

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: P163532

Luminaire Tested: **LDRL-SL3-F03-E-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P163532
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-F03-E-HSS
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(3) LIGHTBARS WITH AccuLED OPTICS - TYPE 3 W/ SPILL LIGHT CONTROL AND HOUSE SIDE SHIELD
Light Source: (21) 4000K CCT, 70 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4165 lumens
Efficiency: N/A
Efficacy: 53.2 lumens/watt
Luminous Opening: Rectangular w/ Sides (W: 0.5' x L: 1' x H: 0.1')
IES Classification: Type III - Short - Non-Cutoff
BUG Rating: B0 - U0 - G2

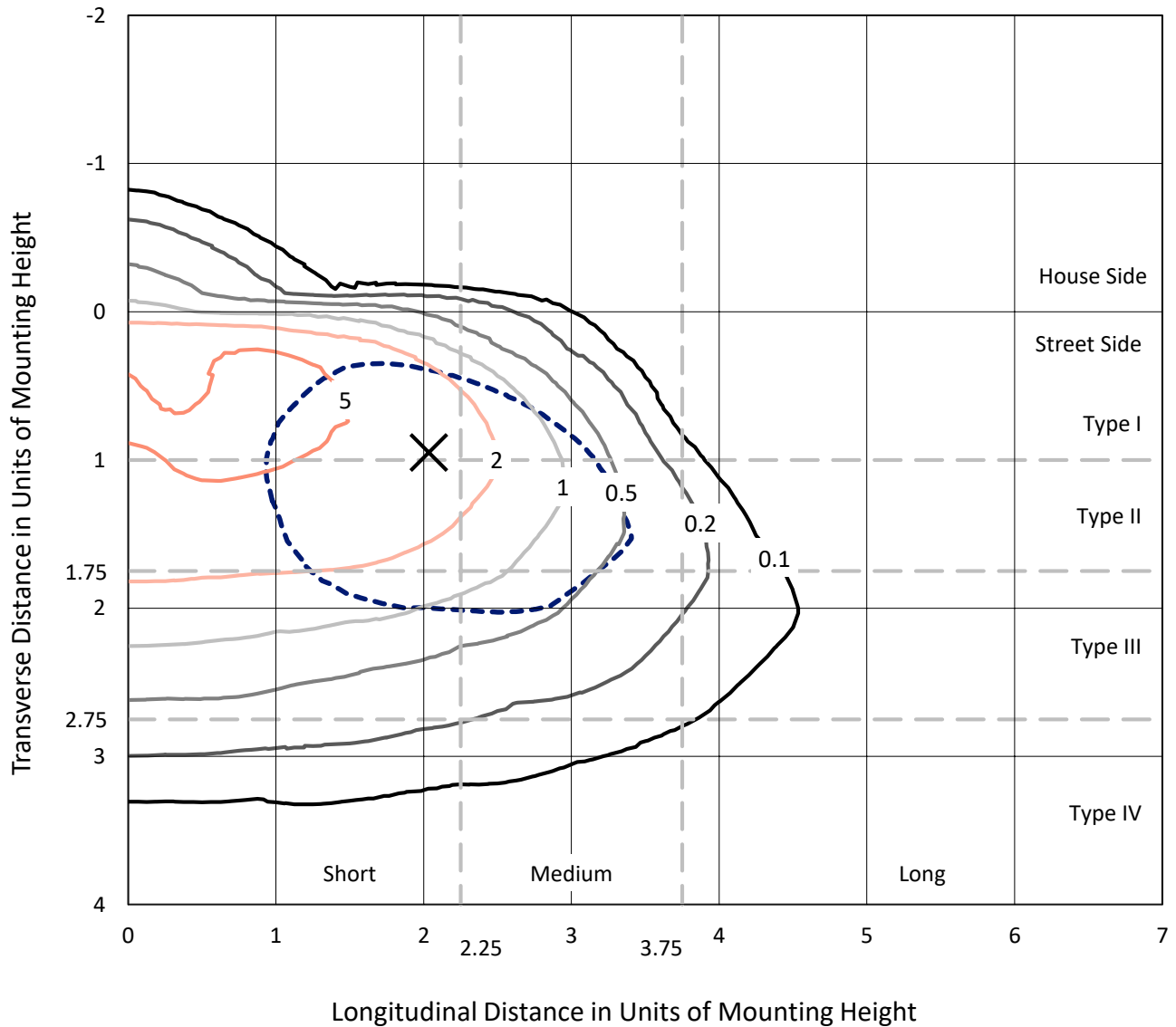
Input Watts (W): 78.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

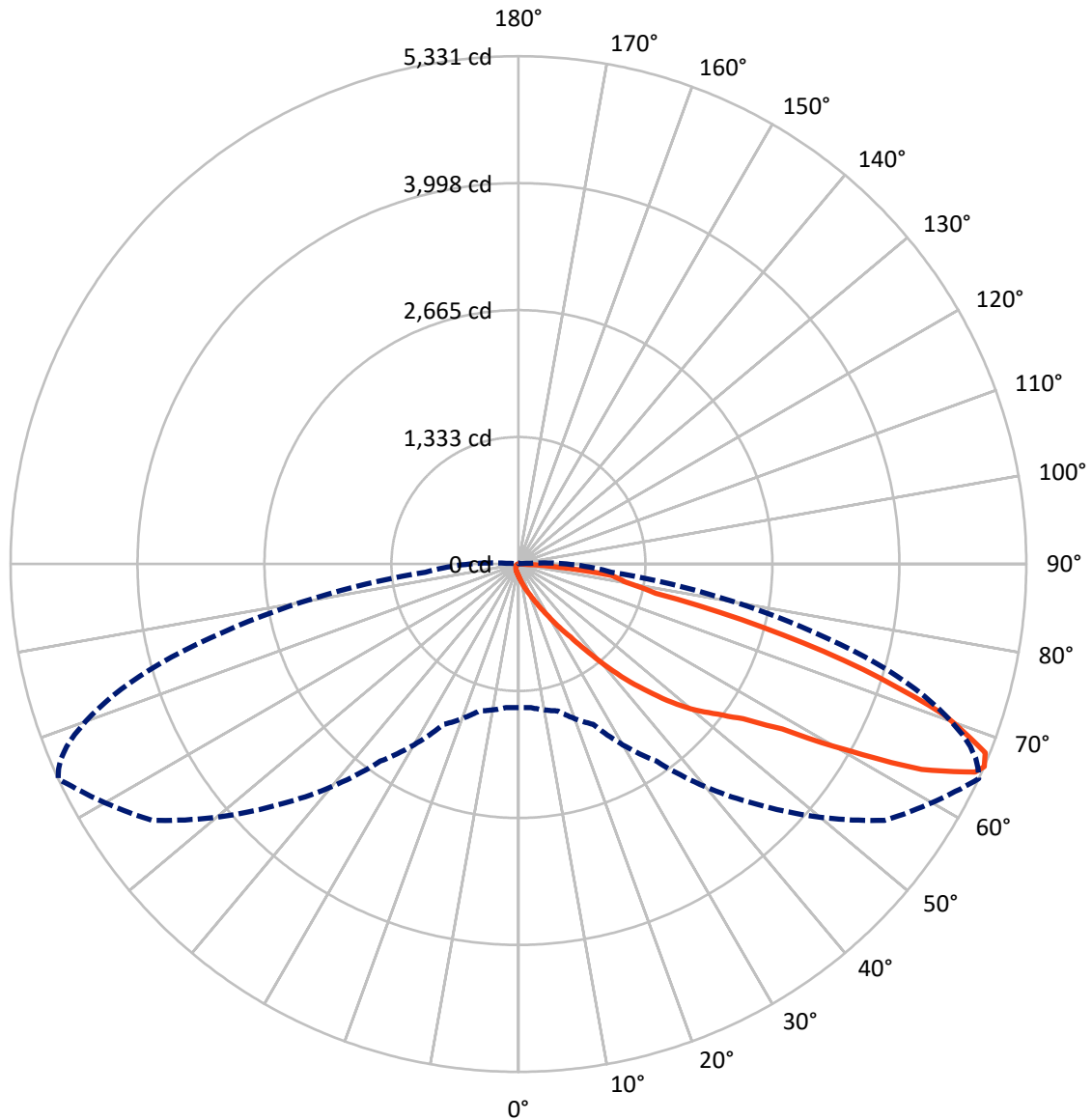
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 6.9 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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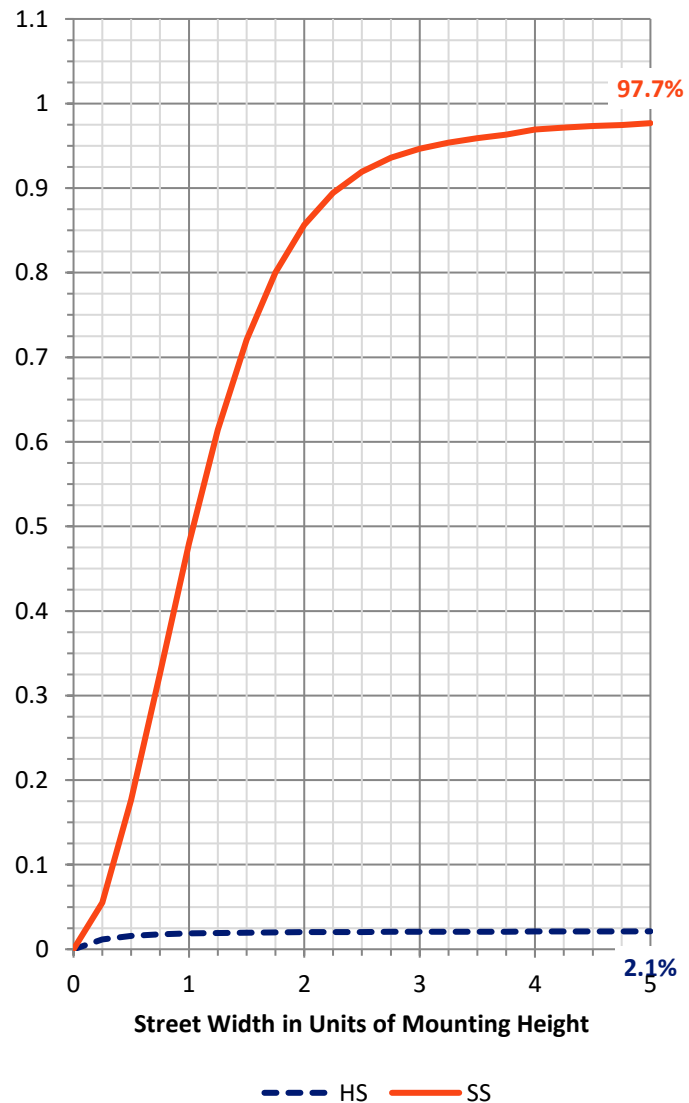
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	90.2	0.0	90.2
	% Fixture	2.2	0.0	2.2
Street Side	Lumens	4074.8	0.0	4074.8
	% Fixture	97.8	0.0	97.8
Total	Lumens	4165.0	0.0	4165.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	14.1	0.3
10°-20°	59.7	1.4
20°-30°	128.7	3.1
30°-40°	274.9	6.6
40°-50°	607.8	14.6
50°-60°	1030.1	24.7
60°-70°	1374.6	33.0
70°-80°	605.5	14.5
