

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: P163540

Luminaire Tested: **LDRL-SL3-F04-E-8030-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P163540  
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-F04-E-8030-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: (28) 3000K CCT, 80 CRI LEDs  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4687 lumens  
Efficiency: N/A  
Efficacy: 45.9 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): 102.2  
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

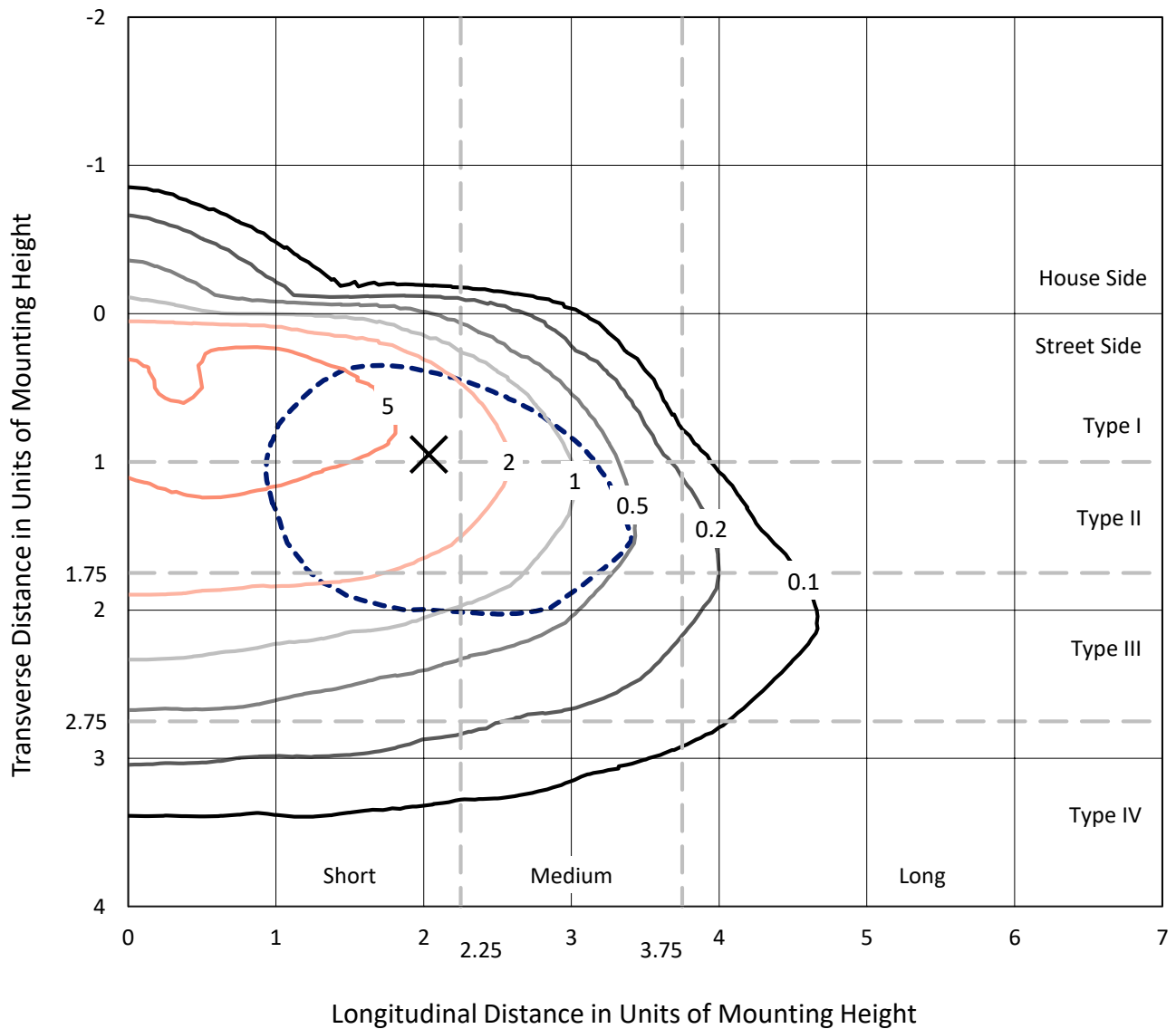


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### Iso-Footcandle Lines of Horizontal Illumination

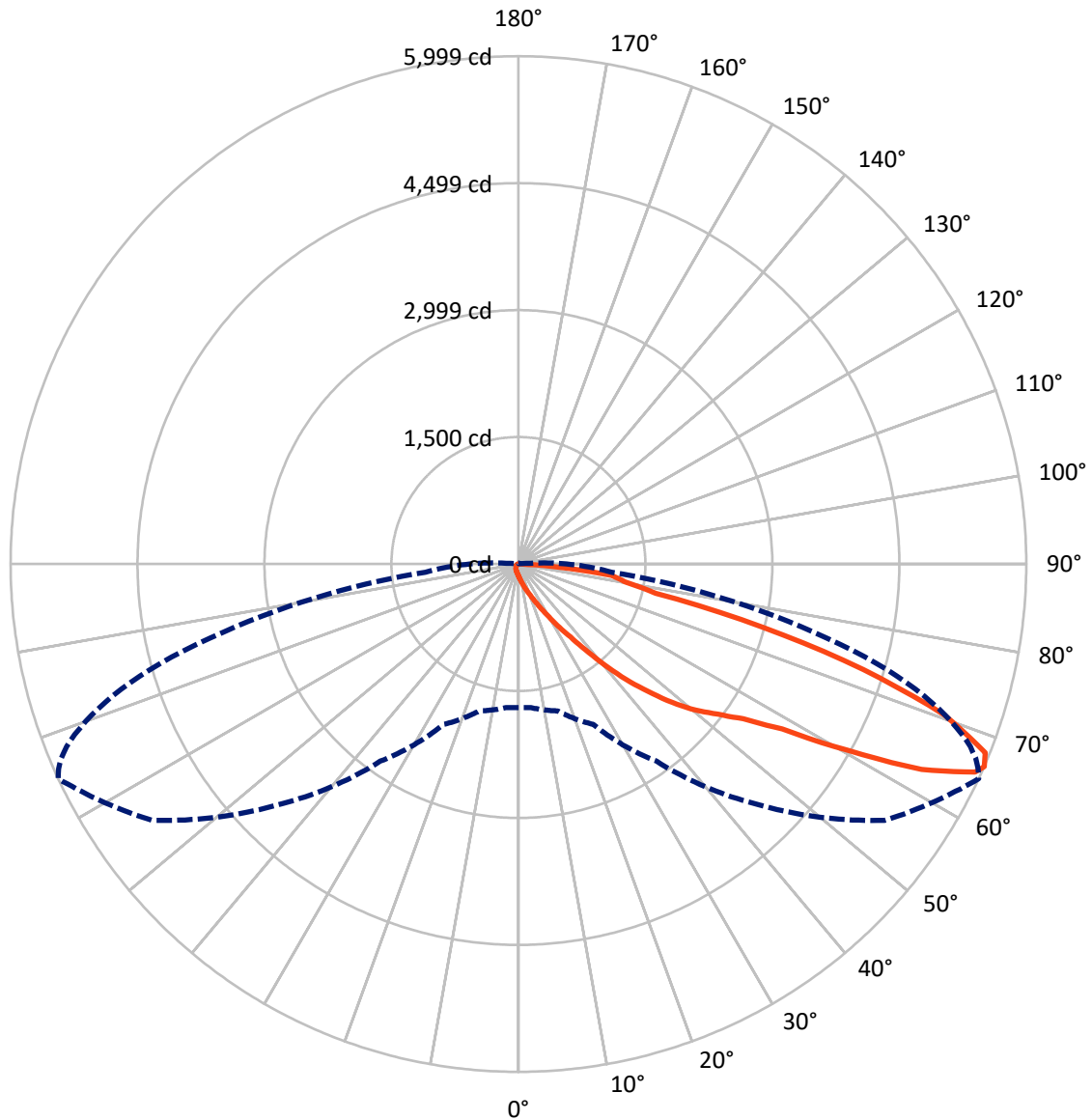
× Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 7.7 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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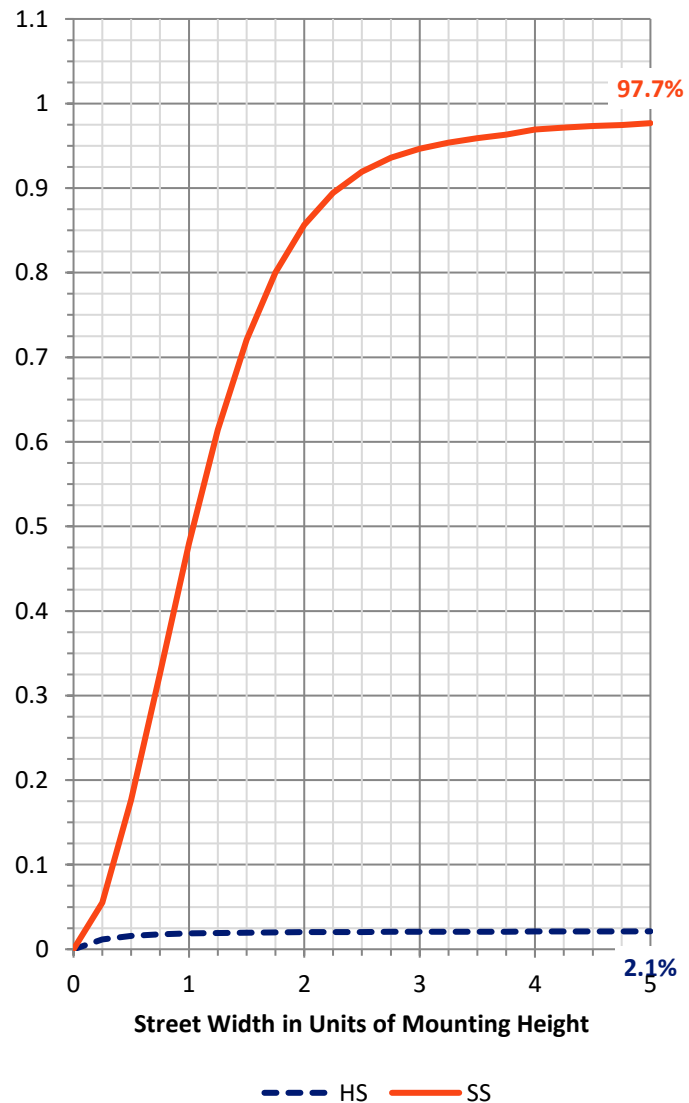
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	101.5	0.0	101.5
	% Fixture	2.2	0.0	2.2
<b>Street Side</b>	Lumens	4585.5	0.0	4585.5
	% Fixture	97.8	0.0	97.8
<b>Total</b>	Lumens	4687.0	0.0	4687.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	15.8	0.3
10°-20°	67.2	1.4
20°-30°	144.8	3.1
30°-40°	309.3	6.6
40°-50°	684.0	14.6
50°-60°	1159.2	24.7
60°-70°	1546.8	33.0
70°-80°	681.4	14.5
80°-90°	78.5	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°	4687.0	100.0
