

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: P146838

Luminaire Tested: **LDRL-T4-E01-E-8030**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P146838  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (P33696)  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: LDRL-T4-E01-E-8030  
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE  
(1) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 SHORT  
Light Source: (21) 3000K CCT, 80 CRI LEDs  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2480.2 lumens  
Efficiency: N/A  
Efficacy: 100.4 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

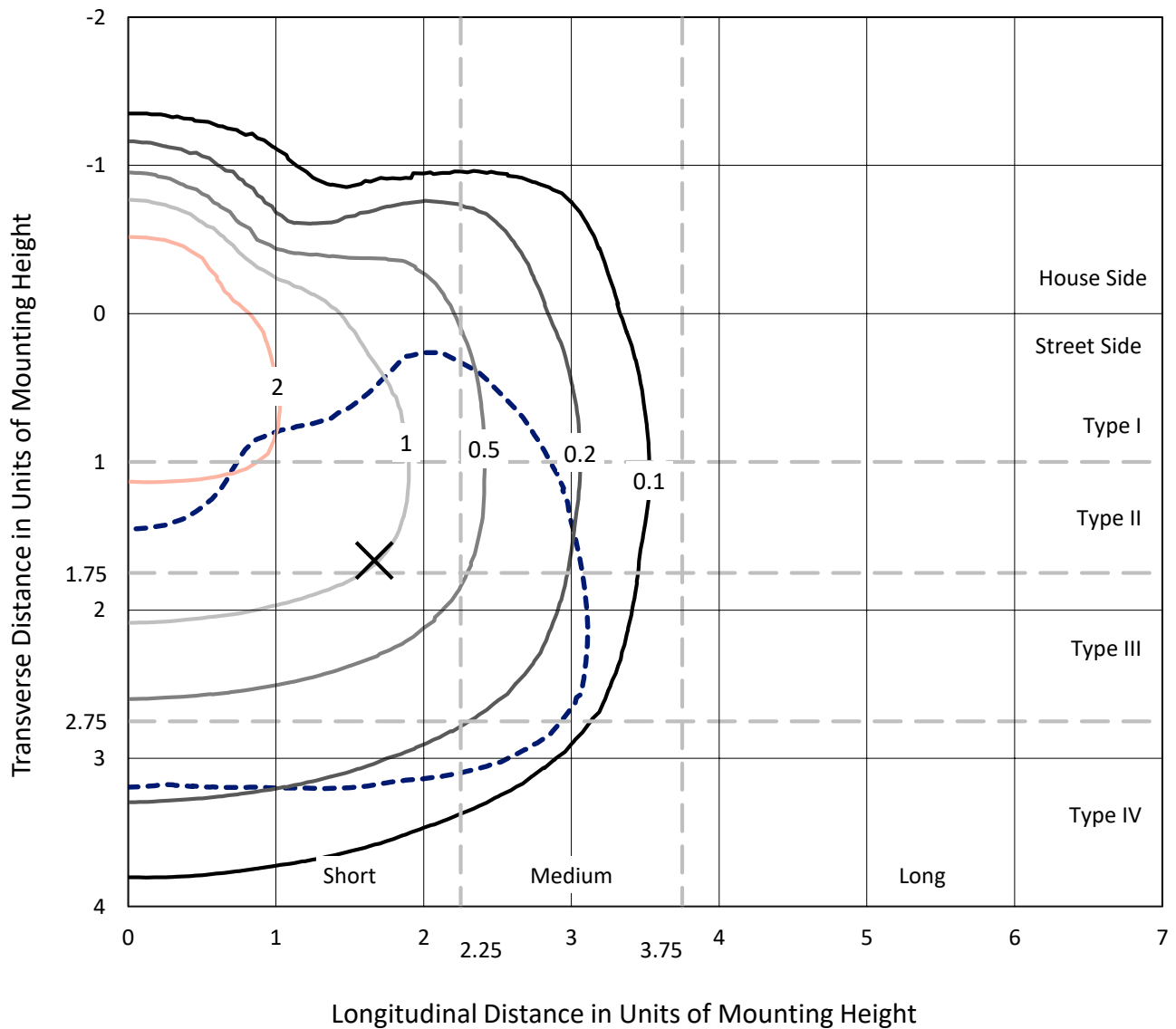
Input Watts (W): 24.7  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

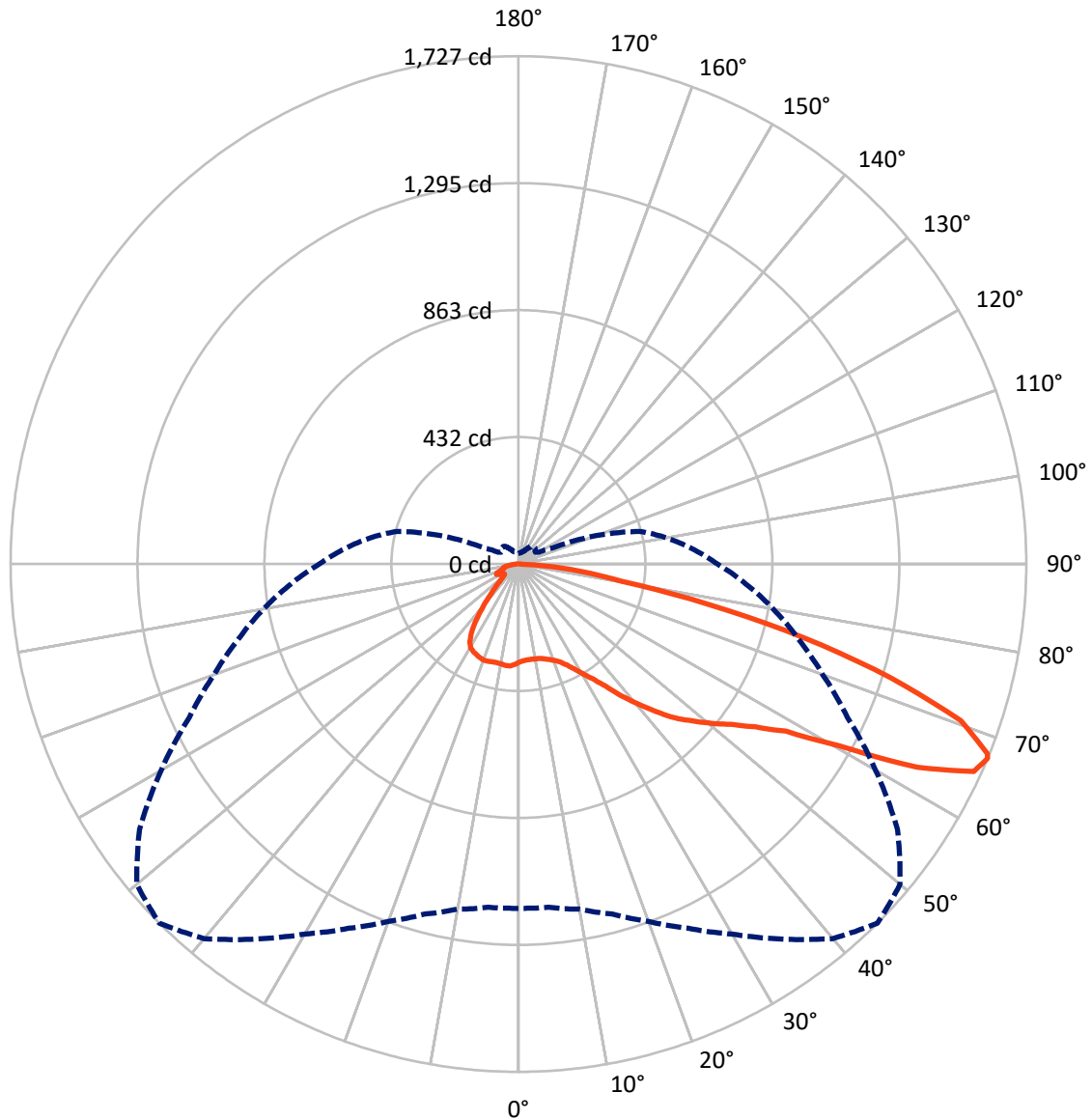
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 3.4 fc  
 Type IV - Short - Semi-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral    - - - Horizontal Cone Through 67-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	502.5	0.0	502.5
	% Fixture	20.3	0.0	20.3
<b>Street Side</b>	Lumens	1977.6	0.0	1977.6
	% Fixture	79.7	0.0	79.7
<b>Total</b>	Lumens	2480.2	0.0	2480.2
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	32.2	1.3
10°-20°	96.6	3.9
20°-30°	164.2	6.6
30°-40°	246.8	10.0
40°-50°	320.9	12.9
50°-60°	440.6	17.8
60°-70°	695.1	28.0
70°-80°	420.0	16.9
80°-90°	63.6	2.6
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°	2480.2	100.0
0°-180°	2480.2	100.0



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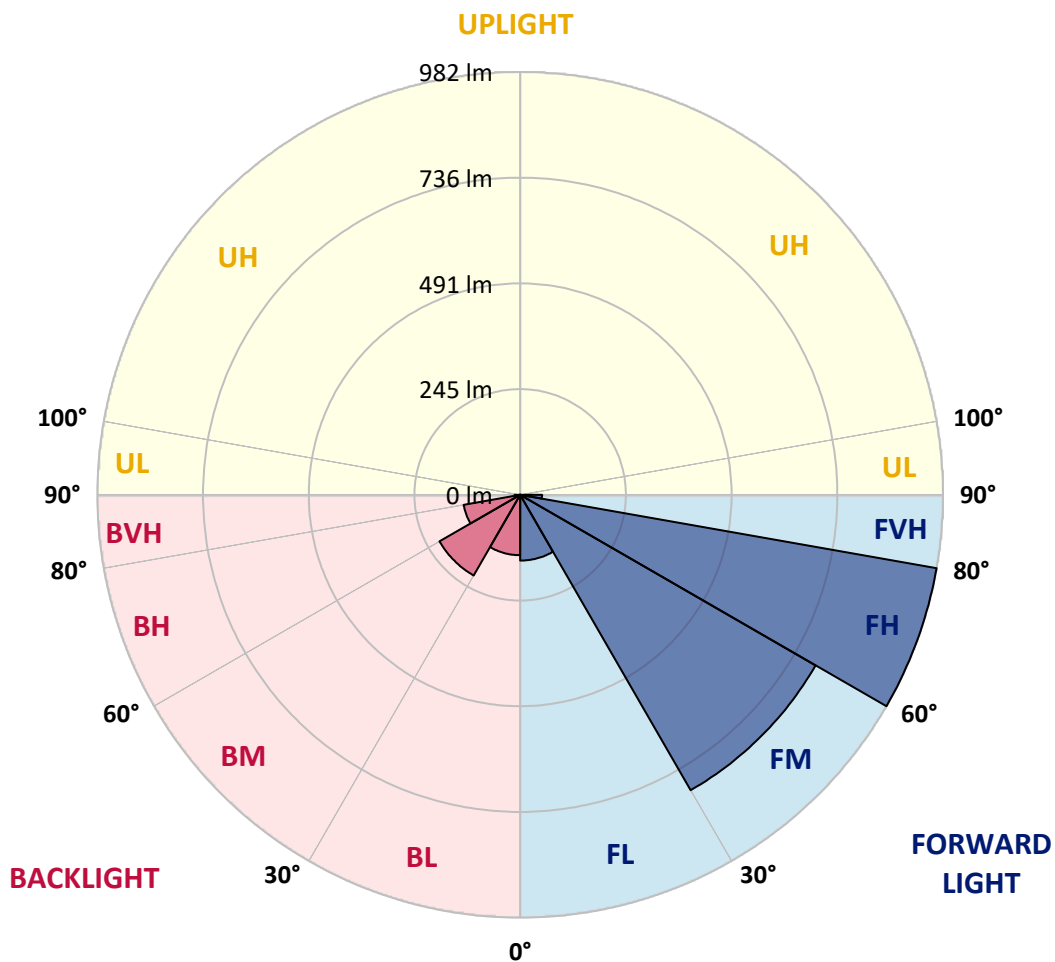
