

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: P837930

Luminaire Tested: **ORLG-24-2-INS-ASY2R-LD4-1STD-20-120-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: P837930
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-LD4-1STD-20-120-EDD-90
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and
RFI grid
Light Source: 2000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

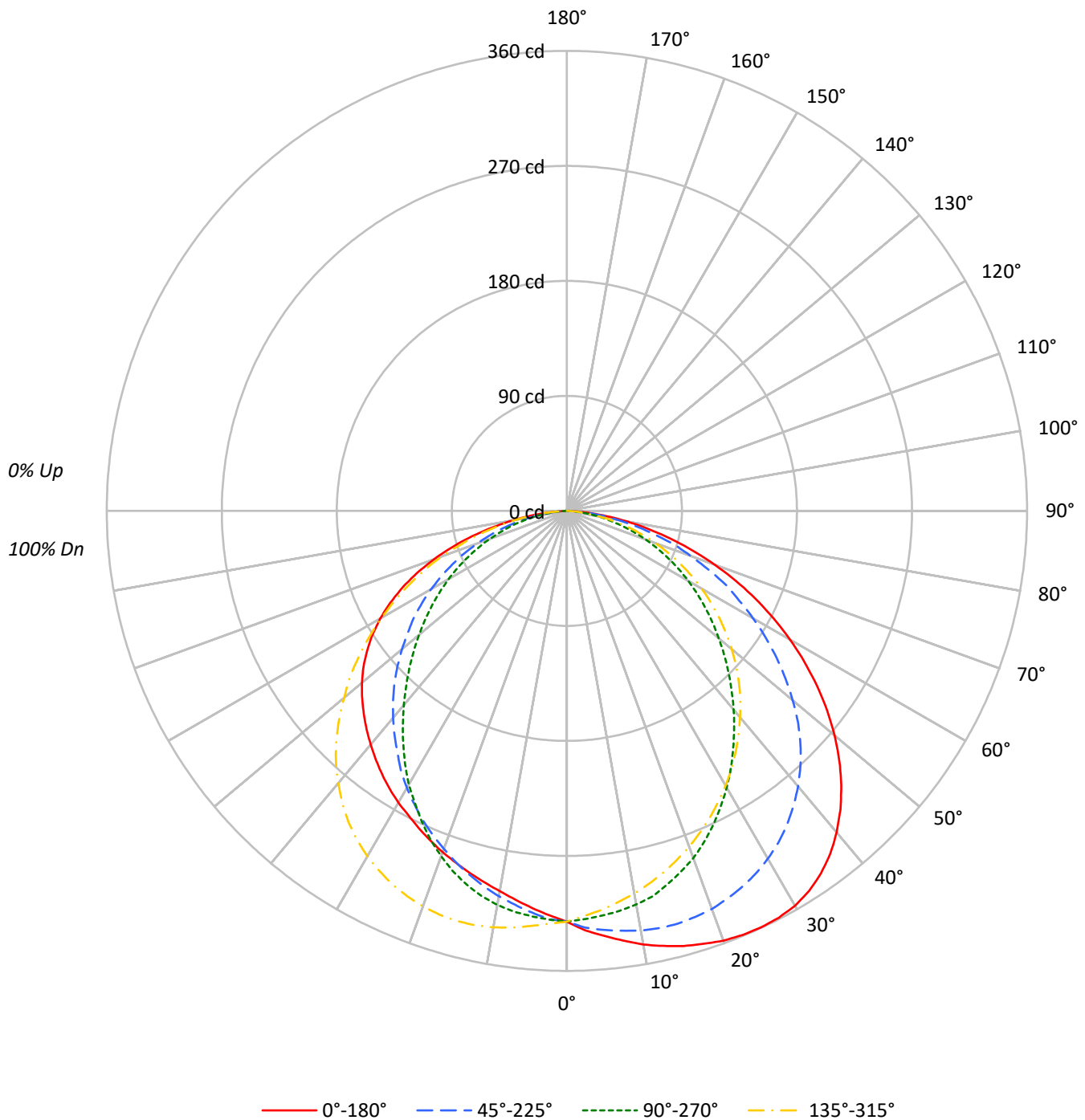
Lumens per Lamp: N/A
Luminaire Lumens: 943.0 lumens
Efficiency: N/A
Efficacy: 56.8 lumens/watt
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 16.6
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°	865	865	865	865
5°	901	859	843	860
10°	942	854	825	856
15°	982	844	817	844
20°	1025	828	814	823
25°	1067	805	814	797
30°	1109	777	819	768
35°	1138	745	828	733
40°	1153	713	839	697
45°	1155	680	855	663
50°	1145	649	876	632
55°	1121	621	896	603
60°	1086	590	907	575
65°	1037	556	903	543
70°	969	515	871	506
75°	871	460	800	456
80°	739	384	671	391
85°	513	253	426	262

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	30.5	3.2
10°-20°	88.4	9.4
20°-30°	135.4	14.4
30°-40°	164.7	17.5
40°-50°	171.2	18.2
50°-60°	154.6	16.4
60°-70°	117.6	12.5
70°-80°	65.5	7.0
80°-90°	15.1	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°	254.3	27.0
0°-40°	419.0	44.4
0°-60°	744.8	79.0
0°-90°	943.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	943.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	321	321	321	321	321	
5°	334	318	312	318	334	32
15°	352	303	293	303	352	100
25°	360	271	274	268	360	166
35°	346	227	252	223	346	216
45°	304	179	225	174	304	234
55°	239	132	191	129	239	213
65°	163	87	142	85	163	161
75°	84	44	77	44	84	89
85°	17	8	14	8	17	21
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°	321.4	321.4	321.4	321.4	321.4	321.4	321.4	321.4	321.4	321.4	321.4
2.5°	328.6	323.8	323.8	328.0	324.8	326.4	321.9	323.6	323.1	323.5	319.8
5°	333.7	328.6	328.5	332.1	328.5	329.2	323.5	324.6	322.9	321.9	317.9
7.5°	339.2	334.0	333.5	336.7	331.9	331.4	325.1	325.1	322.1	319.5	315.7
10°	344.6	339.3	338.6	341.0	335.2	333.4	325.8	324.6	320.6	316.7	312.7
12.5°	348.7	343.3	342.7	344.2	337.6	334.5	325.8	323.5	317.6	312.1	309.0
15°	352.5	346.9	345.5	346.3	338.7	334.5	324.7	321.1	313.6	306.4	302.8
