

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: P145419

Luminaire Tested: **LDRL-SL4-E01-E-7030**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P145419  
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-7030  
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE  
(1) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 W/ SPILL LIGHT CONTROL  
Light Source: (21) 3000K CCT, 70 CRI LEDs  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2632.3 lumens  
Efficiency: N/A  
Efficacy: 106.6 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

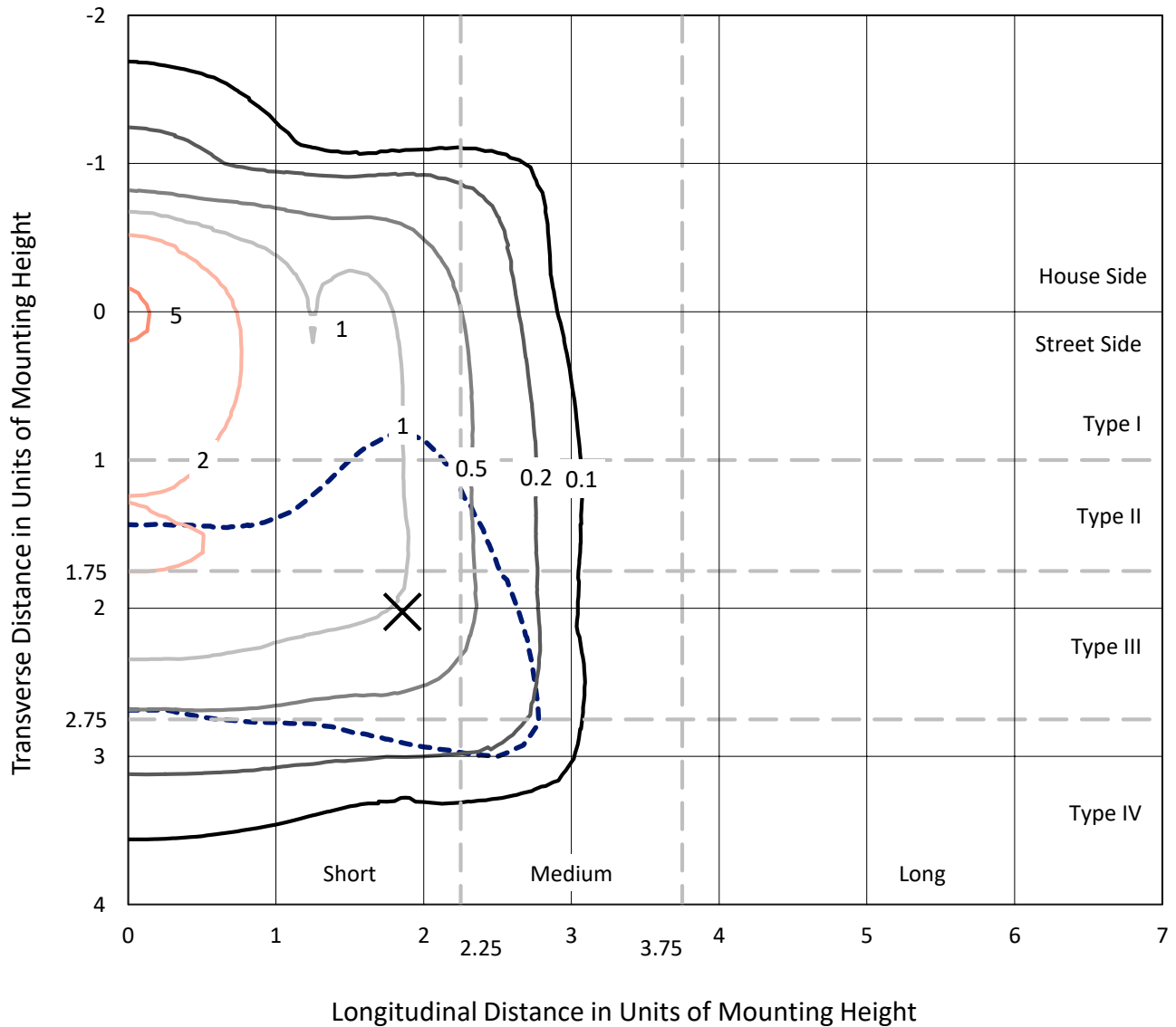
Input Watts (W): 24.7  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

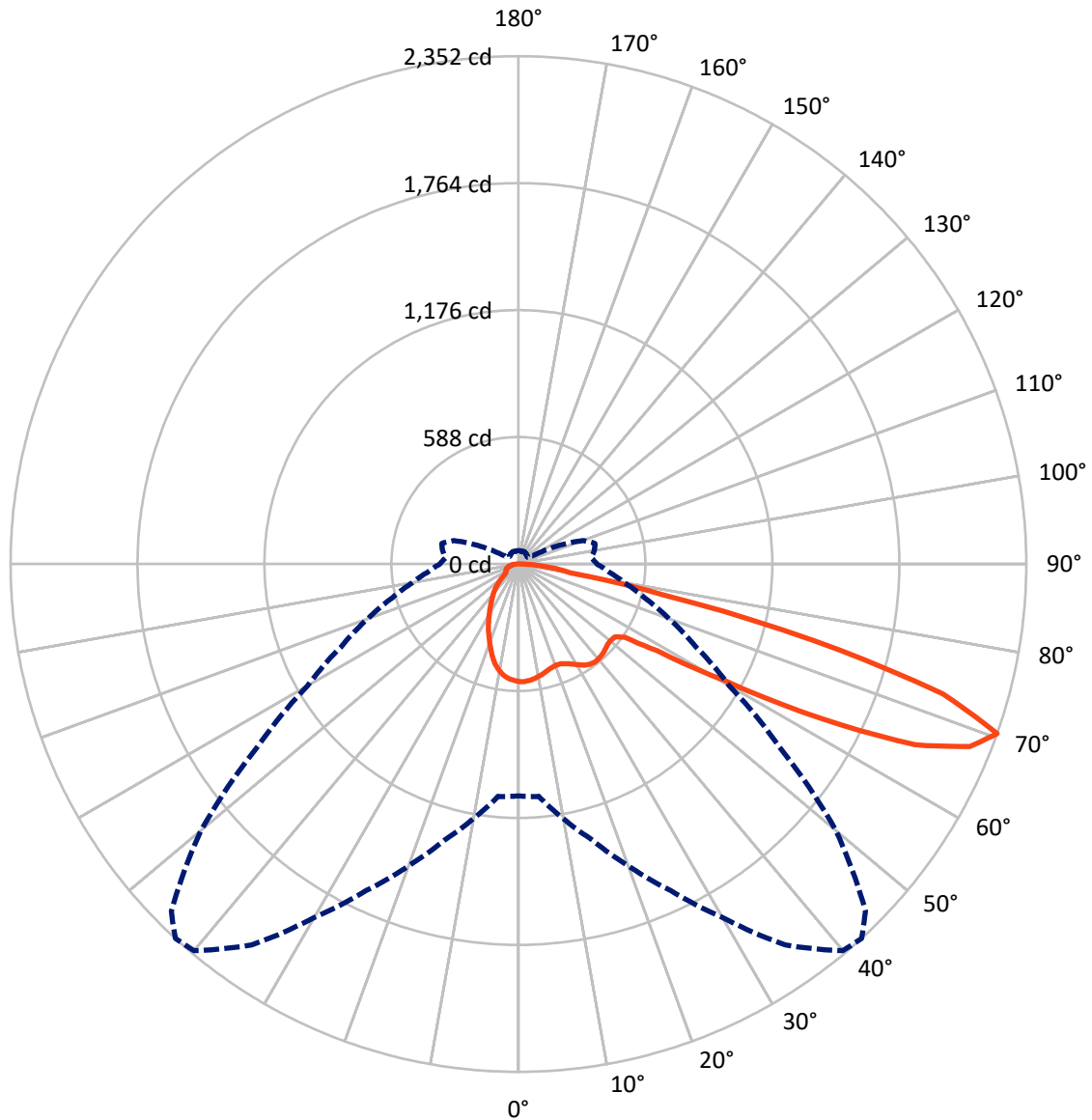
× Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 5.4 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	568.6	0.0	568.6
	% Fixture	21.6	0.0	21.6
<b>Street Side</b>	Lumens	2063.7	0.0	2063.7
	% Fixture	78.4	0.0	78.4
<b>Total</b>	Lumens	2632.3	0.0	2632.3
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	50.6	1.9
10°-20°	136.4	5.2
20°-30°	199.0	7.6
30°-40°	253.8	9.6
40°-50°	296.3	11.3
50°-60°	453.1	17.2
60°-70°	821.3	31.2
70°-80°	365.2	13.9
80°-90°	56.5	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°	2632.3	100.0
0°-180°	2632.3	100.0



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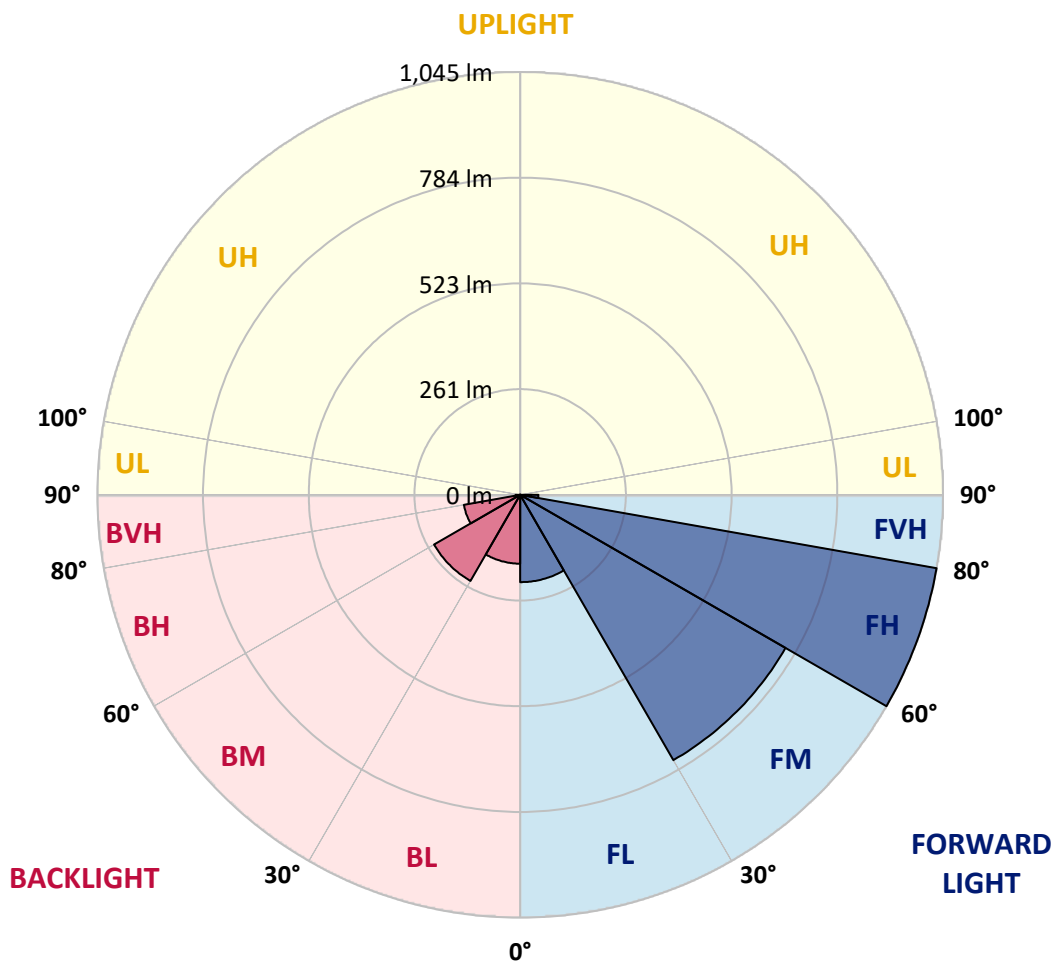
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	215.9	8.2			
FM	(30°-60°)	757.4	28.8			
FH	(60°-80°)	1045.2	39.7			G1/1800
FVH	(80°-90°)	45.1	1.7			G1/100
