

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: P163806

Luminaire Tested: **LDRL-SL4-E03-E-7030-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P163806
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-E03-E-7030-HSS
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(3) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 W/ SPILL LIGHT CONTROL AND HOUSE SIDE SHIELD
Light Source: (63) 3000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5408.1 lumens
Efficiency: N/A
Efficacy: 71.9 lumens/watt
Luminous Opening: Rectangular w/ Sides (W: 0.5' x L: 1' x H: 0.1')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B0 - U0 - G2

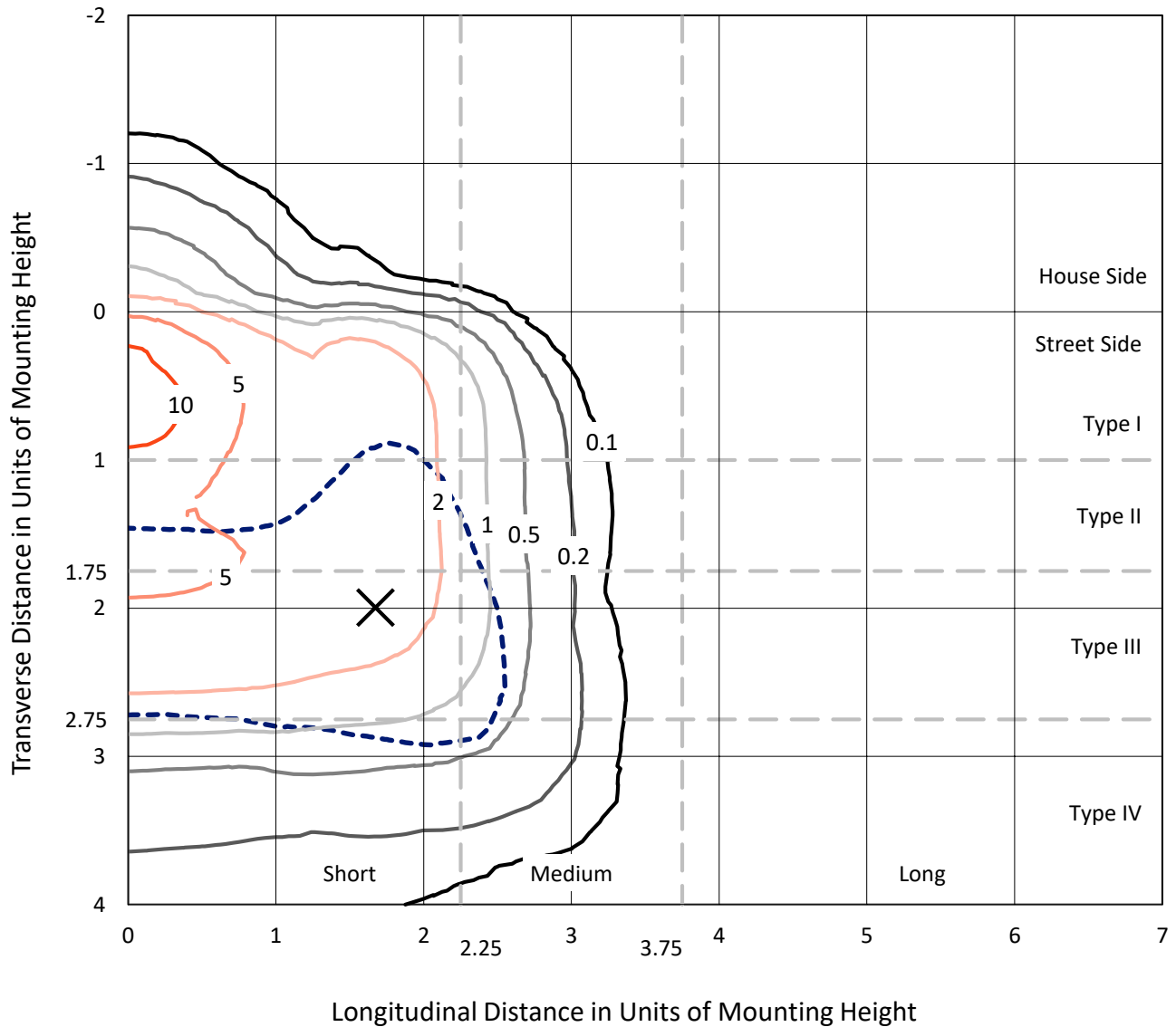
Input Watts (W): 75.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

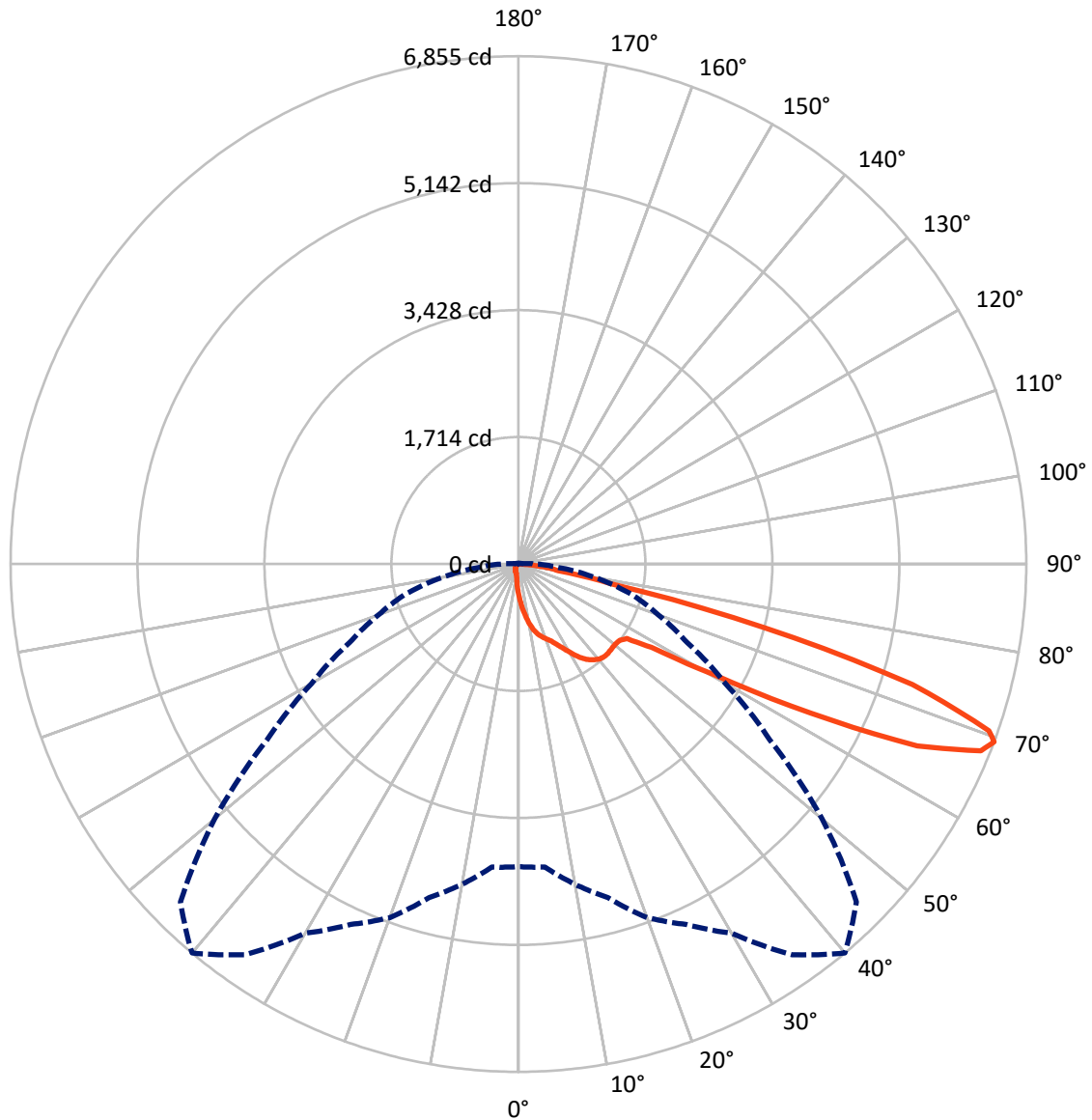
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 12.1 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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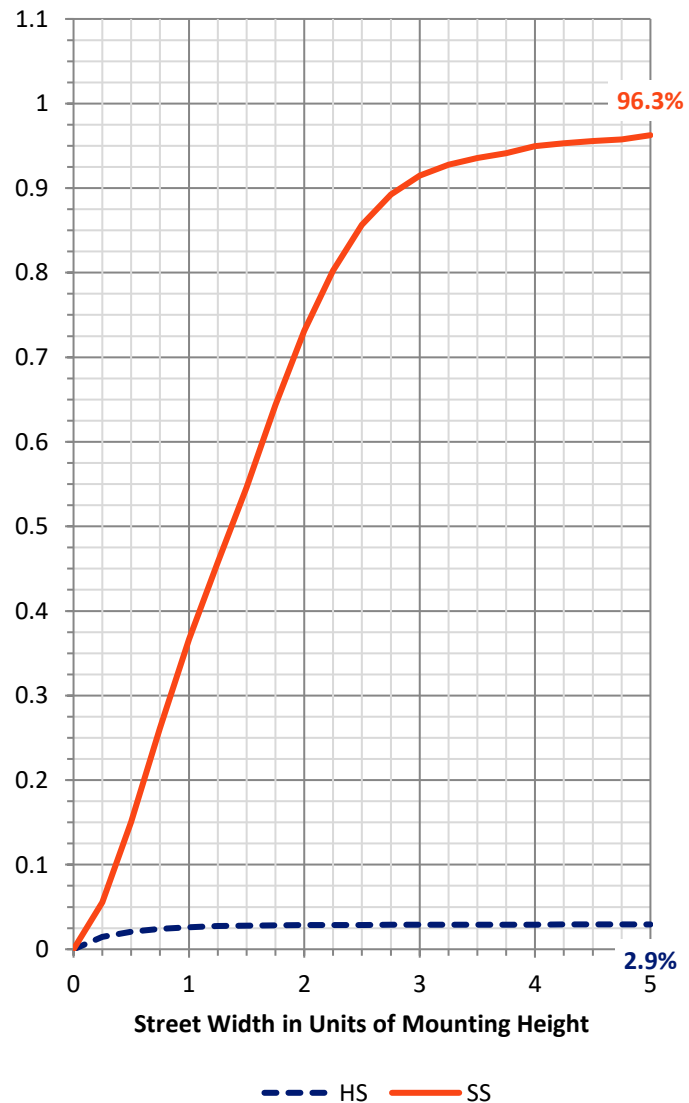
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	161.0	0.0	161.0
	% Fixture	3.0	0.0	3.0
Street Side	Lumens	5247.1	0.0	5247.1
	% Fixture	97.0	0.0	97.0
Total	Lumens	5408.1	0.0	5408.1
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	42.0	0.8
10°-20°	144.7	2.7
20°-30°	277.0	5.1
30°-40°	460.7	8.5
40°-50°	623.4	11.5
