

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: P163791

Luminaire Tested: **LDRL-SL4-F01-E-7030-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P163791  
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-F01-E-7030-HSS  
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE  
(1) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 W/ SPILL LIGHT CONTROL AND HOUSE SIDE SHIELD  
Light Source: (7) 3000K CCT, 70 CRI LEDs  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1488.2 lumens  
Efficiency: N/A  
Efficacy: 57.5 lumens/watt  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 1' x H: 0.1')  
IES Classification: Type IV - Short - Semi-Cutoff  
BUG Rating: B0 - U0 - G1

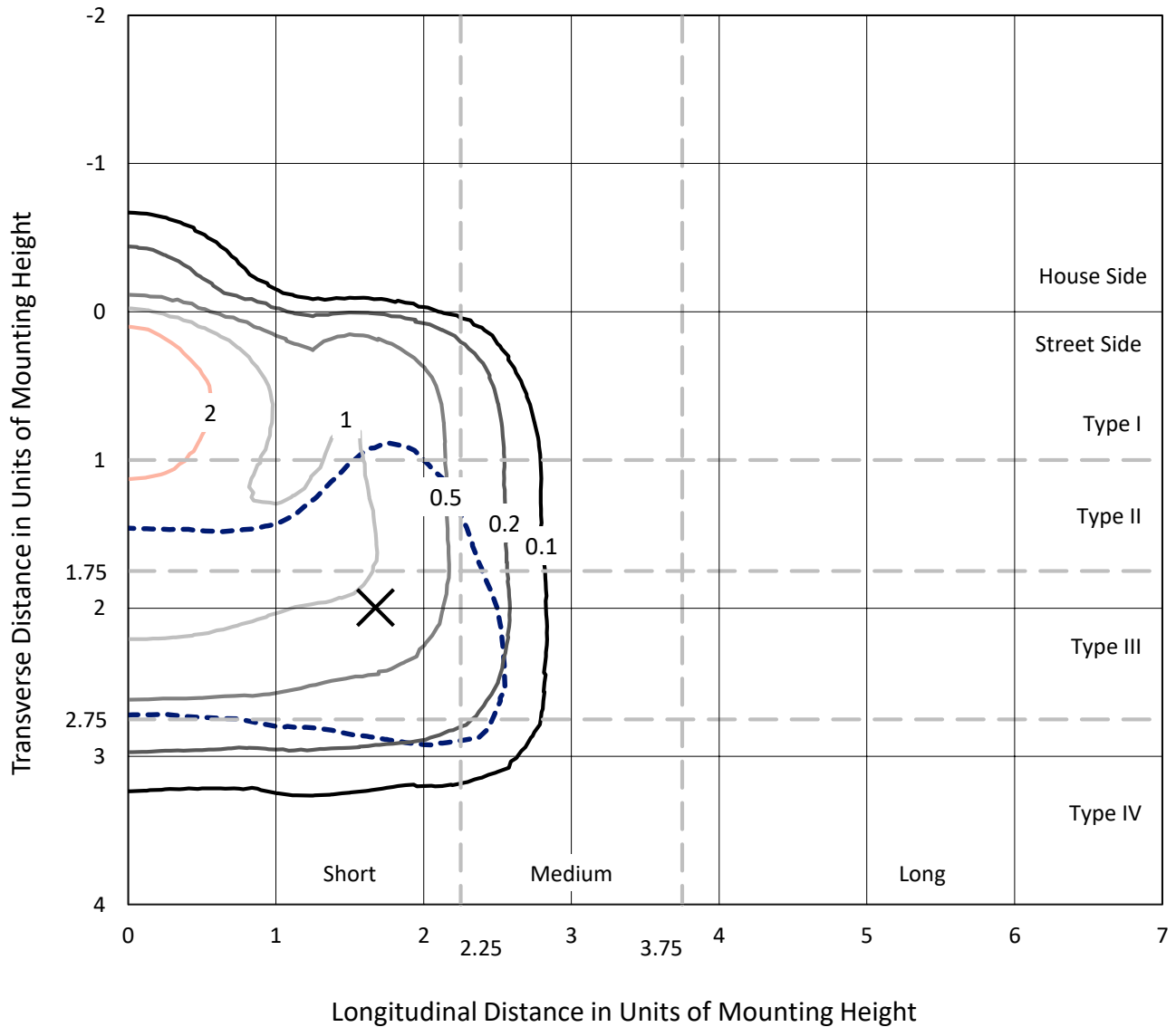
Input Watts (W): 25.9  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

× Max cd  
 - - - 1/2 Max cd

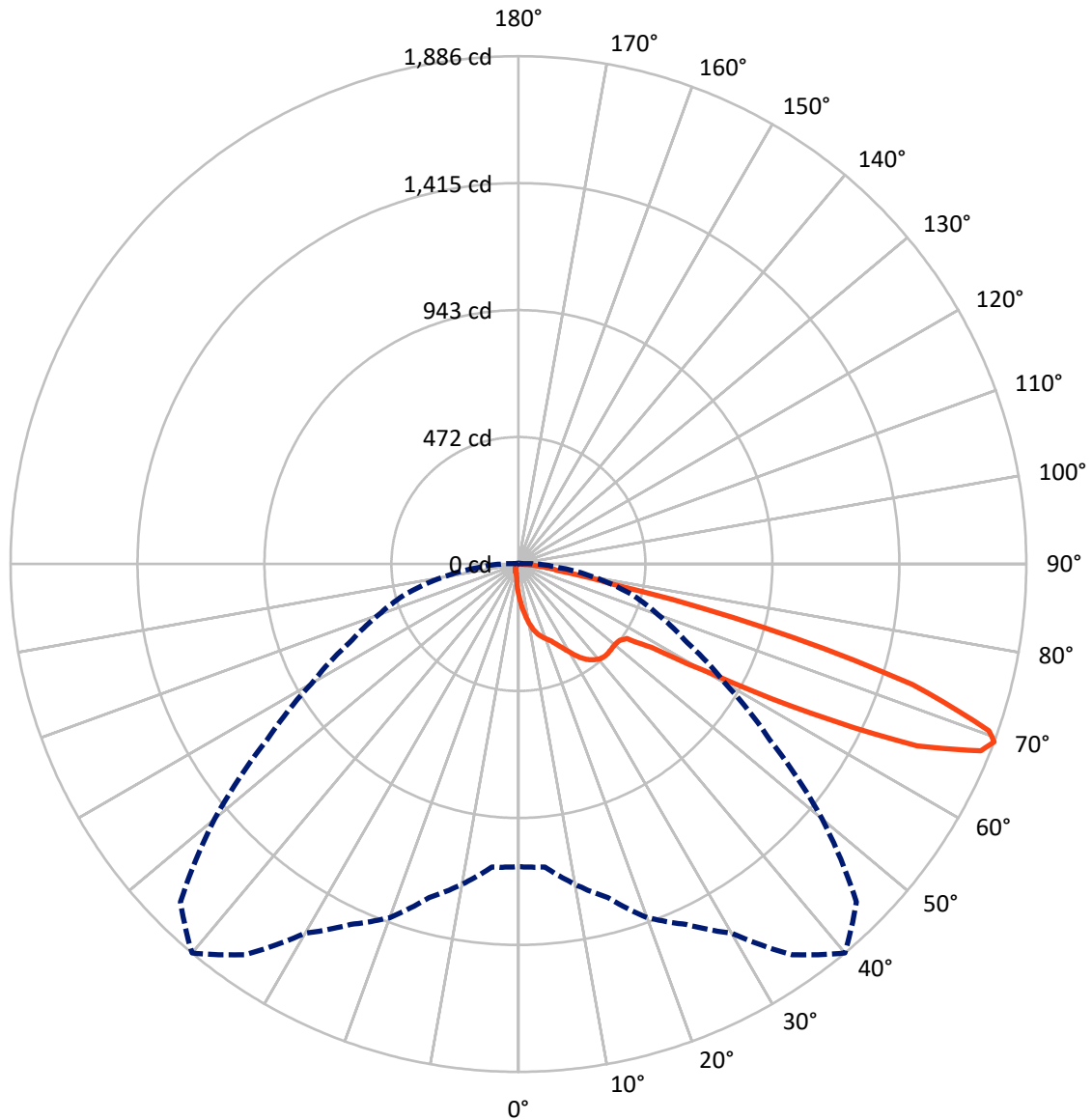


Based on 10 foot mounting height. Maximum calculated value = 3.3 fc  
 Type IV - Short - Semi-Cutoff

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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	44.3	0.0	44.3
	% Fixture	3.0	0.0	3.0
<b>Street Side</b>	Lumens	1443.9	0.0	1443.9
	% Fixture	97.0	0.0	97.0
<b>Total</b>	Lumens	1488.2	0.0	1488.2
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	11.6	0.8
10°-20°	39.8	2.7
20°-30°	76.2	5.1
30°-40°	126.8	8.5
40°-50°	171.5	11.5
50°-60°	268.3	18.0
60°-70°	551.5	37.1
70°-80°	221.9	14.9
