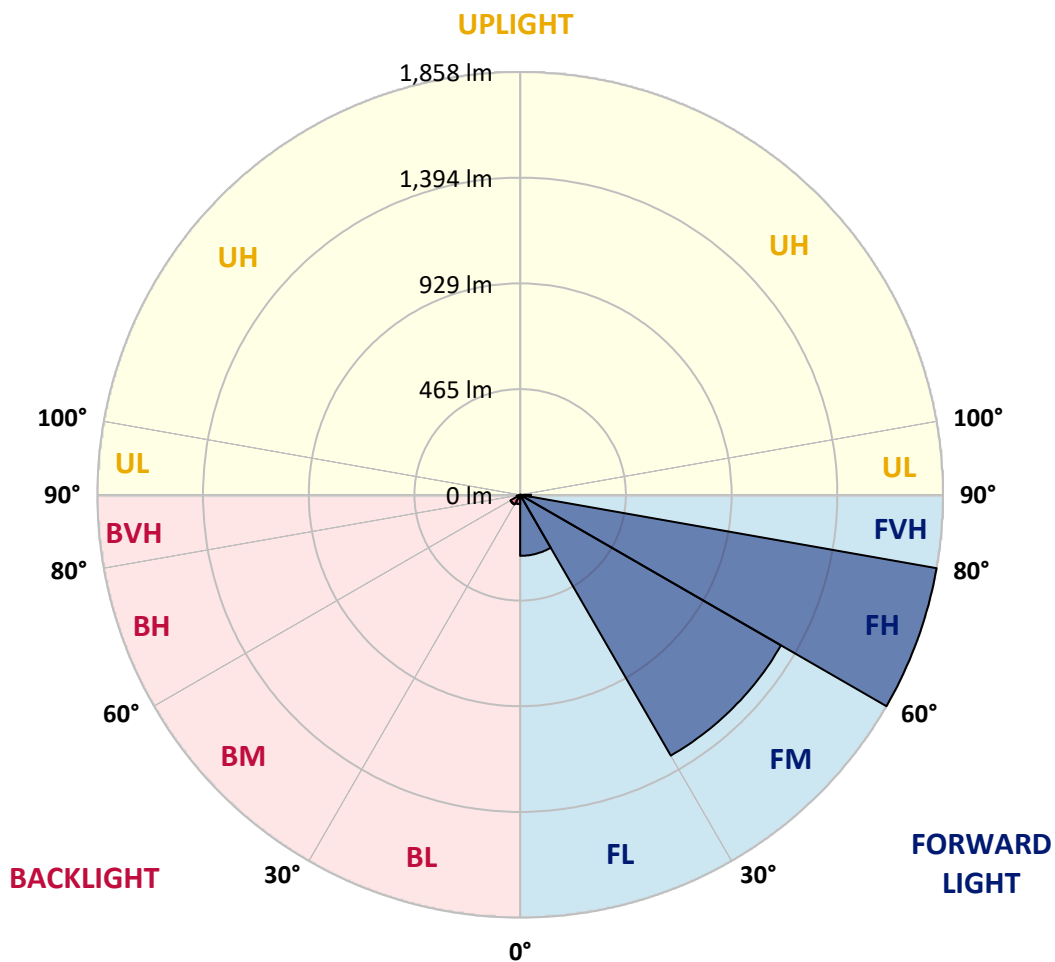
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	268.3	7.4			
FM (30°-60°)	1323.6	36.7			
FH (60°-80°)	1858.3	51.5			G2/5000
FVH (80°-90°)	47.9	1.3			G1/100
BL (0°-30°)	40.8	1.1	B0/110		
BM (30°-60°)	49.0	1.4	B0/220		
BH (60°-80°)	15.7	0.4	B0/110		G0/110
BVH (80°-90°)	1.8	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°	272.3	272.3	272.3	272.3	272.3	272.3	272.3	272.3	272.3	272.3	272.3
2.5°	363.2	359.1	354.4	354.4	348.5	348.5	344.9	335.5	334.3	329.0	323.7
5°	463.7	460.1	454.2	448.9	444.1	435.9	430.0	418.8	406.4	394.5	383.9
7.5°	561.7	559.9	549.3	547.5	539.8	526.2	514.4	497.9	476.6	460.1	440.6
10°	652.6	648.5	646.1	636.1	624.9	610.1	591.8	571.7	546.9	520.9	493.2
12.5°	724.7	722.4	711.7	707.6	695.8	681.0	657.9	632.0	607.2	573.5	541.0
15°	778.4	774.3	767.2	760.7	746.5	733.6	712.3	684.0	653.8	617.2	578.2
17.5°	823.3	815.7	813.9	803.9	789.1	773.7	750.1	724.1	688.7	652.1	609.5
20°	883.6	872.9	869.4	854.6	837.5	816.2	789.1	756.6	719.4	679.2	635.5
22.5°	954.5	946.8	939.1	926.1	904.3	874.1	834.5	799.1	751.9	707.6	660.3
25°	1054.8	1048.4	1036.0	1018.2	991.1	955.0	907.2	855.2	799.7	743.0	687.5
27.5°	1152.3	1146.4	1137.6	1124.0	1093.2	1053.7	994.6	928.5	858.2	789.7	728.2
30°	1243.9	1238.5	1229.7	1216.1	1188.9	1149.9	1083.2	1012.3	924.9	845.2	771.3
32.5°	1342.5	1340.7	1330.7	1311.2	1287.6	1235.0	1162.4	1086.2	997.6	905.4	819.2
35°	1454.1	1440.5	1431.1	1411.6	1371.5	1315.3	1230.3	1147.0	1053.7	959.2	862.9
37.5°	1548.6	1535.6	1523.8	1499.0	1450.0	1378.5	1282.2	1190.7	1094.4	998.1	900.1
40°	1617.7	1611.2	1597.0	1564.6	1509.7	1424.6	1320.6	1220.8	1124.0	1027.1	930.2
42.5°	1669.1	1659.1	1643.1	1609.5	1544.5	1447.6	1336.0	1233.2	1137.6	1044.8	949.7
45°	1688.0	1679.8	1665.0	1628.4	1558.1	1454.1	1335.4	1229.7	1138.1	1050.1	962.7