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	152.7	6.2			
FM	(30°-60°)	792.1	31.9			
FH	(60°-80°)	981.9	39.6			G1/1800
FVH	(80°-90°)	50.8	2.0			G1/100
BL	(0°-30°)	140.3	5.7	B1/500		
BM	(30°-60°)	216.3	8.7	B0/220		
BH	(60°-80°)	133.2	5.4	B1/500		G1/500
BVH	(80°-90°)	12.8	0.5			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°	45°	50°
0°	333.9	333.9	333.9	333.9	333.9	333.9	333.9	333.9	333.9	333.9	333.9
2.5°	326.5	327.1	326.6	326.6	326.8	327.0	327.3	328.0	328.1	329.2	329.3
5°	319.9	320.0	320.0	320.2	321.2	322.1	322.9	324.1	325.1	327.0	328.1
7.5°	317.5	318.2	318.0	318.4	319.4	320.2	321.2	322.9	325.4	327.0	328.7
10°	321.4	321.9	321.4	321.6	321.7	322.6	322.9	324.1	326.1	327.5	329.0
12.5°	330.3	330.3	329.8	329.5	329.0	329.2	328.5	328.3	329.3	329.5	329.7
15°	342.2	343.5	341.8	340.5	339.8	339.1	336.9	336.1	335.9	334.4	332.9
17.5°	354.1	354.5	353.5	351.9	350.9	349.4	347.6	345.9	343.8	341.5	338.4
20°	367.5	367.6	366.3	364.1	362.9	361.1	358.7	355.8	353.3	349.6	346.2
22.5°	386.0	385.9	383.2	381.3	379.6	377.4	374.1	370.2	366.1	361.7	357.0
25°	407.3	407.3	405.5	402.4	401.6	398.4	394.7	390.1	385.9	379.6	373.9
27.5°	431.6	431.8	428.4	426.7	424.9	421.5	419.0	415.4	409.7	403.4	397.5
30°	460.5	459.6	456.9	453.4	452.7	450.0	446.5	443.9	436.8	432.5	425.9
32.5°	487.8	489.2	488.5	484.5	485.1	482.4	479.4	477.5	470.1	465.9	459.8
35°	528.7	529.9	530.9	529.4	530.2	528.7	526.1	521.2	515.2	509.6	501.2
37.5°	560.4	561.6	562.3	566.0	571.4	576.6	579.0	576.4	576.8	568.3	557.0
40°	586.4	589.3	593.3	600.4	611.2	621.2	626.6	630.8	633.0	625.1	610.4