80°-90°	69.7	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°	4165.0	100.0
0°-180°	4165.0	100.0



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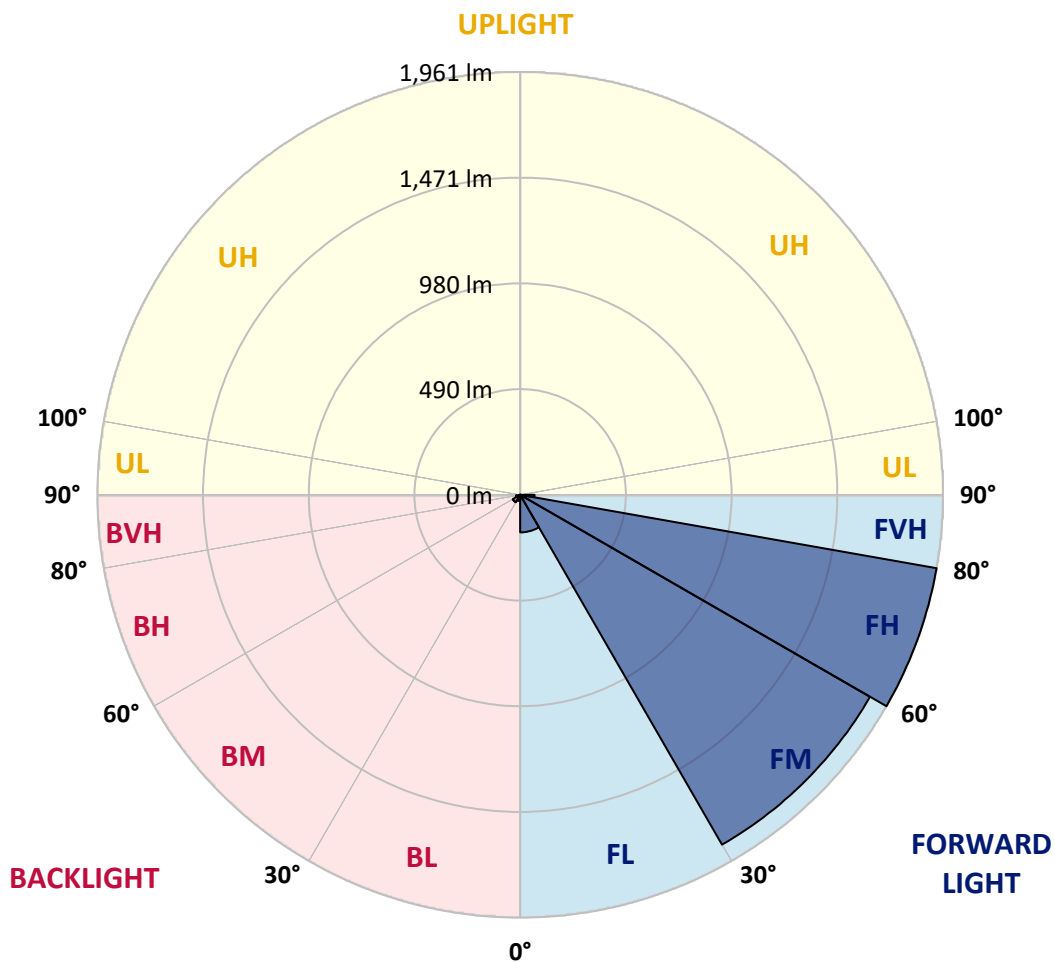
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	174.0	4.2			
FM	(30°-60°)	1873.2	45.0			
FH	(60°-80°)	1960.7	47.1			G2/5000
FVH	(80°-90°)	67.0	1.6			G1/100
BL	(0°-30°)	28.5	0.7	B0/110		
BM	(30°-60°)	39.6	1.0	B0/220		
BH	(60°-80°)	19.4	0.5	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 III Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	66°	67°	68°
0°	125.7	125.7	125.7	125.7	125.7	125.7	125.7	125.7	125.7	125.7	125.7
2.5°	158.6	157.8	154.5	154.5	149.7	146.5	142.6	138.5	138.5	137.7	136.9
5°	209.8	205.0	204.2	195.4	188.2	177.8	168.2	155.3	153.7	152.2	151.3
7.5°	266.6	265.8	258.7	248.3	233.8	214.6	195.4	174.5	171.4	169.7	166.6
10°	340.3	336.3	326.7	309.1	287.5	261.8	230.6	197.8	193.8	190.6	189.0
12.5°	410.8	403.6	398.0	375.5	348.3	310.7	273.1	225.8	222.6	218.6	212.2
15°	476.4	470.1	460.4	441.2	410.8	363.6	319.5	261.8	253.8	248.3	243.4
17.5°	527.7	523.7	512.5	490.9	458.0	416.4	363.6	298.7	292.3	285.1	276.2
20°	576.5	570.9	553.3	523.7	488.5	456.4	415.6	346.7	337.9	329.1	319.5
22.5°	623.0	617.4	588.5	539.7	502.1	488.5	474.1	401.2	387.6	380.4	370.7
25°	687.8	675.9	631.0	553.3	502.9	513.3	538.1	471.6	458.8	448.4	433.2
27.5°	775.1	759.1	688.6	573.3	506.1	540.5	611.8	557.3	543.7	531.7	514.9
