

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: P145422

Luminaire Tested: **LDRL-SL4-E01-E-7060**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P145422  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33703)  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: LDRL-SL4-E01-E-7060  
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE  
(1) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 W/ SPILL LIGHT CONTROL  
Light Source: (21) 5700K CCT, 70 CRI LEDs  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2957.3 lumens  
Efficiency: N/A  
Efficacy: 119.7 lumens/watt  
Luminous Opening: Rectangular (W 0.17' x L: 1' x H: 0')  
IES Classification: Type IV - Short - Semi-Cutoff  
BUG Rating: B1 - U0 - G1

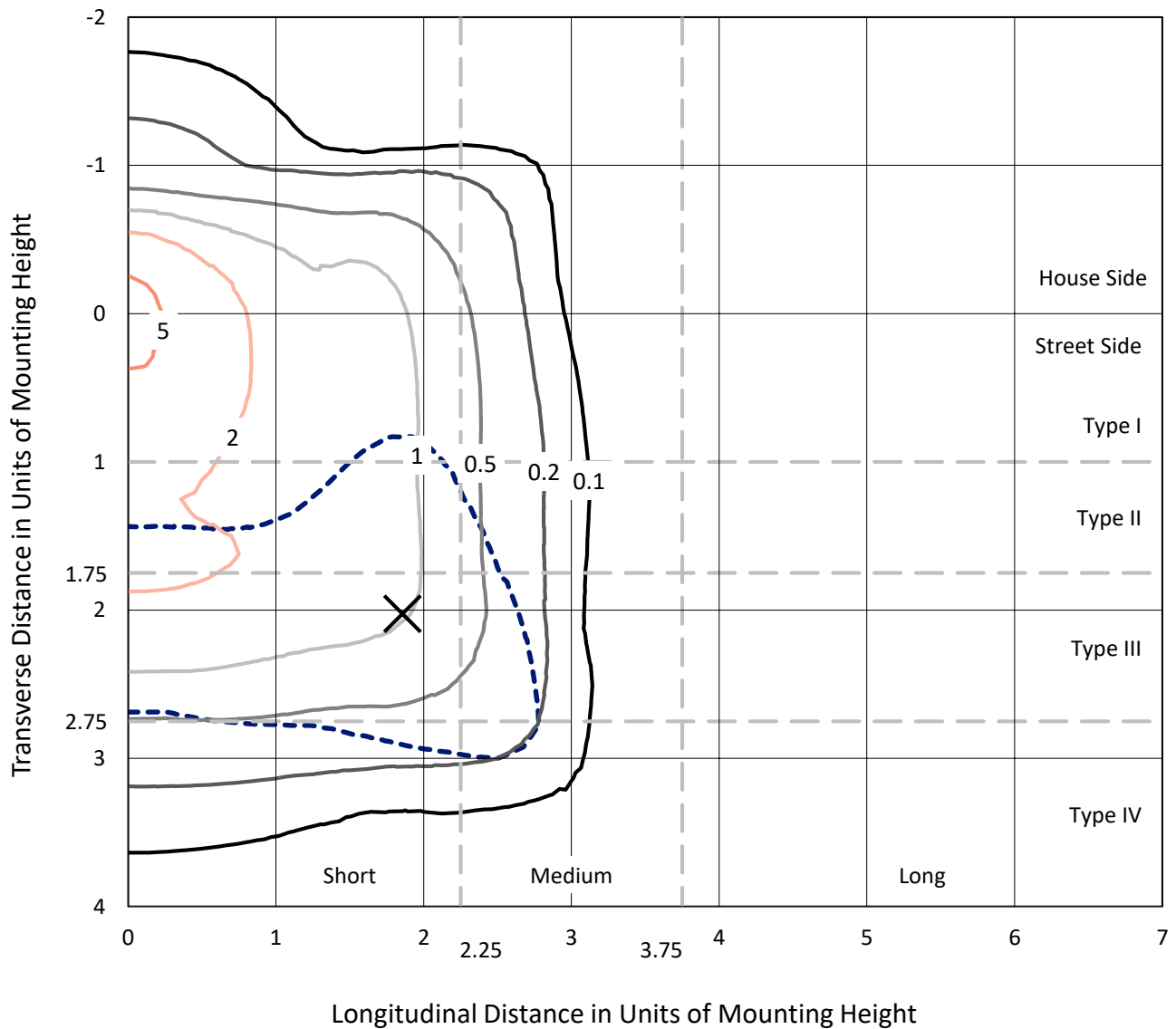
Input Watts (W): 24.7  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

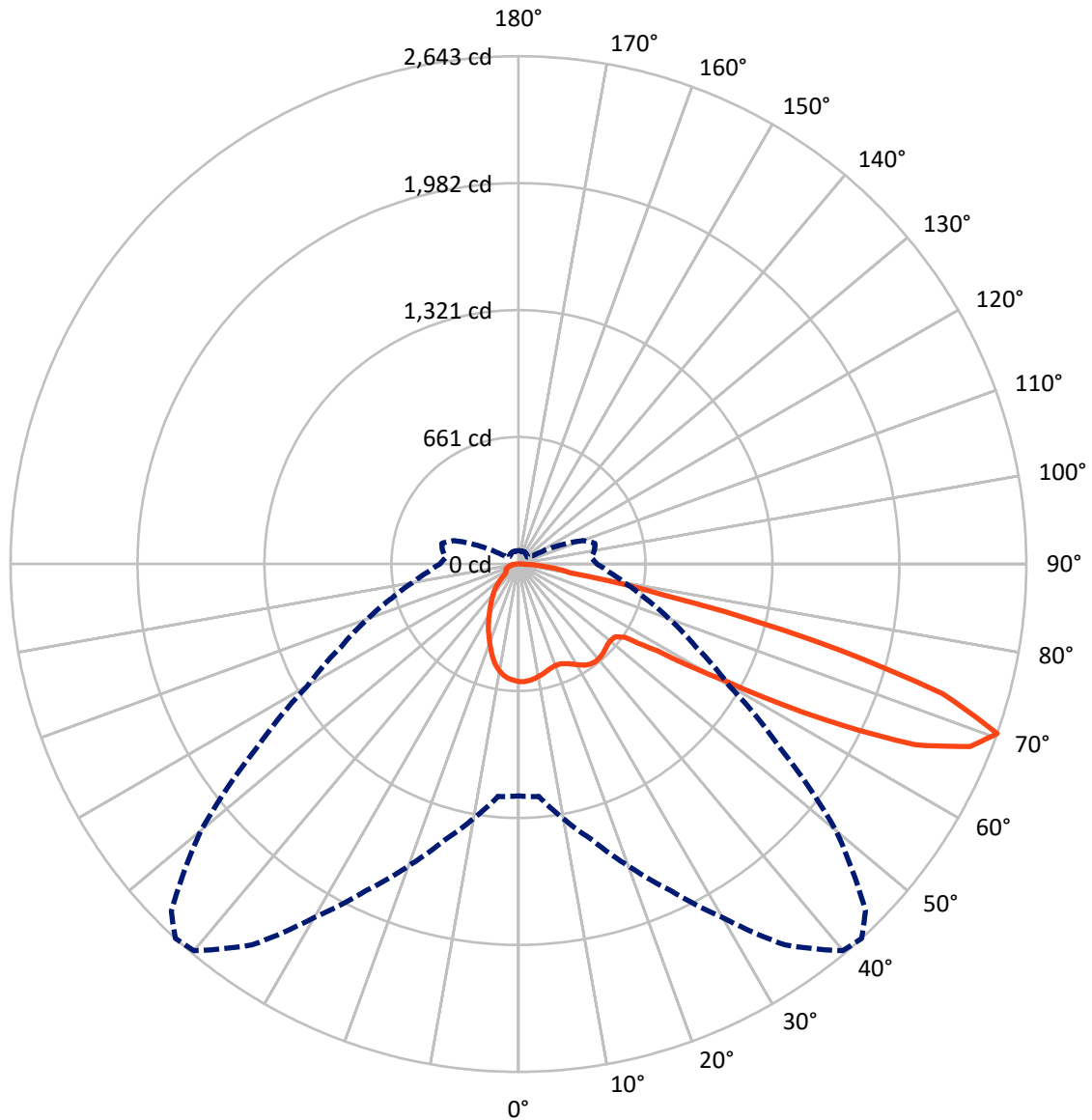
× Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 6.1 fc  
 Type IV - Short - Semi-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 42.5-Deg Lateral    - - - Horizontal Cone Through 70-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	638.8	0.0	638.8
	% Fixture	21.6	0.0	21.6
<b>Street Side</b>	Lumens	2318.4	0.0	2318.4
	% Fixture	78.4	0.0	78.4
<b>Total</b>	Lumens	2957.3	0.0	2957.3
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	56.9	1.9
10°-20°	153.3	5.2
20°-30°	223.6	7.6
30°-40°	285.2	9.6
40°-50°	332.8	11.3
50°-60°	509.0	17.2
60°-70°	922.7	31.2
70°-80°	410.3	13.9
80°-90°	63.5	2.1
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°	2957.3	100.0
0°-180°	2957.3	100.0