80°-90°	20.5	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°	1488.2	100.0
0°-180°	1488.2	100.0



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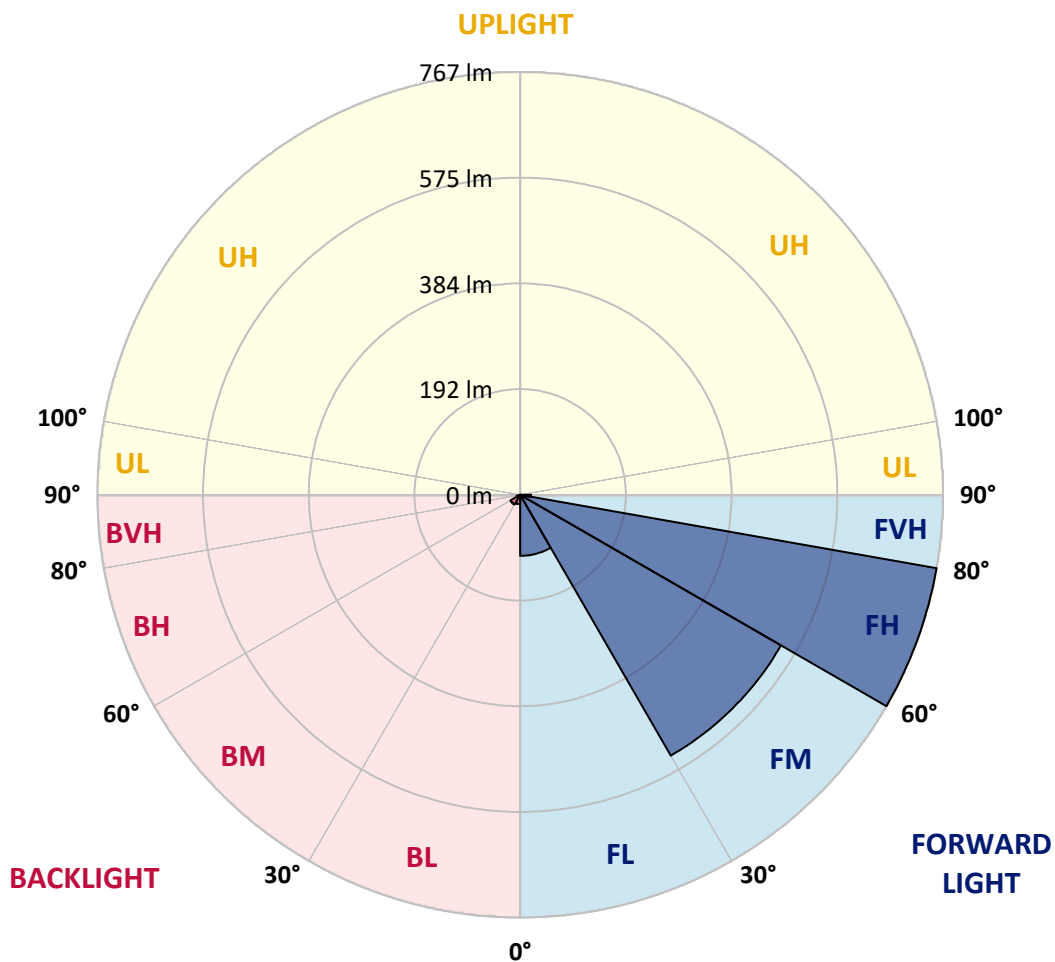
CATALOG NUMBER: LDRL-SL4-F01-E-7030-HSS

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	110.8	7.4			
FM (30°-60°)	546.3	36.7			
FH (60°-80°)	767.0	51.5			G1/1800
FVH (80°-90°)	19.8	1.3			G1/100
BL (0°-30°)	16.9	1.1	B0/110		
BM (30°-60°)	20.2	1.4	B0/220		
BH (60°-80°)	6.5	0.4	B0/110		G0/110
BVH (80°-90°)	0.8	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-G1**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	112.4	112.4	112.4	112.4	112.4	112.4	112.4	112.4	112.4	112.4	112.4
2.5°	149.9	148.2	146.3	146.3	143.8	143.8	142.4	138.5	138.0	135.8	133.6
5°	191.4	189.9	187.5	185.3	183.3	179.9	177.5	172.8	167.7	162.8	158.5
7.5°	231.8	231.1	226.7	226.0	222.8	217.2	212.3	205.5	196.7	189.9	181.9
10°	269.4	267.7	266.7	262.6	257.9	251.8	244.3	236.0	225.7	215.0	203.6
12.5°	299.1	298.2	293.8	292.1	287.2	281.1	271.6	260.9	250.6	236.7	223.3
15°	321.3	319.6	316.7	314.0	308.1	302.8	294.0	282.3	269.9	254.8	238.7
17.5°	339.8	336.7	335.9	331.8	325.7	319.4	309.6	298.9	284.3	269.1	251.6
20°	364.7	360.3	358.9	352.8	345.7	336.9	325.7	312.3	296.9	280.3	262.3
22.5°	394.0	390.8	387.6	382.3	373.2	360.8	344.5	329.8	310.3	292.1	272.6
25°	435.4	432.7	427.6	420.3	409.1	394.2	374.5	353.0	330.1	306.7	283.8
27.5°	475.6	473.2	469.5	463.9	451.3	434.9	410.5	383.2	354.2	326.0	300.6
30°	513.4	511.2	507.6	502.0	490.7	474.7	447.1	417.8	381.8	348.9	318.4