30°	873.6	863.2	779.1	621.4	529.3	580.6	694.2	666.2	650.2	635.8	615.8
32.5°	972.9	958.5	875.2	712.7	591.8	658.2	797.6	792.8	771.9	758.3	736.7
35°	1060.2	1053.0	991.3	862.4	734.3	794.3	935.3	940.9	922.5	908.1	884.0
37.5°	1119.5	1119.5	1107.4	1023.4	960.9	1005.7	1137.9	1138.7	1120.3	1087.4	1075.4
40°	1149.9	1158.7	1201.9	1217.9	1214.8	1272.4	1403.7	1389.3	1374.1	1357.3	1317.2
42.5°	1212.3	1220.4	1312.4	1422.9	1495.0	1571.1	1661.5	1656.7	1638.4	1607.9	1571.1
45°	1318.0	1328.4	1438.1	1613.5	1761.6	1869.8	1927.4	1905.0	1886.6	1857.7	1838.5
47.5°	1452.6	1472.6	1596.7	1813.7	1992.3	2170.8	2230.9	2171.7	2155.6	2133.2	2102.0
50°	1595.9	1615.1	1747.2	1995.5	2197.3	2410.3	2510.4	2410.3	2387.0	2379.8	2344.6
52.5°	1720.0	1736.0	1863.3	2135.6	2354.2	2604.0	2749.8	2617.6	2600.8	2576.8	2551.2
55°	1793.7	1806.5	1925.8	2202.9	2460.7	2778.6	2981.2	2865.1	2840.3	2830.7	2793.8
57.5°	1818.5	1831.3	1938.6	2211.7	2518.4	2938.0	3262.2	3266.3	3236.6	3202.2	3191.0
60°	1818.5	1832.9	1923.4	2190.0	2574.4	3107.7	3637.0	3970.9	3906.8	3900.5	3859.6
62.5°	1743.2	1756.8	1848.1	2123.6	2649.7	3336.7	4159.1	4748.4	4730.1	4688.4	4621.1
65°	1579.9	1587.9	1677.6	1953.8	2620.9	3547.3	4611.5	5265.7	5236.1	5154.4	5068.0
66°	1506.2	1512.6	1596.7	1856.9	2526.4	3576.2	4691.6	5330.6	5281.7	5212.9	5115.2
67.5°	1399.7	1410.9	1470.2	1676.8	2299.7	3476.1	4641.2	5285.0	5242.5	5159.3	5061.5
70°	934.5	926.5	1135.5	1286.8	1752.0	2832.3	4163.9	4745.3	4746.1	4706.8	4667.6
