

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: P163826

Luminaire Tested: **LDRL-SL4-E05-E-7030-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P163826  
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-E05-E-7030-HSS  
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE  
(5) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 W/ SPILL LIGHT CONTROL AND HOUSE SIDE SHIELD  
Light Source: (105) 3000K CCT, 70 CRI LEDs  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9013.6 lumens  
Efficiency: N/A  
Efficacy: 70.8 lumens/watt  
Luminous Opening: Rectangular w/ Sides (W: 0.83' x L: 1' x H: 0.1')  
IES Classification: Type IV - Short - Semi-Cutoff  
BUG Rating: B0 - U0 - G2

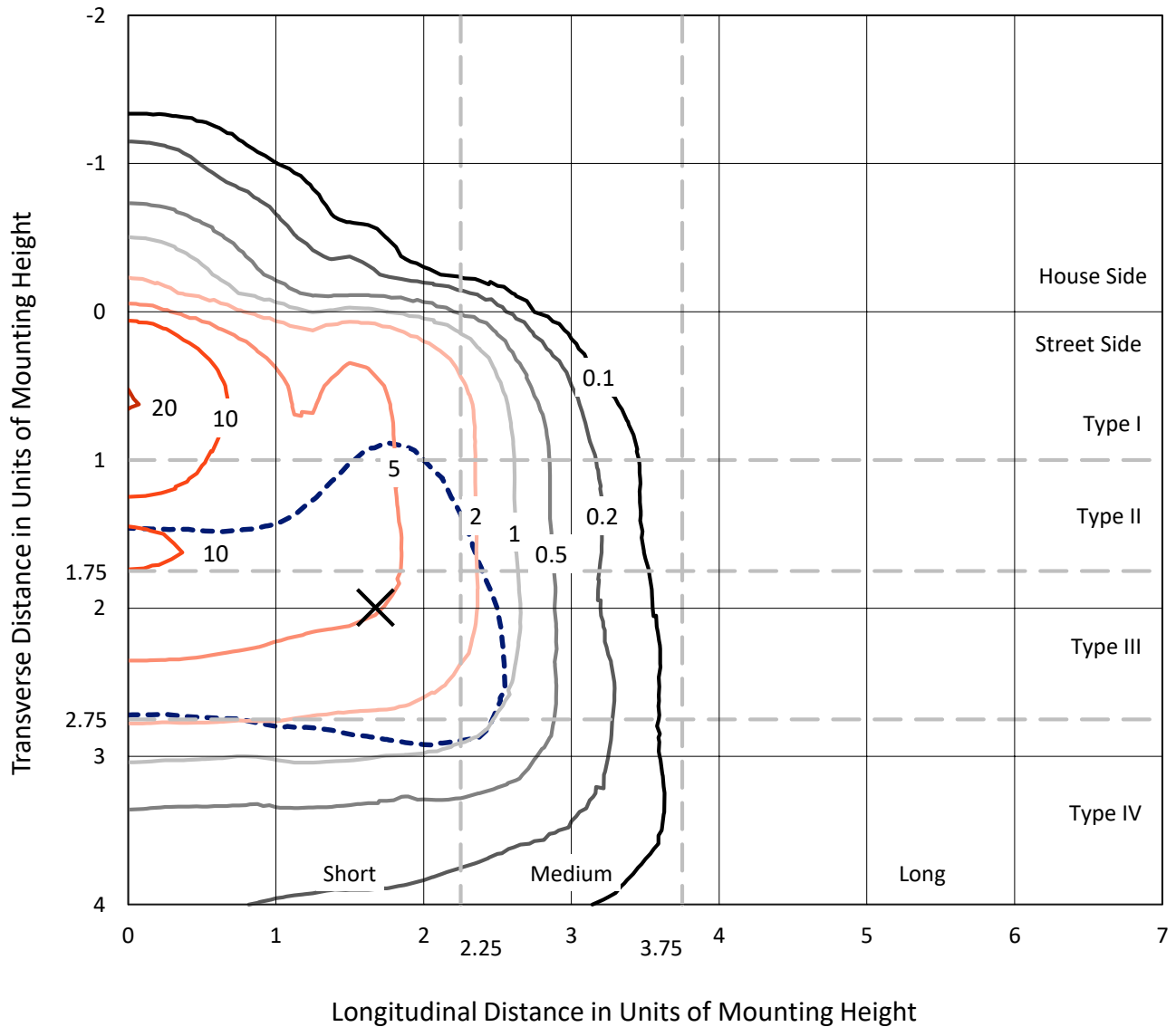
Input Watts (W): 127.3  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

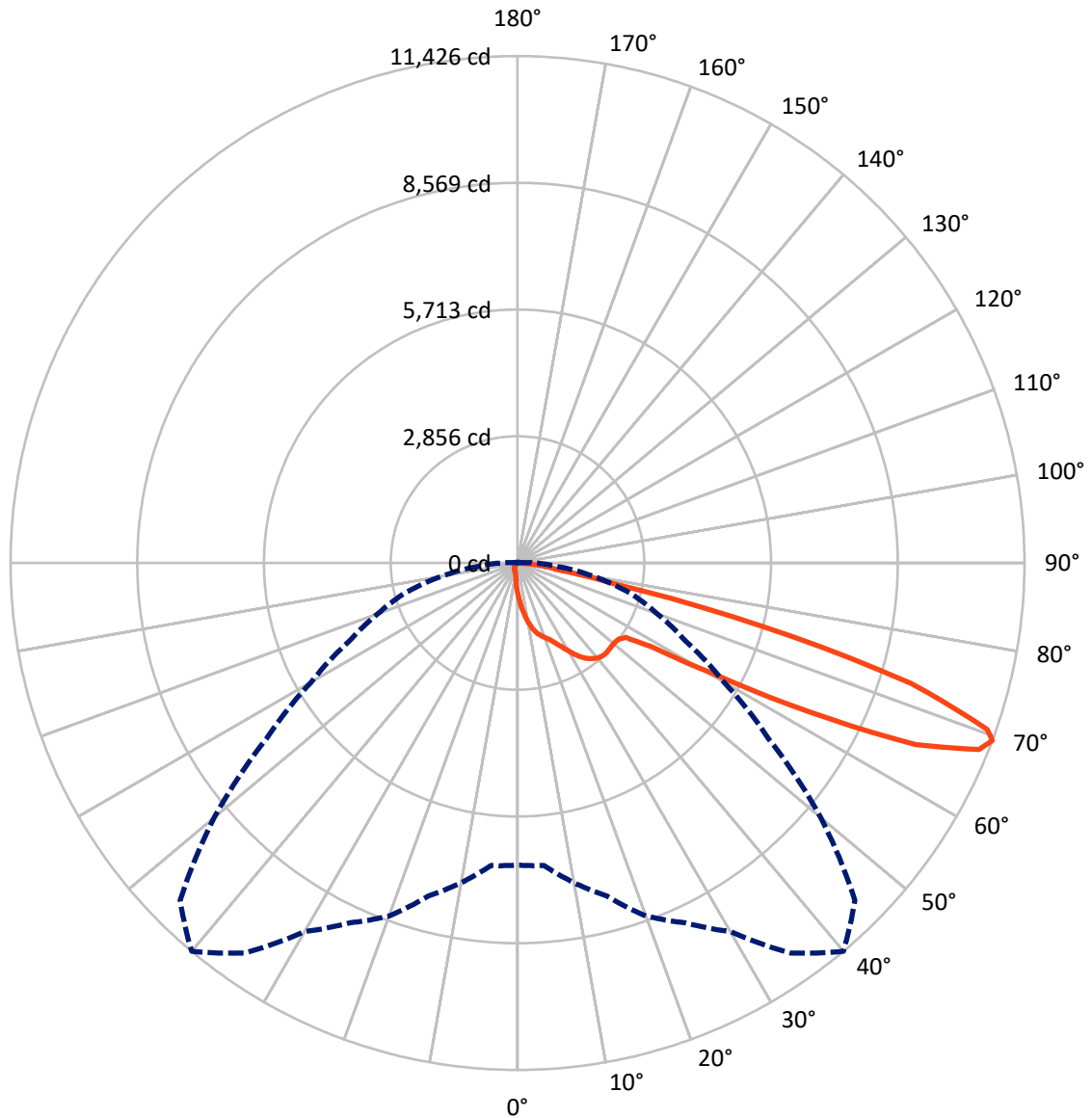
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 20.2 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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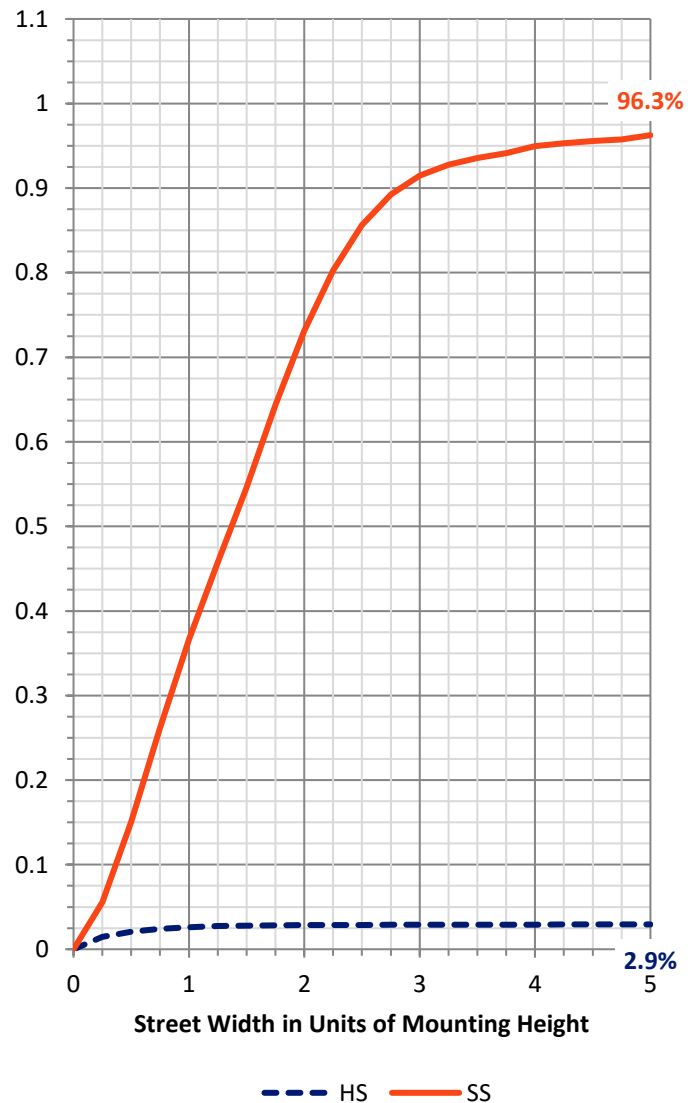
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	268.4	0.0	268.4
	% Fixture	3.0	0.0	3.0
<b>Street Side</b>	Lumens	8745.2	0.0	8745.2
	% Fixture	97.0	0.0	97.0
<b>Total</b>	Lumens	9013.6	0.0	9013.6
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	70.0	0.8
10°-20°	241.2	2.7
20°-30°	461.7	5.1
30°-40°	767.8	8.5
40°-50°	1039.0	11.5
