

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: P838037

Luminaire Tested: **ORLG-24-4-INS-ASY2R-LD4-1LO-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: P838037
Test Lab: INNOVATION CENTER(G2)
Issue Date: 5/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: ORLG-24-4-INS-ASY2R-LD4-1LO-20-120-EDD
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 2000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

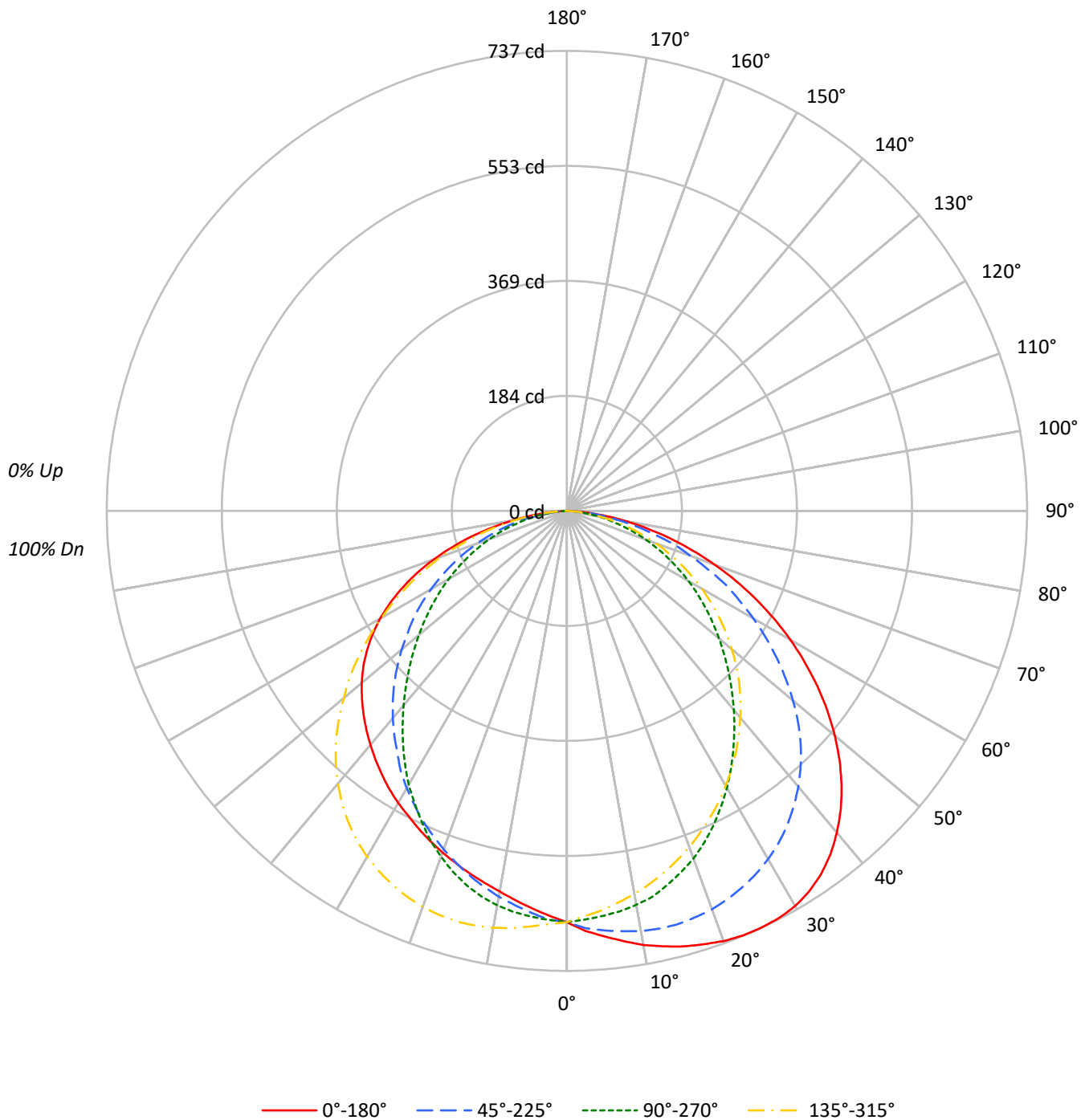
Lumens per Lamp: N/A
Luminaire Lumens: 1932.7 lumens
Efficiency: N/A
Efficacy: 82.6 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 23.4
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
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102
1	109	104	100	96	106	102	98	94	97	94	91		94	91	89		90
2	99	91	84	78	96	89	82	77	85	80	75		82	77	73		79
3	90	79	71	65	88	78	70	64	75	68	63		72	66	62		69
4	82	70	61	55	80	69	61	54	66	59	53		64	58	53		62
5	76	63	54	47	74	62	53	47	59	52	46		57	51	46		56
6	70	56	47	41	68	55	47	41	54	46	40		52	45	40		50
7	65	51	42	36	63	50	42	36	49	41	36		47	40	35		46
8	60	47	38	32	59	46	38	32	45	37	32		43	37	32		42
9	56	43	34	29	55	42	34	29	41	34	29		40	33	28		39
10	53	39	31	26	51	39	31	26	38	31	26		37	30	26		36

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	886	886	886	886
5°	924	880	863	881
10°	965	875	846	877
15°	1006	864	838	865
20°	1050	849	834	844
25°	1094	825	834	817
30°	1136	796	839	787
35°	1166	763	848	751
40°	1182	731	860	714
45°	1184	697	876	680
50°	1173	665	898	648
55°	1148	636	918	618
60°	1112	605	930	589
65°	1063	570	925	556
70°	993	528	892	518
75°	893	470	819	468
80°	757	394	688	400
85°	526	261	437	269

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	62.5	3.2
10°-20°	181.1	9.4
20°-30°	277.6	14.4
30°-40°	337.5	17.5
40°-50°	350.9	18.2
50°-60°	316.9	16.4
60°-70°	241.0	12.5
70°-80°	134.3	7.0
80°-90°	30.9	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°	521.2	27.0
0°-40°	858.7	44.4
0°-60°	1526.5	79.0
0°-90°	1932.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1932.7	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	659	659	659	659	659	
5°	684	652	639	653	684	66
15°	722	620	601	621	722	205
25°	737	556	562	550	737	340
35°	710	465	516	458	710	443
45°	622	366	460	357	622	479
55°	490	271	391	264	490	437
65°	334	179	291	175	334	330
75°	172	90	158	90	172	182
85°	34	17	28	17	34	43
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°	658.8	658.8	658.8	658.8	658.8	658.8	658.8	658.8	658.8	658.8	658.8
