

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: P838145

Luminaire Tested: **ORLG-24-4-INS-ASY2R-LD4-1LO-20-120-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: P838145
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-90
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 2000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

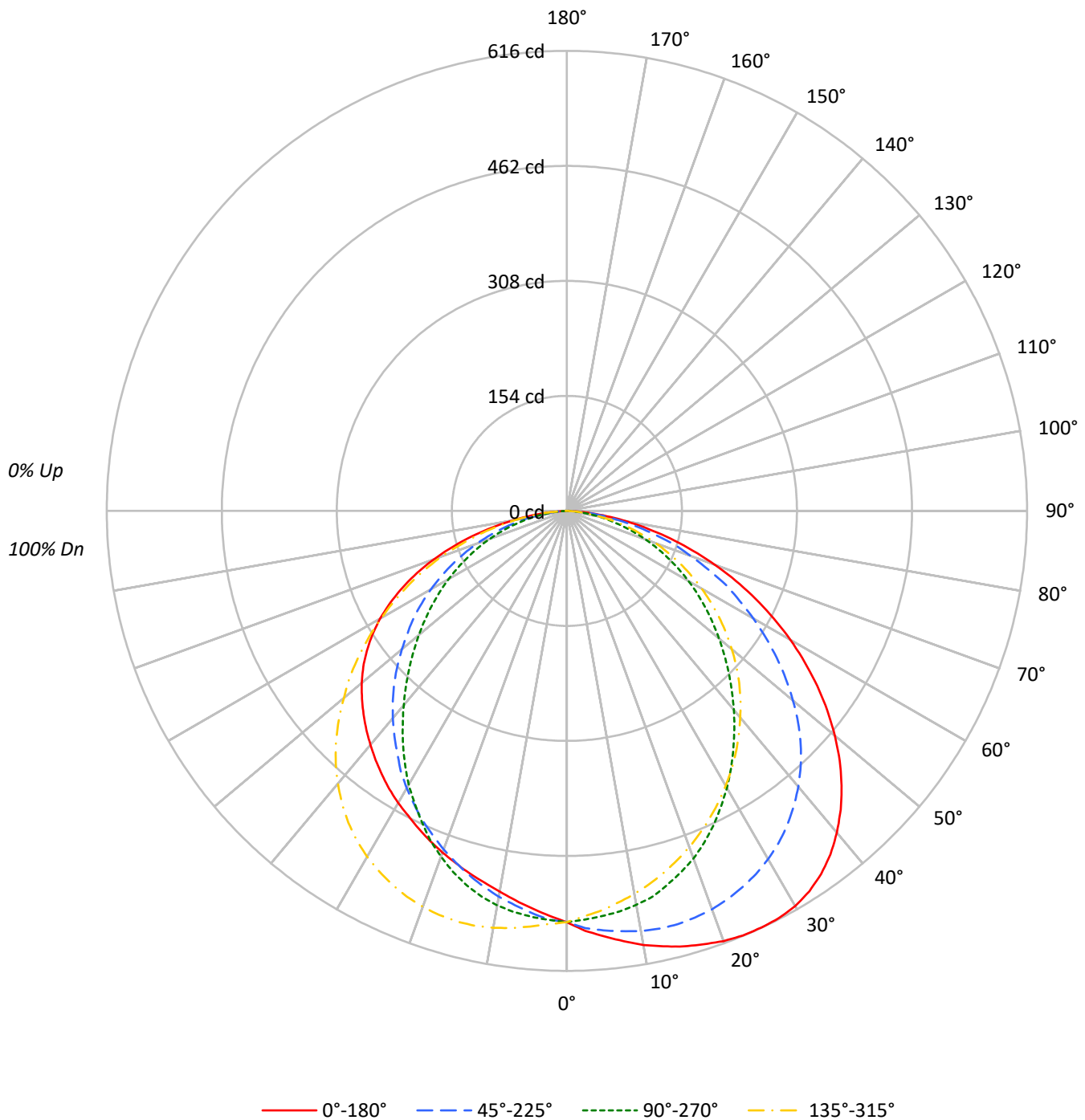
Lumens per Lamp: N/A
Luminaire Lumens: 1615.4 lumens
Efficiency: N/A
Efficacy: 69.0 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	741	741	741	741
5°	772	736	722	737
10°	806	732	707	733
15°	841	722	700	723
20°	878	709	697	705
25°	914	689	697	682
30°	949	665	702	658
35°	975	638	709	628
40°	988	611	719	597
45°	989	583	732	568
50°	980	556	750	542
55°	960	532	767	517
60°	930	506	777	492
65°	888	476	773	465
70°	830	441	746	433
75°	747	393	684	391
80°	633	329	575	335
85°	440	218	364	224

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	52.3	3.2
10°-20°	151.4	9.4
20°-30°	232.0	14.4
30°-40°	282.1	17.5
40°-50°	293.3	18.2
50°-60°	264.9	16.4
60°-70°	201.4	12.5
70°-80°	112.3	7.0
80°-90°	25.8	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°	435.7	27.0
0°-40°	717.8	44.4
0°-60°	1275.9	79.0
0°-90°	1615.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1615.4	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	551	551	551	551	551	
5°	572	545	534	546	572	55
15°	604	519	503	519	604	171
25°	616	464	469	460	616	284
35°	593	388	431	382	593	371
45°	520	306	385	299	520	400
55°	409	227	327	220	409	365
65°	279	150	243	146	279	276
75°	144	76	132	75	144	153
85°	28	14	24	14	28	36
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°	550.6	550.6	550.6	550.6	550.6	550.6	550.6	550.6	550.6	550.6	550.6
2.5°	562.8	554.6	554.7	561.9	556.4	559.1	551.4	554.3	553.4	554.1	547.8
5°	571.7	562.8	562.7	568.9	562.7	563.8	554.1	556.0	553.2	551.4	544.6
7.5°	581.1	572.2	571.3	576.7	568.6	567.7	556.9	556.9	551.8	547.3	540.9
10°	590.3	581.2	580.0	584.1	574.1	571.2	558.1	556.0	549.2	542.5	535.6
12.5°	597.2	588.0	587.1	589.7	578.4	573.0	558.1	554.1	544.1	534.7	529.3
15°	603.8	594.3	591.8	593.1	580.2	573.0	556.3	550.1	537.3	524.9	518.6
17.5°	608.4	599.3	596.8	596.7	581.1	570.8	552.4	543.9	528.5	513.6	507.3
20°	613.0	603.9	600.8	598.5	580.8	567.8	546.8	535.3	517.3	500.6	495.4
