

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: P837893

Luminaire Tested: **ORLG-24-2-INS-ASY2R-LD4-1LO-40-120-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: P837893
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-LD4-1LO-40-120-EDD
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

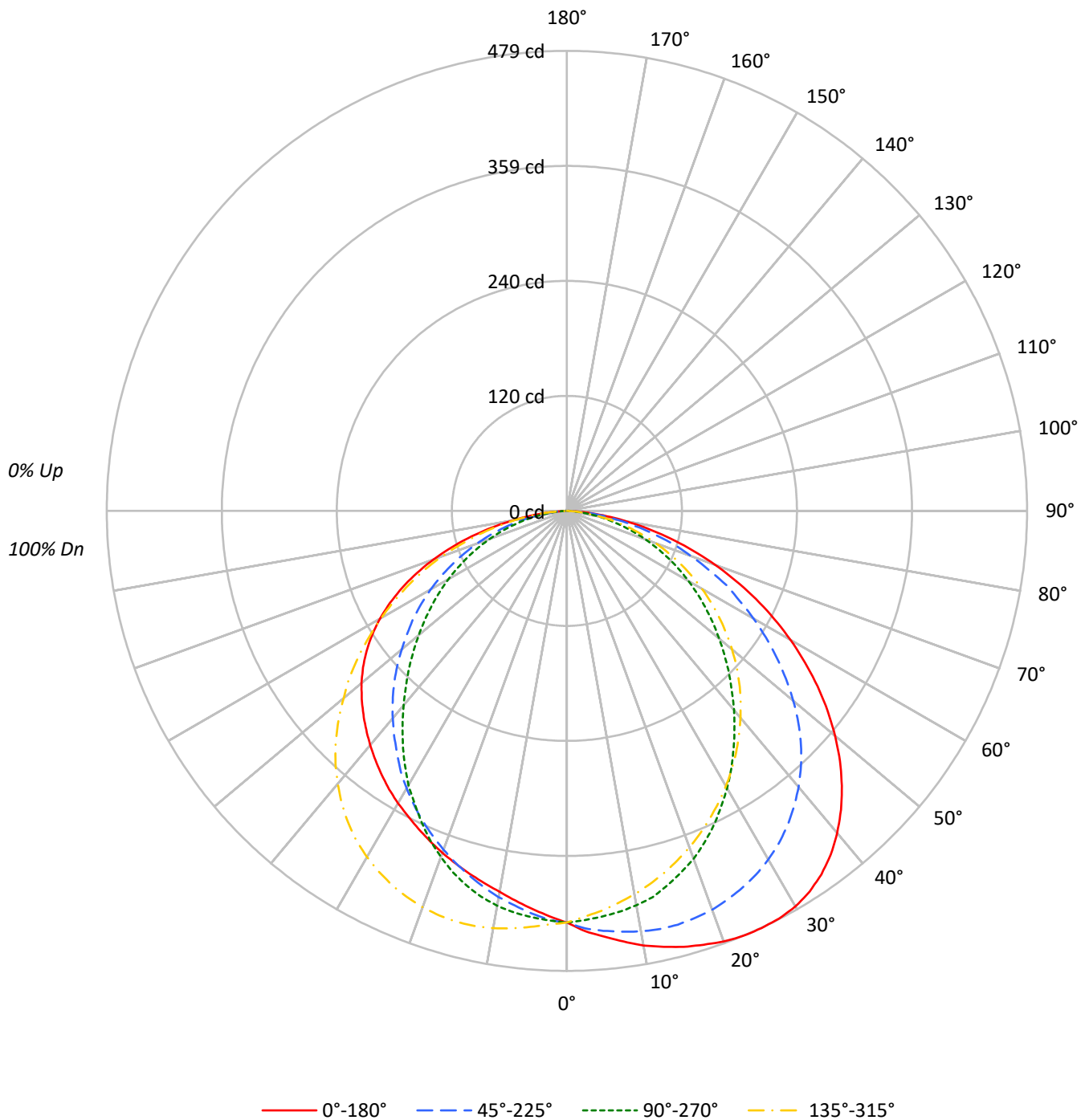
Lumens per Lamp: N/A
Luminaire Lumens: 1257.4 lumens
Efficiency: N/A
Efficacy: 107.5 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 11.7
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°	1153	1153	1153	1153
5°	1202	1145	1123	1147
10°	1256	1139	1101	1141
15°	1309	1125	1090	1125
20°	1367	1104	1085	1098
25°	1423	1073	1085	1062
30°	1478	1036	1092	1024
35°	1517	993	1103	978
40°	1538	951	1118	929
45°	1541	907	1140	884
50°	1526	866	1168	843
55°	1494	828	1194	805
60°	1447	787	1210	767
65°	1382	741	1203	724
70°	1292	687	1161	674
75°	1162	612	1066	609
80°	986	513	896	521
85°	685	340	568	349

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.7	3.2
10°-20°	117.8	9.4
20°-30°	180.6	14.4
30°-40°	219.6	17.5
40°-50°	228.2	18.2
50°-60°	206.2	16.4
60°-70°	156.8	12.5
70°-80°	87.4	7.0
80°-90°	20.1	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°	339.1	27.0
0°-40°	558.7	44.4
0°-60°	993.1	79.0
0°-90°	1257.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1257.4	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	429	429	429	429	429	
5°	445	424	416	425	445	43
15°	470	404	391	404	470	133
25°	479	362	365	358	479	221
35°	462	302	336	298	462	288
45°	405	238	300	232	405	312
55°	318	176	254	172	318	284
65°	217	116	189	114	217	215
75°	112	59	102	59	112	119
85°	22	11	18	11	22	28
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°	428.6	428.6	428.6	428.6	428.6	428.6	428.6	428.6	428.6	428.6	428.6
2.5°	438.1	431.7	431.8	437.4	433.1	435.2	429.2	431.5	430.8	431.3	426.4
5°	445.0	438.1	438.0	442.8	438.0	438.9	431.3	432.8	430.6	429.2	423.9
7.5°	452.3	445.4	444.7	448.9	442.6	441.9	433.5	433.5	429.5	426.0	421.0
10°	459.5	452.4	451.5	454.7	446.9	444.6	434.4	432.8	427.5	422.3	416.9
12.5°	464.9	457.7	457.0	459.0	450.2	446.0	434.4	431.3	423.5	416.2	412.0
15°	470.0	462.6	460.7	461.7	451.6	446.0	433.0	428.2	418.2	408.6	403.7
17.5°	473.6	466.5	464.6	464.5	452.3	444.3	430.0	423.4	411.4	399.8	394.9
