

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: **FLDSQ4C70D010 FEU4C709040 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: FLDSQ4C70D010 FEU4C709040 F4LC-SQ-WH
 Description: 4 INCH 7000 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 4000K, 90CRI LEDS AND F4LC-SQW TRIM WITH H FINISH
 Light Source: -
 Ballast/Driver: -

Summary

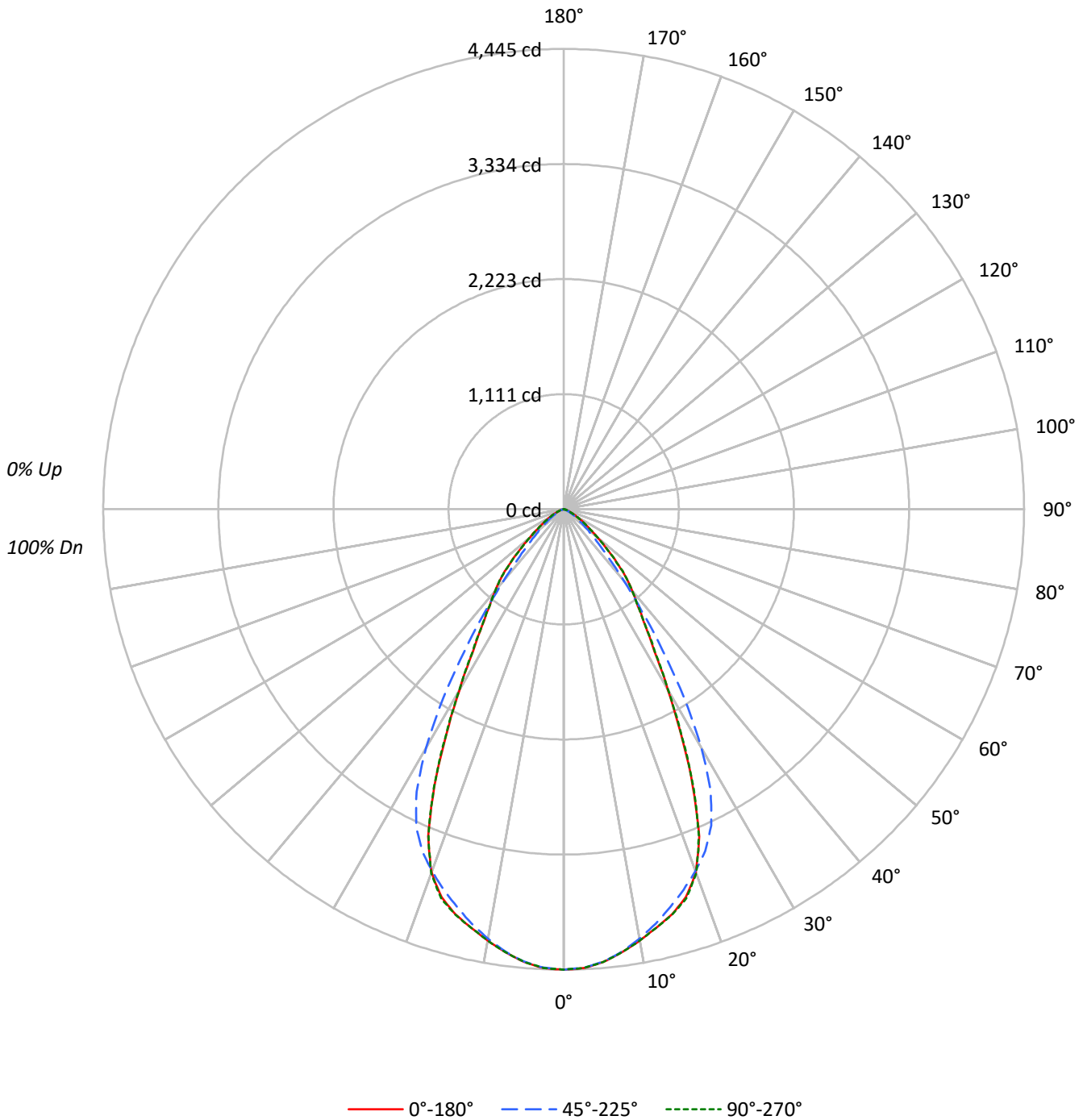
Lumens per Lamp: N/A
 Luminaire Lumens: 4705.0 lumens
 Efficiency: N/A
 Efficacy: 60.3 lumens/watt
 Spacing Criteria (0/90/45): 0.93 / 0.93 / 0.94
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