22.5°	615.3	606.0	602.6	599.2	579.1	562.4	539.8	525.3	504.8	484.9	480.5
25°	615.7	606.1	602.5	597.5	575.8	556.0	530.8	513.2	490.2	468.2	464.4
27.5°	614.7	604.2	600.6	594.5	570.8	548.2	520.2	499.5	474.8	450.4	446.4
30°	611.1	600.4	597.0	589.1	563.7	538.5	508.5	484.2	457.8	431.8	428.3
32.5°	603.9	593.5	590.7	582.9	556.0	527.4	494.9	467.8	438.9	414.1	408.9
35°	593.4	583.0	581.2	573.0	545.2	514.0	480.0	449.8	418.8	393.5	388.5
37.5°	579.6	570.9	568.2	560.1	532.5	498.9	462.9	430.3	398.4	371.2	368.1
40°	562.3	554.1	552.0	544.8	517.7	482.0	444.4	410.1	377.3	352.0	347.7
42.5°	542.5	534.8	533.7	526.2	499.5	463.4	424.4	389.2	355.4	331.0	326.6
45°	520.0	512.6	512.3	505.3	479.6	442.7	403.3	368.0	333.9	308.6	306.3
47.5°	495.3	488.6	488.6	482.0	457.4	420.0	381.6	345.9	312.4	290.0	285.9
50°	468.3	462.0	460.1	456.9	432.8	395.2	358.7	324.3	291.0	269.7	265.7
52.5°	439.5	434.1	435.4	429.5	406.2	369.4	335.6	300.0	269.6	250.2	246.2
55°	409.2	401.5	402.7	400.5	378.5	342.8	309.7	280.0	248.5	230.3	226.6
57.5°	377.7	367.7	371.8	370.5	349.0	315.6	285.9	257.3	227.6	210.8	207.2
60°	345.5	335.9	340.1	338.9	318.7	288.3	261.4	234.8	206.8	191.5	187.9
62.5°	312.4	303.5	307.4	306.5	287.8	260.5	237.0	212.6	185.8	172.1	168.8
65°	279.0	270.5	274.0	273.3	256.1	235.3	211.9	189.6	164.8	152.8	149.5
67.5°	244.8	237.0	240.2	240.2	224.4	204.5	186.7	166.3	144.1	133.8	130.7
70°	210.9	203.6	206.4	206.1	192.8	176.6	161.3	143.1	123.2	114.7	112.1
72.5°	176.7	170.3	172.9	172.6	161.4	151.0	135.9	120.1	102.8	95.9	93.6
75°	143.6	137.6	140.0	139.7	130.6	120.9	110.7	97.6	82.7	78.0	75.6
77.5°	112.0	105.8	107.9	107.9	101.2	94.1	86.1	75.9	65.4	60.2	58.6
80°	81.7	78.7	77.7	77.8	73.3	68.7	64.6	54.8	47.1	43.7	42.5
82.5°	53.7	51.2	50.2	50.5	47.9	45.1	42.5	35.7	30.6	28.5	27.9
85°	28.5	26.7	25.8	26.5	25.9	24.4	23.1	18.5	15.3	14.5	14.1
87.5°	9.0	7.8	7.2	9.5	8.1	7.2	6.9	5.5	4.2	4.2	4.1
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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CATALOG NUMBER: ORLG-24-4-INS-ASY2R-LD4-1LO-20-120-EDD-90

CANDELA DISTRIBUTION (continued):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	550.6	550.6	550.6	550.6	550.6	550.6	550.6	550.6	550.6	550.6	550.6
2.5°	549.8	549.8	544.8	543.7	543.2	543.8	538.8	537.9	545.1	542.6	537.1
5°	545.5	545.2	538.2	536.9	536.9	536.1	530.4	529.2	536.4	534.3	528.3
