

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: P163828

Luminaire Tested: **LDRL-SL4-E05-E-7050-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P163828  
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-7050-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) 5000K CCT, 70 CRI LEDs  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 10126.3 lumens  
Efficiency: N/A  
Efficacy: 79.5 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: B1 - U0 - G3

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

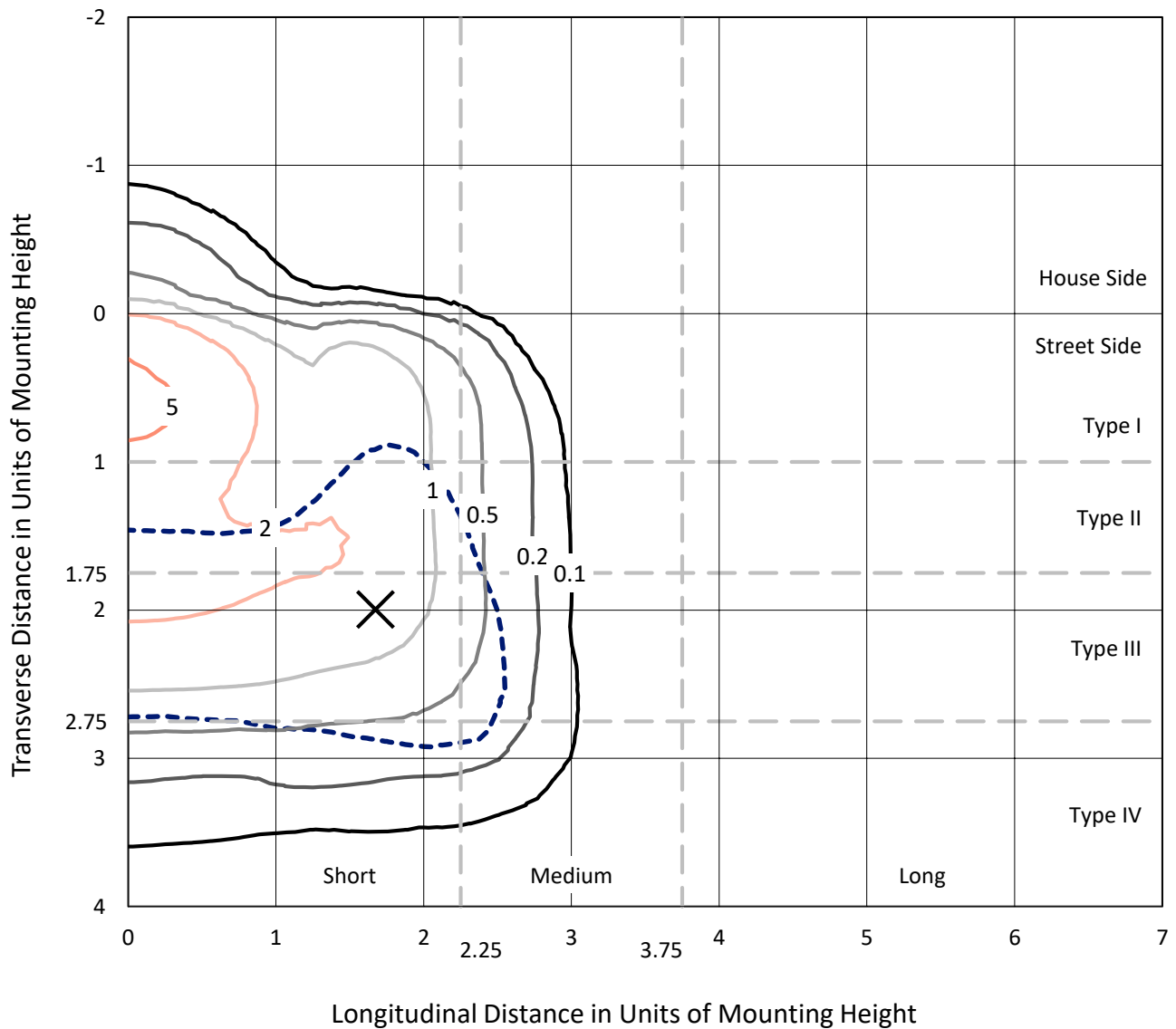


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### Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd  
 - - - 1/2 Max cd