50°-60°	1624.8	18.0
60°-70°	3340.6	37.1
70°-80°	1344.2	14.9
80°-90°	124.3	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°	9013.6	100.0
0°-180°	9013.6	100.0



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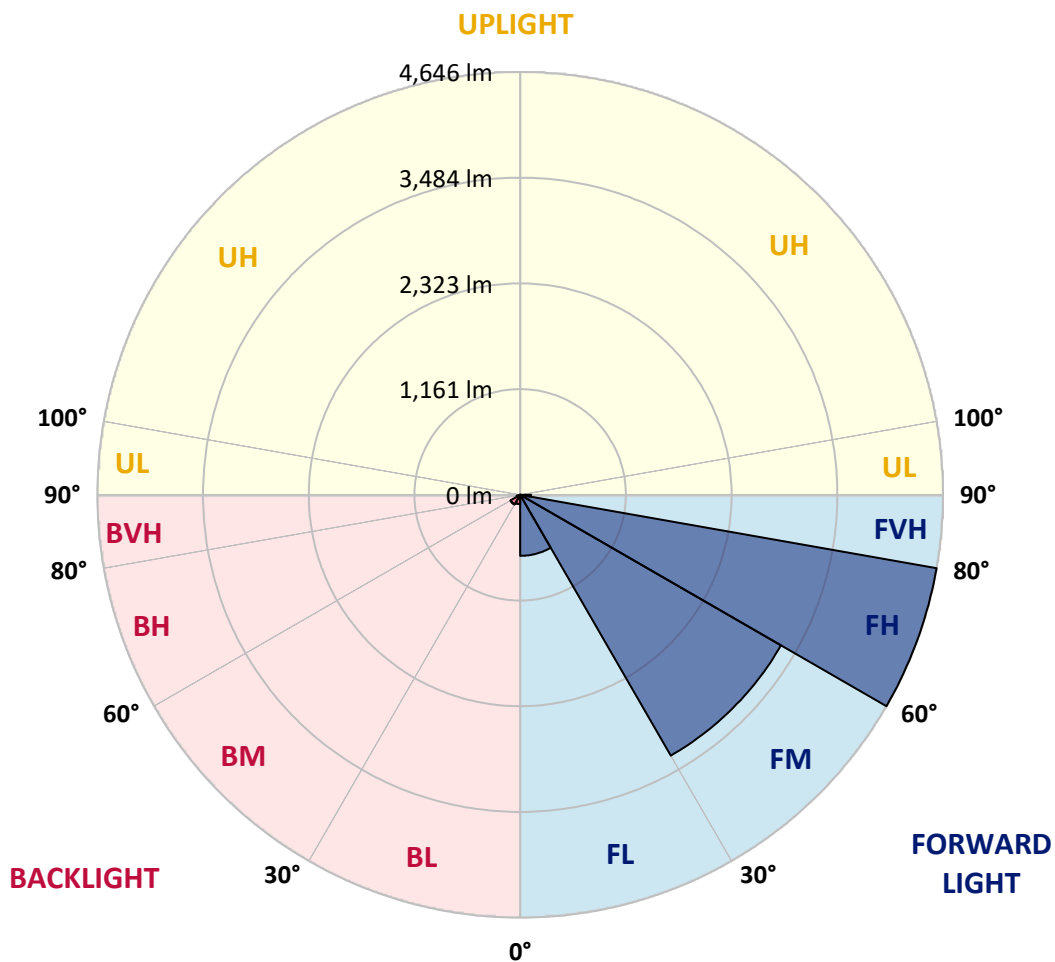
CATALOG NUMBER: LDRL-SL4-E05-E-7030-HSS

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	670.8	7.4			
FM (30°-60°)	3309.0	36.7			
FH (60°-80°)	4645.6	51.5			G2/5000
FVH (80°-90°)	119.7	1.3			G2/225
BL (0°-30°)	102.1	1.1	B0/110		
BM (30°-60°)	122.6	1.4	B0/220		
BH (60°-80°)	39.1	0.4	B0/110		G0/110
BVH (80°-90°)	4.6	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°	680.7	680.7	680.7	680.7	680.7	680.7	680.7	680.7	680.7	680.7	680.7
2.5°	908.1	897.7	885.9	885.9	871.2	871.2	862.3	838.7	835.7	822.5	809.1
5°	1159.1	1150.3	1135.5	1122.2	1110.4	1089.7	1074.9	1046.9	1015.9	986.3	959.7
7.5°	1404.2	1399.8	1373.2	1368.7	1349.6	1315.6	1286.1	1244.7	1191.6	1150.3	1101.5
10°	1631.6	1621.3	1615.4	1590.2	1562.2	1525.3	1479.5	1429.3	1367.3	1302.3	1232.9
12.5°	1811.7	1805.9	1779.3	1768.9	1739.4	1702.5	1644.9	1579.9	1517.9	1433.8	1352.6
15°	1946.1	1935.8	1918.0	1901.8	1866.3	1833.9	1780.8	1709.9	1634.5	1543.0	1445.6
17.5°	2058.3	2039.1	2034.7	2009.6	1972.7	1934.3	1875.2	1810.3	1721.7	1630.1	1523.8
20°	2208.9	2182.4	2173.5	2136.6	2093.8	2040.6	1972.7	1891.5	1798.5	1698.0	1588.8
22.5°	2386.1	2366.9	2347.8	2315.3	2260.6	2185.3	2086.4	1997.8	1879.7	1768.9	1650.8