BL	(0°-30°)	170.2	6.5	B1/500		
BM	(30°-60°)	245.8	9.3	B1/1000		
BH	(60°-80°)	141.3	5.4	B1/500		G1/500
BVH	(80°-90°)	11.4	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°	544.4	544.4	544.4	544.4	544.4	544.4	544.4	544.4	544.4	544.4	544.4
2.5°	546.9	546.4	546.7	547.1	547.1	547.3	545.6	545.8	545.1	545.3	545.5
5°	544.9	544.4	544.7	544.7	544.7	544.5	542.3	542.2	541.3	541.3	540.9
7.5°	541.1	539.1	540.2	540.3	540.0	539.1	537.8	536.5	536.0	536.0	534.7
10°	535.2	533.0	533.6	533.9	533.8	531.9	531.4	530.1	528.6	528.1	526.6
12.5°	527.7	526.3	527.0	526.8	526.8	525.2	524.3	522.4	520.6	519.7	517.9
15°	523.0	521.2	521.9	521.9	521.2	519.5	518.2	514.9	511.8	510.7	508.4
17.5°	525.9	524.1	524.8	524.3	523.0	519.5	516.2	510.9	506.0	503.1	500.0
20°	537.6	535.8	536.3	536.0	534.1	528.5	522.4	513.3	504.2	499.8	495.0
22.5°	556.2	554.8	555.7	555.1	552.2	544.9	536.0	522.8	509.1	502.5	495.8
25°	583.8	583.4	584.9	583.3	579.1	568.1	555.1	537.4	519.5	511.3	501.8
27.5°	617.1	614.0	616.1	614.7	611.8	597.9	580.3	557.9	535.0	524.3	512.9
30°	647.0	644.3	648.3	647.6	643.2	628.9	606.8	580.5	554.8	541.1	528.1
32.5°	681.7	678.3	681.4	681.4	674.8	655.6	630.4	600.3	573.2	558.6	543.1
35°	718.1	714.4	717.3	716.4	704.7	679.3	647.7	615.1	585.3	570.3	554.4
37.5°	751.9	751.3	752.1	746.0	729.8	697.3	659.4	622.9	591.3	575.6	559.0
40°	785.7	784.4	781.3	770.7	746.9	707.8	665.5	625.6	591.7	575.2	558.4
42.5°	806.9	804.5	799.2	784.8	755.0	710.4	663.6	621.4	587.3	570.5	554.0
45°	814.2	811.8	805.4	789.1	755.2	706.4	656.5	613.0	579.1	563.7	547.1
