

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: P838019

Luminaire Tested: **ORLG-24-2-INS-ASY2R-LD4-1LO-50-120-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: P838019
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-90
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and RFI grid
Light Source: 5000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

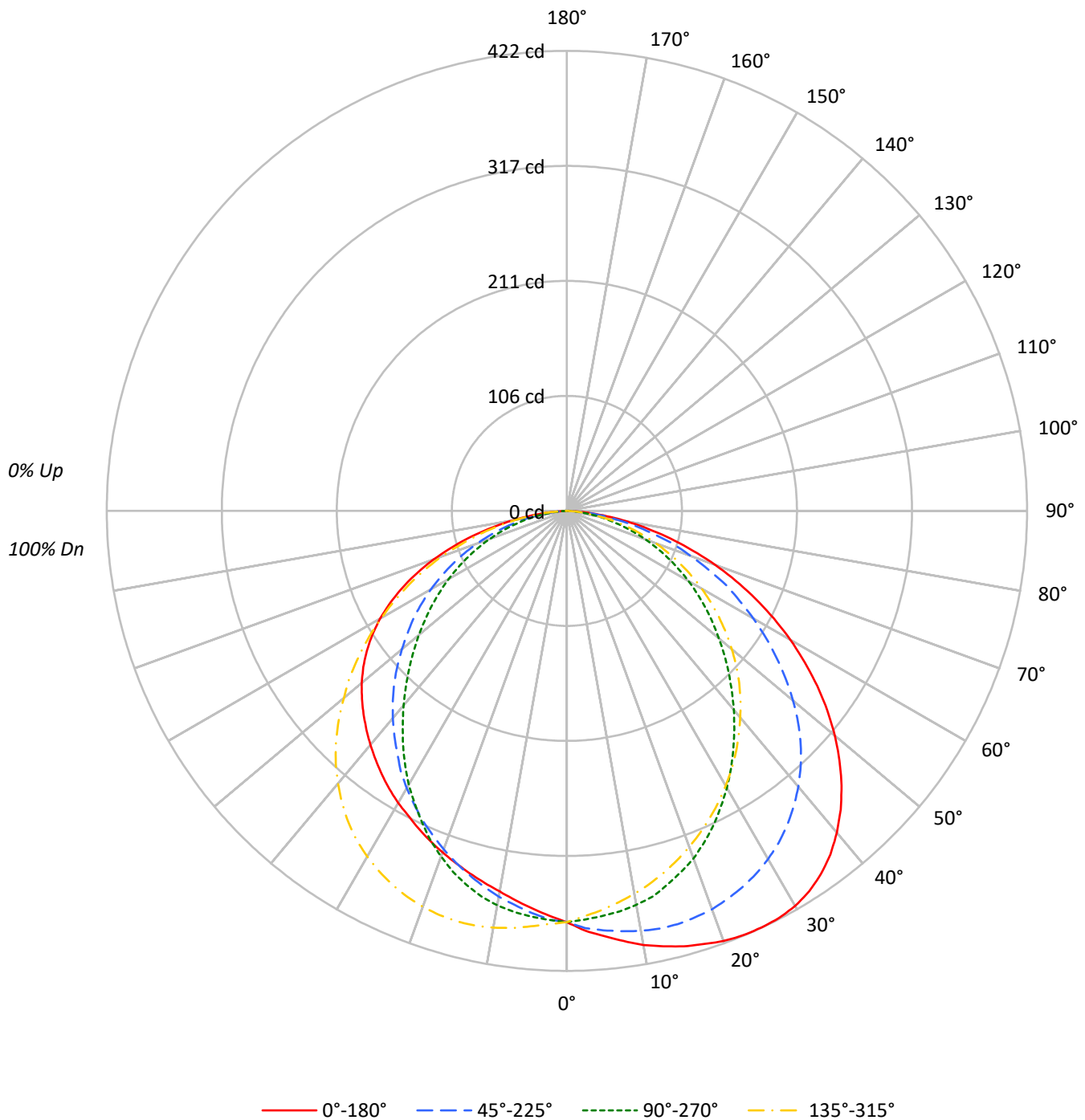
Lumens per Lamp: N/A
Luminaire Lumens: 1106.5 lumens
Efficiency: N/A
Efficacy: 94.6 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

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

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	1015	1015	1015	1015
5°	1058	1008	989	1009
10°	1105	1003	969	1004
15°	1152	990	959	990
20°	1202	972	955	966
25°	1252	944	955	935
30°	1301	912	961	901
35°	1335	874	971	860
40°	1353	836	984	818
45°	1356	798	1004	778
50°	1343	762	1028	742
55°	1315	728	1051	708
60°	1274	693	1065	675
65°	1217	652	1060	637
70°	1137	604	1022	593
75°	1023	539	938	536
80°	868	451	787	459
85°	602	299	500	306

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	35.8	3.2
10°-20°	103.7	9.4
20°-30°	158.9	14.4
30°-40°	193.2	17.5
40°-50°	200.9	18.2
50°-60°	181.4	16.4
60°-70°	137.9	12.5
70°-80°	76.9	7.0
80°-90°	17.7	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°	298.4	27.0
0°-40°	491.6	44.4
0°-60°	873.9	79.0
0°-90°	1106.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1106.5	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	377	377	377	377	377	
5°	392	373	366	374	392	38
15°	414	355	344	355	414	117
25°	422	318	322	315	422	195
35°	406	266	296	262	406	254
45°	356	210	264	204	356	274
55°	280	155	224	151	280	250
65°	191	102	166	100	191	189
75°	98	52	90	52	98	105
85°	20	10	16	10	20	25
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°	377.2	377.2	377.2	377.2	377.2	377.2	377.2	377.2	377.2	377.2	377.2
2.5°	385.5	379.9	380.0	384.9	381.1	383.0	377.7	379.7	379.1	379.5	375.2
5°	391.6	385.5	385.4	389.6	385.4	386.2	379.5	380.8	378.9	377.7	373.0
7.5°	398.0	391.9	391.3	395.0	389.5	388.9	381.5	381.5	377.9	374.9	370.5
10°	404.3	398.1	397.3	400.1	393.3	391.2	382.3	380.8	376.2	371.6	366.9
12.5°	409.1	402.8	402.1	403.9	396.2	392.5	382.3	379.5	372.7	366.2	362.5
15°	413.6	407.1	405.4	406.3	397.4	392.5	381.0	376.8	368.0	359.6	355.2