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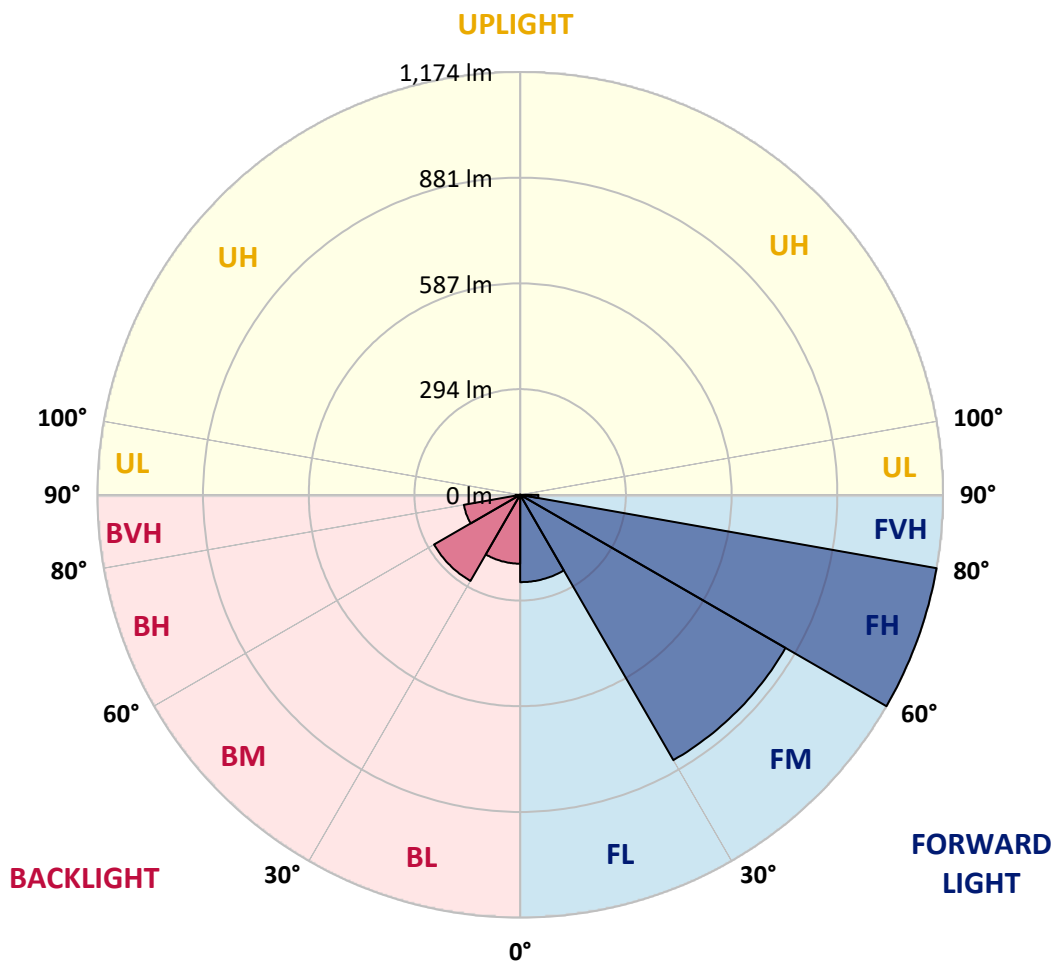
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	242.6	8.2			
FM (30°-60°)	850.9	28.8			
FH (60°-80°)	1174.3	39.7			G1/1800
FVH (80°-90°)	50.7	1.7			G1/100
BL (0°-30°)	191.2	6.5	B1/500		
BM (30°-60°)	276.2	9.3	B1/1000		
BH (60°-80°)	158.7	5.4	B1/500		G1/500
BVH (80°-90°)	12.8	0.4			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G1**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	42.5°	45°
0°	611.6	611.6	611.6	611.6	611.6	611.6	611.6	611.6	611.6	611.6	611.6
2.5°	614.4	613.8	614.2	614.6	614.6	614.8	613.0	613.2	612.4	612.6	612.8
5°	612.2	611.6	612.0	612.0	612.0	611.8	609.3	609.1	608.1	608.1	607.7
7.5°	607.9	605.6	606.8	607.0	606.6	605.6	604.2	602.7	602.1	602.1	600.7
10°	601.3	598.8	599.5	599.9	599.7	597.6	597.0	595.6	593.9	593.3	591.7
12.5°	592.9	591.2	592.1	591.9	591.9	590.0	589.0	586.9	584.9	583.9	581.8
15°	587.5	585.5	586.3	586.3	585.5	583.6	582.2	578.5	575.0	573.8	571.1
17.5°	590.8	588.8	589.6	589.0	587.5	583.6	580.0	574.0	568.5	565.2	561.7
20°	604.0	601.9	602.5	602.1	600.1	593.7	586.9	576.7	566.4	561.5	556.1
22.5°	624.9	623.3	624.3	623.7	620.4	612.2	602.1	587.3	572.0	564.6	557.0
25°	655.9	655.5	657.1	655.3	650.6	638.2	623.7	603.8	583.6	574.4	563.7
27.5°	693.2	689.7	692.2	690.6	687.3	671.7	652.0	626.7	601.1	589.0	576.3
30°	726.9	723.8	728.3	727.5	722.6	706.6	681.7	652.2	623.3	607.9	593.3
32.5°	765.9	762.0	765.5	765.5	758.1	736.5	708.2	674.4	644.0	627.6	610.1
35°	806.7	802.6	805.9	804.9	791.7	763.2	727.7	691.0	657.5	640.7	622.8
37.5°	844.7	844.1	844.9	838.1	819.9	783.3	740.8	699.8	664.3	646.7	628.0