32.5°	554.1	553.4	549.3	541.2	531.5	509.8	479.8	448.3	411.8	373.7	338.1
35°	600.2	594.6	590.7	582.7	566.1	542.9	507.8	473.4	434.9	395.9	356.2
37.5°	639.2	633.9	629.0	618.7	598.5	569.0	529.3	491.5	451.7	412.0	371.5
40°	667.7	665.1	659.2	645.8	623.1	588.0	545.1	503.9	463.9	424.0	384.0
42.5°	689.0	684.8	678.2	664.3	637.5	597.5	551.5	509.0	469.5	431.3	392.0
45°	696.8	693.3	687.2	672.1	643.1	600.2	551.2	507.6	469.8	433.5	397.4
47.5°	692.1	688.7	683.3	669.2	640.7	597.0	546.8	503.4	467.3	434.2	402.3
50°	676.8	674.8	670.7	658.7	633.1	590.9	542.9	501.2	466.9	437.8	409.1
52.5°	675.3	674.1	669.0	657.0	630.9	589.0	542.4	502.4	471.0	442.5	414.0
55°	825.2	807.9	769.1	736.2	682.1	617.8	567.0	522.2	488.6	460.8	440.8
57.5°	1172.9	1147.0	1096.1	1033.4	909.1	786.9	689.2	618.5	583.6	571.0	578.5
60°	1335.7	1331.1	1323.0	1293.3	1229.7	1124.6	1007.6	881.1	830.3	826.0	841.3
62.5°	1413.0	1410.1	1412.5	1408.9	1389.1	1358.4	1324.8	1270.1	1219.9	1187.5	1118.7
65°	1448.6	1450.5	1464.4	1475.4	1477.8	1485.9	1510.5	1578.5	1628.3	1544.6	1353.8
67.5°	1358.2	1369.6	1401.5	1441.5	1488.3	1533.7	1606.8	1750.2	1852.3	1754.1	1483.0
69°	1124.4	1130.0	1208.0	1283.3	1397.6	1477.6	1583.7	1771.6	1886.4	1775.5	1472.7
70°	885.2	890.3	973.9	1076.3	1269.6	1372.5	1511.2	1735.3	1854.5	1747.0	1420.1
72.5°	399.3	392.0	421.5	476.4	686.5	849.8	1092.4	1405.9	1530.0	1399.6	1062.4
75°	278.9	275.7	278.9	279.1	311.8	402.3	507.6	762.1	942.5	813.3	507.6