42.5°	612.4	615.4	621.0	632.3	647.2	661.5	672.8	685.8	688.2	686.2	673.7
45°	639.6	643.1	650.0	662.9	680.3	699.0	717.2	735.6	744.9	746.4	731.2
47.5°	672.3	677.4	683.8	698.3	715.2	736.3	759.1	782.7	797.2	797.2	779.7
50°	713.2	718.9	724.3	738.8	755.7	777.5	803.8	830.1	849.9	851.1	829.8
52.5°	770.4	771.2	774.4	787.8	802.5	826.8	851.8	882.3	905.1	906.1	881.6
55°	839.9	839.9	843.7	854.8	868.5	888.6	914.4	948.3	972.3	977.5	946.1
57.5°	931.4	934.8	936.7	949.7	958.9	980.2	1001.8	1038.8	1069.3	1072.7	1040.8
60°	1080.3	1073.9	1084.2	1095.7	1117.4	1133.0	1169.8	1206.9	1245.9	1255.2	1220.9
62.5°	1227.0	1233.9	1246.6	1267.3	1304.6	1339.4	1392.1	1448.5	1509.1	1521.5	1495.4
65°	1236.1	1240.3	1257.9	1293.7	1344.6	1406.6	1479.2	1564.1	1654.4	1701.1	1657.3
67°	1170.6	1171.8	1191.7	1232.4	1293.5	1366.9	1452.8	1556.5	1662.5	1726.8	1694.1
67.5°	1149.9	1152.0	1171.6	1213.2	1274.9	1350.0	1437.7	1544.2	1652.7	1719.9	1690.3
70°	1028.0	1028.0	1049.1	1090.9	1148.8	1222.1	1313.8	1421.3	1539.3	1595.8	1570.7
72.5°	875.0	869.5	893.3	925.0	972.3	1036.3	1110.0	1194.9	1283.7	1324.9	1314.9
75°	636.0	646.5	658.8	682.3	723.3	773.8	817.0	892.8	962.5	1008.1	996.1
77.5°	347.0	351.1	385.2	399.2	435.2	472.6	520.1	573.2	628.1	656.8	645.1
80°	206.3	214.2	234.5	251.2	270.6	299.1	333.5	345.2	356.0	355.3	334.2
82.5°	130.3	139.9	161.9	176.2	186.4	202.9	221.6	236.3	239.5	223.7	199.2
85°	21.1	34.9	91.3	107.4	113.8	122.7	136.6	142.8	133.4	116.5	120.7
87.5°	8.3	10.0	27.9	35.3	37.3	19.6	33.9	39.8	20.3	10.3	23.3
