

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: **FLDSQ4C90D010 FEU4C909040 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: FLDSQ4C90D010 FEU4C909040 F4LC-SQ-WH
 Description: 4 INCH 9000 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 4000K, 90CRI LEDS AND F4LC-SQW TRIM WITH H FINISH
 Light Source: -
 Ballast/Driver: -

Summary

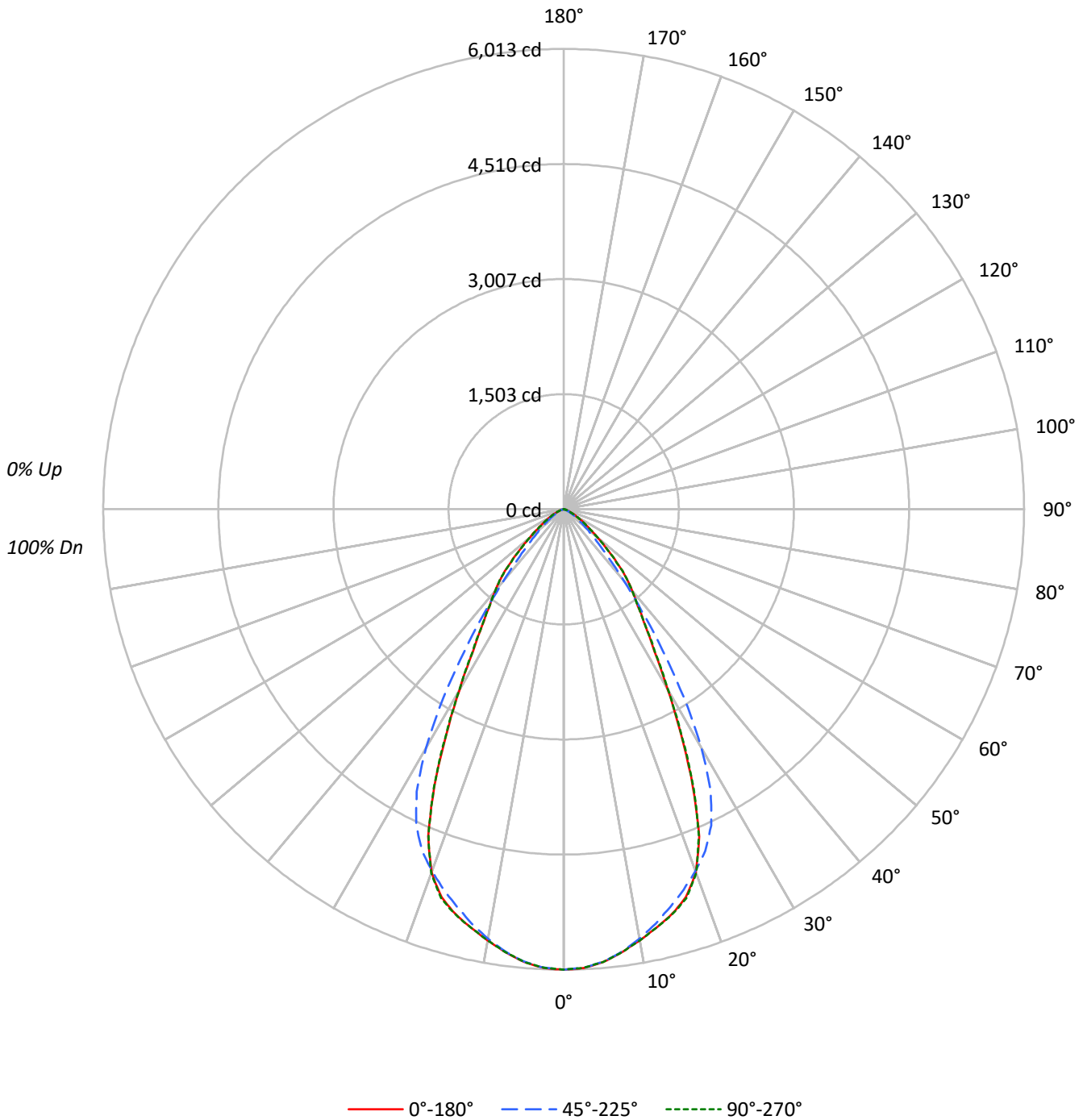
Lumens per Lamp: N/A
 Luminaire Lumens: 6364.0 lumens
 Efficiency: N/A
 Efficacy: 65.5 lumens/watt
 Spacing Criteria (0/90/45): 0.93 / 0.93 / 0.94
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