72.5°	443.6	448.4	509.3	792.0	1146.7	1892.2	3314.3	3787.6	3842.0	3771.5	3722.7
75°	318.7	325.9	362.7	484.5	683.8	1135.5	2148.4	2648.9	2650.5	2525.6	2414.3
77.5°	92.9	96.9	136.1	298.7	512.5	766.3	1234.0	1472.6	1438.1	1348.4	1264.4
80°	38.4	38.4	40.0	95.3	205.8	520.5	863.2	1133.9	1129.9	1095.4	1045.8
82.5°	14.4	15.2	19.2	39.2	48.8	128.1	575.8	984.1	981.7	932.9	897.7
85°	1.6	1.6	4.8	16.8	18.4	24.0	115.3	434.0	431.6	434.0	380.4
87.5°	0.0	0.0	0.8	1.6	2.4	3.2	4.8	16.8	18.4	17.6	16.0
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):

	69°	70°	71°	72°	73°	74°	75°	76°	77°	78°	79°
0°	125.7	125.7	125.7	125.7	125.7	125.7	125.7	125.7	125.7	125.7	125.7
2.5°	136.9	135.3	135.3	134.5	134.5	134.5	133.7	132.9	132.9	132.1	131.3
5°	149.7	148.1	147.4	145.7	144.9	144.1	142.6	141.7	140.1	139.3	138.5
7.5°	164.9	161.8	160.9	158.6	156.1	154.5	153.0	150.5	148.9	145.7	144.9
10°	184.2	180.1	177.0	173.8	171.4	167.4	164.9	161.8	158.6	156.1	153.7
12.5°	209.0	203.4	198.6	195.4	189.8	185.0	180.1	177.8	171.4	168.2	164.1
15°	236.2	229.8	224.2	217.8	213.8	205.8	199.4	192.2	189.0	183.4	177.0
17.5°	271.4	261.0	252.2	245.8	237.8	229.8	222.6	215.4	205.8	199.4	191.4
20°	309.1	300.3	288.3	277.1	267.5	257.9	247.4	237.8	229.0	218.6	209.0
22.5°	357.1	344.3	329.9	318.7	305.9	295.5	281.0	268.3	253.8	240.2	229.0
25°	418.0	401.2	387.6	371.5	356.3	340.3	322.7	306.7	288.3	275.4	256.2
27.5°	493.3	477.2	458.8	438.0	422.8	398.8	375.5	355.5	333.9	313.9	292.3
