

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: **FLDSQ4C10D010 FEU4C109030 F4LC-SQ-WH**

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: FLDSQ4C10D010 FEU4C109030 F4LC-SQ-WH
 Description: 4 INCH 1000 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 3000K, 90CRI LEDS AND F4LC-SQW TRIM WITH H FINISH
 Light Source: -
 Ballast/Driver: -

Summary

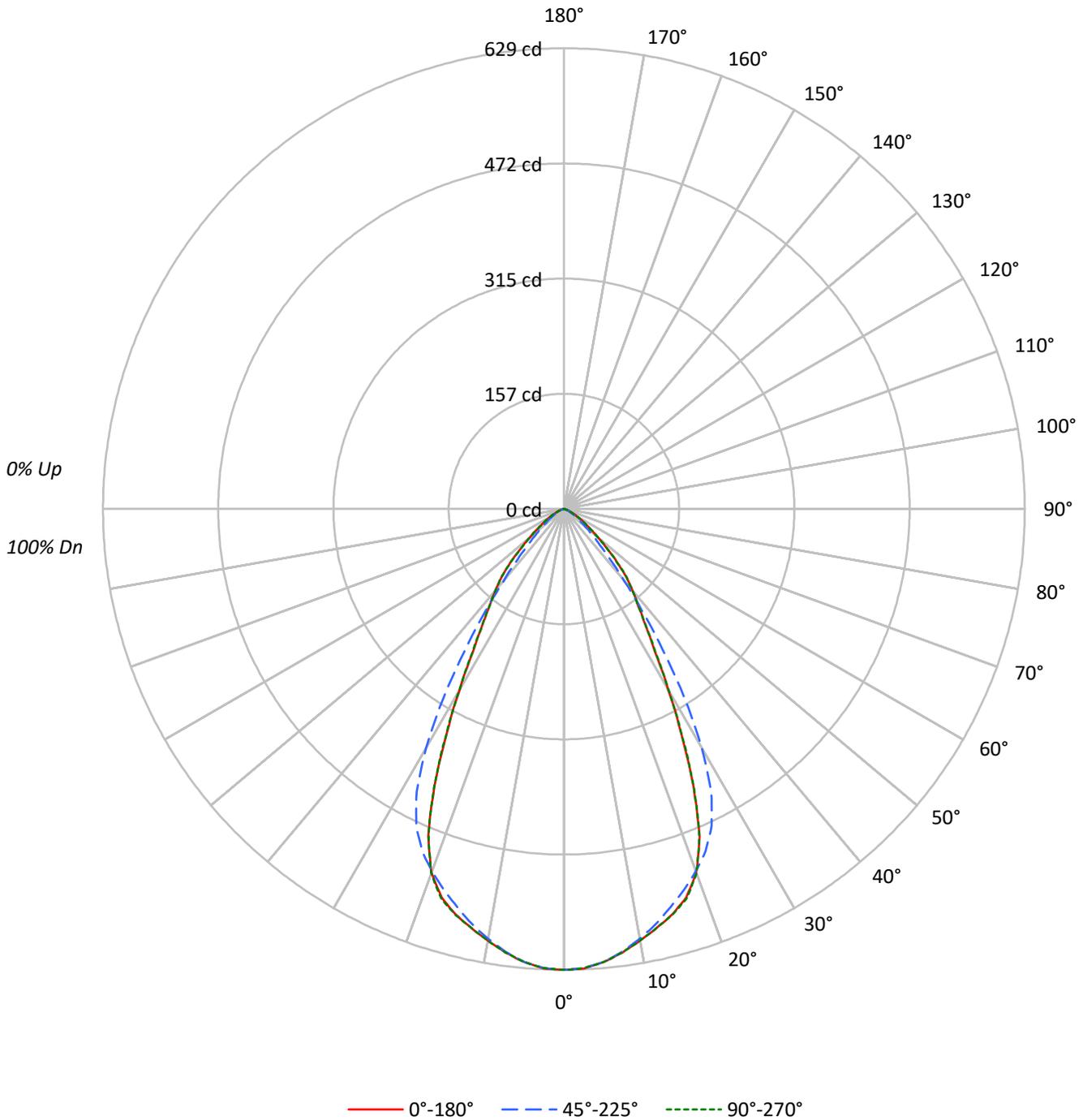
Lumens per Lamp: N/A
 Luminaire Lumens: 666.0 lumens
 Efficiency: N/A
 Efficacy: 68.0 lumens/watt
 Spacing Criteria (0/90/45): 0.93 / 0.93 / 0.94
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

