

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: **FLDSQ4C10D010 FEU4C109040 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: FLDSQ4C10D010 FEU4C109040 F4LC-SQ-WH
 Description: 4 INCH 1000 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 4000K, 90CRI LEDS AND F4LC-SQW TRIM WITH H FINISH
 Light Source: -
 Ballast/Driver: -

Summary

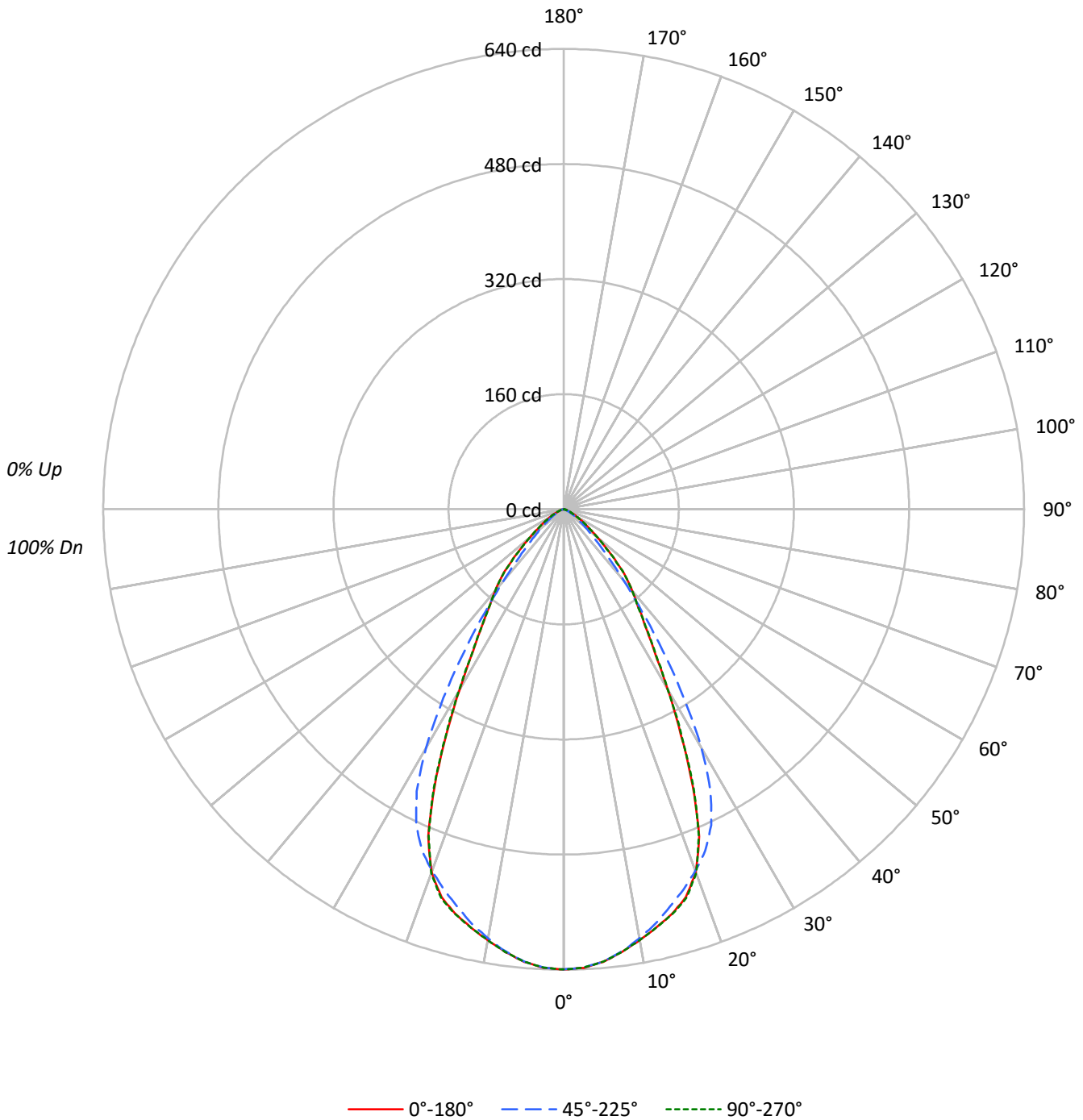
Lumens per Lamp: N/A
 Luminaire Lumens: 677.0 lumens
 Efficiency: N/A
 Efficacy: 69.1 lumens/watt
 Spacing Criteria (0/90/45): 0.93 / 0.93 / 0.94
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