47.5°	1676.8	1668.5	1655.5	1621.3	1552.2	1446.5	1324.8	1219.7	1132.2	1051.9	974.5
50°	1639.6	1634.9	1624.8	1595.9	1533.8	1431.7	1315.3	1214.3	1131.1	1060.8	991.1
52.5°	1636.0	1633.1	1620.7	1591.8	1528.5	1426.9	1314.1	1217.3	1141.1	1072.0	1002.9
55°	1999.3	1957.3	1863.4	1783.7	1652.6	1496.7	1373.8	1265.1	1183.6	1116.3	1067.9
57.5°	2841.5	2778.9	2655.5	2503.7	2202.5	1906.5	1669.7	1498.4	1414.0	1383.3	1401.6
60°	3236.0	3224.8	3205.3	3133.3	2979.1	2724.6	2441.1	2134.5	2011.7	2001.0	2038.3
62.5°	3423.3	3416.2	3422.1	3413.2	3365.4	3291.0	3209.5	3077.2	2955.5	2876.9	2710.4
65°	3509.5	3514.2	3547.9	3574.5	3580.4	3599.9	3659.5	3824.3	3944.8	3742.2	3279.8
67.5°	3290.4	3318.1	3395.5	3492.4	3605.8	3715.6	3892.8	4240.1	4487.6	4249.6	3592.8
69°	2724.0	2737.6	2926.6	3109.0	3386.1	3579.8	3836.7	4292.1	4570.3	4301.6	3568.0
70°	2144.6	2157.0	2359.5	2607.6	3076.0	3325.2	3661.3	4204.1	4492.9	4232.4	3440.4
72.5°	967.5	949.7	1021.2	1154.1	1663.2	2058.9	2646.6	3406.1	3706.8	3390.8	2574.0
75°	675.7	668.0	675.7	676.3	755.4	974.5	1229.7	1846.3	2283.4	1970.3	1229.7
77.5°	523.3	518.0	512.7	506.8	516.2	578.2	603.0	655.0	850.5	804.4	469.0
80°	414.0	409.3	422.3	418.2	418.2	425.3	420.5	401.0	364.4	337.8	302.4
82.5°	192.5	193.7	193.7	210.3	253.4	295.9	309.5	290.0	257.5	219.1	176.6
85°	18.3	20.7	34.9	53.7	106.9	120.5	121.1	100.4	100.4	79.1	63.8
87.5°	0.0	0.6	0.6	0.6	5.3	14.8	12.4	3.5	1.8	1.8	3.0
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°	272.3	272.3	272.3	272.3	272.3	272.3	272.3	272.3	272.3	272.3	272.3
2.5°	314.2	312.4	305.4	298.3	291.8	284.7	278.2	271.7	264.6	259.3	252.8
5°	367.4	354.4	339.6	325.4	311.3	296.5	281.1	267.5	253.4	240.4	228.0
7.5°	421.1	395.7	375.6	350.3	327.2	304.2	282.9	261.1	241.0	222.1	204.4
10°	466.6	435.9	404.6	372.1	339.0	308.3	278.8	252.8	226.2	203.2	181.3
