

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: P145426

Luminaire Tested: **LDRL-SL4-F01-E-7050**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P145426  
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-F01-E-7050  
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE  
(1) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 W/ SPILL LIGHT CONTROL  
Light Source: (7) 5000K CCT, 70 CRI LEDs  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2441.3 lumens  
Efficiency: N/A  
Efficacy: 94.3 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

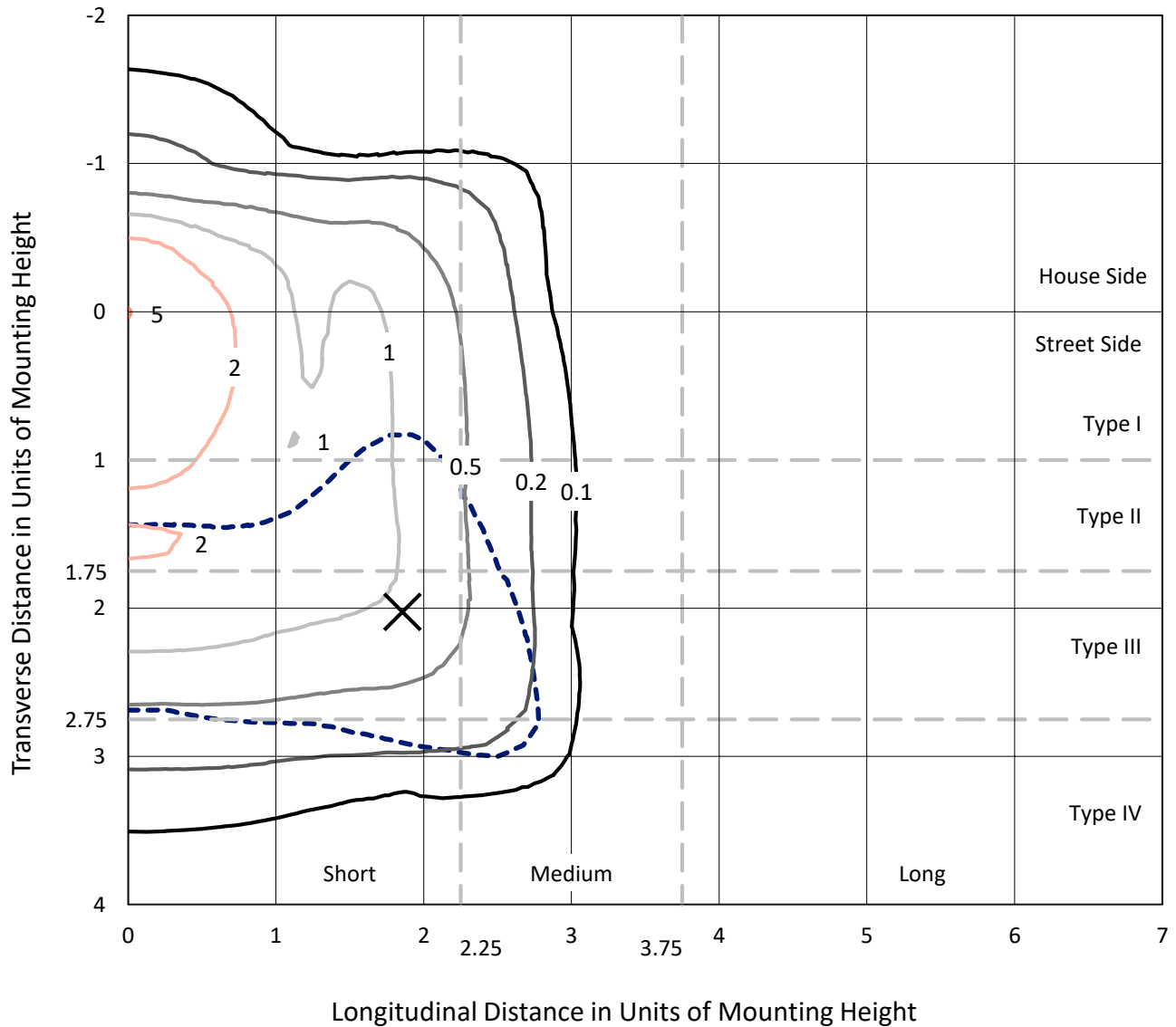
Input Watts (W): 25.9  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

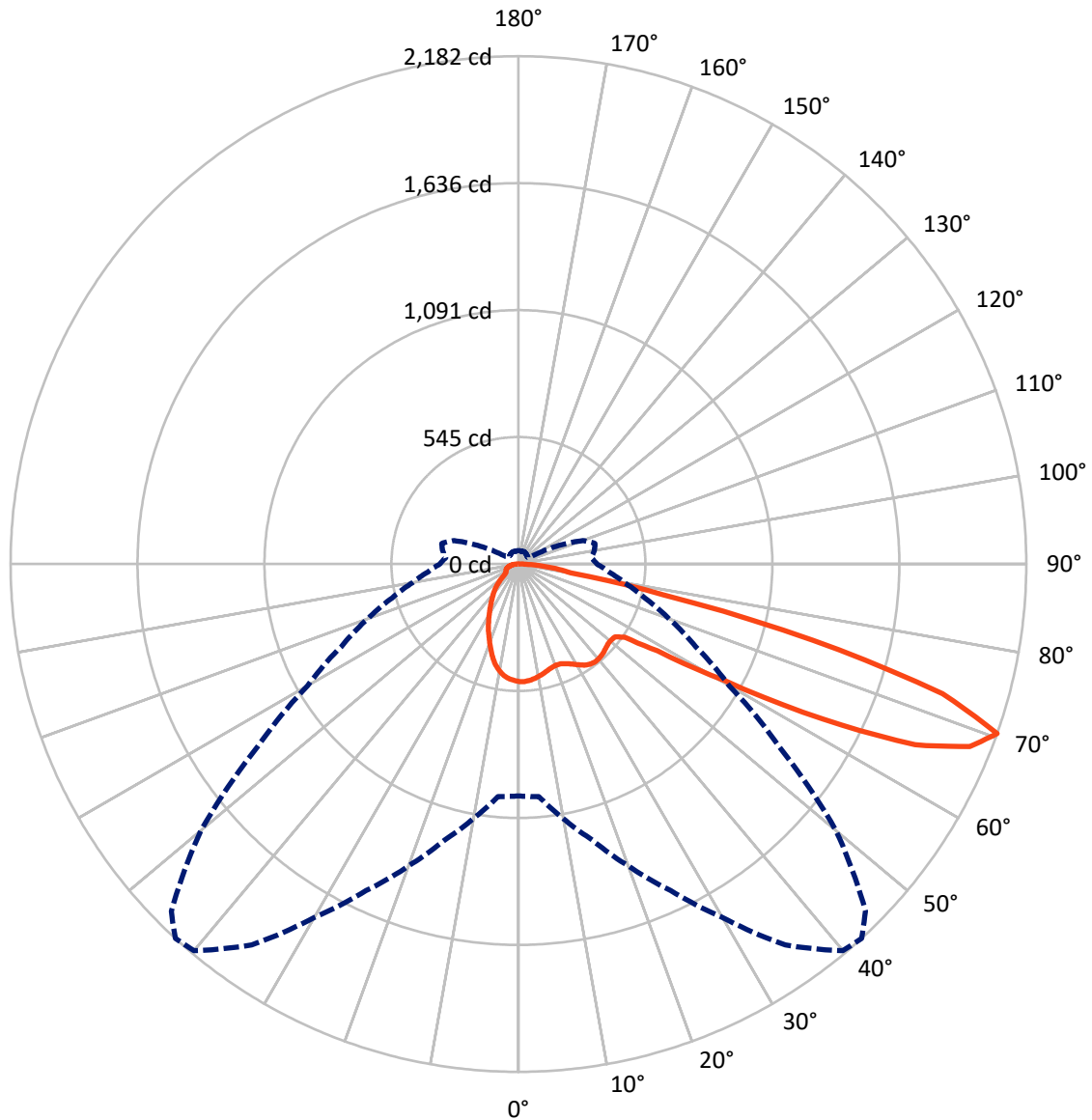
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 5 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	527.4	0.0	527.4
	% Fixture	21.6	0.0	21.6
<b>Street Side</b>	Lumens	1913.9	0.0	1913.9
	% Fixture	78.4	0.0	78.4
<b>Total</b>	Lumens	2441.3	0.0	2441.3
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	47.0	1.9
10°-20°	126.5	5.2
20°-30°	184.6	7.6
30°-40°	235.4	9.6
40°-50°	274.8	11.3
50°-60°	420.2	17.2
60°-70°	761.7	31.2
70°-80°	338.7	13.9
80°-90°	52.4	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°	2441.3	100.0
0°-180°	2441.3	100.0



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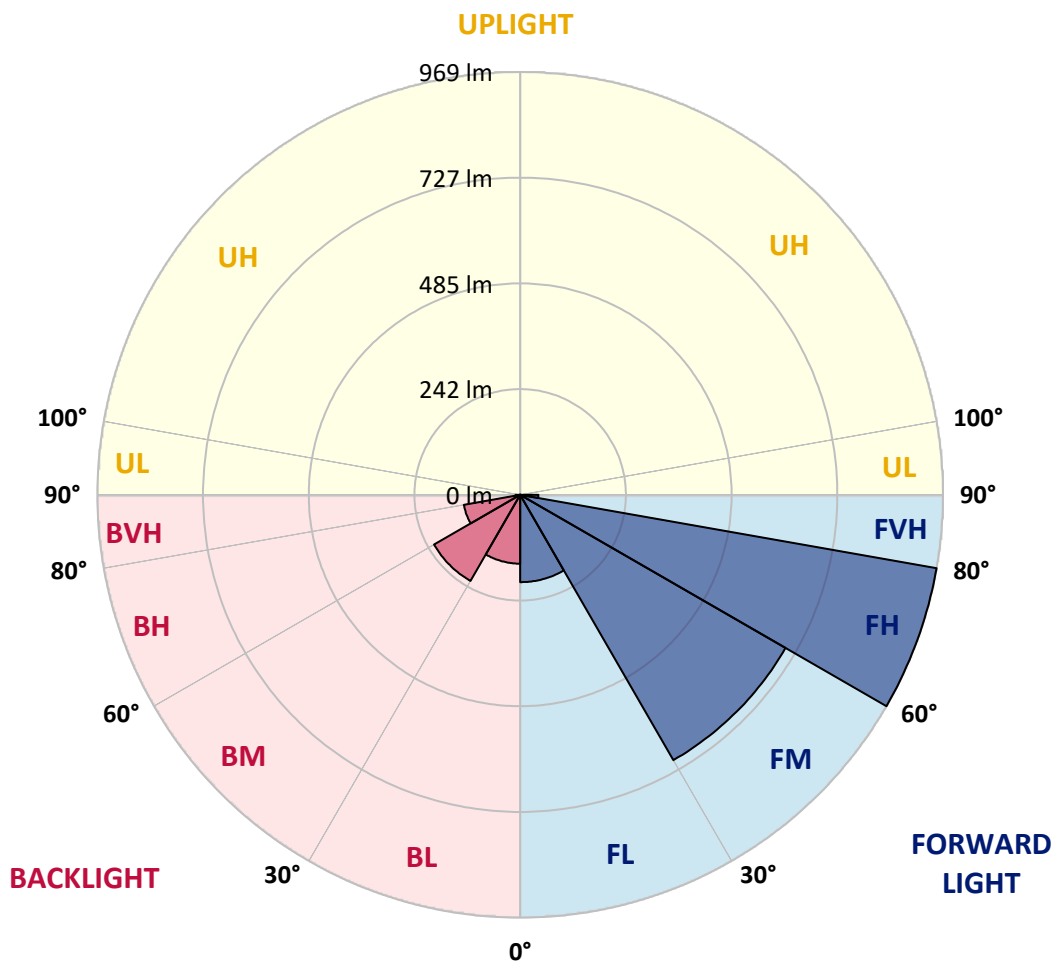
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	200.2	8.2			
FM	(30°-60°)	702.4	28.8			
FH	(60°-80°)	969.4	39.7			G1/1800