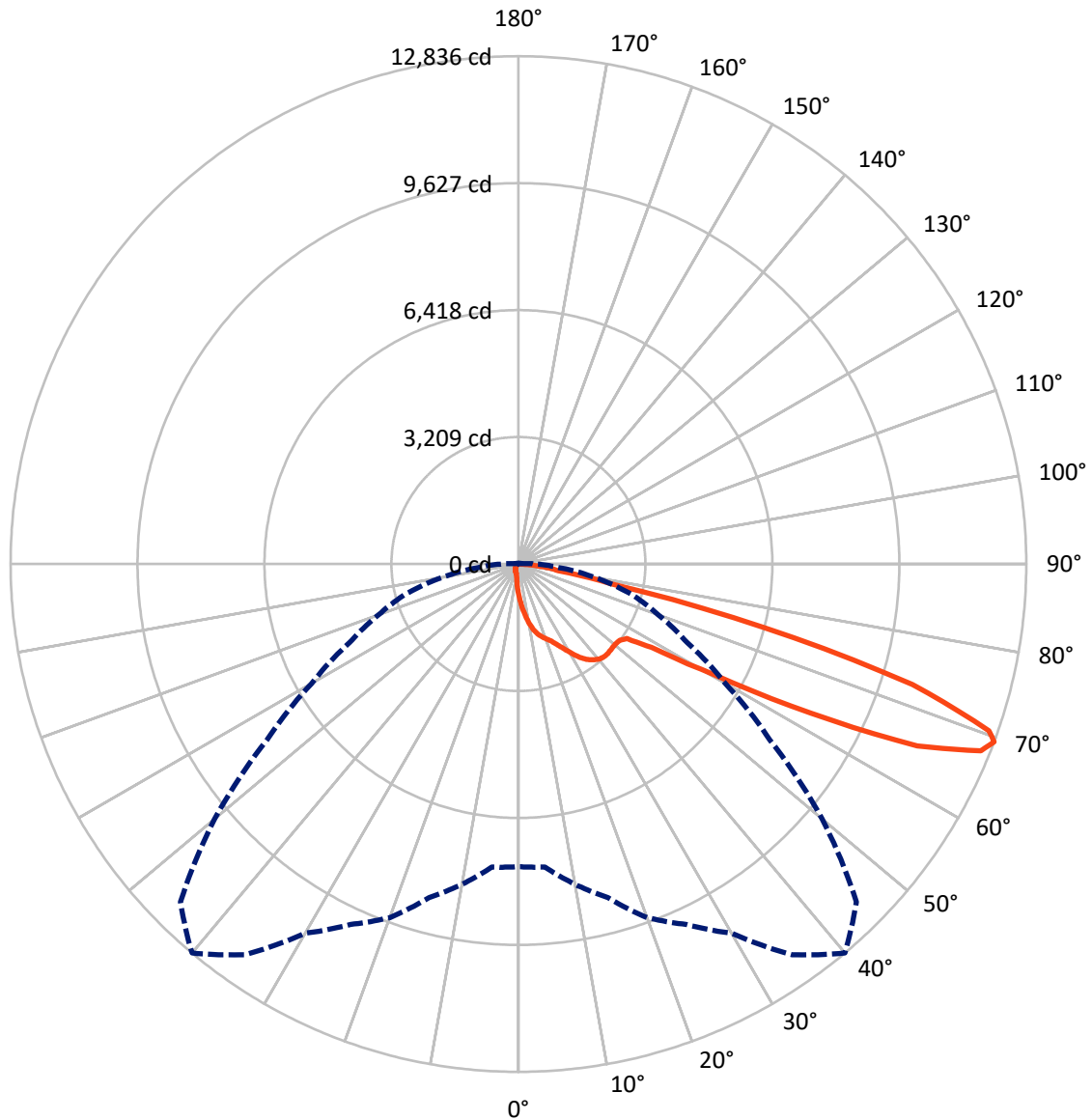


Based on 20 foot mounting height. Maximum calculated value = 5.7 fc  
 Type IV - Short - Semi-Cutoff

