

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 FEU4C259035 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 FEU4C259035 F4LC-SQ-WH
 Description: 4 INCH 2500 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 3500K, 90CRI LEDS AND F4LC-SQW TRIM WITH H FINISH
 Light Source: -
 Ballast/Driver: -

Summary

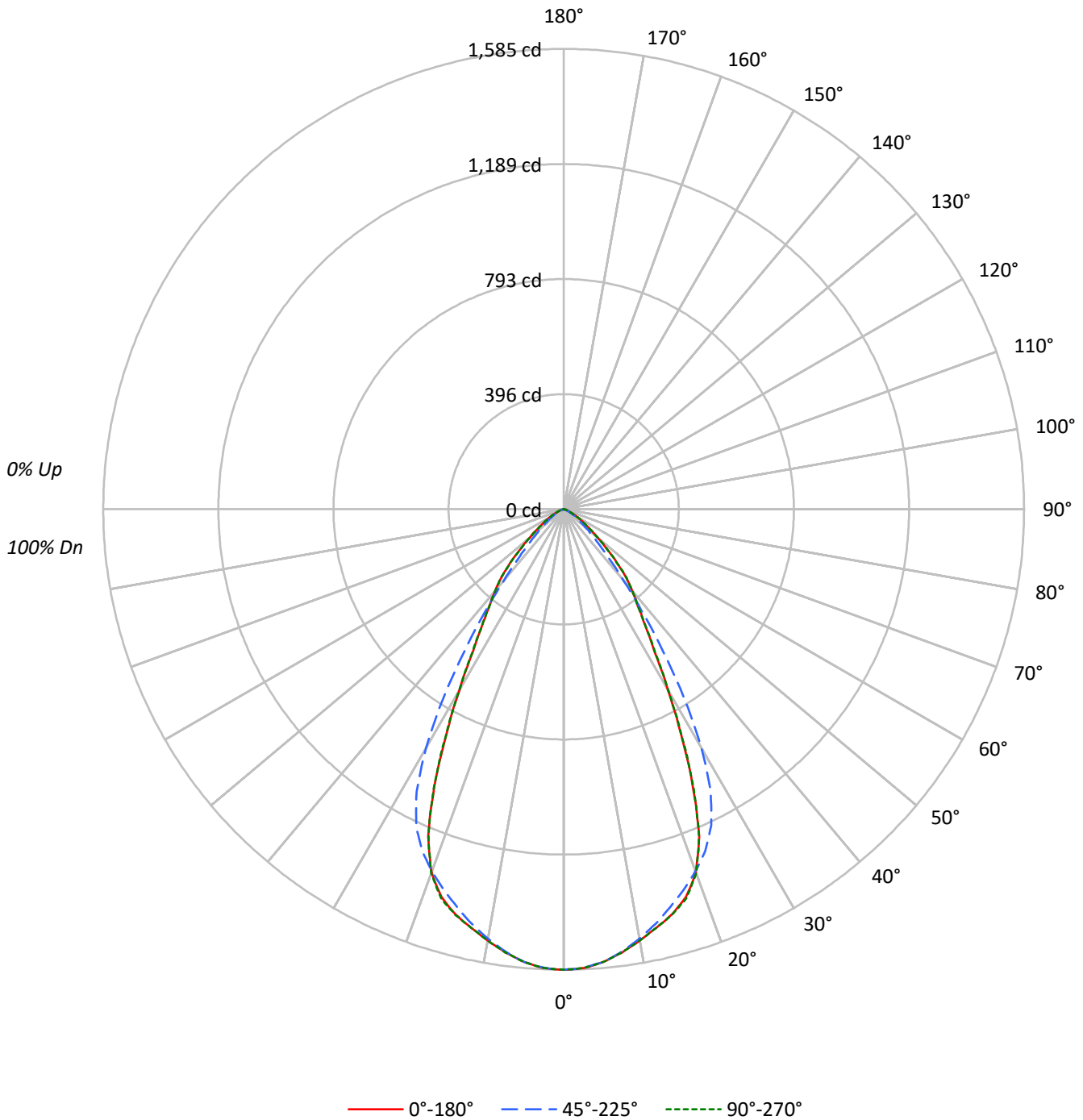
Lumens per Lamp: N/A
 Luminaire Lumens: 1678.0 lumens
 Efficiency: N/A
 Efficacy: 53.3 lumens/watt
 Spacing Criteria (0/90/45): 0.93 / 0.93 / 0.94
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

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°	152973	152973	152973
5°	151572	151475	151524
10°	147691	147103	147691
15°	144135	141538	144285
20°	136659	136145	136915
25°	112096	127906	112681
30°	79941	105667	80052
35°	57659	70027	57835
40°	46226	40684	46226
45°	35274	23743	35001
50°	23267	15161	23192
55°	15645	10178	15477
60°	10517	6947	10614
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°	147.4	8.8
10°-20°	401.9	23.9
20°-30°	502.4	29.9
30°-40°	338.0	20.1
40°-50°	178.5	10.6
50°-60°	72.5	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°	1051.6	62.7
0°-40°	1389.6	82.8
0°-60°	1640.6	97.8
0°-90°	1678.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1678.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1585	1585	1585	1585	1585	
5°	1565	1563	1564	1564	1564	147
15°	1443	1431	1417	1430	1444	404
25°	1053	1112	1201	1114	1058	474
35°	490	514	594	515	491	315
45°	258	246	174	244	256	198
55°	93	78	60	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°	1585.4	1585.4	1585.4	1585.4	1585.4
2.5°	1581.4	1580.4	1579.9	1579.9	1580.4
5°	1564.9	1563.4	1563.9	1563.9	1564.4
7.5°	1538.4	1537.9	1536.4	1538.4	1538.4
10°	1507.4	1504.9	1501.4	1505.4	1507.4
12.5°	1475.4	1467.9	1461.9	1467.9	1475.4
15°	1442.9	1430.9	1416.9	1430.4	1444.4
17.5°	1400.4	1388.4	1372.9	1390.9	1404.4
20°	1330.9	1331.9	1325.9	1330.9	1333.4
22.5°	1219.4	1241.9	1273.4	1242.4	1215.9
25°	1052.9	1111.9	1201.4	1113.9	1058.4
27.5°	874.4	949.4	1095.9	953.9	879.9
30°	717.5	783.9	948.4	788.4	718.5
32.5°	581.0	630.5	770.9	636.5	587.5
35°	489.5	514.0	594.5	515.0	491.0
37.5°	419.5	419.5	441.5	421.5	417.5
40°	367.0	351.0	323.0	350.5	367.0
42.5°	318.0	294.0	234.5	293.0	319.0
45°	258.5	245.5	174.0	244.5	256.5
47.5°	198.5	189.5	131.0	188.5	200.0
50°	155.0	141.0	101.0	140.0	154.5
52.5°	119.0	104.0	78.0	104.0	118.0
55°	93.0	78.0	60.5	78.0	92.0
57.5°	71.5	59.5	46.0	58.5	71.0
60°	54.5	44.5	36.0	44.5	55.0
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)