30°	589.4	566.1	546.9	526.9	496.5	473.2	446.0	418.8	389.2	369.2	336.3
32.5°	704.7	679.8	651.0	622.2	594.2	561.3	527.7	494.1	461.2	424.4	390.8
35°	845.6	816.0	783.1	751.9	708.6	673.4	631.0	584.6	547.7	505.3	462.8
37.5°	1032.2	983.3	954.5	921.7	863.2	815.1	767.9	721.5	656.6	611.8	551.7
40°	1266.0	1237.1	1189.9	1137.0	1084.2	1020.9	956.9	895.2	819.9	757.5	687.8
42.5°	1540.6	1498.2	1450.2	1374.1	1320.5	1246.0	1173.1	1091.4	999.3	919.3	837.6
45°	1798.5	1748.0	1711.2	1635.1	1579.1	1491.0	1402.9	1316.4	1210.0	1106.6	1012.1
47.5°	2077.2	2035.5	1974.7	1913.0	1856.1	1756.8	1661.5	1556.7	1444.5	1322.0	1199.5
50°	2322.2	2289.3	2247.7	2173.2	2110.0	2026.7	1914.6	1800.1	1658.4	1536.7	1397.3
52.5°	2530.4	2504.8	2446.3	2393.5	2336.6	2258.1	2158.0	2048.3	1895.4	1761.6	1603.1
55°	2776.2	2757.8	2706.5	2673.7	2623.2	2548.0	2454.3	2352.6	2190.9	2045.1	1865.8
57.5°	3179.0	3164.6	3119.7	3106.1	3056.5	2990.8	2875.5	2766.6	2577.6	2396.6	2191.7
60°	3846.0	3817.2	3751.5	3717.9	3613.0	3524.9	3375.2	3225.4	2997.2	2766.6	2520.0
62.5°	4560.3	4479.4	4354.5	4247.2	4098.2	3945.3	3745.1	3516.1	3248.6	2974.8	2691.3
65°	4945.4	4807.7	4650.0	4479.4	4286.4	4061.4	3809.2	3534.5	3247.0	2958.0	2658.5
66°	4989.5	4834.1	4666.8	4477.0	4262.4	4022.9	3766.7	3478.4	3179.8	2897.9	2598.4
67.5°	4934.2	4771.7	4594.7	4384.1	4151.9	3903.7	3634.6	3335.1	3047.7	2761.8	2470.3
70°	4547.5	4385.7	4228.0	4006.2	3758.7	3508.9	3254.3	2919.5	2647.3	2384.6	2125.2