50°-60°	974.9	18.0
60°-70°	2004.4	37.1
70°-80°	806.5	14.9
80°-90°	74.6	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°	5408.1	100.0
0°-180°	5408.1	100.0



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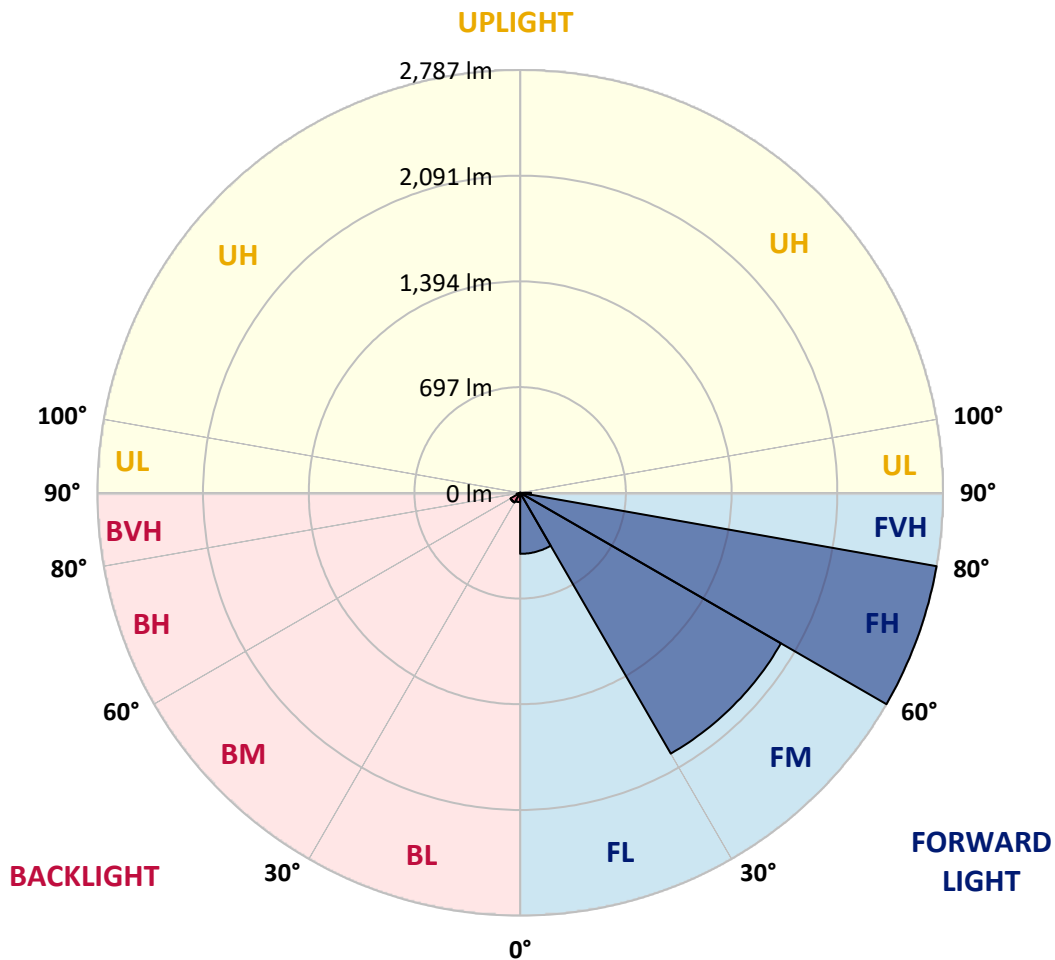
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	402.5	7.4			
FM (30°-60°)	1985.4	36.7			
FH (60°-80°)	2787.4	51.5			G2/5000
FVH (80°-90°)	71.8	1.3			G1/100
BL (0°-30°)	61.3	1.1	B0/110		
BM (30°-60°)	73.5	1.4	B0/220		
BH (60°-80°)	23.5	0.4	B0/110		G0/110
BVH (80°-90°)	2.8	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°	408.4	408.4	408.4	408.4	408.4	408.4	408.4	408.4	408.4	408.4	408.4
2.5°	544.8	538.6	531.6	531.6	522.7	522.7	517.4	503.2	501.4	493.5	485.5
5°	695.5	690.2	681.3	673.3	666.2	653.8	645.0	628.1	609.6	591.8	575.8
7.5°	842.5	839.9	823.9	821.2	809.7	789.4	771.7	746.8	714.9	690.2	660.9
10°	979.0	972.8	969.2	954.1	937.3	915.2	887.7	857.6	820.4	781.4	739.8
12.5°	1087.0	1083.5	1067.6	1061.3	1043.6	1021.5	986.9	947.9	910.7	860.3	811.5
15°	1167.6	1161.5	1150.8	1141.1	1119.8	1100.3	1068.5	1025.9	980.7	925.8	867.3
17.5°	1235.0	1223.5	1220.8	1205.8	1183.6	1160.6	1125.1	1086.2	1033.0	978.1	914.3
20°	1325.4	1309.4	1304.1	1282.0	1256.3	1224.4	1183.6	1134.9	1079.1	1018.8	953.3
22.5°	1431.7	1420.2	1408.7	1389.2	1356.4	1311.2	1251.8	1198.7	1127.8	1061.3	990.5
