

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: P163537

Luminaire Tested: **LDRL-SL3-E04-E-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P163537
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33727)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: LUMARK
Catalog Number: LDRL-SL3-E04-E-HSS
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(4) LIGHTBARS WITH AccuLED OPTICS - TYPE 3 W/ SPILL LIGHT CONTROL AND HOUSE SIDE SHIELD
Light Source: (84) 4000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6727.1 lumens
Efficiency: N/A
Efficacy: 69.2 lumens/watt
Luminous Opening: Rectangular w/ Sides (W: 0.67' x L: 1' x H: 0.1')
IES Classification: Type III - Short - Non-Cutoff
BUG Rating: B0 - U0 - G2

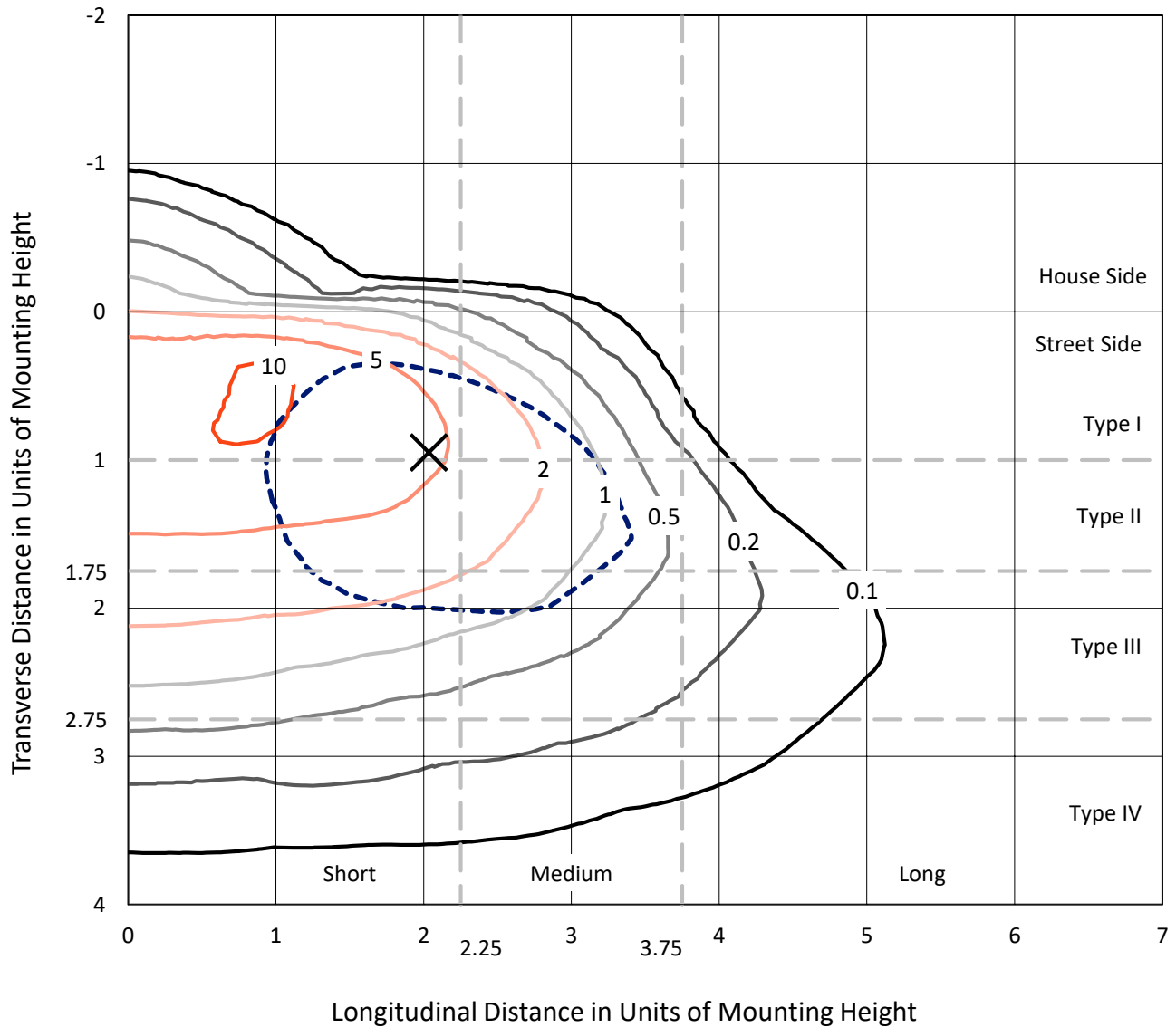
Input Watts (W): 97.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

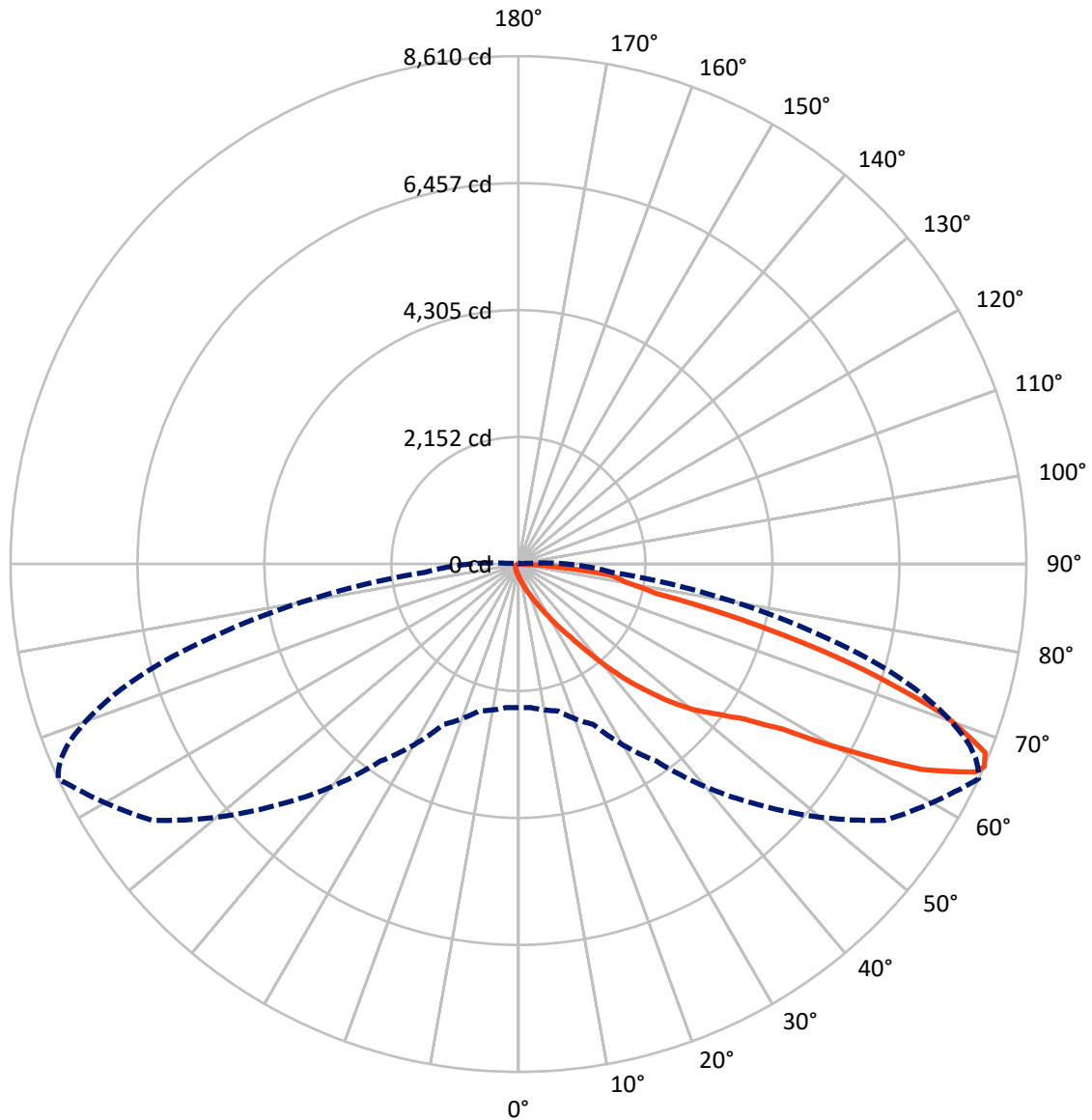
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 11.1 fc
 Type III - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 65-Deg Lateral - - - Horizontal Cone Through 66-Deg Vertical

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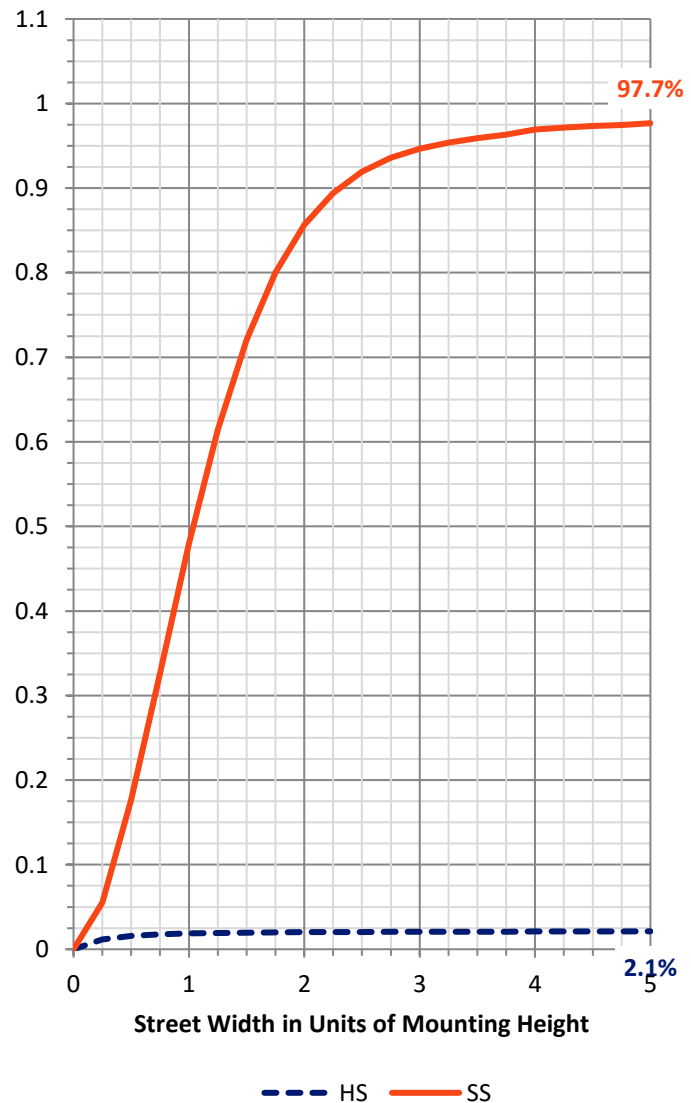
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	145.8	0.0	145.8
	% Fixture	2.2	0.0	2.2
Street Side	Lumens	6581.4	0.0	6581.4
	% Fixture	97.8	0.0	97.8
Total	Lumens	6727.1	0.0	6727.1
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	22.7	0.3
10°-20°	96.4	1.4
20°-30°	207.9	3.1
30°-40°	443.9	6.6