FVH	(80°-90°)	41.9	1.7			G1/100
BL	(0°-30°)	157.8	6.5	B1/500		
BM	(30°-60°)	228.0	9.3	B1/1000		
BH	(60°-80°)	131.0	5.4	B1/500		G1/500
BVH	(80°-90°)	10.5	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°	504.9	504.9	504.9	504.9	504.9	504.9	504.9	504.9	504.9	504.9	504.9
2.5°	507.2	506.7	507.1	507.4	507.4	507.6	506.0	506.2	505.5	505.7	505.9
5°	505.4	504.9	505.2	505.2	505.2	505.0	503.0	502.8	502.0	502.0	501.6
7.5°	501.8	499.9	501.0	501.1	500.8	499.9	498.8	497.6	497.1	497.1	495.9
10°	496.4	494.4	494.9	495.2	495.0	493.3	492.8	491.6	490.3	489.8	488.4
12.5°	489.4	488.1	488.8	488.6	488.6	487.1	486.2	484.5	482.8	482.0	480.3
15°	485.0	483.3	484.0	484.0	483.3	481.8	480.6	477.6	474.7	473.7	471.5
17.5°	487.7	486.1	486.7	486.2	485.0	481.8	478.8	473.9	469.3	466.6	463.7
20°	498.6	496.9	497.4	497.1	495.4	490.1	484.5	476.1	467.6	463.5	459.1
22.5°	515.9	514.5	515.4	514.9	512.1	505.4	497.1	484.9	472.2	466.1	459.8
25°	541.5	541.1	542.5	540.9	537.0	526.9	514.9	498.4	481.8	474.2	465.4
27.5°	572.3	569.4	571.4	570.1	567.4	554.5	538.2	517.4	496.2	486.2	475.7
30°	600.1	597.5	601.3	600.6	596.5	583.3	562.8	538.4	514.5	501.8	489.8
32.5°	632.3	629.0	631.9	631.9	625.8	608.0	584.7	556.7	531.6	518.1	503.7
35°	666.0	662.6	665.3	664.4	653.6	630.1	600.7	570.4	542.8	528.9	514.2
37.5°	697.3	696.8	697.5	691.9	676.8	646.7	611.6	577.7	548.4	533.8	518.4
40°	728.7	727.5	724.6	714.8	692.7	656.5	617.2	580.2	548.7	533.5	517.9
42.5°	748.3	746.1	741.2	727.8	700.2	658.9	615.5	576.4	544.7	529.1	513.8
45°	755.1	752.9	747.0	731.9	700.4	655.1	608.9	568.6	537.0	522.8	507.4
