

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: P835300

Luminaire Tested: **ORLG-24-2-INS-ASY2-LD4-2LO-30-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P835300
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-LD4-2LO-30-120-EDD-90
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

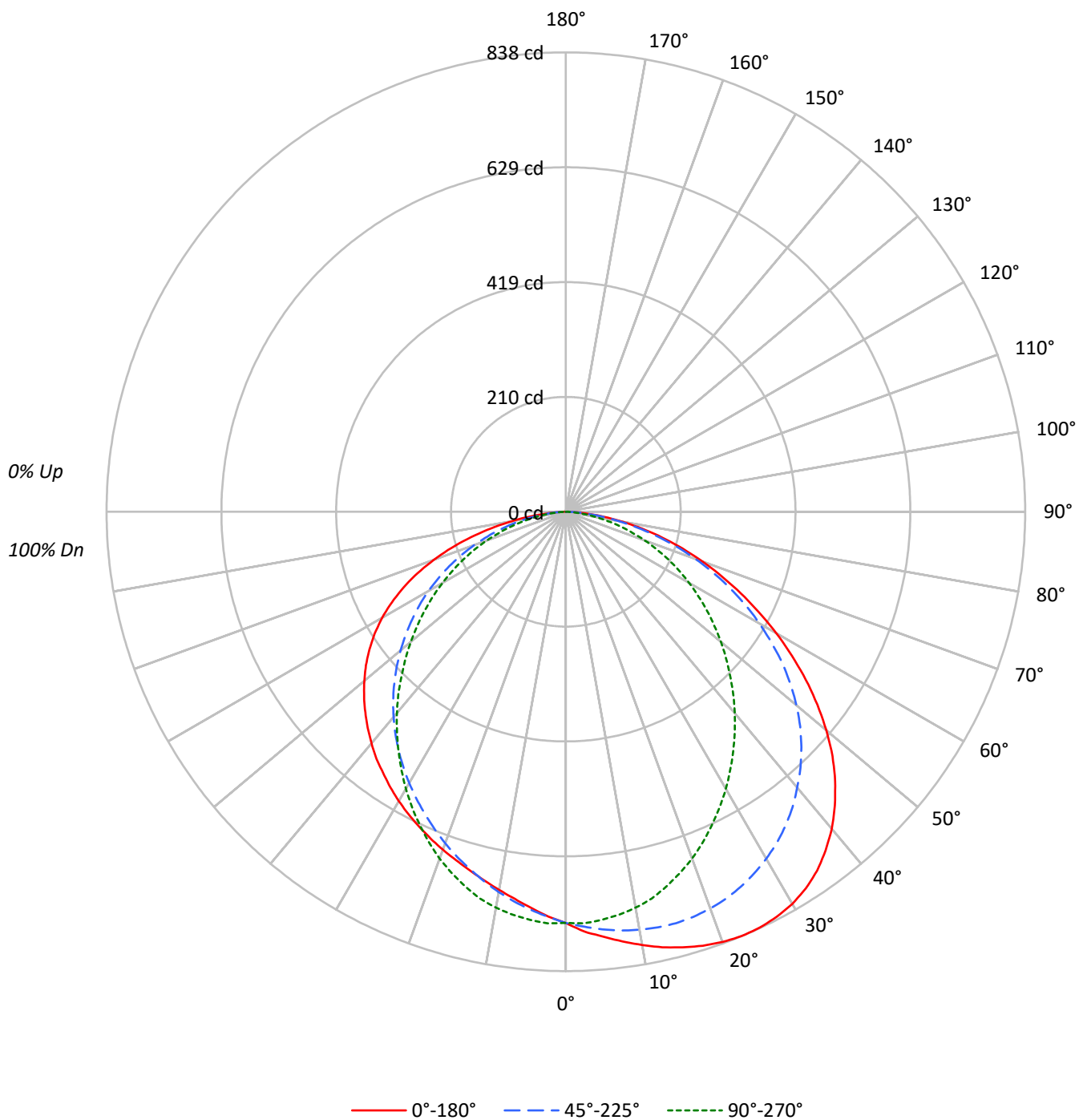
Lumens per Lamp: N/A
Luminaire Lumens: 2206.1 lumens
Efficiency: N/A
Efficacy: 94.3 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 23.4
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: P835300