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### Luminous Intensity Polar Plot



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

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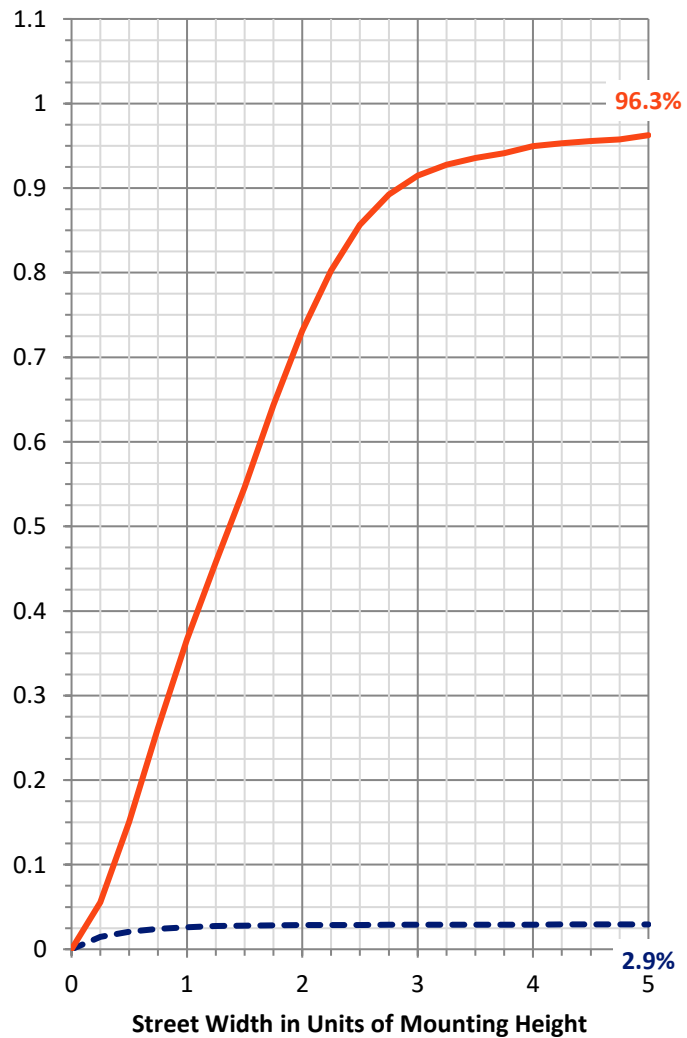
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	301.5	0.0	301.5
	% Fixture	3.0	0.0	3.0
<b>Street Side</b>	Lumens	9824.8	0.0	9824.8
	% Fixture	97.0	0.0	97.0
<b>Total</b>	Lumens	10126.3	0.0	10126.3
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	78.6	0.8
10°-20°	271.0	2.7
20°-30°	518.7	5.1
30°-40°	862.6	8.5
40°-50°	1167.2	11.5
50°-60°	1825.4	18.0
60°-70°	3753.0	37.1
70°-80°	1510.1	14.9
80°-90°	139.7	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°	10126.3	100.0
0°-180°	10126.3	100.0