7.5°	540.1	539.3	531.0	530.1	528.8	528.3	522.0	521.1	527.2	526.0	520.3
10°	533.5	532.8	522.9	522.2	520.8	519.8	513.9	513.2	519.5	517.5	513.0
12.5°	524.9	523.5	513.4	512.7	511.6	511.2	505.4	505.1	512.1	510.0	505.3
15°	513.6	512.5	501.2	501.4	501.5	501.5	496.9	496.7	503.5	502.6	497.4
17.5°	501.2	499.6	488.8	489.6	490.5	491.5	487.9	488.6	495.8	494.6	490.0
20°	487.0	485.5	475.0	477.1	479.1	481.1	478.8	480.6	487.3	486.8	483.3
22.5°	471.2	469.7	459.9	463.3	466.5	470.3	469.3	471.4	478.4	478.3	475.2
25°	452.0	452.4	443.8	447.9	453.3	458.7	459.0	462.4	470.2	469.4	466.6
27.5°	434.0	434.5	425.4	432.3	439.5	446.4	448.1	452.7	460.7	460.1	457.6
30°	415.1	415.8	406.9	416.4	425.1	433.6	437.2	443.5	451.6	451.6	449.0
32.5°	395.5	396.6	387.4	400.1	410.2	420.1	426.4	433.0	442.2	442.0	439.8
35°	375.3	376.6	368.1	384.3	394.4	406.5	414.3	423.1	431.3	431.4	429.8
37.5°	354.7	356.3	348.6	366.3	377.9	392.1	402.1	410.9	420.0	420.5	419.0
40°	334.3	336.0	329.3	346.4	361.0	377.0	388.5	398.8	408.8	409.1	408.0
42.5°	313.9	315.7	310.7	327.4	344.0	361.0	374.7	386.3	396.6	397.3	396.1
45°	294.0	295.5	291.9	310.2	326.1	344.7	360.4	373.6	384.0	384.9	384.5
47.5°	274.2	275.6	272.4	289.1	307.5	327.3	345.4	360.0	371.1	372.1	371.8
50°	254.8	256.0	252.5	270.0	288.2	309.3	328.2	345.1	357.4	358.5	358.3
52.5°	235.6	236.7	233.8	252.1	268.7	290.9	311.5	329.8	342.0	343.6	343.8
55°	216.9	217.4	215.1	232.7	248.8	272.0	295.7	313.5	325.7	327.0	327.8
57.5°	198.3	198.4	196.5	213.3	228.7	252.5	277.3	296.0	307.6	308.9	310.0
60°	179.8	179.7	177.5	193.8	208.6	232.1	257.9	276.5	287.7	288.9	290.4
62.5°	161.4	161.1	159.1	174.2	188.0	211.3	237.2	255.2	265.9	266.6	268.7
65°	143.2	142.8	141.0	154.9	167.5	189.7	215.1	232.2	241.8	242.9	242.5
67.5°	125.2	124.5	123.0	135.5	146.9	167.5	191.9	208.2	216.2	217.1	219.5
70°	107.2	106.3	103.1	116.4	126.4	144.7	167.5	182.0	188.7	189.6	189.2
72.5°	89.5	88.6	85.2	97.4	105.8	121.9	142.2	154.3	160.0	160.8	160.8
75°	72.3	71.8	69.6	78.9	85.9	99.0	116.2	126.3	130.7	131.6	131.4
77.5°	55.7	55.4	53.2	61.1	66.7	76.4	90.3	98.1	101.5	102.5	104.7
80°	39.9	39.8	36.3	44.2	46.6	54.8	65.0	71.0	72.8	74.2	75.8
82.5°	25.6	25.7	22.2	28.9	29.9	35.2	41.5	45.2	46.5	47.7	48.8
85°	12.5	13.0	11.0	15.3	15.4	18.1	20.8	22.2	22.7	23.6	24.7
87.5°	3.2	3.7	2.1	4.4	3.9	5.0	5.8	6.2	6.0	6.7	7.1