47.5°	749.5	748.1	742.7	727.6	694.9	648.2	600.6	560.8	529.8	515.9	501.5
50°	740.0	739.2	734.4	720.5	689.9	643.9	596.7	557.0	527.7	514.9	501.3
52.5°	763.7	761.2	752.7	736.3	700.5	651.6	602.8	562.6	532.5	519.4	505.5
55°	1055.3	1036.5	994.5	915.7	805.4	719.8	647.8	599.4	566.9	554.2	540.9
57.5°	1387.8	1368.2	1350.7	1290.6	1159.6	998.0	852.7	767.6	709.3	703.8	698.5
60°	1515.9	1522.2	1520.7	1498.3	1431.2	1354.5	1232.8	1132.4	1021.1	1016.5	1023.1
62.5°	1604.2	1609.4	1610.1	1603.3	1581.5	1555.9	1530.5	1498.3	1477.1	1468.0	1408.9
65°	1640.6	1648.2	1665.0	1677.5	1681.1	1689.9	1713.0	1800.5	1873.6	1873.1	1803.8
67.5°	1501.5	1510.7	1574.2	1636.6	1688.9	1749.5	1842.9	1985.4	2095.3	2091.9	2035.2
70°	996.5	1002.3	1110.2	1227.6	1379.9	1548.3	1752.3	1997.9	2168.3	2181.7	2108.5
72.5°	611.2	624.5	659.7	707.3	788.6	944.7	1247.9	1667.7	1917.8	1905.2	1847.0
75°	412.7	413.4	412.4	417.4	422.0	453.5	575.7	917.0	1299.1	1305.9	1280.8
77.5°	282.1	285.8	287.8	286.5	291.1	289.7	296.8	314.3	497.9	635.5	584.0
80°	246.5	248.0	250.2	247.0	238.5	233.8	240.4	234.1	220.6	227.9	218.2
82.5°	156.0	160.6	161.1	172.3	188.9	189.6	198.0	191.8	174.5	163.1	149.3
85°	112.2	113.8	116.9	117.6	111.8	106.9	110.0	104.7	94.4	88.3	78.1
87.5°	65.4	67.1	70.1	68.3	62.5	55.4	50.0	43.0	34.1	31.9	28.1
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°	504.9	504.9	504.9	504.9	504.9	504.9	504.9	504.9	504.9	504.9	504.9
2.5°	506.0	505.2	504.5	504.2	504.9	504.2	503.5	503.2	502.5	502.7	501.8
5°	501.3	500.1	499.1	498.2	498.9	497.7	496.7	496.0	495.2	495.0	494.2
