

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: **FLDSQ4C40D010 FEU4C409035 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: FLDSQ4C40D010 FEU4C409035 F4LC-SQ-WH
 Description: 4 INCH 4000 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 3500K, 90CRI LEDS AND F4LC-SQW TRIM WITH H FINISH
 Light Source: -
 Ballast/Driver: -

Summary

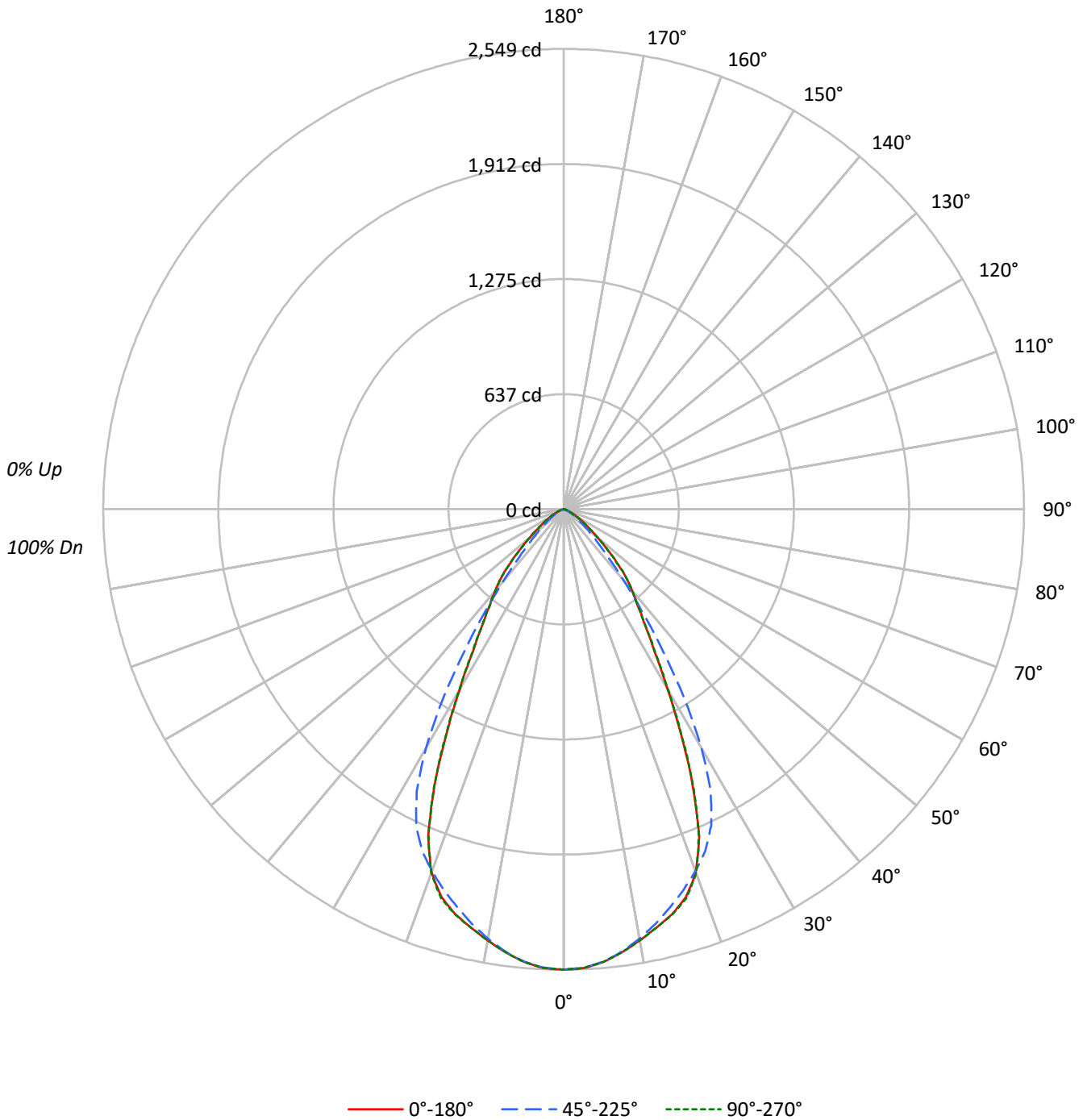
Lumens per Lamp: N/A
 Luminaire Lumens: 2698.0 lumens
 Efficiency: N/A
 Efficacy: 57.4 lumens/watt
 Spacing Criteria (0/90/45): 0.93 / 0.93 / 0.94
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

