

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: P146845

Luminaire Tested: **LDRL-T4-F01-E**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P146845  
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-F01-E  
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE  
(1) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 SHORT  
Light Source: (7) 4000K CCT, 70 CRI LEDs  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2425.9 lumens  
Efficiency: N/A  
Efficacy: 93.7 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

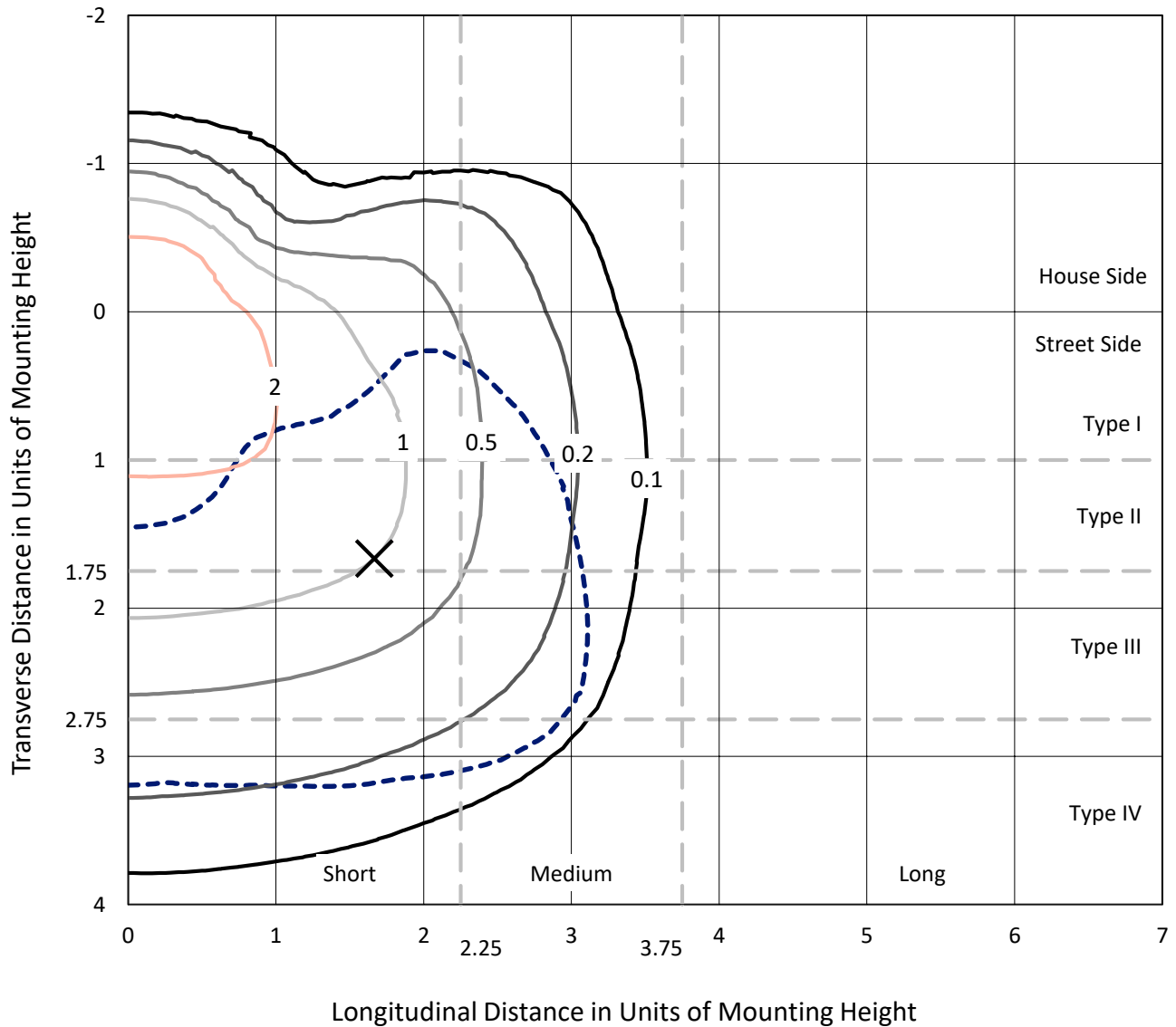
Input Watts (W): 25.9  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

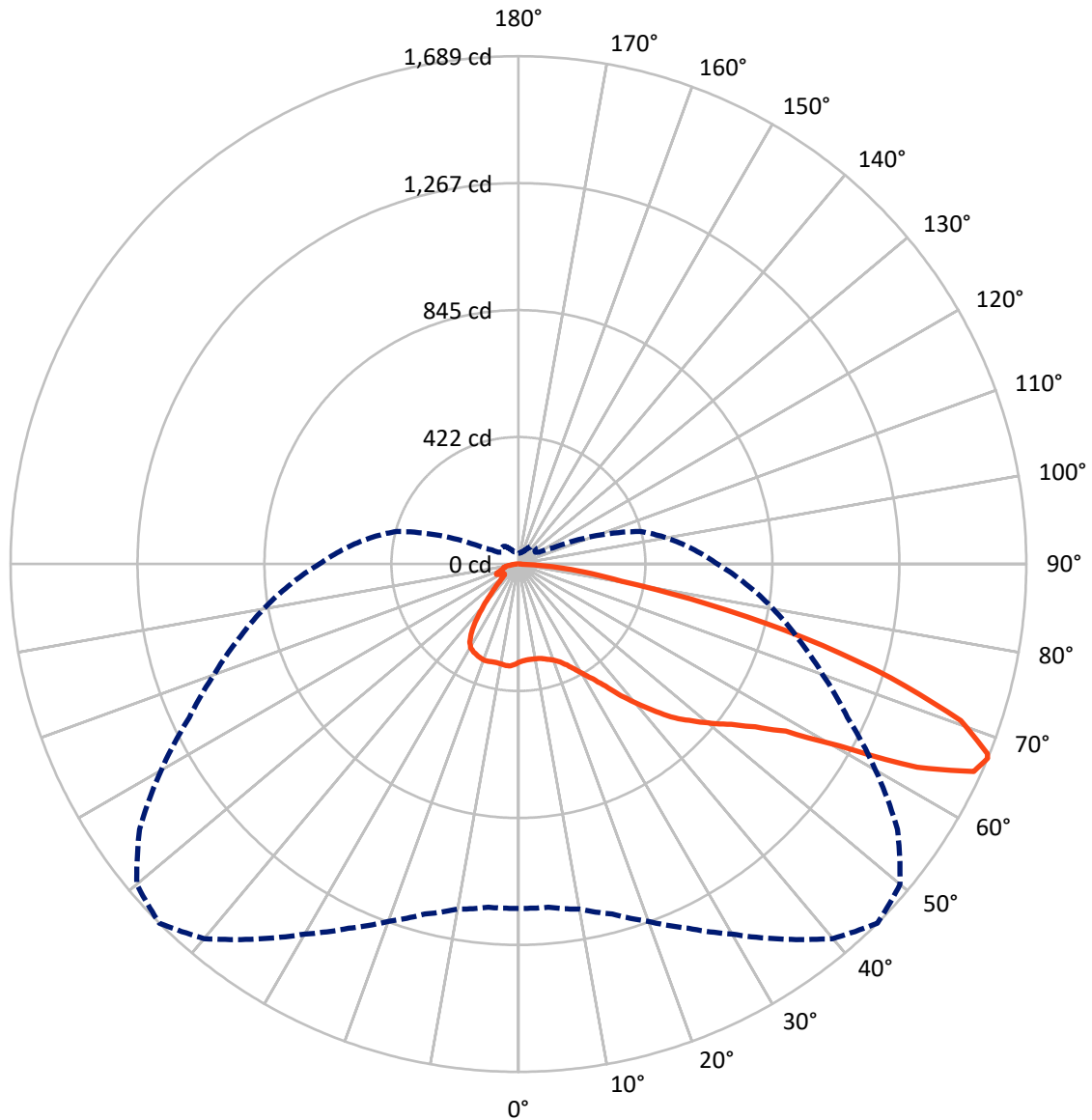
✕ Max cd  
 - - - 1/2 Max cd



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

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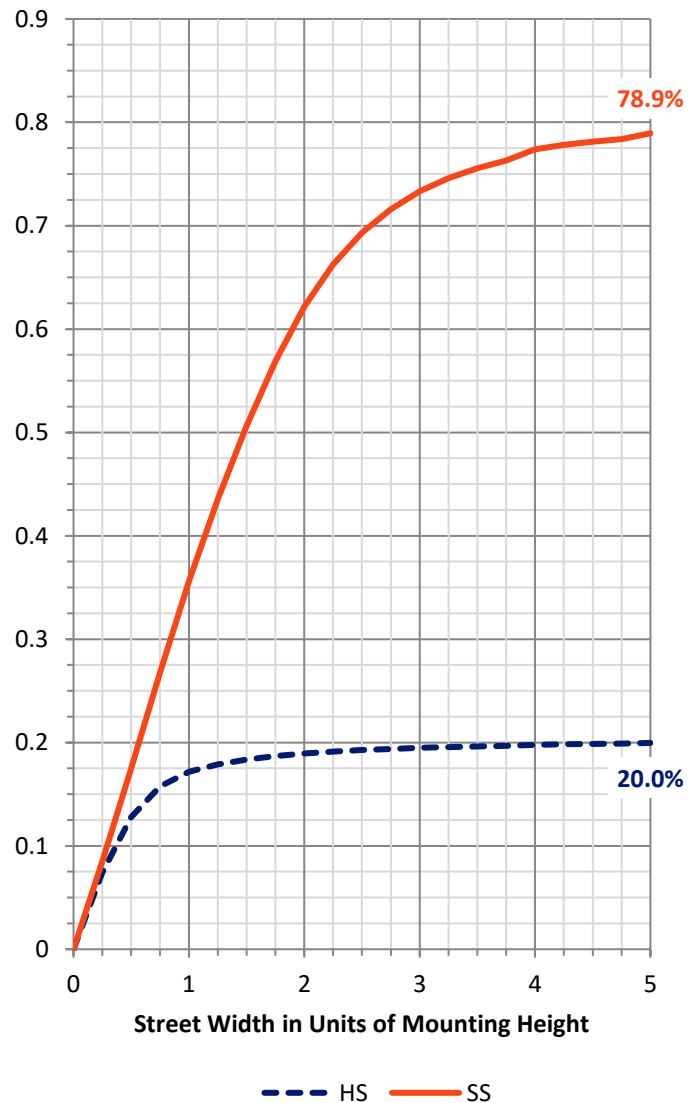
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	491.5	0.0	491.5
	% Fixture	20.3	0.0	20.3
<b>Street Side</b>	Lumens	1934.4	0.0	1934.4
	% Fixture	79.7	0.0	79.7
<b>Total</b>	Lumens	2425.9	0.0	2425.9
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	31.5	1.3
10°-20°	94.5	3.9
20°-30°	160.6	6.6
30°-40°	241.4	10.0
40°-50°	313.9	12.9
50°-60°	431.0	17.8
60°-70°	679.9	28.0
70°-80°	410.8	16.9
80°-90°	62.2	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°	2425.9	100.0
0°-180°	2425.9	100.0



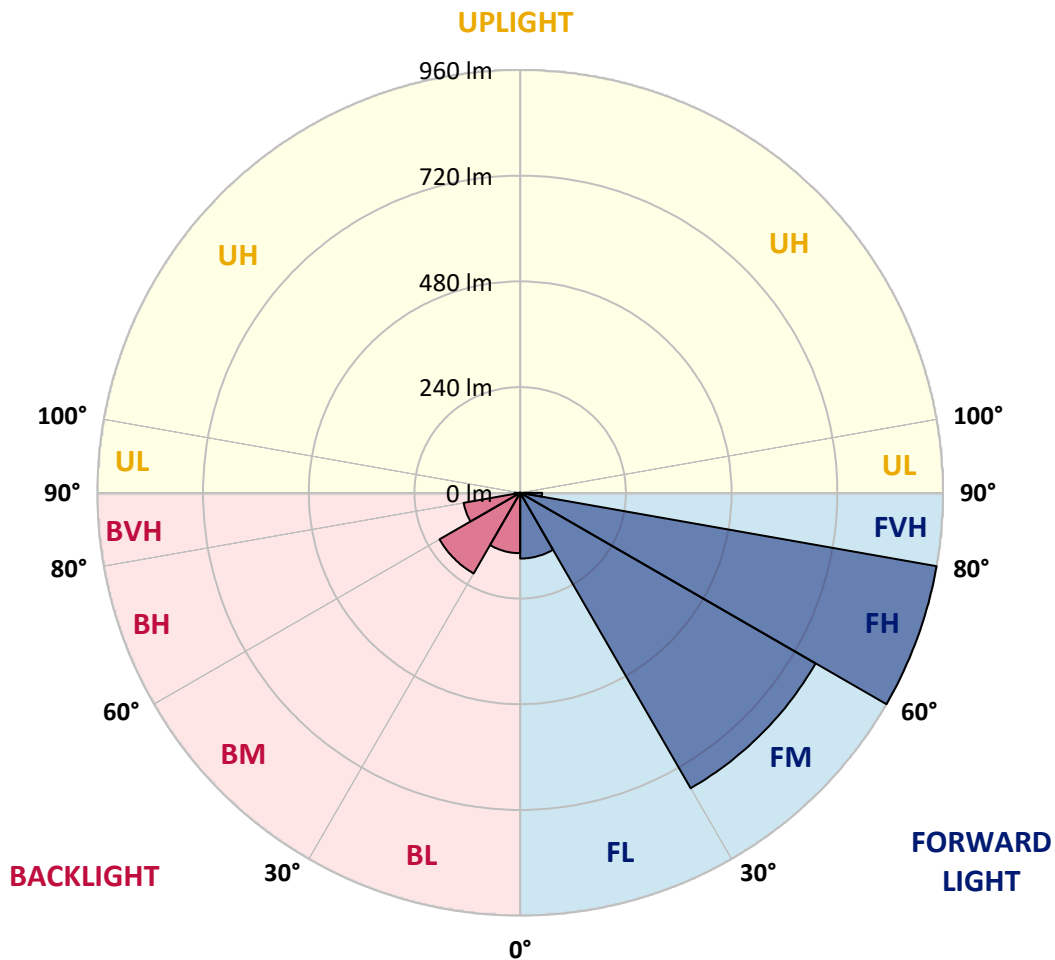
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	149.4	6.2			
FM	(30°-60°)	774.8	31.9			
