

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: P837859

Luminaire Tested: **ORLG-24-2-INS-ASY2R-LD4-1HI-30-120-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: P837859
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
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

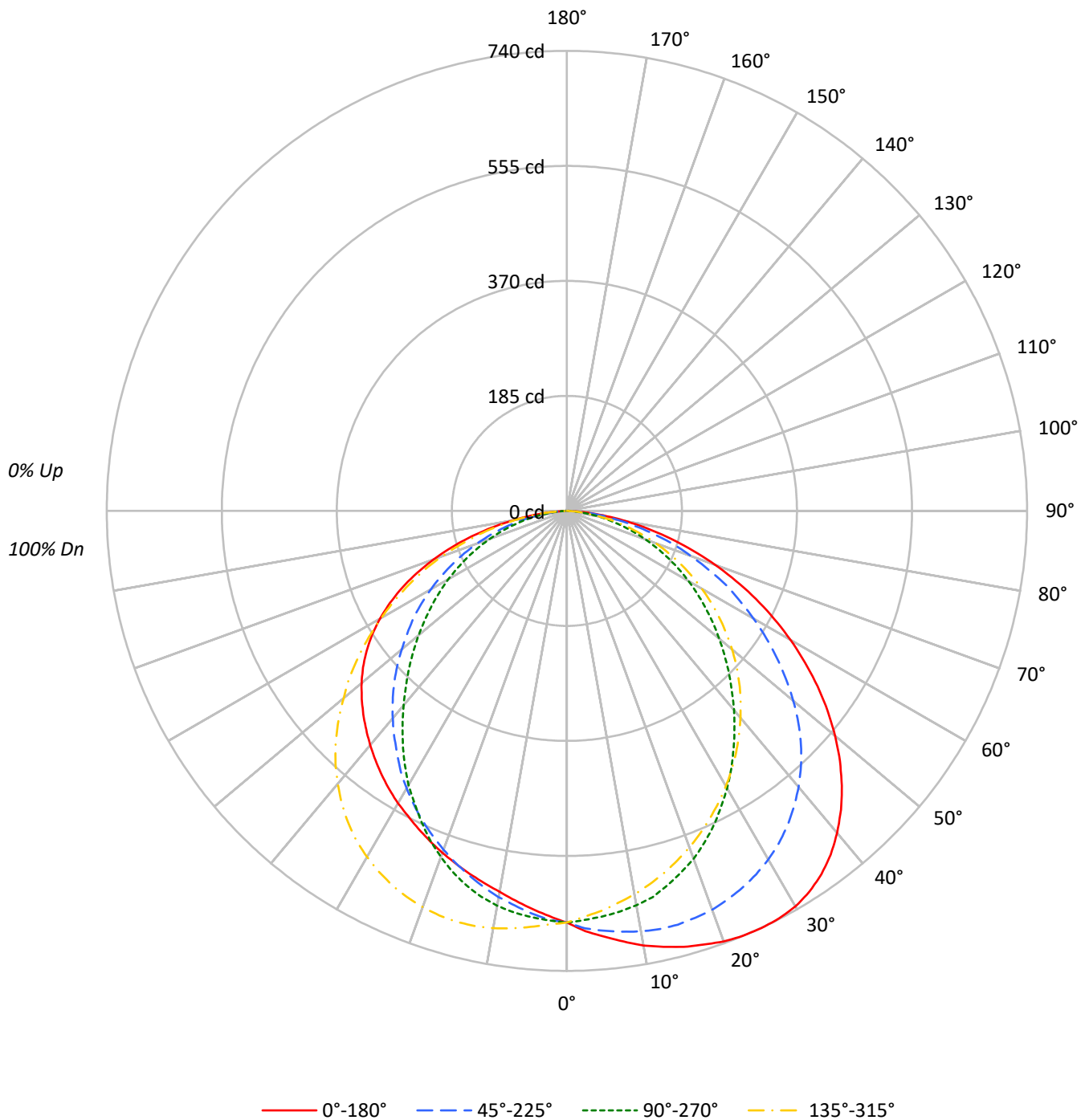
Lumens per Lamp: N/A
Luminaire Lumens: 1942.5 lumens
Efficiency: N/A
Efficacy: 88.3 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

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°	1782	1782	1782	1782
5°	1857	1769	1736	1772
10°	1940	1760	1700	1762
15°	2023	1737	1684	1738
20°	2111	1706	1676	1696
25°	2198	1658	1676	1641
30°	2283	1601	1687	1583
35°	2344	1535	1704	1510
40°	2375	1469	1728	1435
45°	2380	1402	1762	1367
50°	2357	1338	1804	1302
55°	2308	1278	1845	1243
60°	2236	1216	1869	1185
65°	2136	1145	1859	1118
70°	1995	1061	1794	1042
75°	1796	946	1646	941
80°	1522	792	1384	804
85°	1059	525	877	540



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	62.9	3.2
10°-20°	182.0	9.4
20°-30°	279.0	14.4
30°-40°	339.2	17.5
40°-50°	352.6	18.2
50°-60°	318.5	16.4
60°-70°	242.2	12.5
70°-80°	135.0	7.0
80°-90°	31.1	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°	523.9	27.0
0°-40°	863.1	44.4
0°-60°	1534.2	79.0
0°-90°	1942.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1942.5	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	662	662	662	662	662	
5°	687	655	642	656	687	66
15°	726	624	604	624	726	206
25°	740	558	564	553	740	342
35°	714	467	519	460	714	446
45°	625	368	463	359	625	481
55°	492	272	393	265	492	439
65°	335	180	292	176	335	331
75°	173	91	158	90	173	183
85°	34	17	28	18	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°	662.1	662.1	662.1	662.1	662.1	662.1	662.1	662.1	662.1	662.1	662.1
2.5°	676.7	666.9	667.0	675.7	669.0	672.3	663.0	666.6	665.5	666.2	658.7
5°	687.4	676.7	676.6	684.0	676.6	678.0	666.2	668.6	665.2	663.0	654.8
7.5°	698.7	688.0	686.9	693.4	683.7	682.6	669.6	669.6	663.5	658.1	650.3
10°	709.8	698.8	697.4	702.4	690.3	686.8	671.0	668.6	660.4	652.3	644.0
12.5°	718.1	707.0	705.9	709.0	695.4	689.0	671.0	666.2	654.2	642.9	636.4
15°	726.0	714.6	711.7	713.2	697.6	689.0	668.9	661.5	646.0	631.2	623.6
17.5°	731.6	720.6	717.7	717.5	698.7	686.3	664.2	654.0	635.5	617.6	610.0