--- HS    — SS

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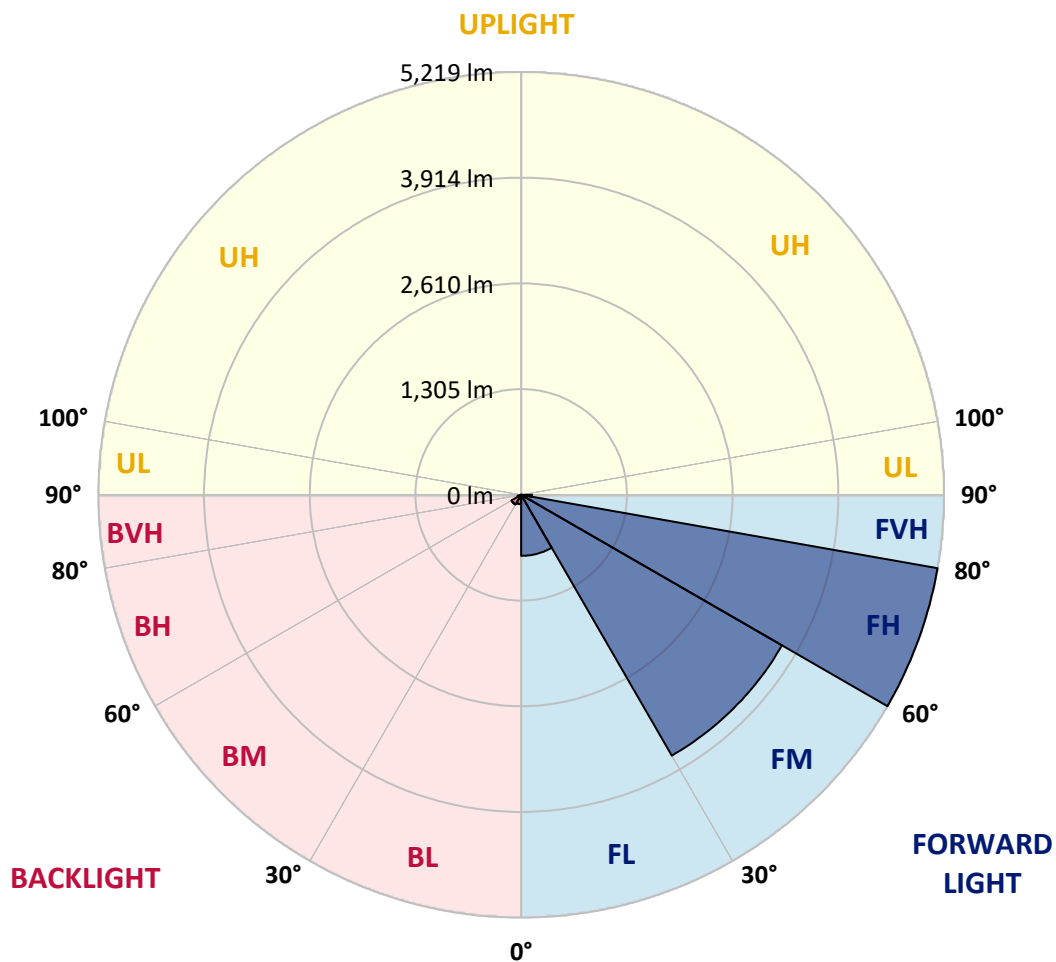
CATALOG NUMBER: LDRL-SL4-E05-E-7050-HSS

