

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: P163825

Luminaire Tested: **LDRL-SL4-E05-E-8030-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P163825  
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-8030-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, 80 CRI LEDs  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8329.1 lumens  
Efficiency: N/A  
Efficacy: 65.4 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

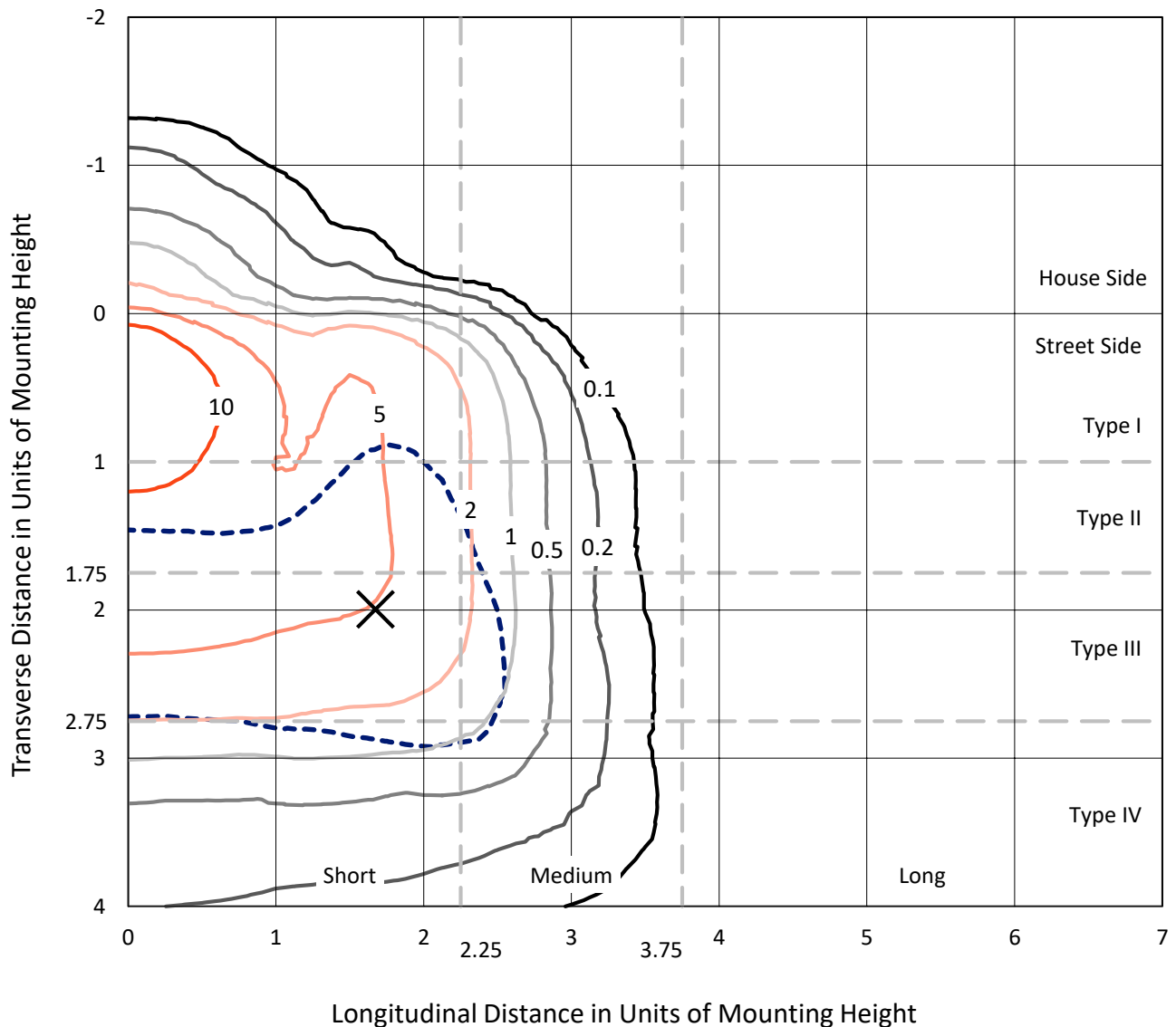


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### Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd  
 - - - 1/2 Max cd

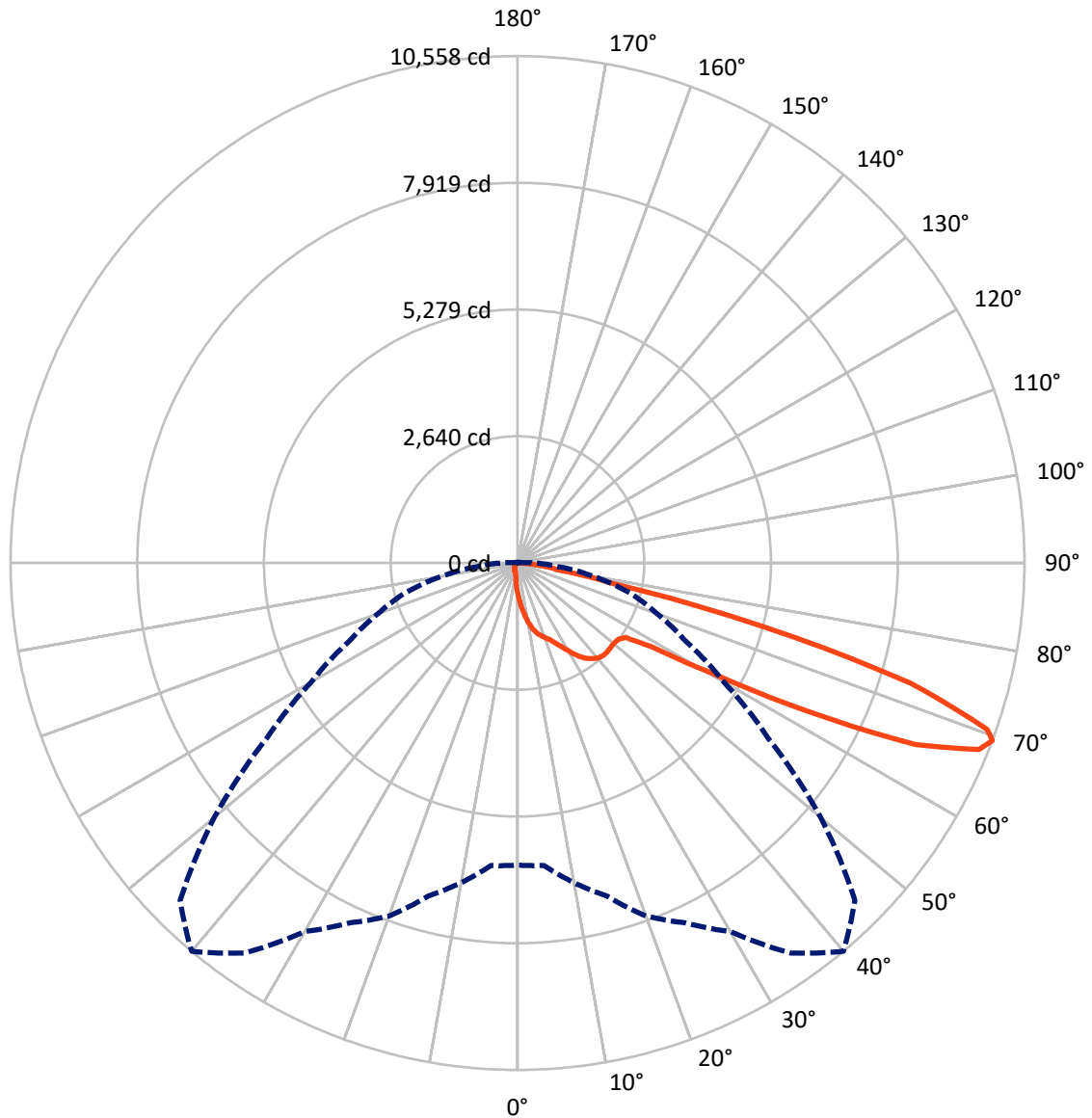


Based on 10 foot mounting height. Maximum calculated value = 18.6 fc  
 Type IV - Short - Semi-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 40-Deg Lateral    - - - Horizontal Cone Through 69-Deg Vertical

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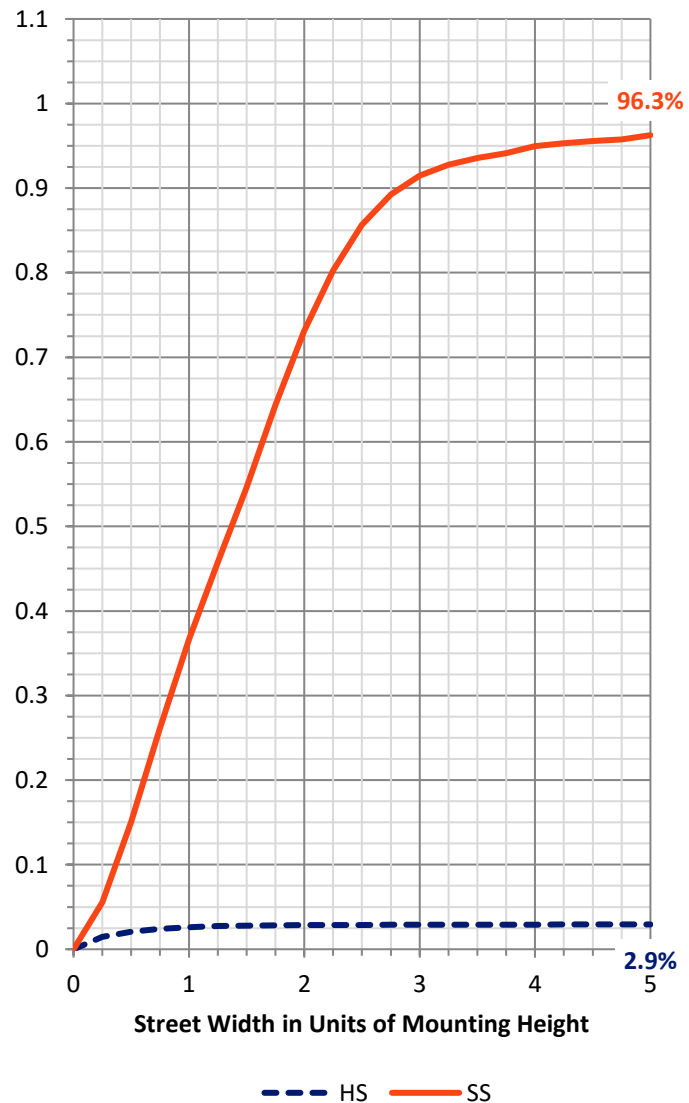
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	248.0	0.0	248.0
	% Fixture	3.0	0.0	3.0
<b>Street Side</b>	Lumens	8081.1	0.0	8081.1
	% Fixture	97.0	0.0	97.0
<b>Total</b>	Lumens	8329.1	0.0	8329.1
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	64.7	0.8
10°-20°	222.9	2.7
20°-30°	426.6	5.1
30°-40°	709.5	8.5
40°-50°	960.1	11.5
50°-60°	1501.4	18.0
60°-70°	3086.9	37.1
70°-80°	1242.1	14.9
