

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 FEU4C759050 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 FEU4C759050 F4LC-SQ-LI
 Description: 4 INCH 7500 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 5000K, 90CRI LEDS AND F4LC-SQ TRIM WITH LI FINISH
 Light Source: -
 Ballast/Driver: -

Summary

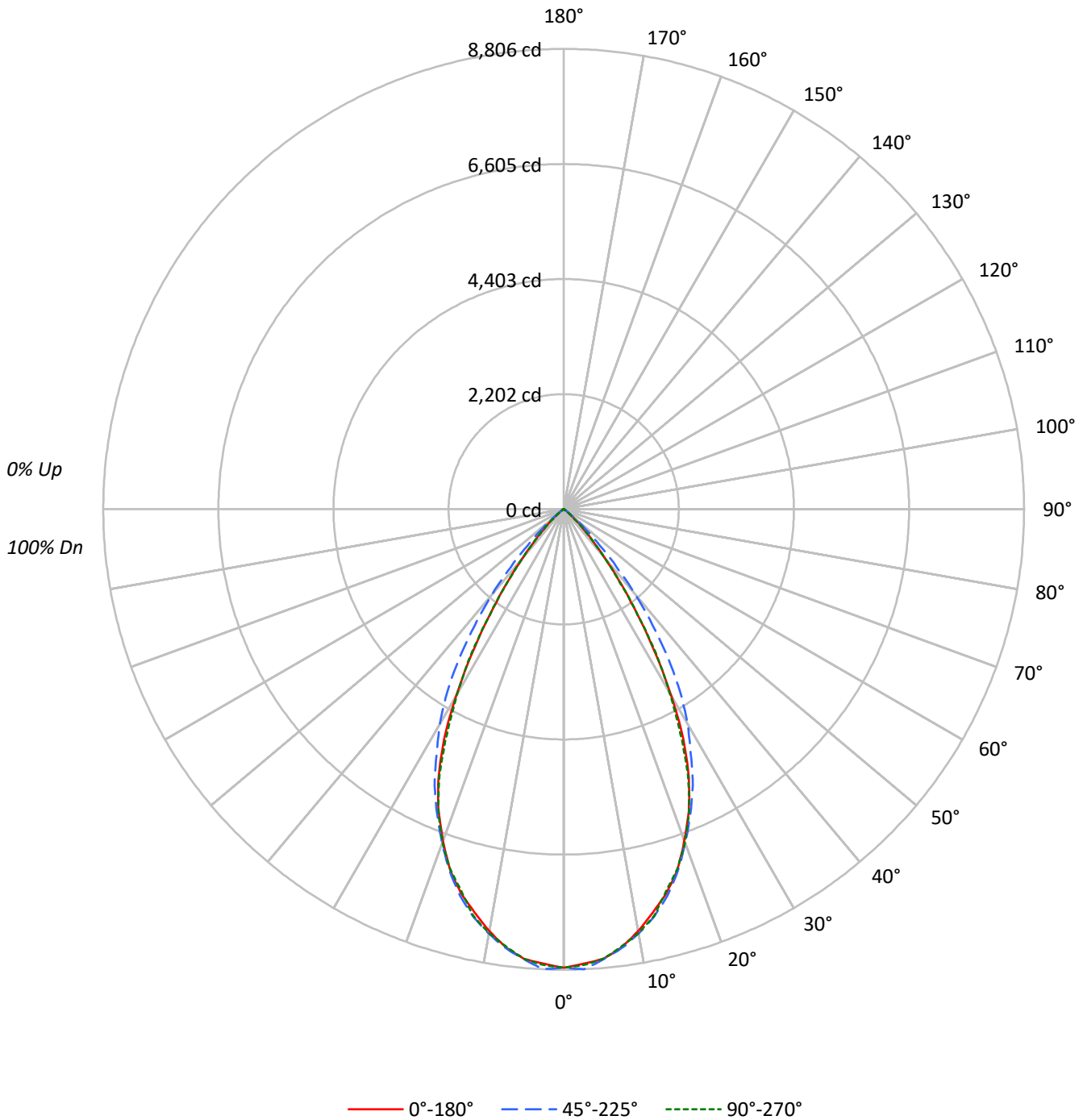
Lumens per Lamp: N/A
 Luminaire Lumens: 8094.0 lumens
 Efficiency: N/A
 Efficacy: 99.3 lumens/watt
 Spacing Criteria (0/90/45): 0.91 / 0.9 / 0.94
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

