

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: P837967

Luminaire Tested: **ORLG-24-2-INS-ASY2R-LD4-1HI-30-120-EDD-90**

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: P837967
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-30-120-EDD-90
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and RFI grid
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

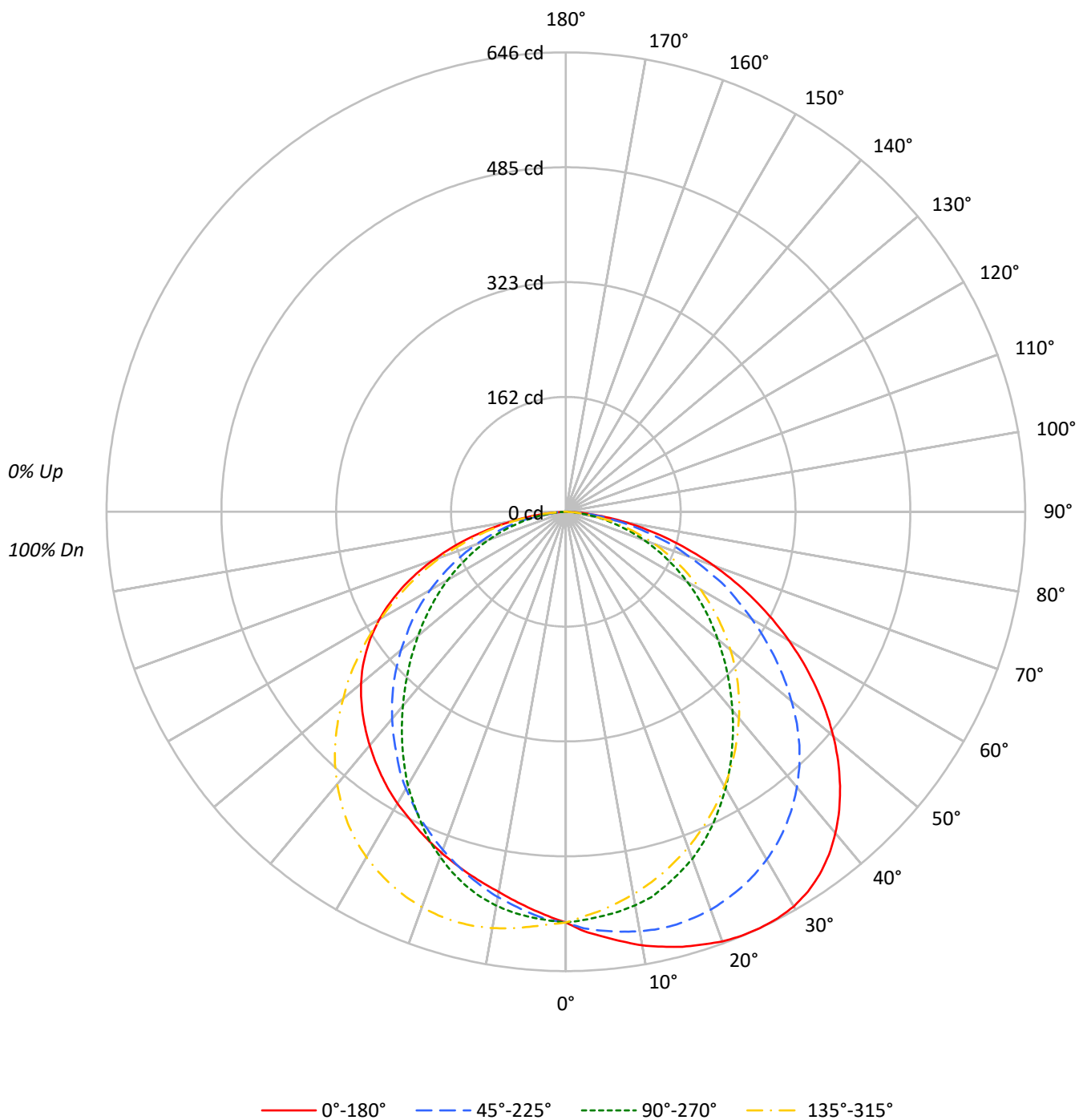
Lumens per Lamp: N/A
Luminaire Lumens: 1694.5 lumens
Efficiency: N/A
Efficacy: 77.0 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

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°	1554	1554	1554	1554
5°	1620	1543	1514	1546
10°	1692	1535	1483	1537
15°	1764	1516	1469	1516
20°	1841	1488	1462	1480
25°	1918	1447	1462	1432
30°	1992	1396	1472	1381
35°	2045	1339	1486	1318
40°	2072	1281	1507	1252
45°	2076	1223	1537	1192
50°	2056	1167	1574	1136
55°	2014	1115	1609	1084
60°	1950	1061	1631	1033
65°	1863	998	1622	975
70°	1740	925	1565	909
75°	1566	826	1436	820
80°	1328	691	1207	702
85°	923	457	766	469



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	54.8	3.2
10°-20°	158.8	9.4
20°-30°	243.4	14.4
30°-40°	295.9	17.5
40°-50°	307.6	18.2
50°-60°	277.9	16.4
60°-70°	211.2	12.5
70°-80°	117.8	7.0
80°-90°	27.1	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°	457.0	27.0
0°-40°	752.9	44.4
0°-60°	1338.3	79.0
0°-90°	1694.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1694.5	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	578	578	578	578	578	
5°	600	571	560	572	600	58
15°	633	544	527	544	633	180
25°	646	487	492	482	646	298
35°	622	408	452	401	622	389
45°	546	321	404	313	546	420
55°	429	238	343	231	429	383
65°	293	157	255	153	293	289
75°	151	79	138	79	151	160
85°	30	15	25	15	30	38
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°	577.6	577.6	577.6	577.6	577.6	577.6	577.6	577.6	577.6	577.6	577.6
2.5°	590.4	581.7	581.9	589.4	583.6	586.4	578.4	581.5	580.5	581.2	574.6
5°	599.7	590.4	590.2	596.7	590.2	591.4	581.2	583.2	580.3	578.4	571.2
7.5°	609.5	600.2	599.2	604.9	596.4	595.5	584.2	584.2	578.8	574.1	567.3
10°	619.2	609.6	608.4	612.7	602.2	599.1	585.4	583.2	576.1	569.1	561.8
12.5°	626.5	616.8	615.8	618.5	606.7	601.0	585.4	581.2	570.7	560.9	555.2
15°	633.3	623.4	620.8	622.2	608.5	601.0	583.5	577.0	563.5	550.6	544.0
