

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: P837983

Luminaire Tested: **ORLG-24-2-INS-ASY2R-LD4-1LO-35-120-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: P837983
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-35-120-EDD-90
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

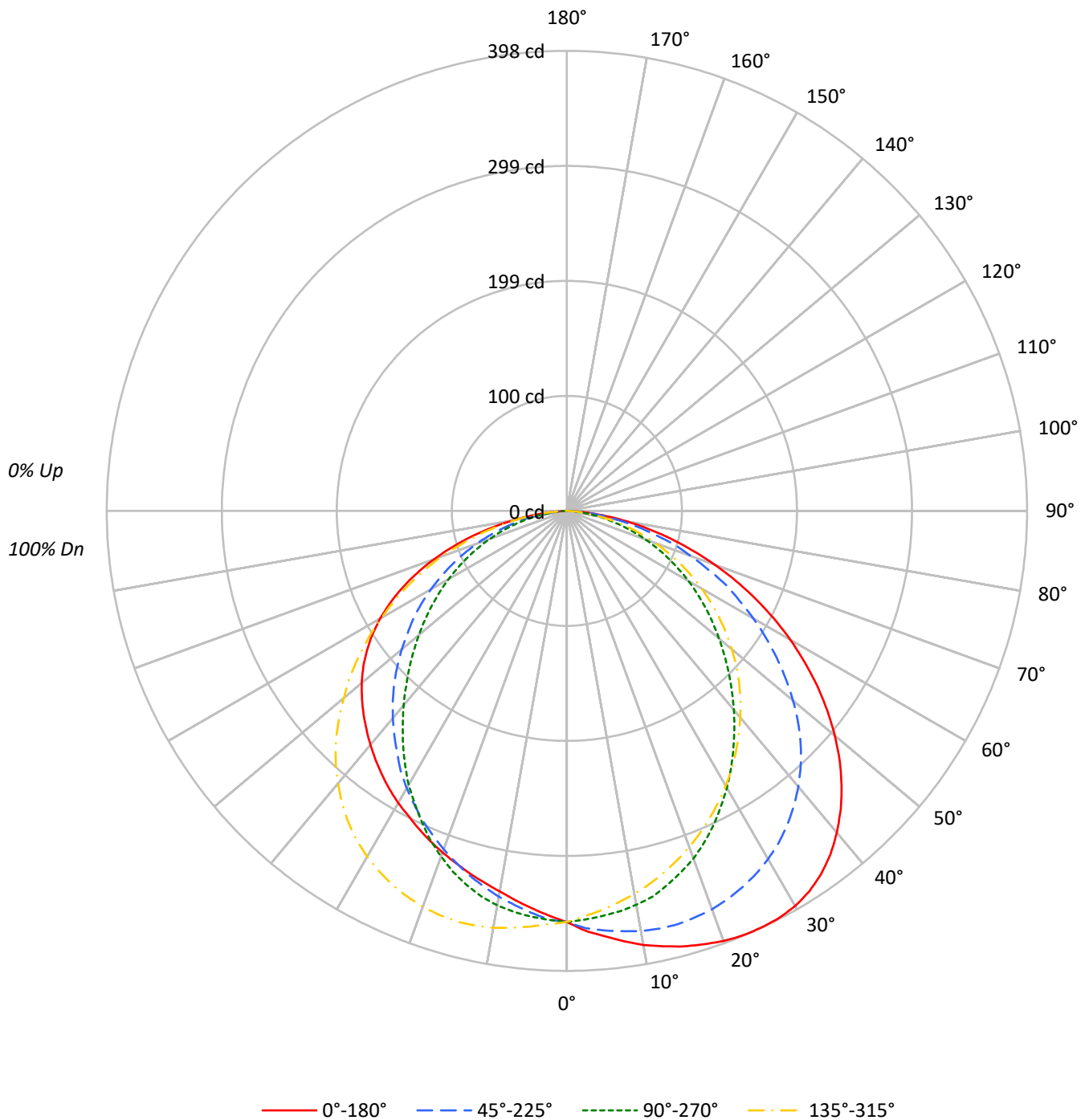
Lumens per Lamp: N/A
Luminaire Lumens: 1043.6 lumens
Efficiency: N/A
Efficacy: 89.2 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

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				0
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		0
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		100
1	109	104	100	96	106	102	98	94	97	94	91		94	91	89		84
2	99	91	84	78	96	89	82	77	85	80	75		82	77	73		70
3	90	79	71	65	88	78	70	64	75	68	63		72	66	62		59
4	82	70	61	55	80	69	61	54	66	59	53		64	58	53		50
5	76	63	54	47	74	62	53	47	59	52	46		57	51	46		43
6	70	56	47	41	68	55	47	41	54	46	40		52	45	40		38
7	65	51	42	36	63	50	42	36	49	41	36		47	40	35		33
8	60	47	38	32	59	46	38	32	45	37	32		43	37	32		29
9	56	43	34	29	55	42	34	29	41	34	29		40	33	28		26
10	53	39	31	26	51	39	31	26	38	31	26		37	30	26		24

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	957	957	957	957
5°	998	950	932	952
10°	1042	945	913	947
15°	1087	934	905	934
20°	1134	916	901	911
25°	1181	891	901	882
30°	1227	860	906	850
35°	1259	825	916	811
40°	1276	789	928	771
45°	1279	753	946	734
50°	1266	719	970	700
55°	1240	687	991	668
60°	1201	653	1004	636
65°	1147	615	999	600
70°	1072	570	964	559
75°	965	508	885	505
80°	818	426	744	432
85°	568	281	472	290

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	33.8	3.2
10°-20°	97.8	9.4
20°-30°	149.9	14.4
30°-40°	182.2	17.5
40°-50°	189.5	18.2
50°-60°	171.1	16.4
60°-70°	130.1	12.5
70°-80°	72.5	7.0
80°-90°	16.7	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°	281.5	27.0
0°-40°	463.7	44.4
0°-60°	824.3	79.0
0°-90°	1043.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1043.6	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	356	356	356	356	356	
5°	369	352	345	352	369	36
15°	390	335	325	335	390	111
25°	398	300	303	297	398	184
35°	383	251	279	247	383	239
45°	336	198	249	193	336	259
55°	264	146	211	142	264	236
65°	180	97	157	94	180	178
75°	93	49	85	49	93	99
85°	18	9	15	9	18	23
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°	355.7	355.7	355.7	355.7	355.7	355.7	355.7	355.7	355.7	355.7	355.7
