

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: P146843

Luminaire Tested: **LDRL-T4-F01-E-8030**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P146843
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-8030
Description: RL LED ROADWAY LARGE CUTOFF COBRAHEAD LUMINAIRE
(1) LIGHTBARS WITH AccuLED OPTICS - TYPE 4 SHORT
Light Source: (7) 3000K CCT, 80 CRI LEDs
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2047.4 lumens
Efficiency: N/A
Efficacy: 79.1 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

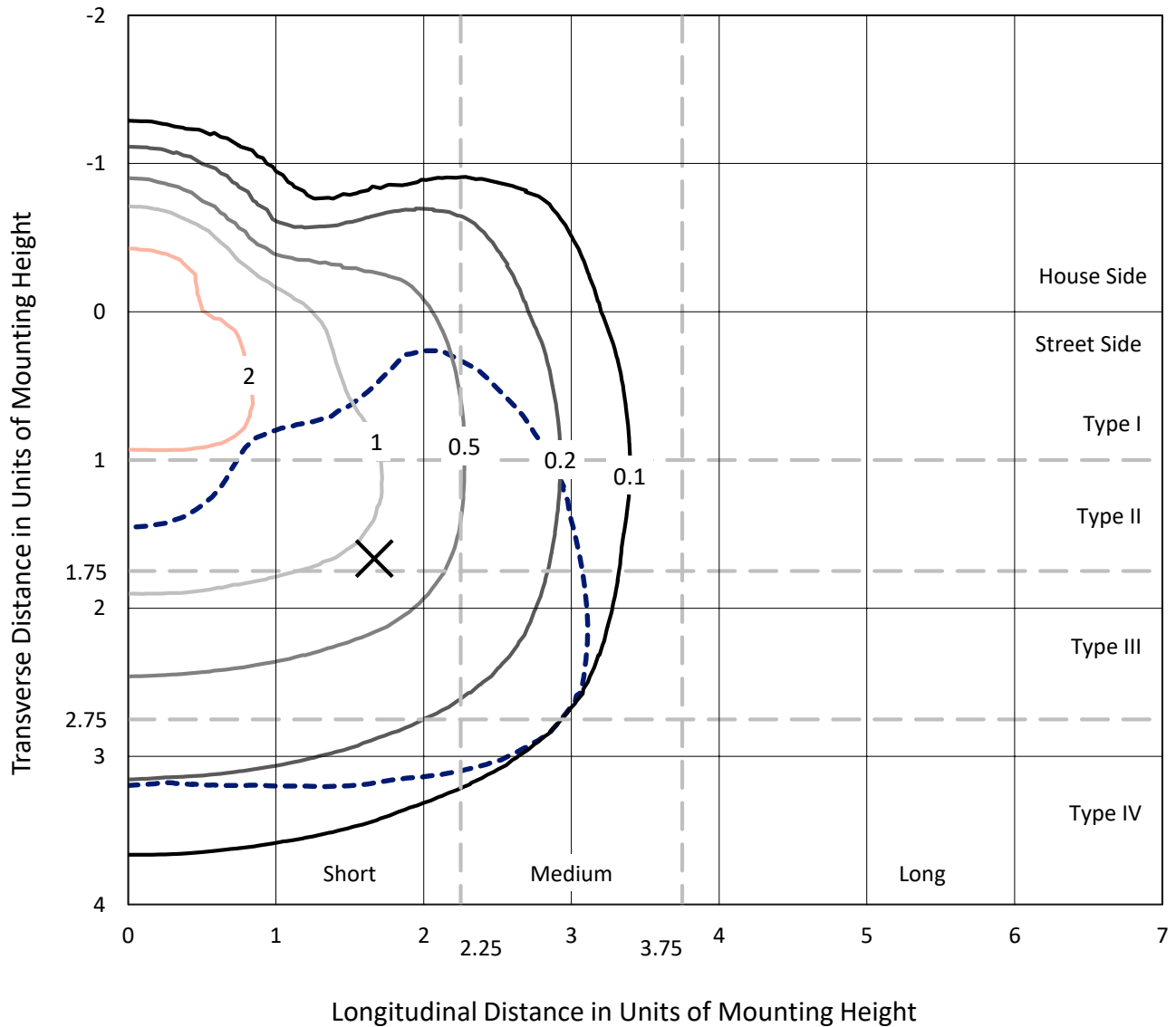
Input Watts (W): 25.9
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

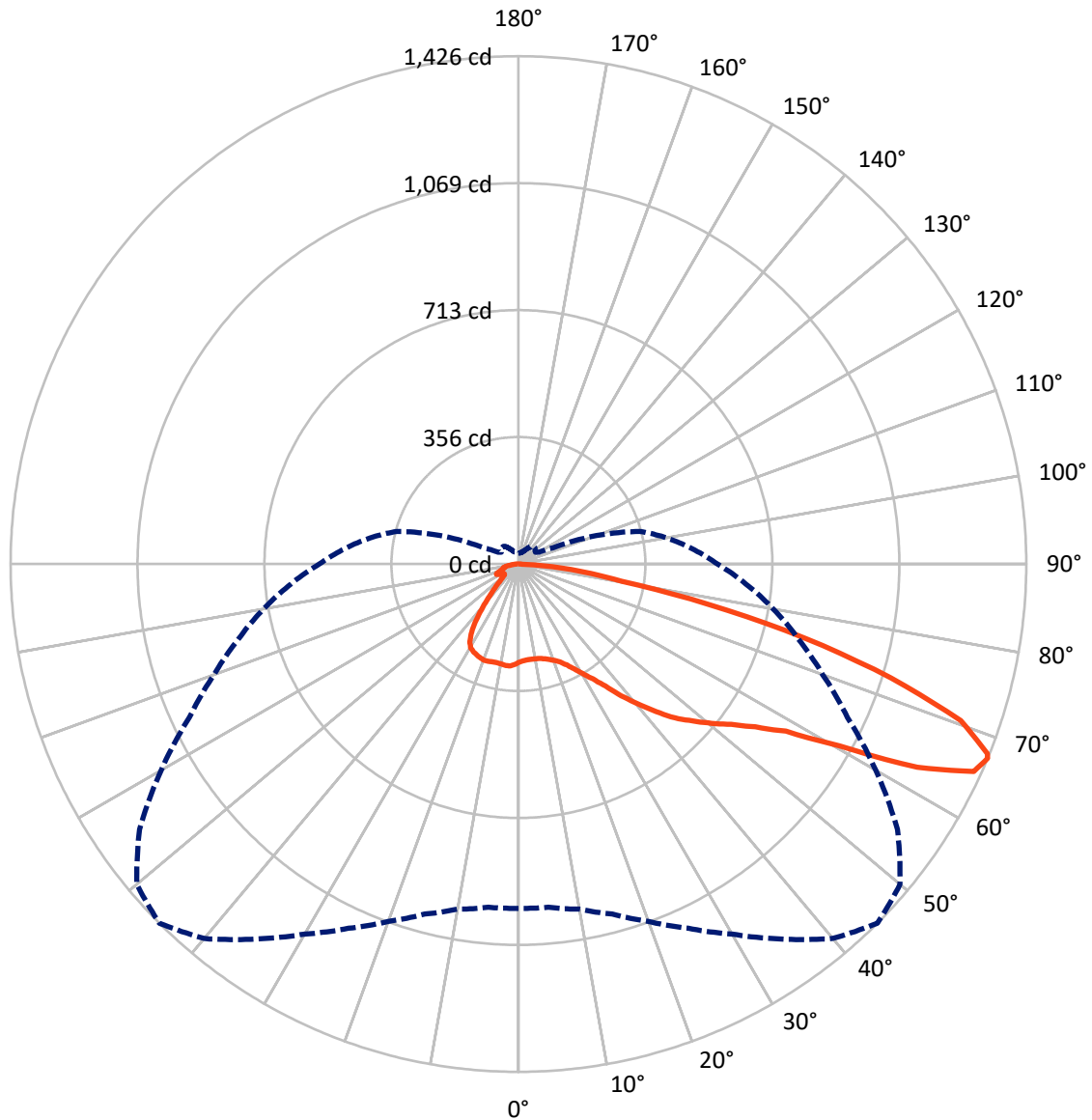
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 2.8 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
House Side	Lumens	414.9	0.0	414.9
	% Fixture	20.3	0.0	20.3
Street Side	Lumens	1632.6	0.0	1632.6
	% Fixture	79.7	0.0	79.7
Total	Lumens	2047.4	0.0	2047.4
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	26.6	1.3
10°-20°	79.8	3.9
20°-30°	135.6	6.6
30°-40°	203.8	10.0
40°-50°	264.9	12.9
50°-60°	363.8	17.8
60°-70°	573.8	28.0
70°-80°	346.7	16.9
80°-90°	52.5	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°	2047.4	100.0
0°-180°	2047.4	100.0

Coefficient of Utilization



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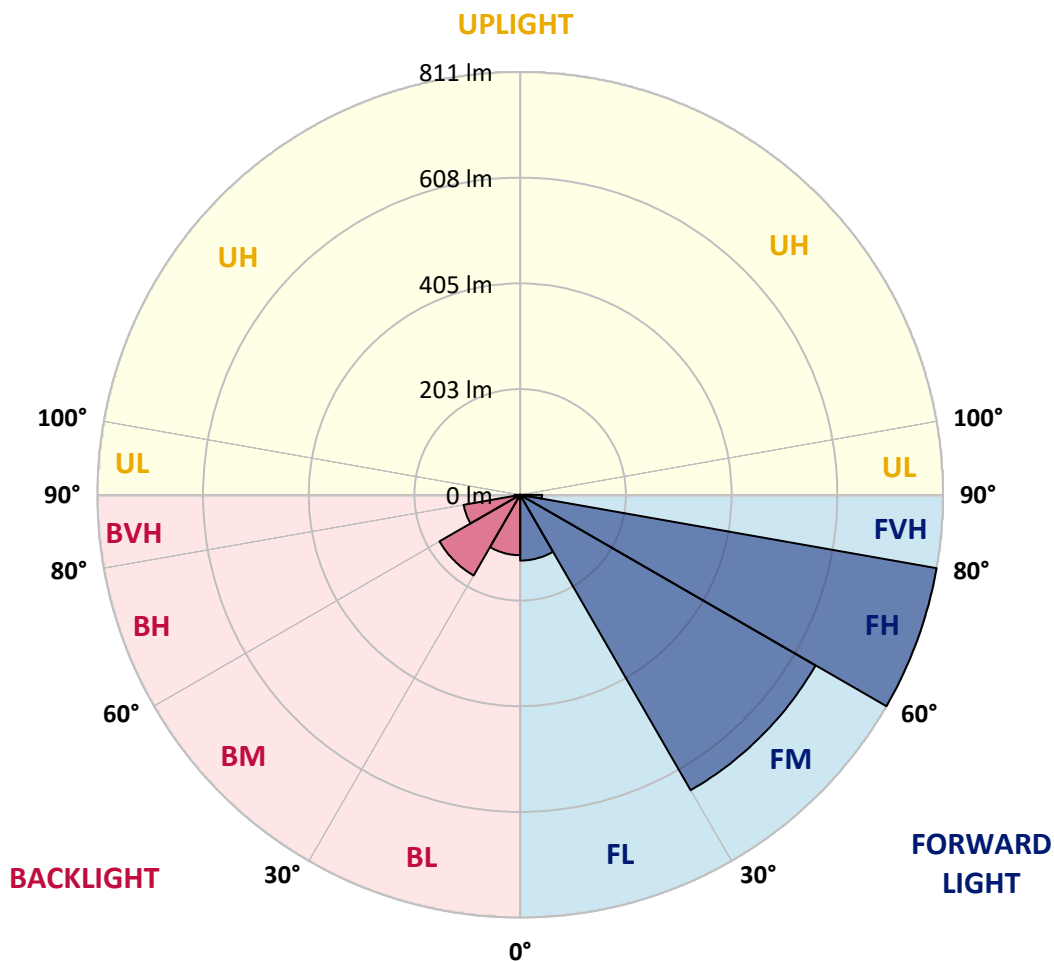
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	126.1	6.2			
FM	(30°-60°)	653.9	31.9			
FH	(60°-80°)	810.6	39.6			G1/1800
FVH	(80°-90°)	41.9	2.0			G1/100