12.5°	503.8	464.8	426.4	385.7	348.5	309.5	272.9	241.6	210.3	184.3	161.8
15°	537.5	492.6	446.5	399.3	352.0	307.7	267.0	228.0	196.1	166.6	141.2
17.5°	564.6	513.3	461.3	408.1	357.3	305.4	259.3	218.5	181.3	150.6	125.8
20°	588.3	534.5	478.4	418.8	360.9	304.8	252.8	206.7	168.3	135.8	111.6
22.5°	610.1	556.4	496.1	432.3	366.2	304.2	246.9	197.9	157.1	124.6	100.4
25°	634.9	578.2	515.0	446.5	375.6	306.5	243.4	190.8	147.0	114.0	91.6
27.5°	662.7	603.0	537.5	464.2	388.0	311.3	242.1	183.1	138.2	103.9	84.5
30°	701.7	632.5	559.9	482.0	399.3	316.6	241.0	178.4	129.3	96.3	77.4
32.5°	735.9	661.5	584.7	500.3	411.7	321.9	240.4	171.9	121.1	88.6	72.0
35°	772.0	688.1	606.0	518.0	422.3	327.8	239.8	167.1	113.4	80.9	66.7
37.5°	803.2	710.5	622.5	533.3	434.1	333.1	240.4	163.0	106.3	74.4	62.0
40°	829.8	733.6	640.8	547.5	446.5	341.4	241.0	158.9	99.2	68.5	57.9
42.5°	853.5	755.4	660.3	563.5	460.7	350.8	244.5	155.3	93.3	63.2	53.7
45°	871.8	775.5	681.6	585.9	483.7	366.2	251.0	153.0	87.4	58.5	50.2
47.5°	890.7	805.0	717.6	621.3	517.4	390.4	262.2	152.4	82.7	54.9	47.2
50°	916.6	834.5	749.5	657.4	548.1	415.2	275.8	153.0	76.8	51.4	44.3
52.5°	935.6	864.7	790.9	720.0	621.3	490.8	328.4	163.6	73.8	48.4	40.7
55°	1047.2	1034.8	1036.5	1048.4	972.2	835.1	549.3	236.3	86.8	54.9	40.2
57.5°	1476.6	1520.3	1545.7	1545.1	1419.3	1177.1	737.7	303.6	96.9	63.8	47.8
60°	2041.2	2008.1	1961.5	1846.3	1679.1	1343.7	825.1	326.6	83.9	50.8	43.7
62.5°	2540.3	2346.6	2174.7	1988.0	1768.9	1401.6	842.8	324.9	73.3	38.4	30.7
65°	2851.6	2503.1	2225.5	1991.6	1733.5	1353.1	797.4	298.3	62.0	31.3	25.4
67.5°	2926.0	2418.6	2025.8	1727.6	1448.2	1053.1	585.3	224.4	48.4	26.0	22.4
69°	2763.5	2149.9	1678.6	1340.1	1053.7	698.7	362.1	141.8	37.2	23.6	20.7
70°	2542.1	1869.9	1367.3	1075.5	780.2	490.8	253.4	99.8	30.1	21.8	18.9
72.5°	1635.4	982.2	672.1	467.8	321.9	195.5	99.2	44.9	23.0	18.3	15.3