40°-50°	981.7	14.6
50°-60°	1663.8	24.7
60°-70°	2220.1	33.0
70°-80°	977.9	14.5
80°-90°	112.7	1.7
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°	6727.1	100.0
0°-180°	6727.1	100.0



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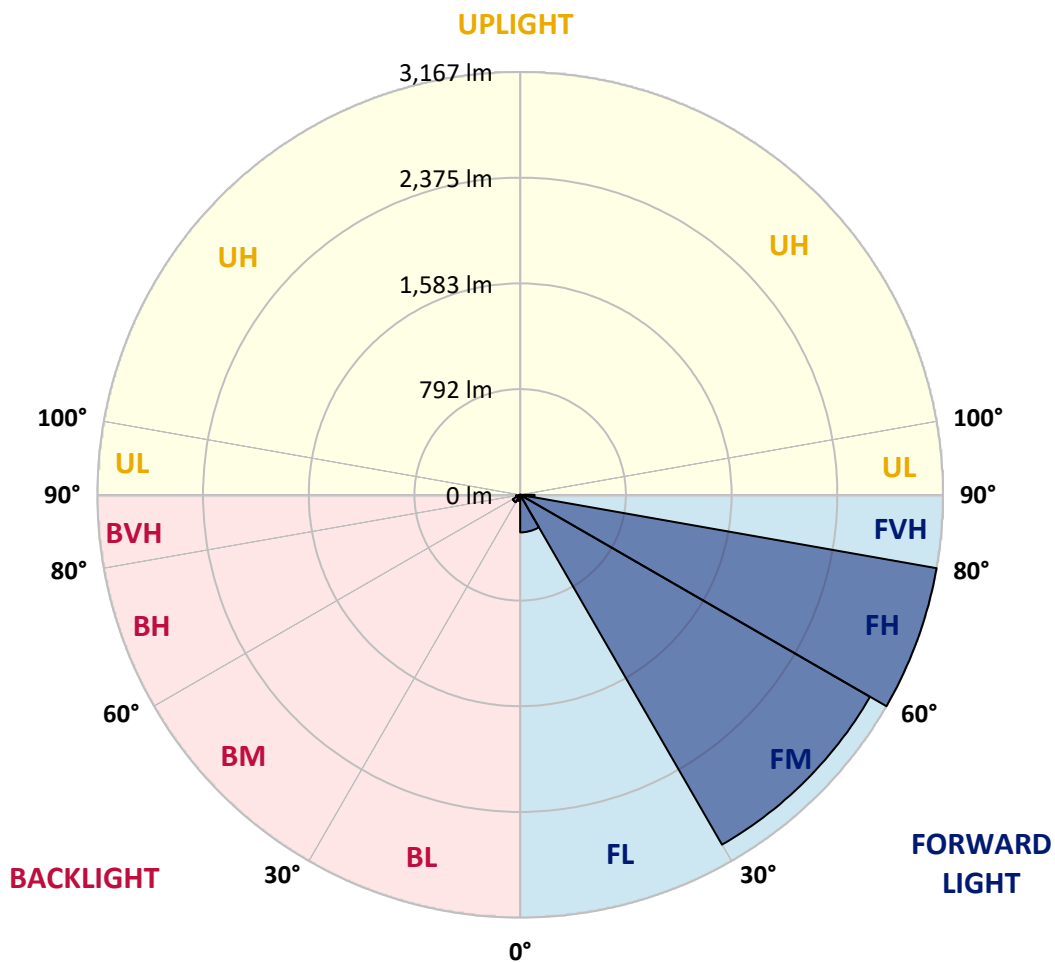
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	281.0	4.2			
FM	(30°-60°)	3025.4	45.0			
FH	(60°-80°)	3166.8	47.1			G2/5000
FVH	(80°-90°)	108.2	1.6			G2/225
BL	(0°-30°)	46.0	0.7	B0/110		
BM	(30°-60°)	64.0	1.0	B0/220		
BH	(60°-80°)	31.3	0.5	B0/110		G0/110
BVH	(80°-90°)	4.5	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 III Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	66°	67°	68°
0°	203.0	203.0	203.0	203.0	203.0	203.0	203.0	203.0	203.0	203.0	203.0
2.5°	256.1	254.8	249.6	249.6	241.8	236.6	230.2	223.8	223.8	222.5	221.1
5°	338.9	331.1	329.8	315.6	303.9	287.1	271.6	250.9	248.3	245.8	244.4
7.5°	430.6	429.4	417.8	401.0	377.7	346.6	315.6	281.9	276.8	274.2	269.0
10°	549.7	543.2	527.7	499.2	464.3	422.9	372.5	319.4	313.0	307.8	305.2
12.5°	663.4	651.8	642.8	606.6	562.6	501.8	441.0	364.7	359.5	353.0	342.7
15°	769.5	759.2	743.7	712.6	663.4	587.2	516.0	422.9	410.0	401.0	393.2
17.5°	852.3	845.8	827.8	792.8	739.8	672.6	587.2	482.4	472.1	460.4	446.2
20°	931.2	922.2	893.7	845.8	789.0	737.2	671.2	560.0	545.8	531.5	516.0
22.5°	1006.2	997.1	950.6	871.7	810.9	789.0	765.7	647.9	626.0	614.3	598.8
25°	1111.0	1091.6	1019.1	893.7	812.2	829.0	869.1	761.8	741.0	724.2	699.7