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°	550.6	550.6	550.6	550.6	550.6	550.6	550.6	550.6	550.6	550.6	550.6
2.5°	538.9	543.0	541.0	547.7	550.2	546.1	553.3	553.4	548.3	554.3	557.7
5°	530.6	534.8	533.5	540.5	543.7	540.1	548.8	550.5	545.5	552.3	557.7
7.5°	522.1	527.1	525.4	532.5	536.4	533.5	542.9	545.6	541.8	549.2	556.4
10°	514.8	519.0	517.2	524.7	528.0	525.7	534.9	540.0	536.4	545.5	554.1
12.5°	507.6	511.1	509.0	515.2	518.4	515.4	526.7	531.3	528.8	538.3	549.3
15°	498.3	502.2	499.4	504.9	507.3	504.8	514.0	522.0	518.8	529.2	541.4
17.5°	491.3	493.5	489.6	494.0	495.4	491.9	501.3	509.1	506.8	518.1	532.2
20°	483.4	485.2	479.8	482.3	482.2	477.8	486.4	494.1	492.6	505.0	521.1
22.5°	474.7	475.6	469.3	469.8	469.6	462.4	470.1	477.9	477.3	489.9	507.8
25°	465.5	465.6	457.5	457.2	454.4	445.9	452.7	461.6	459.7	473.3	492.2
27.5°	456.3	455.1	445.3	443.0	438.5	428.3	434.4	442.3	441.2	454.5	475.5
30°	446.6	444.9	433.0	428.7	422.2	410.5	415.5	422.9	423.6	435.3	457.2
32.5°	437.3	433.1	419.9	413.7	405.5	391.9	394.6	402.1	403.2	415.0	437.6
35°	425.4	422.6	406.2	395.7	387.6	372.7	375.6	380.8	382.4	393.9	416.9
37.5°	414.1	409.6	392.2	379.4	369.0	353.3	354.1	359.5	361.0	372.7	395.5
40°	402.4	396.0	377.3	362.3	350.4	333.9	333.0	338.7	339.8	351.3	371.8
42.5°	389.9	382.2	361.3	344.9	331.1	314.4	312.6	317.5	318.8	330.0	350.1
45°	377.3	368.1	344.9	326.9	311.8	294.8	293.0	296.7	298.6	309.1	328.5
47.5°	364.0	353.2	327.9	307.9	292.3	275.2	273.1	276.8	278.3	288.7	307.1
50°	350.0	336.9	310.4	288.3	272.9	256.1	252.9	257.3	258.7	268.4	286.4
52.5°	334.6	320.1	291.8	268.7	253.3	237.2	233.4	237.6	239.3	248.8	265.4
55°	318.3	302.6	273.1	250.6	233.9	218.2	215.0	216.7	220.3	229.3	244.7
57.5°	299.9	284.4	253.3	230.4	214.4	199.3	196.6	198.2	201.5	210.3	224.1
60°	280.4	263.9	233.1	210.3	194.7	180.5	178.0	179.4	183.0	191.0	203.8
62.5°	261.1	242.6	212.3	189.6	175.4	162.2	161.6	161.1	164.4	172.1	183.4
65°	237.7	220.0	190.6	169.0	156.2	144.2	141.7	142.8	146.0	153.1	164.9
67.5°	212.7	196.6	168.4	148.5	137.0	126.4	124.2	124.7	128.1	134.2	144.5
70°	186.1	172.0	145.6	127.8	118.2	108.1	106.7	106.9	110.1	115.5	124.5
72.5°	158.2	145.5	122.7	107.4	99.4	92.2	90.9	89.4	92.3	97.0	104.7
75°	129.9	118.7	99.8	87.3	81.0	75.0	73.9	72.3	75.3	79.2	85.3