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	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°	845928	845928	845928
5°	836209	837284	836209
10°	802768	807686	806599
15°	758924	764488	755019
20°	692616	697750	696046
25°	603085	622057	598922
30°	458598	527487	451791
35°	288671	410066	291298
40°	155746	270808	152937
45°	73727	133768	72949
50°	27605	50152	27605
55°	13121	15948	12196
60°	8607	7545	8607
65°	5091	5091	5091
70°	3131	4740	3131
75°	2125	2125	2125
80°	3167	3167	3167
85°	0	0	0

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	812.9	10.0
10°-20°	2130.3	26.3
20°-30°	2602.4	32.2
30°-40°	1820.2	22.5
40°-50°	596.5	7.4
50°-60°	94.9	1.2
60°-70°	25.9	0.3
70°-80°	8.7	0.1
80°-90°	2.4	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°	5545.5	68.5
0°-40°	7365.7	91.0
0°-60°	8057.0	99.5
0°-90°	8094.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8094.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	8767	8767	8767	8767	8767	
5°	8633	8636	8644	8592	8633	810
15°	7597	7628	7653	7603	7558	2119
25°	5665	5751	5843	5737	5626	2545
35°	2451	2894	3481	2849	2473	1564
45°	540	666	980	657	535	453
55°	78	84	95	84	72	77
65°	22	28	22	28	22	25
75°	6	6	6	6	6	8
85°	0	0	0	0	0	2
90°	0	0	0	0	0	

