

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: **FLDSQ4C15D010 FEU4C159040 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: FLDSQ4C15D010 FEU4C159040 F4LC-SQ-WH
 Description: 4 INCH 1500 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 4000K, 90CRI LEDS AND F4LC-SQW TRIM WITH H FINISH
 Light Source: -
 Ballast/Driver: -

Summary

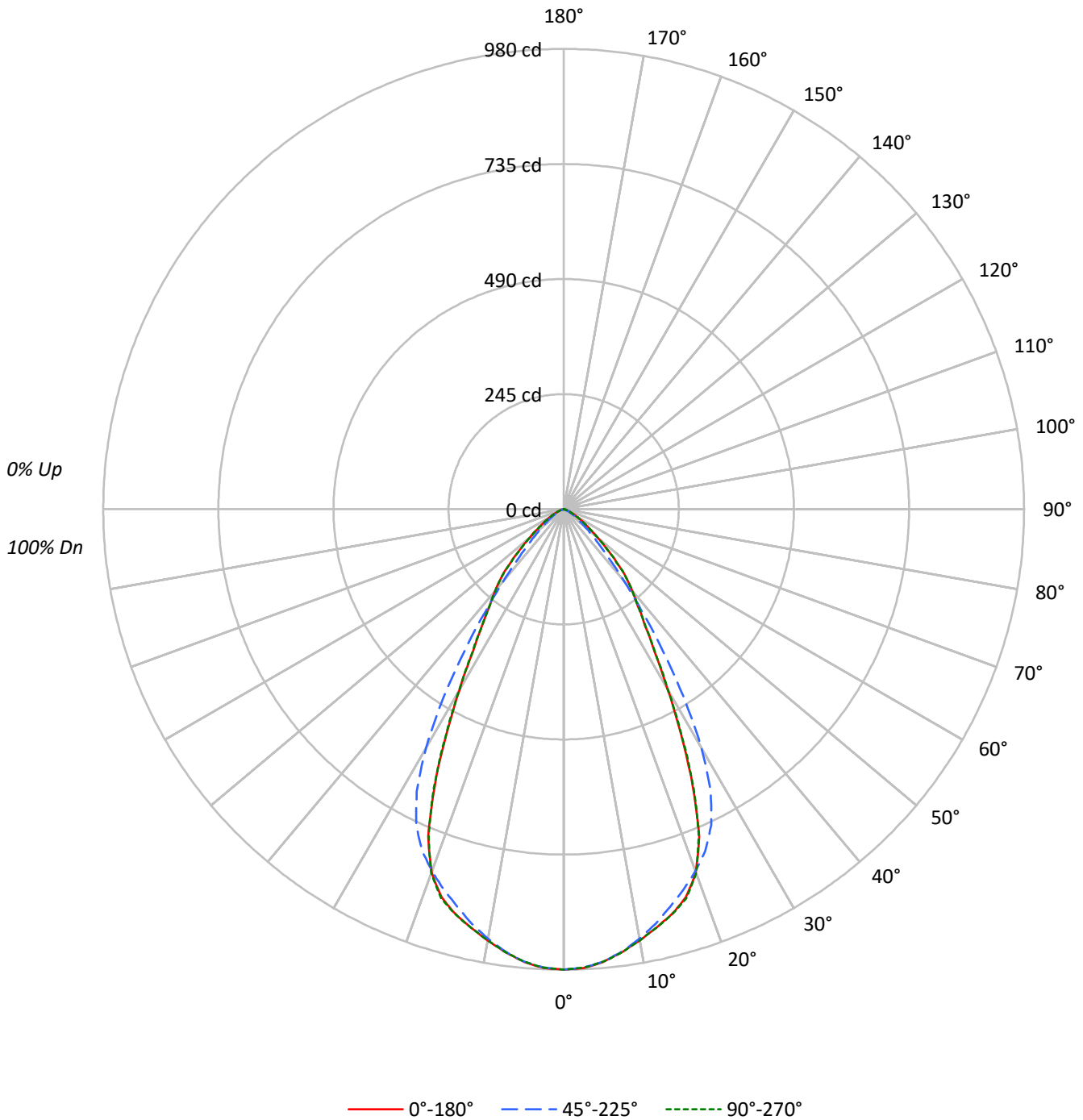
Lumens per Lamp: N/A
 Luminaire Lumens: 1037.0 lumens
 Efficiency: N/A
 Efficacy: 65.6 lumens/watt
 Spacing Criteria (0/90/45): 0.93 / 0.93 / 0.94
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