77.5°	216.0	213.8	211.6	209.2	213.1	238.7	248.9	270.4	351.1	332.0	193.6
80°	170.9	168.9	174.3	172.6	172.6	175.5	173.6	165.5	150.4	139.4	124.8
82.5°	79.5	80.0	80.0	86.8	104.6	122.1	127.7	119.7	106.3	90.4	72.9
85°	7.6	8.5	14.4	22.2	44.1	49.7	50.0	41.4	41.4	32.7	26.3
87.5°	0.0	0.2	0.2	0.2	2.2	6.1	5.1	1.5	0.7	0.7	1.2
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):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	112.4	112.4	112.4	112.4	112.4	112.4	112.4	112.4	112.4	112.4	112.4
2.5°	129.7	129.0	126.0	123.1	120.4	117.5	114.8	112.1	109.2	107.0	104.3
5°	151.6	146.3	140.2	134.3	128.5	122.4	116.0	110.4	104.6	99.2	94.1
7.5°	173.8	163.3	155.1	144.6	135.1	125.6	116.8	107.8	99.5	91.7	84.4
10°	192.6	179.9	167.0	153.6	139.9	127.3	115.1	104.3	93.4	83.9	74.8
12.5°	208.0	191.9	176.0	159.2	143.8	127.7	112.6	99.7	86.8	76.1	66.8
15°	221.9	203.3	184.3	164.8	145.3	127.0	110.2	94.1	80.9	68.7	58.3
17.5°	233.1	211.9	190.4	168.5	147.5	126.0	107.0	90.2	74.8	62.2	51.9
20°	242.8	220.6	197.5	172.8	149.0	125.8	104.3	85.3	69.5	56.1	46.1
22.5°	251.8	229.7	204.8	178.5	151.1	125.6	101.9	81.7	64.8	51.4	41.4
25°	262.1	238.7	212.6	184.3	155.1	126.5	100.4	78.7	60.7	47.0	37.8
27.5°	273.5	248.9	221.9	191.6	160.2	128.5	99.9	75.6	57.0	42.9	34.9
30°	289.6	261.1	231.1	198.9	164.8	130.7	99.5	73.6	53.4	39.7	31.9
32.5°	303.8	273.0	241.4	206.5	169.9	132.9	99.2	70.9	50.0	36.6	29.7
35°	318.6	284.0	250.1	213.8	174.3	135.3	99.0	69.0	46.8	33.4	27.6
37.5°	331.5	293.3	256.9	220.1	179.2	137.5	99.2	67.3	43.9	30.7	25.6