TEST NUMBER: P#
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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	8767.1	8767.1	8767.1	8767.1	8767.1	8767.1	8767.1	8767.1	8767.1	8767.1	8767.1
2.5°	8700.2	8761.6	8744.8	8783.9	8783.9	8739.3	8750.5	8767.1	8789.3	8806.2	8672.3
5°	8633.4	8689.1	8638.9	8694.6	8661.1	8611.1	8694.6	8650.0	8678.0	8644.5	8666.8
7.5°	8455.2	8544.3	8444.1	8510.9	8488.6	8460.7	8494.1	8482.9	8499.8	8471.8	8410.7
10°	8193.4	8265.9	8199.0	8293.6	8249.1	8221.3	8249.1	8277.0	8271.3	8243.6	8277.0
12.5°	7892.6	7976.1	7942.7	7998.3	7948.3	7948.3	8015.2	7998.3	8004.0	7981.8	8020.6
15°	7597.4	7658.8	7608.5	7681.0	7658.8	7597.4	7625.1	7625.1	7669.9	7653.1	7608.5
17.5°	7229.9	7279.9	7224.2	7241.0	7218.7	7207.6	7324.4	7246.4	7291.0	7257.6	7263.3
20°	6745.3	6767.5	6750.7	6795.3	6767.5	6800.9	6789.8	6778.7	6778.7	6795.3	6756.4
22.5°	6255.0	6255.0	6271.8	6282.9	6305.2	6271.8	6338.6	6282.9	6288.4	6327.5	6316.3
25°	5664.7	5647.9	5687.0	5742.6	5764.9	5737.0	5826.1	5781.5	5814.9	5842.9	5781.5
27.5°	4946.2	4946.2	4985.1	5079.9	5096.4	5129.9	5252.4	5252.4	5296.9	5258.1	5302.6
30°	4116.1	4177.5	4227.5	4350.0	4389.1	4461.6	4589.6	4650.9	4751.2	4734.4	4712.1
32.5°	3264.0	3347.6	3353.1	3481.3	3587.0	3709.5	3882.2	4027.0	4099.5	4149.5	4093.8
35°	2450.7	2500.9	2545.5	2634.6	2812.8	2974.4	3130.3	3319.7	3447.9	3481.3	3431.0
37.5°	1793.6	1804.7	1849.3	1932.7	2066.4	2222.5	2411.8	2617.8	2751.6	2801.7	2746.0
40°	1236.5	1247.6	1269.9	1342.4	1453.8	1565.2	1715.6	1927.2	2049.8	2150.0	2077.5
42.5°	829.9	841.0	863.3	919.0	980.3	1086.0	1203.1	1336.7	1453.8	1498.3	1459.2
45°	540.3	540.3	551.4	590.5	623.9	707.3	791.0	874.4	952.4	980.3	952.4
47.5°	317.5	323.0	334.1	362.1	401.0	434.4	495.7	551.4	573.7	596.0	584.8
50°	183.9	183.9	200.5	217.3	245.0	267.3	289.6	311.9	323.0	334.1	323.0
52.5°	100.2	105.9	111.4	117.1	128.2	150.5	167.1	167.1	172.7	178.2	172.7
55°	78.0	78.0	78.0	78.0	83.6	83.6	83.6	89.1	89.1	94.8	89.1
57.5°	55.7	55.7	55.7	61.4	61.4	61.4	55.7	55.7	55.7	55.7	55.7
60°	44.6	44.6	44.6	44.6	44.6	44.6	44.6	39.1	39.1	39.1	39.1
62.5°	33.4	33.4	33.4	33.4	33.4	33.4	33.4	33.4	33.4	33.4	33.4
65°	22.3	22.3	28.0	28.0	28.0	28.0	28.0	22.3	22.3	22.3	22.3
67.5°	16.8	16.8	16.8	16.8	22.3	22.3	16.8	16.8	16.8	16.8	16.8
70°	11.1	11.1	11.1	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8
72.5°	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1
75°	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
77.5°	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
80°	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.7	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°	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
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°	8767.1	8767.1	8767.1	8767.1	8767.1	8767.1	8767.1	8767.1
2.5°	8767.1	8672.3	8683.4	8733.6	8705.7	8733.6	8728.2	8728.2
5°	8672.3	8644.5	8600.0	8583.2	8616.6	8689.1	8678.0	8633.4
7.5°	8494.1	8421.8	8471.8	8494.1	8466.3	8510.9	8533.2	8438.4
10°	8282.5	8254.7	8243.6	8254.7	8243.6	8288.1	8232.5	8232.5
12.5°	7981.8	7937.2	7937.2	8004.0	7964.9	7931.5	7976.1	7970.6
15°	7681.0	7591.7	7591.7	7614.0	7630.8	7608.5	7614.0	7558.3
17.5°	7235.3	7207.6	7168.5	7229.9	7246.4	7224.2	7241.0	7213.0
20°	6817.5	6817.5	6745.3	6773.0	6795.3	6812.1	6823.2	6778.7
22.5°	6282.9	6294.1	6243.8	6299.5	6316.3	6260.7	6271.8	6260.7
25°	5792.7	5787.2	5748.1	5725.8	5737.0	5714.7	5709.2	5625.6
27.5°	5252.4	5196.7	5113.3	5135.5	5040.8	4962.8	4962.8	4834.6
30°	4667.5	4573.0	4461.6	4350.0	4266.6	4177.5	4127.3	4055.0
32.5°	3982.5	3854.5	3715.2	3564.7	3470.1	3336.5	3264.0	3303.1
35°	3303.1	3113.5	2924.2	2773.9	2628.9	2551.0	2461.9	2473.0
37.5°	2645.7	2378.4	2211.4	2049.8	1927.2	1827.0	1787.9	1776.8
40°	1932.7	1721.1	1554.0	1437.0	1353.5	1275.6	1231.0	1214.2
42.5°	1336.7	1186.5	1052.6	958.1	902.4	852.1	829.9	824.4
45°	869.0	779.9	690.8	623.9	579.4	546.0	540.3	534.6
47.5°	546.0	501.2	445.5	395.5	356.4	334.1	317.5	317.5
50°	311.9	295.3	267.3	239.6	217.3	206.2	189.3	183.9
52.5°	167.1	167.1	155.9	133.7	117.1	105.9	105.9	100.2
55°	89.1	89.1	83.6	83.6	78.0	78.0	78.0	72.5
57.5°	55.7	55.7	61.4	61.4	55.7	55.7	55.7	55.7
60°	39.1	44.6	44.6	44.6	44.6	44.6	44.6	44.6
62.5°	33.4	33.4	33.4	33.4	33.4	33.4	33.4	33.4
65°	22.3	28.0	28.0	28.0	28.0	22.3	22.3	22.3
67.5°	16.8	16.8	16.8	16.8	16.8	16.8	16.8	16.8
70°	16.8	16.8	16.8	16.8	16.8	11.1	11.1	11.1
72.5°	11.1	11.1	11.1	11.1	11.1	11.1	11.1	11.1
75°	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
77.5°	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
80°	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
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°	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)