FH	(60°-80°)	960.5	39.6			G1/1800
FVH	(80°-90°)	49.7	2.0			G1/100
BL	(0°-30°)	137.2	5.7	B1/500		
BM	(30°-60°)	211.5	8.7	B0/220		
BH	(60°-80°)	130.2	5.4	B1/500		G1/500
BVH	(80°-90°)	12.5	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°	326.6	326.6	326.6	326.6	326.6	326.6	326.6	326.6	326.6	326.6	326.6
2.5°	319.3	320.0	319.5	319.5	319.6	319.8	320.1	320.8	321.0	322.0	322.1
5°	312.9	313.0	313.0	313.2	314.2	315.0	315.8	317.0	318.0	319.8	321.0
7.5°	310.6	311.2	311.1	311.4	312.4	313.2	314.2	315.8	318.3	319.8	321.5
10°	314.4	314.9	314.4	314.5	314.7	315.5	315.8	317.0	319.0	320.3	321.8
12.5°	323.1	323.1	322.6	322.3	321.8	322.0	321.3	321.1	322.1	322.3	322.5
15°	334.7	336.0	334.3	333.0	332.4	331.7	329.5	328.7	328.6	327.1	325.6
17.5°	346.4	346.7	345.7	344.2	343.3	341.8	340.0	338.3	336.3	334.0	331.0
20°	359.4	359.6	358.3	356.1	355.0	353.2	350.8	348.0	345.6	341.9	338.6
22.5°	377.6	377.4	374.8	373.0	371.3	369.2	365.9	362.1	358.1	353.8	349.2
25°	398.4	398.4	396.6	393.6	392.8	389.6	386.0	381.6	377.4	371.3	365.7
27.5°	422.2	422.3	419.0	417.4	415.6	412.3	409.8	406.3	400.7	394.6	388.8
30°	450.4	449.6	446.9	443.5	442.8	440.2	436.7	434.2	427.3	423.0	416.6
32.5°	477.2	478.5	477.8	473.9	474.5	471.9	468.9	467.1	459.8	455.7	449.7
35°	517.1	518.3	519.3	517.8	518.6	517.1	514.6	509.8	503.9	498.5	490.2
37.5°	548.1	549.3	550.0	553.6	558.9	564.0	566.3	563.8	564.2	555.9	544.8
40°	573.6	576.4	580.3	587.3	597.8	607.6	612.9	617.0	619.1	611.4	597.0
42.5°	599.0	602.0	607.4	618.5	633.0	647.0	658.1	670.8	673.1	671.2	658.9