72.5°	3631.4	3521.7	3365.6	3175.8	2934.7	2641.7	2429.5	2130.0	1893.8	1639.1	1438.1
75°	2269.3	2114.8	1921.8	1680.0	1495.8	1258.0	1133.9	906.4	771.9	654.2	540.5
77.5°	1160.3	1044.2	908.9	772.7	642.2	512.5	396.4	280.2	189.0	131.3	97.7
80°	958.5	856.0	743.9	619.8	504.5	391.5	281.9	192.2	122.5	80.1	62.5
82.5°	792.0	705.5	605.4	490.1	390.0	307.5	213.8	139.3	86.5	56.1	44.0
85°	337.1	305.9	236.2	187.4	140.9	104.1	72.9	48.8	34.4	28.0	25.6
87.5°	14.4	16.0	15.2	12.0	8.8	8.8	8.0	6.4	6.4	6.4	6.4
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):

	80°	81°	82°	83°	84°	85°	95°	105°	115°	125°	135°
0°	125.7	125.7	125.7	125.7	125.7	125.7	125.7	125.7	125.7	125.7	125.7
2.5°	131.3	130.5	129.7	129.7	128.9	128.1	123.3	119.3	114.5	111.3	108.1
5°	136.9	136.1	134.5	133.7	132.1	131.3	120.9	112.1	104.9	99.3	95.3
7.5°	142.6	141.7	139.3	136.9	136.1	134.5	117.7	106.5	96.9	90.5	86.5
10°	149.7	147.4	144.9	141.7	139.3	136.9	114.5	100.1	89.7	84.1	80.1
12.5°	160.1	156.1	152.2	148.1	144.9	140.9	112.9	94.5	84.1	77.7	73.7
15°	172.2	166.6	161.8	157.0	151.3	147.4	109.7	89.7	79.3	72.9	68.1
17.5°	183.4	177.0	169.7	162.6	157.0	151.3	106.5	84.9	74.4	68.1	63.3
20°	199.4	189.8	181.0	172.2	164.1	157.0	101.7	80.1	70.5	63.3	58.4
22.5°	217.0	205.8	194.6	182.6	172.2	162.6	97.7	76.1	66.5	59.2	53.6
25°	239.4	225.8	210.6	195.4	183.4	170.5	93.7	72.1	62.5	55.2	49.6
27.5°	270.6	251.4	234.6	215.4	197.0	182.6	90.5	68.8	58.4	51.3	45.6