20°	737.1	726.2	722.5	719.7	698.4	682.8	657.4	643.7	622.1	602.0	595.7
22.5°	739.9	728.6	724.6	720.5	696.4	676.3	649.1	631.7	606.9	583.0	577.8
25°	740.4	728.8	724.5	718.4	692.3	668.6	638.3	617.1	589.5	562.9	558.4
27.5°	739.1	726.5	722.2	714.9	686.3	659.1	625.5	600.6	571.0	541.6	536.8
30°	734.8	722.0	717.8	708.4	677.8	647.6	611.4	582.2	550.4	519.2	515.1
32.5°	726.2	713.7	710.3	700.8	668.6	634.1	595.1	562.5	527.7	497.9	491.7
35°	713.5	701.0	698.8	689.0	655.6	618.1	577.1	540.8	503.6	473.2	467.2
37.5°	697.0	686.5	683.2	673.5	640.3	599.8	556.6	517.4	479.1	446.3	442.6
40°	676.1	666.2	663.8	655.1	622.5	579.6	534.4	493.1	453.7	423.3	418.1
42.5°	652.3	643.1	641.7	632.7	600.6	557.2	510.3	467.9	427.3	398.0	392.7
45°	625.3	616.4	616.1	607.6	576.7	532.3	484.9	442.5	401.5	371.1	368.3
47.5°	595.5	587.5	587.5	579.6	550.0	505.0	458.8	415.9	375.6	348.7	343.8
50°	563.1	555.5	553.2	549.3	520.5	475.2	431.3	390.0	350.0	324.3	319.5
52.5°	528.5	522.0	523.5	516.4	488.5	444.2	403.5	360.8	324.2	300.8	296.1
55°	492.0	482.8	484.2	481.5	455.1	412.2	372.4	336.7	298.8	276.9	272.4
57.5°	454.2	442.2	447.1	445.6	419.6	379.5	343.8	309.3	273.7	253.4	249.1
60°	415.4	403.9	409.0	407.6	383.2	346.7	314.3	282.3	248.6	230.3	225.9
62.5°	375.6	364.9	369.6	368.5	346.1	313.2	284.9	255.6	223.5	206.9	202.9
65°	335.4	325.2	329.4	328.6	308.0	282.9	254.8	228.0	198.1	183.8	179.8
67.5°	294.4	284.9	288.8	288.8	269.8	245.9	224.6	200.0	173.3	160.9	157.2
70°	253.6	244.8	248.2	247.9	231.8	212.4	194.0	172.0	148.1	137.9	134.8
72.5°	212.5	204.8	207.9	207.6	194.1	181.6	163.4	144.4	123.6	115.4	112.6
75°	172.7	165.4	168.3	168.0	157.1	145.3	133.1	117.4	99.5	93.7	91.0
77.5°	134.7	127.3	129.7	129.7	121.7	113.2	103.5	91.3	78.6	72.4	70.4
80°	98.2	94.7	93.4	93.6	88.2	82.6	77.7	65.9	56.7	52.5	51.1
82.5°	64.6	61.6	60.4	60.7	57.6	54.2	51.1	42.9	36.8	34.3	33.5
85°	34.3	32.1	31.0	31.8	31.2	29.3	27.8	22.2	18.4	17.5	17.0
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°	662.1	662.1	662.1	662.1	662.1	662.1	662.1	662.1	662.1	662.1	662.1
2.5°	661.2	661.2	655.1	653.7	653.1	653.9	647.9	646.8	655.4	652.5	645.9
5°	655.9	655.6	647.1	645.6	645.6	644.6	637.8	636.3	644.9	642.5	635.2
7.5°	649.4	648.5	638.4	637.4	635.8	635.2	627.6	626.6	634.0	632.4	625.6