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°	333.9	333.9	333.9	333.9	333.9	333.9	333.9	333.9	333.9	333.9	333.9
2.5°	330.3	331.2	332.0	333.0	333.4	334.2	335.7	335.6	336.8	337.3	338.1
5°	329.7	331.5	332.9	334.7	335.4	337.3	339.3	340.0	341.5	342.7	343.7
7.5°	331.0	333.0	334.7	336.9	338.4	340.0	341.5	343.3	344.7	345.5	346.2
10°	331.5	333.7	335.7	337.6	339.3	340.5	342.2	343.7	345.0	345.5	345.7
12.5°	331.7	333.2	335.2	337.3	338.8	340.3	341.5	343.2	344.2	344.3	344.0
15°	333.0	333.2	334.6	336.9	338.4	340.0	340.8	341.6	342.3	341.8	341.3
17.5°	337.1	335.9	335.9	337.1	337.9	338.6	338.8	338.6	337.9	336.9	336.1
20°	343.7	341.3	339.5	338.8	337.4	335.7	333.5	331.5	329.0	327.8	327.6
22.5°	354.0	350.4	347.0	343.7	339.3	334.4	329.3	324.9	321.4	319.5	319.7
25°	371.5	366.3	362.4	356.5	349.4	342.5	335.9	330.0	325.8	322.4	323.1
27.5°	395.2	389.2	385.9	379.1	371.0	362.2	354.5	346.4	340.3	336.1	336.9
30°	422.8	421.2	415.6	408.8	401.2	391.3	379.6	367.5	356.5	349.6	348.2
32.5°	456.3	454.4	448.3	442.6	432.8	421.8	406.6	387.4	370.2	357.0	351.3
35°	497.4	492.9	485.5	479.9	468.9	454.7	435.2	409.2	383.0	363.3	348.9
37.5°	548.8	537.5	525.1	510.6	494.4	477.2	454.6	424.2	391.8	363.8	338.3
40°	597.7	579.5	559.1	536.1	516.4	495.6	472.1	437.4	397.7	360.2	322.2
42.5°	652.2	623.9	596.2	564.6	538.6	514.0	487.2	446.6	398.9	350.6	301.5
45°	704.7	668.3	631.1	592.1	559.1	531.7	501.2	454.6	398.5	340.5	280.9
47.5°	751.5	707.9	662.0	618.1	579.7	549.6	516.2	465.4	403.1	337.6	267.2
50°	795.2	744.9	691.1	642.3	600.4	569.7	535.3	482.4	417.1	344.2	265.2
52.5°	840.3	785.6	724.0	671.5	627.8	592.1	557.4	504.2	436.7	357.7	269.7