Input Watts (W): 78
 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°	428922	428922	428922
5°	425001	424730	424865
10°	414111	412465	414111
15°	404146	396864	404565
20°	383186	381749	383905
25°	314313	358644	315963
30°	224135	296299	224447
35°	161657	196334	162151
40°	129610	114067	129610
45°	98903	66577	98139
50°	65238	42511	65028
55°	43856	28531	43385
60°	29487	19471	29757
65°	20160	13767	19840
70°	13457	9874	13457
75°	8873	7307	8873
80°	6223	5445	6223
85°	4650	4650	4650

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	413.2	8.8
10°-20°	1126.8	23.9
20°-30°	1408.6	29.9
30°-40°	947.6	20.1
40°-50°	500.4	10.6
50°-60°	203.4	4.3
60°-70°	75.4	1.6
70°-80°	24.3	0.5
80°-90°	5.2	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°	2948.7	62.7
0°-40°	3896.3	82.8
0°-60°	4600.0	97.8
0°-90°	4705.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4705.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4445	4445	4445	4445	4445	
5°	4388	4384	4385	4385	4386	414
15°	4046	4012	3973	4011	4050	1133
25°	2952	3118	3369	3123	2968	1329
35°	1372	1441	1667	1444	1377	883
45°	725	688	488	686	719	556
55°	261	219	170	219	258	242
65°	88	72	60	72	87	91
75°	24	21	20	21	24	28
85°	4	4	4	4	4	5
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4445.3	4445.3	4445.3	4445.3	4445.3
2.5°	4434.1	4431.3	4429.9	4429.9	4431.3
5°	4387.9	4383.7	4385.1	4385.1	4386.5
7.5°	4313.6	4312.2	4308.0	4313.6	4313.6
10°	4226.6	4219.6	4209.8	4221.0	4226.6
12.5°	4136.9	4115.9	4099.1	4115.9	4136.9
15°	4045.8	4012.2	3972.9	4010.8	4050.0
17.5°	3926.6	3893.0	3849.5	3900.0	3937.9
20°	3731.8	3734.6	3717.8	3731.8	3738.8
22.5°	3419.2	3482.3	3570.6	3483.7	3409.4
25°	2952.3	3117.8	3368.7	3123.4	2967.8
27.5°	2451.9	2662.2	3072.9	2674.8	2467.3
30°	2011.7	2198.1	2659.4	2210.8	2014.5
32.5°	1629.0	1767.8	2161.7	1784.6	1647.2
35°	1372.4	1441.1	1666.8	1443.9	1376.6
37.5°	1176.2	1176.2	1237.9	1181.8	1170.6
40°	1029.0	984.1	905.6	982.7	1029.0
42.5°	891.6	824.3	657.5	821.5	894.4
45°	724.8	688.3	487.9	685.5	719.2
47.5°	556.5	531.3	367.3	528.5	560.7
50°	434.6	395.3	283.2	392.5	433.2
52.5°	333.6	291.6	218.7	291.6	330.8
55°	260.7	218.7	169.6	218.7	257.9
57.5°	200.5	166.8	129.0	164.0	199.1
60°	152.8	124.8	100.9	124.8	154.2
62.5°	116.4	95.3	77.1	93.9	115.0
65°	88.3	71.5	60.3	71.5	86.9
67.5°	64.5	53.3	46.3	53.3	65.9
70°	47.7	40.7	35.0	39.3	47.7
72.5°	35.0	29.4	26.6	29.4	35.0
75°	23.8	21.0	19.6	21.0	23.8
77.5°	16.8	15.4	14.0	15.4	16.8
80°	11.2	9.8	9.8	11.2	11.2
82.5°	7.0	7.0	7.0	7.0	7.0
85°	4.2	4.2	4.2	4.2	4.2
87.5°	2.8	2.8	2.8	2.8	2.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)