BL	(0°-30°)	115.8	5.7	B1/500		
BM	(30°-60°)	178.5	8.7	B0/220		
BH	(60°-80°)	109.9	5.4	B0/110		G0/110
BVH	(80°-90°)	10.6	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°	275.6	275.6	275.6	275.6	275.6	275.6	275.6	275.6	275.6	275.6	275.6
2.5°	269.5	270.1	269.6	269.6	269.8	269.9	270.2	270.8	270.9	271.7	271.9
5°	264.1	264.2	264.2	264.3	265.2	265.9	266.6	267.5	268.4	269.9	270.9
7.5°	262.1	262.7	262.5	262.8	263.6	264.3	265.2	266.6	268.7	269.9	271.3
10°	265.3	265.7	265.3	265.5	265.6	266.3	266.6	267.5	269.2	270.3	271.6
12.5°	272.7	272.7	272.3	272.0	271.6	271.7	271.2	271.0	271.9	272.0	272.1
15°	282.5	283.6	282.2	281.1	280.5	279.9	278.1	277.4	277.3	276.0	274.8
17.5°	292.4	292.6	291.8	290.5	289.7	288.4	286.9	285.5	283.9	281.9	279.4
20°	303.4	303.5	302.4	300.6	299.6	298.1	296.1	293.7	291.7	288.6	285.8
22.5°	318.7	318.5	316.3	314.8	313.4	311.6	308.8	305.6	302.2	298.6	294.7
25°	336.2	336.2	334.7	332.2	331.5	328.9	325.8	322.0	318.5	313.4	308.7
27.5°	356.3	356.4	353.7	352.3	350.7	347.9	345.9	342.9	338.2	333.0	328.2
30°	380.1	379.4	377.2	374.3	373.7	371.5	368.6	366.5	360.6	357.0	351.6
32.5°	402.7	403.8	403.3	399.9	400.5	398.3	395.7	394.2	388.1	384.6	379.6
35°	436.4	437.4	438.2	437.0	437.7	436.4	434.3	430.3	425.3	420.7	413.7
37.5°	462.6	463.6	464.2	467.2	471.7	476.0	478.0	475.9	476.1	469.2	459.8
40°	484.1	486.5	489.8	495.7	504.6	512.8	517.3	520.7	522.6	516.0	503.9
42.5°	505.6	508.1	512.7	522.0	534.3	546.1	555.4	566.2	568.1	566.4	556.1
45°	528.0	530.9	536.6	547.2	561.6	577.0	592.1	607.3	614.9	616.2	603.7