45°	625.6	629.0	635.8	648.4	665.4	683.7	701.5	719.5	728.6	730.1	715.2
47.5°	657.6	662.6	668.8	683.0	699.5	720.2	742.5	765.6	779.8	779.8	762.6
50°	697.6	703.2	708.5	722.7	739.2	760.5	786.2	812.0	831.3	832.5	811.7
52.5°	753.5	754.4	757.5	770.5	784.9	808.7	833.1	863.0	885.3	886.3	862.3
55°	821.6	821.6	825.2	836.1	849.5	869.1	894.4	927.6	951.0	956.1	925.4
57.5°	911.0	914.4	916.2	928.9	938.0	958.8	979.9	1016.1	1045.9	1049.2	1018.0
60°	1056.7	1050.4	1060.5	1071.7	1093.0	1108.2	1144.2	1180.5	1218.6	1227.7	1194.2
62.5°	1200.1	1206.9	1219.3	1239.6	1276.1	1310.1	1361.6	1416.8	1476.0	1488.3	1462.7
65°	1209.1	1213.2	1230.4	1265.4	1315.2	1375.8	1446.8	1529.9	1618.2	1663.9	1621.0
67°	1145.0	1146.2	1165.6	1205.4	1265.2	1337.0	1421.1	1522.4	1626.1	1689.0	1657.0
67.5°	1124.7	1126.8	1146.0	1186.6	1247.0	1320.5	1406.2	1510.4	1616.5	1682.3	1653.4
70°	1005.5	1005.5	1026.1	1067.1	1123.7	1195.4	1285.0	1390.2	1505.6	1560.9	1536.3
72.5°	855.9	850.5	873.7	904.8	951.0	1013.6	1085.7	1168.8	1255.6	1295.9	1286.2
75°	622.1	632.4	644.4	667.4	707.5	756.8	799.1	873.2	941.4	986.0	974.3
77.5°	339.5	343.4	376.8	390.5	425.6	462.3	508.7	560.7	614.4	642.4	631.0
80°	201.8	209.5	229.3	245.7	264.7	292.6	326.2	337.6	348.2	347.5	326.9
82.5°	127.5	136.9	158.3	172.4	182.3	198.5	216.8	231.1	234.3	218.8	194.8
85°	20.6	34.2	89.3	105.0	111.3	120.0	133.6	139.7	130.4	113.9	118.1
87.5°	8.1	9.7	27.2	34.5	36.5	19.2	33.2	39.0	19.8	10.1	22.8
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°	326.6	326.6	326.6	326.6	326.6	326.6	326.6	326.6	326.6	326.6	326.6
2.5°	323.1	323.9	324.8	325.8	326.1	326.9	328.4	328.2	329.4	329.9	330.7
