

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 FEU4C109027 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: FLDSQ4C10D010 FEU4C109027 F4LC-SQ-WLI
 Description: 4 INCH 1000 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 2700K, 90CRI LEDS AND F4LC-SQW TRIM WITH LI FINISH
 Light Source: -
 Ballast/Driver: -

Summary

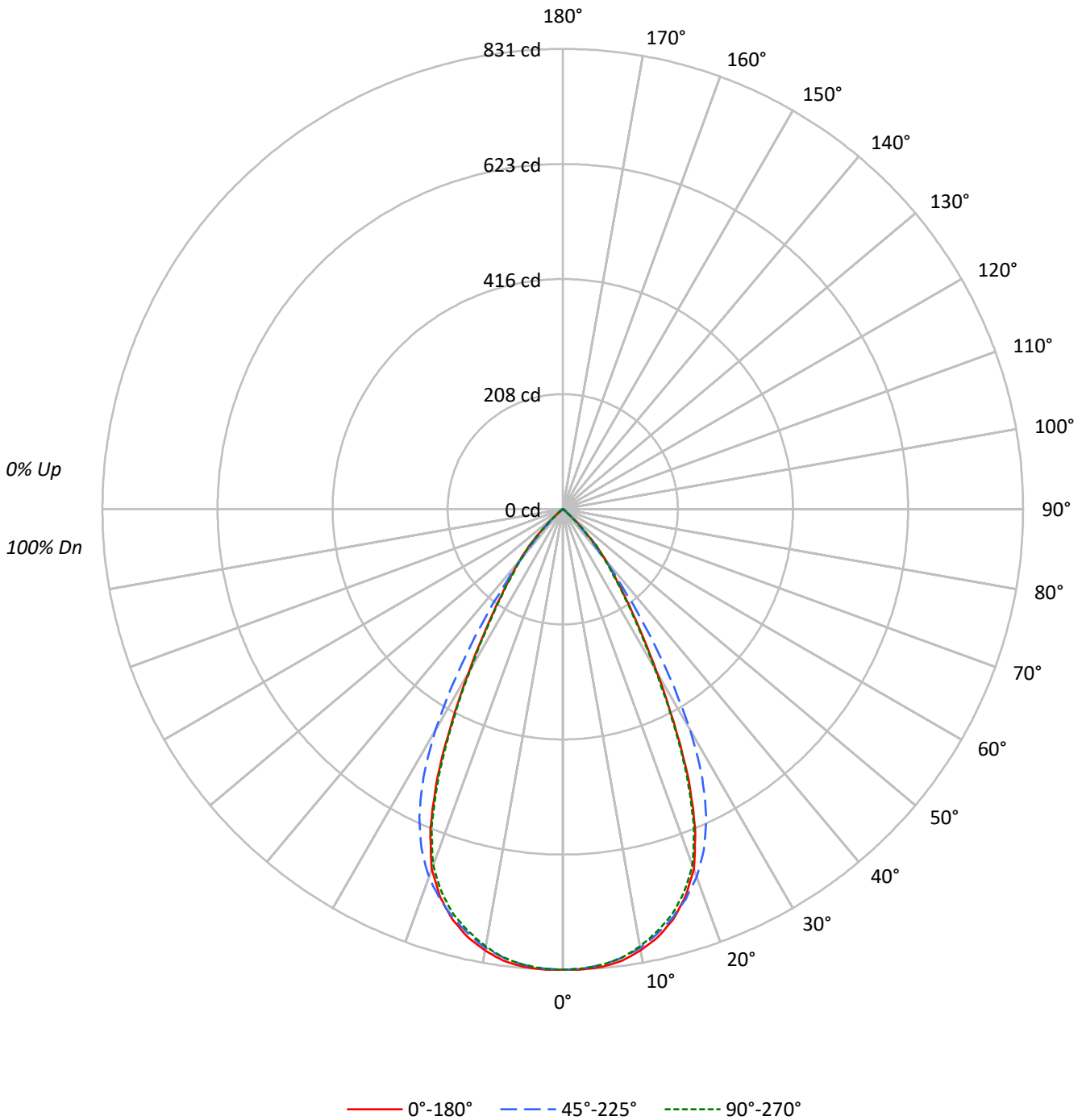
Lumens per Lamp: N/A
 Luminaire Lumens: 744.0 lumens
 Efficiency: N/A
 Efficacy: 75.9 lumens/watt
 Spacing Criteria (0/90/45): 0.91 / 0.91 / 0.9
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	80192	80192	80192
5°	80275	79907	79907
10°	79215	78754	78509
15°	76648	76288	75769
20°	70984	72534	70203
25°	57075	65241	56319
30°	37670	51162	36778
35°	23546	30720	23122
40°	15367	14233	14762
45°	7396	5677	6987
50°	1861	2267	1741
55°	1026	925	993
60°	695	598	656
65°	479	434	479
70°	367	310	367
75°	298	298	298
80°	222	333	333
85°	221	443	443