25°	2637.1	2621.0	2589.9	2545.6	2477.6	2387.6	2268.0	2138.1	1999.2	1857.5	1718.7
27.5°	2880.8	2866.0	2843.9	2809.9	2733.1	2634.2	2486.5	2321.2	2145.5	1974.2	1820.6
30°	3109.7	3096.3	3074.2	3040.3	2972.3	2874.9	2708.0	2530.8	2312.3	2112.9	1928.4
32.5°	3356.2	3351.8	3326.7	3278.0	3218.9	3087.5	2905.9	2715.4	2493.9	2263.6	2048.0
35°	3635.3	3601.3	3577.7	3529.0	3428.6	3288.3	3075.7	2867.5	2634.2	2397.9	2157.2
37.5°	3871.6	3839.1	3809.6	3747.6	3625.0	3446.3	3205.6	2976.8	2736.1	2495.4	2250.3
40°	4044.3	4028.1	3992.6	3911.4	3774.1	3561.5	3301.6	3052.1	2809.9	2567.8	2325.6
42.5°	4172.8	4147.7	4107.8	4023.7	3861.2	3619.1	3340.0	3083.1	2843.9	2612.1	2374.3
45°	4220.0	4199.4	4162.4	4070.9	3895.2	3635.3	3338.5	3074.2	2845.4	2625.3	2406.8
47.5°	4192.0	4171.3	4138.8	4053.2	3880.5	3616.1	3311.9	3049.1	2830.6	2629.8	2436.4
50°	4098.9	4087.2	4062.0	3989.7	3834.6	3579.2	3288.3	3035.8	2827.6	2651.9	2477.6
52.5°	4090.1	4082.7	4051.7	3979.4	3821.4	3567.4	3285.3	3043.2	2852.8	2680.0	2507.2
55°	4998.2	4893.4	4658.5	4459.3	4131.4	3741.6	3434.5	3162.8	2959.1	2790.7	2669.6
57.5°	7103.8	6947.2	6638.7	6259.2	5506.1	4766.3	4174.3	3746.0	3534.9	3458.1	3503.9
60°	8090.1	8062.1	8013.4	7833.2	7447.8	6811.4	6102.6	5336.3	5029.2	5002.6	5095.7
62.5°	8558.2	8540.5	8555.3	8533.1	8413.5	8227.5	8023.7	7692.9	7388.7	7192.4	6776.0
65°	8773.7	8785.6	8869.7	8936.2	8950.9	8999.7	9148.8	9560.8	9862.0	9355.5	8199.4