17.5°	355.2	349.9	348.4	348.4	339.2	333.2	322.5	317.5	308.5	299.8	296.2
20°	357.9	352.6	350.8	349.4	339.1	331.5	319.2	312.5	302.0	292.3	289.2
22.5°	359.2	353.8	351.8	349.8	338.1	328.3	315.1	306.7	294.7	283.0	280.5
25°	359.5	353.8	351.7	348.8	336.1	324.6	309.9	299.6	286.2	273.3	271.1
27.5°	358.9	352.7	350.6	347.1	333.2	320.0	303.7	291.6	277.2	263.0	260.6
30°	356.8	350.5	348.5	343.9	329.1	314.4	296.8	282.7	267.2	252.1	250.1
32.5°	352.6	346.5	344.8	340.3	324.6	307.9	288.9	273.1	256.2	241.7	238.7
35°	346.4	340.3	339.3	334.5	318.3	300.1	280.2	262.6	244.5	229.7	226.8
37.5°	338.4	333.3	331.7	327.0	310.9	291.2	270.2	251.2	232.6	216.7	214.9
40°	328.3	323.5	322.3	318.1	302.2	281.4	259.4	239.4	220.3	205.5	203.0
42.5°	316.7	312.2	311.5	307.2	291.6	270.5	247.7	227.2	207.5	193.2	190.7
45°	303.6	299.2	299.1	295.0	280.0	258.5	235.4	214.8	194.9	180.2	178.8
47.5°	289.1	285.2	285.2	281.4	267.0	245.2	222.8	201.9	182.3	169.3	166.9
50°	273.4	269.7	268.6	266.7	252.7	230.7	209.4	189.3	169.9	157.5	155.1
52.5°	256.6	253.4	254.2	250.7	237.2	215.6	195.9	175.2	157.4	146.1	143.7
55°	238.9	234.4	235.1	233.8	221.0	200.1	180.8	163.5	145.1	134.4	132.3
57.5°	220.5	214.7	217.1	216.3	203.7	184.2	166.9	150.2	132.9	123.0	120.9
60°	201.7	196.1	198.5	197.9	186.0	168.3	152.6	137.1	120.7	111.8	109.7
62.5°	182.3	177.2	179.4	178.9	168.0	152.1	138.3	124.1	108.5	100.5	98.5
65°	162.9	157.9	159.9	159.6	149.5	137.4	123.7	110.7	96.2	89.2	87.3
67.5°	142.9	138.3	140.2	140.2	131.0	119.4	109.0	97.1	84.1	78.1	76.3
70°	123.1	118.8	120.5	120.3	112.5	103.1	94.2	83.5	71.9	67.0	65.5
72.5°	103.2	99.4	100.9	100.8	94.2	88.2	79.3	70.1	60.0	56.0	54.7
75°	83.8	80.3	81.7	81.6	76.3	70.6	64.6	57.0	48.3	45.5	44.2
77.5°	65.4	61.8	63.0	63.0	59.1	55.0	50.2	44.3	38.2	35.2	34.2
80°	47.7	46.0	45.4	45.4	42.8	40.1	37.7	32.0	27.5	25.5	24.8
82.5°	31.3	29.9	29.3	29.5	28.0	26.3	24.8	20.8	17.8	16.6	16.3
85°	16.6	15.6	15.1	15.4	15.1	14.2	13.5	10.8	8.9	8.5	8.2
87.5°	5.2	4.6	4.2	5.5	4.7	4.2	4.0	3.2	2.5	2.5	2.4
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):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	321.4	321.4	321.4	321.4	321.4	321.4	321.4	321.4	321.4	321.4	321.4
2.5°	321.0	321.0	318.1	317.4	317.1	317.5	314.5	314.0	318.2	316.8	313.6
5°	318.4	318.3	314.2	313.4	313.4	313.0	309.7	308.9	313.1	311.9	308.4
7.5°	315.3	314.8	310.0	309.4	308.7	308.4	304.7	304.2	307.8	307.0	303.7