40°	882.7	881.2	877.7	865.8	839.1	795.2	747.6	702.9	664.7	646.2	627.4
42.5°	906.5	903.8	897.8	881.6	848.2	798.1	745.6	698.2	659.8	640.9	622.4
45°	914.7	912.0	904.8	886.6	848.4	793.6	737.6	688.7	650.6	633.3	614.6
47.5°	907.9	906.3	899.7	881.4	841.8	785.2	727.5	679.3	641.7	624.9	607.5
50°	896.4	895.4	889.6	872.8	835.7	780.0	722.8	674.8	639.3	623.7	607.2
52.5°	925.1	922.1	911.8	891.9	848.6	789.3	730.2	681.5	645.0	629.2	612.4
55°	1278.3	1255.5	1204.6	1109.2	975.6	872.0	784.8	726.1	686.7	671.3	655.3
57.5°	1681.2	1657.4	1636.2	1563.4	1404.7	1209.0	1032.9	929.9	859.3	852.5	846.1
60°	1836.3	1843.9	1842.1	1815.0	1733.7	1640.7	1493.4	1371.7	1236.9	1231.3	1239.3
62.5°	1943.2	1949.6	1950.4	1942.2	1915.7	1884.8	1854.0	1815.0	1789.3	1778.2	1706.6
65°	1987.4	1996.6	2016.9	2032.1	2036.4	2047.1	2075.0	2181.1	2269.5	2268.9	2185.0
67.5°	1818.9	1830.0	1906.9	1982.4	2045.8	2119.3	2232.4	2405.0	2538.2	2534.1	2465.3
70°	1207.1	1214.1	1344.8	1487.0	1671.5	1875.5	2122.6	2420.2	2626.6	2642.8	2554.2
72.5°	740.4	756.4	799.1	856.8	955.3	1144.3	1511.7	2020.2	2323.1	2307.9	2237.3
75°	499.9	500.7	499.5	505.7	511.2	549.4	697.3	1110.9	1573.6	1581.8	1551.5
77.5°	341.7	346.2	348.7	347.0	352.6	350.9	359.5	380.7	603.1	769.8	707.4
80°	298.6	300.4	303.1	299.2	289.0	283.2	291.2	283.6	267.2	276.0	264.3
82.5°	189.0	194.5	195.2	208.7	228.8	229.6	239.9	232.3	211.4	197.6	180.8
85°	135.9	137.9	141.6	142.4	135.4	129.5	133.2	126.8	114.3	106.9	94.6
87.5°	79.2	81.3	85.0	82.7	75.7	67.1	60.5	52.1	41.2	38.6	34.1
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):**

	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°