Input Watts (W): 47
 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°	245960	245960	245960
5°	243703	243548	243626
10°	237468	236527	237468
15°	231751	227575	231991
20°	219728	218906	220139
25°	180243	205656	181180
30°	128529	169909	128708
35°	92702	112585	92984
40°	74315	65410	74315
45°	56711	38180	56274
50°	37407	24378	37287
55°	25149	16368	24880
60°	16905	11173	17059
65°	11553	7900	11370
70°	7702	5671	7702
75°	5107	4213	5107
80°	3556	3112	3556
85°	2657	2657	2657

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	237.0	8.8
10°-20°	646.1	23.9
20°-30°	807.8	29.9
30°-40°	543.4	20.1
40°-50°	286.9	10.6
50°-60°	116.6	4.3
60°-70°	43.2	1.6
70°-80°	14.0	0.5
80°-90°	3.0	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°	1690.8	62.7
0°-40°	2234.2	82.8
0°-60°	2637.8	97.8
0°-90°	2698.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2698.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2549	2549	2549	2549	2549	
5°	2516	2514	2514	2514	2515	237
15°	2320	2301	2278	2300	2322	650
25°	1693	1788	1932	1791	1702	762
35°	787	826	956	828	789	506
45°	416	395	280	393	412	319
55°	150	125	97	125	148	139
65°	51	41	35	41	50	52
75°	14	12	11	12	14	16
85°	2	2	2	2	2	3
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2549.1	2549.1	2549.1	2549.1	2549.1
2.5°	2542.7	2541.1	2540.3	2540.3	2541.1
5°	2516.1	2513.7	2514.5	2514.5	2515.3
7.5°	2473.5	2472.7	2470.3	2473.5	2473.5
10°	2423.7	2419.7	2414.1	2420.5	2423.7
12.5°	2372.2	2360.2	2350.5	2360.2	2372.2
15°	2320.0	2300.7	2278.2	2299.9	2322.4
17.5°	2251.7	2232.4	2207.5	2236.4	2258.1
20°	2139.9	2141.5	2131.9	2139.9	2143.9
22.5°	1960.7	1996.8	2047.5	1997.6	1955.0
25°	1693.0	1787.8	1931.7	1791.0	1701.8
27.5°	1406.0	1526.6	1762.1	1533.8	1414.8
30°	1153.6	1260.5	1525.0	1267.7	1155.2
32.5°	934.1	1013.7	1239.6	1023.3	944.6
35°	787.0	826.4	955.8	828.0	789.4
37.5°	674.5	674.5	709.8	677.7	671.2
40°	590.0	564.3	519.3	563.5	590.0
42.5°	511.3	472.7	377.0	471.1	512.9
45°	415.6	394.7	279.8	393.1	412.4
47.5°	319.1	304.7	210.6	303.1	321.6
50°	249.2	226.7	162.4	225.1	248.4
52.5°	191.3	167.2	125.4	167.2	189.7
55°	149.5	125.4	97.3	125.4	147.9
57.5°	115.0	95.7	74.0	94.1	114.2
60°	87.6	71.5	57.9	71.5	88.4
62.5°	66.7	54.7	44.2	53.9	65.9
65°	50.6	41.0	34.6	41.0	49.8
67.5°	37.0	30.5	26.5	30.5	37.8
70°	27.3	23.3	20.1	22.5	27.3
72.5°	20.1	16.9	15.3	16.9	20.1
75°	13.7	12.1	11.3	12.1	13.7
77.5°	9.6	8.8	8.0	8.8	9.6
80°	6.4	5.6	5.6	6.4	6.4
82.5°	4.0	4.0	4.0	4.0	4.0
85°	2.4	2.4	2.4	2.4	2.4
87.5°	1.6	1.6	1.6	1.6	1.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)