

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: **FLDSQ4C100D010 FEU4C1009035 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: FLDSQ4C100D010 FEU4C1009035 F4LC-SQ-WH
 Description: 4 INCH 10000 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 3500K, 90CRI LEDS AND F4LC-SQW TRIM WITH H FINISH
 Light Source: -
 Ballast/Driver: -

Summary

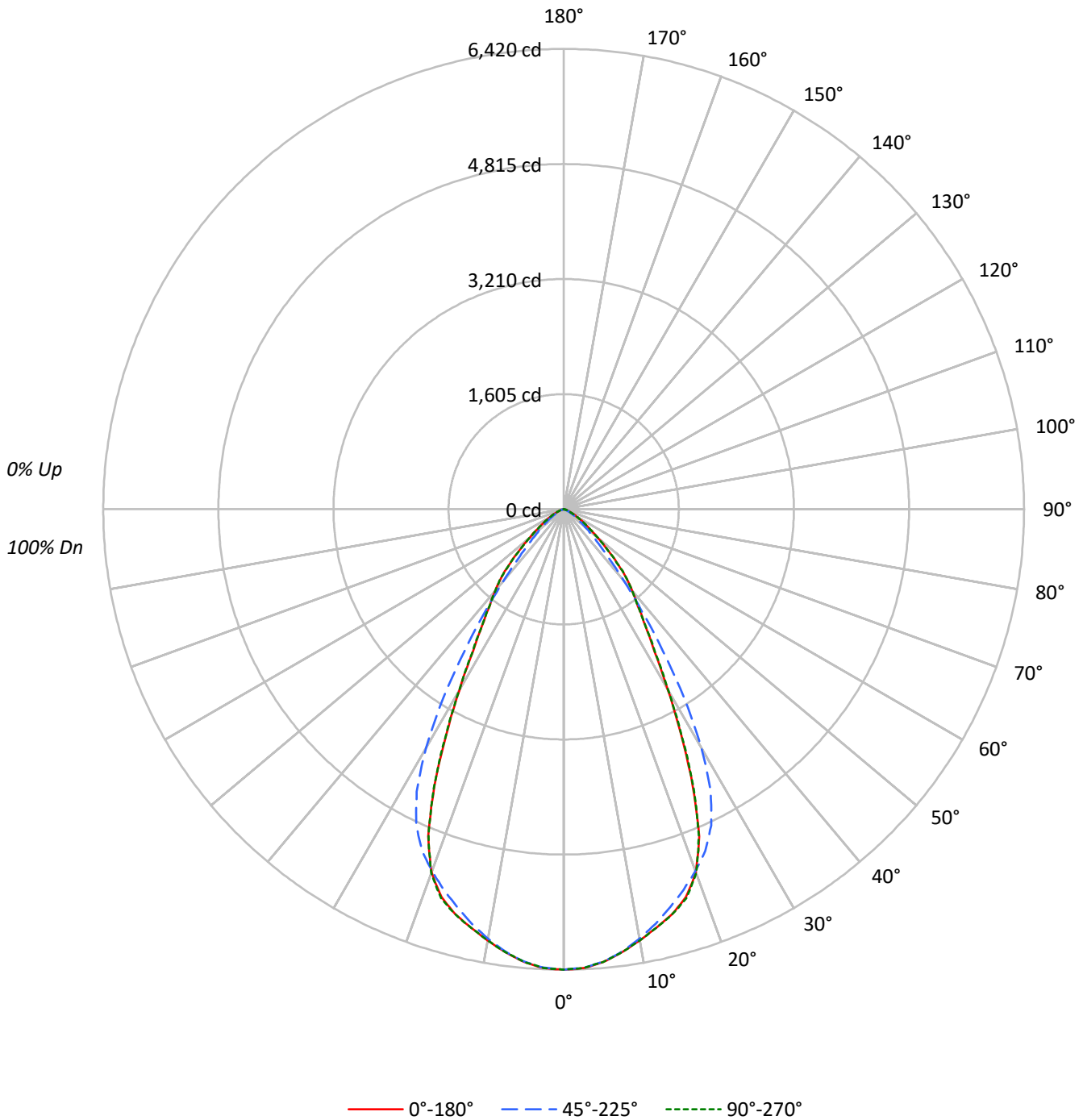
Lumens per Lamp: N/A
 Luminaire Lumens: 6795.0 lumens
 Efficiency: N/A
 Efficacy: 59.4 lumens/watt
 Spacing Criteria (0/90/45): 0.93 / 0.93 / 0.94
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