47.5°	555.0	559.2	564.5	576.5	590.4	607.8	626.6	646.2	658.1	658.1	643.6
50°	588.7	593.5	597.9	609.9	623.9	641.8	663.6	685.3	701.6	702.6	685.0
52.5°	636.0	636.7	639.3	650.3	662.5	682.5	703.1	728.4	747.2	748.0	727.8
55°	693.4	693.4	696.5	705.7	716.9	733.5	754.8	782.9	802.6	807.0	781.0
57.5°	768.9	771.7	773.2	784.0	791.6	809.2	827.0	857.5	882.8	885.6	859.2
60°	891.8	886.5	895.0	904.5	922.5	935.3	965.7	996.3	1028.5	1036.2	1007.9
62.5°	1012.9	1018.6	1029.1	1046.2	1077.0	1105.7	1149.2	1195.7	1245.8	1256.1	1234.5
65°	1020.4	1023.9	1038.4	1068.0	1110.0	1161.2	1221.1	1291.2	1365.7	1404.3	1368.1
67°	966.4	967.3	983.8	1017.4	1067.8	1128.4	1199.4	1284.9	1372.4	1425.5	1398.5
67.5°	949.2	951.0	967.2	1001.5	1052.5	1114.5	1186.8	1274.7	1364.3	1419.8	1395.4
70°	848.6	848.6	866.0	900.6	948.4	1008.9	1084.5	1173.3	1270.7	1317.4	1296.6
72.5°	722.4	717.8	737.4	763.6	802.6	855.5	916.3	986.4	1059.7	1093.7	1085.5
75°	525.1	533.7	543.9	563.2	597.1	638.8	674.4	737.0	794.6	832.2	822.3
77.5°	286.5	289.8	318.0	329.6	359.2	390.2	429.3	473.2	518.5	542.2	532.6
80°	170.3	176.8	193.6	207.3	223.4	246.9	275.3	285.0	293.9	293.3	275.9
82.5°	107.6	115.5	133.6	145.5	153.8	167.5	183.0	195.1	197.7	184.6	164.4
85°	17.4	28.8	75.4	88.6	93.9	101.3	112.7	117.9	110.1	96.1	99.6
87.5°	6.8	8.2	23.0	29.1	30.8	16.2	28.0	32.9	16.7	8.5	19.2
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):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	275.6	275.6	275.6	275.6	275.6	275.6	275.6	275.6	275.6	275.6	275.6