20°	477.2	470.1	467.7	465.9	452.1	442.0	425.6	416.7	402.7	389.7	385.6
22.5°	479.0	471.7	469.1	466.4	450.8	437.8	420.2	408.9	392.9	377.4	374.0
25°	479.3	471.8	469.0	465.1	448.2	432.8	413.2	399.5	381.6	364.4	361.5
27.5°	478.5	470.3	467.5	462.8	444.3	426.7	404.9	388.8	369.6	350.6	347.5
30°	475.7	467.4	464.7	458.6	438.8	419.2	395.8	376.9	356.3	336.1	333.4
32.5°	470.1	462.0	459.8	453.7	432.8	410.5	385.2	364.1	341.6	322.3	318.3
35°	461.9	453.8	452.4	446.0	424.4	400.1	373.6	350.1	326.0	306.3	302.4
37.5°	451.2	444.4	442.3	436.0	414.5	388.3	360.3	334.9	310.1	288.9	286.5
40°	437.7	431.3	429.7	424.1	403.0	375.2	345.9	319.2	293.7	274.0	270.6
42.5°	422.3	416.3	415.4	409.6	388.8	360.7	330.3	302.9	276.6	257.6	254.2
45°	404.8	399.0	398.8	393.3	373.3	344.6	313.9	286.4	259.9	240.2	238.4
47.5°	385.5	380.3	380.3	375.2	356.0	326.9	297.0	269.2	243.1	225.7	222.5
50°	364.5	359.6	358.1	355.6	336.9	307.6	279.2	252.4	226.5	209.9	206.8
52.5°	342.1	337.9	338.9	334.3	316.2	287.5	261.2	233.5	209.8	194.7	191.6
55°	318.5	312.5	313.4	311.7	294.6	266.8	241.0	217.9	193.4	179.2	176.4
57.5°	294.0	286.2	289.4	288.4	271.6	245.6	222.5	200.2	177.2	164.1	161.3
60°	268.9	261.4	264.7	263.8	248.0	224.4	203.4	182.7	161.0	149.1	146.3
62.5°	243.1	236.2	239.2	238.5	224.0	202.7	184.4	165.5	144.7	134.0	131.4
65°	217.1	210.5	213.2	212.7	199.3	183.1	165.0	147.6	128.3	119.0	116.4
67.5°	190.5	184.4	186.9	186.9	174.7	159.2	145.4	129.5	112.2	104.2	101.8
70°	164.2	158.5	160.7	160.5	150.1	137.5	125.6	111.4	95.9	89.3	87.3
72.5°	137.6	132.6	134.6	134.4	125.7	117.6	105.8	93.5	80.0	74.7	72.9
75°	111.8	107.1	109.0	108.8	101.7	94.1	86.2	76.0	64.4	60.7	58.9
77.5°	87.2	82.4	84.0	84.0	78.8	73.3	67.0	59.1	50.9	46.9	45.6
80°	63.6	61.3	60.5	60.6	57.1	53.5	50.3	42.7	36.7	34.0	33.1
82.5°	41.8	39.9	39.1	39.3	37.3	35.1	33.1	27.8	23.8	22.2	21.7
85°	22.2	20.8	20.1	20.6	20.2	19.0	18.0	14.4	11.9	11.3	11.0
87.5°	7.0	6.1	5.6	7.4	6.3	5.6	5.4	4.3	3.3	3.3	3.2
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):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	428.6	428.6	428.6	428.6	428.6	428.6	428.6	428.6	428.6	428.6	428.6
2.5°	428.0	428.0	424.1	423.2	422.8	423.3	419.4	418.7	424.3	422.4	418.1
5°	424.6	424.4	418.9	417.9	417.9	417.3	412.9	411.9	417.5	415.9	411.2
7.5°	420.4	419.8	413.3	412.6	411.6	411.2	406.3	405.6	410.4	409.4	405.0