Input Watts (W): 114.4
 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: FLDSQ4C100D010 FEU4C1009035 F4LC-SQ-WH

Luminous Intensity Polar Plot





TEST NUMBER: P#
 CATALOG NUMBER: FLDSQ4C100D010 FEU4C1009035 F4LC-SQ-WH

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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	619459	619459	619459
5°	613786	613389	613592
10°	598074	595693	598074
15°	583673	573154	584282
20°	553401	551317	554438
25°	453940	517957	456314
30°	323696	427915	324142
35°	233474	283547	234192
40°	187185	164740	187185
45°	142828	96147	141723
50°	94209	61395	93909
55°	63353	41215	62663
60°	42590	28136	42976
65°	29110	19886	28653
70°	19409	14275	19409
75°	12824	10550	12824
80°	9002	7890	9002
85°	6753	6753	6753

TEST NUMBER: P#
 CATALOG NUMBER: FLDSQ4C100D010 FEU4C1009035 F4LC-SQ-WH

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	596.8	8.8
10°-20°	1627.3	23.9
20°-30°	2034.4	29.9
30°-40°	1368.5	20.1
40°-50°	722.6	10.6
50°-60°	293.7	4.3
60°-70°	108.9	1.6
70°-80°	35.2	0.5
80°-90°	7.6	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°	4258.5	62.7
0°-40°	5627.0	82.8
0°-60°	6643.3	97.8
0°-90°	6795.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6795.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6420	6420	6420	6420	6420	
5°	6337	6331	6333	6333	6335	597
15°	5843	5794	5738	5792	5849	1637
25°	4264	4503	4865	4511	4286	1919
35°	1982	2081	2407	2085	1988	1276
45°	1047	994	705	990	1039	803
55°	377	316	245	316	372	349
65°	128	103	87	103	126	131
75°	34	30	28	30	34	40
85°	6	6	6	6	6	8
90°	0	0	0	0	0	

TEST NUMBER: P#
 CATALOG NUMBER: FLDSQ4C100D010 FEU4C1009035 F4LC-SQ-WH

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6420.0	6420.0	6420.0	6420.0	6420.0
2.5°	6403.8	6399.8	6397.7	6397.7	6399.8
5°	6337.0	6330.9	6332.9	6332.9	6335.0
7.5°	6229.7	6227.7	6221.6	6229.7	6229.7
10°	6104.2	6094.0	6079.9	6096.1	6104.2
12.5°	5974.6	5944.2	5919.9	5944.2	5974.6
15°	5843.0	5794.4	5737.7	5792.4	5849.1
17.5°	5670.9	5622.3	5559.5	5632.4	5687.1
20°	5389.5	5393.5	5369.2	5389.5	5399.6
22.5°	4938.0	5029.1	5156.6	5031.1	4923.8
25°	4263.8	4502.7	4865.1	4510.8	4286.1
27.5°	3541.0	3844.7	4437.9	3862.9	3563.3
30°	2905.3	3174.6	3840.7	3192.8	2909.3
32.5°	2352.6	2553.0	3121.9	2577.3	2378.9
35°	1982.1	2081.3	2407.2	2085.3	1988.2
37.5°	1698.6	1698.6	1787.7	1706.7	1690.5
40°	1486.1	1421.3	1307.9	1419.2	1486.1
42.5°	1287.6	1190.5	949.5	1186.4	1291.7
45°	1046.7	994.1	704.6	990.0	1038.6
47.5°	803.8	767.3	530.4	763.3	809.8
50°	627.6	570.9	409.0	566.9	625.6
52.5°	481.9	421.1	315.8	421.1	477.8
55°	376.6	315.8	245.0	315.8	372.5
57.5°	289.5	240.9	186.3	236.9	287.5
60°	220.7	180.2	145.8	180.2	222.7
62.5°	168.0	137.7	111.4	135.6	166.0
65°	127.5	103.3	87.1	103.3	125.5
67.5°	93.1	76.9	66.8	76.9	95.2
70°	68.8	58.7	50.6	56.7	68.8
72.5°	50.6	42.5	38.5	42.5	50.6
75°	34.4	30.4	28.3	30.4	34.4
77.5°	24.3	22.3	20.2	22.3	24.3
80°	16.2	14.2	14.2	16.2	16.2
82.5°	10.1	10.1	10.1	10.1	10.1
85°	6.1	6.1	6.1	6.1	6.1
87.5°	4.0	4.0	4.0	4.0	4.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)