

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: P837767

Luminaire Tested: **ORLG-12-4-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: P837767
Test Lab: INNOVATION CENTER(G2)
Issue Date: 5/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: ORLG-12-4-INS-ASY2R-LD4-1LO-20-120-EDD-90
Description: 1FT 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

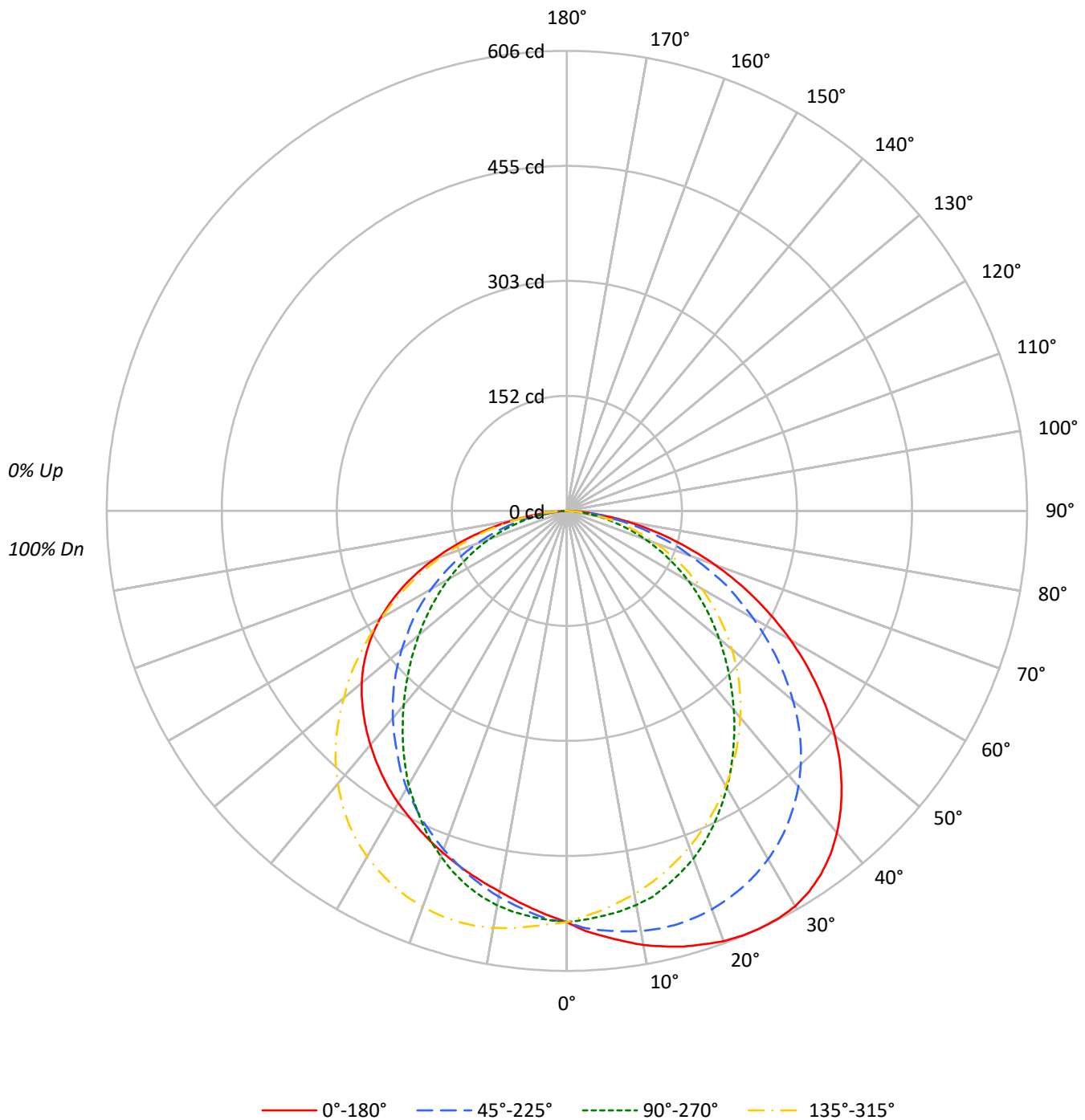
Lumens per Lamp: N/A
Luminaire Lumens: 1589.4 lumens
Efficiency: N/A
Efficacy: 67.9 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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	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°	1458	1458	1458	1458
5°	1519	1447	1420	1450
10°	1587	1440	1391	1442
15°	1655	1422	1378	1422
20°	1727	1396	1371	1388
25°	1799	1357	1371	1343
30°	1868	1309	1381	1295
35°	1918	1256	1395	1236
40°	1944	1202	1414	1175
45°	1947	1147	1441	1118
50°	1929	1095	1477	1065
55°	1889	1046	1509	1017
60°	1829	995	1530	969
65°	1748	937	1522	915
70°	1633	868	1467	852
75°	1469	774	1346	770
80°	1246	648	1131	659
85°	868	429	719	442



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	51.4	3.2
10°-20°	148.9	9.4
20°-30°	228.3	14.4
30°-40°	277.6	17.5
40°-50°	288.5	18.2
50°-60°	260.6	16.4
60°-70°	198.2	12.5
70°-80°	110.5	7.0
80°-90°	25.4	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°	428.6	27.0
0°-40°	706.2	44.4
0°-60°	1255.4	79.0
0°-90°	1589.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1589.4	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	542	542	542	542	542	
5°	562	536	526	537	562	54
15°	594	510	494	510	594	168
25°	606	457	462	452	606	280
35°	584	382	424	376	584	365
45°	512	301	379	294	512	394
55°	403	223	322	217	403	359
65°	274	147	239	144	274	271
75°	141	74	130	74	141	150
85°	28	14	23	14	28	35
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°	541.8	541.8	541.8	541.8	541.8	541.8	541.8	541.8	541.8	541.8	541.8
2.5°	553.8	545.7	545.8	552.9	547.4	550.1	542.5	545.4	544.5	545.2	539.0
5°	562.5	553.8	553.6	559.7	553.6	554.8	545.2	547.1	544.3	542.5	535.8
7.5°	571.7	563.0	562.1	567.4	559.4	558.6	547.9	547.9	542.9	538.5	532.1
10°	580.8	571.8	570.7	574.7	564.9	562.0	549.1	547.1	540.4	533.8	527.0
12.5°	587.6	578.5	577.6	580.2	569.0	563.7	549.1	545.2	535.3	526.1	520.8