10°	641.5	640.6	628.7	627.9	626.2	625.0	617.9	617.1	624.7	622.2	616.8
12.5°	631.2	629.5	617.3	616.5	615.1	614.7	607.7	607.4	615.7	613.3	607.6
15°	617.6	616.2	602.6	602.9	603.1	603.1	597.5	597.2	605.4	604.3	598.1
17.5°	602.6	600.8	587.8	588.7	589.8	591.0	586.7	587.5	596.1	594.7	589.2
20°	585.6	583.8	571.1	573.7	576.1	578.5	575.7	577.9	585.9	585.3	581.2
22.5°	566.6	564.8	553.0	557.1	560.9	565.6	564.3	566.8	575.3	575.1	571.4
25°	543.5	543.9	533.6	538.5	545.0	551.5	552.0	556.0	565.4	564.5	561.1
27.5°	521.8	522.5	511.5	519.8	528.5	536.8	538.8	544.4	554.0	553.2	550.3
30°	499.1	499.9	489.3	500.7	511.2	521.4	525.7	533.3	543.0	543.0	539.9
32.5°	475.5	476.9	465.8	481.1	493.3	505.2	512.7	520.6	531.7	531.4	528.8
35°	451.3	452.8	442.6	462.1	474.3	488.8	498.2	508.7	518.6	518.8	516.8
37.5°	426.6	428.4	419.1	440.5	454.4	471.5	483.5	494.0	505.0	505.6	503.8
40°	402.0	404.0	396.0	416.5	434.1	453.3	467.2	479.5	491.6	491.9	490.7
42.5°	377.4	379.6	373.6	393.7	413.6	434.1	450.5	464.6	476.9	477.7	476.3
45°	353.5	355.4	351.0	373.0	392.1	414.5	433.4	449.3	461.8	462.9	462.4
47.5°	329.7	331.4	327.6	347.6	369.7	393.5	415.3	432.9	446.2	447.4	447.1
50°	306.4	307.8	303.6	324.6	346.6	371.9	394.6	415.0	429.8	431.0	430.9
52.5°	283.2	284.6	281.1	303.2	323.1	349.8	374.5	396.6	411.3	413.1	413.4
55°	260.8	261.5	258.7	279.8	299.1	327.1	355.5	377.0	391.7	393.2	394.1
57.5°	238.5	238.6	236.3	256.5	275.1	303.6	333.4	356.0	369.9	371.4	372.8
60°	216.2	216.1	213.4	233.0	250.8	279.1	310.1	332.5	345.9	347.3	349.2
62.5°	194.1	193.7	191.3	209.4	226.1	254.1	285.2	306.9	319.7	320.6	323.1
65°	172.2	171.7	169.6	186.3	201.4	228.1	258.7	279.2	290.8	292.0	291.6
67.5°	150.6	149.7	148.0	162.9	176.7	201.4	230.7	250.3	259.9	261.0	263.9
70°	129.0	127.9	124.0	139.9	152.0	174.1	201.4	218.8	226.9	228.0	227.5
72.5°	107.6	106.6	102.4	117.1	127.3	146.6	171.0	185.5	192.4	193.4	193.4
75°	86.9	86.3	83.7	94.8	103.3	119.1	139.8	151.8	157.2	158.3	158.0
77.5°	67.0	66.6	63.9	73.5	80.2	91.9	108.6	118.0	122.0	123.2	125.9
80°	48.0	47.9	43.7	53.1	56.1	65.9	78.1	85.4	87.6	89.3	91.1
82.5°	30.7	30.9	26.7	34.7	36.0	42.3	49.9	54.4	55.9	57.3	58.7
85°	15.0	15.6	13.3	18.4	18.5	21.8	25.0	26.7	27.3	28.4	29.7
87.5°	3.9	4.5	2.5	5.3	4.6	6.0	6.9	7.4	7.3	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°	662.1	662.1	662.1	662.1	662.1	662.1	662.1	662.1	662.1	662.1	662.1