10°	311.5	311.0	305.2	304.9	304.0	303.4	300.0	299.6	303.3	302.1	299.5
12.5°	306.4	305.6	299.7	299.3	298.6	298.4	295.0	294.9	298.9	297.7	295.0
15°	299.8	299.2	292.6	292.7	292.8	292.8	290.1	289.9	293.9	293.4	290.4
17.5°	292.6	291.7	285.4	285.8	286.3	286.9	284.8	285.2	289.4	288.7	286.0
20°	284.3	283.4	277.3	278.5	279.7	280.9	279.5	280.6	284.5	284.2	282.1
22.5°	275.1	274.2	268.5	270.5	272.3	274.6	274.0	275.2	279.3	279.2	277.4
25°	263.9	264.1	259.1	261.5	264.6	267.8	268.0	269.9	274.5	274.0	272.4
27.5°	253.4	253.7	248.3	252.4	256.6	260.6	261.6	264.3	269.0	268.6	267.2
30°	242.3	242.7	237.5	243.1	248.2	253.1	255.2	258.9	263.6	263.6	262.1
32.5°	230.9	231.5	226.1	233.6	239.5	245.3	248.9	252.8	258.2	258.0	256.7
35°	219.1	219.8	214.9	224.3	230.3	237.3	241.9	247.0	251.8	251.9	250.9
37.5°	207.1	208.0	203.5	213.8	220.6	228.9	234.8	239.9	245.2	245.5	244.6
40°	195.2	196.1	192.2	202.2	210.8	220.1	226.8	232.8	238.7	238.8	238.2
42.5°	183.2	184.3	181.4	191.1	200.8	210.8	218.7	225.5	231.5	231.9	231.2
45°	171.6	172.5	170.4	181.1	190.4	201.2	210.4	218.1	224.2	224.7	224.5
47.5°	160.1	160.9	159.0	168.8	179.5	191.0	201.6	210.2	216.6	217.2	217.1
50°	148.8	149.4	147.4	157.6	168.3	180.6	191.6	201.5	208.7	209.3	209.2
52.5°	137.5	138.2	136.5	147.2	156.9	169.8	181.8	192.5	199.7	200.6	200.7
55°	126.6	126.9	125.6	135.9	145.2	158.8	172.6	183.0	190.1	190.9	191.3
57.5°	115.8	115.8	114.7	124.5	133.5	147.4	161.9	172.8	179.6	180.3	181.0
60°	105.0	104.9	103.6	113.1	121.8	135.5	150.6	161.4	168.0	168.6	169.5
62.5°	94.2	94.0	92.9	101.7	109.8	123.3	138.5	149.0	155.2	155.7	156.9
65°	83.6	83.4	82.3	90.4	97.8	110.7	125.6	135.6	141.2	141.8	141.6
67.5°	73.1	72.7	71.8	79.1	85.8	97.8	112.0	121.5	126.2	126.7	128.1
70°	62.6	62.1	60.2	67.9	73.8	84.5	97.8	106.2	110.1	110.7	110.4
72.5°	52.3	51.7	49.7	56.8	61.8	71.2	83.0	90.1	93.4	93.9	93.9
75°	42.2	41.9	40.6	46.0	50.2	57.8	67.9	73.7	76.3	76.9	76.7
77.5°	32.5	32.3	31.0	35.7	38.9	44.6	52.7	57.3	59.2	59.8	61.1
80°	23.3	23.2	21.2	25.8	27.2	32.0	37.9	41.5	42.5	43.3	44.2
82.5°	14.9	15.0	13.0	16.9	17.5	20.5	24.2	26.4	27.1	27.8	28.5
85°	7.3	7.6	6.4	8.9	9.0	10.6	12.1	13.0	13.3	13.8	14.4
87.5°	1.9	2.2	1.2	2.5	2.2	2.9	3.4	3.6	3.5	3.9	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):