2.5°	363.6	358.3	358.4	363.0	359.5	361.2	356.2	358.1	357.5	358.0	353.9
5°	369.3	363.6	363.5	367.5	363.5	364.3	358.0	359.2	357.4	356.2	351.8
7.5°	375.4	369.7	369.1	372.6	367.3	366.8	359.8	359.8	356.5	353.6	349.4
10°	381.4	375.5	374.7	377.4	370.9	369.0	360.5	359.2	354.8	350.5	346.0
12.5°	385.8	379.9	379.3	380.9	373.6	370.2	360.5	358.0	351.5	345.4	341.9
15°	390.1	383.9	382.4	383.2	374.8	370.2	359.4	355.4	347.1	339.1	335.1
17.5°	393.1	387.2	385.6	385.5	375.4	368.7	356.9	351.4	341.4	331.8	327.8
20°	396.0	390.2	388.2	386.7	375.2	366.8	353.2	345.8	334.2	323.4	320.0
22.5°	397.5	391.5	389.3	387.1	374.1	363.4	348.8	339.4	326.1	313.2	310.4
25°	397.8	391.6	389.2	386.0	372.0	359.2	342.9	331.6	316.7	302.5	300.0
27.5°	397.1	390.3	388.0	384.1	368.7	354.1	336.1	322.7	306.8	291.0	288.4
30°	394.8	387.9	385.7	380.6	364.2	347.9	328.5	312.8	295.7	279.0	276.7
32.5°	390.2	383.4	381.6	376.5	359.2	340.7	319.7	302.2	283.5	267.5	264.2
35°	383.4	376.6	375.5	370.2	352.2	332.1	310.1	290.6	270.6	254.2	251.0
37.5°	374.5	368.8	367.1	361.9	344.0	322.3	299.0	278.0	257.4	239.8	237.8
40°	363.3	358.0	356.6	352.0	334.5	311.4	287.1	264.9	243.8	227.4	224.6
42.5°	350.5	345.5	344.8	340.0	322.7	299.4	274.2	251.4	229.6	213.8	211.0
45°	336.0	331.2	331.0	326.4	309.8	286.0	260.5	237.7	215.7	199.4	197.9
47.5°	320.0	315.6	315.6	311.4	295.5	271.3	246.5	223.5	201.8	187.4	184.7
50°	302.5	298.5	297.2	295.1	279.6	255.3	231.8	209.5	188.0	174.3	171.7
52.5°	283.9	280.5	281.3	277.5	262.5	238.6	216.8	193.8	174.2	161.6	159.1
55°	264.4	259.4	260.1	258.7	244.5	221.5	200.1	180.9	160.6	148.8	146.4
57.5°	244.0	237.6	240.2	239.4	225.4	203.9	184.7	166.2	147.0	136.2	133.8
60°	223.2	217.0	219.7	219.0	205.9	186.3	168.9	151.7	133.6	123.7	121.4
62.5°	201.8	196.1	198.6	198.0	186.0	168.3	153.1	137.3	120.1	111.2	109.0
65°	180.2	174.7	177.0	176.6	165.5	152.0	136.9	122.5	106.5	98.7	96.6
67.5°	158.2	153.1	155.2	155.2	145.0	132.1	120.6	107.5	93.1	86.5	84.5
70°	136.2	131.5	133.3	133.2	124.5	114.1	104.2	92.4	79.6	74.1	72.4
72.5°	114.2	110.0	111.7	111.5	104.3	97.6	87.8	77.6	66.4	62.0	60.5
75°	92.8	88.9	90.4	90.3	84.4	78.1	71.5	63.1	53.4	50.4	48.9
77.5°	72.4	68.4	69.7	69.7	65.4	60.8	55.6	49.0	42.2	38.9	37.8
80°	52.8	50.9	50.2	50.3	47.4	44.4	41.7	35.4	30.5	28.2	27.5
82.5°	34.7	33.1	32.4	32.6	31.0	29.1	27.5	23.1	19.7	18.4	18.0
85°	18.4	17.3	16.7	17.1	16.8	15.8	14.9	11.9	9.9	9.4	9.1