40°	342.5	302.8	264.5	226.0	184.3	140.9	99.5	65.6	41.0	28.3	23.9
42.5°	352.3	311.8	272.6	232.6	190.2	144.8	100.9	64.1	38.5	26.1	22.2
45°	359.8	320.1	281.3	241.8	199.7	151.1	103.6	63.1	36.1	24.1	20.7
47.5°	367.6	332.3	296.2	256.5	213.6	161.1	108.2	62.9	34.1	22.7	19.5
50°	378.4	344.5	309.4	271.3	226.2	171.4	113.9	63.1	31.7	21.2	18.3
52.5°	386.2	356.9	326.4	297.2	256.5	202.6	135.6	67.5	30.5	20.0	16.8
55°	432.2	427.1	427.8	432.7	401.3	344.7	226.7	97.5	35.8	22.7	16.6
57.5°	609.5	627.5	638.0	637.8	585.8	485.9	304.5	125.3	40.0	26.3	19.7
60°	842.5	828.9	809.6	762.1	693.1	554.6	340.6	134.8	34.6	21.0	18.0
62.5°	1048.5	968.6	897.6	820.6	730.2	578.5	347.9	134.1	30.2	15.8	12.7
65°	1177.0	1033.2	918.6	822.0	715.5	558.5	329.1	123.1	25.6	12.9	10.5
67.5°	1207.7	998.3	836.2	713.1	597.8	434.7	241.6	92.6	20.0	10.7	9.3
69°	1140.7	887.4	692.8	553.2	434.9	288.4	149.4	58.5	15.4	9.8	8.5
70°	1049.3	771.8	564.4	443.9	322.0	202.6	104.6	41.2	12.4	9.0	7.8
72.5°	675.1	405.4	277.4	193.1	132.9	80.7	41.0	18.5	9.5	7.6	6.3
75°	261.8	149.9	108.7	82.6	64.6	44.9	24.9	11.9	8.0	6.3	4.9
77.5°	129.0	98.7	80.7	55.3	32.2	20.0	13.4	9.3	6.6	4.6	3.2
80°	101.9	67.8	40.5	25.1	19.0	14.4	10.2	7.6	4.9	2.9	2.2
82.5°	52.2	28.5	21.0	17.1	14.1	11.2	8.3	5.4	3.2	1.9	1.7
85°	16.3	11.9	10.7	10.5	9.8	8.0	5.9	3.4	1.9	1.2	1.2
87.5°	1.2	1.7	2.2	1.7	1.9	1.7	2.2	1.5	1.0	1.0	0.7
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°	112.4	112.4	112.4	112.4	112.4	112.4	112.4	112.4	112.4	112.4	112.4
2.5°	102.4	99.5	96.8	95.1	91.9	90.7	89.5	89.0	86.8	87.3	85.3