67.5°	8226.0	8295.3	8488.8	8731.0	9014.4	9289.0	9732.0	10600.3	11219.0	10623.9	8982.0
69°	6809.9	6843.9	7316.4	7772.6	8465.2	8949.5	9591.8	10730.2	11425.6	10753.9	8920.0
70°	5361.5	5392.4	5898.9	6519.0	7690.0	8313.0	9153.2	10510.2	11232.3	10581.1	8601.0
72.5°	2418.6	2374.3	2553.0	2885.2	4158.0	5147.3	6616.5	8515.3	9266.9	8477.0	6434.9
75°	1689.2	1670.0	1689.2	1690.7	1888.5	2436.4	3074.2	4615.7	5708.4	4925.8	3074.2
77.5°	1308.3	1294.9	1281.7	1266.9	1290.6	1445.6	1507.6	1637.5	2126.3	2011.1	1172.4
80°	1035.1	1023.2	1055.7	1045.4	1045.4	1063.1	1051.4	1002.6	911.1	844.6	756.0
82.5°	481.3	484.3	484.3	525.6	633.4	739.7	773.7	725.0	643.8	547.8	441.5
85°	45.8	51.7	87.1	134.4	267.2	301.2	302.7	251.0	251.0	197.8	159.5
87.5°	0.0	1.5	1.5	1.5	13.2	36.9	31.0	8.9	4.4	4.4	7.4
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°	680.7	680.7	680.7	680.7	680.7	680.7	680.7	680.7	680.7	680.7	680.7
2.5°	785.6	781.1	763.4	745.7	729.4	711.7	695.4	679.3	661.5	648.2	631.9
5°	918.5	885.9	849.1	813.6	778.2	741.3	702.8	668.8	633.4	601.0	569.9
7.5°	1052.8	989.3	939.1	875.6	818.0	760.5	707.3	652.7	602.4	555.2	510.9
10°	1166.5	1089.7	1011.4	930.2	847.6	770.8	697.0	631.9	565.5	507.9	453.3
12.5°	1259.5	1162.1	1066.1	964.2	871.2	773.7	682.2	603.9	525.6	460.7	404.6
15°	1343.7	1231.5	1116.3	998.2	880.0	769.3	667.4	569.9	490.2	416.4	352.9
17.5°	1411.6	1283.2	1153.2	1020.3	893.3	763.4	648.2	546.4	453.3	376.5	314.5