5°	322.5	324.3	325.6	327.4	328.1	329.9	331.9	332.5	334.0	335.2	336.2
7.5°	323.8	325.8	327.4	329.5	331.0	332.5	334.0	335.8	337.1	338.0	338.6
10°	324.3	326.4	328.4	330.2	331.9	333.0	334.7	336.2	337.5	338.0	338.1
12.5°	324.4	325.9	327.9	329.9	331.4	332.9	334.0	335.7	336.6	336.8	336.5
15°	325.8	325.9	327.2	329.5	331.0	332.5	333.3	334.2	334.8	334.3	333.8
17.5°	329.7	328.6	328.6	329.7	330.5	331.2	331.4	331.2	330.5	329.5	328.7
20°	336.2	333.8	332.0	331.4	330.0	328.4	326.2	324.3	321.8	320.6	320.5
22.5°	346.2	342.8	339.5	336.2	331.9	327.1	322.1	317.8	314.4	312.5	312.7
25°	363.4	358.3	354.5	348.7	341.8	335.0	328.6	322.8	318.7	315.4	316.0
27.5°	386.5	380.7	377.4	370.8	362.9	354.3	346.7	338.8	332.9	328.7	329.5
30°	413.6	411.9	406.5	399.9	392.5	382.7	371.3	359.4	348.7	341.9	340.6
32.5°	446.3	444.5	438.5	432.9	423.3	412.6	397.7	378.9	362.1	349.2	343.6
35°	486.6	482.1	474.8	469.4	458.7	444.8	425.6	400.2	374.6	355.3	341.3
37.5°	536.8	525.7	513.6	499.4	483.6	466.8	444.6	414.9	383.2	355.8	330.9
40°	584.6	566.8	546.8	524.4	505.1	484.7	461.8	427.8	389.0	352.3	315.2
42.5°	638.0	610.2	583.2	552.3	526.9	502.7	476.5	436.9	390.1	342.9	294.9
45°	689.3	653.7	617.3	579.2	546.8	520.1	490.2	444.6	389.8	333.0	274.7
47.5°	735.0	692.5	647.5	604.6	567.0	537.6	504.9	455.2	394.3	330.2	261.4
50°	777.8	728.6	675.9	628.2	587.3	557.2	523.5	471.9	408.0	336.6	259.4
52.5°	821.9	768.4	708.1	656.8	614.0	579.2	545.2	493.2	427.1	349.9	263.8
55°	879.3	817.9	753.7	696.7	647.7	610.2	570.9	518.9	447.8	365.2	272.3
