

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: P835354

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

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P835354
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-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

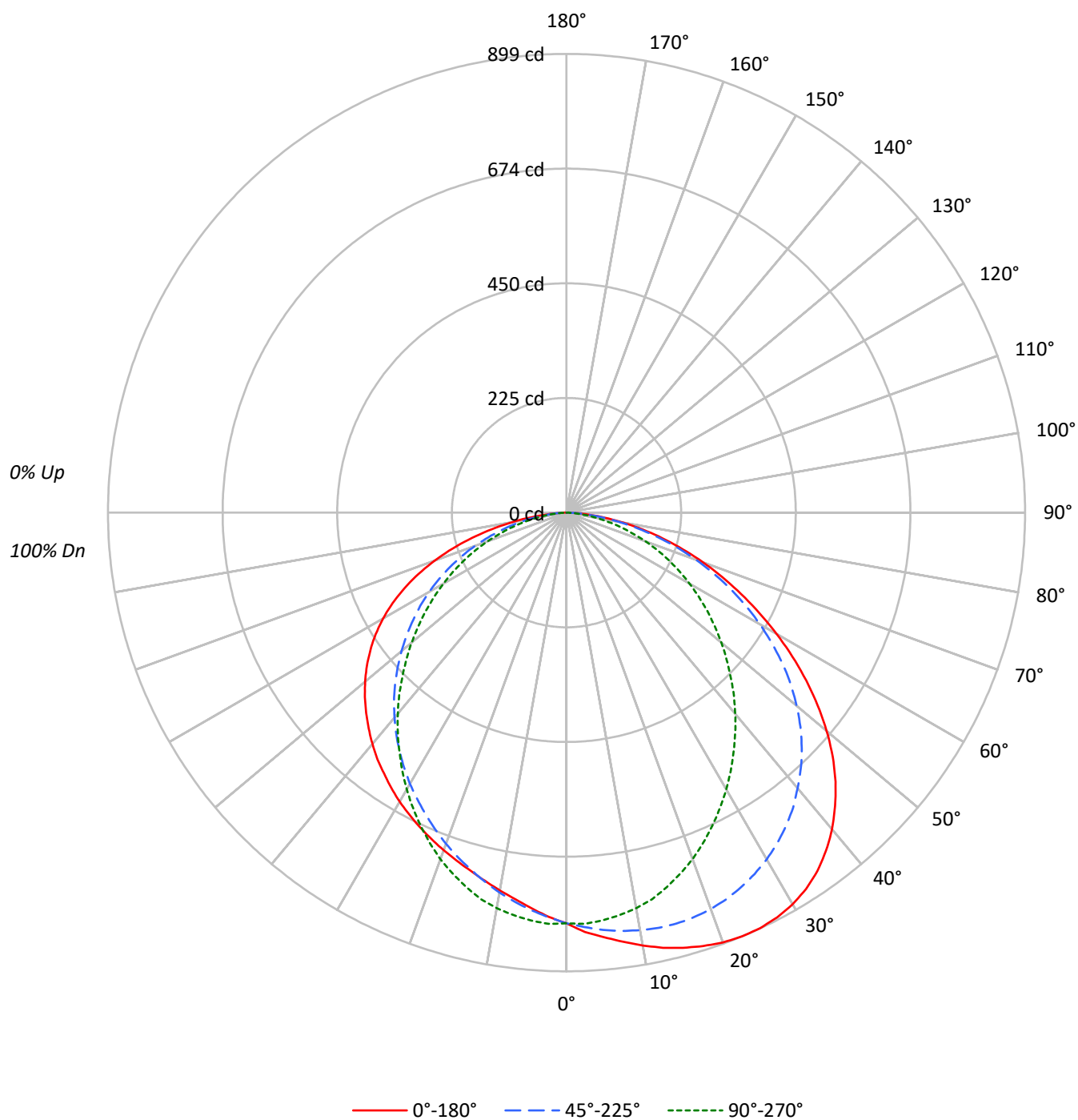
Lumens per Lamp: N/A
Luminaire Lumens: 2367.5 lumens
Efficiency: N/A
Efficacy: 101.2 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