10°	415.3	414.7	407.0	406.5	405.4	404.6	400.0	399.5	404.4	402.8	399.3
12.5°	408.6	407.5	399.6	399.1	398.2	397.9	393.4	393.2	398.6	397.0	393.3
15°	399.8	398.9	390.1	390.3	390.4	390.4	386.8	386.6	391.9	391.2	387.2
17.5°	390.1	388.9	380.5	381.1	381.8	382.6	379.8	380.3	385.9	385.0	381.4
20°	379.1	377.9	369.7	371.4	372.9	374.5	372.7	374.1	379.3	378.9	376.2
22.5°	366.8	365.6	358.0	360.6	363.1	366.1	365.3	366.9	372.4	372.3	369.9
25°	351.8	352.1	345.4	348.6	352.8	357.0	357.3	359.9	366.0	365.4	363.2
27.5°	337.8	338.2	331.1	336.5	342.1	347.5	348.8	352.4	358.6	358.1	356.2
30°	323.1	323.6	316.7	324.1	330.9	337.5	340.3	345.2	351.5	351.5	349.5
32.5°	307.8	308.7	301.5	311.4	319.3	327.0	331.9	337.0	344.2	344.0	342.3
35°	292.1	293.1	286.5	299.1	307.0	316.4	322.5	329.3	335.7	335.8	334.5
37.5°	276.1	277.3	271.3	285.1	294.1	305.2	313.0	319.8	326.9	327.3	326.1
40°	260.2	261.5	256.3	269.6	281.0	293.4	302.4	310.4	318.2	318.4	317.6
42.5°	244.3	245.7	241.8	254.8	267.7	281.0	291.6	300.7	308.7	309.2	308.3
45°	228.8	230.0	227.2	241.4	253.8	268.3	280.5	290.8	298.9	299.6	299.3
47.5°	213.4	214.5	212.0	225.0	239.3	254.7	268.8	280.2	288.8	289.6	289.4
50°	198.3	199.2	196.5	210.1	224.3	240.7	255.4	268.6	278.2	279.0	278.9
52.5°	183.3	184.2	181.9	196.2	209.1	226.4	242.4	256.7	266.2	267.4	267.6
55°	168.9	169.3	167.5	181.1	193.6	211.7	230.1	244.0	253.5	254.5	255.1
57.5°	154.4	154.5	153.0	166.1	178.1	196.5	215.8	230.4	239.4	240.4	241.3
60°	140.0	139.9	138.2	150.9	162.4	180.6	200.7	215.2	223.9	224.8	226.0
62.5°	125.7	125.4	123.9	135.6	146.4	164.5	184.6	198.6	206.9	207.5	209.1
65°	111.5	111.2	109.8	120.6	130.4	147.7	167.5	180.7	188.2	189.0	188.7
67.5°	97.5	96.9	95.8	105.5	114.4	130.4	149.4	162.1	168.3	169.0	170.9
70°	83.5	82.8	80.3	90.6	98.4	112.7	130.4	141.7	146.9	147.6	147.3
72.5°	69.7	69.0	66.3	75.8	82.4	94.9	110.7	120.1	124.6	125.2	125.2
75°	56.3	55.9	54.2	61.4	66.9	77.1	90.5	98.3	101.8	102.5	102.3
77.5°	43.4	43.1	41.4	47.6	51.9	59.5	70.3	76.4	79.0	79.8	81.5
80°	31.1	31.0	28.3	34.4	36.3	42.7	50.6	55.3	56.7	57.8	59.0
82.5°	19.9	20.0	17.3	22.5	23.3	27.4	32.3	35.2	36.2	37.1	38.0
85°	9.7	10.1	8.6	11.9	12.0	14.1	16.2	17.3	17.7	18.4	19.2
87.5°	2.5	2.9	1.6	3.4	3.0	3.9	4.5	4.8	4.7	5.2	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):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	428.6	428.6	428.6	428.6	428.6	428.6	428.6	428.6	428.6	428.6	428.6