2.5°	648.0	653.0	650.5	658.5	661.6	656.7	665.3	665.5	659.3	666.6	670.6
5°	638.0	643.1	641.5	649.9	653.7	649.4	659.9	661.9	655.9	664.1	670.6
7.5°	627.8	633.8	631.8	640.3	644.9	641.5	652.8	656.1	651.4	660.4	669.0
10°	619.0	624.1	621.9	630.9	634.9	632.1	643.2	649.3	644.9	655.9	666.2
12.5°	610.3	614.5	612.0	619.5	623.3	619.8	633.4	638.9	635.8	647.3	660.5
15°	599.2	603.9	600.5	607.1	610.0	606.9	618.1	627.6	623.8	636.3	651.0
17.5°	590.7	593.4	588.7	594.0	595.7	591.5	602.8	612.2	609.4	623.0	640.0
20°	581.3	583.5	577.0	579.9	579.8	574.5	584.9	594.1	592.3	607.3	626.6
22.5°	570.8	571.9	564.3	564.9	564.6	556.0	565.2	574.7	573.9	589.0	610.7
25°	559.7	559.8	550.1	549.8	546.4	536.2	544.4	555.1	552.7	569.1	591.8
27.5°	548.7	547.2	535.4	532.7	527.3	515.1	522.3	531.9	530.5	546.6	571.7
30°	537.0	535.0	520.6	515.5	507.6	493.6	499.6	508.6	509.3	523.4	549.8
32.5°	525.9	520.8	504.9	497.4	487.6	471.2	474.4	483.5	484.8	499.0	526.2
35°	511.5	508.1	488.5	475.8	466.1	448.2	451.6	457.9	459.8	473.7	501.3
37.5°	497.9	492.5	471.7	456.2	443.7	424.9	425.8	432.3	434.1	448.2	475.5
40°	483.9	476.1	453.7	435.7	421.3	401.5	400.5	407.3	408.6	422.4	447.1
42.5°	468.9	459.6	434.4	414.7	398.1	378.1	375.9	381.8	383.3	396.8	421.0
45°	453.7	442.6	414.7	393.0	375.0	354.4	352.3	356.8	359.1	371.7	395.1
47.5°	437.7	424.7	394.3	370.2	351.5	331.0	328.3	332.8	334.7	347.2	369.3
50°	420.8	405.1	373.3	346.7	328.2	308.0	304.1	309.3	311.0	322.8	344.4
52.5°	402.3	384.9	350.9	323.1	304.6	285.2	280.6	285.7	287.7	299.1	319.1
55°	382.7	363.9	328.3	301.3	281.2	262.4	258.5	260.5	264.9	275.7	294.2
57.5°	360.6	341.9	304.6	277.1	257.8	239.7	236.4	238.3	242.3	252.8	269.5
60°	337.1	317.4	280.3	252.8	234.1	217.0	214.1	215.8	220.1	229.7	245.1
62.5°	314.0	291.7	255.3	228.0	211.0	195.1	194.3	193.7	197.7	206.9	220.5
65°	285.9	264.6	229.2	203.2	187.8	173.4	170.3	171.7	175.6	184.1	198.3
67.5°	255.8	236.4	202.5	178.5	164.8	152.0	149.3	150.0	154.0	161.4	173.7
70°	223.8	206.8	175.1	153.7	142.1	130.0	128.3	128.5	132.4	138.8	149.7
72.5°	190.3	175.0	147.5	129.1	119.5	110.9	109.3	107.5	111.0	116.6	125.9
75°	156.1	142.7	120.0	105.0	97.5	90.2	88.8	86.9	90.5	95.3	102.5
77.5°	121.7	110.9	93.3	81.7	75.8	70.4	69.2	67.2	70.7	74.3	80.0
