

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: **FLDSQ4C45D010 FEU4C459030 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: FLDSQ4C45D010 FEU4C459030 F4LC-SQ-WH
 Description: 4 INCH 4500 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 3000K, 90CRI LEDS AND F4LC-SQW TRIM WITH H FINISH
 Light Source: -
 Ballast/Driver: -

Summary

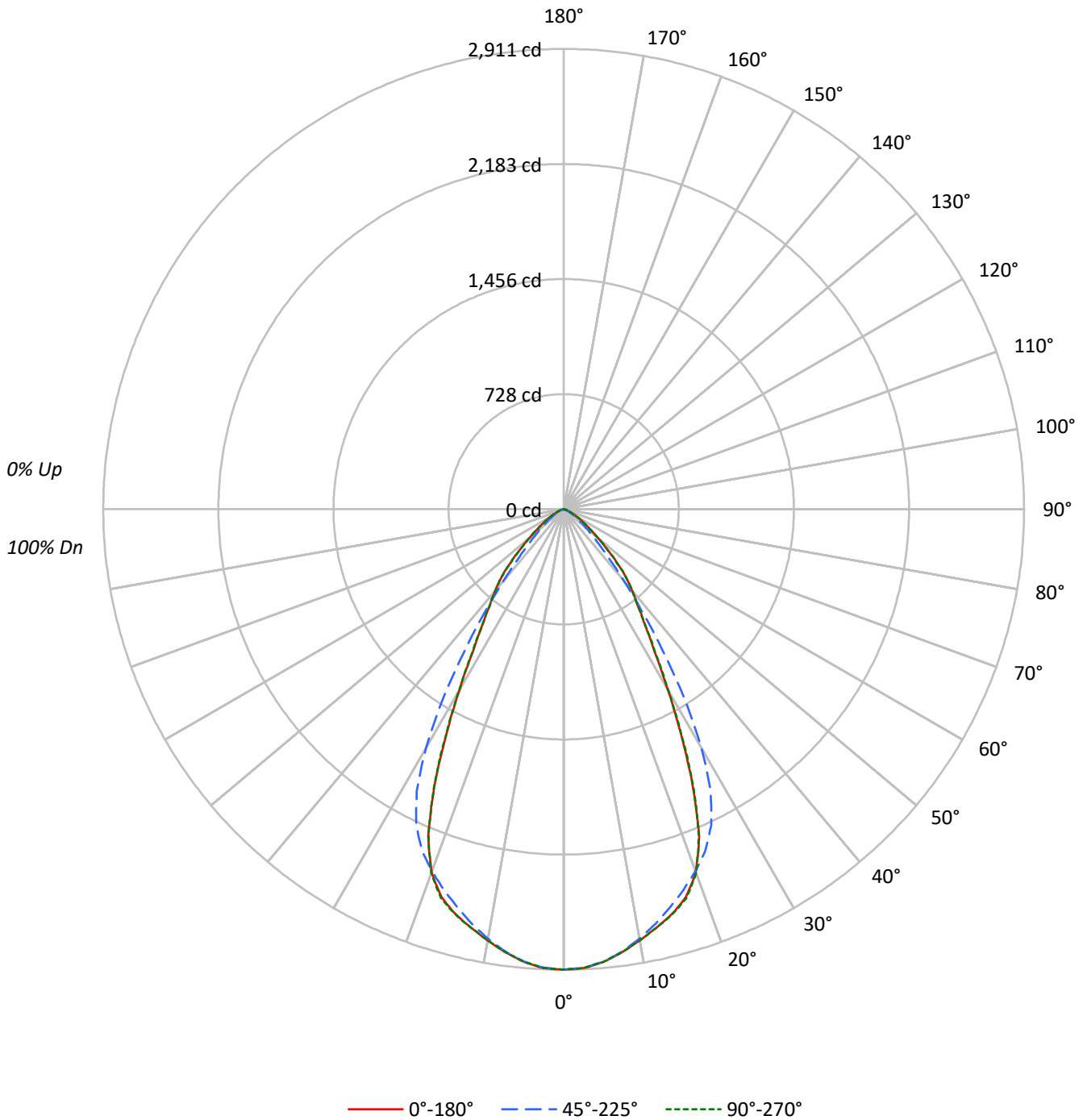
Lumens per Lamp: N/A
 Luminaire Lumens: 3081.0 lumens
 Efficiency: N/A
 Efficacy: 62.1 lumens/watt
 Spacing Criteria (0/90/45): 0.93 / 0.93 / 0.94
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

