

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: FAIL-SAFE

Report Number: P837823

Luminaire Tested: **ORLG-24-2-INS-ASY2R-LD4-1HI-20-120-EDD**

Issue Date: 5/21/2024

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

**Test Information**

Test Method: LM-79-08
Report Number: P837823
Test Lab: INNOVATION CENTER(G2)
Issue Date: 5/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: ORLG-24-2-INS-ASY2R-LD4-1HI-20-120-EDD
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and RFI grid
Light Source: 2000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

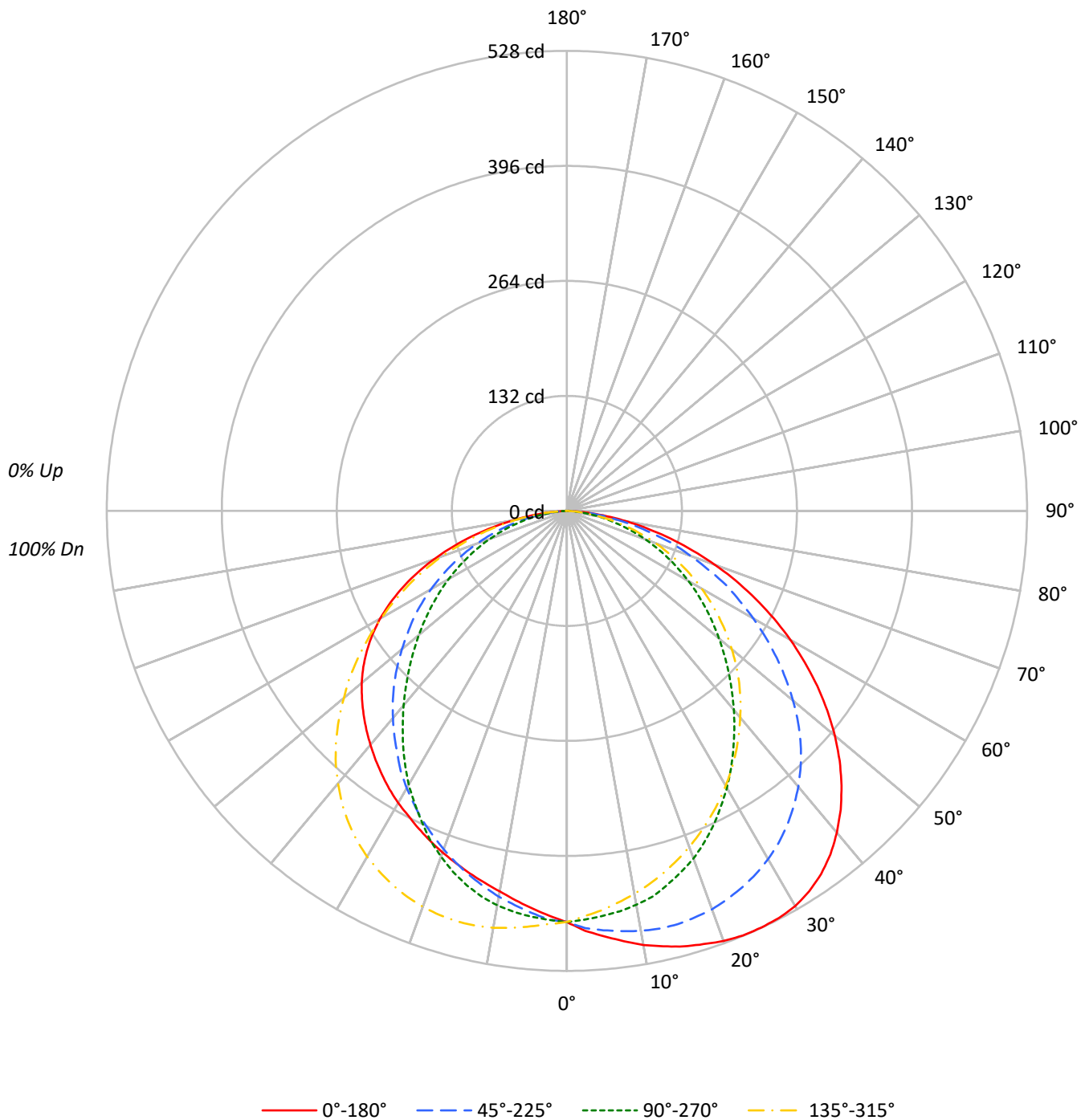
Lumens per Lamp: N/A
Luminaire Lumens: 1384.5 lumens
Efficiency: N/A
Efficacy: 62.9 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 22
Input Voltage (V): 120
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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Luminous Intensity Polar Plot



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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20					20					20					20
RC	80				70					50					30					10
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100		
1	109	104	100	96	106	102	98	94	97	94	91	94	91	89	90	88	86	84		
2	99	91	84	78	96	89	82	77	85	80	75	82	77	73	79	75	72	70		
3	90	79	71	65	88	78	70	64	75	68	63	72	66	62	69	65	61	59		
4	82	70	61	55	80	69	61	54	66	59	53	64	58	53	62	56	52	50		
5	76	63	54	47	74	62	53	47	59	52	46	57	51	46	56	50	45	43		
6	70	56	47	41	68	55	47	41	54	46	40	52	45	40	50	44	40	38		
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	33		
8	60	47	38	32	59	46	38	32	45	37	32	43	37	32	42	36	31	29		
9	56	43	34	29	55	42	34	29	41	34	29	40	33	28	39	33	28	26		
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	1270	1270	1270	1270
5°	1324	1261	1237	1263
10°	1382	1254	1212	1256
15°	1442	1238	1200	1239
20°	1505	1216	1195	1209
25°	1567	1182	1194	1170
30°	1628	1141	1203	1128
35°	1671	1094	1215	1077
40°	1693	1047	1232	1023
45°	1696	999	1255	974
50°	1680	954	1286	928
55°	1645	911	1315	886
60°	1594	866	1333	844
65°	1522	816	1326	797
70°	1422	756	1279	742
75°	1280	674	1173	671