55°	899.0	836.2	770.6	712.3	662.2	623.9	583.7	530.5	457.8	373.4	278.3
57.5°	986.5	913.0	838.4	775.8	717.9	670.1	626.1	565.1	492.7	397.0	297.3
60°	1143.4	1062.1	975.7	893.8	827.1	771.2	715.2	639.6	557.2	450.7	340.6
62.5°	1399.8	1287.3	1167.7	1060.1	968.4	892.8	813.8	723.0	626.9	515.8	406.3
65°	1554.0	1398.7	1246.6	1121.7	1013.3	916.4	820.9	723.3	630.3	533.2	435.8
67°	1573.0	1402.7	1234.4	1101.4	985.3	879.8	776.1	676.4	593.2	511.8	427.7
67.5°	1567.3	1394.6	1222.9	1088.6	971.3	869.1	767.2	665.1	584.0	502.7	421.7
70°	1454.2	1285.2	1115.4	984.8	872.3	767.9	671.5	569.2	506.6	448.3	378.3
72.5°	1206.9	1075.1	932.8	823.9	726.8	636.4	551.6	466.1	415.7	374.6	325.3
75°	895.0	774.1	653.8	588.3	513.0	440.6	375.1	311.8	292.4	282.6	253.5
77.5°	552.6	444.1	353.5	294.2	234.0	183.3	145.8	118.7	123.7	144.0	153.3
80°	275.1	203.2	157.3	125.1	101.1	81.7	59.9	43.9	52.5	62.3	70.6
82.5°	165.6	130.8	103.5	87.6	71.2	55.0	39.0	29.7	32.9	44.2	48.6
85°	102.8	82.4	65.8	55.0	45.6	33.8	22.1	21.9	23.3	29.4	33.6
87.5°	30.2	20.4	16.2	16.9	18.7	15.5	11.6	10.0	12.3	16.9	18.9
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°	333.9	333.9	333.9	333.9	333.9	333.9	333.9	333.9	333.9	333.9	333.9
2.5°	338.3	339.5	340.0	340.1	340.3	341.3	341.3	342.3	342.7	342.7	343.0
5°	344.7	345.9	346.4	346.5	346.9	347.4	347.2	347.9	348.2	348.1	348.1
7.5°	347.0	347.4	347.4	347.9	348.4	347.9	347.6	347.9	347.7	347.9	347.9
10°	346.2	345.9	345.9	345.5	346.0	345.0	345.0	345.4	345.2	345.5	346.0
12.5°	344.2	344.0	343.5	343.3	344.0	343.3	343.5	344.0	344.3	345.0	345.9