25°	1582.3	1572.6	1553.9	1527.4	1486.6	1432.6	1360.8	1282.8	1199.5	1114.5	1031.2
27.5°	1728.5	1719.6	1706.3	1686.0	1639.9	1580.5	1491.9	1392.7	1287.3	1184.5	1092.3
30°	1865.8	1857.8	1844.5	1824.2	1783.4	1724.9	1624.8	1518.5	1387.4	1267.8	1157.0
32.5°	2013.7	2011.1	1996.0	1966.8	1931.4	1852.5	1743.5	1629.2	1496.3	1358.1	1228.8
35°	2181.2	2160.8	2146.6	2117.4	2057.2	1973.0	1845.4	1720.5	1580.5	1438.7	1294.3
37.5°	2323.0	2303.5	2285.8	2248.5	2175.0	2067.8	1923.4	1786.1	1641.7	1497.2	1350.2
40°	2426.6	2416.8	2395.6	2346.9	2264.5	2136.9	1980.9	1831.2	1686.0	1540.7	1395.3
42.5°	2503.7	2488.6	2464.7	2414.2	2316.7	2171.4	2004.0	1849.9	1706.3	1567.3	1424.6
45°	2532.0	2519.6	2497.4	2442.5	2337.1	2181.2	2003.1	1844.5	1707.2	1575.2	1444.1
47.5°	2515.2	2502.8	2483.3	2431.9	2328.3	2169.7	1987.1	1829.5	1698.3	1577.9	1461.8
50°	2459.4	2452.3	2437.2	2393.8	2300.8	2147.5	1973.0	1821.5	1696.6	1591.1	1486.6
52.5°	2454.0	2449.6	2431.0	2387.6	2292.8	2140.4	1971.2	1825.9	1711.7	1608.0	1504.3
55°	2998.9	2936.0	2795.1	2675.6	2478.9	2245.0	2060.7	1897.7	1775.4	1674.4	1601.8
57.5°	4262.3	4168.3	3983.2	3755.5	3303.7	2859.8	2504.6	2247.6	2121.0	2074.9	2102.3
60°	4854.1	4837.2	4808.0	4699.9	4468.7	4086.8	3661.6	3201.8	3017.5	3001.6	3057.4
62.5°	5134.9	5124.3	5133.2	5119.8	5048.1	4936.5	4814.2	4615.7	4433.2	4315.4	4065.6
65°	5264.2	5271.4	5321.8	5361.7	5370.6	5399.8	5489.3	5736.5	5917.2	5613.3	4919.7