80°	1085	564	986	573
85°	753	374	627	383

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	44.8	3.2
10°-20°	129.7	9.4
20°-30°	198.8	14.4
30°-40°	241.8	17.5
40°-50°	251.3	18.2
50°-60°	227.0	16.4
60°-70°	172.6	12.5
70°-80°	96.2	7.0
80°-90°	22.2	1.6
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°-30°	373.4	27.0
0°-40°	615.2	44.4
0°-60°	1093.5	79.0
0°-90°	1384.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1384.5	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	472	472	472	472	472	
5°	490	467	458	468	490	47
15°	518	444	431	445	518	147
25°	528	398	402	394	528	244
35°	509	333	370	328	509	318
45°	446	262	330	256	446	343
55°	351	194	280	189	351	313
65°	239	128	208	125	239	236
75°	123	65	113	64	123	131
85°	24	12	20	12	24	31
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	471.9	471.9	471.9	471.9	471.9	471.9	471.9	471.9	471.9	471.9	471.9
2.5°	482.4	475.3	475.4	481.6	476.9	479.2	472.6	475.1	474.3	474.9	469.5
5°	490.0	482.4	482.3	487.5	482.3	483.2	474.9	476.5	474.1	472.6	466.7
7.5°	498.0	490.4	489.6	494.3	487.3	486.5	477.3	477.3	472.9	469.0	463.5
10°	505.9	498.1	497.1	500.6	492.1	489.5	478.3	476.5	470.7	465.0	459.0
12.5°	511.9	503.9	503.2	505.4	495.7	491.1	478.3	474.9	466.3	458.3	453.6
15°	517.5	509.3	507.2	508.3	497.2	491.1	476.8	471.5	460.5	449.9	444.5
17.5°	521.4	513.6	511.5	511.4	498.0	489.2	473.4	466.2	453.0	440.2	434.8
20°	525.4	517.6	514.9	513.0	497.8	486.7	468.6	458.8	443.4	429.1	424.6
22.5°	527.4	519.4	516.5	513.5	496.3	482.0	462.7	450.2	432.6	415.5	411.8
25°	527.7	519.5	516.4	512.1	493.5	476.5	455.0	439.9	420.2	401.2	398.0
27.5°	526.8	517.8	514.7	509.6	489.2	469.8	445.8	428.1	407.0	386.0	382.6
30°	523.8	514.6	511.6	504.9	483.1	461.6	435.8	415.0	392.3	370.1	367.1
32.5°	517.6	508.7	506.3	499.5	476.5	452.0	424.1	400.9	376.1	354.9	350.5
35°	508.6	499.6	498.1	491.1	467.3	440.5	411.4	385.5	359.0	337.3	333.0
37.5°	496.8	489.3	487.0	480.1	456.4	427.5	396.7	368.8	341.5	318.1	315.5
40°	481.9	474.9	473.1	467.0	443.7	413.1	380.9	351.5	323.4	301.7	298.0
42.5°	465.0	458.4	457.4	451.0	428.1	397.2	363.7	333.5	304.6	283.7	279.9