2.5°	673.4	663.5	663.7	672.3	665.7	668.9	659.7	663.2	662.1	662.9	655.4
5°	684.0	673.4	673.2	680.6	673.2	674.6	662.9	665.2	661.8	659.7	651.5
7.5°	695.2	684.6	683.5	690.0	680.3	679.2	666.3	666.3	660.2	654.8	647.1
10°	706.3	695.3	694.0	698.9	686.9	683.4	667.7	665.2	657.1	649.1	640.8
12.5°	714.5	703.5	702.4	705.5	692.0	685.5	667.7	662.9	650.9	639.7	633.3
15°	722.4	711.0	708.1	709.6	694.1	685.5	665.5	658.2	642.8	628.0	620.5
17.5°	727.9	717.0	714.1	713.9	695.2	682.9	660.9	650.8	632.3	614.5	607.0
20°	733.5	722.5	718.9	716.1	694.9	679.4	654.2	640.5	619.0	599.0	592.7
22.5°	736.2	725.0	721.0	716.9	692.9	672.9	645.9	628.5	603.9	580.1	574.9
25°	736.7	725.2	720.8	714.9	688.9	665.2	635.1	614.1	586.5	560.1	555.7
27.5°	735.4	722.8	718.5	711.3	682.9	655.8	622.3	597.6	568.1	538.9	534.1
30°	731.1	718.4	714.2	704.9	674.4	644.3	608.4	579.3	547.7	516.6	512.5
32.5°	722.5	710.1	706.7	697.3	665.2	631.0	592.1	559.7	525.1	495.4	489.3
35°	709.9	697.5	695.3	685.5	652.3	615.0	574.3	538.1	501.1	470.8	464.8
37.5°	693.5	683.0	679.8	670.1	637.1	596.8	553.8	514.8	476.7	444.1	440.4
40°	672.8	662.9	660.5	651.9	619.4	576.7	531.7	490.7	451.5	421.2	416.0
42.5°	649.1	639.9	638.5	629.6	597.6	554.4	507.7	465.6	425.2	396.0	390.8
45°	622.2	613.3	613.0	604.5	573.8	529.7	482.5	440.3	399.5	369.3	366.5
47.5°	592.5	584.5	584.5	576.7	547.2	502.5	456.5	413.8	373.7	347.0	342.1
50°	560.3	552.7	550.4	546.6	517.9	472.8	429.2	388.0	348.2	322.7	317.9
52.5°	525.8	519.4	520.9	513.9	486.0	441.9	401.5	359.0	322.5	299.3	294.6
55°	489.6	480.4	481.7	479.1	452.9	410.1	370.5	335.0	297.3	275.5	271.1
57.5°	451.9	439.9	444.9	443.3	417.5	377.6	342.1	307.8	272.3	252.2	247.9
60°	413.4	401.8	406.9	405.5	381.2	345.0	312.7	280.9	247.4	229.1	224.8
62.5°	373.7	363.1	367.7	366.6	344.4	311.6	283.5	254.3	222.4	205.9	201.9
65°	333.8	323.6	327.8	327.0	306.4	281.5	253.5	226.8	197.2	182.9	178.9
67.5°	292.9	283.5	287.4	287.4	268.5	244.6	223.4	199.0	172.4	160.1	156.4
70°	252.3	243.6	246.9	246.6	230.7	211.3	193.0	171.2	147.4	137.2	134.2
72.5°	211.4	203.8	206.8	206.5	193.2	180.7	162.6	143.7	122.9	114.8	112.0
75°	171.8	164.6	167.5	167.2	156.3	144.6	132.5	116.8	99.0	93.3	90.5
77.5°	134.0	126.6	129.1	129.1	121.1	112.6	103.0	90.8	78.2	72.1	70.1
80°	97.7	94.2	93.0	93.1	87.7	82.2	77.3	65.6	56.4	52.2	50.9
82.5°	64.2	61.3	60.1	60.4	57.3	53.9	50.9	42.7	36.6	34.1	33.3
85°	34.1	32.0	30.9	31.7	31.0	29.2	27.7	22.1	18.3	17.4	16.9
