

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: P837911

Luminaire Tested: **ORLG-24-2-INS-ASY2R-LD4-1LO-50-120-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: P837911
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-50-120-EDD
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

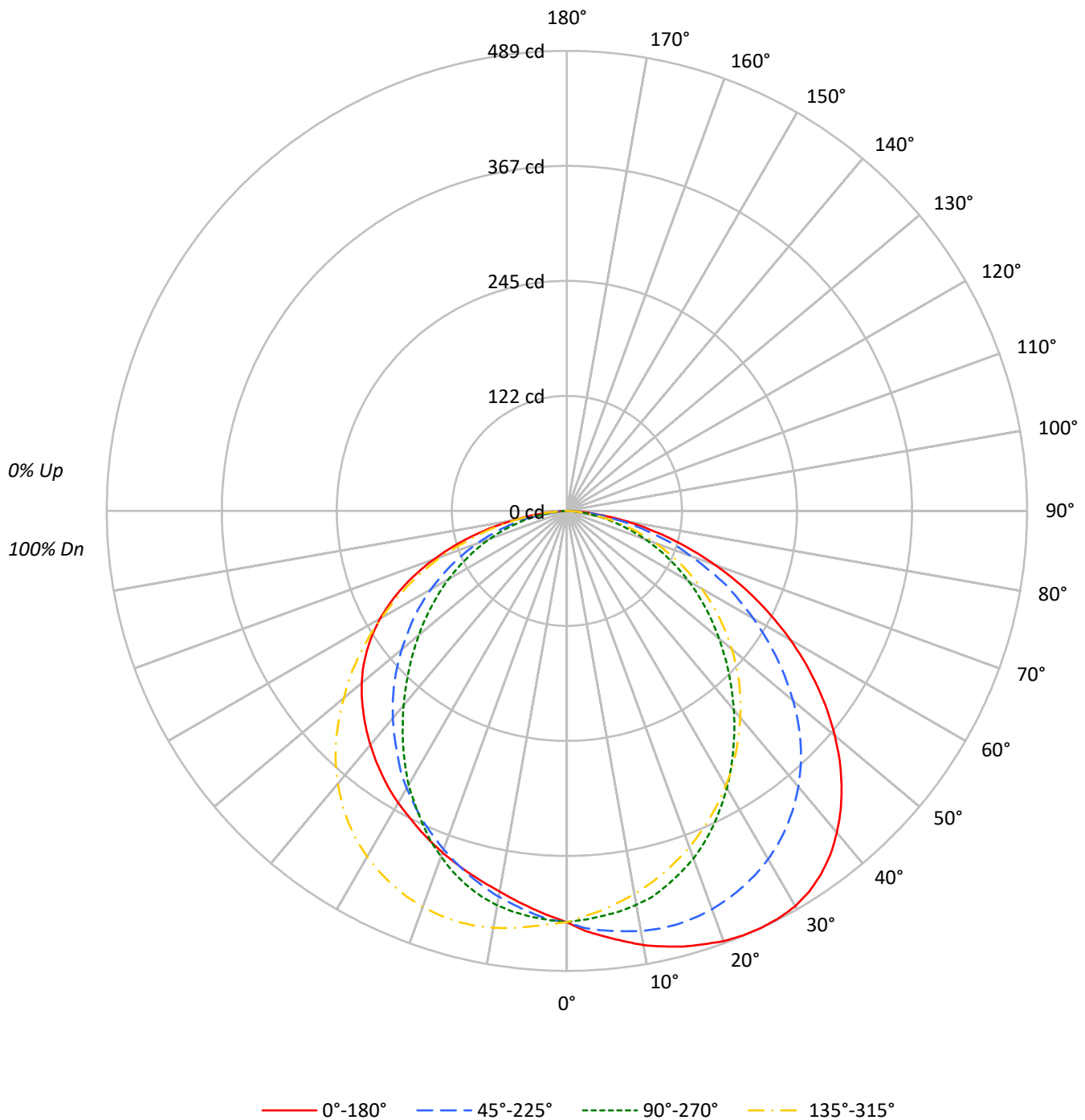
Lumens per Lamp: N/A
Luminaire Lumens: 1282.5 lumens
Efficiency: N/A
Efficacy: 109.6 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

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°	1176	1176	1176	1176
5°	1226	1168	1146	1170
10°	1281	1162	1123	1163
15°	1336	1147	1112	1148
20°	1394	1126	1107	1120
25°	1452	1095	1107	1084
30°	1508	1057	1114	1045
35°	1548	1013	1125	997
40°	1568	970	1141	948
45°	1571	926	1163	902
50°	1557	883	1191	860
55°	1524	844	1218	821
60°	1476	803	1234	782
65°	1410	756	1228	738
70°	1317	700	1184	688
75°	1185	625	1087	622
80°	1006	524	913	532
85°	698	346	580	355



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	41.5	3.2
10°-20°	120.2	9.4
20°-30°	184.2	14.4
30°-40°	224.0	17.5
40°-50°	232.8	18.2
50°-60°	210.3	16.4
60°-70°	159.9	12.5
70°-80°	89.1	7.0
80°-90°	20.5	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°	345.9	27.0
0°-40°	569.9	44.4
0°-60°	1013.0	79.0
0°-90°	1282.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1282.5	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	437	437	437	437	437	
5°	454	432	424	433	454	44
15°	479	412	399	412	479	136
25°	489	369	373	365	489	226
35°	471	308	342	304	471	294
45°	413	243	306	237	413	318
55°	325	180	260	175	325	290
65°	222	119	193	116	222	219
75°	114	60	104	60	114	121
85°	23	11	19	12	23	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°	437.2	437.2	437.2	437.2	437.2	437.2	437.2	437.2	437.2	437.2	437.2
2.5°	446.8	440.3	440.4	446.1	441.7	443.9	437.8	440.1	439.4	439.9	434.9
5°	453.9	446.8	446.7	451.6	446.7	447.7	439.9	441.4	439.2	437.8	432.4
7.5°	461.3	454.3	453.6	457.9	451.4	450.7	442.1	442.1	438.1	434.5	429.4
10°	468.7	461.4	460.5	463.8	455.8	453.5	443.1	441.4	436.0	430.7	425.2
12.5°	474.2	466.8	466.1	468.2	459.2	454.9	443.1	439.9	432.0	424.5	420.2
15°	479.4	471.8	469.9	470.9	460.6	454.9	441.6	436.7	426.5	416.8	411.8
17.5°	483.0	475.8	473.9	473.8	461.3	453.2	438.6	431.8	419.6	407.8	402.8