CATALOG NUMBER: ORLG-24-2-INS-ASY2-LD4-2LO-30-120-EDD-90

Luminous Intensity Polar Plot



Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P835300

CATALOG NUMBER: ORLG-24-2-INS-ASY2-LD4-2LO-30-120-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	30	10	50	30	10
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100		
1	109	104	100	96	106	102	98	94	97	94	91	94	91	88	90	88	86	84		
2	99	90	84	78	96	89	82	77	85	80	75	82	77	73	79	75	72	70		
3	90	79	71	65	87	78	70	64	75	68	63	72	66	62	69	65	61	58		
4	82	70	61	55	80	69	61	54	66	59	53	64	58	53	62	56	52	50		
5	76	63	54	47	73	61	53	47	59	52	46	57	51	46	55	50	45	43		
6	70	56	47	41	68	55	47	41	54	46	40	52	45	40	50	44	40	37		
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	33		
8	60	46	38	32	59	46	38	32	44	37	32	43	36	31	42	36	31	29		
9	56	43	34	29	55	42	34	29	41	34	29	40	33	28	39	33	28	26		
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	2018	2018	2018
5°	2101	2019	1959
10°	2193	2004	1914
15°	2292	1972	1887
20°	2392	1928	1879
25°	2486	1872	1882
30°	2567	1814	1894
35°	2625	1749	1910
40°	2652	1684	1938
45°	2645	1613	1969
50°	2598	1546	2010
55°	2509	1475	2052
60°	2386	1398	2083
65°	2241	1313	2080
70°	2086	1211	2018
75°	1893	1064	1861
80°	1626	874	1570
85°	1241	596	1078

TEST NUMBER: P835300

CATALOG NUMBER: ORLG-24-2-INS-ASY2-LD4-2LO-30-120-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	71.1	3.2
10°-20°	205.4	9.3
20°-30°	314.7	14.3
30°-40°	384.0	17.4
40°-50°	401.6	18.2
50°-60°	363.5	16.5
60°-70°	275.3	12.5
70°-80°	153.4	7.0
80°-90°	37.0	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°	591.2	26.8
0°-40°	975.3	44.2
0°-60°	1740.4	78.9
0°-90°	2206.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2206.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	750	750	750	750	750	
5°	778	765	748	729	725	75
15°	823	777	708	675	677	233
25°	837	755	631	608	634	386
35°	799	699	532	532	581	499
45°	695	608	424	443	518	535
55°	535	483	314	342	437	477
65°	352	331	206	234	327	349
75°	182	172	102	122	179	193
85°	40	35	19	26	35	48
90°	0	0	0	0	0	