15°	594.1	584.7	582.3	583.6	570.8	563.7	547.3	541.2	528.6	516.5	510.3
17.5°	598.6	589.6	587.2	587.1	571.7	561.6	543.5	535.2	520.0	505.4	499.2
20°	603.2	594.2	591.2	588.9	571.4	558.7	538.0	526.7	509.0	492.6	487.4
22.5°	605.4	596.2	592.9	589.5	569.8	553.4	531.1	516.9	496.6	477.0	472.8
25°	605.8	596.3	592.8	587.9	566.5	547.1	522.3	505.0	482.4	460.6	457.0
27.5°	604.8	594.4	590.9	585.0	561.6	539.4	511.8	491.5	467.2	443.2	439.3
30°	601.3	590.8	587.4	579.7	554.6	529.9	500.3	476.4	450.4	424.9	421.4
32.5°	594.2	584.0	581.2	573.5	547.1	518.9	486.9	460.2	431.8	407.4	402.4
35°	583.8	573.6	571.8	563.7	536.4	505.7	472.2	442.6	412.1	387.2	382.3
37.5°	570.3	561.7	559.1	551.1	523.9	490.8	455.4	423.3	392.0	365.2	362.2
40°	553.3	545.2	543.1	536.1	509.4	474.3	437.2	403.5	371.3	346.4	342.1
42.5°	533.8	526.2	525.1	517.7	491.5	455.9	417.5	382.9	349.7	325.7	321.4
45°	511.7	504.3	504.1	497.1	471.9	435.6	396.8	362.1	328.6	303.7	301.4
47.5°	487.3	480.7	480.7	474.3	450.0	413.2	375.4	340.3	307.3	285.3	281.3
50°	460.7	454.6	452.7	449.5	425.9	388.8	353.0	319.1	286.4	265.4	261.5
52.5°	432.4	427.1	428.4	422.6	399.7	363.4	330.2	295.2	265.3	246.2	242.3
55°	402.6	395.0	396.2	394.0	372.4	337.3	304.7	275.5	244.5	226.6	222.9
57.5°	371.7	361.8	365.8	364.6	343.3	310.5	281.3	253.1	223.9	207.4	203.8
60°	339.9	330.5	334.6	333.5	313.5	283.7	257.2	231.0	203.5	188.4	184.9
62.5°	307.3	298.6	302.4	301.5	283.2	256.3	233.2	209.1	182.9	169.3	166.1
65°	274.5	266.1	269.5	268.9	252.0	231.5	208.5	186.5	162.1	150.4	147.1
67.5°	240.9	233.2	236.3	236.3	220.8	201.2	183.7	163.7	141.8	131.7	128.6
70°	207.5	200.3	203.1	202.8	189.7	173.8	158.7	140.8	121.2	112.8	110.3
72.5°	173.9	167.6	170.1	169.8	158.8	148.6	133.7	118.2	101.1	94.4	92.1
75°	141.3	135.3	137.7	137.5	128.5	118.9	108.9	96.0	81.4	76.7	74.4
77.5°	110.2	104.1	106.2	106.2	99.6	92.6	84.7	74.7	64.3	59.3	57.6
80°	80.4	77.5	76.5	76.6	72.2	67.6	63.6	54.0	46.4	43.0	41.8
82.5°	52.8	50.4	49.4	49.7	47.1	44.4	41.8	35.1	30.1	28.1	27.4
85°	28.1	26.3	25.4	26.0	25.5	24.0	22.7	18.2	15.0	14.3	13.9
87.5°	8.8	7.7	7.1	9.4	8.0	7.1	6.8	5.4	4.2	4.2	4.0
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°	541.8	541.8	541.8	541.8	541.8	541.8	541.8	541.8	541.8	541.8	541.8
2.5°	541.0	541.0	536.1	534.9	534.4	535.1	530.1	529.2	536.3	533.9	528.5
5°	536.7	536.4	529.5	528.2	528.2	527.5	521.9	520.6	527.7	525.7	519.8