17.5°	416.7	410.5	408.8	408.7	398.0	391.0	378.4	372.6	362.0	351.8	347.5
20°	419.9	413.7	411.5	410.0	397.8	388.9	374.5	366.7	354.4	342.9	339.3
22.5°	421.5	415.1	412.8	410.4	396.7	385.2	369.8	359.8	345.7	332.1	329.1
25°	421.8	415.2	412.7	409.3	394.4	380.8	363.6	351.5	335.8	320.7	318.1
27.5°	421.1	413.8	411.4	407.2	391.0	375.5	356.3	342.1	325.2	308.5	305.8
30°	418.6	411.3	408.9	403.5	386.1	368.9	348.3	331.7	313.5	295.8	293.4
32.5°	413.7	406.5	404.6	399.2	380.8	361.2	339.0	320.4	300.6	283.6	280.1
35°	406.4	399.3	398.1	392.5	373.5	352.1	328.8	308.1	286.9	269.6	266.1
37.5°	397.0	391.1	389.2	383.7	364.7	341.7	317.1	294.7	272.9	254.2	252.1
40°	385.2	379.5	378.1	373.2	354.6	330.2	304.4	280.9	258.5	241.1	238.1
42.5°	371.6	366.3	365.5	360.4	342.1	317.4	290.7	266.6	243.4	226.7	223.7
45°	356.2	351.1	350.9	346.1	328.5	303.3	276.2	252.0	228.7	211.4	209.8
47.5°	339.2	334.7	334.7	330.2	313.3	287.7	261.4	236.9	214.0	198.6	195.8
50°	320.8	316.4	315.1	312.9	296.5	270.7	245.7	222.1	199.4	184.7	182.0
52.5°	301.1	297.4	298.2	294.2	278.3	253.0	229.9	205.5	184.7	171.4	168.6
55°	280.3	275.0	275.8	274.3	259.3	234.8	212.1	191.8	170.2	157.7	155.2
57.5°	258.7	251.9	254.7	253.8	239.0	216.2	195.8	176.2	155.9	144.4	141.9
60°	236.7	230.1	233.0	232.2	218.3	197.5	179.0	160.8	141.6	131.2	128.7
62.5°	214.0	207.9	210.5	209.9	197.2	178.4	162.3	145.6	127.3	117.9	115.6
65°	191.1	185.3	187.7	187.2	175.4	161.2	145.2	129.9	112.9	104.7	102.4
67.5°	167.7	162.3	164.5	164.5	153.7	140.1	127.9	113.9	98.7	91.7	89.6
70°	144.5	139.4	141.4	141.2	132.1	121.0	110.5	98.0	84.4	78.6	76.8
72.5°	121.1	116.7	118.4	118.2	110.6	103.5	93.1	82.3	70.4	65.7	64.1
75°	98.4	94.2	95.9	95.7	89.5	82.8	75.8	66.9	56.7	53.4	51.8
77.5°	76.7	72.5	73.9	73.9	69.3	64.5	58.9	52.0	44.8	41.3	40.1
80°	56.0	53.9	53.2	53.3	50.2	47.1	44.3	37.6	32.3	29.9	29.1
82.5°	36.8	35.1	34.4	34.6	32.8	30.9	29.1	24.5	20.9	19.5	19.1
85°	19.5	18.3	17.7	18.1	17.8	16.7	15.8	12.7	10.5	9.9	9.7
87.5°	6.2	5.4	4.9	6.5	5.5	4.9	4.8	3.8	2.9	2.9	2.8
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°	377.2	377.2	377.2	377.2	377.2	377.2	377.2	377.2	377.2	377.2	377.2
2.5°	376.6	376.6	373.2	372.4	372.0	372.5	369.1	368.4	373.4	371.7	367.9
5°	373.6	373.5	368.6	367.7	367.7	367.2	363.3	362.5	367.4	366.0	361.8