80°-90°	114.9	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°	8329.1	100.0
0°-180°	8329.1	100.0



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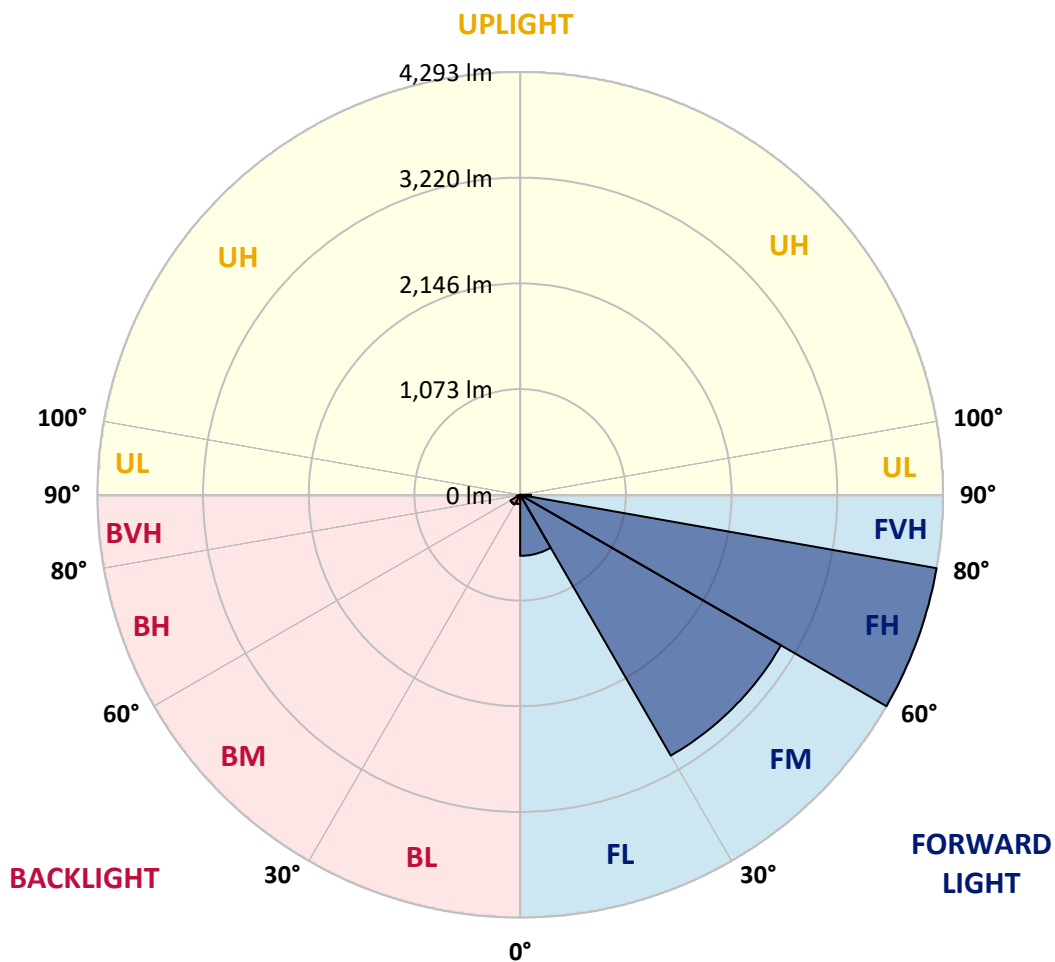
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	619.8	7.4			
FM (30°-60°)	3057.7	36.7			
FH (60°-80°)	4292.9	51.5			G2/5000
FVH (80°-90°)	110.6	1.3			G2/225
BL (0°-30°)	94.3	1.1	B0/110		
BM (30°-60°)	113.2	1.4	B0/220		
BH (60°-80°)	36.2	0.4	B0/110		G0/110
BVH (80°-90°)	4.3	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°	629.0	629.0	629.0	629.0	629.0	629.0	629.0	629.0	629.0	629.0	629.0
2.5°	839.1	829.6	818.7	818.7	805.0	805.0	796.8	775.0	772.3	760.0	747.7
5°	1071.1	1062.9	1049.2	1037.0	1026.0	1007.0	993.3	967.4	938.8	911.4	886.9
7.5°	1297.6	1293.5	1268.9	1264.8	1247.1	1215.7	1188.4	1150.2	1101.1	1062.9	1017.9
10°	1507.7	1498.2	1492.7	1469.5	1443.6	1409.5	1367.2	1320.8	1263.5	1203.4	1139.3
12.5°	1674.1	1668.7	1644.2	1634.6	1607.3	1573.2	1519.9	1459.9	1402.6	1324.9	1249.9
15°	1798.3	1788.8	1772.4	1757.4	1724.6	1694.6	1645.5	1580.0	1510.4	1425.8	1335.8
17.5°	1902.0	1884.3	1880.2	1857.0	1822.9	1787.4	1732.8	1672.8	1590.9	1506.4	1408.1
20°	2041.2	2016.6	2008.4	1974.3	1934.8	1885.6	1822.9	1747.8	1661.9	1569.1	1468.1
22.5°	2204.9	2187.2	2169.5	2139.4	2089.0	2019.3	1927.9	1846.1	1736.9	1634.6	1525.4
25°	2436.9	2421.9	2393.2	2352.3	2289.5	2206.3	2095.8	1975.7	1847.4	1716.4	1588.2