45°	445.7	439.3	439.1	433.0	411.0	379.4	345.6	315.4	286.2	264.5	262.5
47.5°	424.5	418.7	418.7	413.1	392.0	360.0	327.0	296.4	267.7	248.6	245.0
50°	401.3	396.0	394.3	391.5	371.0	338.7	307.4	277.9	249.4	231.2	227.8
52.5°	376.7	372.1	373.2	368.1	348.2	316.6	287.6	257.1	231.1	214.4	211.0
55°	350.7	344.1	345.1	343.2	324.4	293.8	265.4	240.0	213.0	197.4	194.2
57.5°	323.7	315.2	318.7	317.6	299.1	270.5	245.0	220.5	195.1	180.6	177.6
60°	296.1	287.9	291.5	290.5	273.1	247.1	224.0	201.2	177.2	164.1	161.0
62.5°	267.7	260.1	263.4	262.6	246.7	223.2	203.1	182.2	159.3	147.5	144.6
65°	239.1	231.8	234.8	234.2	219.5	201.7	181.6	162.5	141.2	131.0	128.1
67.5°	209.8	203.1	205.8	205.8	192.3	175.2	160.1	142.6	123.5	114.7	112.1
70°	180.7	174.5	176.9	176.7	165.2	151.4	138.3	122.6	105.6	98.3	96.1
72.5°	151.5	146.0	148.2	147.9	138.4	129.5	116.5	102.9	88.1	82.2	80.2
75°	123.1	117.9	120.0	119.8	111.9	103.6	94.9	83.7	70.9	66.8	64.8
77.5°	96.0	90.7	92.5	92.5	86.7	80.7	73.8	65.1	56.0	51.6	50.2
80°	70.0	67.5	66.6	66.7	62.9	58.9	55.4	47.0	40.4	37.4	36.4
82.5°	46.0	43.9	43.0	43.3	41.1	38.6	36.4	30.6	26.2	24.4	23.9
85°	24.4	22.9	22.1	22.7	22.2	20.9	19.8	15.9	13.1	12.4	12.1
87.5°	7.7	6.7	6.2	8.1	6.9	6.2	5.9	4.7	3.6	3.6	3.5
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):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	471.9	471.9	471.9	471.9	471.9	471.9	471.9	471.9	471.9	471.9	471.9
2.5°	471.2	471.2	467.0	466.0	465.5	466.1	461.8	461.0	467.2	465.1	460.3
5°	467.5	467.3	461.2	460.1	460.1	459.5	454.6	453.5	459.7	457.9	452.8
7.5°	462.9	462.2	455.1	454.3	453.2	452.8	447.4	446.6	451.9	450.8	445.9
10°	457.3	456.6	448.1	447.6	446.4	445.5	440.4	439.9	445.3	443.5	439.7
12.5°	449.9	448.7	440.0	439.4	438.4	438.1	433.2	432.9	438.9	437.1	433.0
15°	440.2	439.2	429.5	429.7	429.9	429.9	425.9	425.7	431.5	430.7	426.3
17.5°	429.5	428.2	419.0	419.6	420.4	421.3	418.2	418.7	424.9	423.9	419.9
20°	417.4	416.1	407.1	408.9	410.6	412.4	410.4	411.9	417.6	417.2	414.2
22.5°	403.9	402.6	394.2	397.1	399.8	403.1	402.2	404.0	410.0	409.9	407.3
25°	387.4	387.7	380.3	383.8	388.5	393.1	393.4	396.3	403.0	402.3	399.9
27.5°	372.0	372.4	364.6	370.5	376.7	382.6	384.1	388.0	394.9	394.3	392.2
