

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: P835351

Luminaire Tested: **ORLG-24-2-INS-ASY2-LD4-1LO-50-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P835351
Test Lab: INNOVATION CENTER(G2)
Issue Date: 5/16/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: ORLG-24-2-INS-ASY2-LD4-1LO-50-120-EDD-90
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 5000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

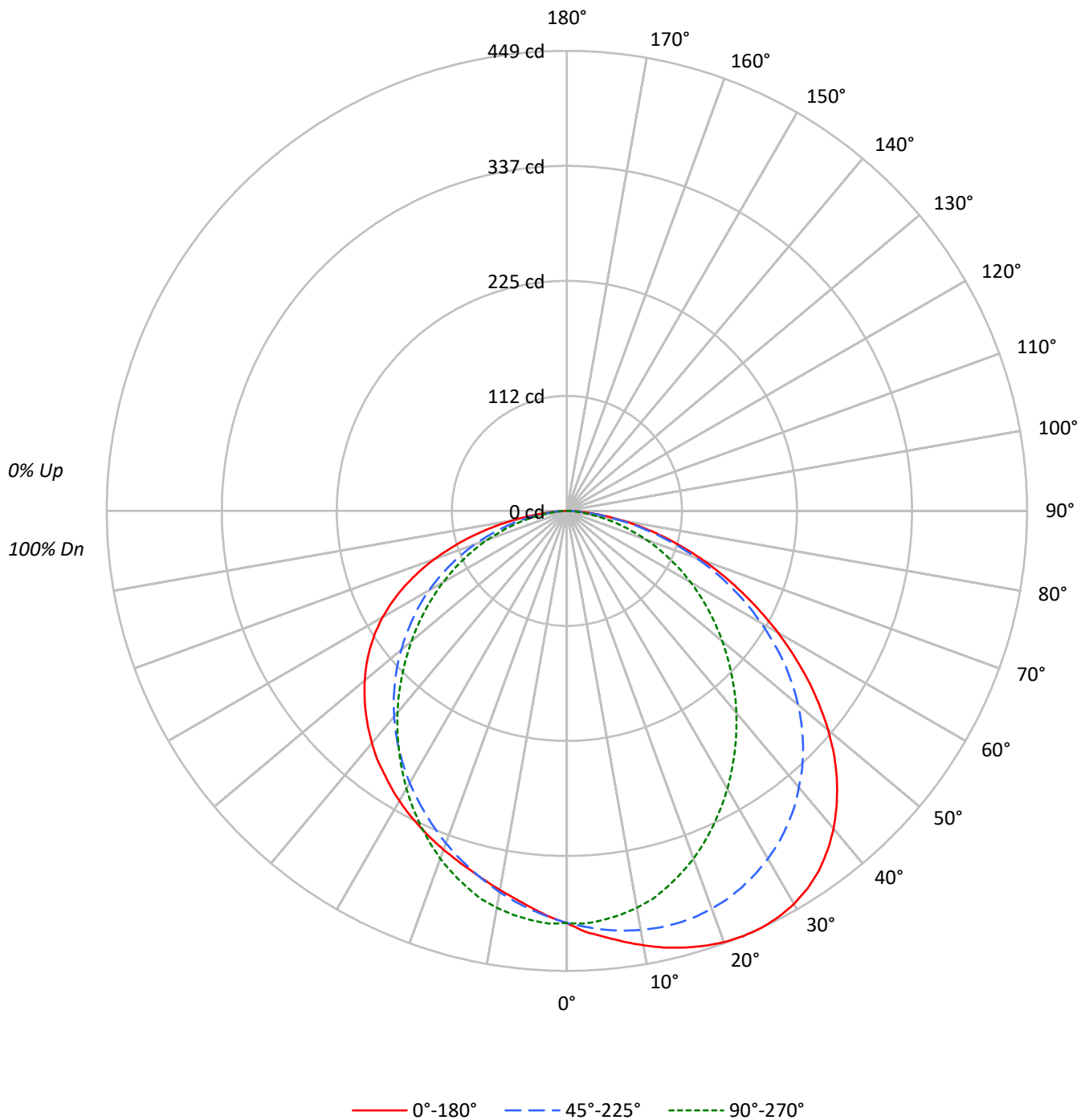
Lumens per Lamp: N/A
Luminaire Lumens: 1183.3 lumens
Efficiency: N/A
Efficacy: 101.1 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