17.5°	638.2	628.6	626.1	625.9	609.5	598.7	579.4	570.6	554.4	538.8	532.2
20°	643.0	633.5	630.2	627.8	609.2	595.6	573.5	561.5	542.7	525.2	519.6
22.5°	645.5	635.6	632.1	628.5	607.5	590.0	566.2	551.0	529.5	508.6	504.0
25°	645.9	635.8	632.0	626.7	604.0	583.2	556.8	538.4	514.2	491.1	487.2
27.5°	644.8	633.7	630.0	623.6	598.7	575.0	545.6	523.9	498.1	472.5	468.3
30°	641.0	629.8	626.2	618.0	591.3	564.9	533.4	507.9	480.2	452.9	449.3
32.5°	633.5	622.6	619.6	611.4	583.2	553.2	519.1	490.7	460.3	434.3	429.0
35°	622.4	611.5	609.6	601.0	571.9	539.2	503.5	471.8	439.3	412.8	407.5
37.5°	608.0	598.8	596.0	587.5	558.6	523.3	485.5	451.3	417.9	389.3	386.1
40°	589.8	581.2	579.0	571.5	543.1	505.6	466.1	430.2	395.8	369.3	364.7
42.5°	569.1	561.0	559.8	552.0	523.9	486.1	445.1	408.2	372.8	347.2	342.6
45°	545.5	537.7	537.4	530.0	503.1	464.4	423.0	386.0	350.3	323.7	321.3
47.5°	519.5	512.5	512.5	505.6	479.7	440.5	400.3	362.8	327.6	304.2	299.9
50°	491.2	484.6	482.6	479.2	454.0	414.5	376.3	340.2	305.3	282.9	278.7
52.5°	461.0	455.4	456.7	450.5	426.1	387.5	352.0	314.7	282.8	262.4	258.3
55°	429.2	421.1	422.4	420.1	397.0	359.6	324.8	293.7	260.7	241.6	237.7
57.5°	396.2	385.7	390.0	388.7	366.0	331.0	299.9	269.9	238.7	221.1	217.3
60°	362.4	352.3	356.7	355.5	334.2	302.5	274.2	246.3	216.9	200.9	197.1
62.5°	327.6	318.4	322.4	321.4	301.9	273.2	248.6	223.0	194.9	180.5	177.0
65°	292.6	283.7	287.4	286.7	268.6	246.8	222.3	198.9	172.8	160.3	156.8
67.5°	256.8	248.6	251.9	251.9	235.4	214.5	195.9	174.5	151.2	140.4	137.1
70°	221.2	213.5	216.5	216.2	202.2	185.2	169.2	150.1	129.2	120.3	117.6
72.5°	185.4	178.6	181.3	181.1	169.3	158.4	142.5	126.0	107.8	100.6	98.2
75°	150.6	144.3	146.8	146.6	137.0	126.8	116.1	102.4	86.8	81.8	79.4
77.5°	117.5	111.0	113.2	113.2	106.2	98.8	90.3	79.6	68.6	63.2	61.4
80°	85.7	82.6	81.5	81.6	76.9	72.1	67.8	57.5	49.4	45.8	44.6
82.5°	56.3	53.8	52.7	52.9	50.3	47.3	44.6	37.5	32.1	29.9	29.2
85°	29.9	28.0	27.1	27.8	27.2	25.6	24.3	19.4	16.0	15.2	14.8
87.5°	9.4	8.2	7.5	10.0	8.5	7.5	7.3	5.8	4.4	4.4	4.3
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):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	577.6	577.6	577.6	577.6	577.6	577.6	577.6	577.6	577.6	577.6	577.6
2.5°	576.7	576.7	571.5	570.3	569.7	570.4	565.2	564.2	571.8	569.2	563.4
5°	572.2	571.9	564.5	563.1	563.1	562.3	556.4	555.1	562.6	560.4	554.1