27.5°	1251.9	1226.1	1112.2	926.0	817.4	873.0	988.1	900.2	878.2	858.8	831.6
30°	1411.0	1394.2	1258.4	1003.6	854.9	937.7	1121.3	1076.1	1050.2	1026.9	994.6
32.5°	1571.4	1548.1	1413.6	1151.0	955.8	1063.1	1288.2	1280.4	1246.8	1224.8	1189.8
35°	1712.3	1700.7	1601.1	1392.9	1186.0	1283.0	1510.6	1519.7	1489.9	1466.6	1427.8
37.5°	1808.1	1808.1	1788.6	1652.9	1552.0	1624.4	1837.8	1839.1	1809.4	1756.3	1737.0
40°	1857.2	1871.4	1941.3	1967.1	1962.0	2055.1	2267.2	2243.9	2219.4	2192.2	2127.5
42.5°	1958.1	1971.0	2119.8	2298.2	2414.6	2537.5	2683.6	2675.8	2646.2	2597.0	2537.5
45°	2128.8	2145.6	2322.8	2606.0	2845.3	3019.9	3113.0	3076.8	3047.0	3000.5	2969.4
47.5°	2346.1	2378.4	2578.9	2929.4	3217.8	3506.2	3603.2	3507.5	3481.6	3445.4	3395.0
50°	2577.6	2608.6	2822.0	3223.0	3548.9	3892.9	4054.6	3892.9	3855.4	3843.8	3786.9
52.5°	2778.1	2803.9	3009.5	3449.3	3802.4	4205.8	4441.3	4227.8	4200.7	4161.9	4120.5
55°	2897.0	2917.8	3110.4	3557.9	3974.4	4487.8	4815.0	4627.5	4587.4	4571.9	4512.4
57.5°	2937.1	2957.8	3131.1	3572.2	4067.5	4745.2	5269.0	5275.4	5227.6	5172.0	5153.9
60°	2937.1	2960.4	3106.6	3537.2	4158.0	5019.4	5874.2	6413.6	6310.1	6299.8	6233.8
62.5°	2815.5	2837.5	2985.0	3429.9	4279.6	5389.3	6717.5	7669.4	7639.7	7572.4	7463.8
65°	2551.8	2564.6	2709.5	3155.7	4233.0	5729.4	7448.2	8504.9	8457.0	8325.1	8185.4
66°	2432.7	2443.1	2578.9	2999.2	4080.4	5776.0	7577.6	8609.6	8530.7	8419.5	8261.8
67.5°	2260.7	2278.8	2374.6	2708.2	3714.4	5614.3	7496.1	8535.9	8467.4	8332.9	8175.0