0°-180°	4687.0	100.0



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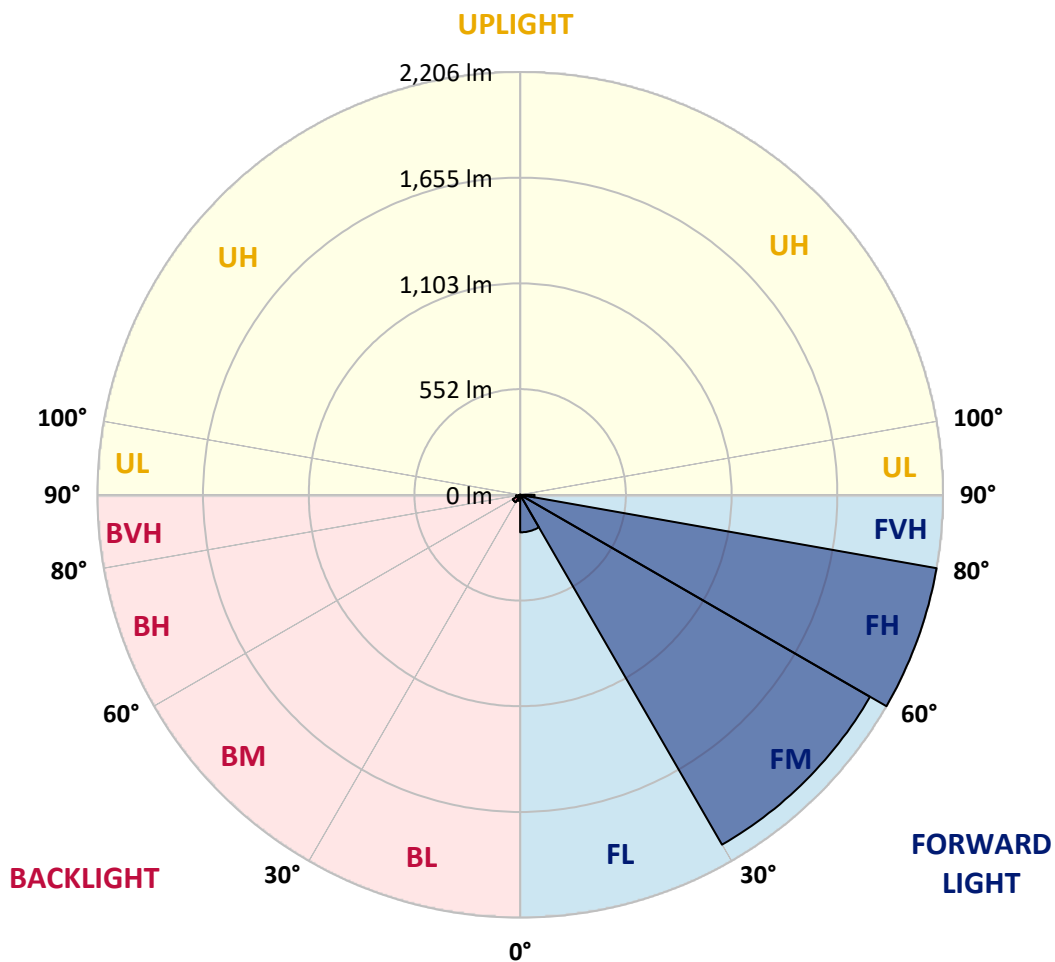
CATALOG NUMBER: LDRL-SL3-F04-E-8030-HSS

**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	195.8	4.2			
FM	(30°-60°)	2107.9	45.0			
FH	(60°-80°)	2206.4	47.1			G2/5000
FVH	(80°-90°)	75.4	1.6			G1/100
BL	(0°-30°)	32.0	0.7	B0/110		
BM	(30°-60°)	44.6	1.0	B0/220		
BH	(60°-80°)	21.8	0.5	B0/110		G0/110
BVH	(80°-90°)	3.1	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°	141.5	141.5	141.5	141.5	141.5	141.5	141.5	141.5	141.5	141.5	141.5
2.5°	178.4	177.5	173.9	173.9	168.5	164.9	160.4	155.9	155.9	155.0	154.1
5°	236.1	230.7	229.8	219.9	211.8	200.0	189.2	174.8	173.0	171.2	170.3
7.5°	300.0	299.2	291.1	279.4	263.1	241.5	219.9	196.4	192.9	191.0	187.4
10°	383.0	378.5	367.7	347.8	323.5	294.6	259.5	222.6	218.1	214.5	212.6
12.5°	462.2	454.2	447.9	422.6	392.0	349.6	307.3	254.1	250.5	246.0	238.8
15°	536.2	529.0	518.1	496.5	462.2	409.1	359.5	294.6	285.7	279.4	274.0
17.5°	593.8	589.3	576.7	552.4	515.4	468.6	409.1	336.1	328.9	320.8	310.9
20°	648.8	642.5	622.7	589.3	549.7	513.6	467.6	390.2	380.3	370.3	359.5
22.5°	701.1	694.7	662.3	607.3	565.0	549.7	533.5	451.4	436.2	428.0	417.2
25°	774.0	760.6	710.1	622.7	565.9	577.6	605.5	530.7	516.3	504.6	487.5
27.5°	872.3	854.3	774.9	645.2	569.5	608.2	688.4	627.2	611.8	598.4	579.4
30°	983.1	971.4	876.8	699.2	595.6	653.3	781.2	749.7	731.7	715.5	692.9