30°	355.8	356.3	348.7	356.9	364.4	371.6	374.7	380.1	387.0	387.0	384.8
32.5°	338.9	339.9	332.0	342.9	351.6	360.1	365.5	371.1	379.0	378.8	376.9
35°	321.6	322.8	315.5	329.4	338.1	348.4	355.1	362.6	369.6	369.8	368.3
37.5°	304.0	305.4	298.8	313.9	323.9	336.1	344.7	352.1	360.0	360.4	359.1
40°	286.5	288.0	282.2	296.9	309.4	323.1	333.0	341.8	350.4	350.6	349.7
42.5°	269.0	270.6	266.3	280.6	294.8	309.4	321.1	331.1	339.9	340.5	339.5
45°	252.0	253.3	250.2	265.8	279.5	295.5	308.9	320.2	329.1	329.9	329.6
47.5°	235.0	236.2	233.5	247.8	263.5	280.5	296.0	308.6	318.0	318.9	318.7
50°	218.4	219.4	216.4	231.4	247.0	265.1	281.3	295.8	306.3	307.2	307.1
52.5°	201.9	202.9	200.3	216.1	230.3	249.3	266.9	282.7	293.1	294.5	294.7
55°	185.9	186.4	184.4	199.5	213.2	233.1	253.4	268.7	279.2	280.3	280.9
57.5°	170.0	170.1	168.4	182.8	196.0	216.4	237.7	253.7	263.6	264.7	265.7
60°	154.1	154.0	152.1	166.1	178.8	198.9	221.0	237.0	246.6	247.6	248.9
62.5°	138.4	138.0	136.4	149.3	161.2	181.1	203.3	218.7	227.9	228.5	230.3
65°	122.7	122.4	120.9	132.8	143.5	162.6	184.4	199.0	207.3	208.2	207.8
67.5°	107.3	106.7	105.5	116.1	125.9	143.5	164.5	178.4	185.3	186.0	188.1
70°	91.9	91.1	88.4	99.7	108.3	124.1	143.5	156.0	161.7	162.5	162.1
72.5°	76.7	76.0	73.0	83.4	90.7	104.5	121.9	132.2	137.2	137.8	137.8
75°	62.0	61.5	59.7	67.6	73.6	84.9	99.6	108.2	112.1	112.8	112.6
77.5°	47.8	47.4	45.6	52.4	57.1	65.5	77.4	84.1	87.0	87.8	89.7
80°	34.2	34.1	31.2	37.9	40.0	47.0	55.7	60.9	62.4	63.6	64.9
82.5°	21.9	22.0	19.0	24.8	25.6	30.2	35.6	38.7	39.8	40.8	41.8
85°	10.7	11.1	9.5	13.1	13.2	15.5	17.8	19.0	19.5	20.3	21.1
87.5°	2.8	3.2	1.8	3.7	3.3	4.3	5.0	5.3	5.2	5.7	6.1
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):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	471.9	471.9	471.9	471.9	471.9	471.9	471.9	471.9	471.9	471.9	471.9
2.5°	461.9	465.4	463.7	469.4	471.6	468.1	474.2	474.3	469.9	475.1	478.0
5°	454.7	458.4	457.3	463.2	466.0	462.9	470.4	471.8	467.5	473.3	478.0
7.5°	447.5	451.8	450.3	456.4	459.7	457.3	465.3	467.6	464.3	470.7	476.9
10°	441.2	444.8	443.3	449.7	452.5	450.6	458.5	462.8	459.7	467.5	474.9