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: 28.75 FT

TEST NUMBER: P835351

CATALOG NUMBER: ORLG-24-2-INS-ASY2-LD4-1LO-50-120-EDD-90

Luminous Intensity Polar Plot



Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P835351

CATALOG NUMBER: ORLG-24-2-INS-ASY2-LD4-1LO-50-120-EDD-90

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	88		90
2	99	90	84	78	96	89	82	77	85	80	75		82	77	73		79
3	90	79	71	65	87	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	73	61	53	47	59	52	46		57	51	46		55
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	46	38	32	59	46	38	32	44	37	32		43	36	31		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°
0°	1083	1083	1083
5°	1127	1083	1051
10°	1176	1075	1027
15°	1229	1058	1012
20°	1283	1034	1008
25°	1333	1004	1009
30°	1377	973	1016
35°	1408	938	1024
40°	1422	903	1039
45°	1418	865	1056
50°	1393	829	1078
55°	1346	791	1101
60°	1280	750	1117
65°	1202	704	1116
70°	1119	650	1083
75°	1016	571	998
80°	872	468	841
85°	664	321	577



TEST NUMBER: P835351

CATALOG NUMBER: ORLG-24-2-INS-ASY2-LD4-1LO-50-120-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	38.2	3.2
10°-20°	110.2	9.3
20°-30°	168.8	14.3
30°-40°	206.0	17.4
40°-50°	215.4	18.2
50°-60°	195.0	16.5
60°-70°	147.7	12.5
70°-80°	82.3	7.0
80°-90°	19.9	1.7
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°	317.1	26.8
0°-40°	523.1	44.2
0°-60°	933.5	78.9
0°-90°	1183.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1183.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	402	402	402	402	402	
5°	417	410	401	391	389	40
15°	441	417	380	362	363	125
25°	449	405	338	326	340	207
35°	429	375	286	285	312	268
45°	373	326	227	237	278	287
55°	287	259	169	183	235	256
65°	189	178	111	126	175	187
75°	98	92	55	66	96	104
85°	22	19	10	14	19	26
90°	0	0	0	0	0	