32.5°	1094.8	1078.6	984.9	802.0	665.9	740.7	897.5	892.1	868.7	853.4	829.0
35°	1193.0	1185.0	1115.6	970.5	826.3	893.9	1052.5	1058.8	1038.1	1021.9	994.8
37.5°	1259.8	1259.8	1246.2	1151.6	1081.3	1131.8	1280.5	1281.4	1260.6	1223.7	1210.2
40°	1294.0	1303.9	1352.6	1370.6	1367.0	1431.9	1579.6	1563.4	1546.3	1527.4	1482.3
42.5°	1364.3	1373.3	1476.9	1601.3	1682.4	1768.0	1869.8	1864.4	1843.7	1809.4	1768.0
45°	1483.2	1494.9	1618.4	1815.7	1982.4	2104.1	2169.0	2143.7	2123.0	2090.5	2068.9
47.5°	1634.6	1657.1	1796.8	2041.0	2241.9	2442.9	2510.5	2443.8	2425.8	2400.6	2365.4
50°	1795.9	1817.5	1966.2	2245.6	2472.6	2712.3	2825.0	2712.3	2686.2	2678.1	2638.5
52.5°	1935.6	1953.6	2096.8	2403.2	2649.3	2930.4	3094.4	2945.7	2926.8	2899.8	2870.9
55°	2018.5	2032.9	2167.1	2478.9	2769.1	3126.8	3354.8	3224.2	3196.2	3185.4	3143.9
57.5°	2046.4	2060.8	2181.6	2488.9	2834.0	3306.1	3671.1	3675.6	3642.3	3603.5	3590.9
60°	2046.4	2062.6	2164.5	2464.5	2897.0	3497.2	4092.8	4468.6	4396.5	4389.3	4343.3
62.5°	1961.7	1977.0	2079.7	2389.7	2981.7	3754.9	4680.3	5343.5	5322.8	5276.0	5200.3
65°	1777.9	1786.9	1887.8	2198.7	2949.3	3991.9	5189.5	5925.7	5892.3	5800.4	5703.1
66°	1695.0	1702.2	1796.8	2089.6	2843.0	4024.3	5279.6	5998.6	5943.7	5866.2	5756.3
67.5°	1575.1	1587.7	1654.4	1886.9	2588.0	3911.7	5222.8	5947.3	5899.5	5805.8	5695.8
70°	1051.6	1042.6	1277.8	1448.1	1971.6	3187.2	4685.7	5339.9	5340.8	5296.7	5252.5