7.5°	369.9	369.4	363.7	363.1	362.2	361.8	357.5	356.9	361.1	360.3	356.4
10°	365.5	364.9	358.1	357.7	356.7	356.0	352.0	351.5	355.9	354.5	351.4
12.5°	359.6	358.6	351.6	351.2	350.4	350.1	346.2	346.0	350.8	349.4	346.1
15°	351.8	351.0	343.3	343.5	343.5	343.5	340.4	340.2	344.9	344.2	340.7
17.5°	343.3	342.2	334.8	335.4	336.0	336.7	334.2	334.7	339.6	338.8	335.6
20°	333.6	332.5	325.3	326.8	328.1	329.6	328.0	329.2	333.8	333.4	331.1
22.5°	322.8	321.7	315.0	317.3	319.5	322.2	321.5	322.9	327.7	327.6	325.5
25°	309.6	309.8	304.0	306.8	310.5	314.2	314.4	316.7	322.1	321.6	319.6
27.5°	297.3	297.6	291.4	296.1	301.1	305.8	306.9	310.1	315.6	315.1	313.5
30°	284.3	284.8	278.7	285.2	291.2	297.0	299.5	303.8	309.3	309.3	307.6
32.5°	270.9	271.7	265.3	274.0	281.0	287.8	292.1	296.6	302.9	302.7	301.2
35°	257.1	257.9	252.1	263.2	270.2	278.4	283.8	289.8	295.4	295.5	294.4
37.5°	243.0	244.0	238.8	250.9	258.8	268.6	275.5	281.4	287.7	288.0	287.0
40°	229.0	230.1	225.6	237.3	247.3	258.2	266.1	273.2	280.0	280.2	279.5
42.5°	215.0	216.2	212.8	224.2	235.6	247.3	256.6	264.6	271.7	272.1	271.3
45°	201.4	202.4	200.0	212.5	223.4	236.1	246.9	255.9	263.0	263.7	263.4
47.5°	187.8	188.8	186.6	198.0	210.6	224.2	236.6	246.6	254.2	254.9	254.7
50°	174.5	175.3	173.0	184.9	197.4	211.8	224.8	236.4	244.8	245.5	245.5
52.5°	161.3	162.1	160.1	172.7	184.0	199.3	213.3	225.9	234.3	235.3	235.5
55°	148.6	148.9	147.4	159.4	170.4	186.3	202.5	214.7	223.1	224.0	224.5
57.5°	135.8	135.9	134.6	146.1	156.7	173.0	189.9	202.8	210.7	211.6	212.4
60°	123.2	123.1	121.6	132.8	142.9	159.0	176.7	189.4	197.1	197.9	198.9
62.5°	110.6	110.3	109.0	119.3	128.8	144.7	162.5	174.8	182.1	182.6	184.0
65°	98.1	97.8	96.6	106.1	114.7	129.9	147.4	159.1	165.7	166.4	166.1
67.5°	85.8	85.2	84.3	92.8	100.6	114.7	131.4	142.6	148.1	148.7	150.4
70°	73.5	72.8	70.6	79.7	86.6	99.1	114.7	124.7	129.2	129.9	129.6
72.5°	61.3	60.7	58.3	66.7	72.5	83.5	97.4	105.7	109.6	110.1	110.1
75°	49.5	49.2	47.7	54.0	58.9	67.8	79.6	86.5	89.6	90.2	90.0
77.5°	38.2	37.9	36.4	41.9	45.7	52.3	61.8	67.2	69.5	70.2	71.7
80°	27.4	27.3	24.9	30.3	31.9	37.6	44.5	48.7	49.9	50.8	51.9
82.5°	17.5	17.6	15.2	19.8	20.5	24.1	28.4	31.0	31.8	32.6	33.4
85°	8.5	8.9	7.6	10.5	10.6	12.4	14.3	15.2	15.6	16.2	16.9
87.5°	2.2	2.6	1.4	3.0	2.6	3.4	4.0	4.2	4.1	4.6	4.8