20°	1470.7	1336.3	1196.0	1046.9	902.2	761.9	631.9	516.8	420.8	339.6	279.0
22.5°	1525.3	1390.9	1240.3	1080.9	915.5	760.5	617.2	494.7	392.7	311.5	251.0
25°	1587.3	1445.6	1287.5	1116.3	939.1	766.3	608.4	477.0	367.6	285.0	228.9
27.5°	1656.7	1507.6	1343.7	1160.6	970.1	778.2	605.4	457.8	345.5	259.8	211.2
30°	1754.2	1581.4	1399.8	1204.9	998.2	791.4	602.4	445.9	323.3	240.7	193.4
32.5°	1839.8	1653.7	1461.8	1250.7	1029.2	804.8	601.0	429.6	302.7	221.5	180.1
35°	1929.9	1720.2	1515.0	1294.9	1055.7	819.5	599.5	417.9	283.5	202.3	166.9
37.5°	2008.1	1776.3	1556.3	1333.3	1085.2	832.8	601.0	407.5	265.8	186.0	155.0
40°	2074.6	1833.9	1602.1	1368.7	1116.3	853.4	602.4	397.2	248.1	171.3	144.7
42.5°	2133.7	1888.5	1650.8	1408.7	1151.7	877.1	611.3	388.4	233.3	158.0	134.4
45°	2179.4	1938.8	1703.9	1464.7	1209.3	915.5	627.6	382.4	218.6	146.1	125.5
47.5°	2226.7	2012.6	1794.0	1553.3	1293.5	976.0	655.6	381.0	206.7	137.3	118.1
50°	2291.6	2086.4	1873.7	1643.4	1370.3	1038.0	689.6	382.4	192.0	128.4	110.7
52.5°	2338.9	2161.7	1977.1	1799.9	1553.3	1227.0	821.0	409.0	184.6	121.1	101.8
55°	2617.9	2587.0	2591.4	2621.0	2430.4	2087.8	1373.2	590.7	217.0	137.3	100.4
57.5°	3691.4	3800.7	3864.2	3862.7	3548.2	2942.8	1844.2	759.0	242.1	159.5	119.6
60°	5103.0	5020.3	4903.7	4615.7	4197.8	3359.2	2062.8	816.5	209.7	127.0	109.2
62.5°	6350.7	5866.4	5436.7	4970.1	4422.4	3503.9	2107.1	812.2	183.1	96.0	76.8
65°	7128.9	6257.7	5563.7	4978.9	4333.8	3382.8	1993.4	745.7	155.0	78.3	63.5