67.5°	4935.6	4977.2	5093.3	5238.6	5408.6	5573.4	5839.2	6360.2	6731.4	6374.3	5389.2
69°	4086.0	4106.4	4389.8	4663.6	5079.1	5369.7	5755.1	6438.1	6855.4	6452.3	5352.0
70°	3216.9	3235.5	3539.3	3911.4	4614.0	4987.8	5491.9	6306.1	6739.4	6348.6	5160.6
72.5°	1451.2	1424.6	1531.8	1731.1	2494.8	3088.4	3969.9	5109.2	5560.2	5086.2	3861.0
75°	1013.5	1002.0	1013.5	1014.4	1133.1	1461.8	1844.5	2769.4	3425.1	2955.5	1844.5
77.5°	785.0	777.0	769.0	760.1	774.3	867.3	904.5	982.5	1275.8	1206.7	703.4
80°	621.1	613.9	633.4	627.3	627.3	637.9	630.8	601.6	546.6	506.7	453.6
82.5°	288.8	290.6	290.6	315.4	380.0	443.8	464.2	435.0	386.3	328.7	264.9
85°	27.5	31.0	52.3	80.6	160.3	180.7	181.6	150.6	150.6	118.7	95.7
87.5°	0.0	0.9	0.9	0.9	7.9	22.1	18.6	5.3	2.6	2.6	4.4
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°	408.4	408.4	408.4	408.4	408.4	408.4	408.4	408.4	408.4	408.4	408.4
2.5°	471.3	468.7	458.0	447.4	437.6	427.0	417.3	407.6	396.9	388.9	379.2
5°	551.1	531.6	509.4	488.2	466.9	444.8	421.7	401.3	380.0	360.6	342.0
7.5°	631.7	593.6	563.5	525.4	490.8	456.3	424.4	391.6	361.5	333.1	306.6
10°	699.9	653.8	606.9	558.1	508.6	462.5	418.2	379.2	339.3	304.7	272.0
12.5°	755.7	697.2	639.6	578.5	522.7	464.2	409.3	362.3	315.4	276.4	242.8
15°	806.2	738.9	669.8	598.9	528.0	461.6	400.4	342.0	294.1	249.8	211.8