TEST NUMBER: P835300

CATALOG NUMBER: ORLG-24-2-INS-ASY2-LD4-2LO-30-120-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
0°	750.0	750.0	750.0	750.0	750.0	750.0	750.0	750.0	750.0	750.0	750.0
2.5°	766.5	762.9	760.0	761.1	761.8	759.5	757.5	757.8	755.9	759.6	750.8
5°	777.8	774.6	771.1	772.4	771.1	767.7	764.9	764.1	758.8	761.0	751.9
7.5°	790.5	786.9	781.8	783.3	780.5	774.1	770.5	768.3	760.3	760.5	750.5
10°	802.6	799.5	792.6	793.6	788.5	780.0	774.2	771.3	760.0	758.3	748.0
12.5°	813.9	809.6	802.3	802.8	795.4	784.1	776.7	772.4	757.7	752.8	742.6
15°	822.6	818.5	809.6	809.5	800.0	785.2	776.9	771.0	752.3	744.6	733.9
17.5°	830.0	826.2	815.2	814.9	803.4	784.7	774.7	767.4	744.4	734.9	723.1
20°	835.2	831.4	819.2	818.0	804.2	782.3	770.3	761.0	734.1	722.8	709.6
22.5°	837.7	833.9	820.0	818.3	802.3	777.3	763.9	752.9	722.3	707.5	693.9
25°	837.2	833.6	817.8	816.2	798.5	770.0	754.9	742.3	707.4	690.0	676.5
27.5°	833.1	830.3	813.7	811.6	791.6	760.0	743.9	730.0	690.8	671.5	656.9
30°	826.0	823.9	806.4	804.4	783.1	749.0	731.1	715.1	672.9	651.1	636.4
32.5°	814.7	812.8	795.1	793.3	771.6	734.9	716.2	699.6	653.4	629.3	614.6
35°	799.2	798.0	780.8	778.8	756.9	718.8	699.0	680.8	633.1	605.9	591.8
37.5°	778.7	778.7	762.1	760.0	738.5	699.2	679.6	660.3	610.1	581.3	567.4
40°	754.9	757.0	740.1	738.0	717.2	678.0	656.7	636.4	585.4	555.4	541.8
42.5°	726.4	728.3	714.2	712.3	692.8	653.6	633.7	611.6	559.5	529.0	514.9
45°	694.9	697.5	684.9	683.4	665.2	626.9	607.8	585.4	532.4	501.5	487.7
47.5°	659.8	663.3	652.3	651.5	634.6	599.5	579.7	556.9	504.1	472.8	459.8
50°	620.5	625.4	616.4	616.4	601.3	566.4	549.2	526.4	474.6	443.3	430.5
52.5°	578.3	584.6	577.8	578.0	565.7	534.4	516.5	494.2	443.8	412.9	401.1
55°	534.7	540.8	536.5	537.2	527.5	499.0	482.8	460.6	412.3	382.3	371.1
57.5°	489.2	495.7	492.9	494.2	487.5	462.0	445.1	425.7	379.8	350.2	340.6
60°	443.4	449.7	448.2	450.0	445.7	423.6	408.2	388.2	347.2	318.7	310.3
62.5°	397.2	402.9	402.6	404.6	402.3	383.9	370.2	353.1	313.4	287.2	279.5
65°	352.0	356.9	356.5	358.7	358.2	343.4	331.0	315.4	279.7	255.6	248.8
67.5°	308.0	312.1	311.0	313.4	314.1	302.3	291.5	277.5	247.5	224.1	218.4
70°	265.1	267.9	266.4	268.0	269.5	260.6	251.5	239.2	213.3	192.6	187.9
72.5°	222.9	224.9	222.6	224.3	225.6	219.2	211.6	201.0	179.5	161.6	157.7
75°	182.1	184.9	180.2	181.8	182.8	176.4	172.0	163.3	144.7	131.0	128.4
77.5°	142.6	144.3	141.6	141.0	141.6	137.0	133.6	126.9	112.9	101.6	100.0
80°	104.9	105.9	103.3	102.6	103.1	99.8	97.2	92.3	82.5	73.9	73.3
82.5°	70.3	70.8	68.5	67.9	68.2	67.2	64.1	60.7	56.1	48.9	48.7
85°	40.2	40.2	38.5	37.9	38.2	36.6	35.4	33.6	31.8	26.9	27.2
87.5°	14.8	14.8	13.9	13.8	15.4	13.6	13.1	12.3	12.8	10.2	10.8
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: P835300