2.5°	272.7	273.4	274.1	274.9	275.2	275.9	277.2	277.0	278.0	278.4	279.1
5°	272.1	273.7	274.8	276.3	276.9	278.4	280.1	280.6	281.9	282.9	283.7
7.5°	273.3	274.9	276.3	278.1	279.4	280.6	281.9	283.4	284.5	285.2	285.8
10°	273.7	275.5	277.2	278.7	280.1	281.1	282.5	283.7	284.8	285.2	285.4
12.5°	273.8	275.1	276.7	278.4	279.7	280.9	281.9	283.3	284.1	284.3	284.0
15°	274.9	275.1	276.2	278.1	279.4	280.6	281.3	282.0	282.6	282.2	281.8
17.5°	278.3	277.3	277.3	278.3	279.0	279.5	279.7	279.5	279.0	278.1	277.4
20°	283.7	281.8	280.2	279.7	278.6	277.2	275.3	273.7	271.6	270.6	270.5
22.5°	292.2	289.3	286.5	283.7	280.1	276.0	271.9	268.2	265.3	263.8	263.9
25°	306.7	302.4	299.2	294.3	288.4	282.7	277.3	272.4	268.9	266.2	266.7
27.5°	326.2	321.3	318.5	313.0	306.3	299.0	292.6	285.9	280.9	277.4	278.1
30°	349.1	347.7	343.1	337.5	331.2	323.0	313.4	303.4	294.3	288.6	287.5
32.5°	376.7	375.1	370.1	365.4	357.3	348.2	335.7	319.8	305.6	294.7	290.0
35°	410.7	406.9	400.8	396.2	387.1	375.4	359.2	337.8	316.2	299.9	288.0
37.5°	453.0	443.7	433.5	421.5	408.1	393.9	375.3	350.2	323.4	300.3	279.3
40°	493.4	478.4	461.5	442.6	426.3	409.1	389.8	361.0	328.3	297.4	266.0
42.5°	538.4	515.0	492.2	466.1	444.7	424.3	402.2	368.7	329.3	289.4	248.9
45°	581.8	551.7	521.0	488.8	461.5	438.9	413.7	375.3	329.0	281.1	231.9
47.5°	620.4	584.4	546.5	510.3	478.5	453.7	426.1	384.2	332.8	278.7	220.6
50°	656.5	614.9	570.5	530.2	495.7	470.3	441.9	398.3	344.3	284.1	218.9
52.5°	693.7	648.5	597.7	554.3	518.2	488.8	460.1	416.2	360.5	295.3	222.7
55°	742.2	690.3	636.1	588.0	546.7	515.0	481.9	438.0	377.9	308.2	229.8