67.5°	7314.9	6046.6	5064.6	4319.0	3620.5	2632.7	1463.3	561.1	121.1	64.9	56.1
69°	6908.9	5374.7	4196.4	3350.4	2634.2	1746.8	905.1	354.4	93.0	59.1	51.7
70°	6355.2	4674.8	3418.2	2688.8	1950.6	1227.0	633.4	249.5	75.3	54.6	47.2
72.5°	4088.6	2455.5	1680.3	1169.5	804.8	488.7	248.1	112.3	57.5	45.8	38.4
75°	1585.9	908.1	658.5	500.5	391.3	271.7	150.6	72.3	48.7	38.4	29.5
77.5°	781.1	598.0	488.7	335.2	194.9	121.1	81.2	56.1	39.8	28.0	19.2
80°	617.2	410.5	245.1	152.1	115.2	87.1	62.0	45.8	29.5	17.7	13.2
82.5°	316.0	172.7	127.0	103.4	85.7	68.0	50.2	32.5	19.2	11.8	10.3
85°	98.9	72.3	64.9	63.5	59.1	48.7	35.4	20.6	11.8	7.4	7.4
87.5°	7.4	10.3	13.2	10.3	11.8	10.3	13.2	8.9	5.9	5.9	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):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	680.7	680.7	680.7	680.7	680.7	680.7	680.7	680.7	680.7	680.7	680.7
2.5°	620.2	602.4	586.2	575.9	556.7	549.3	541.9	539.0	525.6	528.6	516.8
5°	541.9	510.9	487.3	463.6	441.5	425.3	411.9	395.8	382.4	376.5	364.7
7.5°	471.0	431.2	400.1	375.0	348.4	327.8	310.1	298.3	286.4	274.6	268.7
10°	409.0	366.2	330.7	305.6	280.6	262.9	249.5	240.7	233.3	228.9	227.4
12.5°	351.5	310.1	277.6	255.5	236.3	227.4	221.5	217.0	215.6	214.1	214.1
15°	307.2	265.8	240.7	224.4	215.6	211.2	209.7	206.7	203.8	202.3	202.3
17.5°	265.8	234.7	217.0	208.2	203.8	200.8	197.8	194.9	192.0	190.4	190.4
20°	237.7	212.6	203.8	197.8	193.4	190.4	186.0	183.1	181.6	180.1	178.7