7.5°	531.4	530.6	522.4	521.5	520.3	519.8	513.6	512.7	518.8	517.5	511.9
10°	524.9	524.2	514.5	513.8	512.4	511.4	505.6	505.0	511.2	509.1	504.7
12.5°	516.5	515.1	505.1	504.5	503.3	503.0	497.3	497.0	503.8	501.8	497.1
15°	505.4	504.2	493.1	493.4	493.5	493.5	488.9	488.7	495.4	494.5	489.4
17.5°	493.1	491.6	481.0	481.7	482.6	483.6	480.1	480.7	487.8	486.7	482.1
20°	479.2	477.7	467.3	469.5	471.4	473.4	471.1	472.9	479.5	478.9	475.5
22.5°	463.7	462.1	452.5	455.8	459.0	462.8	461.8	463.8	470.7	470.6	467.6
25°	444.7	445.1	436.6	440.7	446.0	451.3	451.6	454.9	462.6	461.9	459.1
27.5°	427.0	427.5	418.5	425.4	432.4	439.3	440.9	445.5	453.3	452.7	450.3
30°	408.4	409.1	400.3	409.7	418.3	426.6	430.2	436.4	444.3	444.3	441.8
32.5°	389.1	390.2	381.1	393.6	403.6	413.4	419.6	426.0	435.1	434.8	432.7
35°	369.3	370.5	362.2	378.1	388.1	400.0	407.7	416.3	424.4	424.5	422.8
37.5°	349.0	350.6	343.0	360.4	371.8	385.8	395.7	404.3	413.2	413.7	412.2
40°	328.9	330.6	324.0	340.8	355.2	370.9	382.3	392.4	402.2	402.5	401.5
42.5°	308.9	310.6	305.7	322.1	338.4	355.2	368.6	380.1	390.2	390.9	389.7
45°	289.3	290.8	287.2	305.2	320.9	339.2	354.6	367.6	377.8	378.7	378.4
47.5°	269.8	271.2	268.0	284.5	302.5	322.0	339.8	354.2	365.1	366.1	365.8
50°	250.7	251.9	248.4	265.6	283.6	304.3	322.9	339.6	351.7	352.7	352.6
52.5°	231.8	232.9	230.0	248.1	264.4	286.2	306.4	324.5	336.5	338.0	338.3
55°	213.4	213.9	211.7	229.0	244.8	267.7	290.9	308.5	320.5	321.7	322.5
57.5°	195.1	195.2	193.3	209.9	225.1	248.4	272.8	291.3	302.7	303.9	305.1
60°	176.9	176.8	174.6	190.7	205.2	228.4	253.8	272.1	283.1	284.2	285.7
62.5°	158.8	158.5	156.6	171.4	185.0	207.9	233.4	251.1	261.6	262.3	264.4
65°	140.9	140.5	138.8	152.4	164.8	186.6	211.7	228.5	238.0	239.0	238.6
67.5°	123.2	122.5	121.1	133.3	144.6	164.8	188.8	204.8	212.7	213.6	216.0
70°	105.5	104.6	101.5	114.5	124.3	142.4	164.8	179.1	185.6	186.5	186.1
72.5°	88.1	87.2	83.8	95.8	104.1	119.9	139.9	151.8	157.5	158.2	158.2
75°	71.1	70.6	68.5	77.6	84.5	97.4	114.4	124.2	128.6	129.5	129.3
77.5°	54.8	54.5	52.3	60.2	65.6	75.2	88.8	96.5	99.8	100.8	103.0
80°	39.3	39.2	35.8	43.5	45.9	54.0	63.9	69.9	71.7	73.0	74.6
82.5°	25.1	25.3	21.9	28.4	29.4	34.6	40.8	44.5	45.7	46.9	48.0
85°	12.3	12.8	10.9	15.0	15.2	17.8	20.5	21.9	22.4	23.3	24.3
87.5°	3.2	3.7	2.0	4.3	3.8	4.9	5.7	6.1	5.9	6.6	7.0
