

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 FEU4C159035 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 FEU4C159035 F4LC-SQ-WH
 Description: 4 INCH 1500 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 3500K, 90CRI LEDS AND F4LC-SQW TRIM WITH H FINISH
 Light Source: -
 Ballast/Driver: -

Summary

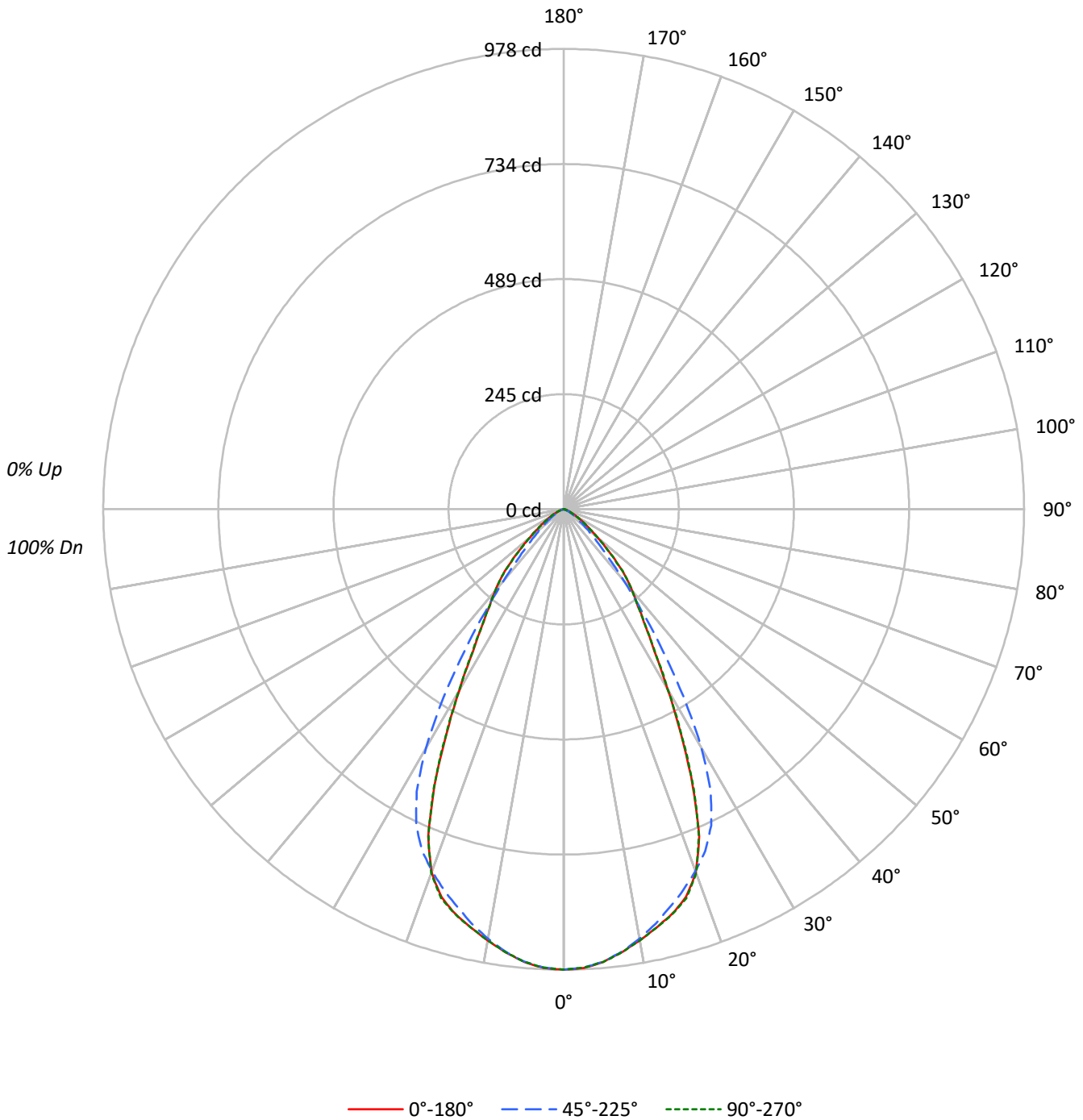
Lumens per Lamp: N/A
 Luminaire Lumens: 1035.0 lumens
 Efficiency: N/A
 Efficacy: 65.5 lumens/watt
 Spacing Criteria (0/90/45): 0.93 / 0.93 / 0.94
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

Input Watts (W): 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	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°	94356	94356	94356
5°	93487	93429	93458
10°	91099	90737	91099
15°	88904	87306	88994
20°	84291	83973	84455
25°	69148	78890	69500
30°	49301	65178	49368
35°	35561	43194	35667
40°	28517	25091	28517
45°	21751	14642	21587
50°	14351	9352	14305
55°	9656	6275	9538
60°	6484	4284	6542
65°	4429	3037	4361
70°	2962	2172	2962
75°	1939	1603	1939
80°	1389	1222	1389
85°	996	996	996

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	90.9	8.8
10°-20°	247.9	23.9
20°-30°	309.9	29.9
30°-40°	208.5	20.1
40°-50°	110.1	10.6
50°-60°	44.7	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°	648.6	62.7
0°-40°	857.1	82.8
0°-60°	1011.9	97.8
0°-90°	1035.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1035.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	978	978	978	978	978	
5°	965	964	965	965	965	91
15°	890	883	874	882	891	249
25°	650	686	741	687	653	292
35°	302	317	367	318	303	194
45°	159	151	107	151	158	122
55°	57	48	37	48	57	53
65°	19	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°	977.9	977.9	977.9	977.9	977.9
2.5°	975.4	974.8	974.5	974.5	974.8
5°	965.2	964.3	964.6	964.6	964.9
7.5°	948.9	948.6	947.7	948.9	948.9
10°	929.8	928.2	926.1	928.5	929.8
12.5°	910.0	905.4	901.7	905.4	910.0
15°	890.0	882.6	874.0	882.3	890.9
17.5°	863.8	856.4	846.8	857.9	866.2
20°	820.9	821.5	817.8	820.9	822.5
22.5°	752.1	766.0	785.4	766.3	750.0
25°	649.5	685.8	741.0	687.1	652.8
27.5°	539.4	585.6	676.0	588.4	542.8
30°	442.5	483.5	585.0	486.3	443.1
32.5°	358.3	388.9	475.5	392.6	362.3
35°	301.9	317.0	366.7	317.6	302.8
37.5°	258.7	258.7	272.3	260.0	257.5
40°	226.4	216.5	199.2	216.2	226.4
42.5°	196.1	181.3	144.6	180.7	196.7
45°	159.4	151.4	107.3	150.8	158.2
47.5°	122.4	116.9	80.8	116.3	123.4
50°	95.6	87.0	62.3	86.3	95.3
52.5°	73.4	64.1	48.1	64.1	72.8
55°	57.4	48.1	37.3	48.1	56.7
57.5°	44.1	36.7	28.4	36.1	43.8
60°	33.6	27.4	22.2	27.4	33.9
62.5°	25.6	21.0	17.0	20.7	25.3
65°	19.4	15.7	13.3	15.7	19.1
67.5°	14.2	11.7	10.2	11.7	14.5
70°	10.5	8.9	7.7	8.6	10.5
72.5°	7.7	6.5	5.9	6.5	7.7
75°	5.2	4.6	4.3	4.6	5.2
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)