70°	1509.3	1496.4	1833.9	2078.4	2829.8	4574.5	6725.3	7664.2	7665.5	7602.2	7538.8
72.5°	716.5	724.2	822.6	1279.1	1852.0	3056.1	5353.0	6117.4	6205.4	6091.5	6012.6
75°	514.7	526.4	585.8	782.5	1104.5	1833.9	3470.0	4278.3	4280.9	4079.1	3899.4
77.5°	150.0	156.5	219.8	482.4	827.8	1237.7	1993.0	2378.4	2322.8	2177.9	2042.2
80°	62.1	62.1	64.6	153.9	332.4	840.6	1394.2	1831.4	1824.9	1769.3	1689.0
82.5°	23.3	24.6	31.0	63.4	78.9	207.0	929.9	1589.5	1585.6	1506.7	1449.8
85°	2.6	2.6	7.8	27.1	29.8	38.8	186.2	701.0	697.1	701.0	614.3
87.5°	0.0	0.0	1.3	2.6	3.8	5.2	7.8	27.1	29.8	28.5	25.8
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):

	69°	70°	71°	72°	73°	74°	75°	76°	77°	78°	79°
0°	203.0	203.0	203.0	203.0	203.0	203.0	203.0	203.0	203.0	203.0	203.0
2.5°	221.1	218.6	218.6	217.3	217.3	217.3	216.0	214.7	214.7	213.4	212.1
5°	241.8	239.3	238.0	235.4	234.1	232.8	230.2	228.9	226.3	225.0	223.8
7.5°	266.4	261.3	259.9	256.1	252.2	249.6	247.0	243.1	240.6	235.4	234.1
10°	297.4	291.0	285.8	280.6	276.8	270.3	266.4	261.3	256.1	252.2	248.3
12.5°	337.5	328.5	320.7	315.6	306.5	298.7	291.0	287.1	276.8	271.6	265.1
15°	381.5	371.2	362.2	351.8	345.3	332.4	322.0	310.4	305.2	296.2	285.8
17.5°	438.4	421.6	407.4	397.0	384.1	371.2	359.5	347.9	332.4	322.0	309.1
20°	499.2	485.0	465.6	447.5	432.0	416.5	399.6	384.1	369.9	353.0	337.5
22.5°	576.8	556.2	532.9	514.7	494.1	477.2	453.9	433.3	410.0	388.0	369.9
25°	675.1	647.9	626.0	600.1	575.5	549.7	521.2	495.4	465.6	444.9	413.8