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°	541.8	541.8	541.8	541.8	541.8	541.8	541.8	541.8	541.8	541.8	541.8
2.5°	530.3	534.3	532.3	538.8	541.4	537.3	544.4	544.5	539.5	545.4	548.7
5°	522.0	526.2	524.9	531.8	534.9	531.4	540.0	541.6	536.7	543.4	548.7
7.5°	513.7	518.6	517.0	523.9	527.7	524.9	534.2	536.8	533.0	540.4	547.4
10°	506.5	510.7	508.9	516.2	519.5	517.2	526.3	531.3	527.7	536.7	545.2
12.5°	499.4	502.8	500.8	506.9	510.0	507.1	518.2	522.8	520.3	529.6	540.5
15°	490.3	494.1	491.3	496.8	499.2	496.6	505.7	513.6	510.4	520.6	532.7
17.5°	483.4	485.5	481.7	486.0	487.4	484.0	493.2	500.9	498.7	509.8	523.7
20°	475.7	477.4	472.1	474.5	474.4	470.1	478.6	486.1	484.6	496.9	512.7
22.5°	467.1	468.0	461.8	462.3	462.0	454.9	462.5	470.2	469.6	482.0	499.7
25°	458.0	458.1	450.1	449.9	447.1	438.8	445.5	454.2	452.3	465.7	484.3
27.5°	449.0	447.7	438.1	435.9	431.4	421.4	427.4	435.2	434.1	447.2	467.8
30°	439.4	437.7	426.0	421.8	415.4	403.9	408.8	416.1	416.8	428.3	449.9
32.5°	430.3	426.1	413.1	407.0	399.0	385.6	388.2	395.7	396.7	408.3	430.5
35°	418.5	415.8	399.7	389.3	381.4	366.7	369.5	374.7	376.2	387.6	410.2
37.5°	407.4	403.0	385.9	373.3	363.1	347.6	348.4	353.7	355.2	366.7	389.1
40°	395.9	389.6	371.3	356.5	344.7	328.6	327.7	333.2	334.4	345.6	365.8
42.5°	383.7	376.1	355.5	339.3	325.8	309.4	307.6	312.4	313.7	324.6	344.5
45°	371.3	362.2	339.3	321.6	306.8	290.0	288.3	291.9	293.8	304.2	323.3
47.5°	358.1	347.5	322.6	302.9	287.6	270.8	268.7	272.3	273.8	284.1	302.2
50°	344.4	331.5	305.4	283.7	268.5	252.0	248.8	253.1	254.5	264.1	281.8
52.5°	329.2	314.9	287.1	264.4	249.2	233.4	229.6	233.8	235.4	244.8	261.1
55°	313.1	297.7	268.7	246.5	230.1	214.7	211.5	213.2	216.7	225.6	240.7
57.5°	295.1	279.8	249.2	226.7	210.9	196.1	193.5	195.0	198.3	206.9	220.5
60°	275.9	259.7	229.4	206.9	191.6	177.6	175.1	176.5	180.1	187.9	200.6
62.5°	256.9	238.7	208.9	186.5	172.6	159.6	159.0	158.5	161.8	169.3	180.5
65°	233.9	216.5	187.5	166.3	153.7	141.9	139.4	140.5	143.7	150.6	162.3
67.5°	209.3	193.5	165.7	146.1	134.8	124.3	122.2	122.7	126.0	132.1	142.2
70°	183.1	169.2	143.3	125.7	116.3	106.4	105.0	105.1	108.3	113.6	122.5
72.5°	155.7	143.2	120.7	105.6	97.8	90.7	89.5	88.0	90.9	95.4	103.0
75°	127.8	116.8	98.2	85.9	79.7	73.8	72.7	71.1	74.1	78.0	83.9