7.5°	494.7	492.8	491.5	489.9	488.3	487.2	486.1	484.9	483.0	482.8	482.5
10°	486.1	484.5	481.8	479.4	477.1	474.5	472.0	470.1	467.9	467.1	465.9
12.5°	477.4	474.4	471.1	467.4	464.5	460.5	457.1	453.5	450.3	448.3	446.1
15°	467.2	464.0	459.5	455.9	451.8	447.3	442.9	437.6	432.3	429.1	426.1
17.5°	458.4	454.4	450.6	445.6	441.5	436.2	429.6	424.0	417.8	412.5	406.9
20°	451.7	447.1	442.7	438.1	433.2	427.3	420.0	412.0	404.1	396.6	388.3
22.5°	449.0	441.7	436.8	432.5	427.4	420.7	412.5	402.7	392.9	383.4	373.7
25°	451.3	440.5	432.9	428.1	423.5	416.6	407.4	396.3	384.7	372.7	361.2
27.5°	457.8	444.0	433.2	425.7	420.5	413.7	403.5	391.9	378.8	365.3	352.9
30°	467.1	450.0	436.4	425.7	417.9	410.2	399.1	385.9	372.2	358.0	344.1
32.5°	477.2	456.6	440.3	426.2	414.2	404.4	392.9	380.0	365.4	350.4	335.4
35°	484.9	461.3	442.0	424.4	409.0	396.6	384.2	371.7	357.5	342.2	327.3
37.5°	488.1	463.2	441.7	420.5	401.7	388.1	375.3	362.7	349.0	334.6	320.9
40°	488.3	463.2	439.6	415.2	394.1	379.3	365.8	354.1	341.2	328.8	316.6
42.5°	485.0	460.8	435.9	410.3	388.5	371.9	358.0	345.9	335.6	324.6	314.3
45°	479.3	456.1	432.5	407.6	386.4	370.0	355.1	343.7	334.4	324.6	315.6
47.5°	474.9	453.4	432.7	411.5	391.3	374.4	358.3	346.3	338.3	330.5	324.1
50°	475.7	454.4	434.7	414.6	394.7	377.6	362.0	351.7	347.0	344.4	342.9
52.5°	480.1	458.4	443.5	430.1	423.7	413.2	404.6	396.8	398.0	391.9	384.1
55°	525.5	518.2	535.4	547.7	553.8	564.5	579.9	565.2	563.1	544.3	488.4
57.5°	705.6	722.9	749.2	767.8	769.7	766.4	753.7	741.5	721.7	693.4	615.1