17.5°	846.9	769.9	691.9	612.2	536.0	458.0	388.9	327.8	272.0	225.9	188.7
20°	882.4	801.8	717.6	628.1	541.3	457.2	379.2	310.1	252.5	203.8	167.4
22.5°	915.2	834.6	744.2	648.5	549.3	456.3	370.3	296.8	235.6	186.9	150.6
25°	952.4	867.3	772.5	669.8	563.5	459.8	365.0	286.2	220.6	171.0	137.3
27.5°	994.0	904.5	806.2	696.4	582.0	466.9	363.2	274.7	207.3	155.9	126.7
30°	1052.5	948.8	839.9	722.9	598.9	474.9	361.5	267.5	194.0	144.4	116.1
32.5°	1103.9	992.2	877.1	750.4	617.5	482.9	360.6	257.8	181.6	132.9	108.1
35°	1157.9	1032.1	909.0	777.0	633.4	491.7	359.7	250.7	170.1	121.4	100.1
37.5°	1204.9	1065.8	933.8	800.0	651.1	499.7	360.6	244.5	159.5	111.6	93.0
40°	1244.8	1100.3	961.3	821.2	669.8	512.1	361.5	238.3	148.8	102.8	86.8
42.5°	1280.2	1133.1	990.5	845.2	691.0	526.3	366.8	233.0	140.0	94.8	80.6
45°	1307.7	1163.3	1022.4	878.8	725.6	549.3	376.5	229.5	131.1	87.7	75.3
47.5°	1336.0	1207.5	1076.4	932.0	776.1	585.6	393.4	228.6	124.0	82.4	70.9
50°	1375.0	1251.8	1124.2	986.0	822.2	622.8	413.7	229.5	115.2	77.1	66.4
52.5°	1403.3	1297.0	1186.3	1080.0	932.0	736.2	492.6	245.4	110.8	72.7	61.1
55°	1570.8	1552.2	1554.8	1572.6	1458.3	1252.7	823.9	354.4	130.2	82.4	60.2
57.5°	2214.8	2280.4	2318.5	2317.6	2128.9	1765.7	1106.5	455.4	145.3	95.7	71.7
60°	3061.8	3012.2	2942.2	2769.4	2518.7	2015.5	1237.7	489.9	125.8	76.2	65.5
62.5°	3810.4	3519.9	3262.0	2982.1	2653.4	2102.3	1264.3	487.3	109.9	57.6	46.1