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	753.6	7.4			
FM (30°-60°)	3717.5	36.7			
FH (60°-80°)	5219.2	51.5			G3/7500
FVH (80°-90°)	134.5	1.3			G2/225
BL (0°-30°)	114.7	1.1	B1/500		
BM (30°-60°)	137.7	1.4	B0/220		
BH (60°-80°)	44.0	0.4	B0/110		G0/110
BVH (80°-90°)	5.2	0.1			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G3**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	764.8	764.8	764.8	764.8	764.8	764.8	764.8	764.8	764.8	764.8	764.8
2.5°	1020.2	1008.6	995.3	995.3	978.7	978.7	968.7	942.3	938.9	924.0	909.0
5°	1302.2	1292.3	1275.7	1260.8	1247.4	1224.2	1207.6	1176.1	1141.3	1108.1	1078.2
7.5°	1577.5	1572.6	1542.7	1537.7	1516.2	1478.0	1444.9	1398.4	1338.7	1292.3	1237.5
10°	1833.0	1821.4	1814.8	1786.6	1755.1	1713.6	1662.2	1605.8	1536.1	1463.1	1385.1
12.5°	2035.4	2028.8	1999.0	1987.3	1954.1	1912.7	1847.9	1775.0	1705.3	1610.8	1519.6
15°	2186.3	2174.7	2154.8	2136.6	2096.7	2060.3	2000.6	1921.0	1836.3	1733.5	1624.0
17.5°	2312.4	2290.9	2285.9	2257.7	2216.2	2173.1	2106.7	2033.7	1934.2	1831.4	1712.0
20°	2481.6	2451.8	2441.8	2400.4	2352.2	2292.5	2216.2	2125.0	2020.5	1907.6	1784.9
22.5°	2680.7	2659.2	2637.6	2601.1	2539.7	2455.1	2343.9	2244.4	2111.7	1987.3	1854.6
25°	2962.7	2944.5	2909.6	2859.9	2783.5	2682.3	2548.0	2402.0	2246.0	2086.8	1930.9
27.5°	3236.4	3219.8	3195.0	3156.8	3070.5	2959.4	2793.5	2607.7	2410.3	2217.9	2045.3
30°	3493.6	3478.6	3453.8	3415.6	3339.3	3229.8	3042.3	2843.2	2597.8	2373.8	2166.4
32.5°	3770.5	3765.6	3737.4	3682.7	3616.3	3468.6	3264.7	3050.6	2801.8	2543.0	2300.8
35°	4084.1	4045.9	4019.4	3964.7	3851.9	3694.3	3455.4	3221.5	2959.4	2693.9	2423.6
37.5°	4349.6	4313.0	4279.9	4210.2	4072.5	3871.8	3601.3	3344.3	3073.9	2803.4	2528.1
40°	4543.6	4525.3	4485.5	4394.3	4240.1	4001.2	3709.2	3428.8	3156.8	2884.8	2612.7
42.5°	4688.0	4659.8	4614.9	4520.4	4337.9	4065.8	3752.4	3463.7	3195.0	2934.6	2667.5
45°	4741.0	4717.8	4676.3	4573.5	4376.0	4084.1	3750.6	3453.8	3196.6	2949.4	2703.9
47.5°	4709.5	4686.2	4649.8	4553.5	4359.5	4062.6	3720.8	3425.6	3180.0	2954.5	2737.1
50°	4605.0	4591.7	4563.5	4482.2	4308.0	4021.1	3694.3	3410.6	3176.7	2979.3	2783.5
52.5°	4595.0	4586.7	4551.9	4470.6	4293.1	4007.8	3690.9	3418.9	3204.9	3010.8	2816.8
55°	5615.3	5497.5	5233.7	5009.8	4641.5	4203.5	3858.5	3553.3	3324.4	3135.3	2999.2
57.5°	7980.7	7804.9	7458.2	7031.9	6185.9	5354.7	4689.6	4208.5	3971.3	3885.0	3936.4
60°	9088.8	9057.3	9002.6	8800.2	8367.3	7652.3	6856.0	5995.1	5650.0	5620.2	5724.7
62.5°	9614.7	9594.8	9611.4	9586.5	9452.2	9243.2	9014.2	8642.6	8300.9	8080.3	7612.5
65°	9856.9	9870.2	9964.7	10039.4	10055.9	10110.7	10278.3	10741.1	11079.5	10510.5	9211.7
67.5°	9241.5	9319.4	9536.7	9808.8	10127.3	10435.8	10933.5	11908.9	12604.0	11935.5	10090.8
69°	7650.6	7688.8	8219.6	8732.2	9510.3	10054.3	10776.0	12054.9	12836.2	12081.5	10021.2
70°	6023.3	6058.1	6627.1	7323.8	8639.3	9339.3	10283.2	11807.7	12618.9	11887.3	9662.8
72.5°	2717.2	2667.5	2868.2	3241.4	4671.3	5782.7	7433.3	9566.6	10411.0	9523.5	7229.3