27.5°	796.7	770.8	741.0	707.4	682.9	644.1	606.6	574.2	539.3	507.0	472.1
30°	951.9	914.4	883.4	851.0	801.8	764.3	720.4	676.4	628.6	596.2	543.2
32.5°	1138.2	1098.0	1051.4	1004.9	959.7	906.6	852.3	798.0	745.0	685.4	631.1
35°	1365.8	1317.9	1264.9	1214.4	1144.6	1087.7	1019.1	944.2	884.6	816.1	747.5
37.5°	1667.1	1588.2	1541.6	1488.6	1394.2	1316.6	1240.3	1165.3	1060.6	988.1	891.1
40°	2044.7	1998.2	1921.8	1836.5	1751.1	1649.0	1545.5	1445.9	1324.3	1223.5	1111.0
42.5°	2488.3	2419.8	2342.2	2219.4	2132.7	2012.4	1894.7	1762.8	1614.1	1484.7	1352.8
45°	2904.8	2823.3	2763.8	2641.0	2550.4	2408.2	2265.9	2126.2	1954.2	1787.4	1634.7
47.5°	3354.9	3287.6	3189.4	3089.8	2997.9	2837.5	2683.6	2514.2	2333.1	2135.3	1937.4
50°	3750.6	3697.6	3630.3	3510.1	3407.9	3273.4	3092.3	2907.4	2678.5	2481.9	2256.9
52.5°	4086.9	4045.5	3951.1	3865.8	3773.9	3647.2	3485.5	3308.3	3061.3	2845.3	2589.2
55°	4483.9	4454.2	4371.4	4318.4	4236.9	4115.4	3964.0	3799.8	3538.6	3303.1	3013.4
57.5°	5134.5	5111.2	5038.8	5016.8	4936.6	4830.6	4644.3	4468.4	4163.2	3870.9	3539.8
60°	6211.8	6165.3	6059.2	6004.9	5835.4	5693.2	5451.4	5209.5	4840.9	4468.4	4070.1
62.5°	7365.4	7234.8	7033.0	6859.8	6619.2	6372.2	6048.9	5679.0	5247.0	4804.7	4346.9
65°	7987.5	7765.1	7510.3	7234.8	6923.1	6559.7	6152.3	5708.7	5244.4	4777.5	4293.8
66°	8058.6	7807.8	7537.4	7231.0	6884.3	6497.6	6083.8	5618.2	5135.8	4680.6	4196.8
67.5°	7969.4	7706.9	7421.0	7081.0	6705.8	6305.0	5870.4	5386.6	4922.4	4460.6	3989.9
70°	7344.8	7083.5	6828.7	6470.5	6070.9	5667.4	5256.1	4715.4	4275.7	3851.5	3432.5