7.5°	566.5	565.7	556.9	556.0	554.7	554.1	547.5	546.6	553.0	551.7	545.8
10°	559.6	558.8	548.5	547.8	546.3	545.2	539.0	538.4	545.0	542.8	538.1
12.5°	550.6	549.1	538.5	537.8	536.6	536.2	530.1	529.9	537.1	535.0	530.0
15°	538.8	537.5	525.7	526.0	526.1	526.1	521.2	521.0	528.1	527.2	521.8
17.5°	525.7	524.1	512.8	513.6	514.5	515.6	511.8	512.5	520.0	518.8	514.0
20°	510.9	509.3	498.2	500.5	502.5	504.7	502.2	504.1	511.1	510.6	507.0
22.5°	494.3	492.7	482.4	485.9	489.3	493.4	492.3	494.4	501.8	501.7	498.5
25°	474.1	474.5	465.5	469.8	475.4	481.1	481.5	485.0	493.2	492.4	489.4
27.5°	455.2	455.8	446.2	453.5	461.0	468.3	470.0	474.9	483.3	482.6	480.0
30°	435.4	436.1	426.8	436.8	445.9	454.8	458.6	465.2	473.7	473.7	471.0
32.5°	414.8	416.0	406.3	419.7	430.3	440.7	447.3	454.2	463.9	463.6	461.3
35°	393.7	395.0	386.1	403.1	413.7	426.4	434.6	443.8	452.4	452.5	450.8
37.5°	372.1	373.7	365.6	384.2	396.4	411.3	421.8	431.0	440.5	441.1	439.5
40°	350.7	352.4	345.4	363.3	378.7	395.4	407.5	418.3	428.8	429.1	428.0
42.5°	329.3	331.1	325.9	343.4	360.8	378.7	393.0	405.2	416.0	416.7	415.5
45°	308.4	310.0	306.2	325.4	342.1	361.6	378.0	391.9	402.8	403.8	403.4
47.5°	287.6	289.1	285.7	303.3	322.5	343.3	362.3	377.6	389.2	390.3	390.0
50°	267.3	268.5	264.9	283.2	302.3	324.4	344.2	362.0	374.9	376.0	375.9
52.5°	247.1	248.3	245.2	264.5	281.8	305.1	326.7	346.0	358.8	360.4	360.7
55°	227.5	228.1	225.7	244.1	261.0	285.3	310.1	328.9	341.7	343.0	343.8
57.5°	208.0	208.1	206.1	223.8	239.9	264.9	290.9	310.5	322.7	324.0	325.2
60°	188.6	188.5	186.2	203.3	218.8	243.4	270.5	290.1	301.8	303.0	304.6
62.5°	169.3	168.9	166.9	182.7	197.2	221.6	248.8	267.7	278.9	279.7	281.8
65°	150.2	149.8	147.9	162.5	175.7	199.0	225.7	243.6	253.7	254.8	254.4
67.5°	131.4	130.5	129.1	142.1	154.1	175.7	201.3	218.4	226.7	227.7	230.2
70°	112.5	111.6	108.2	122.1	132.6	151.8	175.7	190.9	197.9	198.9	198.4
72.5°	93.9	93.0	89.3	102.1	111.0	127.9	149.1	161.8	167.9	168.7	168.7
75°	75.8	75.3	73.0	82.7	90.1	103.9	121.9	132.4	137.1	138.1	137.8
77.5°	58.5	58.1	55.8	64.1	69.9	80.2	94.7	102.9	106.4	107.5	109.8
80°	41.9	41.8	38.1	46.3	48.9	57.5	68.2	74.5	76.4	77.9	79.5
82.5°	26.8	26.9	23.3	30.3	31.4	36.9	43.5	47.4	48.8	50.0	51.2
85°	13.1	13.6	11.6	16.0	16.2	19.0	21.8	23.3	23.8	24.8	25.9
87.5°	3.4	3.9	2.2	4.6	4.0	5.3	6.1	6.5	6.3	7.0	7.4