72.5°	499.2	504.6	573.1	891.2	1290.4	2129.3	3729.7	4262.2	4323.5	4244.2	4189.2
75°	358.6	366.8	408.2	545.2	769.5	1277.8	2417.7	2980.9	2982.6	2842.1	2716.8
77.5°	104.5	109.0	153.2	336.1	576.7	862.3	1388.6	1657.1	1618.4	1517.4	1422.8
80°	43.3	43.3	45.0	107.2	231.6	585.7	971.4	1276.0	1271.5	1232.7	1176.8
82.5°	16.2	17.1	21.6	44.1	55.0	144.2	647.9	1107.5	1104.7	1049.8	1010.2
85°	1.8	1.8	5.4	18.9	20.7	27.0	129.8	488.4	485.7	488.4	428.0
87.5°	0.0	0.0	0.9	1.8	2.7	3.6	5.4	18.9	20.7	19.8	18.0
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°	141.5	141.5	141.5	141.5	141.5	141.5	141.5	141.5	141.5	141.5	141.5
2.5°	154.1	152.3	152.3	151.4	151.4	151.4	150.5	149.6	149.6	148.7	147.8
5°	168.5	166.7	165.8	164.0	163.1	162.2	160.4	159.5	157.7	156.8	155.9
7.5°	185.6	182.0	181.1	178.4	175.7	173.9	172.1	169.4	167.6	164.0	163.1
10°	207.2	202.7	199.2	195.5	192.9	188.3	185.6	182.0	178.4	175.7	173.0
12.5°	235.2	228.9	223.5	219.9	213.5	208.1	202.7	200.0	192.9	189.2	184.7
15°	265.8	258.6	252.3	245.1	240.6	231.6	224.3	216.3	212.6	206.3	199.2
17.5°	305.4	293.7	283.8	276.6	267.6	258.6	250.5	242.4	231.6	224.3	215.4
20°	347.8	337.9	324.4	311.8	301.0	290.2	278.4	267.6	257.7	246.0	235.2
22.5°	401.9	387.5	371.3	358.6	344.2	332.5	316.3	301.9	285.7	270.3	257.7
25°	470.4	451.4	436.2	418.1	401.0	383.0	363.1	345.1	324.4	310.0	288.3
27.5°	555.1	537.0	516.3	492.9	475.8	448.8	422.6	400.1	375.7	353.2	328.9
30°	663.2	637.1	615.5	592.9	558.7	532.5	501.9	471.3	437.9	415.4	378.5