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°	377.2	377.2	377.2	377.2	377.2	377.2	377.2	377.2	377.2	377.2	377.2
2.5°	369.1	372.0	370.6	375.1	376.9	374.1	379.0	379.1	375.6	379.7	382.0
5°	363.4	366.3	365.5	370.2	372.4	369.9	375.9	377.1	373.6	378.3	382.0
7.5°	357.6	361.1	359.9	364.7	367.4	365.5	371.9	373.7	371.1	376.2	381.1
10°	352.6	355.5	354.3	359.4	361.7	360.1	366.4	369.8	367.4	373.6	379.5
12.5°	347.7	350.1	348.6	352.9	355.1	353.0	360.8	364.0	362.2	368.7	376.3
15°	341.3	344.0	342.0	345.8	347.5	345.7	352.1	357.5	355.3	362.5	370.8
17.5°	336.5	338.0	335.4	338.4	339.3	336.9	343.4	348.7	347.2	354.9	364.6
20°	331.1	332.4	328.7	330.3	330.3	327.3	333.2	338.4	337.4	345.9	356.9
22.5°	325.2	325.8	321.5	321.8	321.6	316.7	322.0	327.4	326.9	335.5	347.9
25°	318.8	318.9	313.4	313.2	311.3	305.5	310.1	316.2	314.9	324.2	337.1
27.5°	312.6	311.7	305.0	303.4	300.3	293.4	297.5	303.0	302.2	311.3	325.7
30°	305.9	304.7	296.6	293.7	289.2	281.2	284.6	289.7	290.1	298.1	313.2
32.5°	299.6	296.7	287.6	283.4	277.7	268.4	270.3	275.5	276.2	284.2	299.7
35°	291.4	289.4	278.3	271.1	265.5	255.3	257.2	260.8	261.9	269.8	285.6
37.5°	283.6	280.6	268.7	259.9	252.8	242.0	242.5	246.2	247.3	255.3	270.9
40°	275.6	271.2	258.5	248.2	240.0	228.7	228.1	232.0	232.8	240.6	254.7
42.5°	267.1	261.8	247.5	236.2	226.8	215.4	214.1	217.5	218.4	226.0	239.8
45°	258.5	252.1	236.2	223.9	213.6	201.9	200.7	203.2	204.5	211.8	225.0
47.5°	249.3	241.9	224.6	210.9	200.2	188.5	187.0	189.6	190.6	197.8	210.3
50°	239.7	230.8	212.6	197.5	186.9	175.4	173.2	176.2	177.2	183.9	196.2
52.5°	229.2	219.2	199.9	184.0	173.5	162.5	159.9	162.8	163.9	170.4	181.8
55°	218.0	207.3	187.0	171.6	160.2	149.5	147.3	148.4	150.9	157.0	167.6
57.5°	205.4	194.8	173.5	157.8	146.8	136.5	134.7	135.7	138.0	144.0	153.5
60°	192.1	180.8	159.7	144.0	133.4	123.6	121.9	122.9	125.4	130.8	139.6
62.5°	178.9	166.2	145.4	129.9	120.2	111.1	110.7	110.3	112.6	117.9	125.6
65°	162.8	150.7	130.6	115.8	107.0	98.8	97.0	97.8	100.0	104.9	113.0
67.5°	145.7	134.7	115.3	101.7	93.9	86.6	85.1	85.4	87.7	91.9	99.0
70°	127.5	117.8	99.8	87.5	80.9	74.1	73.1	73.2	75.4	79.1	85.2
72.5°	108.4	99.7	84.0	73.5	68.1	63.2	62.3	61.2	63.3	66.4	71.7
75°	88.9	81.3	68.4	59.8	55.5	51.4	50.6	49.5	51.6	54.3	58.4
77.5°	69.3	63.2	53.1	46.5	43.2	40.1	39.4	38.3	40.3	42.3	45.6