27.5°	2662.0	2648.4	2627.9	2596.5	2525.6	2434.2	2297.7	2144.9	1982.5	1824.3	1682.3
30°	2873.5	2861.2	2840.8	2809.4	2746.6	2656.5	2502.3	2338.6	2136.7	1952.5	1781.9
32.5°	3101.3	3097.3	3074.1	3029.1	2974.5	2853.0	2685.2	2509.2	2304.5	2091.7	1892.5
35°	3359.3	3327.9	3306.0	3261.0	3168.3	3038.6	2842.1	2649.7	2434.2	2215.8	1993.4
37.5°	3577.6	3547.5	3520.3	3463.0	3349.7	3184.6	2962.2	2750.7	2528.3	2305.9	2079.4
40°	3737.2	3722.2	3689.4	3614.4	3487.5	3291.1	3050.9	2820.3	2596.5	2372.8	2149.0
42.5°	3855.9	3832.7	3795.8	3718.1	3568.0	3344.2	3086.4	2849.0	2627.9	2413.7	2194.0
45°	3899.6	3880.5	3846.3	3761.8	3599.4	3359.3	3085.0	2840.8	2629.3	2426.0	2224.0
47.5°	3873.7	3854.5	3824.5	3745.4	3585.8	3341.5	3060.4	2817.6	2615.6	2430.1	2251.3
50°	3787.7	3776.8	3753.6	3686.7	3543.4	3307.4	3038.6	2805.3	2612.9	2450.5	2289.5
52.5°	3779.5	3772.6	3744.0	3677.2	3531.2	3296.5	3035.8	2812.1	2636.1	2476.4	2316.8
55°	4618.7	4521.8	4304.8	4120.6	3817.7	3457.5	3173.7	2922.7	2734.4	2578.8	2466.9
57.5°	6564.3	6419.6	6134.5	5783.9	5088.0	4404.4	3857.3	3461.5	3266.5	3195.5	3237.8
60°	7475.7	7449.8	7404.8	7238.3	6882.2	6294.1	5639.2	4931.1	4647.3	4622.7	4708.7
62.5°	7908.3	7891.9	7905.6	7885.1	7774.6	7602.7	7414.4	7108.7	6827.6	6646.2	6261.4
65°	8107.5	8118.4	8196.2	8257.6	8271.2	8316.3	8454.1	8834.7	9113.1	8645.1	7576.8
67.5°	7601.3	7665.4	7844.1	8068.0	8329.9	8583.6	8993.0	9795.3	10367.0	9817.1	8299.9