60°	1007.7	1003.6	979.2	946.5	921.1	887.7	854.2	825.9	794.0	750.7	667.3
62.5°	1325.3	1227.4	1140.5	1066.5	1003.6	947.9	897.2	854.7	811.0	748.6	659.9
65°	1581.8	1393.4	1240.3	1121.2	1027.7	948.9	883.5	824.9	766.4	694.3	608.2
67.5°	1765.1	1466.3	1235.2	1067.7	936.5	828.1	732.9	666.1	606.2	549.4	510.6
70°	1779.7	1365.5	1045.0	840.0	688.7	561.3	462.5	389.7	337.5	313.9	330.7
72.5°	1520.8	1010.2	694.8	514.2	408.1	317.1	255.0	203.8	161.8	141.1	144.0
75°	895.7	485.0	312.9	233.1	190.4	152.1	131.6	111.1	98.1	78.6	62.9
77.5°	341.0	210.9	157.9	131.1	93.5	67.3	53.0	45.7	42.0	41.5	39.3
80°	196.5	154.7	108.3	70.8	51.8	43.9	37.6	32.2	30.0	29.5	30.3
82.5°	124.2	96.4	59.5	45.6	37.8	32.5	27.1	23.5	21.7	21.0	22.2
85°	64.2	48.3	36.3	31.2	29.0	26.4	21.7	18.1	18.0	18.8	21.7
87.5°	23.7	20.7	16.3	14.1	15.1	14.1	10.2	8.8	8.0	10.5	15.2
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):**

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°
0°	504.9	504.9	504.9	504.9	504.9	504.9	504.9	504.9	504.9	504.9	504.9
2.5°	501.8	501.5	501.6	501.3	501.3	501.8	501.1	500.6	501.5	501.5	502.0
5°	494.0	494.4	494.4	494.2	494.5	495.4	495.2	495.2	496.6	497.1	497.7
7.5°	481.6	482.2	482.3	482.8	483.0	484.2	485.0	486.1	488.1	488.6	490.1
10°	464.9	464.5	465.7	465.6	467.1	468.1	468.8	471.0	474.0	475.7	477.2
12.5°	445.1	445.1	445.7	445.9	447.3	448.6	449.5	452.2	454.7	456.9	460.3
15°	424.0	423.4	421.8	421.7	422.2	423.5	425.4	427.4	431.3	434.5	437.4
17.5°	402.0	400.0	398.1	395.8	395.6	395.4	396.4	398.0	404.1	407.3	411.3
20°	382.5	378.1	373.7	368.8	365.9	364.6	365.1	367.1	372.9	377.1	381.4