15°	341.3	340.8	340.8	341.5	343.2	343.7	344.3	345.2	345.4	345.7	346.0
17.5°	336.4	337.3	339.3	341.6	344.9	346.0	346.4	345.9	344.2	342.8	341.5
20°	329.7	333.4	338.6	343.7	347.6	347.4	345.2	342.0	337.9	335.1	333.2
22.5°	323.9	331.2	339.3	345.4	347.9	344.7	339.6	334.7	330.0	325.8	322.1
25°	328.0	334.9	341.8	345.5	345.4	339.8	333.0	327.6	321.2	315.3	309.1
27.5°	341.1	345.4	347.4	346.2	342.7	335.2	327.8	320.2	311.9	304.8	297.6
30°	350.1	350.1	348.1	343.3	337.1	328.8	319.7	309.9	300.1	291.9	283.6
32.5°	347.2	340.6	334.7	328.3	321.2	312.3	301.8	291.2	280.0	270.4	263.3
35°	334.7	320.5	308.2	299.1	291.7	281.0	268.9	256.7	247.6	241.0	237.0
37.5°	312.4	289.8	271.9	260.8	249.3	238.3	224.3	218.8	210.7	206.6	205.1
40°	285.4	252.4	229.9	215.6	203.4	189.7	180.3	176.7	173.7	172.8	172.2
42.5°	254.4	213.0	186.4	171.5	156.8	146.9	142.6	140.4	139.9	139.9	140.8
45°	222.1	173.0	142.3	130.3	118.2	112.9	111.9	110.9	111.1	110.6	110.9
47.5°	197.2	138.9	107.4	96.4	90.1	88.5	87.3	86.9	86.9	86.1	85.1
50°	184.2	116.1	84.2	75.6	72.1	70.9	70.9	70.2	68.9	68.0	65.8
52.5°	180.8	104.3	72.9	65.5	62.5	61.4	60.4	59.4	57.4	55.5	53.0
55°	183.5	100.6	69.4	62.5	59.1	57.9	57.1	55.4	52.5	49.8	46.9
57.5°	194.8	103.0	70.7	63.3	60.3	59.4	58.6	56.0	52.5	48.6	45.4
60°	225.7	114.1	76.5	67.9	65.3	65.5	64.3	61.1	56.0	50.5	45.7
62.5°	265.5	129.6	83.9	74.3	73.9	75.6	75.6	70.1	61.8	53.3	46.9
65°	288.3	134.5	84.9	75.1	78.0	82.9	82.5	75.1	63.8	53.3	46.4
67°	282.6	129.3	80.7	70.2	73.6	79.2	78.5	71.4	60.8	51.1	45.1
67.5°	278.0	127.6	79.7	69.0	72.4	77.0	77.0	69.9	59.4	50.5	44.6
70°	244.8	112.8	74.6	64.5	64.5	65.7	64.8	59.8	52.7	46.4	42.5