2.5°	419.5	422.7	421.1	426.3	428.3	425.1	430.7	430.8	426.8	431.5	434.1
5°	413.0	416.3	415.3	420.7	423.2	420.4	427.2	428.5	424.6	429.9	434.1
7.5°	406.4	410.3	409.0	414.5	417.5	415.3	422.6	424.7	421.7	427.5	433.1
10°	400.7	404.0	402.6	408.4	411.0	409.2	416.4	420.3	417.5	424.6	431.3
12.5°	395.1	397.8	396.2	401.0	403.5	401.2	410.0	413.6	411.6	419.0	427.6
15°	387.9	390.9	388.7	393.0	394.9	392.9	400.1	406.3	403.8	411.9	421.4
17.5°	382.4	384.1	381.1	384.5	385.6	382.9	390.2	396.3	394.5	403.3	414.3
20°	376.3	377.7	373.5	375.4	375.3	371.9	378.6	384.6	383.4	393.1	405.6
22.5°	369.5	370.2	365.3	365.7	365.5	359.9	365.9	372.0	371.5	381.3	395.3
25°	362.3	362.4	356.1	355.9	353.7	347.1	352.4	359.3	357.8	368.4	383.1
27.5°	355.2	354.2	346.6	344.8	341.3	333.4	338.1	344.3	343.4	353.8	370.1
30°	347.6	346.3	337.0	333.7	328.6	319.5	323.4	329.2	329.7	338.8	355.9
32.5°	340.4	337.1	326.8	322.0	315.6	305.0	307.1	313.0	313.8	323.0	340.6
35°	331.1	328.9	316.2	308.0	301.7	290.1	292.3	296.4	297.6	306.6	324.5
37.5°	322.3	318.8	305.3	295.3	287.2	275.0	275.6	279.8	281.0	290.1	307.8
40°	313.2	308.2	293.7	282.0	272.7	259.9	259.2	263.6	264.5	273.4	289.4
42.5°	303.5	297.5	281.2	268.4	257.7	244.7	243.3	247.1	248.1	256.8	272.5
45°	293.7	286.5	268.4	254.4	242.7	229.4	228.0	230.9	232.4	240.6	255.7
47.5°	283.3	274.9	255.2	239.6	227.5	214.2	212.5	215.4	216.6	224.7	239.0
50°	272.4	262.2	241.6	224.4	212.4	199.3	196.8	200.2	201.3	208.9	222.9
52.5°	260.4	249.1	227.1	209.1	197.1	184.6	181.6	184.9	186.2	193.6	206.5
55°	247.7	235.5	212.5	195.0	182.0	169.9	167.4	168.7	171.5	178.5	190.4
57.5°	233.4	221.3	197.1	179.3	166.9	155.2	153.1	154.3	156.9	163.7	174.5
60°	218.2	205.4	181.4	163.7	151.6	140.5	138.6	139.7	142.5	148.7	158.7
62.5°	203.2	188.8	165.3	147.6	136.6	126.3	125.8	125.4	128.0	134.0	142.8
65°	185.0	171.3	148.4	131.6	121.6	112.3	110.3	111.2	113.7	119.2	128.4
67.5°	165.6	153.1	131.1	115.6	106.7	98.4	96.7	97.1	99.7	104.5	112.5
70°	144.9	133.9	113.4	99.5	92.0	84.2	83.1	83.2	85.7	89.9	96.9
72.5°	123.2	113.3	95.5	83.6	77.4	71.8	70.8	69.6	71.9	75.5	81.5
75°	101.1	92.4	77.7	68.0	63.1	58.4	57.5	56.3	58.6	61.7	66.4
77.5°	78.8	71.8	60.4	52.9	49.1	45.6	44.8	43.5	45.8	48.1	51.8
80°	57.0	51.9	45.1	37.2	35.9	33.6	32.8	31.4	33.6	35.1	37.9