65°	4277.3	3754.6	3338.2	2987.4	2600.3	2029.7	1196.0	447.4	93.0	47.0	38.1
67.5°	4389.0	3627.9	3038.8	2591.4	2172.3	1579.6	878.0	336.6	72.7	39.0	33.6
69°	4145.3	3224.8	2517.8	2010.2	1580.5	1048.1	543.1	212.6	55.8	35.5	31.0
70°	3813.1	2804.9	2050.9	1613.3	1170.3	736.2	380.0	149.7	45.2	32.8	28.3
72.5°	2453.2	1473.3	1008.2	701.7	482.9	293.2	148.8	67.4	34.5	27.5	23.0
75°	951.5	544.8	395.1	300.3	234.8	163.0	90.4	43.4	29.2	23.0	17.7
77.5°	468.7	358.8	293.2	201.1	116.9	72.7	48.7	33.6	23.9	16.8	11.5
80°	370.3	246.3	147.1	91.2	69.1	52.3	37.2	27.5	17.7	10.6	7.9
82.5°	189.6	103.6	76.2	62.0	51.4	40.8	30.1	19.5	11.5	7.1	6.2
85°	59.3	43.4	39.0	38.1	35.5	29.2	21.3	12.4	7.1	4.4	4.4
87.5°	4.4	6.2	7.9	6.2	7.1	6.2	7.9	5.3	3.6	3.6	2.6
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°	408.4	408.4	408.4	408.4	408.4	408.4	408.4	408.4	408.4	408.4	408.4
2.5°	372.1	361.5	351.7	345.5	334.0	329.6	325.1	323.4	315.4	317.2	310.1
5°	325.1	306.6	292.4	278.2	264.9	255.2	247.2	237.5	229.5	225.9	218.8
7.5°	282.6	258.7	240.1	225.0	209.1	196.7	186.0	179.0	171.9	164.8	161.2
10°	245.4	219.7	198.4	183.4	168.3	157.7	149.7	144.4	140.0	137.3	136.5
12.5°	210.9	186.0	166.5	153.3	141.8	136.5	132.9	130.2	129.3	128.5	128.5
15°	184.3	159.5	144.4	134.6	129.3	126.7	125.8	124.0	122.3	121.4	121.4
17.5°	159.5	140.8	130.2	124.9	122.3	120.5	118.7	116.9	115.2	114.3	114.3