57.5°	814.3	753.7	692.1	640.4	592.6	553.2	516.8	466.5	406.8	327.7	245.4
60°	943.9	876.8	805.4	737.8	682.8	636.7	590.4	528.0	460.0	372.1	281.2
62.5°	1155.6	1062.7	964.0	875.1	799.4	737.0	671.8	596.8	517.5	425.8	335.4
65°	1282.8	1154.6	1029.1	926.0	836.5	756.5	677.6	597.1	520.3	440.2	359.8
67°	1298.6	1158.0	1019.0	909.2	813.4	726.3	640.7	558.4	489.7	422.5	353.1
67.5°	1293.8	1151.3	1009.6	898.6	801.8	717.5	633.3	549.0	482.1	415.0	348.1
70°	1200.5	1061.0	920.8	813.0	720.1	633.9	554.3	469.9	418.2	370.1	312.3
72.5°	996.3	887.5	770.0	680.2	600.0	525.3	455.4	384.7	343.2	309.2	268.5
75°	738.8	639.0	539.7	485.6	423.5	363.7	309.6	257.4	241.3	233.3	209.3
77.5°	456.2	366.6	291.8	242.9	193.1	151.3	120.4	98.0	102.1	118.9	126.5
80°	227.1	167.8	129.9	103.3	83.5	67.4	49.5	36.2	43.3	51.4	58.2
82.5°	136.7	108.0	85.4	72.3	58.8	45.4	32.2	24.5	27.2	36.5	40.1
85°	84.9	68.0	54.3	45.4	37.6	27.9	18.3	18.1	19.2	24.2	27.7
87.5°	24.9	16.9	13.4	13.9	15.5	12.8	9.6	8.2	10.2	13.9	15.6
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°	275.6	275.6	275.6	275.6	275.6	275.6	275.6	275.6	275.6	275.6	275.6
2.5°	279.3	280.2	280.6	280.8	280.9	281.8	281.8	282.6	282.9	282.9	283.2
5°	284.5	285.5	285.9	286.1	286.4	286.8	286.6	287.2	287.5	287.3	287.3
7.5°	286.5	286.8	286.8	287.2	287.6	287.2	286.9	287.2	287.1	287.2	287.2
10°	285.8	285.5	285.5	285.2	285.7	284.8	284.8	285.1	285.0	285.2	285.7
12.5°	284.1	284.0	283.6	283.4	284.0	283.4	283.6	284.0	284.3	284.8	285.5
15°	281.8	281.3	281.3	281.9	283.3	283.7	284.3	285.0	285.1	285.4	285.7