30°	313.1	285.1	258.7	237.8	216.2	195.4	87.3	64.8	55.2	47.3	40.8
32.5°	360.3	327.5	297.1	265.8	238.6	214.6	84.1	61.7	51.3	43.2	37.6
35°	418.8	377.1	336.3	300.3	267.5	235.4	80.9	58.4	48.0	39.2	33.6
37.5°	502.9	450.8	397.2	350.7	308.3	265.8	78.5	55.2	44.0	35.2	29.6
40°	618.2	550.9	485.3	422.0	366.7	313.9	75.3	52.1	40.8	32.0	26.4
42.5°	743.1	661.4	575.0	503.7	427.6	361.1	72.1	48.8	37.6	28.8	23.2
45°	898.5	796.8	691.9	595.0	502.1	416.4	68.8	45.6	33.6	25.6	20.0
47.5°	1068.2	938.5	819.9	698.2	587.7	485.3	64.8	43.2	30.4	22.4	17.6
50°	1242.7	1105.8	956.1	817.6	686.3	554.1	60.9	39.2	27.2	20.0	14.4
52.5°	1431.0	1269.2	1116.2	944.1	791.2	644.6	56.9	36.0	24.8	17.6	12.0
55°	1670.4	1489.4	1310.0	1117.0	932.9	749.5	52.9	32.0	21.6	15.2	9.6
57.5°	1971.5	1756.8	1536.7	1318.8	1095.4	887.2	49.6	28.0	18.4	12.8	8.0
60°	2255.7	2005.1	1738.4	1487.8	1235.6	992.9	44.8	24.8	16.0	10.4	8.0
62.5°	2403.1	2117.2	1829.7	1553.5	1284.4	1030.6	40.0	20.8	13.6	8.8	7.2
65°	2367.0	2075.6	1796.9	1518.2	1254.8	1006.5	35.2	18.4	12.0	8.0	7.2
66°	2315.0	2026.7	1746.4	1481.4	1230.0	980.9	32.8	17.6	11.2	8.0	6.4
67.5°	2201.3	1922.6	1655.1	1408.5	1161.9	932.1	29.6	16.0	10.4	7.2	6.4
70°	1880.2	1627.1	1413.3	1193.9	992.9	785.5	24.0	13.6	8.8	6.4	6.4
72.5°	1244.4	1072.2	929.7	799.9	668.6	518.9	20.0	11.2	7.2	6.4	5.6
75°	469.3	424.4	364.4	327.5	285.8	250.6	16.0	7.2	5.6	5.6	5.6
77.5°	83.3	76.9	68.1	62.5	57.7	52.9	12.8	4.8	4.8	5.6	5.6