69°	6292.8	6324.2	6760.8	7182.4	7822.4	8269.8	8863.4	9915.4	10558.0	9937.2	8242.6
70°	4954.3	4982.9	5450.9	6024.0	7106.0	7681.8	8458.1	9712.1	10379.3	9777.6	7947.9
72.5°	2235.0	2194.0	2359.1	2666.1	3842.3	4756.4	6114.0	7868.7	8563.2	7833.2	5946.3
75°	1560.9	1543.2	1560.9	1562.3	1745.1	2251.3	2840.8	4265.2	5274.9	4551.7	2840.8
77.5°	1208.9	1196.6	1184.4	1170.7	1192.6	1335.8	1393.1	1513.2	1964.8	1858.4	1083.3
80°	956.5	945.5	975.6	966.0	966.0	982.4	971.5	926.4	841.9	780.4	698.6
82.5°	444.8	447.6	447.6	485.7	585.3	683.5	714.9	670.0	594.9	506.2	408.0
85°	42.3	47.8	80.5	124.2	247.0	278.3	279.7	231.9	231.9	182.8	147.4
87.5°	0.0	1.4	1.4	1.4	12.2	34.1	28.6	8.2	4.1	4.1	6.8
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):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	629.0	629.0	629.0	629.0	629.0	629.0	629.0	629.0	629.0	629.0	629.0
2.5°	725.9	721.8	705.4	689.0	674.0	657.6	642.6	627.7	611.3	599.0	584.0
5°	848.7	818.7	784.6	751.8	719.1	685.0	649.5	618.1	585.3	555.3	526.7
7.5°	972.9	914.2	867.8	809.1	755.9	702.7	653.6	603.1	556.7	513.1	472.1
10°	1077.9	1007.0	934.6	859.6	783.2	712.2	644.0	584.0	522.6	469.3	418.9
12.5°	1163.9	1073.8	985.1	891.0	805.0	714.9	630.4	558.0	485.7	425.7	373.9
15°	1241.7	1138.0	1031.5	922.4	813.2	710.9	616.7	526.7	453.0	384.8	326.1
17.5°	1304.4	1185.7	1065.6	942.8	825.5	705.4	599.0	504.9	418.9	347.9	290.6