57.5°	964.9	893.1	820.1	758.8	702.2	655.5	612.4	552.8	481.9	388.3	290.7
60°	1118.4	1038.8	954.3	874.2	809.0	754.4	699.5	625.6	545.0	440.8	333.2
62.5°	1369.2	1259.1	1142.2	1036.9	947.2	873.2	796.0	707.1	613.2	504.6	397.4
65°	1520.0	1368.1	1219.3	1097.1	991.1	896.4	802.9	707.5	616.5	521.6	426.3
67°	1538.6	1372.0	1207.4	1077.3	963.7	860.5	759.2	661.6	580.2	500.6	418.4
67.5°	1533.0	1364.1	1196.2	1064.8	950.0	850.1	750.4	650.5	571.3	491.7	412.4
70°	1422.4	1257.1	1091.0	963.2	853.3	751.1	656.8	556.7	495.5	438.5	370.0
72.5°	1180.5	1051.6	912.4	805.9	710.9	622.4	539.6	455.9	406.7	366.4	318.2
75°	875.4	757.2	639.5	575.4	501.8	430.9	366.9	304.9	286.0	276.4	248.0
77.5°	540.6	434.4	345.7	287.8	228.8	179.3	142.7	116.1	121.0	140.8	149.9
80°	269.1	198.8	153.9	122.3	98.9	79.9	58.6	42.9	51.3	60.9	69.0
82.5°	162.0	128.0	101.2	85.7	69.7	53.8	38.1	29.1	32.2	43.3	47.6
85°	100.5	80.6	64.4	53.8	44.6	33.0	21.6	21.5	22.8	28.7	32.9
87.5°	29.6	20.0	15.9	16.5	18.3	15.2	11.4	9.7	12.1	16.5	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):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	326.6	326.6	326.6	326.6	326.6	326.6	326.6	326.6	326.6	326.6	326.6
2.5°	330.9	332.0	332.5	332.7	332.9	333.8	333.8	334.8	335.2	335.2	335.5
5°	337.1	338.3	338.8	339.0	339.3	339.8	339.6	340.3	340.6	340.4	340.4
7.5°	339.5	339.8	339.8	340.3	340.8	340.3	340.0	340.3	340.1	340.3	340.3
10°	338.6	338.3	338.3	338.0	338.5	337.5	337.5	337.8	337.6	338.0	338.5
12.5°	336.6	336.5	336.0	335.8	336.5	335.8	336.0	336.5	336.8	337.5	338.3
15°	333.8	333.3	333.3	334.0	335.7	336.2	336.8	337.6	337.8	338.1	338.5
