

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: P838001

Luminaire Tested: **ORLG-24-2-INS-ASY2R-LD4-1LO-40-120-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: P838001
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-90
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and RFI grid
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

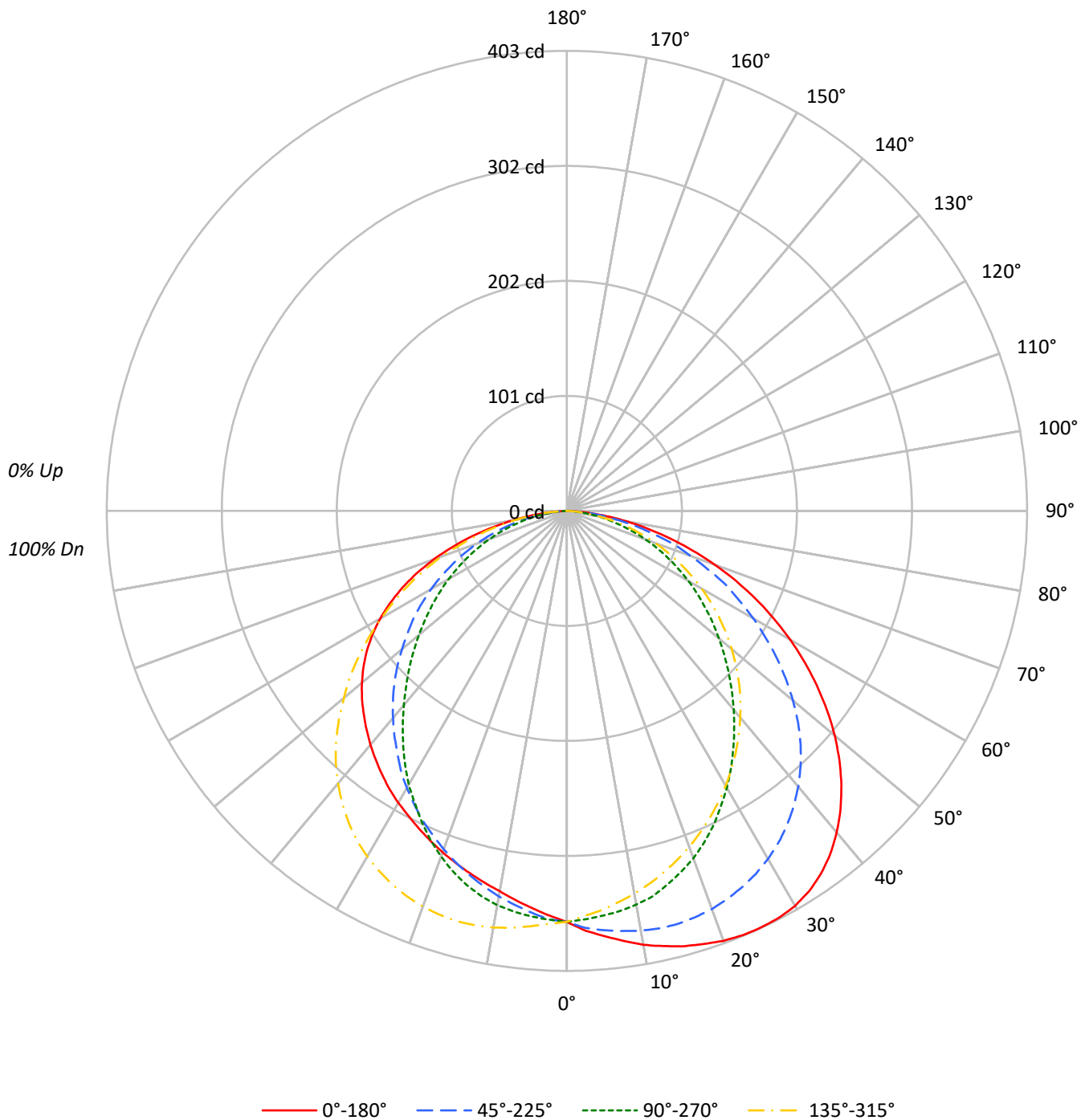
Lumens per Lamp: N/A
Luminaire Lumens: 1056.2 lumens
Efficiency: N/A
Efficacy: 90.3 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

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°	969	969	969	969
5°	1010	962	944	963
10°	1055	957	924	958
15°	1100	945	915	945
20°	1148	928	912	922
25°	1195	902	911	893
30°	1242	870	918	861
35°	1275	834	927	821
40°	1291	798	940	781
45°	1294	762	958	743
50°	1282	727	981	708
55°	1255	695	1003	676
60°	1216	661	1017	644
65°	1161	622	1011	608
70°	1085	577	975	566
75°	976	515	895	512
80°	828	431	752	437
85°	574	284	479	293



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	34.2	3.2
10°-20°	99.0	9.4
20°-30°	151.7	14.4
30°-40°	184.4	17.5
40°-50°	191.7	18.2
50°-60°	173.2	16.4
60°-70°	131.7	12.5
70°-80°	73.4	7.0
80°-90°	16.9	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°	284.8	27.0
0°-40°	469.3	44.4
0°-60°	834.2	79.0
0°-90°	1056.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1056.2	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	360	360	360	360	360	
5°	374	356	349	357	374	36
15°	395	339	329	339	395	112
25°	403	304	307	301	403	186
35°	388	254	282	250	388	242
45°	340	200	252	195	340	262
55°	268	148	214	144	268	239
65°	182	98	159	96	182	180
75°	94	50	86	49	94	100
85°	19	9	16	10	19	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°	360.0	360.0	360.0	360.0	360.0	360.0	360.0	360.0	360.0	360.0	360.0
2.5°	368.0	362.6	362.7	367.4	363.8	365.6	360.5	362.4	361.9	362.3	358.2
5°	373.8	368.0	367.9	371.9	367.9	368.7	362.3	363.5	361.7	360.5	356.1
7.5°	379.9	374.1	373.5	377.1	371.8	371.2	364.1	364.1	360.8	357.8	353.6
10°	386.0	380.0	379.2	381.9	375.4	373.4	364.9	363.5	359.1	354.7	350.2
12.5°	390.5	384.4	383.9	385.5	378.1	374.6	364.9	362.3	355.7	349.6	346.1
15°	394.8	388.6	387.0	387.8	379.3	374.6	363.7	359.7	351.3	343.2	339.1