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	78.2	10.5
10°-20°	213.4	28.7
20°-30°	254.4	34.2
30°-40°	144.0	19.4
40°-50°	44.5	6.0
50°-60°	6.2	0.8
60°-70°	2.1	0.3
70°-80°	0.9	0.1
80°-90°	0.4	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°	546.0	73.4
0°-40°	690.0	92.7
0°-60°	740.7	99.6
0°-90°	744.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	744.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	831	831	831	831	831	
5°	829	827	825	824	825	78
15°	767	766	764	761	758	214
25°	536	567	613	568	529	239
35°	200	218	261	219	196	130
45°	54	63	42	62	51	45
55°	6	6	6	6	6	6
65°	2	2	2	2	2	2
75°	1	1	1	1	1	1
85°	0	0	0	0	0	0
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	831.1	831.1	831.1	831.1	831.1
2.5°	831.3	829.9	829.5	829.2	829.9
5°	828.8	826.9	825.0	824.4	825.0
7.5°	821.7	819.8	816.6	815.8	816.4
10°	808.5	806.8	803.8	802.0	801.3
12.5°	791.2	788.3	785.4	783.5	781.6
15°	767.3	766.0	763.7	760.6	758.5
17.5°	734.3	736.2	737.5	731.4	725.9
20°	691.3	698.4	706.4	694.0	683.7
22.5°	624.3	644.5	665.0	641.5	618.6
25°	536.1	567.4	612.8	568.4	529.0
27.5°	433.2	472.9	544.5	473.1	427.5
30°	338.1	379.0	459.2	373.6	330.1
32.5°	259.6	290.2	358.7	285.6	254.1
35°	199.9	218.0	260.8	218.6	196.3
37.5°	155.4	164.6	175.5	161.3	150.8
40°	122.0	122.4	113.0	120.5	117.2
42.5°	90.5	90.1	69.5	87.8	88.4
45°	54.2	63.2	41.6	61.5	51.2
47.5°	25.8	35.7	25.0	33.8	23.9
50°	12.4	17.2	15.1	16.0	11.6
52.5°	8.4	8.8	8.6	8.4	8.0
55°	6.1	6.1	5.5	5.9	5.9
57.5°	4.6	4.6	4.0	4.4	4.4
60°	3.6	3.4	3.1	3.4	3.4
62.5°	2.7	2.7	2.3	2.7	2.7
65°	2.1	2.1	1.9	2.1	2.1
67.5°	1.7	1.7	1.3	1.7	1.5
70°	1.3	1.3	1.1	1.3	1.3
72.5°	1.0	1.0	1.0	1.0	1.0
75°	0.8	0.8	0.8	0.8	0.8
77.5°	0.6	0.6	0.6	0.6	0.6
80°	0.4	0.4	0.6	0.6	0.6
82.5°	0.4	0.4	0.4	0.4	0.4
85°	0.2	0.4	0.4	0.4	0.4
87.5°	0.2	0.2	0.4	0.4	0.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)