

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: **FLDSQ4C100D010 FEU4C1009030 F4LC-SQ-WLI**

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: FLDSQ4C100D010 FEU4C1009030 F4LC-SQ-WLI  
 Description: 4 INCH 10000 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 3000K, 90CRI LEDS AND F4LC-SQW TRIM WITH LI FINISH  
 Light Source: -  
 Ballast/Driver: -

**Summary**

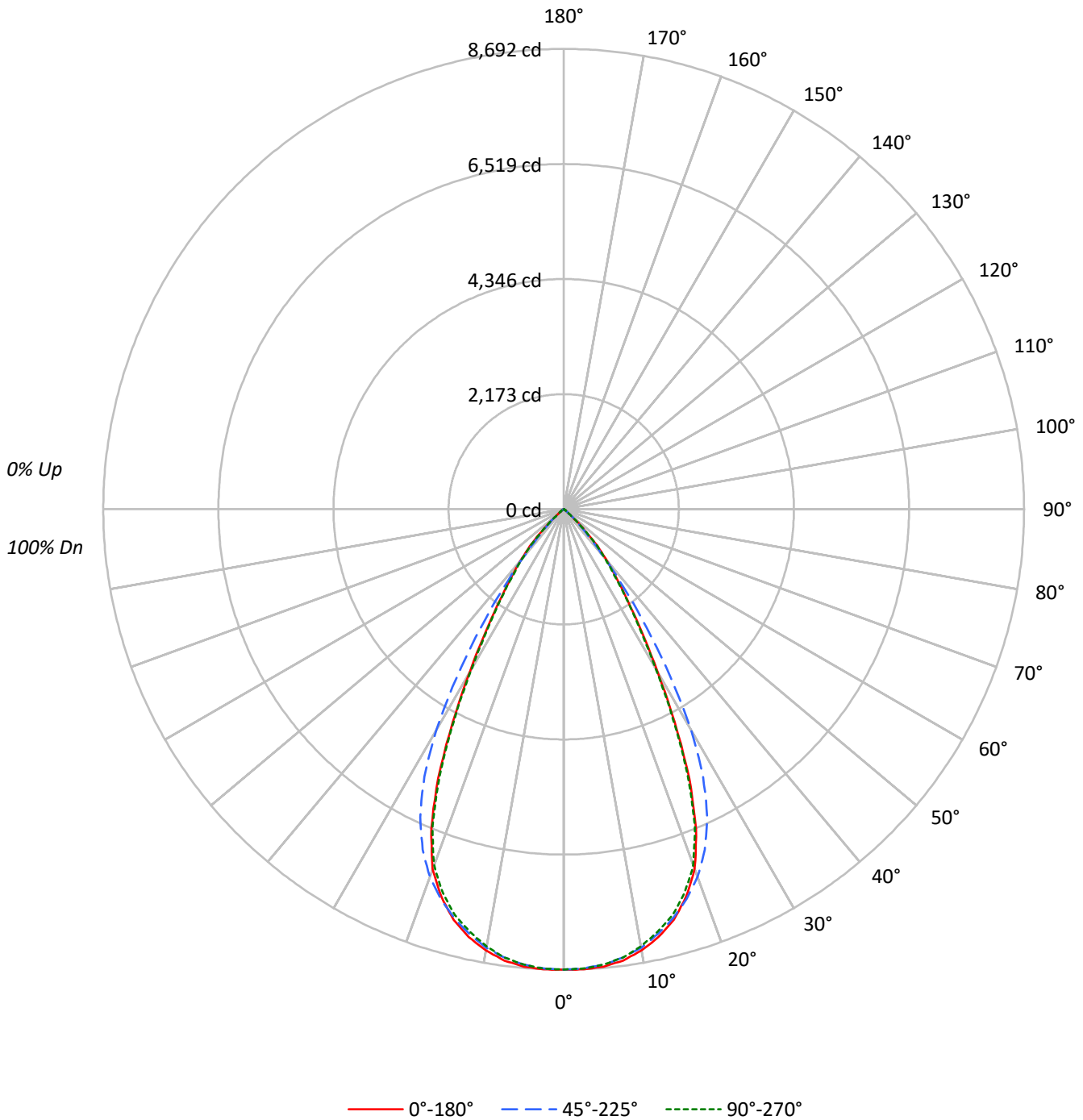
Lumens per Lamp: N/A  
 Luminaire Lumens: 7780.0 lumens  
 Efficiency: N/A  
 Efficacy: 68.0 lumens/watt  
 Spacing Criteria (0/90/45): 0.91 / 0.91 / 0.9  
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
 CIE Type: Direct