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):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	577.6	577.6	577.6	577.6	577.6	577.6	577.6	577.6	577.6	577.6	577.6
2.5°	565.3	569.6	567.5	574.5	577.2	572.8	580.4	580.5	575.1	581.5	585.0
5°	556.5	561.0	559.6	566.9	570.3	566.5	575.7	577.4	572.2	579.3	585.0
7.5°	547.6	552.9	551.2	558.6	562.6	559.6	569.5	572.3	568.3	576.1	583.6
10°	540.0	544.4	542.5	550.3	553.8	551.4	561.1	566.4	562.6	572.2	581.2
12.5°	532.4	536.1	533.9	540.4	543.7	540.6	552.5	557.3	554.7	564.6	576.2
15°	522.7	526.8	523.8	529.6	532.2	529.5	539.2	547.5	544.1	555.1	567.9
17.5°	515.3	517.6	513.6	518.1	519.6	516.0	525.8	534.0	531.6	543.5	558.3
20°	507.1	509.0	503.3	505.9	505.8	501.2	510.2	518.3	516.7	529.7	546.6
22.5°	497.9	498.9	492.3	492.8	492.5	485.0	493.1	501.3	500.6	513.8	532.7
25°	488.2	488.4	479.9	479.6	476.7	467.8	474.9	484.2	482.2	496.5	516.3
27.5°	478.7	477.3	467.1	464.7	459.9	449.3	455.6	464.0	462.8	476.8	498.7
30°	468.4	466.7	454.2	449.7	442.8	430.6	435.8	443.6	444.3	456.6	479.6
32.5°	458.7	454.3	440.4	433.9	425.3	411.0	413.9	421.8	422.9	435.3	459.0
35°	446.2	443.2	426.1	415.1	406.6	391.0	393.9	399.5	401.1	413.2	437.3
37.5°	434.3	429.6	411.4	398.0	387.1	370.6	371.4	377.1	378.7	391.0	414.8
40°	422.1	415.4	395.8	380.1	367.5	350.3	349.3	355.3	356.5	368.5	390.0
42.5°	409.0	400.9	379.0	361.7	347.3	329.8	327.9	333.0	334.4	346.1	367.3
45°	395.8	386.1	361.7	342.9	327.1	309.2	307.3	311.2	313.2	324.3	344.6
47.5°	381.8	370.5	343.9	322.9	306.6	288.7	286.4	290.3	291.9	302.9	322.1
50°	367.1	353.4	325.6	302.5	286.3	268.6	265.3	269.9	271.3	281.6	300.4
52.5°	351.0	335.7	306.1	281.8	265.7	248.8	244.8	249.2	251.0	261.0	278.3
55°	333.8	317.4	286.4	262.8	245.3	228.9	225.5	227.3	231.1	240.5	256.6
57.5°	314.6	298.3	265.7	241.7	224.9	209.1	206.3	207.9	211.4	220.5	235.1
60°	294.1	276.9	244.5	220.5	204.2	189.3	186.7	188.2	192.0	200.3	213.8
62.5°	273.9	254.5	222.7	198.9	184.0	170.2	169.5	168.9	172.4	180.5	192.4
65°	249.4	230.8	199.9	177.3	163.8	151.3	148.6	149.8	153.2	160.6	173.0
67.5°	223.1	206.3	176.6	155.7	143.7	132.6	130.3	130.8	134.3	140.8	151.6
70°	195.2	180.4	152.8	134.0	123.9	113.4	112.0	112.1	115.5	121.1	130.5
72.5°	166.0	152.6	128.7	112.6	104.3	96.7	95.4	93.8	96.9	101.7	109.8
75°	136.2	124.5	104.7	91.6	85.0	78.7	77.5	75.8	78.9	83.1	89.5