20°	486.7	479.5	477.0	475.2	461.1	450.8	434.1	425.0	410.7	397.5	393.3
22.5°	488.5	481.1	478.5	475.7	459.8	446.5	428.6	417.1	400.7	384.9	381.5
25°	488.9	481.2	478.3	474.4	457.1	441.4	421.4	407.5	389.2	371.7	368.7
27.5°	488.0	479.7	476.8	472.0	453.2	435.2	413.0	396.6	377.0	357.6	354.5
30°	485.2	476.7	474.0	467.7	447.6	427.6	403.7	384.4	363.4	342.8	340.1
32.5°	479.5	471.2	469.0	462.7	441.4	418.7	392.9	371.4	348.4	328.8	324.7
35°	471.1	462.8	461.4	454.9	432.9	408.1	381.1	357.1	332.5	312.4	308.5
37.5°	460.2	453.3	451.1	444.7	422.8	396.1	367.5	341.6	316.3	294.7	292.3
40°	446.4	439.9	438.3	432.6	411.0	382.7	352.8	325.6	299.6	279.5	276.0
42.5°	430.7	424.6	423.7	417.8	396.6	367.9	336.9	309.0	282.2	262.8	259.3
45°	412.9	407.0	406.8	401.2	380.8	351.5	320.2	292.1	265.1	245.0	243.2
47.5°	393.2	387.9	387.9	382.7	363.1	333.4	303.0	274.6	248.0	230.3	227.0
50°	371.8	366.8	365.3	362.7	343.6	313.8	284.8	257.5	231.1	214.1	211.0
52.5°	348.9	344.7	345.7	341.0	322.5	293.3	266.5	238.2	214.0	198.6	195.5
55°	324.9	318.8	319.7	317.9	300.5	272.2	245.9	222.3	197.3	182.8	179.9
57.5°	299.9	291.9	295.2	294.2	277.1	250.5	227.0	204.2	180.7	167.3	164.5
60°	274.3	266.7	270.0	269.1	253.0	228.9	207.5	186.4	164.2	152.0	149.2
62.5°	248.0	241.0	244.0	243.3	228.5	206.8	188.1	168.8	147.6	136.6	134.0
65°	221.5	214.8	217.5	217.0	203.3	186.8	168.3	150.5	130.8	121.3	118.7
67.5°	194.4	188.1	190.7	190.7	178.1	162.3	148.3	132.1	114.4	106.3	103.8
70°	167.4	161.6	163.9	163.7	153.1	140.2	128.1	113.6	97.8	91.1	89.0
72.5°	140.3	135.2	137.3	137.0	128.2	119.9	107.9	95.3	81.6	76.2	74.3
75°	114.0	109.2	111.1	110.9	103.7	96.0	87.9	77.5	65.7	61.9	60.1
77.5°	88.9	84.0	85.7	85.7	80.4	74.7	68.3	60.3	51.9	47.8	46.5
80°	64.9	62.5	61.7	61.8	58.2	54.6	51.3	43.5	37.4	34.7	33.8
82.5°	42.6	40.7	39.9	40.1	38.0	35.8	33.8	28.3	24.3	22.6	22.1
85°	22.6	21.2	20.5	21.0	20.6	19.4	18.4	14.7	12.1	11.5	11.2
87.5°	7.1	6.2	5.7	7.5	6.4	5.7	5.5	4.4	3.4	3.4	3.3
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):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	437.2	437.2	437.2	437.2	437.2	437.2	437.2	437.2	437.2	437.2	437.2
2.5°	436.5	436.5	432.6	431.6	431.2	431.7	427.8	427.1	432.8	430.8	426.4
5°	433.1	432.9	427.3	426.2	426.2	425.6	421.1	420.1	425.8	424.2	419.4