Input Watts (W): 114.4  
 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	100	100	100	
1	114	111	108	106	111	109	106	104	105	103	101	101	100	98	97	96	95	94	94	94	94	
2	108	103	99	96	106	102	98	95	98	95	93	95	93	91	93	91	89	87	87	87	87	
3	103	96	91	88	101	95	90	87	92	89	85	90	87	84	88	85	83	81	81	81	81	
4	98	90	85	80	96	89	84	80	87	82	79	85	81	78	83	80	77	76	76	76	76	
5	93	84	79	74	91	84	78	74	82	77	73	80	76	73	79	75	72	71	71	71	71	
6	88	79	73	69	87	79	73	69	77	72	68	76	71	68	74	71	68	66	66	66	66	
7	84	75	69	65	82	74	68	64	73	68	64	71	67	64	70	66	63	62	62	62	62	
8	80	70	64	60	79	70	64	60	69	64	60	68	63	60	67	63	59	58	58	58	58	
9	76	66	61	57	75	66	60	57	65	60	56	64	60	56	63	59	56	55	55	55	55	
10	72	63	57	53	71	62	57	53	62	57	53	61	56	53	60	56	53	52	52	52	52	

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	838527	838527	838527
5°	839406	835541	835541
10°	828379	823490	820953
15°	801499	797713	792329
20°	742283	758476	734089
25°	596825	682273	588968
30°	393933	534952	384585
35°	246207	321228	241743
40°	160684	148869	154398
45°	77370	59386	73004
50°	19484	23672	18283
55°	10749	9740	10413
60°	7314	6156	6928
65°	5023	4566	5023
70°	3950	3385	3950
75°	2982	2982	2982
80°	2223	3334	3334
85°	2214	4428	4428

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	817.3	10.5
10°-20°	2231.9	28.7
20°-30°	2659.8	34.2
30°-40°	1506.1	19.4
40°-50°	465.6	6.0
50°-60°	64.7	0.8
60°-70°	22.1	0.3
70°-80°	8.8	0.1
80°-90°	3.7	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°	5709.0	73.4
0°-40°	7215.1	92.7
0°-60°	7745.4	99.6
0°-90°	7780.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7780.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	8690	8690	8690	8690	8690	
5°	8666	8646	8626	8620	8626	821
15°	8024	8010	7986	7954	7932	2237
25°	5606	5933	6408	5943	5532	2499
35°	2090	2280	2727	2286	2052	1360
45°	567	661	435	643	535	468
55°	64	64	58	62	62	63
65°	22	22	20	22	22	23
75°	8	8	8	8	8	9
85°	2	4	4	4	4	3
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	8690.4	8690.4	8690.4	8690.4	8690.4
2.5°	8692.4	8678.4	8674.4	8670.4	8678.4
5°	8666.4	8646.5	8626.5	8620.5	8626.5
7.5°	8592.6	8572.6	8538.7	8530.7	8536.7
10°	8454.8	8436.9	8404.9	8386.9	8379.0
12.5°	8273.2	8243.2	8213.3	8193.3	8173.3
15°	8023.6	8009.6	7985.7	7953.7	7931.8
17.5°	7678.2	7698.2	7712.2	7648.3	7590.4
20°	7229.0	7302.9	7386.7	7257.0	7149.2
22.5°	6528.3	6739.9	6953.5	6708.0	6468.4
25°	5605.9	5933.4	6408.5	5943.3	5532.1
27.5°	4529.9	4945.1	5693.8	4947.1	4470.0
30°	3535.7	3962.9	4801.4	3907.0	3451.8
32.5°	2715.1	3034.6	3751.3	2986.6	2657.2
35°	2090.2	2279.9	2727.1	2285.9	2052.3
37.5°	1625.1	1720.9	1834.7	1687.0	1577.2
40°	1275.7	1279.7	1181.9	1259.7	1225.8
42.5°	946.3	942.3	726.7	918.4	924.3
45°	567.0	660.8	435.2	642.8	535.0
47.5°	269.5	373.3	261.5	353.4	249.6
50°	129.8	179.7	157.7	167.7	121.8
52.5°	87.8	91.8	89.8	87.8	83.8
55°	63.9	63.9	57.9	61.9	61.9
57.5°	47.9	47.9	41.9	45.9	45.9
60°	37.9	35.9	31.9	35.9	35.9
62.5°	27.9	27.9	24.0	27.9	27.9
65°	22.0	22.0	20.0	22.0	22.0
67.5°	18.0	18.0	14.0	18.0	16.0
70°	14.0	14.0	12.0	14.0	14.0
72.5°	10.0	10.0	10.0	10.0	10.0
75°	8.0	8.0	8.0	8.0	8.0
77.5°	6.0	6.0	6.0	6.0	6.0
80°	4.0	4.0	6.0	6.0	6.0
82.5°	4.0	4.0	4.0	4.0	4.0
85°	2.0	4.0	4.0	4.0	4.0
87.5°	2.0	2.0	4.0	4.0	4.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)