17.5°	329.1	329.9	331.9	334.2	337.3	338.5	338.8	338.3	336.6	335.3	334.0
20°	322.5	326.1	331.2	336.2	340.0	339.8	337.6	334.5	330.5	327.7	325.9
22.5°	316.8	323.9	331.9	337.8	340.3	337.1	332.2	327.4	322.8	318.7	315.0
25°	320.8	327.6	334.3	338.0	337.8	332.4	325.8	320.5	314.2	308.4	302.3
27.5°	333.7	337.8	339.8	338.6	335.2	327.9	320.6	313.2	305.1	298.2	291.1
30°	342.4	342.4	340.4	335.8	329.7	321.6	312.7	303.1	293.6	285.5	277.4
32.5°	339.6	333.2	327.4	321.1	314.2	305.4	295.2	284.8	273.9	264.5	257.6
35°	327.4	313.5	301.5	292.6	285.3	274.9	263.0	251.1	242.2	235.8	231.8
37.5°	305.6	283.5	266.0	255.1	243.9	233.1	219.4	214.0	206.1	202.1	200.6
40°	279.2	246.8	224.9	210.8	199.0	185.6	176.3	172.9	169.9	169.1	168.4
42.5°	248.8	208.4	182.3	167.7	153.4	143.6	139.5	137.4	136.9	136.9	137.7
45°	217.3	169.2	139.2	127.5	115.6	110.5	109.5	108.5	108.6	108.1	108.5
47.5°	192.8	135.9	105.0	94.3	88.2	86.5	85.4	85.0	85.0	84.2	83.2
50°	180.1	113.6	82.4	74.0	70.5	69.3	69.3	68.7	67.4	66.5	64.4
52.5°	176.8	102.0	71.3	64.1	61.1	60.1	59.1	58.1	56.1	54.3	51.8
55°	179.5	98.4	67.9	61.1	57.8	56.6	55.8	54.2	51.3	48.7	45.9
57.5°	190.5	100.7	69.2	61.9	58.9	58.1	57.3	54.8	51.3	47.6	44.4
60°	220.7	111.6	74.8	66.4	63.9	64.1	62.9	59.8	54.8	49.4	44.7
62.5°	259.7	126.8	82.1	72.6	72.3	74.0	74.0	68.5	60.4	52.2	45.9
65°	282.0	131.6	83.0	73.5	76.3	81.1	80.7	73.5	62.4	52.2	45.4
67°	276.4	126.5	78.9	68.7	72.0	77.4	76.8	69.8	59.4	50.0	44.1
67.5°	271.9	124.8	77.9	67.5	70.8	75.3	75.3	68.4	58.1	49.4	43.6
70°	239.4	110.3	73.0	63.1	63.1	64.2	63.4	58.4	51.5	45.4	41.6