87.5°	10.8	9.4	8.6	11.4	9.7	8.6	8.3	6.6	5.1	5.1	4.9
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):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	658.8	658.8	658.8	658.8	658.8	658.8	658.8	658.8	658.8	658.8	658.8
2.5°	657.8	657.8	651.9	650.5	649.9	650.6	644.6	643.6	652.2	649.2	642.6
5°	652.6	652.3	643.9	642.3	642.3	641.4	634.6	633.1	641.7	639.3	632.0
7.5°	646.2	645.2	635.3	634.2	632.6	632.0	624.5	623.4	630.8	629.3	622.5
10°	638.3	637.4	625.6	624.8	623.1	621.9	614.8	614.1	621.6	619.1	613.7
12.5°	628.0	626.3	614.2	613.4	612.1	611.6	604.7	604.4	612.7	610.2	604.5
15°	614.5	613.1	599.6	599.9	600.1	600.1	594.5	594.2	602.4	601.3	595.2
17.5°	599.6	597.8	584.9	585.8	586.9	588.1	583.8	584.5	593.2	591.8	586.2
20°	582.7	580.9	568.3	570.9	573.2	575.6	572.9	575.0	583.0	582.4	578.2
22.5°	563.8	562.0	550.3	554.3	558.1	562.7	561.5	564.0	572.4	572.3	568.6
25°	540.8	541.2	530.9	535.8	542.3	548.7	549.2	553.2	562.6	561.7	558.3
27.5°	519.2	519.9	508.9	517.2	525.8	534.1	536.1	541.7	551.2	550.4	547.5
30°	496.7	497.4	486.8	498.2	508.6	518.8	523.1	530.6	540.3	540.3	537.2
32.5°	473.1	474.5	463.5	478.7	490.8	502.6	510.2	518.0	529.1	528.8	526.2
35°	449.0	450.6	440.4	459.8	471.9	486.4	495.7	506.2	516.0	516.2	514.2
37.5°	424.4	426.3	417.1	438.3	452.1	469.1	481.1	491.6	502.5	503.1	501.3
40°	400.0	402.0	394.0	414.4	432.0	451.0	464.8	477.1	489.1	489.4	488.2
42.5°	375.6	377.7	371.7	391.7	411.5	432.0	448.2	462.2	474.5	475.3	473.9
45°	351.7	353.6	349.3	371.1	390.2	412.4	431.2	447.0	459.5	460.5	460.1
47.5°	328.1	329.8	325.9	345.9	367.9	391.5	413.2	430.7	443.9	445.2	444.9
50°	304.9	306.3	302.1	323.0	344.8	370.0	392.6	412.9	427.7	428.9	428.7
52.5°	281.8	283.2	279.7	301.6	321.5	348.1	372.6	394.6	409.2	411.1	411.4
55°	259.5	260.2	257.4	278.4	297.7	325.5	353.7	375.1	389.7	391.2	392.2
57.5°	237.3	237.4	235.1	255.2	273.7	302.1	331.8	354.2	368.0	369.6	371.0
60°	215.1	215.0	212.4	231.9	249.6	277.7	308.6	330.8	344.2	345.6	347.4
62.5°	193.2	192.7	190.4	208.4	225.0	252.8	283.8	305.3	318.1	319.0	321.5
65°	171.3	170.9	168.7	185.3	200.4	227.0	257.4	277.8	289.4	290.6	290.1
67.5°	149.8	148.9	147.2	162.1	175.8	200.4	229.6	249.1	258.6	259.7	262.6
70°	128.3	127.2	123.4	139.2	151.2	173.2	200.4	217.7	225.7	226.8	226.4
72.5°	107.1	106.0	101.9	116.5	126.6	145.8	170.1	184.6	191.5	192.4	192.4
75°	86.5	85.9	83.3	94.4	102.8	118.5	139.1	151.1	156.4	157.5	157.2
77.5°	66.7	66.2	63.6	73.1	79.8	91.4	108.0	117.4	121.4	122.6	125.2
80°	47.8	47.6	43.5	52.9	55.8	65.6	77.8	85.0	87.1	88.8	90.7