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P835351

CATALOG NUMBER: ORLG-24-2-INS-ASY2-LD4-1LO-50-120-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
0°	402.3	402.3	402.3	402.3	402.3	402.3	402.3	402.3	402.3	402.3	402.3
2.5°	411.2	409.2	407.6	408.3	408.6	407.4	406.3	406.5	405.4	407.5	402.7
5°	417.2	415.5	413.6	414.3	413.6	411.8	410.3	409.8	407.0	408.2	403.3
7.5°	424.0	422.1	419.3	420.1	418.6	415.2	413.3	412.1	407.8	407.9	402.5
10°	430.5	428.8	425.1	425.7	422.9	418.4	415.3	413.7	407.6	406.8	401.2
12.5°	436.6	434.3	430.3	430.6	426.6	420.6	416.6	414.3	406.4	403.8	398.3
15°	441.2	439.0	434.3	434.2	429.1	421.2	416.7	413.5	403.5	399.4	393.7
17.5°	445.2	443.2	437.3	437.1	430.9	420.9	415.6	411.6	399.3	394.2	387.9
20°	448.0	446.0	439.4	438.8	431.4	419.6	413.2	408.2	393.7	387.7	380.6
22.5°	449.3	447.3	439.8	438.9	430.3	417.0	409.8	403.9	387.4	379.5	372.2
25°	449.1	447.1	438.7	437.8	428.3	413.0	404.9	398.1	379.4	370.1	362.9
27.5°	446.9	445.4	436.5	435.3	424.6	407.6	399.0	391.6	370.5	360.2	352.3
30°	443.1	441.9	432.5	431.5	420.0	401.7	392.2	383.5	361.0	349.3	341.3
32.5°	437.0	436.0	426.5	425.5	413.9	394.2	384.2	375.3	350.5	337.6	329.6
35°	428.7	428.0	418.8	417.8	406.0	385.6	374.9	365.2	339.6	325.0	317.4
37.5°	417.7	417.7	408.8	407.6	396.1	375.0	364.6	354.2	327.3	311.8	304.3
40°	404.9	406.1	397.0	395.9	384.7	363.7	352.2	341.3	314.0	297.9	290.6
42.5°	389.6	390.7	383.1	382.1	371.6	350.6	339.9	328.1	300.1	283.7	276.2
45°	372.7	374.1	367.4	366.6	356.8	336.2	326.0	314.0	285.6	269.0	261.6
47.5°	353.9	355.8	349.9	349.4	340.4	321.6	310.9	298.7	270.4	253.6	246.6
50°	332.8	335.5	330.6	330.6	322.5	303.8	294.6	282.3	254.6	237.8	230.9
52.5°	310.2	313.6	310.0	310.0	303.4	286.7	277.1	265.1	238.0	221.5	215.2
55°	286.8	290.1	287.8	288.1	283.0	267.7	259.0	247.1	221.1	205.1	199.1
57.5°	262.4	265.9	264.4	265.1	261.5	247.8	238.7	228.4	203.7	187.8	182.7
60°	237.8	241.2	240.4	241.4	239.1	227.2	218.9	208.2	186.2	170.9	166.5
62.5°	213.1	216.1	216.0	217.0	215.8	205.9	198.5	189.4	168.1	154.1	149.9
65°	188.8	191.4	191.2	192.4	192.1	184.2	177.5	169.2	150.0	137.1	133.5
67.5°	165.2	167.4	166.8	168.1	168.5	162.1	156.3	148.9	132.8	120.2	117.1
70°	142.2	143.7	142.9	143.8	144.6	139.8	134.9	128.3	114.4	103.3	100.8
72.5°	119.6	120.6	119.4	120.3	121.0	117.6	113.5	107.8	96.3	86.7	84.6
75°	97.7	99.2	96.6	97.5	98.0	94.6	92.2	87.6	77.6	70.3	68.8
77.5°	76.5	77.4	76.0	75.6	76.0	73.5	71.7	68.1	60.6	54.5	53.6
80°	56.3	56.8	55.4	55.0	55.3	53.5	52.1	49.5	44.2	39.7	39.3
82.5°	37.7	38.0	36.8	36.4	36.6	36.1	34.4	32.5	30.1	26.2	26.1
85°	21.5	21.5	20.7	20.3	20.5	19.6	19.0	18.0	17.1	14.4	14.6
87.5°	7.9	7.9	7.5	7.4	8.3	7.3	7.0	6.6	6.9	5.5	5.8
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