80°	56.1	52.1	47.3	43.2	40.0	36.0	8.8	4.0	4.8	4.8	5.6
82.5°	40.0	37.6	35.2	32.0	29.6	26.4	5.6	4.0	4.8	4.8	4.8
85°	24.0	22.4	20.8	19.2	16.8	16.0	4.0	4.0	4.0	4.8	4.8
87.5°	6.4	5.6	6.4	6.4	4.8	5.6	3.2	3.2	3.2	4.0	4.0
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):

	145°	155°	165°	175°	180°
0°	125.7	125.7	125.7	125.7	125.7
2.5°	106.5	106.5	104.9	107.3	107.3
5°	92.1	92.1	91.3	92.1	92.1
7.5°	84.1	83.3	83.3	83.3	84.1
10°	76.9	76.1	76.1	76.1	76.1
12.5°	70.5	69.6	68.8	69.6	69.6
15°	64.8	63.3	63.3	63.3	63.3
17.5°	60.0	58.4	57.7	57.7	57.7
20°	55.2	52.9	52.9	52.9	52.9
22.5°	50.4	48.0	48.0	48.0	48.0
25°	45.6	43.2	43.2	43.2	43.2
27.5°	41.7	39.2	39.2	39.2	39.2
30°	36.9	35.2	35.2	36.0	35.2
32.5°	33.6	31.2	31.2	32.0	32.0
35°	29.6	28.0	28.0	28.0	28.0
37.5°	25.6	24.0	24.0	24.0	24.0
40°	22.4	20.8	20.0	20.8	20.8
42.5°	19.2	17.6	16.8	16.8	16.8
45°	16.8	14.4	13.6	14.4	14.4
47.5°	13.6	12.0	12.0	12.8	12.8
50°	10.4	10.4	11.2	12.8	12.8
52.5°	9.6	9.6	11.2	12.8	12.8
55°	8.8	9.6	11.2	12.0	12.8
57.5°	8.0	9.6	11.2	12.0	12.0
60°	8.0	8.8	10.4	12.0	12.0
62.5°	7.2	8.0	9.6	11.2	11.2
65°	7.2	8.0	9.6	11.2	11.2
66°	7.2	8.0	9.6	11.2	11.2
67.5°	7.2	8.0	9.6	11.2	11.2
70°	7.2	8.0	9.6	10.4	10.4
72.5°	6.4	7.2	8.8	10.4	10.4
75°	6.4	7.2	8.8	10.4	10.4
77.5°	6.4	7.2	8.8	10.4	10.4
80°	6.4	7.2	8.8	9.6	10.4
82.5°	5.6	7.2	8.0	9.6	9.6
85°	5.6	6.4	8.0	8.8	9.6
87.5°	4.8	5.6	6.4	8.0	8.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)