7.5°	428.8	428.2	421.6	420.8	419.8	419.4	414.4	413.7	418.6	417.6	413.1
10°	423.6	423.0	415.1	414.6	413.5	412.7	408.0	407.5	412.5	410.8	407.3
12.5°	416.8	415.6	407.6	407.1	406.2	405.8	401.3	401.1	406.6	404.9	401.2
15°	407.8	406.9	397.9	398.1	398.2	398.2	394.5	394.3	399.7	399.0	394.9
17.5°	397.9	396.7	388.1	388.7	389.4	390.2	387.4	387.9	393.6	392.7	389.0
20°	386.7	385.5	377.1	378.8	380.4	382.0	380.1	381.6	386.9	386.5	383.7
22.5°	374.1	372.9	365.2	367.8	370.4	373.4	372.6	374.2	379.8	379.7	377.3
25°	358.8	359.1	352.3	355.6	359.9	364.1	364.4	367.1	373.3	372.7	370.5
27.5°	344.6	345.0	337.7	343.2	348.9	354.5	355.8	359.4	365.8	365.3	363.3
30°	329.6	330.1	323.0	330.6	337.5	344.3	347.1	352.1	358.5	358.5	356.5
32.5°	314.0	314.9	307.5	317.6	325.7	333.5	338.5	343.7	351.1	350.9	349.2
35°	298.0	299.0	292.3	305.1	313.2	322.7	329.0	335.9	342.4	342.5	341.2
37.5°	281.6	282.9	276.8	290.8	300.0	311.3	319.3	326.2	333.4	333.9	332.6
40°	265.4	266.8	261.5	275.0	286.6	299.3	308.5	316.6	324.6	324.8	324.0
42.5°	249.2	250.6	246.7	259.9	273.1	286.6	297.5	306.7	314.9	315.4	314.5
45°	233.4	234.6	231.8	246.3	258.9	273.7	286.1	296.6	304.9	305.6	305.3
47.5°	217.7	218.8	216.3	229.5	244.1	259.8	274.2	285.8	294.6	295.4	295.2
50°	202.3	203.2	200.5	214.3	228.8	245.5	260.5	274.0	283.8	284.6	284.5
52.5°	187.0	187.9	185.6	200.2	213.3	231.0	247.3	261.9	271.6	272.8	273.0
55°	172.2	172.6	170.8	184.8	197.5	216.0	234.7	248.9	258.6	259.6	260.2
57.5°	157.4	157.5	156.0	169.4	181.6	200.5	220.2	235.0	244.2	245.2	246.2
60°	142.8	142.7	140.9	153.9	165.6	184.3	204.8	219.5	228.4	229.3	230.6
62.5°	128.2	127.9	126.3	138.3	149.3	167.7	188.3	202.6	211.1	211.7	213.3
65°	113.7	113.4	112.0	123.0	133.0	150.6	170.8	184.4	192.0	192.8	192.5
67.5°	99.4	98.8	97.7	107.6	116.7	133.0	152.3	165.3	171.6	172.3	174.3
70°	85.1	84.4	81.9	92.4	100.3	114.9	133.0	144.5	149.8	150.5	150.2
72.5°	71.1	70.4	67.6	77.3	84.0	96.8	112.9	122.5	127.1	127.7	127.7
75°	57.4	57.0	55.3	62.6	68.2	78.6	92.3	100.2	103.8	104.5	104.3
77.5°	44.3	43.9	42.2	48.5	52.9	60.7	71.7	77.9	80.6	81.4	83.1
80°	31.7	31.6	28.9	35.1	37.0	43.5	51.6	56.4	57.8	58.9	60.2
82.5°	20.3	20.4	17.6	22.9	23.8	27.9	32.9	35.9	36.9	37.8	38.7
85°	9.9	10.3	8.8	12.1	12.2	14.4	16.5	17.6	18.0	18.8	19.6
87.5°	2.5	3.0	1.6	3.5	3.1	4.0	4.6	4.9	4.8	5.3	5.6