75°	634.3	363.2	263.4	200.2	156.5	108.7	60.2	28.9	19.5	15.3	11.8
77.5°	312.4	239.2	195.5	134.1	78.0	48.4	32.5	22.4	15.9	11.2	7.7
80°	246.9	164.2	98.1	60.8	46.1	34.9	24.8	18.3	11.8	7.1	5.3
82.5°	126.4	69.1	50.8	41.4	34.3	27.2	20.1	13.0	7.7	4.7	4.1
85°	39.6	28.9	26.0	25.4	23.6	19.5	14.2	8.3	4.7	3.0	3.0
87.5°	3.0	4.1	5.3	4.1	4.7	4.1	5.3	3.5	2.4	2.4	1.8
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):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	272.3	272.3	272.3	272.3	272.3	272.3	272.3	272.3	272.3	272.3	272.3
2.5°	248.1	241.0	234.5	230.3	222.7	219.7	216.8	215.6	210.3	211.5	206.7
5°	216.8	204.4	194.9	185.4	176.6	170.1	164.8	158.3	153.0	150.6	145.9
7.5°	188.4	172.5	160.1	150.0	139.4	131.1	124.0	119.3	114.6	109.9	107.5
10°	163.6	146.5	132.3	122.2	112.2	105.1	99.8	96.3	93.3	91.6	91.0
12.5°	140.6	124.0	111.0	102.2	94.5	91.0	88.6	86.8	86.2	85.6	85.6
15°	122.9	106.3	96.3	89.8	86.2	84.5	83.9	82.7	81.5	80.9	80.9
17.5°	106.3	93.9	86.8	83.3	81.5	80.3	79.1	78.0	76.8	76.2	76.2
20°	95.1	85.1	81.5	79.1	77.4	76.2	74.4	73.3	72.6	72.0	71.5
22.5°	86.2	79.7	77.4	75.6	73.3	71.5	70.3	69.1	67.9	67.3	66.7
25°	79.7	75.6	73.8	71.5	69.1	67.3	65.5	63.8	62.6	62.0	60.8
27.5°	75.0	72.0	69.7	66.7	64.4	62.6	60.8	59.1	57.9	56.7	56.1
30°	70.9	67.9	65.0	62.6	59.7	57.9	55.5	53.7	53.2	52.0	50.8
32.5°	66.7	63.8	60.8	57.9	54.9	52.6	51.4	49.0	47.8	47.2	46.1
35°	62.0	59.1	55.5	53.2	50.2	47.8	46.1	44.3	43.1	41.9	41.4
37.5°	57.9	54.3	50.8	47.8	45.5	43.1	41.4	39.6	38.4	37.2	36.6
40°	53.2	49.6	46.1	43.1	40.7	39.0	37.2	35.4	34.3	33.6	33.6
42.5°	49.0	44.9	41.4	39.0	37.2	34.9	33.1	31.3	30.7	30.1	30.7
45°	44.9	40.7	37.8	35.4	33.6	31.3	29.5	28.4	27.8	28.4	28.9
47.5°	41.4	37.2	34.3	32.5	30.7	28.9	27.2	26.0	26.0	27.2	28.4
50°	37.8	33.6	31.3	30.1	28.4	26.6	24.2	23.6	24.2	25.4	26.6
52.5°	34.3	29.5	27.8	27.2	25.4	23.6	21.8	21.3	21.8	23.0	22.4