80°	50.1	45.7	39.7	32.7	31.6	29.6	28.9	27.6	29.6	30.9	33.3
82.5°	32.4	29.4	26.0	21.1	20.9	19.4	19.1	17.7	19.4	20.2	22.1
85°	16.4	15.0	14.1	10.7	11.1	10.1	10.0	8.5	9.9	10.3	11.3
87.5°	4.7	4.9	4.4	2.6	3.3	3.2	3.2	2.3	3.2	3.2	3.6
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):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	377.2	377.2	377.2	377.2	377.2	377.2	377.2	377.2
2.5°	377.5	379.0	379.4	379.3	380.2	385.5	383.7	385.5
5°	378.4	381.7	382.6	383.8	385.4	391.4	389.5	391.6
7.5°	378.9	383.9	385.9	388.2	390.8	397.5	395.9	398.0
10°	378.9	385.4	388.2	392.2	395.6	403.4	401.9	404.3
12.5°	377.3	385.7	389.6	395.2	399.6	407.9	407.3	409.1
15°	374.1	384.4	389.8	396.9	402.4	411.7	411.5	413.6
17.5°	369.7	382.1	388.7	397.6	404.5	415.0	415.6	416.7
20°	364.1	377.8	386.4	397.4	406.0	417.5	418.3	419.9
22.5°	356.8	372.6	383.0	396.2	406.2	418.6	420.0	421.5
25°	348.2	366.3	378.5	394.0	405.3	418.5	420.4	421.8
27.5°	338.4	358.2	372.8	390.5	402.8	417.1	419.5	421.1
30°	326.9	349.6	366.2	385.9	399.5	414.5	417.0	418.6
32.5°	315.1	340.1	358.5	380.1	394.7	410.2	412.4	413.7
35°	302.3	328.6	349.2	372.5	388.4	403.5	405.1	406.4
37.5°	288.3	316.1	338.5	364.0	379.6	394.0	395.5	397.0
40°	273.9	303.0	326.6	353.5	369.1	382.5	384.1	385.2
42.5°	259.4	288.5	313.8	341.2	356.7	369.6	370.6	371.6
45°	244.7	273.4	299.5	327.5	342.9	355.0	355.3	356.2
47.5°	229.7	257.9	283.7	312.0	327.2	338.2	338.5	339.2
50°	214.7	242.3	266.9	295.2	310.0	321.6	320.1	320.8
52.5°	199.9	225.9	251.1	277.0	291.7	302.0	302.5	301.1
55°	185.4	209.9	233.0	258.0	272.0	280.0	279.8	280.3
57.5°	170.7	193.7	214.9	237.8	251.4	259.0	260.6	258.7
60°	155.7	177.4	196.4	217.0	230.2	236.6	238.4	236.7
62.5°	140.8	160.7	178.0	196.0	208.2	216.1	215.9	214.0
65°	126.0	144.0	159.4	174.7	185.4	193.2	192.8	191.1
67.5°	112.3	127.1	140.9	153.3	162.6	167.9	169.8	167.7
70°	97.1	110.0	122.1	132.1	139.7	144.5	146.3	144.5
72.5°	82.0	92.9	101.4	111.0	116.9	121.0	122.8	121.1
75°	67.0	76.0	83.0	90.4	94.6	98.0	100.1	98.4
77.5°	52.5	59.5	65.0	70.5	75.2	76.0	77.9	76.7
80°	38.7	43.7	47.8	51.4	54.8	55.2	56.7	56.0
82.5°	25.8	29.1	30.2	34.0	36.2	35.8	37.3	36.8
85°	13.6	15.7	17.5	18.7	19.9	18.7	20.1	19.5
87.5°	4.6	4.8	4.2	6.0	6.6	5.6	6.4	6.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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