0°	611.6	611.6	611.6	611.6	611.6	611.6	611.6	611.6	611.6	611.6	611.6
2.5°	613.0	612.0	611.1	610.7	611.6	610.7	609.9	609.5	608.7	608.9	607.9
5°	607.2	605.8	604.6	603.6	604.4	602.9	601.7	600.9	599.9	599.7	598.6
7.5°	599.2	597.0	595.3	593.5	591.4	590.2	588.8	587.3	585.1	584.9	584.5
10°	588.8	586.9	583.6	580.8	577.9	574.8	571.7	569.5	566.8	565.8	564.4
12.5°	578.3	574.6	570.7	566.2	562.7	557.8	553.7	549.4	545.5	543.0	540.3
15°	566.0	562.1	556.6	552.2	547.3	541.8	536.4	530.1	523.7	519.8	516.1
17.5°	555.3	550.4	545.9	539.7	534.8	528.4	520.4	513.7	506.1	499.7	492.9
20°	547.1	541.6	536.2	530.7	524.8	517.6	508.7	499.1	489.5	480.4	470.4
22.5°	543.8	535.0	529.1	523.9	517.8	509.6	499.7	487.8	475.9	464.4	452.7
25°	546.7	533.6	524.3	518.6	513.1	504.6	493.6	480.0	466.1	451.5	437.5
27.5°	554.5	537.9	524.8	515.7	509.4	501.1	488.8	474.7	458.9	442.5	427.5
30°	565.8	545.1	528.6	515.7	506.3	496.8	483.5	467.5	450.9	433.6	416.8
32.5°	578.1	553.1	533.4	516.3	501.8	489.9	475.9	460.3	442.7	424.4	406.3
35°	587.3	558.8	535.4	514.1	495.4	480.4	465.4	450.3	433.0	414.5	396.5
37.5°	591.2	561.1	535.0	509.4	486.6	470.2	454.6	439.4	422.8	405.3	388.7
40°	591.4	561.1	532.5	503.0	477.3	459.5	443.1	428.9	413.3	398.3	383.6
42.5°	587.5	558.2	528.0	497.0	470.6	450.5	433.6	419.1	406.5	393.2	380.7
45°	580.6	552.5	523.9	493.8	468.1	448.2	430.1	416.4	405.1	393.2	382.3
47.5°	575.2	549.2	524.1	498.5	474.1	453.5	434.0	419.5	409.8	400.4	392.6
50°	576.3	550.4	526.6	502.2	478.2	457.4	438.6	426.0	420.3	417.2	415.4
52.5°	581.6	555.3	537.3	521.1	513.3	500.5	490.1	480.6	482.1	474.7	465.2