17.5°	277.7	278.4	280.1	282.0	284.7	285.7	285.9	285.5	284.1	283.0	281.9
20°	272.1	275.2	279.5	283.7	286.9	286.8	285.0	282.3	279.0	276.6	275.1
22.5°	267.4	273.4	280.1	285.1	287.2	284.5	280.4	276.3	272.4	268.9	265.9
25°	270.8	276.5	282.2	285.2	285.1	280.5	274.9	270.5	265.2	260.3	255.1
27.5°	281.6	285.1	286.8	285.8	282.9	276.7	270.6	264.3	257.5	251.7	245.7
30°	289.0	289.0	287.3	283.4	278.3	271.4	263.9	255.8	247.8	240.9	234.1
32.5°	286.6	281.2	276.3	271.0	265.2	257.8	249.2	240.4	231.2	223.2	217.4
35°	276.3	264.6	254.4	246.9	240.8	232.0	222.0	211.9	204.4	199.0	195.6
37.5°	257.9	239.3	224.5	215.3	205.8	196.8	185.2	180.6	173.9	170.6	169.3
40°	235.6	208.3	189.8	177.9	167.9	156.6	148.8	145.9	143.4	142.7	142.1
42.5°	210.0	175.9	153.8	141.6	129.5	121.2	117.7	115.9	115.5	115.5	116.2
45°	183.4	142.8	117.5	107.6	97.5	93.2	92.4	91.6	91.7	91.3	91.6
47.5°	162.8	114.7	88.6	79.6	74.4	73.0	72.0	71.8	71.8	71.1	70.2
50°	152.0	95.9	69.5	62.4	59.5	58.5	58.5	58.0	56.9	56.2	54.3
52.5°	149.2	86.1	60.2	54.1	51.6	50.7	49.9	49.1	47.4	45.8	43.8
55°	151.5	83.1	57.3	51.6	48.8	47.8	47.1	45.7	43.3	41.1	38.7
57.5°	160.8	85.0	58.4	52.3	49.7	49.1	48.4	46.3	43.3	40.1	37.5
60°	186.3	94.2	63.1	56.0	53.9	54.1	53.1	50.4	46.3	41.7	37.8
62.5°	219.2	107.0	69.3	61.3	61.0	62.4	62.4	57.8	51.0	44.0	38.7
65°	238.0	111.1	70.1	62.0	64.4	68.4	68.1	62.0	52.7	44.0	38.3
67°	233.3	106.7	66.6	58.0	60.8	65.4	64.8	58.9	50.2	42.2	37.2
67.5°	229.5	105.3	65.8	57.0	59.8	63.5	63.5	57.7	49.1	41.7	36.8
70°	202.1	93.1	61.6	53.2	53.2	54.2	53.5	49.3	43.5	38.3	35.1