77.5°	101.2	92.2	77.6	67.9	63.1	58.6	57.5	55.9	58.8	61.8	66.5
80°	73.2	66.7	57.9	47.8	46.1	43.2	42.1	40.3	43.2	45.1	48.7
82.5°	47.3	42.9	37.9	30.8	30.6	28.4	27.9	25.8	28.4	29.5	32.2
85°	23.9	21.8	20.6	15.7	16.2	14.8	14.6	12.5	14.5	15.0	16.6
87.5°	6.8	7.2	6.4	3.9	4.9	4.6	4.6	3.3	4.6	4.6	5.3
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°	550.6	550.6	550.6	550.6	550.6	550.6	550.6	550.6
2.5°	551.1	553.3	553.8	553.7	555.1	562.8	560.2	562.8
5°	552.4	557.3	558.6	560.4	562.7	571.4	568.6	571.7
7.5°	553.2	560.5	563.3	566.8	570.5	580.3	578.0	581.1
10°	553.2	562.7	566.8	572.6	577.6	588.9	586.7	590.3
12.5°	550.9	563.1	568.9	576.9	583.4	595.6	594.7	597.2
15°	546.1	561.1	569.1	579.5	587.5	601.1	600.7	603.8
17.5°	539.7	557.8	567.4	580.5	590.6	605.8	606.7	608.4
20°	531.6	551.5	564.1	580.2	592.7	609.6	610.7	613.0
22.5°	520.9	543.9	559.1	578.5	593.0	611.1	613.2	615.3
25°	508.4	534.8	552.5	575.3	591.7	611.0	613.8	615.7
27.5°	494.0	523.0	544.2	570.1	588.1	608.9	612.4	614.7
30°	477.3	510.4	534.7	563.5	583.2	605.1	608.8	611.1
32.5°	460.1	496.5	523.4	554.9	576.2	598.9	602.1	603.9
35°	441.3	479.7	509.8	543.8	567.1	589.0	591.5	593.4
37.5°	420.9	461.5	494.2	531.3	554.2	575.3	577.5	579.6
40°	399.8	442.3	476.8	516.1	538.9	558.4	560.8	562.3
42.5°	378.6	421.1	458.1	498.1	520.8	539.6	541.0	542.5
45°	357.2	399.2	437.2	478.2	500.6	518.2	518.8	520.0
47.5°	335.4	376.5	414.2	455.4	477.7	493.7	494.2	495.3
50°	313.4	353.7	389.7	430.9	452.6	469.6	467.3	468.3
52.5°	291.8	329.8	366.6	404.5	425.9	440.9	441.6	439.5
55°	270.6	306.5	340.2	376.7	397.1	408.8	408.4	409.2
57.5°	249.2	282.8	313.8	347.2	367.1	378.1	380.4	377.7
60°	227.3	258.9	286.7	316.9	336.1	345.4	348.1	345.5
62.5°	205.6	234.7	259.8	286.2	304.0	315.4	315.2	312.4
65°	183.9	210.3	232.7	255.1	270.6	282.0	281.5	279.0
67.5°	163.9	185.6	205.8	223.9	237.4	245.2	247.9	244.8
70°	141.8	160.5	178.3	192.8	204.0	211.0	213.6	210.9
72.5°	119.7	135.6	148.1	162.1	170.7	176.6	179.3	176.7
75°	97.9	111.0	121.1	132.0	138.1	143.1	146.2	143.6
77.5°	76.7	86.8	94.9	102.9	109.8	111.0	113.7	112.0
80°	56.5	63.8	69.7	75.0	80.0	80.5	82.7	81.7
82.5°	37.6	42.5	44.1	49.6	52.8	52.3	54.5	53.7
85°	19.9	22.9	25.6	27.2	29.0	27.4	29.3	28.5
87.5°	6.7	7.1	6.2	8.7	9.6	8.2	9.4	9.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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