32.5°	793.0	765.0	732.6	700.1	668.6	631.7	593.8	556.0	519.0	477.6	439.7
35°	951.6	918.2	881.3	846.1	797.5	757.8	710.1	657.8	616.4	568.6	520.8
37.5°	1161.5	1106.5	1074.1	1037.2	971.4	917.3	864.2	811.9	738.9	688.4	620.9
40°	1424.6	1392.2	1339.0	1279.5	1220.1	1148.9	1076.8	1007.4	922.7	852.5	774.0
42.5°	1733.7	1686.0	1631.9	1546.3	1485.9	1402.1	1320.1	1228.2	1124.6	1034.5	942.5
45°	2023.9	1967.1	1925.7	1840.1	1777.0	1677.9	1578.7	1481.4	1361.6	1245.3	1139.0
47.5°	2337.5	2290.6	2222.1	2152.7	2088.8	1977.0	1869.8	1751.8	1625.6	1487.7	1349.8
50°	2613.2	2576.2	2529.4	2445.6	2374.4	2280.7	2154.5	2025.7	1866.2	1729.2	1572.4
52.5°	2847.5	2818.7	2752.9	2693.4	2629.4	2541.1	2428.5	2305.0	2132.9	1982.4	1804.0
55°	3124.1	3103.4	3045.7	3008.8	2952.0	2867.3	2761.9	2647.4	2465.4	2301.4	2099.6
57.5°	3577.4	3561.2	3510.7	3495.4	3439.5	3365.6	3235.9	3113.3	2900.6	2697.0	2466.3
60°	4328.0	4295.6	4221.7	4183.8	4065.8	3966.7	3798.2	3629.7	3372.8	3113.3	2835.8
62.5°	5131.8	5040.7	4900.2	4779.4	4611.8	4439.7	4214.5	3956.7	3655.7	3347.6	3028.6
65°	5565.2	5410.2	5232.7	5040.7	4823.6	4570.4	4286.5	3977.5	3654.0	3328.7	2991.7
66°	5614.7	5439.9	5251.6	5038.1	4796.6	4527.1	4238.8	3914.4	3578.3	3261.1	2924.1
67.5°	5552.6	5369.7	5170.5	4933.6	4672.2	4392.9	4090.1	3753.1	3429.6	3107.9	2779.9
70°	5117.4	4935.3	4757.8	4508.2	4229.8	3948.7	3662.1	3285.4	2979.0	2683.5	2391.5