87.5°	5.8	5.1	4.6	6.1	5.2	4.6	4.5	3.6	2.7	2.7	2.7
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°	355.7	355.7	355.7	355.7	355.7	355.7	355.7	355.7	355.7	355.7	355.7
2.5°	355.2	355.2	352.0	351.2	350.9	351.3	348.1	347.5	352.2	350.6	347.0
5°	352.4	352.2	347.7	346.8	346.8	346.3	342.7	341.9	346.5	345.2	341.3
7.5°	348.9	348.4	343.0	342.4	341.6	341.3	337.2	336.6	340.6	339.8	336.1
10°	344.7	344.2	337.8	337.4	336.5	335.8	332.0	331.6	335.6	334.3	331.4
12.5°	339.1	338.2	331.7	331.2	330.5	330.2	326.5	326.3	330.8	329.5	326.4
15°	331.8	331.1	323.8	323.9	324.0	324.0	321.0	320.9	325.3	324.7	321.4
17.5°	323.8	322.8	315.8	316.3	316.9	317.6	315.2	315.6	320.3	319.5	316.6
20°	314.6	313.7	306.8	308.3	309.5	310.8	309.3	310.5	314.8	314.5	312.2
22.5°	304.4	303.4	297.1	299.3	301.4	303.9	303.2	304.5	309.1	309.0	307.0
25°	292.0	292.2	286.7	289.3	292.8	296.3	296.6	298.7	303.8	303.3	301.5
27.5°	280.4	280.7	274.8	279.3	283.9	288.4	289.5	292.5	297.6	297.2	295.6
30°	268.2	268.6	262.9	269.0	274.7	280.1	282.5	286.5	291.7	291.7	290.1
32.5°	255.5	256.2	250.3	258.5	265.0	271.4	275.5	279.7	285.7	285.5	284.1
35°	242.5	243.3	237.8	248.3	254.8	262.6	267.7	273.3	278.6	278.7	277.6
37.5°	229.2	230.2	225.2	236.6	244.1	253.3	259.8	265.4	271.3	271.7	270.7
40°	216.0	217.1	212.8	223.8	233.2	243.5	251.0	257.6	264.1	264.3	263.6
42.5°	202.8	204.0	200.7	211.5	222.2	233.2	242.0	249.6	256.2	256.6	255.9
45°	189.9	190.9	188.6	200.4	210.7	222.7	232.8	241.4	248.1	248.7	248.4
47.5°	177.2	178.1	176.0	186.8	198.6	211.4	223.1	232.6	239.7	240.4	240.2
50°	164.6	165.4	163.1	174.4	186.2	199.8	212.0	223.0	230.9	231.6	231.5
52.5°	152.2	152.9	151.0	162.9	173.6	187.9	201.2	213.1	221.0	222.0	222.1
55°	140.1	140.5	139.0	150.4	160.7	175.7	191.0	202.5	210.4	211.3	211.8
57.5°	128.1	128.2	127.0	137.8	147.8	163.1	179.1	191.3	198.7	199.6	200.3
60°	116.2	116.1	114.7	125.2	134.8	149.9	166.6	178.6	185.9	186.6	187.6
62.5°	104.3	104.1	102.8	112.5	121.5	136.5	153.3	164.9	171.8	172.3	173.6
65°	92.5	92.3	91.1	100.1	108.2	122.6	139.0	150.0	156.2	156.9	156.7
67.5°	80.9	80.4	79.5	87.5	94.9	108.2	124.0	134.5	139.7	140.2	141.8
70°	69.3	68.7	66.6	75.2	81.6	93.5	108.2	117.6	121.9	122.5	122.2
72.5°	57.8	57.3	55.0	62.9	68.4	78.7	91.9	99.7	103.4	103.9	103.9
75°	46.7	46.4	45.0	50.9	55.5	64.0	75.1	81.6	84.5	85.1	84.9
77.5°	36.0	35.8	34.4	39.5	43.1	49.4	58.3	63.4	65.6	66.2	67.6