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°	437.2	437.2	437.2	437.2	437.2	437.2	437.2	437.2	437.2	437.2	437.2
2.5°	427.9	431.1	429.5	434.8	436.8	433.6	439.3	439.4	435.3	440.1	442.8
5°	421.2	424.6	423.6	429.1	431.6	428.8	435.7	437.1	433.1	438.5	442.8
7.5°	414.5	418.5	417.2	422.8	425.8	423.6	431.0	433.2	430.1	436.0	441.7
10°	408.7	412.1	410.6	416.6	419.2	417.4	424.7	428.7	425.8	433.1	439.9
12.5°	403.0	405.7	404.1	409.0	411.6	409.2	418.2	421.9	419.8	427.4	436.1
15°	395.6	398.7	396.5	400.9	402.8	400.7	408.1	414.4	411.9	420.1	429.8
17.5°	390.0	391.8	388.7	392.2	393.3	390.6	398.0	404.2	402.4	411.4	422.6
20°	383.8	385.2	381.0	382.9	382.8	379.3	386.2	392.3	391.1	401.0	413.7
22.5°	376.9	377.6	372.6	373.0	372.8	367.1	373.2	379.4	378.9	388.9	403.2
25°	369.5	369.6	363.2	363.0	360.8	354.0	359.4	366.5	365.0	375.8	390.8
27.5°	362.3	361.3	353.5	351.7	348.1	340.1	344.9	351.2	350.3	360.9	377.5
30°	354.6	353.2	343.7	340.4	335.2	325.9	329.9	335.8	336.3	345.6	363.0
32.5°	347.2	343.8	333.3	328.5	321.9	311.1	313.3	319.3	320.1	329.5	347.4
35°	337.7	335.5	322.5	314.2	307.8	295.9	298.2	302.3	303.6	312.7	331.0
37.5°	328.8	325.2	311.4	301.2	293.0	280.5	281.1	285.4	286.6	295.9	314.0
40°	319.5	314.4	299.6	287.7	278.2	265.1	264.4	268.9	269.8	278.9	295.2
42.5°	309.6	303.5	286.8	273.8	262.9	249.6	248.2	252.1	253.1	262.0	278.0
45°	299.6	292.3	273.8	259.5	247.6	234.0	232.6	235.6	237.1	245.4	260.8
47.5°	289.0	280.4	260.3	244.4	232.1	218.5	216.8	219.7	221.0	229.2	243.8
50°	277.9	267.5	246.5	228.9	216.7	203.3	200.8	204.2	205.4	213.1	227.4
52.5°	265.6	254.1	231.7	213.3	201.1	188.3	185.3	188.6	190.0	197.5	210.7
55°	252.7	240.2	216.8	198.9	185.7	173.2	170.7	172.0	174.9	182.0	194.3
57.5°	238.1	225.8	201.1	182.9	170.2	158.3	156.1	157.3	160.0	166.9	177.9
60°	222.6	209.6	185.1	166.9	154.6	143.3	141.3	142.5	145.3	151.6	161.8
62.5°	207.3	192.6	168.6	150.5	139.3	128.8	128.3	127.9	130.5	136.6	145.6
65°	188.7	174.7	151.3	134.2	124.0	114.5	112.5	113.4	115.9	121.6	130.9
67.5°	168.9	156.1	133.7	117.9	108.8	100.3	98.6	99.0	101.7	106.6	114.7
70°	147.8	136.5	115.6	101.5	93.8	85.9	84.7	84.8	87.4	91.7	98.8
72.5°	125.6	115.5	97.4	85.2	78.9	73.2	72.2	71.0	73.3	77.0	83.1
75°	103.1	94.2	79.2	69.3	64.3	59.6	58.6	57.4	59.8	62.9	67.7
77.5°	80.4	73.2	61.6	53.9	50.1	46.5	45.7	44.4	46.7	49.0	52.8