47.5°	808.1	806.7	800.8	784.6	749.3	698.9	647.6	604.6	571.2	556.2	540.7
50°	797.9	797.0	791.9	776.9	743.8	694.3	643.4	600.6	569.0	555.1	540.5
52.5°	823.5	820.7	811.6	793.9	755.3	702.5	649.9	606.6	574.1	560.1	545.1
55°	1137.9	1117.6	1072.3	987.3	868.4	776.2	698.5	646.3	611.2	597.5	583.3
57.5°	1496.4	1475.2	1456.4	1391.6	1250.4	1076.1	919.4	827.7	764.8	758.8	753.1
60°	1634.5	1641.3	1639.6	1615.5	1543.2	1460.4	1329.3	1221.0	1101.0	1096.0	1103.1
62.5°	1729.7	1735.4	1736.1	1728.8	1705.2	1677.6	1650.2	1615.5	1592.7	1582.8	1519.1
65°	1769.0	1777.2	1795.3	1808.8	1812.6	1822.1	1847.0	1941.4	2020.1	2019.6	1944.9
67.5°	1619.0	1628.9	1697.4	1764.6	1821.0	1886.4	1987.1	2140.7	2259.3	2255.6	2194.4
70°	1074.5	1080.7	1197.0	1323.6	1487.8	1669.4	1889.4	2154.2	2338.0	2352.4	2273.5
72.5°	659.1	673.3	711.3	762.6	850.3	1018.6	1345.5	1798.2	2067.8	2054.3	1991.5
75°	445.0	445.7	444.6	450.1	455.0	489.0	620.7	988.8	1400.7	1408.0	1381.0
77.5°	304.1	308.2	310.4	308.9	313.8	312.4	320.0	338.9	536.9	685.2	629.7
80°	265.8	267.4	269.8	266.3	257.2	252.1	259.2	252.5	237.8	245.7	235.3
82.5°	168.2	173.2	173.7	185.8	203.7	204.4	213.5	206.8	188.2	175.9	160.9
85°	120.9	122.8	126.0	126.8	120.6	115.3	118.6	112.9	101.7	95.2	84.2
87.5°	70.5	72.3	75.6	73.6	67.4	59.7	53.9	46.4	36.7	34.3	30.3
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):**

	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°
0°	544.4	544.4	544.4	544.4	544.4	544.4	544.4	544.4	544.4	544.4	544.4
2.5°	545.6	544.7	544.0	543.6	544.4	543.6	542.9	542.5	541.8	542.0	541.1
5°	540.5	539.2	538.1	537.2	538.0	536.7	535.6	534.9	533.9	533.8	532.8
