

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: **FLDSQ4C50D010 FEU4C509040 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: FLDSQ4C50D010 FEU4C509040 F4LC-SQ-WH
 Description: 4 INCH 5000 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 4000K, 90CRI LEDS AND F4LC-SQW TRIM WITH H FINISH
 Light Source: -
 Ballast/Driver: -

Summary

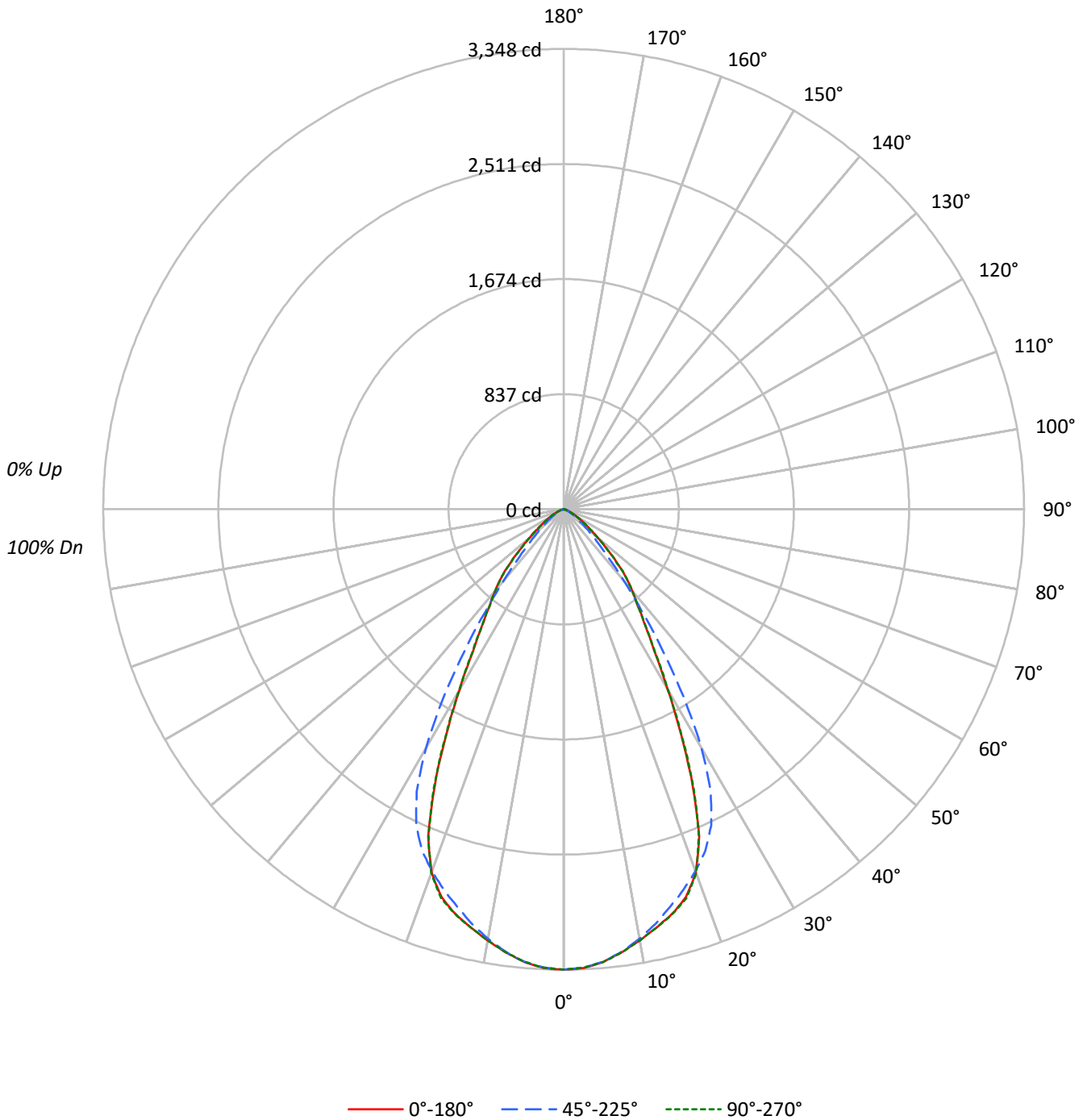
Lumens per Lamp: N/A
 Luminaire Lumens: 3543.0 lumens
 Efficiency: N/A
 Efficacy: 60.7 lumens/watt
 Spacing Criteria (0/90/45): 0.93 / 0.93 / 0.94
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

