

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: P#

Luminaire Tested: **FLDSQ4C75D010 FEU4C759030 F4LC-SQ-LI**

Issue Date: 12/13/2022

Tested By:

Approved By:



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Test Information

Test Method: LM-79-08
 Report Number: P#
 Test Lab: INNOVATION CENTER
 Issue Date: 12/13/2022
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
 Product Line: FAIL-SAFE
 Catalog Number: FLDSQ4C75D010 FEU4C759030 F4LC-SQ-LI
 Description: 4 INCH 7500 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 3000K, 90CRI LEDS AND F4LC-SQ TRIM WITH LI FINISH
 Light Source: -
 Ballast/Driver: -

Summary

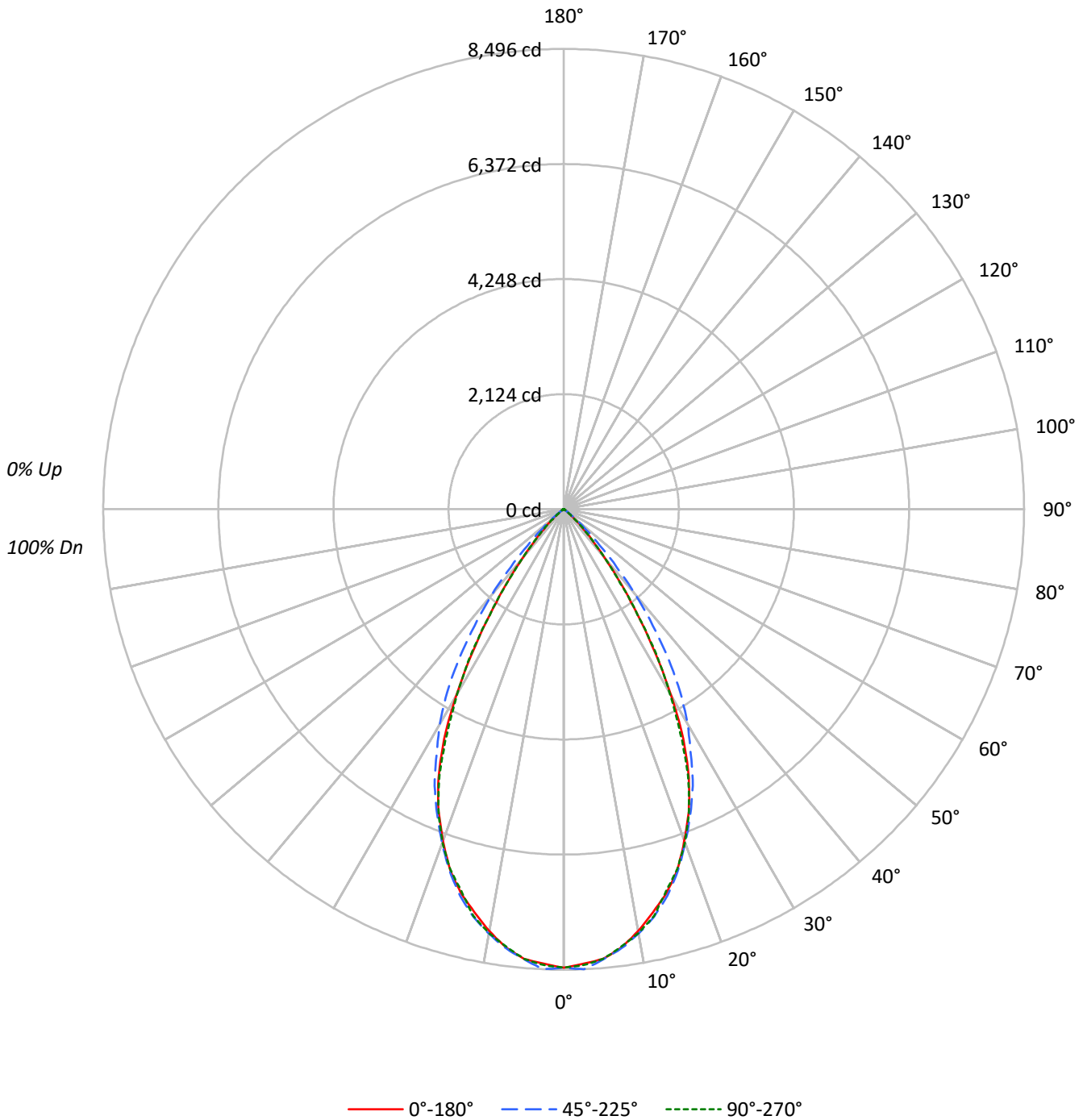
Lumens per Lamp: N/A
 Luminaire Lumens: 7809.0 lumens
 Efficiency: N/A
 Efficacy: 95.8 lumens/watt
 Spacing Criteria (0/90/45): 0.91 / 0.9 / 0.94
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

Input Watts (W): 81.5
 Input Voltage (V):
 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