22.5°	215.6	199.3	193.4	189.0	183.1	178.7	175.7	172.7	169.8	168.3	166.9
25°	199.3	189.0	184.6	178.7	172.7	168.3	163.9	159.5	156.5	155.0	152.1
27.5°	187.5	180.1	174.3	166.9	160.9	156.5	152.1	147.7	144.7	141.8	140.3
30°	177.2	169.8	162.4	156.5	149.2	144.7	138.8	134.4	132.9	130.0	127.0
32.5°	166.9	159.5	152.1	144.7	137.3	131.4	128.4	122.6	119.6	118.1	115.2
35°	155.0	147.7	138.8	132.9	125.5	119.6	115.2	110.7	107.8	104.9	103.4
37.5°	144.7	135.8	127.0	119.6	113.7	107.8	103.4	98.9	96.0	93.0	91.5
40°	132.9	124.0	115.2	107.8	101.8	97.5	93.0	88.6	85.7	84.1	84.1
42.5°	122.6	112.3	103.4	97.5	93.0	87.1	82.7	78.3	76.8	75.3	76.8
45°	112.3	101.8	94.5	88.6	84.1	78.3	73.8	70.9	69.4	70.9	72.3
47.5°	103.4	93.0	85.7	81.2	76.8	72.3	68.0	64.9	64.9	68.0	70.9
50°	94.5	84.1	78.3	75.3	70.9	66.4	60.6	59.1	60.6	63.5	66.4
52.5°	85.7	73.8	69.4	68.0	63.5	59.1	54.6	53.2	54.6	57.5	56.1
55°	76.8	64.9	63.5	62.0	57.5	51.7	47.2	47.2	47.2	45.8	42.8
57.5°	73.8	57.5	56.1	54.6	50.2	44.3	41.4	38.4	36.9	32.5	31.0
60°	76.8	51.7	51.7	48.7	44.3	38.4	34.0	29.5	26.6	23.7	23.7
62.5°	62.0	47.2	45.8	42.8	36.9	31.0	26.6	22.1	20.6	19.2	19.2
65°	50.2	42.8	39.8	35.4	31.0	25.1	20.6	17.7	16.3	16.3	17.7
67.5°	45.8	38.4	34.0	29.5	25.1	19.2	16.3	14.8	14.8	16.3	16.3
69°	42.8	35.4	31.0	26.6	22.1	17.7	14.8	14.8	14.8	14.8	16.3
70°	39.8	34.0	29.5	25.1	19.2	14.8	13.2	13.2	14.8	14.8	16.3
72.5°	31.0	26.6	25.1	20.6	14.8	13.2	11.8	13.2	13.2	14.8	14.8