22.5°	365.1	358.5	351.5	343.7	339.0	336.1	336.5	337.3	341.5	344.1	346.3
25°	350.2	341.0	331.4	321.4	314.8	310.4	310.2	310.2	308.3	308.7	307.5
27.5°	340.0	327.3	314.9	303.3	294.6	290.2	284.3	280.0	276.3	271.2	269.0
30°	330.2	317.1	303.1	290.2	279.9	271.2	260.2	251.1	243.8	236.8	230.9
32.5°	321.4	307.8	294.4	280.4	266.2	251.2	236.8	226.3	216.0	205.3	198.2
35°	313.6	300.9	287.5	271.6	251.6	232.1	215.8	201.6	189.4	176.5	166.2
37.5°	309.2	297.7	283.8	262.1	237.0	214.8	196.7	180.8	164.5	149.1	136.4
40°	307.0	296.8	279.9	252.4	224.0	200.2	180.1	160.9	141.8	123.7	110.5
42.5°	306.6	296.8	274.1	242.6	212.8	187.4	164.8	141.8	118.6	101.0	89.3
45°	309.7	296.5	268.0	233.8	202.8	175.9	148.7	121.6	97.8	82.3	75.9
47.5°	318.5	297.7	263.3	226.3	193.3	163.1	130.4	99.3	78.9	72.0	71.8
50°	332.7	303.1	262.3	220.9	184.0	147.2	108.9	79.5	69.6	69.3	71.2
52.5°	355.3	313.2	264.8	217.2	172.8	126.6	86.2	68.6	66.7	68.6	71.0
55°	404.9	331.4	268.2	210.6	154.7	100.3	71.0	65.1	65.9	68.1	70.3
57.5°	495.2	369.0	271.7	195.7	125.4	77.1	63.9	63.7	65.2	67.1	69.1
60°	552.5	415.4	280.4	173.7	94.7	63.7	61.2	62.9	64.7	66.1	67.8
62.5°	554.3	427.6	285.0	150.1	70.5	58.3	58.8	62.0	64.2	64.7	65.6
65°	518.6	404.6	264.3	122.1	58.4	55.2	57.1	60.0	62.2	62.5	63.2
67.5°	453.0	356.8	224.0	92.2	53.2	52.9	54.9	57.1	58.6	60.0	61.0
70°	341.2	294.4	180.1	71.5	50.0	49.6	51.7	53.5	54.9	56.6	58.3
72.5°	173.0	203.8	136.5	58.4	45.6	45.9	48.1	49.8	50.8	52.3	54.0
75°	59.0	88.9	86.4	47.3	40.7	42.0	43.0	44.9	46.4	47.4	48.3
77.5°	36.9	38.6	44.6	38.1	35.9	36.3	37.9	39.6	41.3	42.0	42.4
