

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: **FLDSQ4C25D010 FEU4C259040 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: FLDSQ4C25D010 FEU4C259040 F4LC-SQ-WH
 Description: 4 INCH 2500 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 4000K, 90CRI LEDS AND F4LC-SQW TRIM WITH H FINISH
 Light Source: -
 Ballast/Driver: -

Summary

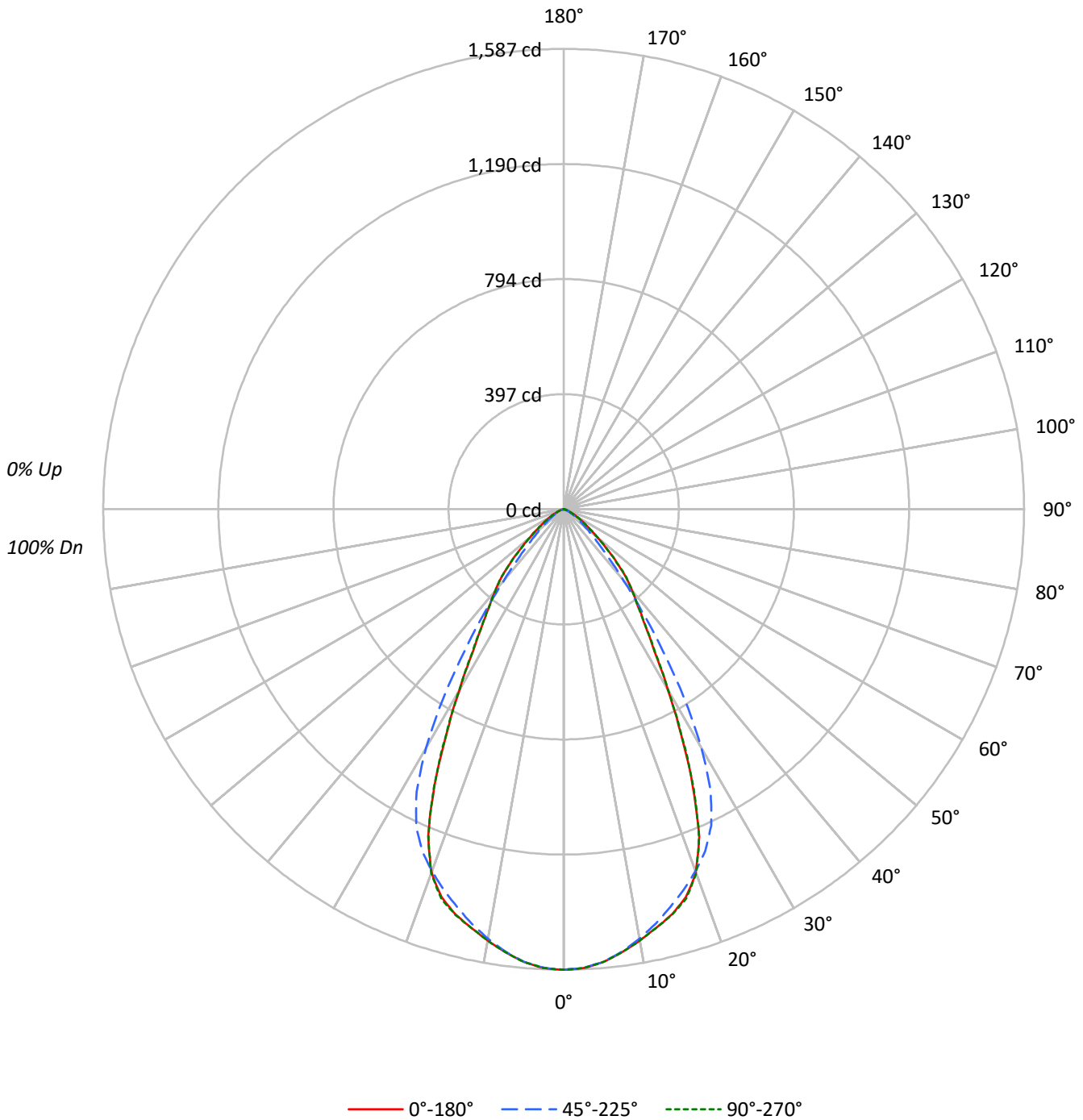
Lumens per Lamp: N/A
 Luminaire Lumens: 1680.0 lumens
 Efficiency: N/A
 Efficacy: 53.3 lumens/watt
 Spacing Criteria (0/90/45): 0.93 / 0.93 / 0.94
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