5°	89.5	84.4	80.5	76.5	72.9	70.2	68.0	65.3	63.1	62.2	60.2
7.5°	77.8	71.2	66.1	61.9	57.5	54.1	51.2	49.3	47.3	45.3	44.4
10°	67.5	60.5	54.6	50.5	46.3	43.4	41.2	39.7	38.5	37.8	37.5
12.5°	58.0	51.2	45.8	42.2	39.0	37.5	36.6	35.8	35.6	35.3	35.3
15°	50.7	43.9	39.7	37.1	35.6	34.9	34.6	34.1	33.6	33.4	33.4
17.5°	43.9	38.8	35.8	34.4	33.6	33.2	32.7	32.2	31.7	31.4	31.4
20°	39.3	35.1	33.6	32.7	31.9	31.4	30.7	30.2	30.0	29.7	29.5
22.5°	35.6	32.9	31.9	31.2	30.2	29.5	29.0	28.5	28.0	27.8	27.6
25°	32.9	31.2	30.5	29.5	28.5	27.8	27.1	26.3	25.8	25.6	25.1
27.5°	31.0	29.7	28.8	27.6	26.6	25.8	25.1	24.4	23.9	23.4	23.2
30°	29.3	28.0	26.8	25.8	24.6	23.9	22.9	22.2	21.9	21.5	21.0
32.5°	27.6	26.3	25.1	23.9	22.7	21.7	21.2	20.2	19.7	19.5	19.0
35°	25.6	24.4	22.9	21.9	20.7	19.7	19.0	18.3	17.8	17.3	17.1
37.5°	23.9	22.4	21.0	19.7	18.8	17.8	17.1	16.3	15.8	15.4	15.1
40°	21.9	20.5	19.0	17.8	16.8	16.1	15.4	14.6	14.1	13.9	13.9
42.5°	20.2	18.5	17.1	16.1	15.4	14.4	13.6	12.9	12.7	12.4	12.7
45°	18.5	16.8	15.6	14.6	13.9	12.9	12.2	11.7	11.5	11.7	11.9
47.5°	17.1	15.4	14.1	13.4	12.7	11.9	11.2	10.7	10.7	11.2	11.7
50°	15.6	13.9	12.9	12.4	11.7	11.0	10.0	9.8	10.0	10.5	11.0
52.5°	14.1	12.2	11.5	11.2	10.5	9.8	9.0	8.8	9.0	9.5	9.3
55°	12.7	10.7	10.5	10.2	9.5	8.5	7.8	7.8	7.8	7.6	7.1
57.5°	12.2	9.5	9.3	9.0	8.3	7.3	6.8	6.3	6.1	5.4	5.1
60°	12.7	8.5	8.5	8.0	7.3	6.3	5.6	4.9	4.4	3.9	3.9
62.5°	10.2	7.8	7.6	7.1	6.1	5.1	4.4	3.6	3.4	3.2	3.2
65°	8.3	7.1	6.6	5.9	5.1	4.1	3.4	2.9	2.7	2.7	2.9