Input Watts (W): 15.8
 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	50	30	10	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				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°	94540	94540	94540
5°	93671	93613	93642
10°	91276	90913	91276
15°	89074	87466	89164
20°	84455	84137	84609
25°	69276	79049	69638
30°	49402	65301	49469
35°	35632	43276	35738
40°	28567	25141	28567
45°	21792	14669	21628
50°	14381	9367	14336
55°	9673	6292	9572
60°	6503	4284	6561
65°	4452	3037	4384
70°	2962	2172	2962
75°	1976	1603	1976
80°	1389	1222	1389
85°	996	996	996

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	91.1	8.8
10°-20°	248.3	23.9
20°-30°	310.5	29.9
30°-40°	208.8	20.1
40°-50°	110.3	10.6
50°-60°	44.8	4.3
60°-70°	16.6	1.6
70°-80°	5.4	0.5
80°-90°	1.1	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°	649.9	62.7
0°-40°	858.7	82.8
0°-60°	1013.9	97.8
0°-90°	1037.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1037.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	980	980	980	980	980	
5°	967	966	966	966	967	91
15°	892	884	876	884	893	250
25°	651	687	742	688	654	293
35°	302	318	367	318	303	195
45°	160	152	108	151	158	122
55°	58	48	37	48	57	53
65°	20	16	13	16	19	20
75°	5	5	4	5	5	6
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°	979.8	979.8	979.8	979.8	979.8
2.5°	977.3	976.7	976.4	976.4	976.7
5°	967.1	966.2	966.5	966.5	966.8
7.5°	950.7	950.4	949.5	950.7	950.7
10°	931.6	930.0	927.9	930.3	931.6
12.5°	911.8	907.2	903.5	907.2	911.8
15°	891.7	884.3	875.6	884.0	892.6
17.5°	865.4	858.0	848.5	859.6	867.9
20°	822.5	823.1	819.4	822.5	824.0
22.5°	753.6	767.5	787.0	767.8	751.4
25°	650.7	687.2	742.5	688.4	654.1
27.5°	540.4	586.7	677.3	589.5	543.8
30°	443.4	484.5	586.1	487.3	444.0
32.5°	359.0	389.6	476.4	393.3	363.0
35°	302.5	317.6	367.4	318.2	303.4
37.5°	259.2	259.2	272.8	260.5	258.0
40°	226.8	216.9	199.6	216.6	226.8
42.5°	196.5	181.7	144.9	181.1	197.1
45°	159.7	151.7	107.5	151.1	158.5
47.5°	122.7	117.1	81.0	116.5	123.6
50°	95.8	87.1	62.4	86.5	95.5
52.5°	73.5	64.3	48.2	64.3	72.9
55°	57.5	48.2	37.4	48.2	56.9
57.5°	44.2	36.8	28.4	36.2	43.9
60°	33.7	27.5	22.2	27.5	34.0
62.5°	25.6	21.0	17.0	20.7	25.3
65°	19.5	15.8	13.3	15.8	19.2
67.5°	14.2	11.7	10.2	11.7	14.5
70°	10.5	9.0	7.7	8.7	10.5
72.5°	7.7	6.5	5.9	6.5	7.7
75°	5.3	4.6	4.3	4.6	5.3
77.5°	3.7	3.4	3.1	3.4	3.7
80°	2.5	2.2	2.2	2.5	2.5
82.5°	1.5	1.5	1.5	1.5	1.5
85°	0.9	0.9	0.9	0.9	0.9
87.5°	0.6	0.6	0.6	0.6	0.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)