72.5°	5865.2	5688.0	5435.8	5129.3	4740.0	4266.6	3923.9	3440.2	3058.7	2647.4	2322.8
75°	3665.3	3415.7	3104.0	2713.4	2415.9	2031.8	1831.4	1464.0	1246.8	1056.6	873.0
77.5°	1874.0	1686.5	1467.9	1248.1	1037.3	827.8	640.2	452.6	305.2	212.1	157.8
80°	1548.1	1382.6	1201.5	1001.0	814.8	632.4	455.3	310.4	197.8	129.4	100.9
82.5°	1279.1	1139.4	977.8	791.5	629.8	496.6	345.3	225.0	139.7	90.6	71.1
85°	544.5	494.1	381.5	302.6	227.6	168.2	117.7	78.9	55.6	45.3	41.4
87.5°	23.3	25.8	24.6	19.4	14.2	14.2	13.0	10.3	10.3	10.3	10.3
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):

	80°	81°	82°	83°	84°	85°	95°	105°	115°	125°	135°
0°	203.0	203.0	203.0	203.0	203.0	203.0	203.0	203.0	203.0	203.0	203.0
2.5°	212.1	210.8	209.5	209.5	208.2	207.0	199.2	192.7	185.0	179.8	174.6
5°	221.1	219.8	217.3	216.0	213.4	212.1	195.3	181.0	169.4	160.4	153.9
7.5°	230.2	228.9	225.0	221.1	219.8	217.3	190.1	172.0	156.5	146.2	139.7
10°	241.8	238.0	234.1	228.9	225.0	221.1	185.0	161.7	144.9	135.8	129.4
12.5°	258.6	252.2	245.8	239.3	234.1	227.6	182.3	152.6	135.8	125.4	119.0
15°	278.1	269.0	261.3	253.5	244.4	238.0	177.2	144.9	128.0	117.7	109.9
17.5°	296.2	285.8	274.2	262.6	253.5	244.4	172.0	137.1	120.2	109.9	102.2
20°	322.0	306.5	292.3	278.1	265.1	253.5	164.2	129.4	113.8	102.2	94.4
22.5°	350.5	332.4	314.2	294.9	278.1	262.6	157.8	122.9	107.4	95.7	86.6
25°	386.7	364.7	340.2	315.6	296.2	275.4	151.3	116.4	100.9	89.2	80.2
27.5°	437.1	406.1	379.0	347.9	318.2	294.9	146.2	111.2	94.4	82.8	73.7