80°	25.8	25.7	23.5	28.5	30.1	35.4	42.0	45.9	47.0	48.0	49.0
82.5°	16.5	16.6	14.4	18.7	19.3	22.7	26.8	29.2	30.0	30.8	31.5
85°	8.0	8.4	7.1	9.9	10.0	11.7	13.4	14.4	14.7	15.3	15.9
87.5°	2.1	2.4	1.3	2.8	2.5	3.2	3.7	4.0	3.9	4.3	4.6
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°	355.7	355.7	355.7	355.7	355.7	355.7	355.7	355.7	355.7	355.7	355.7
2.5°	348.2	350.8	349.5	353.8	355.5	352.8	357.5	357.5	354.2	358.1	360.3
5°	342.8	345.5	344.7	349.2	351.2	348.9	354.6	355.6	352.4	356.8	360.3
7.5°	337.3	340.5	339.5	344.0	346.5	344.7	350.7	352.5	350.0	354.8	359.5
10°	332.6	335.3	334.1	339.0	341.1	339.6	345.6	348.8	346.5	352.4	358.0
12.5°	327.9	330.2	328.8	332.8	334.9	333.0	340.3	343.3	341.6	347.8	354.9
15°	322.0	324.4	322.6	326.2	327.8	326.1	332.1	337.2	335.1	341.9	349.7
17.5°	317.4	318.8	316.3	319.1	320.0	317.8	323.9	328.9	327.4	334.7	343.9
20°	312.3	313.5	310.0	311.6	311.5	308.7	314.2	319.2	318.2	326.3	336.6
22.5°	306.7	307.3	303.2	303.5	303.4	298.7	303.7	308.8	308.3	316.5	328.1
25°	300.7	300.8	295.6	295.4	293.6	288.1	292.5	298.2	297.0	305.8	318.0
27.5°	294.8	294.0	287.7	286.2	283.3	276.7	280.6	285.8	285.0	293.7	307.2
30°	288.5	287.4	279.7	277.0	272.7	265.2	268.4	273.2	273.7	281.2	295.4
32.5°	282.5	279.8	271.3	267.3	262.0	253.2	254.9	259.8	260.5	268.1	282.7
35°	274.8	273.0	262.5	255.7	250.4	240.8	242.6	246.0	247.0	254.5	269.3
37.5°	267.5	264.6	253.4	245.1	238.4	228.3	228.8	232.3	233.2	240.8	255.5
40°	260.0	255.8	243.8	234.1	226.4	215.7	215.2	218.8	219.6	226.9	240.2
42.5°	251.9	246.9	233.4	222.8	213.9	203.1	202.0	205.1	205.9	213.2	226.2
45°	243.8	237.8	222.8	211.2	201.5	190.4	189.3	191.7	192.9	199.7	212.3
47.5°	235.2	228.2	211.8	198.9	188.9	177.8	176.4	178.8	179.8	186.5	198.4
50°	226.1	217.6	200.6	186.3	176.3	165.5	163.4	166.2	167.1	173.4	185.0
52.5°	216.2	206.8	188.5	173.6	163.6	153.3	150.8	153.5	154.6	160.7	171.4
55°	205.6	195.5	176.4	161.9	151.1	141.0	138.9	140.0	142.3	148.1	158.1
57.5°	193.8	183.7	163.6	148.9	138.5	128.8	127.0	128.0	130.2	135.8	144.8
60°	181.1	170.5	150.6	135.8	125.8	116.6	115.0	115.9	118.2	123.4	131.7
62.5°	168.7	156.7	137.2	122.5	113.3	104.8	104.4	104.1	106.2	111.2	118.5
65°	153.6	142.1	123.1	109.2	100.9	93.2	91.5	92.3	94.3	98.9	106.5
67.5°	137.4	127.0	108.8	95.9	88.5	81.6	80.2	80.6	82.7	86.7	93.3
70°	120.2	111.1	94.1	82.6	76.3	69.9	69.0	69.0	71.1	74.6	80.4
72.5°	102.2	94.0	79.2	69.4	64.2	59.6	58.7	57.8	59.7	62.6	67.6
