

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: **FLDSQ4C08D010 FEU4C089027 F4LC-SQ-WH**

Issue Date: 12/13/2022

Tested By:

Approved By:



Cooper Lighting Solutions laboratories have been accredited by National Voluntary Laboratory Accreditation Program (NVLAP) that it adheres to the requirements of ISO/IEC 17025:2005 and appropriate IESNA test methods. This report must not be used to claim product certification, approval or endorsement by NVLAP, NIST or any agency of the Federal Government. Results contained in this report are valid for luminaire sample tested, as supplied by requestor. Information related to the luminaire tested has been supplied by requestor and can affect the validity of the test results. Report shall not be reproduced except in full without approval of Cooper Lighting Solutions Lighting Laboratory. Test performed at address noted above.

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: FLDSQ4C08D010 FEU4C089027 F4LC-SQ-WH
 Description: 4 INCH 800 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 2700K, 90CRI LEDS AND F4LC-SQW TRIM WITH H FINISH
 Light Source: -
 Ballast/Driver: -

Summary

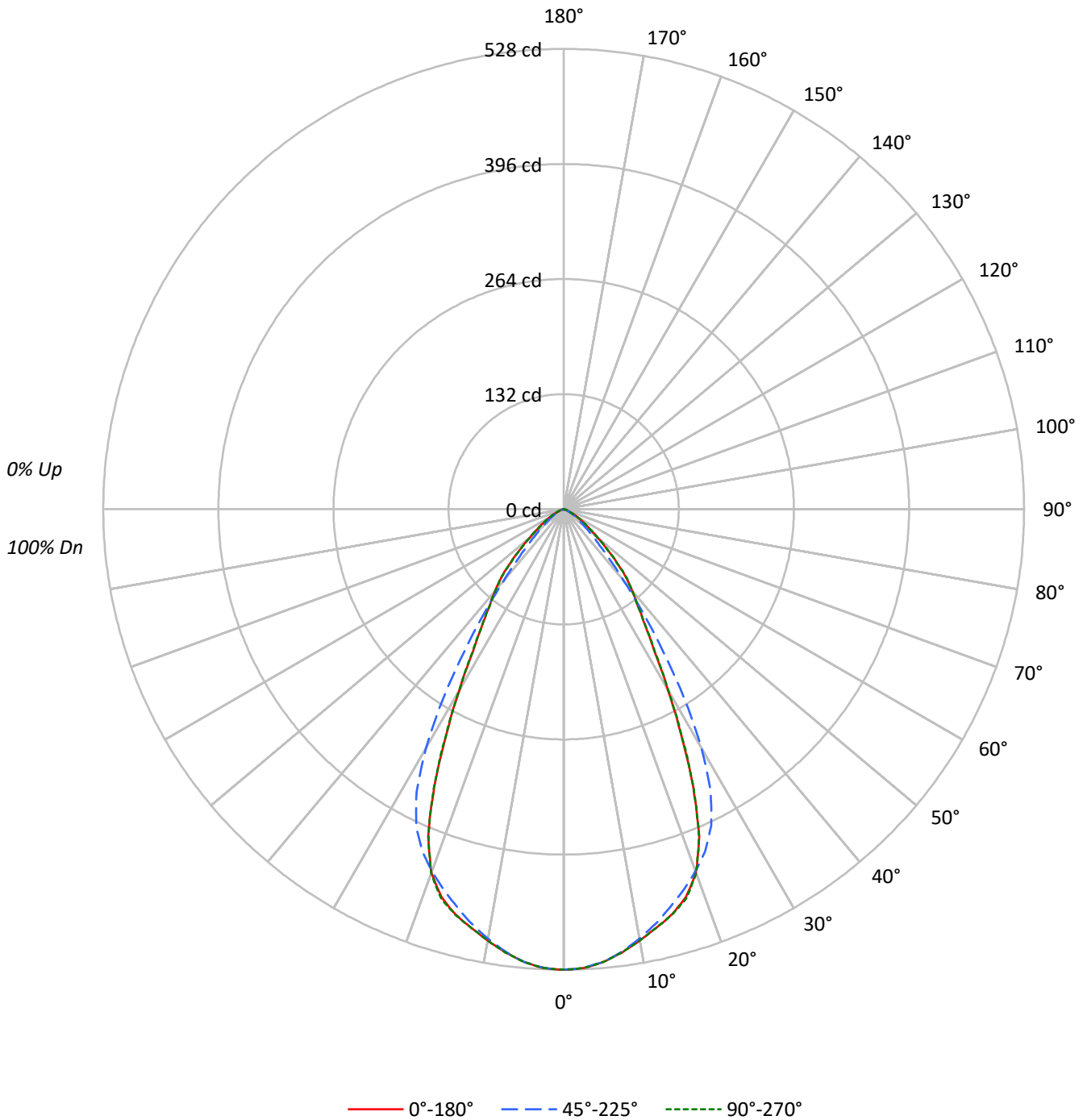
Lumens per Lamp: N/A
 Luminaire Lumens: 559.0 lumens
 Efficiency: N/A
 Efficacy: 56.5 lumens/watt
 Spacing Criteria (0/90/45): 0.93 / 0.93 / 0.94
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