17.5°	397.8	391.8	390.2	390.2	379.9	373.2	361.2	355.6	345.6	335.8	331.7
20°	400.8	394.9	392.8	391.3	379.7	371.3	357.5	350.0	338.3	327.3	323.9
22.5°	402.3	396.2	394.0	391.8	378.7	367.7	353.0	343.5	330.0	317.0	314.2
25°	402.6	396.3	393.9	390.7	376.5	363.5	347.1	335.6	320.5	306.1	303.7
27.5°	401.9	395.0	392.7	388.7	373.2	358.4	340.1	326.6	310.5	294.5	291.9
30°	399.6	392.6	390.3	385.2	368.6	352.1	332.5	316.6	299.3	282.3	280.1
32.5°	394.9	388.1	386.2	381.1	363.5	344.8	323.6	305.8	286.9	270.7	267.4
35°	388.0	381.2	380.0	374.6	356.5	336.1	313.8	294.1	273.8	257.3	254.0
37.5°	379.0	373.3	371.5	366.2	348.2	326.2	302.7	281.3	260.5	242.7	240.7
40°	367.6	362.3	360.9	356.2	338.5	315.2	290.6	268.1	246.7	230.2	227.3
42.5°	354.7	349.7	348.9	344.1	326.6	303.0	277.5	254.4	232.4	216.4	213.6
45°	340.0	335.2	335.0	330.4	313.6	289.5	263.7	240.6	218.3	201.8	200.3
47.5°	323.8	319.4	319.4	315.2	299.0	274.6	249.5	226.1	204.2	189.6	186.9
50°	306.2	302.1	300.8	298.7	283.0	258.4	234.5	212.0	190.3	176.4	173.7
52.5°	287.4	283.8	284.7	280.8	265.6	241.5	219.4	196.2	176.3	163.6	161.0
55°	267.5	262.5	263.3	261.8	247.5	224.1	202.5	183.1	162.5	150.6	148.1
57.5°	247.0	240.4	243.1	242.3	228.2	206.3	186.9	168.2	148.8	137.8	135.5
60°	225.9	219.6	222.4	221.6	208.3	188.5	170.9	153.5	135.2	125.2	122.9
62.5°	204.2	198.4	201.0	200.4	188.2	170.3	154.9	139.0	121.5	112.5	110.3
65°	182.4	176.9	179.1	178.7	167.4	153.8	138.6	123.9	107.7	99.9	97.7
67.5°	160.1	154.9	157.0	157.0	146.7	133.7	122.1	108.7	94.2	87.5	85.5
70°	137.9	133.1	135.0	134.8	126.0	115.5	105.5	93.5	80.5	75.0	73.3
72.5°	115.6	111.4	113.0	112.9	105.6	98.8	88.8	78.5	67.2	62.7	61.2
75°	93.9	89.9	91.5	91.4	85.4	79.0	72.4	63.8	54.1	51.0	49.5
77.5°	73.2	69.2	70.5	70.5	66.2	61.6	56.3	49.6	42.7	39.4	38.3
80°	53.4	51.5	50.8	50.9	48.0	44.9	42.2	35.9	30.8	28.6	27.8
82.5°	35.1	33.5	32.8	33.0	31.3	29.5	27.8	23.3	20.0	18.6	18.2
85°	18.6	17.5	16.9	17.3	17.0	16.0	15.1	12.1	10.0	9.5	9.2
87.5°	5.9	5.1	4.7	6.2	5.3	4.7	4.5	3.6	2.8	2.8	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°	360.0	360.0	360.0	360.0	360.0	360.0	360.0	360.0	360.0	360.0	360.0
2.5°	359.5	359.5	356.2	355.5	355.1	355.6	352.3	351.7	356.4	354.8	351.2
5°	356.6	356.5	351.9	351.0	351.0	350.5	346.8	346.0	350.7	349.3	345.4