75°	83.9	76.7	64.5	56.4	52.4	48.5	47.7	46.7	48.6	51.2	55.1
77.5°	65.4	59.6	50.1	43.9	40.7	37.8	37.2	36.1	38.0	39.9	43.0
80°	47.3	43.1	37.4	30.9	29.8	27.9	27.2	26.1	27.9	29.1	31.4
82.5°	30.5	27.7	24.5	19.9	19.7	18.3	18.0	16.7	18.3	19.1	20.8
85°	15.4	14.1	13.3	10.1	10.5	9.5	9.5	8.0	9.4	9.7	10.7
87.5°	4.4	4.6	4.1	2.5	3.2	3.0	3.0	2.2	3.0	3.0	3.4
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°	355.7	355.7	355.7	355.7	355.7	355.7	355.7	355.7
2.5°	356.1	357.5	357.8	357.7	358.6	363.6	361.9	363.6
5°	356.9	360.0	360.9	362.0	363.5	369.2	367.3	369.3
7.5°	357.4	362.1	363.9	366.2	368.6	374.9	373.4	375.4
10°	357.4	363.5	366.2	369.9	373.1	380.4	379.0	381.4
12.5°	355.9	363.8	367.5	372.7	376.9	384.8	384.2	385.8
15°	352.8	362.5	367.7	374.4	379.5	388.3	388.1	390.1
17.5°	348.7	360.4	366.6	375.1	381.5	391.4	392.0	393.1
20°	343.4	356.3	364.4	374.8	382.9	393.8	394.6	396.0
22.5°	336.6	351.4	361.2	373.7	383.1	394.8	396.1	397.5
25°	328.4	345.5	357.0	371.7	382.3	394.7	396.5	397.8
27.5°	319.1	337.9	351.6	368.3	380.0	393.4	395.6	397.1
30°	308.3	329.7	345.4	364.0	376.8	390.9	393.3	394.8
32.5°	297.2	320.8	338.1	358.5	372.2	386.9	389.0	390.2
35°	285.1	309.9	329.3	351.3	366.3	380.5	382.1	383.4
37.5°	271.9	298.1	319.3	343.3	358.0	371.7	373.1	374.5
40°	258.3	285.8	308.0	333.4	348.2	360.8	362.3	363.3
42.5°	244.6	272.1	296.0	321.8	336.5	348.6	349.5	350.5
45°	230.8	257.9	282.5	308.9	323.4	334.8	335.1	336.0
47.5°	216.7	243.2	267.6	294.2	308.6	319.0	319.3	320.0
50°	202.5	228.5	251.8	278.4	292.4	303.4	301.9	302.5
52.5°	188.5	213.1	236.8	261.3	275.2	284.9	285.3	283.9
55°	174.8	198.0	219.8	243.4	256.6	264.1	263.9	264.4
57.5°	161.0	182.7	202.7	224.3	237.1	244.3	245.8	244.0
60°	146.9	167.3	185.2	204.7	217.2	223.1	224.9	223.2
62.5°	132.8	151.6	167.9	184.9	196.4	203.8	203.6	201.8
65°	118.8	135.8	150.4	164.8	174.8	182.2	181.9	180.2
67.5°	105.9	119.9	132.9	144.6	153.3	158.4	160.1	158.2
70°	91.6	103.7	115.2	124.5	131.8	136.3	138.0	136.2
72.5°	77.3	87.6	95.7	104.7	110.3	114.1	115.8	114.2
75°	63.2	71.7	78.2	85.3	89.2	92.4	94.4	92.8
77.5°	49.5	56.1	61.3	66.5	70.9	71.7	73.4	72.4
80°	36.5	41.2	45.1	48.5	51.7	52.0	53.4	52.8
82.5°	24.3	27.5	28.5	32.0	34.1	33.8	35.2	34.7
85°	12.9	14.8	16.5	17.6	18.8	17.7	18.9	18.4
87.5°	4.3	4.6	4.0	5.6	6.2	5.3	6.1	5.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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