7.5°	533.4	531.4	529.9	528.3	526.5	525.4	524.1	522.8	520.8	520.6	520.2
10°	524.1	522.4	519.5	517.0	514.4	511.7	508.9	506.9	504.5	503.6	502.3
12.5°	514.8	511.5	508.0	504.0	500.9	496.5	492.8	489.0	485.5	483.3	481.0
15°	503.8	500.3	495.4	491.6	487.2	482.2	477.5	471.8	466.2	462.7	459.4
17.5°	494.3	489.9	485.9	480.4	476.0	470.4	463.3	457.2	450.5	444.8	438.8
20°	487.0	482.1	477.3	472.4	467.1	460.7	452.8	444.3	435.7	427.6	418.7
22.5°	484.1	476.2	470.9	466.4	460.9	453.6	444.8	434.2	423.6	413.4	403.0
25°	486.6	474.9	466.7	461.6	456.7	449.2	439.3	427.3	414.8	401.9	389.5
27.5°	493.6	478.8	467.1	459.0	453.4	446.1	435.1	422.5	408.5	393.8	380.5
30°	503.6	485.2	470.6	459.0	450.6	442.2	430.4	416.1	401.3	386.0	371.0
32.5°	514.6	492.3	474.8	459.6	446.6	436.0	423.6	409.7	394.0	377.8	361.7
35°	522.8	497.4	476.6	457.6	441.0	427.6	414.3	400.8	385.4	369.0	352.9
37.5°	526.3	499.4	476.2	453.4	433.1	418.5	404.6	391.1	376.3	360.8	346.0
40°	526.5	499.4	474.0	447.7	424.9	409.0	394.4	381.8	367.9	354.6	341.4
42.5°	523.0	496.9	470.0	442.4	418.9	401.0	386.0	373.0	361.9	350.0	338.9
45°	516.8	491.7	466.4	439.5	416.7	399.0	382.9	370.6	360.6	350.0	340.3
47.5°	512.0	488.8	466.5	443.7	422.0	403.7	386.3	373.4	364.8	356.4	349.4
50°	512.9	489.9	468.7	447.0	425.6	407.2	390.4	379.2	374.1	371.4	369.7
52.5°	517.7	494.3	478.2	463.8	456.9	445.5	436.2	427.8	429.1	422.5	414.1
55°	566.6	558.8	577.2	590.6	597.1	608.7	625.3	609.4	607.2	586.9	526.6
57.5°	760.8	779.5	807.8	827.9	829.9	826.4	812.7	799.5	778.2	747.7	663.3