82.5°	30.6	30.7	26.6	34.6	35.8	42.1	49.6	54.1	55.6	57.0	58.4
85°	14.9	15.5	13.2	18.3	18.4	21.7	24.9	26.6	27.2	28.3	29.5
87.5°	3.8	4.5	2.5	5.2	4.6	6.0	6.9	7.4	7.2	8.0	8.5
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):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	658.8	658.8	658.8	658.8	658.8	658.8	658.8	658.8	658.8	658.8	658.8
2.5°	644.8	649.7	647.2	655.2	658.3	653.4	662.0	662.1	656.0	663.2	667.2
5°	634.8	639.9	638.3	646.6	650.5	646.2	656.6	658.6	652.6	660.8	667.2
7.5°	624.7	630.6	628.6	637.1	641.7	638.3	649.5	652.8	648.2	657.1	665.7
10°	615.9	621.0	618.8	627.7	631.7	629.0	640.0	646.0	641.7	652.6	662.9
12.5°	607.3	611.4	609.0	616.4	620.2	616.7	630.2	635.7	632.6	644.0	657.2
15°	596.2	600.8	597.5	604.1	607.0	603.9	615.0	624.5	620.7	633.1	647.7
17.5°	587.8	590.4	585.8	591.0	592.7	588.5	599.8	609.1	606.4	619.9	636.8
20°	578.4	580.6	574.1	577.0	576.9	571.6	581.9	591.2	589.3	604.2	623.4
22.5°	568.0	569.0	561.5	562.1	561.8	553.2	562.4	571.8	571.0	586.1	607.6
25°	556.9	557.0	547.4	547.1	543.7	533.5	541.7	552.3	550.0	566.3	588.8
27.5°	546.0	544.4	532.8	530.0	524.6	512.5	519.7	529.2	527.8	543.8	568.9
30°	534.3	532.3	518.0	512.9	505.1	491.1	497.1	506.0	506.8	520.8	547.1
32.5°	523.2	518.2	502.3	495.0	485.1	468.8	472.1	481.1	482.4	496.5	523.5
35°	508.9	505.6	486.0	473.4	463.8	445.9	449.3	455.6	457.5	471.3	498.8
37.5°	495.4	490.0	469.3	453.9	441.5	422.7	423.7	430.1	432.0	445.9	473.1
40°	481.4	473.8	451.5	433.5	419.2	399.5	398.5	405.2	406.6	420.3	444.9
42.5°	466.5	457.3	432.3	412.6	396.2	376.2	374.0	379.9	381.4	394.8	418.9
45°	451.5	440.4	412.6	391.1	373.1	352.7	350.5	355.0	357.3	369.9	393.1
47.5°	435.5	422.6	392.3	368.3	349.7	329.3	326.7	331.2	333.0	345.4	367.4
50°	418.7	403.1	371.4	345.0	326.5	306.4	302.6	307.8	309.5	321.2	342.7
52.5°	400.3	382.9	349.1	321.5	303.0	283.8	279.2	284.3	286.3	297.7	317.5
55°	380.8	362.0	326.7	299.8	279.8	261.1	257.2	259.2	263.5	274.3	292.7
57.5°	358.8	340.2	303.0	275.7	256.5	238.5	235.3	237.1	241.1	251.6	268.1
60°	335.5	315.8	278.9	251.6	233.0	215.9	213.0	214.7	219.0	228.5	243.9
62.5°	312.4	290.3	254.0	226.8	209.9	194.1	193.3	192.7	196.7	205.9	219.4
65°	284.4	263.2	228.0	202.2	186.9	172.6	169.5	170.9	174.7	183.2	197.3
67.5°	254.5	235.3	201.5	177.6	164.0	151.2	148.6	149.2	153.2	160.6	172.9
70°	222.7	205.8	174.3	152.9	141.4	129.4	127.7	127.9	131.7	138.1	148.9
72.5°	189.3	174.1	146.8	128.5	118.9	110.3	108.8	107.0	110.5	116.0	125.2