Input Watts (W): 31.5
 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°	153157	153157	153157
5°	151756	151659	151708
10°	147867	147280	147867
15°	144305	141708	144455
20°	136823	136309	137080
25°	112234	128065	112820
30°	80030	105800	80141
35°	57729	70109	57906
40°	46277	40735	46277
45°	35315	23771	35042
50°	23297	15176	23222
55°	15662	10194	15493
60°	10537	6947	10633
65°	7192	4909	7078
70°	4796	3526	4796
75°	3169	2610	3169
80°	2223	1945	2223
85°	1661	1661	1661

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	147.6	8.8
10°-20°	402.3	23.9
20°-30°	503.0	29.9
30°-40°	338.4	20.1
40°-50°	178.7	10.6
50°-60°	72.6	4.3
60°-70°	26.9	1.6
70°-80°	8.7	0.5
80°-90°	1.9	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°	1052.9	62.7
0°-40°	1391.2	82.8
0°-60°	1642.5	97.8
0°-90°	1680.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1680.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1587	1587	1587	1587	1587	
5°	1567	1565	1566	1566	1566	148
15°	1445	1433	1419	1432	1446	405
25°	1054	1113	1203	1115	1060	475
35°	490	515	595	516	492	315
45°	259	246	174	245	257	198
55°	93	78	61	78	92	86
65°	32	26	22	26	31	32
75°	8	8	7	8	8	10
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°	1587.3	1587.3	1587.3	1587.3	1587.3
2.5°	1583.3	1582.3	1581.8	1581.8	1582.3
5°	1566.8	1565.3	1565.8	1565.8	1566.3
7.5°	1540.2	1539.7	1538.2	1540.2	1540.2
10°	1509.2	1506.7	1503.2	1507.2	1509.2
12.5°	1477.2	1469.7	1463.6	1469.7	1477.2
15°	1444.6	1432.6	1418.6	1432.1	1446.1
17.5°	1402.1	1390.1	1374.5	1392.6	1406.1
20°	1332.5	1333.5	1327.5	1332.5	1335.0
22.5°	1220.9	1243.4	1274.9	1243.9	1217.4
25°	1054.2	1113.3	1202.9	1115.3	1059.7
27.5°	875.5	950.6	1097.2	955.1	881.0
30°	718.3	784.9	949.6	789.4	719.3
32.5°	581.7	631.2	771.9	637.2	588.2
35°	490.1	514.6	595.2	515.6	491.6
37.5°	420.0	420.0	442.0	422.0	418.0
40°	367.4	351.4	323.4	350.9	367.4
42.5°	318.4	294.3	234.8	293.3	319.4
45°	258.8	245.8	174.2	244.8	256.8
47.5°	198.7	189.7	131.1	188.7	200.2
50°	155.2	141.2	101.1	140.2	154.7
52.5°	119.1	104.1	78.1	104.1	118.1
55°	93.1	78.1	60.6	78.1	92.1
57.5°	71.6	59.6	46.1	58.6	71.1
60°	54.6	44.6	36.0	44.6	55.1
62.5°	41.5	34.0	27.5	33.5	41.0
65°	31.5	25.5	21.5	25.5	31.0
67.5°	23.0	19.0	16.5	19.0	23.5
70°	17.0	14.5	12.5	14.0	17.0
72.5°	12.5	10.5	9.5	10.5	12.5
75°	8.5	7.5	7.0	7.5	8.5
77.5°	6.0	5.5	5.0	5.5	6.0
80°	4.0	3.5	3.5	4.0	4.0
82.5°	2.5	2.5	2.5	2.5	2.5
85°	1.5	1.5	1.5	1.5	1.5
87.5°	1.0	1.0	1.0	1.0	1.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)