

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: **FLDSQ4C30D010 FEU4C309030 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: FLDSQ4C30D010 FEU4C309030 F4LC-SQ-WH
 Description: 4 INCH 3000 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 3000K, 90CRI LEDS AND F4LC-SQW TRIM WITH H FINISH
 Light Source: -
 Ballast/Driver: -

Summary

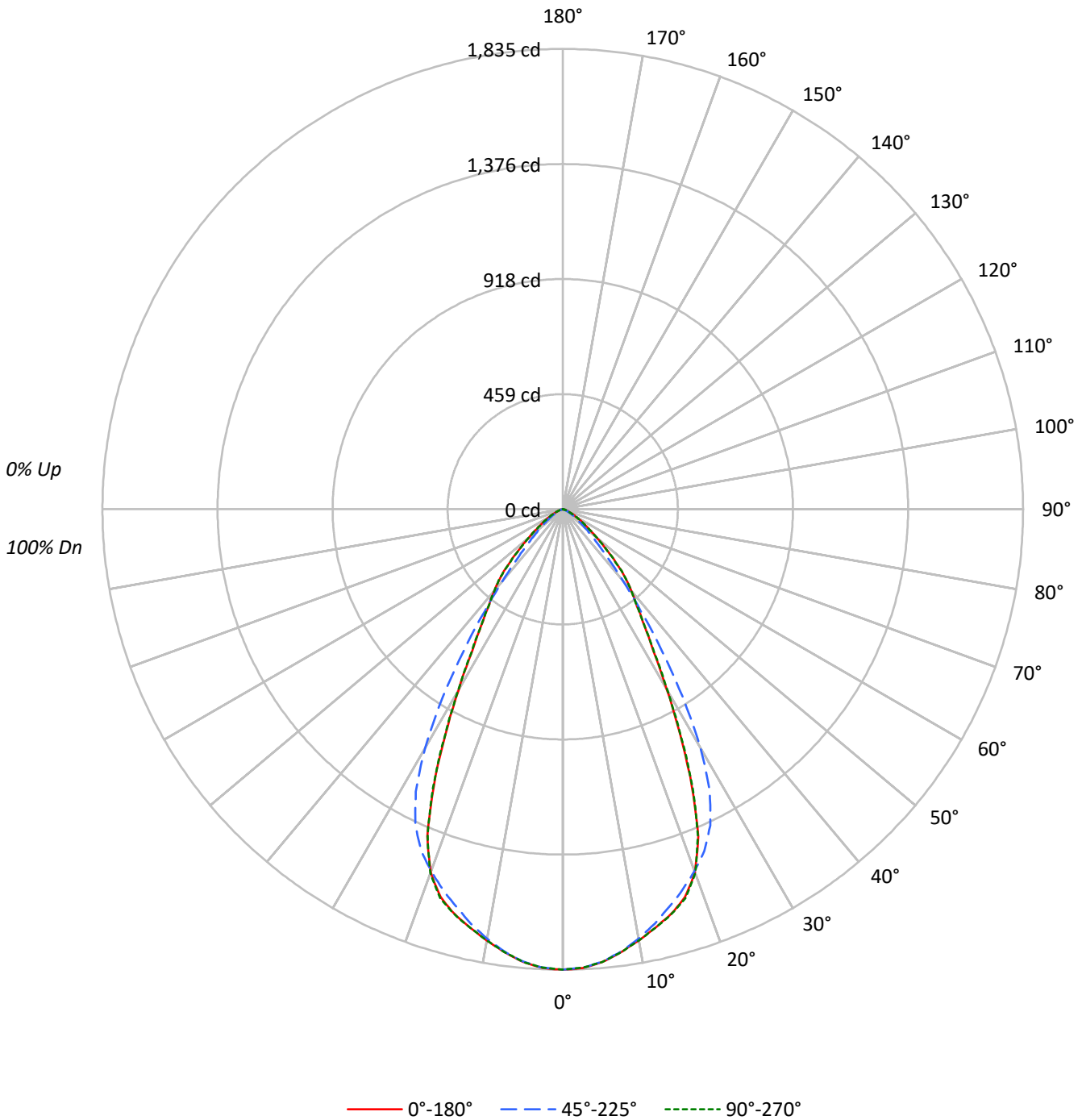
Lumens per Lamp: N/A
 Luminaire Lumens: 1942.0 lumens
 Efficiency: N/A
 Efficacy: 61.5 lumens/watt
 Spacing Criteria (0/90/45): 0.93 / 0.93 / 0.94
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