60°	1086.5	1082.1	1055.8	1020.6	993.2	957.2	921.0	890.5	856.2	809.4	719.5
62.5°	1429.0	1323.4	1229.7	1149.9	1082.1	1022.0	967.4	921.6	874.4	807.2	711.5
65°	1705.6	1502.5	1337.3	1208.9	1108.1	1023.1	952.6	889.4	826.4	748.6	655.8
67.5°	1903.2	1581.0	1331.8	1151.2	1009.8	892.9	790.2	718.3	653.6	592.4	550.6
70°	1918.9	1472.3	1126.7	905.7	742.6	605.2	498.7	420.1	363.9	338.5	356.6
72.5°	1639.8	1089.3	749.1	554.4	440.1	342.0	274.9	219.8	174.4	152.2	155.3
75°	965.8	523.0	337.4	251.4	205.3	164.0	141.9	119.8	105.8	84.8	67.8
77.5°	367.7	227.4	170.2	141.4	100.8	72.5	57.2	49.3	45.3	44.8	42.4
80°	211.9	166.8	116.7	76.4	55.9	47.3	40.6	34.7	32.3	31.8	32.7
82.5°	133.9	103.9	64.1	49.1	40.7	35.1	29.2	25.4	23.4	22.7	23.9
85°	69.2	52.1	39.1	33.6	31.2	28.5	23.4	19.5	19.4	20.3	23.4
87.5°	25.6	22.3	17.5	15.2	16.3	15.2	11.0	9.5	8.6	11.3	16.4
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):**

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°
0°	544.4	544.4	544.4	544.4	544.4	544.4	544.4	544.4	544.4	544.4	544.4
2.5°	541.1	540.7	540.9	540.5	540.5	541.1	540.3	539.8	540.7	540.7	541.3
5°	532.7	533.0	533.0	532.8	533.2	534.1	533.9	533.9	535.4	536.0	536.7
7.5°	519.3	519.9	520.1	520.6	520.8	522.1	523.0	524.1	526.3	526.8	528.5
10°	501.2	500.9	502.2	502.0	503.6	504.7	505.4	507.8	511.1	512.9	514.6
12.5°	479.9	479.9	480.6	480.8	482.2	483.7	484.6	487.5	490.3	492.7	496.3
15°	457.2	456.5	454.8	454.7	455.2	456.7	458.7	460.9	465.1	468.5	471.7
17.5°	433.5	431.3	429.3	426.7	426.5	426.4	427.4	429.1	435.7	439.1	443.5
20°	412.5	407.7	403.0	397.7	394.6	393.1	393.7	395.8	402.1	406.6	411.2