72.5°	204.1	98.6	70.6	61.3	58.1	57.4	56.2	52.7	48.1	43.7	40.3
75°	158.2	87.3	67.4	57.9	53.7	52.2	51.0	48.3	44.7	41.0	38.1
77.5°	110.7	74.8	63.1	55.0	50.5	49.3	47.4	44.4	41.5	38.3	35.6
80°	68.7	61.8	55.0	49.6	44.9	43.2	40.8	38.1	35.8	33.9	31.9
82.5°	49.0	45.4	41.0	38.1	33.3	28.2	30.2	30.4	28.9	27.7	27.2
85°	32.7	29.5	27.3	24.8	21.9	19.7	20.3	21.8	21.9	21.4	21.4
87.5°	17.9	15.2	14.7	15.2	13.2	12.5	12.7	14.0	14.2	14.2	14.3
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):**

	165°	170°	175°	180°
0°	333.9	333.9	333.9	333.9
2.5°	343.2	343.7	343.5	343.8
5°	348.4	348.7	348.6	348.7
7.5°	347.6	348.2	348.6	348.1
10°	346.2	347.2	347.9	347.9
12.5°	346.5	348.2	349.2	349.2
15°	346.2	347.6	347.9	347.9
17.5°	341.0	341.0	341.1	340.5
20°	331.9	330.8	330.5	329.3
22.5°	318.9	316.5	315.0	314.1
25°	304.0	300.3	297.9	296.6
27.5°	291.7	288.5	286.1	284.8
30°	278.0	274.3	272.9	271.9
32.5°	258.3	254.7	253.7	252.9
35°	232.6	231.4	228.7	226.9
37.5°	202.9	201.4	200.4	199.7
40°	171.8	172.0	171.2	169.6
42.5°	140.8	142.5	140.8	140.4
45°	110.6	112.4	112.4	112.9
47.5°	85.2	84.9	85.6	85.7
50°	64.5	63.5	63.1	62.6
52.5°	51.1	50.0	49.3	48.4
55°	45.1	43.7	43.0	42.9
57.5°	43.0	41.4	40.3	40.2
60°	42.5	40.2	38.8	38.5
62.5°	42.5	39.7	38.1	37.6
65°	42.0	39.2	37.8	37.3
67°	41.4	38.8	37.5	37.1
67.5°	41.0	38.7	37.5	37.0
70°	40.2	38.1	36.8	36.3
72.5°	38.3	36.6	35.3	34.9
75°	36.3	34.8	33.9	33.6
77.5°	33.9	32.6	31.6	30.7
80°	30.4	28.9	27.3	27.0
82.5°	25.8	24.1	23.0	22.8
85°	20.8	19.4	18.1	18.1
87.5°	14.5	13.7	12.8	12.0
90°	0.0	0.0	0.0	0.0

(END OF REPORT)