55°	636.6	627.8	648.5	663.5	670.9	683.8	702.5	684.6	682.2	659.4	591.7
57.5°	854.7	875.7	907.5	930.1	932.3	928.4	913.0	898.3	874.2	840.0	745.2
60°	1220.7	1215.7	1186.2	1146.6	1115.8	1075.4	1034.7	1000.5	961.9	909.3	808.4
62.5°	1605.4	1486.8	1381.5	1291.9	1215.7	1148.2	1086.9	1035.3	982.4	906.9	799.3
65°	1916.1	1687.9	1502.4	1358.2	1244.9	1149.4	1070.2	999.2	928.4	841.0	736.7
67.5°	2138.2	1776.2	1496.3	1293.3	1134.5	1003.1	887.8	806.9	734.3	665.5	618.5
70°	2155.8	1654.1	1265.8	1017.5	834.2	679.9	560.3	472.0	408.8	380.3	400.6
72.5°	1842.3	1223.7	841.6	622.8	494.4	384.2	308.9	246.9	196.0	170.9	174.4
75°	1085.0	587.5	379.0	282.4	230.7	184.3	159.5	134.6	118.8	95.2	76.1
77.5°	413.1	255.5	191.3	158.8	113.3	81.5	64.2	55.4	50.9	50.3	47.6
80°	238.1	187.4	131.1	85.8	62.8	53.2	45.6	39.0	36.3	35.7	36.7
82.5°	150.4	116.8	72.0	55.2	45.8	39.4	32.8	28.5	26.3	25.4	26.9
85°	77.8	58.5	43.9	37.8	35.1	32.0	26.3	22.0	21.8	22.8	26.3
87.5°	28.7	25.0	19.7	17.0	18.3	17.0	12.3	10.7	9.6	12.7	18.5
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):**

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°
0°	611.6	611.6	611.6	611.6	611.6	611.6	611.6	611.6	611.6	611.6	611.6
2.5°	607.9	607.5	607.7	607.2	607.2	607.9	607.0	606.4	607.5	607.5	608.1
5°	598.4	598.8	598.8	598.6	599.0	600.1	599.9	599.9	601.5	602.1	602.9
7.5°	583.4	584.1	584.3	584.9	585.1	586.5	587.5	588.8	591.2	591.9	593.7
10°	563.1	562.7	564.2	563.9	565.8	567.0	567.8	570.5	574.2	576.3	578.1
12.5°	539.1	539.1	539.9	540.1	541.8	543.4	544.5	547.7	550.8	553.5	557.6
15°	513.7	512.8	511.0	510.8	511.4	513.1	515.3	517.8	522.5	526.4	529.9
17.5°	487.0	484.5	482.3	479.4	479.2	479.0	480.2	482.1	489.5	493.4	498.3