75°	155.4	142.0	119.4	104.5	97.0	89.7	88.4	86.5	90.0	94.8	102.0
77.5°	121.1	110.3	92.8	81.3	75.5	70.1	68.8	66.8	70.4	73.9	79.6
80°	87.6	79.8	69.3	57.2	55.2	51.6	50.4	48.3	51.6	53.9	58.2
82.5°	56.5	51.3	45.3	36.9	36.6	34.0	33.3	30.9	34.0	35.3	38.6
85°	28.6	26.1	24.6	18.7	19.4	17.7	17.5	14.9	17.4	18.0	19.8
87.5°	8.1	8.6	7.7	4.6	5.8	5.5	5.5	4.0	5.5	5.5	6.3
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):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	658.8	658.8	658.8	658.8	658.8	658.8	658.8	658.8
2.5°	659.4	662.0	662.6	662.5	664.1	673.4	670.3	673.4
5°	660.9	666.8	668.3	670.4	673.2	683.7	680.3	684.0
7.5°	661.8	670.6	674.0	678.1	682.6	694.3	691.5	695.2
10°	661.8	673.2	678.1	685.0	691.0	704.6	701.9	706.3
12.5°	659.1	673.7	680.6	690.3	698.0	712.6	711.5	714.5
15°	653.4	671.4	680.9	693.3	702.9	719.2	718.7	722.4
17.5°	645.7	667.4	678.9	694.6	706.6	724.8	725.9	727.9
20°	636.0	659.8	674.9	694.1	709.2	729.3	730.7	733.5
22.5°	623.3	650.8	668.9	692.1	709.5	731.1	733.6	736.2
25°	608.2	639.9	661.1	688.3	707.9	731.0	734.4	736.7
27.5°	591.0	625.7	651.1	682.1	703.6	728.5	732.7	735.4
30°	571.0	610.7	639.7	674.1	697.8	723.9	728.4	731.1
32.5°	550.4	594.1	626.2	663.8	689.3	716.5	720.4	722.5
35°	528.0	573.9	609.9	650.6	678.4	704.7	707.6	709.9
37.5°	503.6	552.1	591.3	635.7	663.1	688.3	690.9	693.5
40°	478.4	529.2	570.4	617.4	644.8	668.1	670.9	672.8
42.5°	453.0	503.9	548.1	595.9	623.1	645.6	647.2	649.1
45°	427.3	477.6	523.1	572.1	599.0	620.0	620.7	622.2
47.5°	401.2	450.4	495.6	544.9	571.5	590.7	591.3	592.5
50°	374.9	423.2	466.2	515.6	541.5	561.8	559.0	560.3
52.5°	349.1	394.6	438.6	483.9	509.6	527.5	528.3	525.8
55°	323.8	366.6	407.1	450.7	475.1	489.1	488.7	489.6
57.5°	298.1	338.4	375.4	415.4	439.2	452.4	455.2	451.9
60°	272.0	309.8	343.0	379.1	402.1	413.2	416.4	413.4
62.5°	246.0	280.7	310.9	342.4	363.7	377.4	377.1	373.7
65°	220.1	251.6	278.4	305.2	323.8	337.5	336.8	333.8
67.5°	196.1	222.0	246.2	267.8	284.0	293.3	296.6	292.9
70°	169.6	192.1	213.3	230.7	244.0	252.5	255.5	252.3
72.5°	143.2	162.3	177.2	193.9	204.2	211.3	214.5	211.4
75°	117.1	132.8	144.9	158.0	165.2	171.2	174.9	171.8
77.5°	91.7	103.9	113.6	123.1	131.4	132.8	136.0	134.0
80°	67.6	76.4	83.4	89.7	95.7	96.3	99.0	97.7
82.5°	45.0	50.9	52.7	59.3	63.2	62.5	65.2	64.2
85°	23.8	27.4	30.6	32.6	34.7	32.7	35.0	34.1
87.5°	8.0	8.5	7.4	10.4	11.5	9.8	11.2	10.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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