80°	58.1	52.9	46.0	37.9	36.6	34.3	33.4	32.0	34.3	35.8	38.6
82.5°	37.5	34.1	30.1	24.5	24.3	22.5	22.1	20.5	22.5	23.5	25.6
85°	19.0	17.3	16.3	12.4	12.8	11.7	11.6	9.9	11.5	11.9	13.2
87.5°	5.4	5.7	5.1	3.1	3.9	3.7	3.7	2.7	3.7	3.7	4.2
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°	437.2	437.2	437.2	437.2	437.2	437.2	437.2	437.2
2.5°	437.6	439.3	439.7	439.6	440.7	446.8	444.8	446.8
5°	438.6	442.5	443.5	444.9	446.7	453.7	451.4	453.9
7.5°	439.2	445.0	447.2	450.0	453.0	460.7	458.9	461.3
10°	439.2	446.7	450.0	454.6	458.6	467.5	465.8	468.7
12.5°	437.4	447.0	451.6	458.1	463.2	472.8	472.1	474.2
15°	433.6	445.5	451.8	460.1	466.4	477.2	476.9	479.4
17.5°	428.5	442.9	450.5	460.9	468.9	481.0	481.7	483.0
20°	422.1	437.9	447.9	460.6	470.6	484.0	484.9	486.7
22.5°	413.6	431.8	443.9	459.3	470.8	485.2	486.8	488.5
25°	403.6	424.6	438.7	456.7	469.8	485.1	487.3	488.9
27.5°	392.2	415.2	432.1	452.7	466.9	483.4	486.2	488.0
30°	378.9	405.2	424.5	447.3	463.1	480.4	483.3	485.2
32.5°	365.3	394.2	415.5	440.5	457.4	475.5	478.0	479.5
35°	350.4	380.9	404.7	431.7	450.2	467.6	469.6	471.1
37.5°	334.2	366.4	392.4	421.9	440.0	456.7	458.5	460.2
40°	317.4	351.2	378.5	409.7	427.9	443.4	445.2	446.4
42.5°	300.6	334.4	363.7	395.4	413.5	428.4	429.5	430.7
45°	283.6	316.9	347.1	379.6	397.5	411.5	411.9	412.9
47.5°	266.2	298.9	328.9	361.6	379.2	392.0	392.4	393.2
50°	248.8	280.8	309.4	342.1	359.3	372.8	371.0	371.8
52.5°	231.7	261.9	291.0	321.1	338.1	350.1	350.6	348.9
55°	214.9	243.3	270.1	299.1	315.3	324.6	324.3	324.9
57.5°	197.8	224.5	249.1	275.6	291.4	300.2	302.0	299.9
60°	180.5	205.6	227.6	251.6	266.9	274.2	276.3	274.3
62.5°	163.3	186.3	206.3	227.2	241.4	250.4	250.2	248.0
65°	146.0	166.9	184.8	202.5	214.9	223.9	223.5	221.5
67.5°	130.1	147.3	163.4	177.7	188.4	194.7	196.8	194.4
70°	112.6	127.5	141.5	153.1	161.9	167.5	169.6	167.4
72.5°	95.0	107.7	117.6	128.7	135.5	140.2	142.4	140.3
75°	77.7	88.1	96.2	104.8	109.6	113.6	116.0	114.0
77.5°	60.9	68.9	75.4	81.7	87.2	88.1	90.2	88.9
80°	44.9	50.7	55.4	59.6	63.5	63.9	65.7	64.9
82.5°	29.9	33.8	35.0	39.4	41.9	41.5	43.2	42.6
85°	15.8	18.2	20.3	21.6	23.0	21.7	23.2	22.6
87.5°	5.3	5.6	4.9	6.9	7.6	6.5	7.4	7.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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