20°	1359.0	1234.8	1105.2	967.4	833.7	704.1	584.0	477.5	388.8	313.8	257.8
22.5°	1409.5	1285.3	1146.1	998.8	845.9	702.7	570.4	457.1	362.9	287.9	231.9
25°	1466.8	1335.8	1189.8	1031.5	867.8	708.1	562.2	440.7	339.7	263.3	211.5
27.5°	1530.9	1393.1	1241.7	1072.5	896.4	719.1	559.4	423.0	319.3	240.1	195.1
30°	1621.0	1461.3	1293.5	1113.4	922.4	731.3	556.7	412.0	298.8	222.4	178.8
32.5°	1700.1	1528.1	1350.8	1155.7	951.0	743.6	555.3	397.0	279.7	204.7	166.4
35°	1783.4	1589.6	1399.9	1196.6	975.6	757.2	554.0	386.1	262.0	186.9	154.2
37.5°	1855.6	1641.4	1438.1	1232.1	1002.8	769.6	555.3	376.6	245.6	171.9	143.2
40°	1917.0	1694.6	1480.4	1264.8	1031.5	788.6	556.7	367.1	229.2	158.2	133.7
42.5°	1971.6	1745.1	1525.4	1301.7	1064.3	810.5	564.9	358.9	215.6	146.0	124.2
45°	2013.9	1791.5	1574.5	1353.5	1117.4	845.9	579.9	353.4	202.0	135.0	116.0
47.5°	2057.6	1859.7	1657.8	1435.4	1195.3	901.9	605.8	352.0	191.0	126.9	109.1
50°	2117.6	1927.9	1731.4	1518.6	1266.2	959.2	637.2	353.4	177.4	118.7	102.3
52.5°	2161.3	1997.6	1827.0	1663.3	1435.4	1133.8	758.7	377.9	170.6	111.9	94.1
55°	2419.1	2390.5	2394.6	2421.9	2245.9	1929.3	1268.9	545.8	200.5	126.9	92.8
57.5°	3411.1	3512.1	3570.8	3569.4	3278.7	2719.3	1704.2	701.4	223.7	147.4	110.5
60°	4715.5	4639.1	4531.3	4265.2	3879.1	3104.1	1906.2	754.5	193.8	117.3	100.9
62.5°	5868.4	5421.0	5023.9	4592.7	4086.5	3237.8	1947.1	750.5	169.2	88.7	71.0
65°	6587.5	5782.5	5141.2	4600.8	4004.7	3125.9	1842.0	689.0	143.2	72.3	58.7
