

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: **FLDSQ4C35D010 FEU4C359027 F4LC-SQ-WLI**

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: FLDSQ4C35D010 FEU4C359027 F4LC-SQ-WLI
 Description: 4 INCH 3500 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 2700K, 90CRI LEDS
 AND F4LC-SQW TRIM WITH LI FINISH
 Light Source: -
 Ballast/Driver: -

Summary

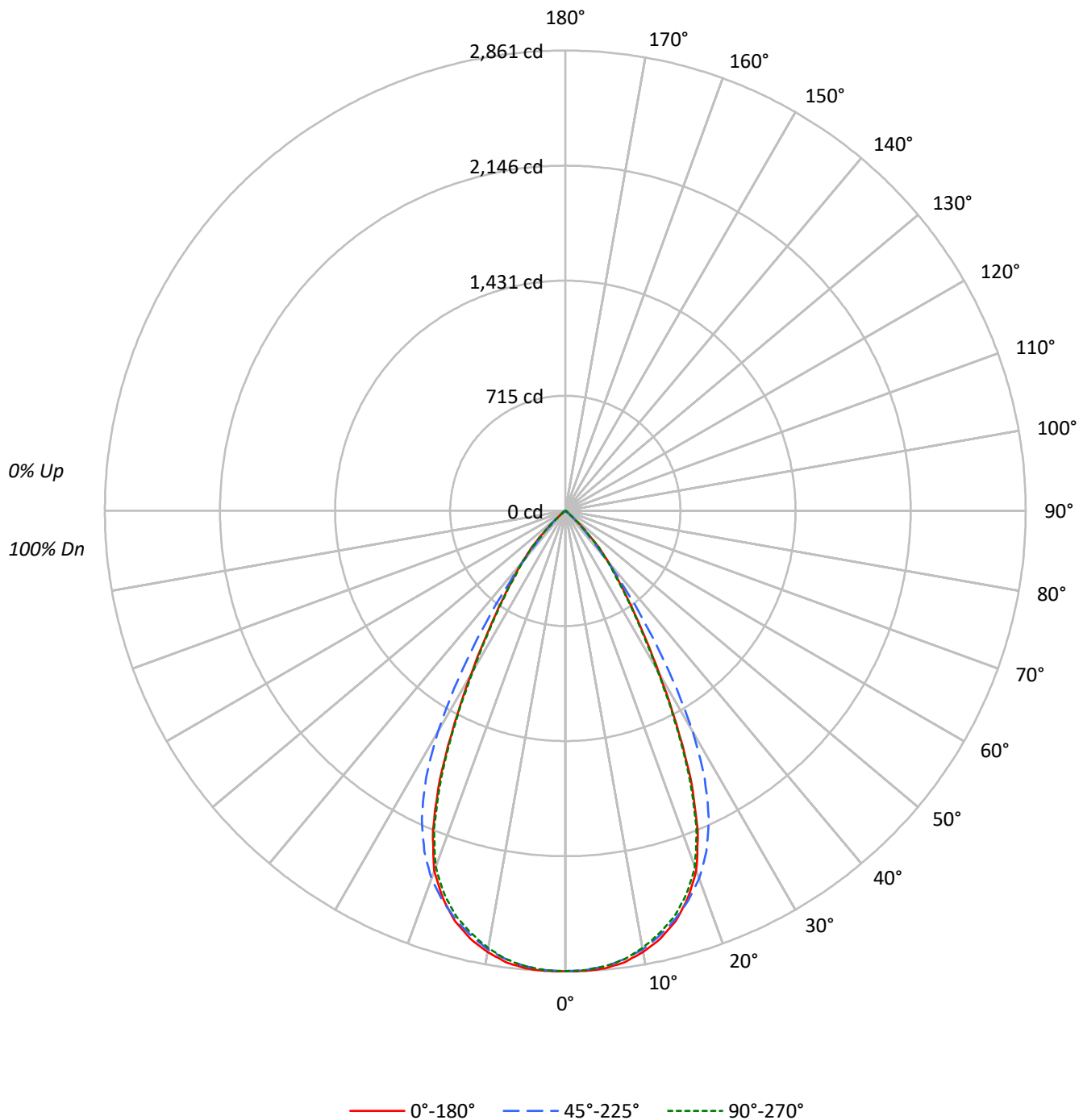
Lumens per Lamp: N/A
 Luminaire Lumens: 2561.0 lumens
 Efficiency: N/A
 Efficacy: 63.4 lumens/watt
 Spacing Criteria (0/90/45): 0.91 / 0.91 / 0.9
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

Input Watts (W): 40.4
 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: FLDSQ4C35D010 FEU4C359027 F4LC-SQ-WLI