72.5°	199.6	96.4	69.0	59.9	56.8	56.1	55.0	51.5	47.1	42.8	39.5
75°	154.7	85.4	65.9	56.6	52.5	51.0	49.9	47.2	43.8	40.1	37.3
77.5°	108.3	73.1	61.7	53.8	49.4	48.2	46.4	43.4	40.6	37.5	34.8
80°	67.2	60.4	53.8	48.5	43.9	42.3	40.0	37.3	35.0	33.2	31.2
82.5°	47.9	44.4	40.1	37.3	32.5	27.6	29.6	29.7	28.2	27.1	26.6
85°	32.0	28.9	26.7	24.3	21.5	19.3	19.8	21.3	21.5	21.0	21.0
87.5°	17.5	14.9	14.4	14.9	12.9	12.2	12.4	13.7	13.9	13.9	14.0
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°	326.6	326.6	326.6	326.6
2.5°	335.7	336.2	336.0	336.3
5°	340.8	341.1	340.9	341.1
7.5°	340.0	340.6	340.9	340.4
10°	338.6	339.6	340.3	340.3
12.5°	339.0	340.6	341.6	341.6
15°	338.6	340.0	340.3	340.3
17.5°	333.5	333.5	333.7	333.0
20°	324.6	323.6	323.3	322.1
22.5°	311.9	309.6	308.1	307.3
25°	297.4	293.7	291.4	290.1
27.5°	285.3	282.2	279.9	278.5
30°	271.9	268.3	267.0	266.0
32.5°	252.6	249.1	248.2	247.3
35°	227.5	226.4	223.7	221.9
37.5°	198.5	197.0	196.0	195.3
40°	168.1	168.2	167.4	165.9
42.5°	137.7	139.3	137.7	137.4
45°	108.1	110.0	110.0	110.5
47.5°	83.4	83.0	83.7	83.9
50°	63.1	62.1	61.7	61.3
52.5°	50.0	48.9	48.2	47.4
55°	44.1	42.8	42.1	41.9
57.5°	42.1	40.5	39.5	39.3
60°	41.6	39.3	38.0	37.6
62.5°	41.6	38.8	37.3	36.8
65°	41.1	38.3	37.0	36.5
67°	40.5	38.0	36.7	36.3
67.5°	40.1	37.8	36.7	36.2
70°	39.3	37.3	36.0	35.5
72.5°	37.5	35.8	34.5	34.2
75°	35.5	34.0	33.2	32.9
77.5°	33.2	31.9	30.9	30.0
80°	29.7	28.2	26.7	26.4
82.5°	25.3	23.6	22.5	22.3
85°	20.3	19.0	17.7	17.7
87.5°	14.2	13.4	12.5	11.7
90°	0.0	0.0	0.0	0.0

(END OF REPORT)