7.5°	353.1	352.6	347.2	346.6	345.7	345.4	341.3	340.7	344.7	343.9	340.2
10°	348.8	348.3	341.9	341.4	340.5	339.9	336.0	335.6	339.7	338.3	335.4
12.5°	343.2	342.3	335.7	335.2	334.5	334.2	330.4	330.3	334.8	333.5	330.4
15°	335.8	335.1	327.7	327.8	327.9	327.9	324.9	324.7	329.2	328.6	325.2
17.5°	327.7	326.7	319.6	320.1	320.7	321.4	319.0	319.4	324.1	323.4	320.4
20°	318.4	317.4	310.5	312.0	313.2	314.6	313.1	314.2	318.6	318.3	316.0
22.5°	308.1	307.1	300.7	302.9	305.0	307.5	306.9	308.2	312.8	312.7	310.7
25°	295.5	295.8	290.1	292.8	296.4	299.9	300.1	302.3	307.4	306.9	305.1
27.5°	283.8	284.1	278.1	282.7	287.4	291.9	293.0	296.0	301.2	300.8	299.2
30°	271.4	271.8	266.0	272.3	278.0	283.5	285.9	290.0	295.3	295.3	293.6
32.5°	258.6	259.3	253.3	261.6	268.2	274.7	278.8	283.1	289.1	289.0	287.5
35°	245.4	246.2	240.7	251.3	257.9	265.8	270.9	276.6	282.0	282.1	281.0
37.5°	231.9	233.0	227.9	239.5	247.1	256.4	262.9	268.6	274.6	274.9	273.9
40°	218.6	219.7	215.3	226.5	236.1	246.5	254.0	260.7	267.3	267.5	266.8
42.5°	205.2	206.4	203.1	214.1	224.9	236.1	245.0	252.6	259.3	259.7	259.0
45°	192.2	193.2	190.9	202.8	213.2	225.4	235.6	244.3	251.1	251.7	251.4
47.5°	179.3	180.2	178.1	189.0	201.0	214.0	225.8	235.4	242.6	243.3	243.1
50°	166.6	167.4	165.1	176.5	188.4	202.2	214.6	225.6	233.7	234.4	234.3
52.5°	154.0	154.8	152.8	164.8	175.7	190.2	203.6	215.7	223.6	224.6	224.8
55°	141.8	142.2	140.7	152.2	162.7	177.9	193.3	205.0	213.0	213.8	214.3
57.5°	129.7	129.7	128.5	139.5	149.6	165.1	181.3	193.6	201.1	202.0	202.7
60°	117.6	117.5	116.1	126.7	136.4	151.7	168.6	180.8	188.1	188.9	189.9
62.5°	105.6	105.3	104.0	113.9	122.9	138.1	155.1	166.9	173.8	174.3	175.7
65°	93.6	93.4	92.2	101.3	109.5	124.0	140.7	151.8	158.1	158.8	158.5
67.5°	81.9	81.4	80.4	88.6	96.1	109.5	125.5	136.1	141.3	141.9	143.5
70°	70.1	69.5	67.4	76.1	82.6	94.6	109.5	119.0	123.4	123.9	123.7
72.5°	58.5	57.9	55.7	63.7	69.2	79.7	93.0	100.9	104.6	105.1	105.1
75°	47.3	46.9	45.5	51.6	56.2	64.7	76.0	82.5	85.5	86.1	85.9
77.5°	36.4	36.2	34.8	40.0	43.6	50.0	59.0	64.2	66.3	67.0	68.4
80°	26.1	26.0	23.8	28.9	30.5	35.9	42.5	46.4	47.6	48.5	49.5
82.5°	16.7	16.8	14.5	18.9	19.6	23.0	27.1	29.6	30.4	31.2	31.9
85°	8.1	8.5	7.2	10.0	10.1	11.8	13.6	14.5	14.9	15.5	16.1