Input Watts (W): 31.6
 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°	177038	177038	177038
5°	175419	175302	175360
10°	170931	170246	170931
15°	166811	163804	166991
20°	158160	157565	158458
25°	129737	148027	130418
30°	92509	122301	92642
35°	66729	81040	66929
40°	53494	47083	53494
45°	40814	27482	40500
50°	26930	17548	26840
55°	18101	11776	17916
60°	12177	8047	12273
65°	8333	5685	8196
70°	5558	4091	5558
75°	3653	3020	3653
80°	2556	2278	2556
85°	1882	1882	1882

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	170.6	8.8
10°-20°	465.1	23.9
20°-30°	581.4	29.9
30°-40°	391.1	20.1
40°-50°	206.5	10.6
50°-60°	84.0	4.3
60°-70°	31.1	1.6
70°-80°	10.1	0.5
80°-90°	2.2	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°	1217.1	62.7
0°-40°	1608.2	82.8
0°-60°	1898.7	97.8
0°-90°	1942.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1942.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1835	1835	1835	1835	1835	
5°	1811	1809	1810	1810	1810	171
15°	1670	1656	1640	1656	1672	468
25°	1219	1287	1390	1289	1225	548
35°	566	595	688	596	568	365
45°	299	284	201	283	297	229
55°	108	90	70	90	106	100
65°	36	30	25	30	36	38
75°	10	9	8	9	10	11
85°	2	2	2	2	2	2
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1834.8	1834.8	1834.8	1834.8	1834.8
2.5°	1830.2	1829.0	1828.5	1828.5	1829.0
5°	1811.1	1809.4	1809.9	1809.9	1810.5
7.5°	1780.4	1779.9	1778.1	1780.4	1780.4
10°	1744.6	1741.7	1737.6	1742.2	1744.6
12.5°	1707.5	1698.8	1691.9	1698.8	1707.5
15°	1669.9	1656.0	1639.8	1655.5	1671.7
17.5°	1620.7	1606.8	1588.9	1609.7	1625.4
20°	1540.3	1541.5	1534.5	1540.3	1543.2
22.5°	1411.3	1437.3	1473.8	1437.9	1407.2
25°	1218.6	1286.9	1390.4	1289.2	1225.0
27.5°	1012.0	1098.8	1268.3	1104.0	1018.4
30°	830.3	907.3	1097.7	912.5	831.5
32.5°	672.4	729.6	892.2	736.6	679.9
35°	566.5	594.8	688.0	596.0	568.2
37.5°	485.5	485.5	510.9	487.8	483.2
40°	424.7	406.2	373.8	405.6	424.7
42.5°	368.0	340.2	271.4	339.1	369.2
45°	299.1	284.1	201.4	282.9	296.8
47.5°	229.7	219.3	151.6	218.1	231.5
50°	179.4	163.2	116.9	162.0	178.8
52.5°	137.7	120.4	90.3	120.4	136.6
55°	107.6	90.3	70.0	90.3	106.5
57.5°	82.7	68.9	53.2	67.7	82.2
60°	63.1	51.5	41.7	51.5	63.6
62.5°	48.0	39.3	31.8	38.8	47.4
65°	36.5	29.5	24.9	29.5	35.9
67.5°	26.6	22.0	19.1	22.0	27.2
70°	19.7	16.8	14.5	16.2	19.7
72.5°	14.5	12.2	11.0	12.2	14.5
75°	9.8	8.7	8.1	8.7	9.8
77.5°	6.9	6.4	5.8	6.4	6.9
80°	4.6	4.1	4.1	4.6	4.6
82.5°	2.9	2.9	2.9	2.9	2.9
85°	1.7	1.7	1.7	1.7	1.7
87.5°	1.2	1.2	1.2	1.2	1.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)