20°	463.4	458.1	452.7	446.8	443.3	441.6	442.3	444.7	451.7	456.8	462.0
22.5°	442.3	434.2	425.8	416.4	410.6	407.2	407.6	408.6	413.7	416.8	419.5
25°	424.2	413.1	401.4	389.3	381.3	376.0	375.8	375.8	373.5	373.9	372.5
27.5°	411.9	396.5	381.5	367.3	356.9	351.5	344.4	339.2	334.7	328.6	325.9
30°	400.0	384.2	367.1	351.5	339.0	328.6	315.2	304.1	295.3	286.9	279.7
32.5°	389.3	372.9	356.7	339.6	322.4	304.3	286.9	274.2	261.7	248.7	240.1
35°	379.9	364.5	348.3	329.0	304.8	281.2	261.5	244.2	229.4	213.8	201.3
37.5°	374.5	360.6	343.7	317.5	287.1	260.2	238.3	219.0	199.3	180.6	165.2
40°	371.9	359.5	339.0	305.8	271.3	242.6	218.2	195.0	171.8	149.8	133.8
42.5°	371.5	359.5	332.0	293.9	257.8	227.0	199.7	171.8	143.7	122.3	108.2
45°	375.1	359.1	324.7	283.2	245.6	213.0	180.2	147.3	118.4	99.7	91.9
47.5°	385.8	360.6	318.9	274.2	234.2	197.6	158.0	120.3	95.6	87.2	87.0
50°	403.1	367.1	317.7	267.6	222.9	178.3	132.0	96.2	84.3	83.9	86.2
52.5°	430.3	379.5	320.8	263.1	209.3	153.3	104.5	83.1	80.9	83.1	86.0
55°	490.5	401.4	324.9	255.1	187.4	121.5	86.0	78.8	79.8	82.5	85.2
57.5°	599.9	447.0	329.2	237.0	151.9	93.4	77.4	77.2	79.0	81.3	83.7
60°	669.2	503.2	339.6	210.4	114.7	77.2	74.1	76.1	78.4	80.0	82.1
62.5°	671.5	518.0	345.2	181.8	85.4	70.6	71.2	75.1	77.8	78.4	79.4
65°	628.2	490.1	320.1	148.0	70.8	66.9	69.2	72.6	75.3	75.7	76.5
67.5°	548.8	432.2	271.3	111.6	64.4	64.0	66.5	69.2	71.0	72.6	73.9
70°	413.3	356.7	218.2	86.6	60.5	60.1	62.6	64.8	66.5	68.5	70.6
72.5°	209.5	246.9	165.4	70.8	55.2	55.6	58.3	60.3	61.6	63.4	65.5
75°	71.4	107.7	104.7	57.3	49.3	50.9	52.1	54.4	56.2	57.5	58.5