77.5°	106.2	96.7	81.4	71.3	66.1	61.4	60.4	58.6	61.7	64.8	69.8
80°	76.8	69.9	60.8	50.1	48.4	45.3	44.2	42.3	45.3	47.3	51.1
82.5°	49.6	45.0	39.7	32.3	32.1	29.8	29.2	27.1	29.8	31.0	33.8
85°	25.1	22.9	21.6	16.4	17.0	15.5	15.4	13.1	15.2	15.8	17.4
87.5°	7.1	7.5	6.7	4.0	5.1	4.9	4.9	3.5	4.9	4.9	5.5
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°	577.6	577.6	577.6	577.6	577.6	577.6	577.6	577.6
2.5°	578.1	580.4	580.9	580.8	582.3	590.4	587.7	590.4
5°	579.4	584.6	585.9	587.8	590.2	599.4	596.4	599.7
7.5°	580.3	587.9	590.9	594.5	598.4	608.7	606.3	609.5
10°	580.3	590.2	594.5	600.6	605.8	617.7	615.4	619.2
12.5°	577.8	590.6	596.7	605.2	611.9	624.7	623.8	626.5
15°	572.8	588.6	597.0	607.9	616.2	630.5	630.1	633.3
17.5°	566.1	585.1	595.2	608.9	619.5	635.5	636.4	638.2
20°	557.6	578.5	591.7	608.5	621.7	639.4	640.6	643.0
22.5°	546.4	570.6	586.4	606.8	622.0	641.0	643.2	645.5
25°	533.2	561.0	579.6	603.4	620.7	640.9	643.8	645.9
27.5°	518.1	548.6	570.8	598.0	616.9	638.7	642.4	644.8
30°	500.6	535.4	560.9	591.0	611.8	634.7	638.6	641.0
32.5°	482.6	520.8	549.0	582.0	604.4	628.2	631.6	633.5
35°	462.9	503.2	534.7	570.4	594.8	617.8	620.4	622.4
37.5°	441.5	484.1	518.4	557.3	581.3	603.4	605.7	608.0
40°	419.4	464.0	500.1	541.3	565.3	585.8	588.2	589.8
42.5°	397.2	441.8	480.6	522.5	546.3	566.0	567.5	569.1
45°	374.7	418.7	458.6	501.6	525.2	543.6	544.1	545.5
47.5°	351.8	394.9	434.5	477.7	501.0	517.9	518.4	519.5
50°	328.7	371.0	408.7	452.0	474.8	492.5	490.1	491.2
52.5°	306.1	346.0	384.5	424.2	446.7	462.5	463.2	461.0
55°	283.9	321.4	356.9	395.1	416.6	428.8	428.4	429.2
57.5°	261.4	296.7	329.1	364.2	385.0	396.6	399.0	396.2
60°	238.5	271.6	300.7	332.4	352.6	362.3	365.1	362.4
62.5°	215.7	246.1	272.5	300.2	318.9	330.9	330.6	327.6
65°	192.9	220.5	244.1	267.6	283.9	295.9	295.3	292.6
67.5°	171.9	194.7	215.8	234.8	249.0	257.2	260.0	256.8
70°	148.7	168.4	187.0	202.2	213.9	221.3	224.0	221.2
72.5°	125.6	142.3	155.3	170.0	179.0	185.2	188.1	185.4
75°	102.7	116.4	127.0	138.5	144.8	150.1	153.3	150.6
77.5°	80.4	91.1	99.6	107.9	115.2	116.4	119.2	117.5
80°	59.3	67.0	73.2	78.7	83.9	84.5	86.8	85.7
82.5°	39.5	44.6	46.2	52.0	55.4	54.8	57.1	56.3
85°	20.9	24.0	26.8	28.6	30.4	28.7	30.7	29.9
87.5°	7.0	7.4	6.5	9.2	10.1	8.6	9.8	9.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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