77.5°	99.6	90.7	76.3	66.9	62.0	57.6	56.6	55.0	57.9	60.8	65.5
80°	72.0	65.6	57.0	47.0	45.4	42.5	41.4	39.7	42.5	44.4	47.9
82.5°	46.5	42.2	37.3	30.3	30.1	27.9	27.4	25.4	27.9	29.1	31.7
85°	23.5	21.5	20.2	15.4	15.9	14.5	14.4	12.3	14.3	14.8	16.3
87.5°	6.7	7.1	6.3	3.8	4.8	4.5	4.5	3.3	4.5	4.5	5.2
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°	541.8	541.8	541.8	541.8	541.8	541.8	541.8	541.8
2.5°	542.3	544.4	544.9	544.8	546.2	553.8	551.2	553.8
5°	543.5	548.3	549.6	551.4	553.6	562.2	559.4	562.5
7.5°	544.3	551.5	554.3	557.7	561.3	570.9	568.7	571.7
10°	544.3	553.6	557.7	563.4	568.3	579.4	577.3	580.8
12.5°	542.0	554.0	559.7	567.7	574.0	586.0	585.1	587.6
15°	537.3	552.1	559.9	570.2	578.0	591.4	591.0	594.1
17.5°	531.0	548.8	558.3	571.2	581.1	596.1	597.0	598.6
20°	523.0	542.6	555.0	570.8	583.2	599.8	600.9	603.2
22.5°	512.6	535.2	550.1	569.2	583.5	601.3	603.3	605.4
25°	500.2	526.2	543.6	566.0	582.2	601.1	603.9	605.8
27.5°	486.0	514.6	535.4	561.0	578.7	599.1	602.5	604.8
30°	469.6	502.2	526.1	554.4	573.8	595.3	599.0	601.3
32.5°	452.7	488.5	515.0	545.9	566.9	589.3	592.4	594.2
35°	434.2	472.0	501.6	535.1	557.9	579.5	581.9	583.8
37.5°	414.1	454.1	486.3	522.8	545.3	566.0	568.2	570.3
40°	393.4	435.2	469.1	507.8	530.3	549.5	551.7	553.3
42.5°	372.5	414.4	450.8	490.1	512.4	530.9	532.3	533.8
45°	351.4	392.8	430.2	470.5	492.6	509.9	510.4	511.7
47.5°	330.0	370.4	407.5	448.1	470.0	485.8	486.3	487.3
50°	308.3	348.0	383.4	424.0	445.3	462.0	459.7	460.7
52.5°	287.1	324.5	360.7	397.9	419.0	433.8	434.5	432.4
55°	266.3	301.5	334.8	370.6	390.7	402.2	401.9	402.6
57.5°	245.2	278.3	308.7	341.6	361.2	372.0	374.3	371.7
60°	223.7	254.8	282.1	311.8	330.7	339.8	342.5	339.9
62.5°	202.3	230.9	255.6	281.6	299.1	310.4	310.1	307.3
65°	181.0	206.9	229.0	251.0	266.3	277.5	277.0	274.5
67.5°	161.2	182.6	202.4	220.3	233.5	241.2	243.9	240.9
70°	139.5	158.0	175.4	189.7	200.7	207.6	210.2	207.5
72.5°	117.8	133.4	145.7	159.5	167.9	173.8	176.4	173.9
75°	96.3	109.2	119.2	129.9	135.8	140.8	143.8	141.3
77.5°	75.4	85.4	93.4	101.2	108.0	109.2	111.8	110.2
80°	55.6	62.8	68.6	73.8	78.7	79.2	81.4	80.4
82.5°	37.0	41.8	43.3	48.8	51.9	51.4	53.6	52.8
85°	19.6	22.5	25.1	26.8	28.6	26.9	28.8	28.1
87.5°	6.6	7.0	6.1	8.6	9.5	8.1	9.2	8.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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