30°	505.7	460.4	417.8	384.1	349.2	315.6	141.0	104.7	89.2	76.3	65.9
32.5°	582.0	529.0	479.8	429.4	385.4	346.6	135.8	99.6	82.8	69.8	60.8
35°	676.4	609.1	543.2	485.0	432.0	380.2	130.6	94.4	77.6	63.4	54.3
37.5°	812.2	728.2	641.5	566.5	497.9	429.4	126.7	89.2	71.1	56.9	47.8
40°	998.5	889.8	783.8	681.6	592.3	507.0	121.6	84.1	65.9	51.8	42.6
42.5°	1200.2	1068.3	928.6	813.5	690.6	583.3	116.4	78.9	60.8	46.6	37.5
45°	1451.1	1286.9	1117.4	961.0	810.9	672.6	111.2	73.7	54.3	41.4	32.3
47.5°	1725.3	1515.8	1324.3	1127.8	949.3	783.8	104.7	69.8	49.1	36.2	28.5
50°	2007.2	1786.1	1544.2	1320.5	1108.4	895.0	98.3	63.4	44.0	32.3	23.3
52.5°	2311.2	2049.9	1802.9	1524.8	1277.8	1041.1	91.8	58.2	40.1	28.5	19.4
55°	2697.8	2405.6	2115.8	1804.2	1506.7	1210.6	85.4	51.8	34.9	24.6	15.5
57.5°	3184.2	2837.5	2481.9	2130.1	1769.3	1433.0	80.2	45.3	29.8	20.7	13.0
60°	3643.3	3238.5	2807.8	2403.0	1995.6	1603.7	72.4	40.1	25.8	16.8	13.0
62.5°	3881.3	3419.5	2955.2	2509.0	2074.5	1664.5	64.6	33.6	22.0	14.2	11.6
65°	3823.0	3352.3	2902.2	2452.2	2026.6	1625.7	56.9	29.8	19.4	13.0	11.6
66°	3739.0	3273.4	2820.7	2392.6	1986.6	1584.3	53.0	28.5	18.1	13.0	10.3
67.5°	3555.4	3105.3	2673.3	2275.0	1876.6	1505.4	47.8	25.8	16.8	11.6	10.3
70°	3036.7	2628.0	2282.7	1928.3	1603.7	1268.7	38.8	22.0	14.2	10.3	10.3
72.5°	2009.8	1731.8	1501.5	1292.0	1079.9	838.1	32.3	18.1	11.6	10.3	9.0
75°	757.9	685.4	588.5	529.0	461.7	404.8	25.8	11.6	9.0	9.0	9.0
77.5°	134.5	124.2	109.9	100.9	93.1	85.4	20.7	7.8	7.8	9.0	9.0