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	321.4	321.4	321.4	321.4	321.4	321.4	321.4	321.4	321.4	321.4	321.4
2.5°	314.6	317.0	315.8	319.7	321.2	318.8	323.0	323.1	320.1	323.6	325.6
5°	309.7	312.2	311.5	315.5	317.4	315.3	320.4	321.4	318.4	322.4	325.6
7.5°	304.8	307.7	306.7	310.9	313.1	311.5	316.9	318.5	316.3	320.6	324.8
10°	300.5	303.0	301.9	306.3	308.2	306.9	312.3	315.2	313.1	318.4	323.5
12.5°	296.3	298.3	297.1	300.7	302.6	300.9	307.5	310.2	308.7	314.2	320.7
15°	290.9	293.2	291.5	294.7	296.2	294.7	300.1	304.7	302.8	308.9	316.0
17.5°	286.8	288.1	285.8	288.4	289.2	287.2	292.6	297.2	295.9	302.5	310.7
20°	282.2	283.3	280.1	281.5	281.5	278.9	283.9	288.4	287.5	294.8	304.2
22.5°	277.1	277.6	274.0	274.3	274.1	269.9	274.4	279.0	278.6	286.0	296.5
25°	271.7	271.8	267.1	266.9	265.3	260.3	264.3	269.5	268.4	276.3	287.3
27.5°	266.4	265.7	260.0	258.6	256.0	250.1	253.6	258.2	257.6	265.4	277.6
30°	260.7	259.7	252.8	250.3	246.5	239.6	242.6	246.9	247.3	254.1	266.9
32.5°	255.3	252.8	245.1	241.5	236.7	228.8	230.3	234.8	235.4	242.3	255.5
35°	248.3	246.7	237.2	231.0	226.3	217.6	219.2	222.3	223.2	230.0	243.4
37.5°	241.7	239.1	229.0	221.5	215.4	206.3	206.7	209.9	210.8	217.6	230.9
40°	234.9	231.2	220.3	211.5	204.5	194.9	194.4	197.7	198.4	205.1	217.1
42.5°	227.6	223.1	210.9	201.3	193.3	183.5	182.5	185.3	186.1	192.6	204.4
45°	220.3	214.9	201.3	190.8	182.0	172.1	171.0	173.2	174.3	180.5	191.8
47.5°	212.5	206.2	191.4	179.7	170.7	160.7	159.4	161.6	162.5	168.6	179.3
50°	204.3	196.7	181.2	168.3	159.3	149.5	147.6	150.2	151.0	156.7	167.2
52.5°	195.3	186.8	170.4	156.9	147.9	138.5	136.2	138.7	139.7	145.2	154.9
55°	185.8	176.7	159.4	146.3	136.5	127.4	125.5	126.5	128.6	133.8	142.8
57.5°	175.1	166.0	147.9	134.5	125.1	116.4	114.8	115.7	117.6	122.7	130.8
60°	163.7	154.1	136.1	122.7	113.7	105.3	103.9	104.7	106.8	111.5	119.0
62.5°	152.4	141.6	123.9	110.7	102.4	94.7	94.3	94.0	96.0	100.5	107.1
65°	138.8	128.4	111.3	98.7	91.2	84.2	82.7	83.4	85.3	89.4	96.3
67.5°	124.2	114.8	98.3	86.7	80.0	73.8	72.5	72.8	74.8	78.4	84.4
70°	108.6	100.4	85.0	74.6	69.0	63.1	62.3	62.4	64.3	67.4	72.7
72.5°	92.4	85.0	71.6	62.7	58.0	53.8	53.1	52.2	53.9	56.6	61.1
75°	75.8	69.3	58.3	51.0	47.3	43.8	43.1	42.2	43.9	46.3	49.8
77.5°	59.1	53.8	45.3	39.7	36.8	34.2	33.6	32.6	34.3	36.1	38.8
80°	42.7	38.9	33.8	27.9	26.9	25.2	24.6	23.5	25.2	26.3	28.4