72.5°	4086.5	3963.0	3787.3	3573.8	3302.5	2972.7	2733.9	2396.9	2131.1	1844.6	1618.4
75°	2553.7	2379.8	2162.7	1890.5	1683.3	1415.7	1276.0	1020.0	868.7	736.2	608.2
77.5°	1305.7	1175.0	1022.8	869.6	722.7	576.7	446.0	315.4	212.6	147.8	109.9
80°	1078.6	963.3	837.1	697.5	567.7	440.6	317.2	216.3	137.8	90.1	70.3
82.5°	891.2	793.9	681.2	551.5	438.8	346.0	240.6	156.8	97.3	63.1	49.6
85°	379.4	344.2	265.8	210.9	158.6	117.2	82.0	55.0	38.7	31.5	28.8
87.5°	16.2	18.0	17.1	13.5	9.9	9.9	9.0	7.2	7.2	7.2	7.2
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):**

	80°	81°	82°	83°	84°	85°	95°	105°	115°	125°	135°
0°	141.5	141.5	141.5	141.5	141.5	141.5	141.5	141.5	141.5	141.5	141.5
2.5°	147.8	146.9	146.0	146.0	145.1	144.2	138.8	134.3	128.9	125.2	121.6
5°	154.1	153.2	151.4	150.5	148.7	147.8	136.1	126.1	118.1	111.8	107.2
7.5°	160.4	159.5	156.8	154.1	153.2	151.4	132.4	119.8	109.0	101.8	97.3
10°	168.5	165.8	163.1	159.5	156.8	154.1	128.9	112.6	100.9	94.6	90.1
12.5°	180.2	175.7	171.2	166.7	163.1	158.6	127.0	106.3	94.6	87.4	82.9
15°	193.7	187.4	182.0	176.6	170.3	165.8	123.5	100.9	89.2	82.0	76.6
17.5°	206.3	199.2	191.0	182.9	176.6	170.3	119.8	95.5	83.8	76.6	71.2
20°	224.3	213.5	203.7	193.7	184.7	176.6	114.4	90.1	79.3	71.2	65.8
22.5°	244.2	231.6	218.9	205.5	193.7	182.9	109.9	85.6	74.8	66.7	60.4
25°	269.4	254.1	237.0	219.9	206.3	191.9	105.4	81.1	70.3	62.1	55.9
27.5°	304.6	282.9	264.0	242.4	221.7	205.5	101.8	77.5	65.8	57.7	51.3