82.5°	36.8	33.4	29.5	24.0	23.8	22.1	21.7	20.1	22.1	23.0	25.1
85°	18.6	17.0	16.0	12.2	12.6	11.5	11.4	9.7	11.3	11.7	12.9
87.5°	5.3	5.6	5.0	3.0	3.8	3.6	3.6	2.6	3.6	3.6	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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CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	428.6	428.6	428.6	428.6	428.6	428.6	428.6	428.6
2.5°	429.0	430.7	431.1	431.0	432.1	438.1	436.1	438.1
5°	430.0	433.8	434.8	436.2	438.0	444.8	442.6	445.0
7.5°	430.6	436.3	438.5	441.2	444.1	451.7	449.9	452.3
10°	430.6	438.0	441.2	445.7	449.6	458.4	456.7	459.5
12.5°	428.8	438.3	442.8	449.1	454.1	463.6	462.9	464.9
15°	425.1	436.8	443.0	451.1	457.3	467.9	467.6	470.0
17.5°	420.1	434.2	441.7	451.9	459.7	471.6	472.3	473.6
20°	413.8	429.3	439.1	451.6	461.4	474.5	475.4	477.2
22.5°	405.5	423.4	435.2	450.3	461.6	475.7	477.3	479.0
25°	395.7	416.3	430.1	447.8	460.6	475.6	477.8	479.3
27.5°	384.5	407.1	423.6	443.8	457.8	474.0	476.7	478.5
30°	371.5	397.3	416.2	438.6	454.0	471.0	473.9	475.7
32.5°	358.1	386.5	407.4	431.9	448.5	466.2	468.7	470.1
35°	343.5	373.4	396.8	423.3	441.4	458.5	460.4	461.9
37.5°	327.6	359.2	384.7	413.6	431.4	447.8	449.5	451.2
40°	311.2	344.3	371.1	401.7	419.5	434.7	436.5	437.7
42.5°	294.7	327.8	356.6	387.7	405.4	420.0	421.1	422.3
45°	278.0	310.7	340.3	372.2	389.7	403.4	403.8	404.8
47.5°	261.0	293.0	322.4	354.5	371.8	384.3	384.7	385.5
50°	243.9	275.3	303.3	335.4	352.3	365.5	363.7	364.5
52.5°	227.1	256.7	285.3	314.8	331.5	343.2	343.7	342.1
55°	210.6	238.5	264.8	293.2	309.1	318.2	317.9	318.5
57.5°	193.9	220.1	244.2	270.2	285.7	294.3	296.1	294.0
60°	177.0	201.5	223.1	246.6	261.6	268.8	270.9	268.9
62.5°	160.1	182.6	202.2	222.7	236.6	245.5	245.3	243.1
65°	143.2	163.7	181.1	198.5	210.6	219.5	219.1	217.1
67.5°	127.6	144.5	160.2	174.3	184.7	190.8	192.9	190.5
70°	110.4	125.0	138.8	150.1	158.8	164.3	166.3	164.2
72.5°	93.2	105.6	115.3	126.2	132.9	137.5	139.6	137.6
75°	76.2	86.4	94.3	102.8	107.5	111.4	113.8	111.8
77.5°	59.7	67.6	73.9	80.1	85.5	86.4	88.5	87.2
80°	44.0	49.7	54.3	58.4	62.3	62.7	64.4	63.6
82.5°	29.3	33.1	34.3	38.6	41.1	40.7	42.4	41.8
85°	15.5	17.8	19.9	21.2	22.6	21.3	22.8	22.2
87.5°	5.2	5.5	4.8	6.8	7.5	6.4	7.3	7.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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