Measurement and Test Equipment			
Instrument	Identification Number	Calibration Date	Calibration Due Date
Photometer	GONIO 1 IN0055	4/22/2021	10/22/2021
Power Meter	XITRON 2801 IN0197	12/1/2020	12/1/2021
AC Power Source	CHROMA 61505 IN0196	12/1/2020	12/1/2021
DC Power Supply	AGILENT E3634A IN0198	11/30/2020	11/30/2021
Room Thermometer	ONSET IN0143	12/1/2020	12/1/2021

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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	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				
1	113	111	108	106	111	108	106	104	104	103	101	101	99	98	97	96	95	93				
2	108	103	99	95	105	101	97	94	98	95	92	95	92	90	92	90	88	87				
3	102	96	91	87	100	94	90	86	92	88	84	89	86	83	87	84	82	80				
4	97	89	84	79	95	88	83	79	86	81	78	84	80	77	82	79	76	75				
5	92	83	77	73	90	82	77	73	81	76	72	79	75	71	77	74	71	69				
6	87	78	72	68	86	77	71	67	76	71	67	74	70	66	73	69	66	64				
7	83	73	67	63	81	73	67	63	71	66	62	70	65	62	69	65	62	60				
8	79	69	63	59	77	68	62	58	67	62	58	66	61	58	65	61	58	56				
9	75	65	59	55	74	64	59	55	63	58	55	63	58	54	62	57	54	53				
10	71	61	55	51	70	61	55	51	60	55	51	59	54	51	58	54	51	50				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	816142	816142	816142
5°	806765	807811	806765
10°	774501	779244	778195
15°	732203	737567	728437
20°	668219	673179	671536
25°	581845	600157	577832
30°	442454	508914	435881
35°	278505	395625	281038
40°	150267	261273	147559
45°	71134	129060	70384
50°	26630	48395	26630
55°	12650	15376	11776
60°	8298	7275	8298
65°	4909	4909	4909
70°	3019	4570	3019
75°	2050	2050	2050
80°	3056	3056	3056
85°	0	0	0