Input Watts (W): 9.9
 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

TEST NUMBER: P#
CATALOG NUMBER: FLDSQ4C08D010 FEU4C089027 F4LC-SQ-WH

Luminous Intensity Polar Plot



TEST NUMBER: P#
 CATALOG NUMBER: FLDSQ4C08D010 FEU4C089027 F4LC-SQ-WH

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	50	30	10	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100	100	
1	113	110	107	105	110	108	105	103	104	102	100	100	98	97	96	95	94	92	92	92	92	
2	107	101	97	93	104	99	95	92	96	93	90	93	90	88	90	88	86	84	84	84	84	
3	101	93	88	84	98	92	87	83	89	85	82	87	83	80	85	82	79	77	77	77	77	
4	95	87	80	76	93	85	80	75	83	78	74	81	77	74	79	76	73	71	71	71	71	
5	89	80	74	69	88	79	73	69	78	72	68	76	71	68	74	70	67	66	66	66	66	
6	85	75	68	64	83	74	68	63	72	67	63	71	66	63	70	65	62	61	61	61	61	
7	80	70	63	59	79	69	63	59	68	62	58	67	62	58	65	61	58	56	56	56	56	
8	76	65	59	55	74	65	59	54	64	58	54	63	58	54	62	57	54	52	52	52	52	
9	72	61	55	51	71	61	55	51	60	54	51	59	54	50	58	54	50	49	49	49	49	
10	68	58	52	48	67	57	51	47	57	51	47	56	51	47	55	50	47	46	46	46	46	

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	50956	50956	50956
5°	50492	50463	50482
10°	49204	49008	49204
15°	48018	47149	48068
20°	45529	45354	45611
25°	37347	42607	37539
30°	26628	35207	26662
35°	19212	23323	19271
40°	15405	13553	15405
45°	11749	7914	11653
50°	7746	5044	7731
55°	5215	3398	5148
60°	3512	2316	3531
65°	2397	1644	2352
70°	1608	1185	1608
75°	1044	857	1044
80°	722	667	722
85°	554	554	554

TEST NUMBER: P#
 CATALOG NUMBER: FLDSQ4C08D010 FEU4C089027 F4LC-SQ-WH

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	49.1	8.8
10°-20°	133.9	23.9
20°-30°	167.4	29.9
30°-40°	112.6	20.1
40°-50°	59.4	10.6
50°-60°	24.2	4.3
60°-70°	9.0	1.6
70°-80°	2.9	0.5
80°-90°	0.6	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°	350.3	62.7
0°-40°	462.9	82.8
0°-60°	546.5	97.8
0°-90°	559.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	559.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	528	528	528	528	528	
5°	521	521	521	521	521	49
15°	481	477	472	476	481	135
25°	351	370	400	371	353	158
35°	163	171	198	172	164	105
45°	86	82	58	81	85	66
55°	31	26	20	26	31	29
65°	10	8	7	8	10	11
75°	3	2	2	2	3	3
85°	0	0	0	0	0	1
90°	0	0	0	0	0	

TEST NUMBER: P#
 CATALOG NUMBER: FLDSQ4C08D010 FEU4C089027 F4LC-SQ-WH

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	528.1	528.1	528.1	528.1	528.1
2.5°	526.8	526.5	526.3	526.3	526.5
5°	521.3	520.8	521.0	521.0	521.2
7.5°	512.5	512.3	511.8	512.5	512.5
10°	502.2	501.3	500.2	501.5	502.2
12.5°	491.5	489.0	487.0	489.0	491.5
15°	480.7	476.7	472.0	476.5	481.2
17.5°	466.5	462.5	457.4	463.4	467.9
20°	443.4	443.7	441.7	443.4	444.2
22.5°	406.2	413.7	424.2	413.9	405.1
25°	350.8	370.4	400.2	371.1	352.6
27.5°	291.3	316.3	365.1	317.8	293.1
30°	239.0	261.2	316.0	262.7	239.3
32.5°	193.5	210.0	256.8	212.0	195.7
35°	163.1	171.2	198.0	171.6	163.6
37.5°	139.7	139.7	147.1	140.4	139.1
40°	122.3	116.9	107.6	116.8	122.3
42.5°	105.9	97.9	78.1	97.6	106.3
45°	86.1	81.8	58.0	81.4	85.4
47.5°	66.1	63.1	43.6	62.8	66.6
50°	51.6	47.0	33.6	46.6	51.5
52.5°	39.6	34.6	26.0	34.6	39.3
55°	31.0	26.0	20.2	26.0	30.6
57.5°	23.8	19.8	15.3	19.5	23.7
60°	18.2	14.8	12.0	14.8	18.3
62.5°	13.8	11.3	9.2	11.2	13.7
65°	10.5	8.5	7.2	8.5	10.3
67.5°	7.7	6.3	5.5	6.3	7.8
70°	5.7	4.8	4.2	4.7	5.7
72.5°	4.2	3.5	3.2	3.5	4.2
75°	2.8	2.5	2.3	2.5	2.8
77.5°	2.0	1.8	1.7	1.8	2.0
80°	1.3	1.2	1.2	1.3	1.3
82.5°	0.8	0.8	0.8	0.8	0.8
85°	0.5	0.5	0.5	0.5	0.5
87.5°	0.3	0.3	0.3	0.3	0.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)