30°	352.3	320.8	291.1	267.6	243.3	219.9	98.2	73.0	62.1	53.2	45.9
32.5°	405.5	368.5	334.3	299.2	268.5	241.5	94.6	69.4	57.7	48.7	42.4
35°	471.3	424.4	378.5	337.9	301.0	264.9	91.0	65.8	54.1	44.1	37.8
37.5°	565.9	507.3	447.0	394.7	346.9	299.2	88.3	62.1	49.6	39.6	33.3
40°	695.7	620.0	546.1	474.9	412.7	353.2	84.7	58.6	45.9	36.1	29.7
42.5°	836.2	744.3	647.0	566.8	481.2	406.4	81.1	55.0	42.4	32.4	26.1
45°	1011.0	896.6	778.6	669.5	565.0	468.6	77.5	51.3	37.8	28.8	22.5
47.5°	1202.1	1056.1	922.7	785.8	661.4	546.1	73.0	48.7	34.2	25.2	19.8
50°	1398.5	1244.4	1075.9	920.0	772.3	623.6	68.5	44.1	30.7	22.5	16.2
52.5°	1610.3	1428.3	1256.1	1062.4	890.3	725.4	64.0	40.5	27.9	19.8	13.5
55°	1879.7	1676.1	1474.2	1257.0	1049.8	843.4	59.5	36.1	24.3	17.1	10.8
57.5°	2218.5	1977.0	1729.2	1484.1	1232.7	998.4	55.9	31.5	20.7	14.4	9.0
60°	2538.4	2256.4	1956.3	1674.2	1390.4	1117.3	50.4	27.9	18.0	11.7	9.0
62.5°	2704.2	2382.5	2059.0	1748.1	1445.4	1159.7	45.0	23.4	15.3	9.9	8.1
65°	2663.6	2335.7	2022.1	1708.5	1412.0	1132.7	39.6	20.7	13.5	9.0	8.1
66°	2605.1	2280.7	1965.3	1667.0	1384.1	1103.9	37.0	19.8	12.6	9.0	7.2
67.5°	2477.1	2163.6	1862.6	1585.0	1307.5	1048.9	33.3	18.0	11.7	8.1	7.2
70°	2115.8	1831.0	1590.5	1343.5	1117.3	884.0	27.0	15.3	9.9	7.2	7.2
72.5°	1400.3	1206.6	1046.2	900.2	752.4	583.9	22.5	12.6	8.1	7.2	6.3
75°	528.1	477.6	410.0	368.5	321.7	282.0	18.0	8.1	6.3	6.3	6.3
77.5°	93.7	86.5	76.6	70.3	64.9	59.5	14.4	5.4	5.4	6.3	6.3