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

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Luminous Intensity Polar Plot



Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

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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	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°	2166	2166	2166
5°	2255	2167	2103
10°	2353	2151	2054
15°	2459	2116	2025
20°	2567	2070	2016
25°	2667	2010	2019
30°	2755	1947	2032
35°	2817	1877	2049
40°	2846	1808	2080
45°	2838	1731	2114
50°	2788	1659	2157
55°	2692	1582	2202
60°	2561	1500	2236
65°	2405	1409	2232
70°	2238	1300	2166
75°	2033	1142	1997
80°	1745	938	1684
85°	1331	642	1158



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	76.3	3.2
10°-20°	220.4	9.3
20°-30°	337.7	14.3
30°-40°	412.1	17.4
40°-50°	431.0	18.2
50°-60°	390.1	16.5
60°-70°	295.4	12.5
70°-80°	164.6	7.0
80°-90°	39.7	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°	634.5	26.8
0°-40°	1046.6	44.2
0°-60°	1867.7	78.9
0°-90°	2367.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2367.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	805	805	805	805	805	
5°	835	821	802	782	778	80
15°	883	834	760	724	727	250
25°	898	810	677	653	680	414
35°	858	750	571	571	624	536
45°	746	652	455	475	555	574
55°	574	518	337	367	469	512
65°	378	355	221	252	351	375
75°	196	184	110	131	192	207
85°	43	38	21	28	38	52
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
0°	804.8	804.8	804.8	804.8	804.8	804.8	804.8	804.8	804.8	804.8	804.8
2.5°	822.6	818.7	815.6	816.8	817.5	815.1	812.9	813.3	811.2	815.2	805.7
5°	834.8	831.2	827.5	829.0	827.5	823.8	820.9	820.0	814.3	816.6	807.0
7.5°	848.3	844.4	839.0	840.6	837.6	830.7	826.8	824.6	815.9	816.1	805.4
10°	861.3	858.0	850.6	851.6	846.2	837.0	830.9	827.7	815.6	813.8	802.7
12.5°	873.5	868.9	861.0	861.5	853.6	841.4	833.5	829.0	813.1	807.8	796.9
15°	882.8	878.4	868.9	868.7	858.5	842.7	833.7	827.4	807.3	799.0	787.6
17.5°	890.7	886.7	874.9	874.5	862.2	842.1	831.4	823.5	798.9	788.7	776.0
20°	896.3	892.3	879.1	877.9	863.1	839.5	826.7	816.6	787.8	775.6	761.6
22.5°	899.0	894.9	880.0	878.2	861.0	834.2	819.8	808.0	775.1	759.3	744.7
25°	898.4	894.6	877.7	875.9	856.9	826.3	810.1	796.6	759.1	740.5	726.0
27.5°	894.0	891.1	873.3	871.0	849.5	815.6	798.3	783.4	741.3	720.6	704.9
30°	886.5	884.2	865.4	863.3	840.4	803.8	784.6	767.4	722.2	698.8	682.9
32.5°	874.3	872.2	853.2	851.3	828.1	788.7	768.6	750.8	701.2	675.4	659.5
35°	857.6	856.4	837.9	835.8	812.2	771.4	750.1	730.6	679.4	650.2	635.1
37.5°	835.6	835.6	817.9	815.6	792.5	750.3	729.4	708.6	654.8	623.8	608.9
40°	810.1	812.4	794.3	792.0	769.7	727.6	704.7	682.9	628.2	596.0	581.4
42.5°	779.5	781.6	766.5	764.4	743.5	701.4	680.1	656.4	600.4	567.7	552.6
45°	745.7	748.6	735.0	733.4	713.9	672.7	652.3	628.2	571.4	538.1	523.4
47.5°	708.1	711.8	700.0	699.1	681.0	643.4	622.1	597.6	541.0	507.4	493.5
50°	665.9	671.1	661.5	661.5	645.3	607.8	589.3	564.9	509.3	475.7	462.0
52.5°	620.7	627.3	620.1	620.3	607.1	573.5	554.3	530.4	476.2	443.2	430.5
55°	573.9	580.4	575.8	576.5	566.1	535.5	518.1	494.3	442.4	410.3	398.3
57.5°	525.0	532.0	529.0	530.4	523.2	495.8	477.6	456.9	407.6	375.8	365.6
60°	475.9	482.6	481.0	482.9	478.3	454.6	438.0	416.6	372.6	342.0	333.0
62.5°	426.3	432.4	432.1	434.2	431.7	412.0	397.2	378.9	336.4	308.2	299.9