Input Watts (W): 49.6
 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°	280879	280879	280879
5°	278301	278126	278213
10°	271182	270094	271182
15°	264646	259881	264925
20°	250922	249978	251395
25°	205826	234848	206902
30°	146768	194019	146980
35°	105859	128569	106189
40°	84870	74693	84870
45°	64762	43598	64257
50°	42721	27830	42586
55°	28716	18690	28413
60°	19317	12756	19491
65°	13196	9018	12991
70°	8802	6460	8802
75°	5816	4809	5816
80°	4056	3556	4056
85°	3100	3100	3100

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	270.6	8.8
10°-20°	737.9	23.9
20°-30°	922.4	29.9
30°-40°	620.5	20.1
40°-50°	327.6	10.6
50°-60°	133.2	4.3
60°-70°	49.4	1.6
70°-80°	15.9	0.5
80°-90°	3.4	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°	1930.9	62.7
0°-40°	2551.4	82.8
0°-60°	3012.2	97.8
0°-90°	3081.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3081.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2911	2911	2911	2911	2911	
5°	2873	2871	2872	2872	2872	271
15°	2649	2627	2602	2626	2652	742
25°	1933	2042	2206	2045	1943	870
35°	899	944	1092	946	902	578
45°	475	451	320	449	471	364
55°	171	143	111	143	169	158
65°	58	47	40	47	57	60
75°	16	14	13	14	16	18
85°	3	3	3	3	3	3
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2911.0	2911.0	2911.0	2911.0	2911.0
2.5°	2903.6	2901.8	2900.9	2900.9	2901.8
5°	2873.3	2870.6	2871.5	2871.5	2872.4
7.5°	2824.7	2823.8	2821.0	2824.7	2824.7
10°	2767.8	2763.2	2756.7	2764.1	2767.8
12.5°	2709.0	2695.2	2684.2	2695.2	2709.0
15°	2649.3	2627.3	2601.6	2626.4	2652.1
17.5°	2571.3	2549.3	2520.8	2553.9	2578.7
20°	2443.7	2445.5	2434.5	2443.7	2448.3
22.5°	2239.0	2280.3	2338.1	2281.2	2232.6
25°	1933.3	2041.6	2205.9	2045.3	1943.4
27.5°	1605.6	1743.3	2012.2	1751.5	1615.7
30°	1317.3	1439.4	1741.4	1447.7	1319.2
32.5°	1066.7	1157.6	1415.6	1168.6	1078.6
35°	898.7	943.7	1091.5	945.5	901.5
37.5°	770.2	770.2	810.6	773.9	766.5
40°	673.8	644.4	593.0	643.5	673.8
42.5°	583.8	539.8	430.5	537.9	585.7
45°	474.6	450.7	319.5	448.9	470.9
47.5°	364.4	347.9	240.5	346.1	367.2
50°	284.6	258.9	185.4	257.0	283.7
52.5°	218.5	190.9	143.2	190.9	216.6
55°	170.7	143.2	111.1	143.2	168.9
57.5°	131.3	109.2	84.5	107.4	130.4
60°	100.1	81.7	66.1	81.7	101.0
62.5°	76.2	62.4	50.5	61.5	75.3
65°	57.8	46.8	39.5	46.8	56.9
67.5°	42.2	34.9	30.3	34.9	43.1
70°	31.2	26.6	22.9	25.7	31.2
72.5°	22.9	19.3	17.4	19.3	22.9
75°	15.6	13.8	12.9	13.8	15.6
77.5°	11.0	10.1	9.2	10.1	11.0
80°	7.3	6.4	6.4	7.3	7.3
82.5°	4.6	4.6	4.6	4.6	4.6
85°	2.8	2.8	2.8	2.8	2.8
87.5°	1.8	1.8	1.8	1.8	1.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)