67.5°	7.6	6.3	5.6	4.9	4.1	3.2	2.7	2.4	2.4	2.7	2.7
69°	7.1	5.9	5.1	4.4	3.6	2.9	2.4	2.4	2.4	2.4	2.7
70°	6.6	5.6	4.9	4.1	3.2	2.4	2.2	2.2	2.4	2.4	2.7
72.5°	5.1	4.4	4.1	3.4	2.4	2.2	1.9	2.2	2.2	2.4	2.4
75°	3.9	3.2	3.2	2.7	1.9	1.7	1.7	1.9	1.9	2.2	2.2
77.5°	2.7	2.2	2.2	1.9	1.7	1.5	1.5	1.7	1.9	1.9	2.2
80°	1.9	1.7	1.5	1.7	1.5	1.2	1.5	1.7	1.7	1.9	1.9
82.5°	1.5	1.5	1.5	1.5	1.2	1.2	1.5	1.5	1.7	1.9	1.9
85°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.5	1.5	1.7	1.7
87.5°	0.7	0.7	0.7	1.0	1.0	1.2	1.2	1.2	1.2	1.5	1.5
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):**

	165°	170°	175°	180°
0°	112.4	112.4	112.4	112.4
2.5°	84.8	84.6	83.6	83.9
5°	59.5	58.0	59.0	58.8
7.5°	43.6	43.4	43.1	43.6
10°	37.3	37.3	37.1	37.3
12.5°	35.1	35.1	35.1	35.1
15°	33.4	33.4	33.2	33.2
17.5°	31.4	31.4	31.4	31.2
20°	29.5	29.3	29.3	29.3
22.5°	27.3	27.1	27.1	27.1
25°	25.1	24.9	24.9	24.9
27.5°	22.9	22.7	22.4	22.4
30°	20.7	20.5	20.2	20.2
32.5°	18.5	18.3	18.0	18.0
35°	16.6	16.6	16.3	16.1
37.5°	14.9	14.9	14.9	14.9
40°	13.6	13.9	13.9	13.9
42.5°	12.9	13.2	13.4	13.6
45°	12.4	12.9	13.2	13.2
47.5°	12.2	12.4	12.7	12.7
50°	11.2	11.0	11.0	11.0
52.5°	9.0	8.5	8.3	8.0
55°	6.6	6.3	5.9	5.9
57.5°	4.6	4.6	4.4	4.4
60°	3.6	3.6	3.4	3.6
62.5°	3.2	3.2	3.2	3.2
65°	2.9	2.9	2.9	2.9
67.5°	2.9	2.9	2.9	2.9
69°	2.7	2.7	2.7	2.7
70°	2.7	2.7	2.7	2.7
72.5°	2.4	2.4	2.4	2.4
75°	2.2	2.4	2.4	2.4
77.5°	2.2	2.2	2.2	2.2
80°	1.9	1.9	2.2	2.2
82.5°	1.9	1.9	1.9	1.9
85°	1.7	1.7	1.9	1.9
87.5°	1.5	1.5	1.7	1.7
90°	0.0	0.0	0.0	0.0

(END OF REPORT)