Luminous Intensity Polar Plot



TEST NUMBER: P#
 CATALOG NUMBER: FLDSQ4C35D010 FEU4C359027 F4LC-SQ-WLI

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20
RC	80				70				50				30				10
RW	70	50	30	10	70	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		100
1	114	111	108	106	111	109	106	104	105	103	101		101	100	98		94
2	108	103	99	96	106	102	98	95	98	95	93		95	93	91		87
3	103	96	91	88	101	95	90	87	92	89	85		90	87	84		81
4	98	90	85	80	96	89	84	80	87	82	79		85	81	78		76
5	93	84	79	74	91	84	78	74	82	77	73		80	76	73		71
6	88	79	73	69	87	79	73	69	77	72	68		76	71	68		66
7	84	75	69	65	82	74	68	64	73	68	64		71	67	64		62
8	80	70	64	60	79	70	64	60	69	64	60		68	63	60		58
9	76	66	61	57	75	66	60	57	65	60	56		64	60	56		55
10	72	63	57	53	71	62	57	53	62	57	53		61	56	53		52

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	276026	276026	276026
5°	276315	275046	275046
10°	272681	271074	270241
15°	263836	262588	260820
20°	244341	249670	241640
25°	196457	224585	193870
30°	129677	176093	126602
35°	81052	105741	79580
40°	52889	48997	50824
45°	25463	19554	24030
50°	6410	7791	6019
55°	3533	3213	3432
60°	2412	2026	2277
65°	1644	1507	1644
70°	1298	1100	1298
75°	969	969	969
80°	722	1111	1111
85°	775	1439	1439

TEST NUMBER: P#
 CATALOG NUMBER: FLDSQ4C35D010 FEU4C359027 F4LC-SQ-WLI

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	269.0	10.5
10°-20°	734.7	28.7
20°-30°	875.5	34.2
30°-40°	495.8	19.4
40°-50°	153.3	6.0
50°-60°	21.3	0.8
60°-70°	7.3	0.3
70°-80°	2.9	0.1
80°-90°	1.2	0.0
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°	1879.3	73.4
0°-40°	2375.0	92.7
0°-60°	2549.6	99.6
0°-90°	2561.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2561.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2861	2861	2861	2861	2861	
5°	2853	2846	2840	2838	2840	270
15°	2641	2637	2629	2618	2611	736
25°	1845	1953	2110	1956	1821	823
35°	688	750	898	752	676	448
45°	187	218	143	212	176	154
55°	21	21	19	20	20	21
65°	7	7	7	7	7	8
75°	3	3	3	3	3	3
85°	1	1	1	1	1	1
90°	0	0	0	0	0	

TEST NUMBER: P#

CATALOG NUMBER: FLDSQ4C35D010 FEU4C359027 F4LC-SQ-WLI

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2860.7	2860.7	2860.7	2860.7	2860.7
2.5°	2861.3	2856.7	2855.4	2854.1	2856.7
5°	2852.8	2846.2	2839.7	2837.7	2839.7
7.5°	2828.5	2821.9	2810.7	2808.1	2810.1
10°	2783.1	2777.2	2766.7	2760.8	2758.2
12.5°	2723.3	2713.5	2703.6	2697.0	2690.5
15°	2641.2	2636.6	2628.7	2618.2	2611.0
17.5°	2527.5	2534.1	2538.7	2517.6	2498.6
20°	2379.6	2403.9	2431.5	2388.8	2353.3
22.5°	2149.0	2218.6	2288.9	2208.1	2129.2
25°	1845.3	1953.1	2109.5	1956.4	1821.0
27.5°	1491.1	1627.8	1874.3	1628.5	1471.4
30°	1163.9	1304.5	1580.5	1286.1	1136.3
32.5°	893.8	998.9	1234.8	983.1	874.7
35°	688.1	750.5	897.7	752.5	675.6
37.5°	534.9	566.5	603.9	555.3	519.2
40°	419.9	421.2	389.0	414.7	403.5
42.5°	311.5	310.2	239.2	302.3	304.3
45°	186.6	217.5	143.3	211.6	176.1
47.5°	88.7	122.9	86.1	116.3	82.1
50°	42.7	59.1	51.9	55.2	40.1
52.5°	28.9	30.2	29.6	28.9	27.6
55°	21.0	21.0	19.1	20.4	20.4
57.5°	15.8	15.8	13.8	15.1	15.1
60°	12.5	11.8	10.5	11.8	11.8
62.5°	9.2	9.2	7.9	9.2	9.2
65°	7.2	7.2	6.6	7.2	7.2
67.5°	5.9	5.9	4.6	5.9	5.3
70°	4.6	4.6	3.9	4.6	4.6
72.5°	3.3	3.3	3.3	3.3	3.3
75°	2.6	2.6	2.6	2.6	2.6
77.5°	2.0	2.0	2.0	2.0	2.0
80°	1.3	1.3	2.0	2.0	2.0
82.5°	1.3	1.3	1.3	1.3	1.3
85°	0.7	1.3	1.3	1.3	1.3
87.5°	0.7	0.7	1.3	1.3	1.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)