20°	142.6	127.6	122.3	118.7	116.1	114.3	111.6	109.9	108.9	108.1	107.2
22.5°	129.3	119.6	116.1	113.4	109.9	107.2	105.4	103.6	101.9	101.0	100.1
25°	119.6	113.4	110.8	107.2	103.6	101.0	98.3	95.7	93.9	93.0	91.2
27.5°	112.5	108.1	104.6	100.1	96.6	93.9	91.2	88.6	86.8	85.1	84.2
30°	106.3	101.9	97.4	93.9	89.5	86.8	83.3	80.6	79.7	78.0	76.2
32.5°	100.1	95.7	91.2	86.8	82.4	78.9	77.1	73.5	71.7	70.9	69.1
35°	93.0	88.6	83.3	79.7	75.3	71.7	69.1	66.4	64.7	62.9	62.0
37.5°	86.8	81.5	76.2	71.7	68.2	64.7	62.0	59.3	57.6	55.8	54.9
40°	79.7	74.4	69.1	64.7	61.1	58.5	55.8	53.2	51.4	50.5	50.5
42.5°	73.5	67.4	62.0	58.5	55.8	52.3	49.6	47.0	46.1	45.2	46.1
45°	67.4	61.1	56.7	53.2	50.5	47.0	44.3	42.5	41.6	42.5	43.4
47.5°	62.0	55.8	51.4	48.7	46.1	43.4	40.8	39.0	39.0	40.8	42.5
50°	56.7	50.5	47.0	45.2	42.5	39.8	36.3	35.5	36.3	38.1	39.8
52.5°	51.4	44.3	41.6	40.8	38.1	35.5	32.8	31.9	32.8	34.5	33.6
55°	46.1	39.0	38.1	37.2	34.5	31.0	28.3	28.3	28.3	27.5	25.7
57.5°	44.3	34.5	33.6	32.8	30.1	26.6	24.8	23.0	22.1	19.5	18.6
60°	46.1	31.0	31.0	29.2	26.6	23.0	20.4	17.7	15.9	14.2	14.2
62.5°	37.2	28.3	27.5	25.7	22.1	18.6	15.9	13.3	12.4	11.5	11.5
65°	30.1	25.7	23.9	21.3	18.6	15.1	12.4	10.6	9.8	9.8	10.6
67.5°	27.5	23.0	20.4	17.7	15.1	11.5	9.8	8.9	8.9	9.8	9.8
69°	25.7	21.3	18.6	15.9	13.3	10.6	8.9	8.9	8.9	8.9	9.8
70°	23.9	20.4	17.7	15.1	11.5	8.9	7.9	7.9	8.9	8.9	9.8