87.5°	2.1	2.4	1.3	2.9	2.5	3.3	3.8	4.0	3.9	4.4	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°	360.0	360.0	360.0	360.0	360.0	360.0	360.0	360.0	360.0	360.0	360.0
2.5°	352.4	355.1	353.7	358.1	359.8	357.1	361.8	361.9	358.5	362.4	364.6
5°	346.9	349.7	348.8	353.4	355.5	353.1	358.8	359.9	356.6	361.1	364.6
7.5°	341.4	344.6	343.5	348.2	350.7	348.8	355.0	356.7	354.2	359.1	363.8
10°	336.6	339.3	338.2	343.0	345.2	343.7	349.8	353.0	350.7	356.6	362.3
12.5°	331.9	334.1	332.8	336.8	338.9	337.0	344.4	347.4	345.7	351.9	359.2
15°	325.8	328.3	326.5	330.1	331.7	330.0	336.1	341.3	339.2	346.0	354.0
17.5°	321.2	322.6	320.1	323.0	323.9	321.6	327.8	332.9	331.4	338.8	348.0
20°	316.1	317.3	313.7	315.3	315.2	312.4	318.0	323.1	322.1	330.2	340.7
22.5°	310.4	311.0	306.9	307.2	307.0	302.3	307.4	312.5	312.1	320.3	332.0
25°	304.3	304.4	299.1	299.0	297.1	291.6	296.0	301.8	300.6	309.5	321.8
27.5°	298.4	297.5	291.1	289.6	286.7	280.1	284.0	289.2	288.5	297.2	310.9
30°	292.0	290.9	283.1	280.3	276.0	268.4	271.7	276.5	277.0	284.6	299.0
32.5°	285.9	283.2	274.5	270.5	265.1	256.2	258.0	262.9	263.6	271.3	286.1
35°	278.1	276.3	265.6	258.7	253.4	243.7	245.5	249.0	250.0	257.6	272.6
37.5°	270.7	267.8	256.5	248.1	241.3	231.0	231.5	235.1	236.1	243.7	258.6
40°	263.1	258.9	246.7	236.9	229.1	218.3	217.8	221.4	222.2	229.7	243.1
42.5°	255.0	249.9	236.2	225.5	216.5	205.6	204.4	207.6	208.4	215.7	228.9
45°	246.7	240.7	225.5	213.7	203.9	192.7	191.6	194.0	195.2	202.1	214.8
47.5°	238.0	230.9	214.4	201.3	191.1	180.0	178.5	181.0	182.0	188.8	200.8
50°	228.8	220.3	203.0	188.5	178.5	167.4	165.3	168.2	169.1	175.5	187.3
52.5°	218.8	209.3	190.8	175.7	165.6	155.1	152.6	155.4	156.4	162.7	173.5
55°	208.1	197.8	178.5	163.8	152.9	142.7	140.6	141.7	144.0	149.9	160.0
57.5°	196.1	185.9	165.6	150.7	140.2	130.3	128.6	129.6	131.8	137.5	146.5
60°	183.3	172.6	152.4	137.5	127.3	118.0	116.4	117.3	119.7	124.9	133.3
62.5°	170.7	158.6	138.8	123.9	114.7	106.1	105.6	105.3	107.5	112.5	119.9
65°	155.4	143.9	124.6	110.5	102.1	94.3	92.6	93.4	95.5	100.1	107.8
67.5°	139.1	128.6	110.1	97.1	89.6	82.6	81.2	81.5	83.7	87.8	94.5
70°	121.7	112.4	95.2	83.6	77.3	70.7	69.8	69.9	72.0	75.5	81.4
72.5°	103.5	95.1	80.2	70.2	65.0	60.3	59.5	58.4	60.4	63.4	68.4
75°	84.9	77.6	65.2	57.1	53.0	49.0	48.3	47.3	49.2	51.8	55.8