80°	30.8	31.0	31.2	30.5	30.7	31.7	32.7	34.6	36.3	36.6	36.8
82.5°	24.4	26.1	25.9	25.8	26.6	27.6	28.3	29.0	29.6	30.0	30.5
85°	21.5	21.2	21.3	21.9	21.2	20.5	20.3	20.3	21.3	22.5	23.0
87.5°	19.7	16.8	12.5	11.9	11.9	11.5	10.8	10.8	11.9	12.9	13.4
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°	504.9	504.9	504.9	504.9	504.9
2.5°	501.8	502.0	501.8	501.8	502.7
5°	498.1	498.8	498.4	498.9	499.4
7.5°	490.5	492.2	492.5	493.8	493.3
10°	479.4	480.6	482.3	483.7	483.2
12.5°	462.0	464.9	467.4	468.9	468.6
15°	439.8	443.9	447.3	448.4	447.1
17.5°	416.1	418.6	422.7	423.5	424.9
20°	386.1	385.9	389.5	389.5	388.8
22.5°	347.0	349.5	349.5	347.1	345.9
25°	307.0	307.8	305.3	305.8	302.6
27.5°	266.8	264.6	262.6	263.4	261.1
30°	228.5	223.8	221.8	222.1	219.6
32.5°	191.8	186.2	184.2	181.4	179.2
35°	158.4	149.6	144.3	143.0	144.5
37.5°	125.7	119.4	113.2	108.6	109.1
40°	99.4	93.0	88.9	87.1	86.7
42.5°	82.2	78.4	77.6	77.8	77.8
45°	74.5	74.7	75.4	76.1	76.2
47.5°	73.0	74.0	75.2	76.1	76.2
50°	72.8	73.9	74.7	75.7	76.1
52.5°	72.7	73.4	73.9	74.4	74.9
55°	72.0	72.3	72.2	72.5	73.0
57.5°	70.3	70.5	70.1	70.3	71.3
60°	68.8	69.0	68.3	69.1	69.3
62.5°	66.9	66.7	66.4	66.9	66.9
65°	64.2	63.2	63.5	64.0	64.2
67.5°	61.0	60.0	60.0	60.3	60.8
70°	56.9	56.4	56.4	57.1	57.8
72.5°	52.3	52.7	53.7	54.7	55.7
75°	48.6	49.5	50.5	53.0	54.6
77.5°	43.9	44.0	44.9	47.4	50.1
80°	37.3	37.1	37.3	37.6	38.1
82.5°	29.5	29.1	28.1	28.5	27.8
85°	21.7	21.2	20.0	19.1	19.0
87.5°	12.5	12.5	12.0	11.4	10.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)