Input Watts (W): 97.1
 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	66
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°	580168	580168	580168
5°	574849	574481	574665
10°	560137	557903	560137
15°	546653	536803	547222
20°	518294	516354	519270
25°	425152	485102	427367
30°	303162	400774	303586
35°	218668	265572	219327
40°	175307	154285	175307
45°	133768	90047	132731
50°	88235	57492	87949
55°	59332	38590	58693
60°	39889	26341	40255
65°	27283	18607	26850
70°	18196	13372	18196
75°	12004	9879	12004
80°	8446	7390	8446
85°	6310	6310	6310

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	558.9	8.8
10°-20°	1524.1	23.9
20°-30°	1905.3	29.9
30°-40°	1281.7	20.1
40°-50°	676.8	10.6
50°-60°	275.1	4.3
60°-70°	102.0	1.6
70°-80°	32.9	0.5
80°-90°	7.1	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°	3988.4	62.7
0°-40°	5270.1	82.8
0°-60°	6222.0	97.8
0°-90°	6364.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6364.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6013	6013	6013	6013	6013	
5°	5935	5929	5931	5931	5933	559
15°	5472	5427	5374	5425	5478	1533
25°	3993	4217	4556	4225	4014	1797
35°	1856	1949	2255	1953	1862	1195
45°	980	931	660	927	973	752
55°	353	296	229	296	349	327
65°	120	97	82	97	118	123
75°	32	28	26	28	32	37
85°	6	6	6	6	6	7
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6012.8	6012.8	6012.8	6012.8	6012.8
2.5°	5997.6	5993.8	5991.9	5991.9	5993.8
5°	5935.0	5929.4	5931.2	5931.2	5933.1
7.5°	5834.5	5832.6	5827.0	5834.5	5834.5
10°	5717.0	5707.5	5694.2	5709.4	5717.0
12.5°	5595.6	5567.2	5544.4	5567.2	5595.6
15°	5472.4	5426.9	5373.8	5425.0	5478.1
17.5°	5311.2	5265.7	5206.9	5275.2	5326.4
20°	5047.6	5051.4	5028.7	5047.6	5057.1
22.5°	4624.8	4710.1	4829.6	4712.0	4611.5
25°	3993.4	4217.1	4556.5	4224.7	4014.2
27.5°	3316.4	3600.8	4156.4	3617.9	3337.3
30°	2721.0	2973.2	3597.1	2990.3	2724.8
32.5°	2203.4	2391.1	2923.9	2413.8	2228.0
35°	1856.4	1949.3	2254.6	1953.1	1862.0
37.5°	1590.9	1590.9	1674.3	1598.5	1583.3
40°	1391.8	1331.1	1224.9	1329.2	1391.8
42.5°	1206.0	1115.0	889.3	1111.2	1209.8
45°	980.3	931.0	659.9	927.2	972.7
47.5°	752.8	718.7	496.8	714.9	758.5
50°	587.8	534.7	383.0	530.9	585.9
52.5°	451.3	394.4	295.8	394.4	447.5
55°	352.7	295.8	229.4	295.8	348.9
57.5°	271.2	225.6	174.4	221.9	269.3
60°	206.7	168.8	136.5	168.8	208.6
62.5°	157.4	128.9	104.3	127.0	155.5
65°	119.5	96.7	81.5	96.7	117.6
67.5°	87.2	72.1	62.6	72.1	89.1
70°	64.5	55.0	47.4	53.1	64.5
72.5°	47.4	39.8	36.0	39.8	47.4
75°	32.2	28.4	26.5	28.4	32.2
77.5°	22.8	20.9	19.0	20.9	22.8
80°	15.2	13.3	13.3	15.2	15.2
82.5°	9.5	9.5	9.5	9.5	9.5
85°	5.7	5.7	5.7	5.7	5.7
87.5°	3.8	3.8	3.8	3.8	3.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)