67.5°	6759.4	5587.4	4680.0	3991.0	3345.6	2432.8	1352.2	518.5	111.9	60.0	51.8
69°	6384.2	4966.5	3877.7	3095.9	2434.2	1614.1	836.4	327.5	85.9	54.6	47.8
70°	5872.6	4319.8	3158.6	2484.6	1802.4	1133.8	585.3	230.6	69.5	50.5	43.6
72.5°	3778.1	2269.1	1552.7	1080.6	743.6	451.6	229.2	103.7	53.2	42.3	35.4
75°	1465.4	839.1	608.5	462.5	361.6	251.1	139.2	66.8	45.0	35.4	27.3
77.5°	721.8	552.6	451.6	309.7	180.1	111.9	75.0	51.8	36.8	25.9	17.7
80°	570.4	379.3	226.5	140.5	106.4	80.5	57.3	42.3	27.3	16.4	12.2
82.5°	292.0	159.6	117.3	95.5	79.2	62.8	46.4	30.0	17.7	10.9	9.5
85°	91.4	66.8	60.0	58.7	54.6	45.0	32.7	19.1	10.9	6.8	6.8
87.5°	6.8	9.5	12.2	9.5	10.9	9.5	12.2	8.2	5.5	5.5	4.1
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°	629.0	629.0	629.0	629.0	629.0	629.0	629.0	629.0	629.0	629.0	629.0
2.5°	573.1	556.7	541.7	532.1	514.4	507.6	500.7	498.0	485.7	488.5	477.5
5°	500.7	472.1	450.3	428.4	408.0	393.0	380.6	365.7	353.4	347.9	337.0
7.5°	435.2	398.4	369.8	346.5	322.0	302.9	286.5	275.6	264.7	253.8	248.3
10°	377.9	338.4	305.6	282.4	259.3	242.9	230.6	222.4	215.6	211.5	210.2
12.5°	324.8	286.5	256.5	236.1	218.3	210.2	204.7	200.5	199.2	197.8	197.8
15°	283.8	245.6	222.4	207.4	199.2	195.1	193.8	191.0	188.3	186.9	186.9
17.5°	245.6	216.9	200.5	192.3	188.3	185.6	182.8	180.1	177.4	176.0	176.0
20°	219.7	196.5	188.3	182.8	178.8	176.0	171.9	169.2	167.8	166.4	165.1