Input Watts (W): 9.8
 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	110	107	105	110	108	105	103	104	102	100		100	98	97		96	95	94	92
2	107	101	97	93	104	99	95	92	96	93	90		93	90	88		90	88	86	84
3	101	93	88	84	98	92	87	83	89	85	82		87	83	80		85	82	79	77
4	95	87	80	76	93	85	80	75	83	78	74		81	77	74		79	76	73	71
5	89	80	74	69	88	79	73	69	78	72	68		76	71	68		74	70	67	65
6	85	75	68	64	83	74	68	63	72	67	63		71	66	63		70	65	62	61
7	80	70	63	59	79	69	63	59	68	62	58		67	62	58		65	61	58	56
8	76	65	59	55	74	65	59	54	64	58	54		63	58	54		62	57	54	52
9	72	61	55	51	71	61	55	51	60	54	51		59	54	50		58	54	50	49
10	68	58	52	48	67	57	51	47	57	51	47		56	51	47		55	50	47	46

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	60711	60711	60711
5°	60158	60119	60139
10°	58620	58385	58620
15°	57209	56180	57268
20°	54236	54041	54339
25°	44491	50762	44725
30°	31731	41937	31776
35°	22887	27787	22958
40°	18352	16148	18352
45°	14000	9429	13891
50°	9232	6019	9202
55°	6207	4037	6140
60°	4168	2760	4207
65°	2854	1941	2808
70°	1890	1411	1890
75°	1268	1044	1268
80°	889	778	889
85°	664	664	664

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	58.5	8.8
10°-20°	159.5	23.9
20°-30°	199.4	29.9
30°-40°	134.1	20.1
40°-50°	70.8	10.6
50°-60°	28.8	4.3
60°-70°	10.7	1.6
70°-80°	3.5	0.5
80°-90°	0.7	0.1
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°	417.4	62.7
0°-40°	551.5	82.8
0°-60°	651.1	97.8
0°-90°	666.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	666.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	629	629	629	629	629	
5°	621	620	621	621	621	59
15°	573	568	562	568	573	160
25°	418	441	477	442	420	188
35°	194	204	236	204	195	125
45°	103	97	69	97	102	79
55°	37	31	24	31	36	34
65°	12	10	8	10	12	13
75°	3	3	3	3	3	4
85°	1	1	1	1	1	1
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	629.2	629.2	629.2	629.2	629.2
2.5°	627.7	627.3	627.1	627.1	627.3
5°	621.1	620.5	620.7	620.7	620.9
7.5°	610.6	610.4	609.8	610.6	610.6
10°	598.3	597.3	595.9	597.5	598.3
12.5°	585.6	582.6	580.2	582.6	585.6
15°	572.7	567.9	562.4	567.7	573.3
17.5°	555.8	551.1	544.9	552.1	557.4
20°	528.2	528.6	526.3	528.2	529.2
22.5°	484.0	492.9	505.4	493.1	482.6
25°	417.9	441.3	476.8	442.1	420.1
27.5°	347.1	376.8	435.0	378.6	349.2
30°	284.8	311.1	376.4	312.9	285.2
32.5°	230.6	250.2	306.0	252.6	233.2
35°	194.3	204.0	235.9	204.4	194.9
37.5°	166.5	166.5	175.2	167.3	165.7
40°	145.7	139.3	128.2	139.1	145.7
42.5°	126.2	116.7	93.1	116.3	126.6
45°	102.6	97.4	69.1	97.0	101.8
47.5°	78.8	75.2	52.0	74.8	79.4
50°	61.5	56.0	40.1	55.6	61.3
52.5°	47.2	41.3	31.0	41.3	46.8
55°	36.9	31.0	24.0	31.0	36.5
57.5°	28.4	23.6	18.3	23.2	28.2
60°	21.6	17.7	14.3	17.7	21.8
62.5°	16.5	13.5	10.9	13.3	16.3
65°	12.5	10.1	8.5	10.1	12.3
67.5°	9.1	7.5	6.5	7.5	9.3
70°	6.7	5.8	5.0	5.6	6.7
72.5°	5.0	4.2	3.8	4.2	5.0
75°	3.4	3.0	2.8	3.0	3.4
77.5°	2.4	2.2	2.0	2.2	2.4
80°	1.6	1.4	1.4	1.6	1.6
82.5°	1.0	1.0	1.0	1.0	1.0
85°	0.6	0.6	0.6	0.6	0.6
87.5°	0.4	0.4	0.4	0.4	0.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)