65°	377.7	383.0	382.6	384.9	384.4	368.6	355.2	338.5	300.1	274.3	267.1
67.5°	330.6	335.0	333.7	336.4	337.1	324.4	312.8	297.8	265.6	240.5	234.3
70°	284.5	287.5	285.9	287.6	289.2	279.7	269.9	256.7	228.9	206.7	201.6
72.5°	239.3	241.4	238.9	240.7	242.1	235.2	227.1	215.7	192.6	173.5	169.2
75°	195.5	198.4	193.3	195.1	196.2	189.3	184.5	175.2	155.3	140.6	137.7
77.5°	153.1	154.8	152.0	151.3	152.0	147.1	143.4	136.2	121.2	109.1	107.3
80°	112.6	113.6	110.8	110.1	110.7	107.1	104.3	99.0	88.5	79.3	78.6
82.5°	75.5	76.0	73.5	72.8	73.2	72.1	68.8	65.1	60.2	52.4	52.2
85°	43.1	43.1	41.3	40.6	41.0	39.2	38.0	36.1	34.1	28.9	29.2
87.5°	15.8	15.8	15.0	14.8	16.5	14.6	14.1	13.2	13.7	10.9	11.6
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):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	804.8	804.8	804.8	804.8	804.8	804.8	804.8	804.8	804.8	804.8	804.8
2.5°	808.4	806.6	805.0	799.6	801.9	796.2	795.9	793.8	792.2	789.2	793.1
5°	805.7	802.2	797.6	791.1	793.1	786.4	785.0	782.5	780.4	776.5	779.5
7.5°	801.5	795.7	788.5	780.2	782.9	774.6	772.5	769.8	768.1	763.5	766.1
10°	795.3	787.1	778.6	768.6	770.5	761.6	758.9	756.1	754.5	750.5	753.1
12.5°	785.8	775.8	764.4	753.5	755.6	747.1	743.6	740.6	740.1	736.8	739.9
15°	773.5	759.6	747.9	736.2	738.7	728.9	727.3	724.3	725.2	722.9	726.7
17.5°	757.9	741.9	729.0	716.5	719.0	710.7	709.5	708.1	709.0	708.6	712.8
20°	740.3	722.7	707.9	695.6	697.0	690.5	691.0	690.7	692.4	694.4	700.2
22.5°	720.4	700.5	685.0	672.4	674.5	668.9	671.3	672.0	675.0	679.4	686.8
25°	698.1	676.8	660.6	648.6	650.6	646.9	651.1	652.9	657.6	665.0	672.6
27.5°	674.7	652.1	634.9	623.5	627.2	623.5	629.8	633.3	640.5	648.6	658.0
30°	649.9	626.5	608.7	598.5	602.0	598.7	608.9	613.6	620.8	631.9	643.0
32.5°	623.8	599.2	581.8	573.9	576.3	575.8	587.2	592.5	602.2	614.9	626.6
35°	597.1	571.4	553.8	547.1	550.1	550.8	564.5	570.7	581.3	596.6	609.2
37.5°	569.5	543.3	526.0	520.6	523.2	525.8	541.8	548.0	560.0	576.7	590.6
40°	540.8	514.6	497.7	493.3	495.9	498.7	516.2	524.6	537.6	555.7	570.9
42.5°	511.8	485.5	469.2	466.0	468.7	474.1	492.6	500.5	514.2	534.3	551.0
45°	482.2	454.9	440.7	438.2	441.0	447.4	465.5	475.0	489.6	511.6	529.5
47.5°	452.3	425.7	412.2	410.6	413.4	420.5	440.5	449.1	464.6	488.0	507.4
50°	422.0	396.2	383.2	382.6	385.3	392.8	412.0	422.2	438.2	464.4	484.3
52.5°	391.4	366.6	354.8	354.8	357.3	365.0	384.4	394.9	411.5	439.1	461.1
55°	360.8	337.2	326.0	326.9	330.4	337.1	355.9	367.0	383.7	412.4	435.6
57.5°	330.2	307.9	297.7	298.9	302.2	308.9	327.4	339.9	355.0	384.7	408.5
60°	299.9	278.8	269.9	271.3	274.3	280.9	300.1	310.9	326.0	356.2	380.0
62.5°	269.3	250.2	241.7	243.5	246.1	252.8	270.9	281.3	296.3	326.0	349.9
65°	239.1	221.3	214.1	215.9	218.3	224.5	241.5	251.6	265.8	294.8	317.7
67.5°	209.2	193.0	187.0	188.8	190.7	196.5	210.6	221.5	234.9	262.5	284.1
70°	179.6	165.2	159.9	161.7	163.4	168.7	181.0	191.1	203.4	228.7	248.8
72.5°	150.4	136.3	133.7	135.3	136.7	141.3	153.1	161.0	171.7	194.2	211.5
75°	121.9	109.8	108.0	109.6	110.8	114.4	124.2	131.1	140.0	159.6	173.6
77.5°	94.5	84.3	83.6	84.8	86.0	88.5	96.2	103.4	110.5	124.9	137.4
80°	68.8	60.5	60.5	61.7	61.4	64.4	69.8	75.6	80.7	91.1	100.3
82.5°	45.4	38.9	39.8	40.6	41.2	42.4	45.7	50.1	53.3	59.6	65.6
85°	25.2	20.8	21.6	22.3	22.0	23.4	25.2	27.8	29.4	32.4	35.5
87.5°	9.3	7.7	7.9	8.4	8.8	9.5	9.5	11.1	11.3	11.6	12.3
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):