80°	90.6	84.1	76.3	69.8	64.6	58.2	14.2	6.5	7.8	7.8	9.0
82.5°	64.6	60.8	56.9	51.8	47.8	42.6	9.0	6.5	7.8	7.8	7.8
85°	38.8	36.2	33.6	31.0	27.1	25.8	6.5	6.5	6.5	7.8	7.8
87.5°	10.3	9.0	10.3	10.3	7.8	9.0	5.2	5.2	5.2	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):

	145°	155°	165°	175°	180°
0°	203.0	203.0	203.0	203.0	203.0
2.5°	172.0	172.0	169.4	173.3	173.3
5°	148.7	148.7	147.4	148.7	148.7
7.5°	135.8	134.5	134.5	134.5	135.8
10°	124.2	122.9	122.9	122.9	122.9
12.5°	113.8	112.5	111.2	112.5	112.5
15°	104.7	102.2	102.2	102.2	102.2
17.5°	97.0	94.4	93.1	93.1	93.1
20°	89.2	85.4	85.4	85.4	85.4
22.5°	81.4	77.6	77.6	77.6	77.6
25°	73.7	69.8	69.8	69.8	69.8
27.5°	67.3	63.4	63.4	63.4	63.4
30°	59.5	56.9	56.9	58.2	56.9
32.5°	54.3	50.4	50.4	51.8	51.8
35°	47.8	45.3	45.3	45.3	45.3
37.5°	41.4	38.8	38.8	38.8	38.8
40°	36.2	33.6	32.3	33.6	33.6
42.5°	31.0	28.5	27.1	27.1	27.1
45°	27.1	23.3	22.0	23.3	23.3
47.5°	22.0	19.4	19.4	20.7	20.7
50°	16.8	16.8	18.1	20.7	20.7
52.5°	15.5	15.5	18.1	20.7	20.7
55°	14.2	15.5	18.1	19.4	20.7
57.5°	13.0	15.5	18.1	19.4	19.4
60°	13.0	14.2	16.8	19.4	19.4
62.5°	11.6	13.0	15.5	18.1	18.1
65°	11.6	13.0	15.5	18.1	18.1
66°	11.6	13.0	15.5	18.1	18.1
67.5°	11.6	13.0	15.5	18.1	18.1
70°	11.6	13.0	15.5	16.8	16.8
72.5°	10.3	11.6	14.2	16.8	16.8
75°	10.3	11.6	14.2	16.8	16.8
77.5°	10.3	11.6	14.2	16.8	16.8
80°	10.3	11.6	14.2	15.5	16.8
82.5°	9.0	11.6	13.0	15.5	15.5
85°	9.0	10.3	13.0	14.2	15.5
87.5°	7.8	9.0	10.3	13.0	13.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)