72.5°	18.6	15.9	15.1	12.4	8.9	7.9	7.1	7.9	7.9	8.9	8.9
75°	14.2	11.5	11.5	9.8	7.1	6.2	6.2	7.1	7.1	7.9	7.9
77.5°	9.8	7.9	7.9	7.1	6.2	5.3	5.3	6.2	7.1	7.1	7.9
80°	7.1	6.2	5.3	6.2	5.3	4.4	5.3	6.2	6.2	7.1	7.1
82.5°	5.3	5.3	5.3	5.3	4.4	4.4	5.3	5.3	6.2	7.1	7.1
85°	4.4	4.4	4.4	4.4	4.4	4.4	4.4	5.3	5.3	6.2	6.2
87.5°	2.6	2.6	2.6	3.6	3.6	4.4	4.4	4.4	4.4	5.3	5.3
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°	408.4	408.4	408.4	408.4
2.5°	308.3	307.4	303.9	304.7
5°	216.2	210.9	214.4	213.5
7.5°	158.6	157.7	156.8	158.6
10°	135.5	135.5	134.6	135.5
12.5°	127.6	127.6	127.6	127.6
15°	121.4	121.4	120.5	120.5
17.5°	114.3	114.3	114.3	113.4
20°	107.2	106.3	106.3	106.3
22.5°	99.2	98.3	98.3	98.3
25°	91.2	90.4	90.4	90.4
27.5°	83.3	82.4	81.5	81.5
30°	75.3	74.4	73.5	73.5
32.5°	67.4	66.4	65.5	65.5
35°	60.2	60.2	59.3	58.5
37.5°	54.0	54.0	54.0	54.0
40°	49.6	50.5	50.5	50.5
42.5°	47.0	47.8	48.7	49.6
45°	45.2	47.0	47.8	47.8
47.5°	44.3	45.2	46.1	46.1
50°	40.8	39.8	39.8	39.8
52.5°	32.8	31.0	30.1	29.2
55°	23.9	23.0	21.3	21.3
57.5°	16.8	16.8	15.9	15.9
60°	13.3	13.3	12.4	13.3
62.5°	11.5	11.5	11.5	11.5
65°	10.6	10.6	10.6	10.6
67.5°	10.6	10.6	10.6	10.6
69°	9.8	9.8	9.8	9.8
70°	9.8	9.8	9.8	9.8
72.5°	8.9	8.9	8.9	8.9
75°	7.9	8.9	8.9	8.9
77.5°	7.9	7.9	7.9	7.9
80°	7.1	7.1	7.9	7.9
82.5°	7.1	7.1	7.1	7.1
85°	6.2	6.2	7.1	7.1
87.5°	5.3	5.3	6.2	6.2
90°	0.0	0.0	0.0	0.0

(END OF REPORT)