22.5°	393.7	386.5	379.0	370.6	365.5	362.4	362.8	363.7	368.3	371.0	373.4
25°	377.6	367.7	357.3	346.5	339.4	334.7	334.5	334.5	332.5	332.8	331.5
27.5°	366.6	352.9	339.6	327.0	317.7	312.9	306.5	302.0	297.9	292.5	290.1
30°	356.0	342.0	326.8	312.9	301.8	292.5	280.6	270.7	262.9	255.4	249.0
32.5°	346.5	331.9	317.5	302.3	287.0	270.9	255.4	244.0	232.9	221.4	213.7
35°	338.1	324.4	310.0	292.8	271.3	250.3	232.7	217.4	204.2	190.3	179.2
37.5°	333.4	321.0	306.0	282.6	255.6	231.6	212.1	194.9	177.4	160.7	147.0
40°	331.0	320.0	301.8	272.2	241.5	215.9	194.2	173.5	152.9	133.3	119.1
42.5°	330.6	320.0	295.6	261.6	229.4	202.0	177.7	152.9	127.9	108.9	96.3
45°	333.9	319.7	289.0	252.1	218.7	189.6	160.4	131.2	105.4	88.8	81.8
47.5°	343.4	321.0	283.9	244.0	208.4	175.9	140.7	107.0	85.1	77.6	77.5
50°	358.8	326.8	282.8	238.2	198.4	158.7	117.5	85.7	75.1	74.7	76.7
52.5°	383.1	337.8	285.5	234.2	186.3	136.5	93.0	74.0	72.0	74.0	76.5
55°	436.6	357.3	289.2	227.1	166.8	108.1	76.5	70.1	71.1	73.4	75.8
57.5°	533.9	397.9	293.0	211.0	135.2	83.1	68.9	68.7	70.3	72.3	74.5
60°	595.7	447.9	302.3	187.2	102.1	68.7	65.9	67.8	69.8	71.2	73.1
62.5°	597.7	461.1	307.3	161.8	76.0	62.8	63.4	66.9	69.2	69.8	70.7
65°	559.2	436.2	285.0	131.7	63.0	59.6	61.6	64.7	67.0	67.4	68.1
67.5°	488.5	384.7	241.5	99.4	57.4	57.0	59.2	61.6	63.2	64.7	65.8
70°	367.9	317.5	194.2	77.1	53.9	53.5	55.7	57.7	59.2	61.0	62.8
72.5°	186.5	219.8	147.2	63.0	49.1	49.5	51.9	53.7	54.8	56.4	58.3
75°	63.6	95.9	93.2	51.0	43.8	45.3	46.4	48.4	50.1	51.1	52.1
77.5°	39.8	41.6	48.0	41.1	38.7	39.1	40.9	42.7	44.6	45.3	45.7