22.5°	199.2	184.2	178.8	174.6	169.2	165.1	162.4	159.6	156.9	155.5	154.2
25°	184.2	174.6	170.6	165.1	159.6	155.5	151.4	147.4	144.7	143.2	140.5
27.5°	173.3	166.4	161.0	154.2	148.7	144.7	140.5	136.5	133.7	131.0	129.6
30°	163.7	156.9	150.1	144.7	137.8	133.7	128.3	124.2	122.8	120.1	117.3
32.5°	154.2	147.4	140.5	133.7	126.9	121.5	118.7	113.3	110.5	109.1	106.4
35°	143.2	136.5	128.3	122.8	116.0	110.5	106.4	102.3	99.6	96.9	95.5
37.5°	133.7	125.5	117.3	110.5	105.1	99.6	95.5	91.4	88.7	85.9	84.6
40°	122.8	114.6	106.4	99.6	94.1	90.1	85.9	81.9	79.2	77.7	77.7
42.5°	113.3	103.7	95.5	90.1	85.9	80.5	76.4	72.3	71.0	69.5	71.0
45°	103.7	94.1	87.4	81.9	77.7	72.3	68.2	65.5	64.1	65.5	66.8
47.5°	95.5	85.9	79.2	75.0	71.0	66.8	62.8	60.0	60.0	62.8	65.5
50°	87.4	77.7	72.3	69.5	65.5	61.4	56.0	54.6	56.0	58.7	61.4
52.5°	79.2	68.2	64.1	62.8	58.7	54.6	50.5	49.1	50.5	53.2	51.8
55°	71.0	60.0	58.7	57.3	53.2	47.8	43.6	43.6	43.6	42.3	39.6
57.5°	68.2	53.2	51.8	50.5	46.4	40.9	38.2	35.4	34.1	30.0	28.6
60°	71.0	47.8	47.8	45.0	40.9	35.4	31.4	27.3	24.6	21.9	21.9
62.5°	57.3	43.6	42.3	39.6	34.1	28.6	24.6	20.4	19.1	17.7	17.7
65°	46.4	39.6	36.8	32.7	28.6	23.2	19.1	16.4	15.0	15.0	16.4
67.5°	42.3	35.4	31.4	27.3	23.2	17.7	15.0	13.7	13.7	15.0	15.0
69°	39.6	32.7	28.6	24.6	20.4	16.4	13.7	13.7	13.7	13.7	15.0
70°	36.8	31.4	27.3	23.2	17.7	13.7	12.2	12.2	13.7	13.7	15.0
72.5°	28.6	24.6	23.2	19.1	13.7	12.2	10.9	12.2	12.2	13.7	13.7