55°	30.7	26.0	25.4	24.8	23.0	20.7	18.9	18.9	18.9	18.3	17.1
57.5°	29.5	23.0	22.4	21.8	20.1	17.7	16.5	15.3	14.8	13.0	12.4
60°	30.7	20.7	20.7	19.5	17.7	15.3	13.6	11.8	10.6	9.5	9.5
62.5°	24.8	18.9	18.3	17.1	14.8	12.4	10.6	8.8	8.3	7.7	7.7
65°	20.1	17.1	15.9	14.2	12.4	10.0	8.3	7.1	6.5	6.5	7.1
67.5°	18.3	15.3	13.6	11.8	10.0	7.7	6.5	5.9	5.9	6.5	6.5
69°	17.1	14.2	12.4	10.6	8.8	7.1	5.9	5.9	5.9	5.9	6.5
70°	15.9	13.6	11.8	10.0	7.7	5.9	5.3	5.3	5.9	5.9	6.5
72.5°	12.4	10.6	10.0	8.3	5.9	5.3	4.7	5.3	5.3	5.9	5.9
75°	9.5	7.7	7.7	6.5	4.7	4.1	4.1	4.7	4.7	5.3	5.3
77.5°	6.5	5.3	5.3	4.7	4.1	3.5	3.5	4.1	4.7	4.7	5.3
80°	4.7	4.1	3.5	4.1	3.5	3.0	3.5	4.1	4.1	4.7	4.7
82.5°	3.5	3.5	3.5	3.5	3.0	3.0	3.5	3.5	4.1	4.7	4.7
85°	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.5	3.5	4.1	4.1
87.5°	1.8	1.8	1.8	2.4	2.4	3.0	3.0	3.0	3.0	3.5	3.5
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°	272.3	272.3	272.3	272.3
2.5°	205.5	205.0	202.6	203.2
5°	144.1	140.6	142.9	142.3
7.5°	105.7	105.1	104.5	105.7
10°	90.3	90.3	89.8	90.3
12.5°	85.1	85.1	85.1	85.1
15°	80.9	80.9	80.3	80.3
17.5°	76.2	76.2	76.2	75.6
20°	71.5	70.9	70.9	70.9
22.5°	66.2	65.5	65.5	65.5
25°	60.8	60.2	60.2	60.2
27.5°	55.5	54.9	54.3	54.3
30°	50.2	49.6	49.0	49.0
32.5°	44.9	44.3	43.7	43.7
35°	40.2	40.2	39.6	39.0
37.5°	36.0	36.0	36.0	36.0
40°	33.1	33.6	33.6	33.6
42.5°	31.3	31.9	32.5	33.1
45°	30.1	31.3	31.9	31.9
47.5°	29.5	30.1	30.7	30.7
50°	27.2	26.6	26.6	26.6
52.5°	21.8	20.7	20.1	19.5
55°	15.9	15.3	14.2	14.2
57.5°	11.2	11.2	10.6	10.6
60°	8.8	8.8	8.3	8.8
62.5°	7.7	7.7	7.7	7.7
65°	7.1	7.1	7.1	7.1
67.5°	7.1	7.1	7.1	7.1
69°	6.5	6.5	6.5	6.5
70°	6.5	6.5	6.5	6.5
72.5°	5.9	5.9	5.9	5.9
75°	5.3	5.9	5.9	5.9
77.5°	5.3	5.3	5.3	5.3
80°	4.7	4.7	5.3	5.3
82.5°	4.7	4.7	4.7	4.7
85°	4.1	4.1	4.7	4.7
87.5°	3.5	3.5	4.1	4.1
90°	0.0	0.0	0.0	0.0

(END OF REPORT)