12.5°	435.0	438.0	436.2	441.5	444.3	441.7	451.4	455.4	453.2	461.3	470.8
15°	427.1	430.4	428.0	432.7	434.8	432.6	440.5	447.4	444.6	453.5	464.0
17.5°	421.1	422.9	419.6	423.4	424.6	421.6	429.6	436.4	434.4	444.1	456.2
20°	414.3	415.9	411.3	413.3	413.2	409.5	416.9	423.5	422.2	432.8	446.6
22.5°	406.9	407.6	402.2	402.7	402.4	396.3	402.9	409.6	409.1	419.8	435.3
25°	398.9	399.0	392.1	391.9	389.5	382.2	388.0	395.6	394.0	405.6	421.8
27.5°	391.1	390.0	381.6	379.7	375.8	367.1	372.3	379.1	378.1	389.6	407.5
30°	382.7	381.3	371.1	367.4	361.8	351.8	356.1	362.5	363.0	373.1	391.9
32.5°	374.8	371.2	359.8	354.6	347.5	335.8	338.2	344.7	345.5	355.7	375.0
35°	364.6	362.2	348.2	339.2	332.2	319.4	321.9	326.4	327.7	337.6	357.3
37.5°	354.9	351.0	336.2	325.2	316.3	302.8	303.5	308.1	309.4	319.4	338.9
40°	344.9	339.4	323.4	310.5	300.3	286.2	285.4	290.3	291.3	301.1	318.7
42.5°	334.2	327.6	309.7	295.6	283.8	269.5	267.9	272.1	273.2	282.8	300.1
45°	323.4	315.5	295.6	280.1	267.3	252.6	251.1	254.3	255.9	265.0	281.6
47.5°	312.0	302.7	281.0	263.9	250.5	235.9	234.0	237.2	238.5	247.5	263.2
50°	300.0	288.7	266.1	247.1	233.9	219.5	216.7	220.5	221.7	230.1	245.5
52.5°	286.8	274.3	250.1	230.3	217.1	203.3	200.0	203.6	205.1	213.2	227.4
55°	272.8	259.3	234.0	214.8	200.5	187.0	184.3	185.7	188.8	196.5	209.7
57.5°	257.0	243.7	217.1	197.5	183.7	170.8	168.5	169.9	172.7	180.2	192.1
60°	240.3	226.2	199.8	180.2	166.9	154.7	152.6	153.8	156.9	163.7	174.7
62.5°	223.8	207.9	182.0	162.5	150.4	139.0	138.5	138.0	140.9	147.5	157.2
65°	203.8	188.6	163.4	144.9	133.9	123.6	121.4	122.4	125.2	131.2	141.3
67.5°	182.3	168.5	144.3	127.3	117.5	108.3	106.4	106.9	109.7	115.0	123.8
70°	159.5	147.4	124.8	109.5	101.3	92.7	91.5	91.6	94.3	99.0	106.7
72.5°	135.6	124.7	105.1	92.0	85.2	79.0	77.9	76.6	79.1	83.1	89.7
75°	111.3	101.7	85.5	74.9	69.5	64.3	63.3	62.0	64.5	67.9	73.1
77.5°	86.7	79.0	66.5	58.2	54.0	50.2	49.3	47.9	50.4	52.9	57.0
80°	62.7	57.1	49.6	40.9	39.5	37.0	36.1	34.6	37.0	38.6	41.7
82.5°	40.5	36.8	32.5	26.4	26.2	24.3	23.9	22.1	24.3	25.3	27.6
85°	20.5	18.7	17.6	13.4	13.9	12.7	12.5	10.7	12.4	12.9	14.2