CATALOG NUMBER: ORLG-24-2-INS-ASY2-LD4-2LO-30-120-EDD-90

CANDELA DISTRIBUTION (continued):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	750.0	750.0	750.0	750.0	750.0	750.0	750.0	750.0	750.0	750.0	750.0
2.5°	753.3	751.6	750.1	745.1	747.2	741.9	741.6	739.6	738.2	735.4	739.0
5°	750.8	747.5	743.3	737.2	739.0	732.8	731.4	729.2	727.2	723.6	726.4
7.5°	746.9	741.4	734.7	727.0	729.5	721.8	719.8	717.4	715.7	711.5	713.9
10°	741.1	733.4	725.5	716.2	718.0	709.6	707.2	704.6	703.1	699.3	701.8
12.5°	732.3	722.9	712.3	702.1	704.1	696.2	692.9	690.1	689.6	686.5	689.5
15°	720.8	707.8	696.9	686.0	688.3	679.2	677.7	674.9	675.7	673.6	677.2
17.5°	706.2	691.3	679.3	667.7	670.0	662.3	661.1	659.8	660.6	660.3	664.2
20°	689.8	673.4	659.6	648.2	649.5	643.4	643.9	643.6	645.2	647.0	652.4
22.5°	671.3	652.8	638.3	626.5	628.5	623.3	625.6	626.2	629.0	633.1	640.0
25°	650.5	630.6	615.6	604.4	606.2	602.8	606.7	608.3	612.8	619.7	626.7
27.5°	628.7	607.7	591.6	581.0	584.4	581.0	586.9	590.1	596.9	604.4	613.1
30°	605.6	583.7	567.2	557.7	561.0	557.8	567.4	571.8	578.5	588.8	599.2
32.5°	581.3	558.3	542.1	534.7	537.0	536.5	547.2	552.1	561.1	572.9	583.9
35°	556.4	532.4	516.0	509.8	512.6	513.3	526.0	531.8	541.6	555.9	567.7
37.5°	530.6	506.2	490.1	485.1	487.5	490.0	504.9	510.6	521.8	537.4	550.3
40°	503.9	479.5	463.8	459.7	462.1	464.7	481.0	488.8	501.0	517.9	531.9
42.5°	476.9	452.4	437.2	434.2	436.7	441.8	459.0	466.4	479.2	497.9	513.4
45°	449.3	423.9	410.6	408.3	411.0	416.9	433.8	442.6	456.2	476.7	493.4
47.5°	421.5	396.7	384.1	382.6	385.2	391.8	410.5	418.5	432.9	454.7	472.8
50°	393.3	369.2	357.0	356.5	359.0	366.1	383.9	393.4	408.3	432.8	451.3
52.5°	364.7	341.6	330.6	330.6	332.9	340.2	358.2	368.0	383.4	409.2	429.7
55°	336.2	314.3	303.8	304.6	307.9	314.1	331.6	342.0	357.5	384.2	405.9
57.5°	307.7	286.9	277.4	278.5	281.6	287.9	305.1	316.7	330.8	358.5	380.6
60°	279.5	259.8	251.5	252.8	255.6	261.8	279.7	289.7	303.8	332.0	354.1
62.5°	251.0	233.1	225.2	226.9	229.3	235.6	252.5	262.1	276.1	303.8	326.1
65°	222.8	206.2	199.5	201.1	203.4	209.2	225.1	234.4	247.7	274.7	296.1
67.5°	194.9	179.8	174.3	175.9	177.7	183.1	196.2	206.4	218.8	244.6	264.7
70°	167.4	153.9	149.0	150.7	152.3	157.2	168.7	178.0	189.5	213.1	231.8
72.5°	140.2	127.0	124.6	126.1	127.4	131.6	142.6	150.0	160.0	181.0	197.0
75°	113.6	102.3	100.7	102.1	103.3	106.6	115.7	122.1	130.5	148.7	161.8
77.5°	88.0	78.5	77.9	79.0	80.2	82.5	89.7	96.4	102.9	116.4	128.0
80°	64.1	56.4	56.4	57.5	57.2	60.0	65.1	70.5	75.2	84.9	93.4
82.5°	42.3	36.2	37.0	37.9	38.4	39.5	42.6	46.7	49.7	55.6	61.1
85°	23.4	19.3	20.2	20.8	20.5	21.8	23.4	25.9	27.4	30.2	33.1
87.5°	8.7	7.2	7.4	7.9	8.2	8.9	8.9	10.3	10.5	10.8	11.5
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: P835300

CATALOG NUMBER: ORLG-24-2-INS-ASY2-LD4-2LO-30-120-EDD-90

CANDELA DISTRIBUTION (continued):

	160°	170°	180°
0°	750.0	750.0	750.0
2.5°	732.1	736.0	739.0
5°	719.5	722.8	725.4
7.5°	707.2	710.1	712.4
10°	695.5	698.8	700.5
12.5°	683.6	687.4	688.7
15°	671.8	675.5	677.2
17.5°	659.6	664.6	666.4
20°	648.3	654.6	656.0
22.5°	636.9	643.3	645.1
25°	624.4	631.9	633.7
27.5°	611.1	620.1	621.9
30°	597.8	607.7	609.5
32.5°	583.6	594.2	595.9
35°	568.7	579.3	581.3
37.5°	552.1	563.8	567.7
40°	534.9	547.5	551.6
42.5°	516.9	530.6	534.9
45°	497.5	512.6	517.5
47.5°	478.0	495.1	499.3
50°	456.9	475.1	480.1
52.5°	434.7	454.6	459.7
55°	411.8	431.8	437.4
57.5°	386.9	407.5	413.4
60°	360.8	381.5	387.0
62.5°	334.1	352.8	358.2
65°	304.3	321.8	326.7
67.5°	272.6	288.7	292.8
70°	239.0	252.9	256.5
72.5°	203.9	213.6	218.4
75°	167.7	175.4	179.0
77.5°	131.3	136.7	139.7
80°	95.7	98.8	101.3
82.5°	62.6	63.9	65.7
85°	33.8	33.8	34.9
87.5°	11.5	11.0	11.5
90°	0.0	0.0	0.0

(END OF REPORT)