75°	1897.7	1876.1	1897.7	1899.4	2121.7	2737.1	3453.8	5185.5	6413.2	5533.9	3453.8
77.5°	1469.8	1454.8	1439.9	1423.3	1449.9	1624.0	1693.7	1839.7	2388.8	2259.4	1317.1
80°	1162.9	1149.5	1186.1	1174.5	1174.5	1194.4	1181.1	1126.4	1023.5	948.8	849.3
82.5°	540.8	544.1	544.1	590.5	711.6	831.0	869.2	814.5	723.3	615.5	496.0
85°	51.4	58.1	97.9	150.9	300.2	338.4	340.1	282.0	282.0	222.3	179.2
87.5°	0.0	1.6	1.6	1.6	14.9	41.5	34.8	10.0	4.9	4.9	8.3
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):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	764.8	764.8	764.8	764.8	764.8	764.8	764.8	764.8	764.8	764.8	764.8
2.5°	882.6	877.5	857.6	837.7	819.4	799.5	781.3	763.1	743.2	728.2	710.0
5°	1031.9	995.3	953.9	914.1	874.2	832.8	789.6	751.4	711.6	675.2	640.3
7.5°	1182.8	1111.5	1055.0	983.7	919.0	854.3	794.6	733.3	676.8	623.8	574.0
10°	1310.5	1224.2	1136.3	1045.1	952.2	865.9	783.0	710.0	635.4	570.6	509.3
12.5°	1415.0	1305.5	1197.7	1083.3	978.7	869.2	766.4	678.5	590.5	517.6	454.6
15°	1509.6	1383.5	1254.1	1121.4	988.7	864.3	749.8	640.3	550.7	467.8	396.5
17.5°	1585.8	1441.6	1295.6	1146.3	1003.6	857.6	728.2	613.8	509.3	423.0	353.3
20°	1652.2	1501.3	1343.7	1176.1	1013.6	856.0	710.0	580.6	472.7	381.5	313.5
22.5°	1713.6	1562.7	1393.5	1214.3	1028.5	854.3	693.4	555.7	441.2	350.0	282.0
25°	1783.3	1624.0	1446.5	1254.1	1055.0	860.9	683.5	535.8	413.0	320.1	257.1
27.5°	1861.3	1693.7	1509.6	1303.9	1089.8	874.2	680.1	514.3	388.2	291.9	237.2
30°	1970.7	1776.6	1572.6	1353.6	1121.4	889.1	676.8	500.9	363.2	270.4	217.3
32.5°	2066.9	1857.9	1642.3	1405.0	1156.2	904.1	675.2	482.7	340.1	248.8	202.3
35°	2168.2	1932.6	1702.0	1454.8	1186.1	920.6	673.5	469.4	318.5	227.3	187.5
37.5°	2256.0	1995.6	1748.4	1497.9	1219.2	935.6	675.2	457.8	298.6	209.0	174.1
40°	2330.7	2060.3	1799.9	1537.7	1254.1	958.8	676.8	446.3	278.7	192.4	162.5
42.5°	2397.1	2121.7	1854.6	1582.6	1293.9	985.4	686.8	436.3	262.1	177.5	150.9
45°	2448.5	2178.1	1914.3	1645.6	1358.6	1028.5	705.0	429.6	245.5	164.2	141.0
47.5°	2501.5	2261.0	2015.5	1745.1	1453.2	1096.5	736.5	428.0	232.2	154.2	132.7
50°	2574.5	2343.9	2105.1	1846.3	1539.5	1166.2	774.7	429.6	215.7	144.3	124.4
52.5°	2627.7	2428.6	2221.2	2022.1	1745.1	1378.5	922.4	459.5	207.4	136.1	114.4
55°	2941.1	2906.3	2911.3	2944.5	2730.5	2345.6	1542.7	663.6	243.8	154.2	112.8
57.5°	4147.1	4269.9	4341.2	4339.6	3986.2	3306.1	2071.9	852.7	272.0	179.2	134.3
60°	5733.0	5640.1	5509.1	5185.5	4716.1	3773.9	2317.5	917.3	235.6	142.6	122.7
62.5°	7134.7	6590.7	6107.9	5583.7	4968.3	3936.4	2367.2	912.4	205.7	107.8	86.3
65°	8009.0	7030.3	6250.5	5593.6	4868.8	3800.4	2239.5	837.7	174.1	87.9	71.3
67.5°	8218.0	6793.0	5689.9	4852.1	4067.5	2957.7	1643.9	630.3	136.1	73.0	63.0
69°	7761.8	6038.2	4714.4	3764.0	2959.4	1962.4	1016.9	398.1	104.5	66.4	58.1
70°	7139.7	5251.9	3840.2	3020.8	2191.4	1378.5	711.6	280.3	84.6	61.4	53.0
72.5°	4593.4	2758.7	1887.7	1313.8	904.1	549.1	278.7	126.1	64.6	51.4	43.1