87.5°	5.8	6.2	5.5	3.3	4.2	4.0	4.0	2.9	4.0	4.0	4.5
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):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	471.9	471.9	471.9	471.9	471.9	471.9	471.9	471.9
2.5°	472.3	474.2	474.7	474.5	475.8	482.4	480.2	482.4
5°	473.4	477.6	478.7	480.3	482.3	489.7	487.3	490.0
7.5°	474.1	480.4	482.8	485.8	489.0	497.3	495.4	498.0
10°	474.1	482.3	485.8	490.7	495.0	504.7	502.8	505.9
12.5°	472.1	482.6	487.5	494.5	500.0	510.4	509.7	511.9
15°	468.1	480.9	487.8	496.7	503.5	515.2	514.8	517.5
17.5°	462.6	478.1	486.3	497.6	506.1	519.2	520.0	521.4
20°	455.6	472.7	483.5	497.2	508.0	522.4	523.4	525.4
22.5°	446.5	466.2	479.2	495.8	508.2	523.8	525.5	527.4
25°	435.7	458.4	473.6	493.0	507.1	523.6	526.1	527.7
27.5°	423.4	448.2	466.4	488.6	504.0	521.9	524.9	526.8
30°	409.1	437.5	458.3	482.9	499.9	518.6	521.8	523.8
32.5°	394.3	425.6	448.6	475.5	493.8	513.3	516.0	517.6
35°	378.2	411.1	436.9	466.1	486.0	504.8	506.9	508.6
37.5°	360.7	395.5	423.6	455.4	475.0	493.0	494.9	496.8
40°	342.7	379.1	408.6	442.3	461.9	478.6	480.6	481.9
42.5°	324.5	360.9	392.7	426.9	446.4	462.4	463.7	465.0
45°	306.1	342.1	374.7	409.8	429.1	444.2	444.6	445.7
47.5°	287.4	322.6	355.0	390.3	409.4	423.1	423.6	424.5
50°	268.6	303.2	334.0	369.3	387.9	402.4	400.5	401.3
52.5°	250.1	282.7	314.2	346.6	365.0	377.9	378.5	376.7
55°	231.9	262.6	291.6	322.9	340.4	350.4	350.0	350.7
57.5°	213.6	242.4	268.9	297.5	314.6	324.1	326.1	323.7
60°	194.8	221.9	245.7	271.6	288.1	296.0	298.3	296.1
62.5°	176.2	201.1	222.7	245.3	260.6	270.4	270.1	267.7
65°	157.6	180.2	199.5	218.6	231.9	241.7	241.3	239.1
67.5°	140.5	159.1	176.3	191.9	203.4	210.1	212.5	209.8
70°	121.5	137.6	152.8	165.2	174.8	180.9	183.1	180.7
72.5°	102.6	116.2	126.9	138.9	146.3	151.4	153.7	151.5
75°	83.9	95.1	103.8	113.2	118.3	122.6	125.3	123.1
77.5°	65.7	74.4	81.3	88.2	94.1	95.1	97.4	96.0
80°	48.4	54.7	59.8	64.3	68.6	69.0	70.9	70.0
82.5°	32.3	36.4	37.8	42.5	45.2	44.8	46.7	46.0
85°	17.1	19.6	21.9	23.3	24.9	23.4	25.1	24.4
87.5°	5.7	6.1	5.3	7.5	8.3	7.0	8.0	7.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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