80°	33.2	33.4	33.6	32.9	33.1	34.2	35.3	37.3	39.1	39.5	39.6
82.5°	26.3	28.1	27.9	27.8	28.7	29.8	30.5	31.2	32.0	32.3	32.9
85°	23.2	22.8	23.0	23.6	22.8	22.1	21.9	21.9	23.0	24.3	24.8
87.5°	21.2	18.1	13.5	12.8	12.8	12.4	11.7	11.7	12.8	13.9	14.4
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):**

	160°	165°	170°	175°	180°
0°	544.4	544.4	544.4	544.4	544.4
2.5°	541.1	541.3	541.1	541.1	542.0
5°	537.0	537.8	537.4	538.0	538.5
7.5°	528.8	530.7	531.0	532.5	531.9
10°	517.0	518.2	520.1	521.5	521.0
12.5°	498.1	501.2	504.0	505.6	505.3
15°	474.2	478.6	482.2	483.5	482.1
17.5°	448.6	451.4	455.8	456.7	458.1
20°	416.3	416.1	420.0	420.0	419.2
22.5°	374.1	376.8	376.8	374.3	373.0
25°	331.0	331.9	329.2	329.7	326.2
27.5°	287.7	285.3	283.1	284.1	281.5
30°	246.4	241.3	239.1	239.5	236.7
32.5°	206.8	200.8	198.6	195.6	193.3
35°	170.8	161.3	155.6	154.2	155.8
37.5°	135.5	128.8	122.0	117.1	117.6
40°	107.2	100.3	95.9	93.9	93.5
42.5°	88.6	84.6	83.7	83.8	83.8
45°	80.4	80.6	81.3	82.0	82.2
47.5°	78.7	79.8	81.1	82.0	82.2
50°	78.5	79.6	80.6	81.7	82.0
52.5°	78.4	79.1	79.6	80.2	80.7
55°	77.6	78.0	77.8	78.2	78.7
57.5°	75.8	76.0	75.6	75.8	76.9
60°	74.2	74.3	73.6	74.5	74.7
62.5°	72.2	72.0	71.6	72.2	72.2
65°	69.2	68.1	68.5	69.0	69.2
67.5°	65.8	64.7	64.7	65.0	65.6
70°	61.4	60.8	60.8	61.6	62.3
72.5°	56.4	56.8	57.9	59.0	60.1
75°	52.4	53.3	54.4	57.2	58.8
77.5°	47.3	47.5	48.4	51.1	54.1
80°	40.2	40.0	40.2	40.6	41.1
82.5°	31.8	31.4	30.3	30.7	30.0
85°	23.4	22.8	21.6	20.6	20.5
87.5°	13.5	13.5	13.0	12.2	11.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)