75°	1781.6	1020.2	739.8	562.3	439.6	305.3	169.2	81.3	54.7	43.1	33.1
77.5°	877.5	671.8	549.1	376.6	219.0	136.1	91.2	63.0	44.7	31.5	21.5
80°	693.4	461.1	275.4	170.8	129.4	97.9	69.7	51.4	33.1	19.9	14.9
82.5°	355.0	194.0	142.6	116.2	96.2	76.3	56.4	36.5	21.5	13.2	11.6
85°	111.1	81.3	73.0	71.3	66.4	54.7	39.8	23.2	13.2	8.3	8.3
87.5°	8.3	11.6	14.9	11.6	13.2	11.6	14.9	10.0	6.7	6.7	4.9
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):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	764.8	764.8	764.8	764.8	764.8	764.8	764.8	764.8	764.8	764.8	764.8
2.5°	696.7	676.8	658.6	647.0	625.4	617.1	608.8	605.5	590.5	593.9	580.6
5°	608.8	574.0	547.4	520.9	496.0	477.8	462.8	444.6	429.6	423.0	409.7
7.5°	529.2	484.4	449.5	421.3	391.5	368.3	348.4	335.1	321.8	308.5	301.9
10°	459.5	411.4	371.6	343.3	315.2	295.3	280.3	270.4	262.1	257.1	255.5
12.5°	394.8	348.4	311.8	287.0	265.5	255.5	248.8	243.8	242.2	240.5	240.5
15°	345.1	298.6	270.4	252.1	242.2	237.2	235.6	232.2	228.9	227.3	227.3
17.5°	298.6	263.7	243.8	233.8	228.9	225.6	222.3	219.0	215.7	213.9	213.9
20°	267.1	238.9	228.9	222.3	217.3	213.9	209.0	205.7	204.0	202.3	200.7
22.5°	242.2	223.9	217.3	212.3	205.7	200.7	197.4	194.0	190.8	189.1	187.5
25°	223.9	212.3	207.4	200.7	194.0	189.1	184.1	179.2	175.9	174.1	170.8
27.5°	210.7	202.3	195.8	187.5	180.8	175.9	170.8	165.9	162.5	159.3	157.6
30°	199.1	190.8	182.4	175.9	167.6	162.5	156.0	150.9	149.3	146.0	142.6
32.5°	187.5	179.2	170.8	162.5	154.2	147.7	144.3	137.7	134.3	132.7	129.4
35°	174.1	165.9	156.0	149.3	141.0	134.3	129.4	124.4	121.1	117.8	116.2
37.5°	162.5	152.6	142.6	134.3	127.8	121.1	116.2	111.1	107.8	104.5	102.8
40°	149.3	139.3	129.4	121.1	114.4	109.5	104.5	99.5	96.2	94.5	94.5
42.5°	137.7	126.1	116.2	109.5	104.5	97.9	92.9	87.9	86.3	84.6	86.3
45°	126.1	114.4	106.2	99.5	94.5	87.9	82.9	79.6	78.0	79.6	81.3
47.5°	116.2	104.5	96.2	91.2	86.3	81.3	76.3	73.0	73.0	76.3	79.6
50°	106.2	94.5	87.9	84.6	79.6	74.6	68.0	66.4	68.0	71.3	74.6
52.5°	96.2	82.9	78.0	76.3	71.3	66.4	61.4	59.7	61.4	64.6	63.0
55°	86.3	73.0	71.3	69.7	64.6	58.1	53.0	53.0	53.0	51.4	48.1
57.5°	82.9	64.6	63.0	61.4	56.4	49.8	46.5	43.1	41.5	36.5	34.8
60°	86.3	58.1	58.1	54.7	49.8	43.1	38.2	33.1	29.9	26.6	26.6
62.5°	69.7	53.0	51.4	48.1	41.5	34.8	29.9	24.8	23.2	21.5	21.5
65°	56.4	48.1	44.7	39.8	34.8	28.2	23.2	19.9	18.3	18.3	19.9
67.5°	51.4	43.1	38.2	33.1	28.2	21.5	18.3	16.6	16.6	18.3	18.3
69°	48.1	39.8	34.8	29.9	24.8	19.9	16.6	16.6	16.6	16.6	18.3
70°	44.7	38.2	33.1	28.2	21.5	16.6	14.9	14.9	16.6	16.6	18.3
72.5°	34.8	29.9	28.2	23.2	16.6	14.9	13.2	14.9	14.9	16.6	16.6
75°	26.6	21.5	21.5	18.3	13.2	11.6	11.6	13.2	13.2	14.9	14.9
77.5°	18.3	14.9	14.9	13.2	11.6	10.0	10.0	11.6	13.2	13.2	14.9
80°	13.2	11.6	10.0	11.6	10.0	8.3	10.0	11.6	11.6	13.2	13.2
82.5°	10.0	10.0	10.0	10.0	8.3	8.3	10.0	10.0	11.6	13.2	13.2
85°	8.3	8.3	8.3	8.3	8.3	8.3	8.3	10.0	10.0	11.6	11.6
87.5°	4.9	4.9	4.9	6.7	6.7	8.3	8.3	8.3	8.3	10.0	10.0
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):**