Input Watts (W): 58.4
 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	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°	322997	322997	322997
5°	320036	319833	319930
10°	311842	310598	311842
15°	304333	298849	304653
20°	288545	287467	289089
25°	236690	270067	237925
30°	168784	223121	169018
35°	121737	147852	122102
40°	97592	85903	97592
45°	74478	50134	73891
50°	49131	32003	48966
55°	33039	21482	32669
60°	22212	14666	22405
65°	15183	10365	14954
70°	10128	7448	10128
75°	6673	5518	6673
80°	4668	4112	4668
85°	3543	3543	3543

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	311.2	8.8
10°-20°	848.5	23.9
20°-30°	1060.7	29.9
30°-40°	713.6	20.1
40°-50°	376.8	10.6
50°-60°	153.1	4.3
60°-70°	56.8	1.6
70°-80°	18.3	0.5
80°-90°	4.0	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°	2220.4	62.7
0°-40°	2934.0	82.8
0°-60°	3463.9	97.8
0°-90°	3543.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3543.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3348	3348	3348	3348	3348	
5°	3304	3301	3302	3302	3303	311
15°	3047	3021	2992	3020	3050	854
25°	2223	2348	2537	2352	2235	1001
35°	1034	1085	1255	1087	1037	665
45°	546	518	367	516	542	419
55°	196	165	128	165	194	182
65°	66	54	45	54	66	69
75°	18	16	15	16	18	21
85°	3	3	3	3	3	4
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3347.5	3347.5	3347.5	3347.5	3347.5
2.5°	3339.0	3336.9	3335.9	3335.9	3336.9
5°	3304.2	3301.0	3302.1	3302.1	3303.1
7.5°	3248.2	3247.2	3244.0	3248.2	3248.2
10°	3182.8	3177.5	3170.1	3178.6	3182.8
12.5°	3115.2	3099.4	3086.7	3099.4	3115.2
15°	3046.6	3021.3	2991.7	3020.2	3049.8
17.5°	2956.9	2931.5	2898.8	2936.8	2965.3
20°	2810.1	2812.3	2799.6	2810.1	2815.4
22.5°	2574.7	2622.2	2688.7	2623.3	2567.3
25°	2223.2	2347.8	2536.7	2352.0	2234.8
27.5°	1846.3	2004.7	2314.0	2014.2	1857.9
30°	1514.9	1655.3	2002.6	1664.8	1517.0
32.5°	1226.7	1331.2	1627.8	1343.8	1240.4
35°	1033.5	1085.2	1255.2	1087.3	1036.6
37.5°	885.7	885.7	932.1	889.9	881.5
40°	774.8	741.1	682.0	740.0	774.8
42.5°	671.4	620.7	495.1	618.6	673.5
45°	545.8	518.3	367.4	516.2	541.5
47.5°	419.1	400.1	276.6	398.0	422.3
50°	327.3	297.7	213.2	295.6	326.2
52.5°	251.2	219.6	164.7	219.6	249.1
55°	196.4	164.7	127.7	164.7	194.2
57.5°	151.0	125.6	97.1	123.5	149.9
60°	115.1	94.0	76.0	94.0	116.1
62.5°	87.6	71.8	58.1	70.7	86.6
65°	66.5	53.8	45.4	53.8	65.5
67.5°	48.6	40.1	34.8	40.1	49.6
70°	35.9	30.6	26.4	29.6	35.9
72.5°	26.4	22.2	20.1	22.2	26.4
75°	17.9	15.8	14.8	15.8	17.9
77.5°	12.7	11.6	10.6	11.6	12.7
80°	8.4	7.4	7.4	8.4	8.4
82.5°	5.3	5.3	5.3	5.3	5.3
85°	3.2	3.2	3.2	3.2	3.2
87.5°	2.1	2.1	2.1	2.1	2.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)