Input Watts (W): 9.8
 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				92
2	107	101	97	93	104	99	95	92	96	93	90	93	90	88	90	88	86	84				84
3	101	93	88	84	98	92	87	83	89	85	82	87	83	80	85	82	79	77				77
4	95	87	80	76	93	85	80	75	83	78	74	81	77	74	79	76	73	71				71
5	89	80	74	69	88	79	73	69	78	72	68	76	71	68	74	70	67	66				66
6	85	75	68	64	83	74	68	63	72	67	63	71	66	63	70	65	62	61				61
7	80	70	63	59	79	69	63	59	68	62	58	67	62	58	65	61	58	56				56
8	76	65	59	55	74	65	59	54	64	58	54	63	58	54	62	57	54	52				52
9	72	61	55	51	71	61	55	51	60	54	51	59	54	50	58	54	50	49				49
10	68	58	52	48	67	57	51	47	57	51	47	56	51	47	55	50	47	46				46

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	61714	61714	61714
5°	61156	61117	61136
10°	59590	59345	59590
15°	58148	57109	58217
20°	55140	54924	55243
25°	45226	51603	45460
30°	32255	42639	32299
35°	23264	28246	23334
40°	18654	16412	18654
45°	14232	9579	14123
50°	9382	6109	9352
55°	6308	4105	6241
60°	4246	2798	4284
65°	2900	1986	2854
70°	1947	1411	1947
75°	1268	1044	1268
80°	889	778	889
85°	664	664	664

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	59.5	8.8
10°-20°	162.1	23.9
20°-30°	202.7	29.9
30°-40°	136.4	20.1
40°-50°	72.0	10.6
50°-60°	29.3	4.3
60°-70°	10.9	1.6
70°-80°	3.5	0.5
80°-90°	0.7	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°	424.3	62.7
0°-40°	560.6	82.8
0°-60°	661.9	97.8
0°-90°	677.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	677.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	640	640	640	640	640	
5°	631	631	631	631	631	60
15°	582	577	572	577	583	163
25°	425	449	485	449	427	191
35°	198	207	240	208	198	127
45°	104	99	70	99	104	80
55°	38	32	24	32	37	35
65°	13	10	9	10	12	13
75°	3	3	3	3	3	4
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°	639.6	639.6	639.6	639.6	639.6
2.5°	638.0	637.6	637.4	637.4	637.6
5°	631.4	630.8	631.0	631.0	631.2
7.5°	620.7	620.5	619.9	620.7	620.7
10°	608.2	607.2	605.7	607.4	608.2
12.5°	595.3	592.2	589.8	592.2	595.3
15°	582.1	577.3	571.7	577.1	582.8
17.5°	565.0	560.2	553.9	561.2	566.6
20°	537.0	537.4	534.9	537.0	538.0
22.5°	492.0	501.1	513.8	501.3	490.6
25°	424.8	448.6	484.7	449.4	427.0
27.5°	352.8	383.1	442.2	384.9	355.0
30°	289.5	316.3	382.7	318.1	289.9
32.5°	234.4	254.4	311.0	256.8	237.0
35°	197.5	207.4	239.8	207.8	198.1
37.5°	169.2	169.2	178.1	170.0	168.4
40°	148.1	141.6	130.3	141.4	148.1
42.5°	128.3	118.6	94.6	118.2	128.7
45°	104.3	99.0	70.2	98.6	103.5
47.5°	80.1	76.4	52.8	76.0	80.7
50°	62.5	56.9	40.7	56.5	62.3
52.5°	48.0	42.0	31.5	42.0	47.6
55°	37.5	31.5	24.4	31.5	37.1
57.5°	28.8	24.0	18.6	23.6	28.6
60°	22.0	18.0	14.5	18.0	22.2
62.5°	16.7	13.7	11.1	13.5	16.5
65°	12.7	10.3	8.7	10.3	12.5
67.5°	9.3	7.7	6.7	7.7	9.5
70°	6.9	5.8	5.0	5.6	6.9
72.5°	5.0	4.2	3.8	4.2	5.0
75°	3.4	3.0	2.8	3.0	3.4
77.5°	2.4	2.2	2.0	2.2	2.4
80°	1.6	1.4	1.4	1.6	1.6
82.5°	1.0	1.0	1.0	1.0	1.0
85°	0.6	0.6	0.6	0.6	0.6
87.5°	0.4	0.4	0.4	0.4	0.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)