80°	88.0	80.2	69.7	57.5	55.4	51.9	50.7	48.5	51.9	54.2	58.5
82.5°	56.8	51.6	45.6	37.1	36.8	34.1	33.5	31.0	34.1	35.5	38.8
85°	28.7	26.3	24.7	18.8	19.5	17.8	17.6	15.0	17.5	18.1	19.9
87.5°	8.2	8.6	7.7	4.6	5.9	5.6	5.6	4.0	5.6	5.6	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°	662.1	662.1	662.1	662.1	662.1	662.1	662.1	662.1
2.5°	662.7	665.3	665.9	665.8	667.5	676.7	673.7	676.7
5°	664.2	670.1	671.7	673.8	676.6	687.1	683.7	687.4
7.5°	665.2	674.0	677.4	681.5	686.0	697.8	695.0	698.7
10°	665.2	676.6	681.5	688.5	694.5	708.1	705.5	709.8
12.5°	662.4	677.1	684.0	693.7	701.5	716.1	715.1	718.1
15°	656.7	674.7	684.3	696.8	706.4	722.8	722.3	726.0
17.5°	649.0	670.7	682.3	698.1	710.1	728.5	729.6	731.6
20°	639.2	663.2	678.3	697.6	712.7	733.0	734.4	737.1
22.5°	626.4	654.0	672.3	695.6	713.0	734.8	737.3	739.9
25°	611.3	643.1	664.4	691.7	711.5	734.7	738.1	740.4
27.5°	594.0	628.9	654.4	685.6	707.2	732.2	736.4	739.1
30°	573.9	613.7	642.9	677.5	701.3	727.6	732.0	734.8
32.5°	553.2	597.1	629.3	667.2	692.8	720.1	724.0	726.2
35°	530.7	576.8	613.0	653.9	681.8	708.3	711.2	713.5
37.5°	506.1	554.9	594.3	638.9	666.4	691.7	694.4	697.0
40°	480.8	531.9	573.3	620.5	648.0	671.5	674.3	676.1
42.5°	455.3	506.4	550.9	598.9	626.2	648.8	650.5	652.3
45°	429.5	480.0	525.7	575.0	602.0	623.2	623.8	625.3
47.5°	403.2	452.7	498.1	547.6	574.4	593.7	594.3	595.5
50°	376.8	425.3	468.6	518.1	544.2	564.6	561.8	563.1
52.5°	350.9	396.6	440.8	486.3	512.1	530.2	531.0	528.5
55°	325.4	368.5	409.1	453.0	477.5	491.6	491.1	492.0
57.5°	299.6	340.1	377.3	417.4	441.4	454.7	457.4	454.2
60°	273.4	311.3	344.7	381.0	404.2	415.3	418.5	415.4
62.5°	247.3	282.2	312.4	344.1	365.6	379.3	379.0	375.6
65°	221.2	252.8	279.8	306.7	325.4	339.1	338.5	335.4
67.5°	197.1	223.2	247.4	269.2	285.4	294.8	298.1	294.4
70°	170.5	193.0	214.4	231.8	245.2	253.7	256.8	253.6
72.5°	143.9	163.1	178.1	194.9	205.2	212.4	215.6	212.5
75°	117.7	133.4	145.6	158.8	166.0	172.0	175.8	172.7
77.5°	92.2	104.4	114.1	123.7	132.0	133.4	136.7	134.7
80°	68.0	76.8	83.9	90.2	96.2	96.8	99.5	98.2
82.5°	45.3	51.1	53.0	59.6	63.5	62.9	65.5	64.6
85°	23.9	27.5	30.7	32.7	34.9	32.9	35.2	34.3
87.5°	8.0	8.5	7.4	10.5	11.6	9.9	11.3	10.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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