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	784.2	10.0
10°-20°	2055.3	26.3
20°-30°	2510.7	32.2
30°-40°	1756.1	22.5
40°-50°	575.5	7.4
50°-60°	91.5	1.2
60°-70°	25.0	0.3
70°-80°	8.4	0.1
80°-90°	2.3	0.0
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°	5350.3	68.5
0°-40°	7106.3	91.0
0°-60°	7773.3	99.5
0°-90°	7809.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7809.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	8458	8458	8458	8458	8458	
5°	8329	8332	8340	8289	8329	781
15°	7330	7360	7384	7335	7292	2045
25°	5465	5548	5637	5535	5428	2455
35°	2364	2792	3359	2749	2386	1509
45°	521	642	946	634	516	437
55°	75	81	91	81	70	74
65°	22	27	22	27	22	24
75°	6	6	6	6	6	8
85°	0	0	0	0	0	2
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	8458.4	8458.4	8458.4	8458.4	8458.4	8458.4	8458.4	8458.4	8458.4	8458.4	8458.4
2.5°	8393.9	8453.1	8436.9	8474.6	8474.6	8431.6	8442.4	8458.4	8479.9	8496.1	8366.9
5°	8329.4	8383.1	8334.7	8388.4	8356.2	8307.9	8388.4	8345.4	8372.4	8340.2	8361.7
7.5°	8157.5	8243.5	8146.7	8211.2	8189.7	8162.8	8195.0	8184.2	8200.5	8173.5	8114.5
10°	7904.9	7974.8	7910.3	8001.6	7958.6	7931.8	7958.6	7985.6	7980.1	7953.3	7985.6
12.5°	7614.7	7695.2	7663.0	7716.7	7668.5	7668.5	7732.9	7716.7	7722.2	7700.7	7738.2
15°	7329.9	7389.1	7340.6	7410.6	7389.1	7329.9	7356.6	7356.6	7399.8	7383.6	7340.6
17.5°	6975.3	7023.5	6969.8	6986.0	6964.5	6953.8	7066.5	6991.3	7034.3	7002.0	7007.5
20°	6507.7	6529.2	6513.0	6556.0	6529.2	6561.5	6550.7	6540.0	6540.0	6556.0	6518.5
22.5°	6034.7	6034.7	6051.0	6061.7	6083.2	6051.0	6115.4	6061.7	6067.0	6104.7	6093.9
25°	5465.2	5449.0	5486.7	5540.4	5561.9	5535.0	5620.9	5577.9	5610.2	5637.2	5577.9
27.5°	4772.0	4772.0	4809.5	4901.0	4917.0	4949.2	5067.4	5067.4	5110.4	5072.9	5115.9
30°	3971.2	4030.4	4078.6	4196.8	4234.6	4304.5	4428.0	4487.2	4583.9	4567.7	4546.2
32.5°	3149.1	3229.7	3235.0	3358.7	3460.7	3578.9	3745.5	3885.2	3955.2	4003.4	3949.7
35°	2364.4	2412.9	2455.9	2541.8	2713.8	2869.7	3020.1	3202.8	3326.5	3358.7	3310.2
37.5°	1730.4	1741.2	1784.2	1864.7	1993.6	2144.2	2326.9	2525.6	2654.8	2703.0	2649.3
40°	1193.0	1203.7	1225.2	1295.1	1402.6	1510.1	1655.2	1859.4	1977.6	2074.3	2004.3
42.5°	800.6	811.4	832.9	886.6	945.8	1047.8	1160.7	1289.7	1402.6	1445.6	1407.9
45°	521.3	521.3	532.0	569.7	602.0	682.4	763.1	843.6	918.8	945.8	918.8
47.5°	306.4	311.6	322.4	349.3	386.8	419.1	478.3	532.0	553.5	575.0	564.2
50°	177.4	177.4	193.4	209.6	236.4	257.9	279.4	300.9	311.6	322.4	311.6
52.5°	96.7	102.2	107.5	112.9	123.7	145.2	161.2	161.2	166.7	171.9	166.7
55°	75.2	75.2	75.2	75.2	80.7	80.7	80.7	86.0	86.0	91.4	86.0
57.5°	53.7	53.7	53.7	59.2	59.2	59.2	53.7	53.7	53.7	53.7	53.7
60°	43.0	43.0	43.0	43.0	43.0	43.0	43.0	37.7	37.7	37.7	37.7
62.5°	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2
65°	21.5	21.5	27.0	27.0	27.0	27.0	27.0	21.5	21.5	21.5	21.5
67.5°	16.2	16.2	16.2	16.2	21.5	21.5	16.2	16.2	16.2	16.2	16.2
70°	10.7	10.7	10.7	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2
72.5°	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7
75°	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
77.5°	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
80°	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.5	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
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):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	8458.4	8458.4	8458.4	8458.4	8458.4	8458.4	8458.4	8458.4
2.5°	8458.4	8366.9	8377.7	8426.1	8399.2	8426.1	8420.9	8420.9
5°	8366.9	8340.2	8297.2	8281.0	8313.2	8383.1	8372.4	8329.4
7.5°	8195.0	8125.3	8173.5	8195.0	8168.2	8211.2	8232.7	8141.3
10°	7990.8	7964.1	7953.3	7964.1	7953.3	7996.3	7942.6	7942.6
12.5°	7700.7	7657.7	7657.7	7722.2	7684.5	7652.2	7695.2	7690.0
15°	7410.6	7324.4	7324.4	7345.9	7362.1	7340.6	7345.9	7292.2
17.5°	6980.5	6953.8	6916.1	6975.3	6991.3	6969.8	6986.0	6959.1
20°	6577.5	6577.5	6507.7	6534.5	6556.0	6572.2	6583.0	6540.0
22.5°	6061.7	6072.4	6024.0	6077.7	6093.9	6040.2	6051.0	6040.2
25°	5588.7	5583.4	5545.7	5524.2	5535.0	5513.5	5508.2	5427.5
27.5°	5067.4	5013.7	4933.2	4954.7	4863.3	4788.1	4788.1	4664.4
30°	4503.2	4412.0	4304.5	4196.8	4116.4	4030.4	3981.9	3912.2
32.5°	3842.2	3718.8	3584.3	3439.2	3347.9	3219.0	3149.1	3186.8
35°	3186.8	3003.9	2821.2	2676.3	2536.4	2461.1	2375.2	2385.9
37.5°	2552.6	2294.7	2133.5	1977.6	1859.4	1762.7	1725.0	1714.2
40°	1864.7	1660.5	1499.3	1386.4	1305.9	1230.7	1187.7	1171.5
42.5°	1289.7	1144.7	1015.6	924.3	870.6	822.1	800.6	795.4
45°	838.4	752.4	666.4	602.0	559.0	526.7	521.3	515.8
47.5°	526.7	483.5	429.8	381.6	343.9	322.4	306.4	306.4
50°	300.9	284.9	257.9	231.1	209.6	198.9	182.7	177.4
52.5°	161.2	161.2	150.4	128.9	112.9	102.2	102.2	96.7
55°	86.0	86.0	80.7	80.7	75.2	75.2	75.2	70.0
57.5°	53.7	53.7	59.2	59.2	53.7	53.7	53.7	53.7
60°	37.7	43.0	43.0	43.0	43.0	43.0	43.0	43.0
62.5°	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2
65°	21.5	27.0	27.0	27.0	27.0	21.5	21.5	21.5
67.5°	16.2	16.2	16.2	16.2	16.2	16.2	16.2	16.2
70°	16.2	16.2	16.2	16.2	16.2	10.7	10.7	10.7
72.5°	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7
75°	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
77.5°	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
80°	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)