75°	21.9	17.7	17.7	15.0	10.9	9.5	9.5	10.9	10.9	12.2	12.2
77.5°	15.0	12.2	12.2	10.9	9.5	8.2	8.2	9.5	10.9	10.9	12.2
80°	10.9	9.5	8.2	9.5	8.2	6.8	8.2	9.5	9.5	10.9	10.9
82.5°	8.2	8.2	8.2	8.2	6.8	6.8	8.2	8.2	9.5	10.9	10.9
85°	6.8	6.8	6.8	6.8	6.8	6.8	6.8	8.2	8.2	9.5	9.5
87.5°	4.1	4.1	4.1	5.5	5.5	6.8	6.8	6.8	6.8	8.2	8.2
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):**

	165°	170°	175°	180°
0°	629.0	629.0	629.0	629.0
2.5°	474.8	473.5	468.0	469.3
5°	333.0	324.8	330.2	328.8
7.5°	244.3	242.9	241.5	244.3
10°	208.7	208.7	207.4	208.7
12.5°	196.5	196.5	196.5	196.5
15°	186.9	186.9	185.6	185.6
17.5°	176.0	176.0	176.0	174.6
20°	165.1	163.7	163.7	163.7
22.5°	152.8	151.4	151.4	151.4
25°	140.5	139.2	139.2	139.2
27.5°	128.3	126.9	125.5	125.5
30°	116.0	114.6	113.3	113.3
32.5°	103.7	102.3	100.9	100.9
35°	92.8	92.8	91.4	90.1
37.5°	83.2	83.2	83.2	83.2
40°	76.4	77.7	77.7	77.7
42.5°	72.3	73.7	75.0	76.4
45°	69.5	72.3	73.7	73.7
47.5°	68.2	69.5	71.0	71.0
50°	62.8	61.4	61.4	61.4
52.5°	50.5	47.8	46.4	45.0
55°	36.8	35.4	32.7	32.7
57.5°	25.9	25.9	24.6	24.6
60°	20.4	20.4	19.1	20.4
62.5°	17.7	17.7	17.7	17.7
65°	16.4	16.4	16.4	16.4
67.5°	16.4	16.4	16.4	16.4
69°	15.0	15.0	15.0	15.0
70°	15.0	15.0	15.0	15.0
72.5°	13.7	13.7	13.7	13.7
75°	12.2	13.7	13.7	13.7
77.5°	12.2	12.2	12.2	12.2
80°	10.9	10.9	12.2	12.2
82.5°	10.9	10.9	10.9	10.9
85°	9.5	9.5	10.9	10.9
87.5°	8.2	8.2	9.5	9.5
90°	0.0	0.0	0.0	0.0

(END OF REPORT)