	160°	170°	180°
0°	804.8	804.8	804.8
2.5°	785.7	789.9	793.1
5°	772.1	775.6	778.5
7.5°	758.9	762.1	764.6
10°	746.4	750.0	751.7
12.5°	733.6	737.6	739.1
15°	720.9	725.0	726.7
17.5°	707.9	713.2	715.1
20°	695.8	702.5	704.0
22.5°	683.5	690.3	692.3
25°	670.1	678.2	680.1
27.5°	655.8	665.5	667.5
30°	641.6	652.1	654.1
32.5°	626.3	637.7	639.5
35°	610.3	621.7	623.8
37.5°	592.5	605.0	609.2
40°	574.0	587.6	592.0
42.5°	554.7	569.5	574.0
45°	533.9	550.1	555.4
47.5°	513.0	531.3	535.9
50°	490.3	509.8	515.3
52.5°	466.5	487.8	493.3
55°	441.9	463.4	469.4
57.5°	415.2	437.3	443.7
60°	387.2	409.4	415.4
62.5°	358.5	378.6	384.4
65°	326.5	345.3	350.6
67.5°	292.6	309.8	314.2
70°	256.5	271.4	275.3
72.5°	218.8	229.2	234.3
75°	180.0	188.2	192.1
77.5°	140.9	146.7	149.9
80°	102.7	106.1	108.7
82.5°	67.2	68.6	70.5
85°	36.2	36.2	37.5
87.5°	12.3	11.8	12.3
90°	0.0	0.0	0.0

(END OF REPORT)