75°	23.7	19.2	19.2	16.3	11.8	10.3	10.3	11.8	11.8	13.2	13.2
77.5°	16.3	13.2	13.2	11.8	10.3	8.9	8.9	10.3	11.8	11.8	13.2
80°	11.8	10.3	8.9	10.3	8.9	7.4	8.9	10.3	10.3	11.8	11.8
82.5°	8.9	8.9	8.9	8.9	7.4	7.4	8.9	8.9	10.3	11.8	11.8
85°	7.4	7.4	7.4	7.4	7.4	7.4	7.4	8.9	8.9	10.3	10.3
87.5°	4.4	4.4	4.4	5.9	5.9	7.4	7.4	7.4	7.4	8.9	8.9
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°	680.7	680.7	680.7	680.7
2.5°	513.9	512.4	506.5	507.9
5°	360.3	351.5	357.3	355.8
7.5°	264.3	262.9	261.3	264.3
10°	225.9	225.9	224.4	225.9
12.5°	212.6	212.6	212.6	212.6
15°	202.3	202.3	200.8	200.8
17.5°	190.4	190.4	190.4	189.0
20°	178.7	177.2	177.2	177.2
22.5°	165.4	163.9	163.9	163.9
25°	152.1	150.6	150.6	150.6
27.5°	138.8	137.3	135.8	135.8
30°	125.5	124.0	122.6	122.6
32.5°	112.3	110.7	109.2	109.2
35°	100.4	100.4	98.9	97.5
37.5°	90.1	90.1	90.1	90.1
40°	82.7	84.1	84.1	84.1
42.5°	78.3	79.7	81.2	82.7
45°	75.3	78.3	79.7	79.7
47.5°	73.8	75.3	76.8	76.8
50°	68.0	66.4	66.4	66.4
52.5°	54.6	51.7	50.2	48.7
55°	39.8	38.4	35.4	35.4
57.5°	28.0	28.0	26.6	26.6
60°	22.1	22.1	20.6	22.1
62.5°	19.2	19.2	19.2	19.2
65°	17.7	17.7	17.7	17.7
67.5°	17.7	17.7	17.7	17.7
69°	16.3	16.3	16.3	16.3
70°	16.3	16.3	16.3	16.3
72.5°	14.8	14.8	14.8	14.8
75°	13.2	14.8	14.8	14.8
77.5°	13.2	13.2	13.2	13.2
80°	11.8	11.8	13.2	13.2
82.5°	11.8	11.8	11.8	11.8
85°	10.3	10.3	11.8	11.8
87.5°	8.9	8.9	10.3	10.3
90°	0.0	0.0	0.0	0.0

(END OF REPORT)