80°	63.1	58.6	53.2	48.7	45.0	40.5	9.9	4.5	5.4	5.4	6.3
82.5°	45.0	42.4	39.6	36.1	33.3	29.7	6.3	4.5	5.4	5.4	5.4
85°	27.0	25.2	23.4	21.6	18.9	18.0	4.5	4.5	4.5	5.4	5.4
87.5°	7.2	6.3	7.2	7.2	5.4	6.3	3.6	3.6	3.6	4.5	4.5
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°	141.5	141.5	141.5	141.5	141.5
2.5°	119.8	119.8	118.1	120.7	120.7
5°	103.6	103.6	102.7	103.6	103.6
7.5°	94.6	93.7	93.7	93.7	94.6
10°	86.5	85.6	85.6	85.6	85.6
12.5°	79.3	78.4	77.5	78.4	78.4
15°	73.0	71.2	71.2	71.2	71.2
17.5°	67.6	65.8	64.9	64.9	64.9
20°	62.1	59.5	59.5	59.5	59.5
22.5°	56.7	54.1	54.1	54.1	54.1
25°	51.3	48.7	48.7	48.7	48.7
27.5°	46.9	44.1	44.1	44.1	44.1
30°	41.5	39.6	39.6	40.5	39.6
32.5°	37.8	35.1	35.1	36.1	36.1
35°	33.3	31.5	31.5	31.5	31.5
37.5°	28.8	27.0	27.0	27.0	27.0
40°	25.2	23.4	22.5	23.4	23.4
42.5°	21.6	19.8	18.9	18.9	18.9
45°	18.9	16.2	15.3	16.2	16.2
47.5°	15.3	13.5	13.5	14.4	14.4
50°	11.7	11.7	12.6	14.4	14.4
52.5°	10.8	10.8	12.6	14.4	14.4
55°	9.9	10.8	12.6	13.5	14.4
57.5°	9.0	10.8	12.6	13.5	13.5
60°	9.0	9.9	11.7	13.5	13.5
62.5°	8.1	9.0	10.8	12.6	12.6
65°	8.1	9.0	10.8	12.6	12.6
66°	8.1	9.0	10.8	12.6	12.6
67.5°	8.1	9.0	10.8	12.6	12.6
70°	8.1	9.0	10.8	11.7	11.7
72.5°	7.2	8.1	9.9	11.7	11.7
75°	7.2	8.1	9.9	11.7	11.7
77.5°	7.2	8.1	9.9	11.7	11.7
80°	7.2	8.1	9.9	10.8	11.7
82.5°	6.3	8.1	9.0	10.8	10.8
85°	6.3	7.2	9.0	9.9	10.8
87.5°	5.4	6.3	7.2	9.0	9.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)