82.5°	27.6	25.0	22.1	18.0	17.8	16.6	16.3	15.1	16.6	17.2	18.8
85°	13.9	12.7	12.0	9.1	9.4	8.6	8.5	7.3	8.5	8.8	9.7
87.5°	4.0	4.2	3.7	2.2	2.8	2.7	2.7	1.9	2.7	2.7	3.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



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CANDELA DISTRIBUTION (continued):

	295°	305°	315°	325°	335°	345°	355°	360°
0°	321.4	321.4	321.4	321.4	321.4	321.4	321.4	321.4
2.5°	321.7	323.0	323.3	323.2	324.1	328.6	327.1	328.6
5°	322.5	325.3	326.1	327.1	328.5	333.6	331.9	333.7
7.5°	322.9	327.2	328.9	330.9	333.1	338.8	337.4	339.2
10°	322.9	328.5	330.9	334.3	337.2	343.8	342.5	344.6
12.5°	321.6	328.7	332.1	336.8	340.6	347.7	347.2	348.7
15°	318.8	327.6	332.2	338.3	343.0	350.9	350.7	352.5
17.5°	315.1	325.6	331.3	338.9	344.8	353.7	354.2	355.2
20°	310.3	322.0	329.3	338.7	346.0	355.9	356.5	357.9
22.5°	304.1	317.5	326.4	337.7	346.2	356.8	358.0	359.2
25°	296.8	312.2	322.6	335.8	345.4	356.7	358.3	359.5
27.5°	288.4	305.3	317.7	332.8	343.3	355.5	357.5	358.9
30°	278.6	298.0	312.1	328.9	340.5	353.2	355.4	356.8
32.5°	268.6	289.9	305.5	323.9	336.4	349.6	351.5	352.6
35°	257.6	280.0	297.6	317.5	331.0	343.9	345.3	346.4
37.5°	245.7	269.4	288.5	310.2	323.5	335.8	337.1	338.4
40°	233.4	258.2	278.3	301.3	314.6	326.0	327.4	328.3
42.5°	221.0	245.9	267.5	290.8	304.0	315.0	315.8	316.7
45°	208.5	233.0	255.2	279.1	292.3	302.5	302.8	303.6
47.5°	195.8	219.8	241.8	265.9	278.8	288.2	288.5	289.1
50°	182.9	206.5	227.5	251.6	264.2	274.1	272.8	273.4
52.5°	170.4	192.5	214.0	236.1	248.6	257.4	257.8	256.6
55°	158.0	178.9	198.6	219.9	231.8	238.7	238.4	238.9
57.5°	145.5	165.1	183.2	202.7	214.3	220.7	222.1	220.5
60°	132.7	151.2	167.4	185.0	196.2	201.6	203.2	201.7
62.5°	120.0	137.0	151.7	167.1	177.5	184.1	184.0	182.3
65°	107.4	122.7	135.9	148.9	158.0	164.7	164.4	162.9
67.5°	95.7	108.3	120.1	130.7	138.6	143.1	144.7	142.9
70°	82.8	93.7	104.1	112.5	119.1	123.2	124.7	123.1
72.5°	69.9	79.2	86.5	94.6	99.6	103.1	104.7	103.2
75°	57.1	64.8	70.7	77.1	80.6	83.5	85.3	83.8
77.5°	44.8	50.7	55.4	60.1	64.1	64.8	66.4	65.4
80°	33.0	37.3	40.7	43.8	46.7	47.0	48.3	47.7
82.5°	22.0	24.8	25.7	28.9	30.8	30.5	31.8	31.3
85°	11.6	13.3	14.9	15.9	16.9	16.0	17.1	16.6
87.5°	3.9	4.1	3.6	5.1	5.6	4.8	5.5	5.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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