77.5°	44.7	46.8	54.0	46.2	43.5	43.9	46.0	48.0	50.1	50.9	51.3
80°	37.4	37.6	37.8	36.9	37.1	38.4	39.6	41.9	43.9	44.3	44.5
82.5°	29.6	31.6	31.4	31.2	32.2	33.5	34.3	35.1	35.9	36.3	36.9
85°	26.1	25.7	25.9	26.5	25.7	24.8	24.6	24.6	25.9	27.3	27.9
87.5°	23.8	20.3	15.2	14.4	14.4	14.0	13.1	13.1	14.4	15.6	16.2
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):**

	160°	165°	170°	175°	180°
0°	611.6	611.6	611.6	611.6	611.6
2.5°	607.9	608.1	607.9	607.9	608.9
5°	603.4	604.2	603.8	604.4	605.0
7.5°	594.1	596.2	596.6	598.2	597.6
10°	580.8	582.2	584.3	585.9	585.3
12.5°	559.6	563.1	566.2	568.1	567.6
15°	532.8	537.7	541.8	543.2	541.6
17.5°	504.0	507.1	512.0	513.1	514.7
20°	467.7	467.5	471.8	471.8	471.0
22.5°	420.3	423.4	423.4	420.5	419.1
25°	371.9	372.9	369.8	370.4	366.5
27.5°	323.2	320.6	318.1	319.1	316.2
30°	276.8	271.1	268.6	269.0	266.0
32.5°	232.3	225.5	223.1	219.8	217.1
35°	191.9	181.2	174.8	173.2	175.1
37.5°	152.3	144.7	137.1	131.5	132.2
40°	120.5	112.7	107.7	105.5	105.1
42.5°	99.5	95.0	94.0	94.2	94.2
45°	90.3	90.5	91.3	92.1	92.3
47.5°	88.5	89.7	91.1	92.1	92.3
50°	88.2	89.5	90.5	91.7	92.1
52.5°	88.0	88.9	89.5	90.1	90.7
55°	87.2	87.6	87.4	87.8	88.5
57.5°	85.2	85.4	85.0	85.2	86.4
60°	83.3	83.5	82.7	83.7	83.9
62.5°	81.1	80.9	80.4	81.1	81.1
65°	77.8	76.5	77.0	77.6	77.8
67.5°	73.9	72.6	72.6	73.1	73.7
70°	69.0	68.3	68.3	69.2	70.0
72.5°	63.4	63.8	65.1	66.3	67.5
75°	58.9	59.9	61.2	64.2	66.1
77.5°	53.2	53.4	54.4	57.5	60.7
80°	45.1	44.9	45.1	45.6	46.2
82.5°	35.7	35.3	34.1	34.5	33.7
85°	26.3	25.7	24.2	23.2	23.0
87.5°	15.2	15.2	14.6	13.7	12.9
90°	0.0	0.0	0.0	0.0	0.0

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