72.5°	168.5	81.4	58.2	50.6	47.9	47.4	46.4	43.5	39.7	36.1	33.3
75°	130.6	72.0	55.6	47.8	44.3	43.1	42.1	39.9	36.9	33.9	31.5
77.5°	91.4	61.7	52.1	45.4	41.7	40.7	39.2	36.6	34.3	31.6	29.4
80°	56.7	51.0	45.4	41.0	37.1	35.7	33.7	31.5	29.5	28.0	26.3
82.5°	40.4	37.5	33.9	31.5	27.5	23.3	24.9	25.1	23.8	22.9	22.4
85°	27.0	24.4	22.6	20.5	18.1	16.3	16.7	18.0	18.1	17.7	17.7
87.5°	14.8	12.5	12.1	12.5	10.9	10.3	10.5	11.6	11.7	11.7	11.8
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):

	165°	170°	175°	180°
0°	275.6	275.6	275.6	275.6
2.5°	283.3	283.7	283.6	283.9
5°	287.6	287.9	287.8	287.9
7.5°	286.9	287.5	287.8	287.3
10°	285.8	286.6	287.2	287.2
12.5°	286.1	287.5	288.3	288.3
15°	285.8	286.9	287.2	287.2
17.5°	281.5	281.5	281.6	281.1
20°	274.0	273.1	272.8	271.9
22.5°	263.2	261.3	260.0	259.3
25°	251.0	247.9	245.9	244.8
27.5°	240.8	238.1	236.2	235.1
30°	229.5	226.4	225.3	224.5
32.5°	213.2	210.3	209.4	208.7
35°	192.0	191.0	188.8	187.3
37.5°	167.5	166.2	165.4	164.8
40°	141.9	142.0	141.3	140.0
42.5°	116.2	117.6	116.2	115.9
45°	91.3	92.8	92.8	93.2
47.5°	70.4	70.1	70.6	70.8
50°	53.2	52.4	52.1	51.7
52.5°	42.2	41.2	40.7	40.0
55°	37.2	36.1	35.5	35.4
57.5°	35.5	34.1	33.3	33.2
60°	35.1	33.2	32.0	31.8
62.5°	35.1	32.7	31.5	31.1
65°	34.7	32.3	31.2	30.8
67°	34.1	32.0	30.9	30.7
67.5°	33.9	31.9	30.9	30.5
70°	33.2	31.5	30.4	30.0
72.5°	31.6	30.2	29.1	28.8
75°	30.0	28.7	28.0	27.7
77.5°	28.0	26.9	26.1	25.4
80°	25.1	23.8	22.6	22.3
82.5°	21.3	19.9	19.0	18.8
85°	17.1	16.0	14.9	14.9
87.5°	12.0	11.3	10.6	9.9
90°	0.0	0.0	0.0	0.0

(END OF REPORT)