77.5°	66.2	60.3	50.7	44.4	41.2	38.3	37.6	36.5	38.5	40.4	43.5
80°	47.9	43.6	37.9	31.2	30.1	28.2	27.5	26.4	28.2	29.5	31.8
82.5°	30.9	28.0	24.8	20.2	20.0	18.6	18.2	16.9	18.6	19.3	21.1
85°	15.6	14.3	13.4	10.2	10.6	9.7	9.6	8.1	9.5	9.8	10.8
87.5°	4.5	4.7	4.2	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°	360.0	360.0	360.0	360.0	360.0	360.0	360.0	360.0
2.5°	360.3	361.8	362.1	362.0	362.9	368.0	366.3	368.0
5°	361.2	364.4	365.2	366.4	367.9	373.6	371.8	373.8
7.5°	361.7	366.5	368.3	370.6	373.0	379.4	377.9	379.9
10°	361.7	367.9	370.6	374.4	377.6	385.0	383.6	386.0
12.5°	360.2	368.2	371.9	377.2	381.4	389.4	388.8	390.5
15°	357.1	366.9	372.1	378.9	384.1	393.0	392.8	394.8
17.5°	352.9	364.7	371.0	379.6	386.1	396.1	396.7	397.8
20°	347.6	360.6	368.8	379.3	387.6	398.6	399.3	400.8
22.5°	340.6	355.6	365.6	378.2	387.7	399.6	400.9	402.3
25°	332.4	349.7	361.3	376.1	386.9	399.5	401.3	402.6
27.5°	323.0	342.0	355.8	372.8	384.5	398.1	400.4	401.9
30°	312.1	333.7	349.6	368.4	381.3	395.6	398.0	399.6
32.5°	300.8	324.7	342.2	362.8	376.7	391.6	393.7	394.9
35°	288.5	313.7	333.3	355.6	370.8	385.1	386.7	388.0
37.5°	275.2	301.7	323.1	347.4	362.4	376.1	377.6	379.0
40°	261.4	289.2	311.7	337.4	352.4	365.1	366.6	367.6
42.5°	247.6	275.4	299.5	325.7	340.5	352.8	353.7	354.7
45°	233.5	261.0	285.9	312.6	327.3	338.8	339.2	340.0
47.5°	219.3	246.1	270.8	297.8	312.3	322.8	323.1	323.8
50°	204.9	231.3	254.8	281.7	295.9	307.0	305.5	306.2
52.5°	190.8	215.7	239.7	264.4	278.5	288.3	288.7	287.4
55°	176.9	200.4	222.5	246.3	259.7	267.3	267.0	267.5
57.5°	162.9	184.9	205.2	227.0	240.0	247.2	248.7	247.0
60°	148.6	169.3	187.4	207.2	219.8	225.8	227.6	225.9
62.5°	134.4	153.4	169.9	187.1	198.8	206.2	206.1	204.2
65°	120.3	137.5	152.2	166.8	176.9	184.4	184.1	182.4
67.5°	107.2	121.3	134.5	146.4	155.2	160.3	162.1	160.1
70°	92.7	105.0	116.6	126.0	133.4	138.0	139.7	137.9
72.5°	78.3	88.7	96.8	106.0	111.6	115.5	117.2	115.6
75°	64.0	72.6	79.2	86.3	90.3	93.5	95.6	93.9
77.5°	50.1	56.8	62.1	67.3	71.8	72.6	74.3	73.2
80°	36.9	41.7	45.6	49.0	52.3	52.7	54.1	53.4
82.5°	24.6	27.8	28.8	32.4	34.5	34.2	35.6	35.1
85°	13.0	14.9	16.7	17.8	19.0	17.9	19.1	18.6
87.5°	4.4	4.6	4.0	5.7	6.3	5.4	6.1	5.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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