TEST NUMBER: P835351

CATALOG NUMBER: ORLG-24-2-INS-ASY2-LD4-1LO-50-120-EDD-90

CANDELA DISTRIBUTION (continued):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	402.3	402.3	402.3	402.3	402.3	402.3	402.3	402.3	402.3	402.3	402.3
2.5°	404.0	403.2	402.4	399.6	400.8	398.0	397.8	396.7	395.9	394.5	396.4
5°	402.7	401.0	398.7	395.4	396.4	393.0	392.3	391.1	390.1	388.1	389.6
7.5°	400.6	397.7	394.1	390.0	391.3	387.2	386.1	384.8	383.9	381.6	382.9
10°	397.5	393.4	389.2	384.2	385.1	380.6	379.3	377.9	377.1	375.1	376.4
12.5°	392.8	387.8	382.1	376.6	377.7	373.4	371.7	370.2	369.9	368.2	369.8
15°	386.6	379.7	373.8	368.0	369.2	364.3	363.5	362.0	362.4	361.3	363.2
17.5°	378.8	370.8	364.4	358.1	359.4	355.2	354.6	353.9	354.4	354.2	356.3
20°	370.0	361.2	353.8	347.7	348.4	345.1	345.4	345.2	346.1	347.1	350.0
22.5°	360.1	350.1	342.4	336.1	337.1	334.3	335.5	335.9	337.4	339.6	343.3
25°	348.9	338.3	330.2	324.2	325.2	323.3	325.4	326.3	328.7	332.4	336.2
27.5°	337.2	326.0	317.3	311.6	313.5	311.6	314.8	316.5	320.2	324.2	328.9
30°	324.8	313.1	304.2	299.1	300.9	299.2	304.3	306.7	310.3	315.8	321.4
32.5°	311.8	299.5	290.8	286.8	288.1	287.8	293.5	296.1	301.0	307.3	313.2
35°	298.4	285.6	276.8	273.5	275.0	275.3	282.2	285.2	290.5	298.2	304.5
37.5°	284.6	271.5	262.9	260.2	261.5	262.8	270.8	273.9	279.9	288.2	295.2
40°	270.3	257.2	248.8	246.6	247.9	249.3	258.0	262.2	268.7	277.8	285.3
42.5°	255.8	242.7	234.5	232.9	234.2	237.0	246.2	250.2	257.0	267.0	275.4
45°	241.0	227.4	220.3	219.0	220.4	223.6	232.7	237.4	244.7	255.7	264.7
47.5°	226.1	212.8	206.0	205.2	206.6	210.2	220.2	224.5	232.2	243.9	253.6
50°	210.9	198.0	191.5	191.2	192.6	196.3	205.9	211.0	219.0	232.1	242.1
52.5°	195.6	183.2	177.4	177.4	178.6	182.5	192.1	197.4	205.7	219.5	230.5
55°	180.3	168.6	162.9	163.4	165.1	168.5	177.9	183.4	191.8	206.1	217.7
57.5°	165.0	153.9	148.8	149.4	151.1	154.4	163.6	169.9	177.4	192.3	204.2
60°	149.9	139.4	134.9	135.6	137.1	140.4	150.0	155.4	162.9	178.1	189.9
62.5°	134.6	125.0	120.8	121.7	123.0	126.4	135.4	140.6	148.1	162.9	174.9
65°	119.5	110.6	107.0	107.9	109.1	112.2	120.7	125.7	132.9	147.4	158.8
67.5°	104.5	96.5	93.5	94.3	95.3	98.2	105.3	110.7	117.4	131.2	142.0
70°	89.8	82.6	79.9	80.8	81.7	84.3	90.5	95.5	101.6	114.3	124.3
72.5°	75.2	68.1	66.8	67.6	68.3	70.6	76.5	80.5	85.8	97.1	105.7
75°	60.9	54.9	54.0	54.8	55.4	57.2	62.1	65.5	70.0	79.8	86.8
77.5°	47.2	42.1	41.8	42.4	43.0	44.2	48.1	51.7	55.2	62.4	68.7
80°	34.4	30.2	30.2	30.9	30.7	32.2	34.9	37.8	40.4	45.5	50.1
82.5°	22.7	19.4	19.9	20.3	20.6	21.2	22.9	25.1	26.6	29.8	32.8
85°	12.6	10.4	10.8	11.2	11.0	11.7	12.6	13.9	14.7	16.2	17.8
87.5°	4.7	3.9	4.0	4.2	4.4	4.7	4.7	5.5	5.6	5.8	6.2
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



TEST NUMBER: P835351

CATALOG NUMBER: ORLG-24-2-INS-ASY2-LD4-1LO-50-120-EDD-90

CANDELA DISTRIBUTION (continued):

	160°	170°	180°
0°	402.3	402.3	402.3
2.5°	392.7	394.8	396.4
5°	385.9	387.7	389.1
7.5°	379.3	380.9	382.1
10°	373.1	374.8	375.7
12.5°	366.7	368.7	369.4
15°	360.3	362.4	363.2
17.5°	353.8	356.5	357.4
20°	347.8	351.1	351.9
22.5°	341.6	345.0	346.0
25°	334.9	339.0	339.9
27.5°	327.8	332.6	333.6
30°	320.7	326.0	326.9
32.5°	313.0	318.7	319.6
35°	305.0	310.7	311.8
37.5°	296.1	302.4	304.5
40°	286.9	293.7	295.9
42.5°	277.2	284.6	286.9
45°	266.9	275.0	277.6
47.5°	256.4	265.5	267.8
50°	245.1	254.8	257.5
52.5°	233.2	243.8	246.6
55°	220.9	231.6	234.6
57.5°	207.5	218.6	221.8
60°	193.5	204.6	207.6
62.5°	179.2	189.2	192.1
65°	163.2	172.6	175.2
67.5°	146.2	154.8	157.0
70°	128.2	135.7	137.6
72.5°	109.4	114.6	117.1
75°	90.0	94.1	96.0
77.5°	70.4	73.3	74.9
80°	51.4	53.0	54.3
82.5°	33.6	34.3	35.3
85°	18.1	18.1	18.7
87.5°	6.2	5.9	6.2
90°	0.0	0.0	0.0

(END OF REPORT)