	165°	170°	175°	180°
0°	764.8	764.8	764.8	764.8
2.5°	577.3	575.6	569.0	570.6
5°	404.8	394.8	401.4	399.8
7.5°	297.0	295.3	293.6	297.0
10°	253.8	253.8	252.1	253.8
12.5°	238.9	238.9	238.9	238.9
15°	227.3	227.3	225.6	225.6
17.5°	213.9	213.9	213.9	212.3
20°	200.7	199.1	199.1	199.1
22.5°	185.8	184.1	184.1	184.1
25°	170.8	169.2	169.2	169.2
27.5°	156.0	154.2	152.6	152.6
30°	141.0	139.3	137.7	137.7
32.5°	126.1	124.4	122.7	122.7
35°	112.8	112.8	111.1	109.5
37.5°	101.2	101.2	101.2	101.2
40°	92.9	94.5	94.5	94.5
42.5°	87.9	89.6	91.2	92.9
45°	84.6	87.9	89.6	89.6
47.5°	82.9	84.6	86.3	86.3
50°	76.3	74.6	74.6	74.6
52.5°	61.4	58.1	56.4	54.7
55°	44.7	43.1	39.8	39.8
57.5°	31.5	31.5	29.9	29.9
60°	24.8	24.8	23.2	24.8
62.5°	21.5	21.5	21.5	21.5
65°	19.9	19.9	19.9	19.9
67.5°	19.9	19.9	19.9	19.9
69°	18.3	18.3	18.3	18.3
70°	18.3	18.3	18.3	18.3
72.5°	16.6	16.6	16.6	16.6
75°	14.9	16.6	16.6	16.6
77.5°	14.9	14.9	14.9	14.9
80°	13.2	13.2	14.9	14.9
82.5°	13.2	13.2	13.2	13.2
85°	11.6	11.6	13.2	13.2
87.5°	10.0	10.0	11.6	11.6
90°	0.0	0.0	0.0	0.0

(END OF REPORT)