

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: **FLDSQ4C80D010 FEU4C809040 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: FLDSQ4C80D010 FEU4C809040 F4LC-SQ-WH  
 Description: 4 INCH 8000 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 4000K, 90CRI LEDS AND F4LC-SQW TRIM WITH H FINISH  
 Light Source: -  
 Ballast/Driver: -

**Summary**

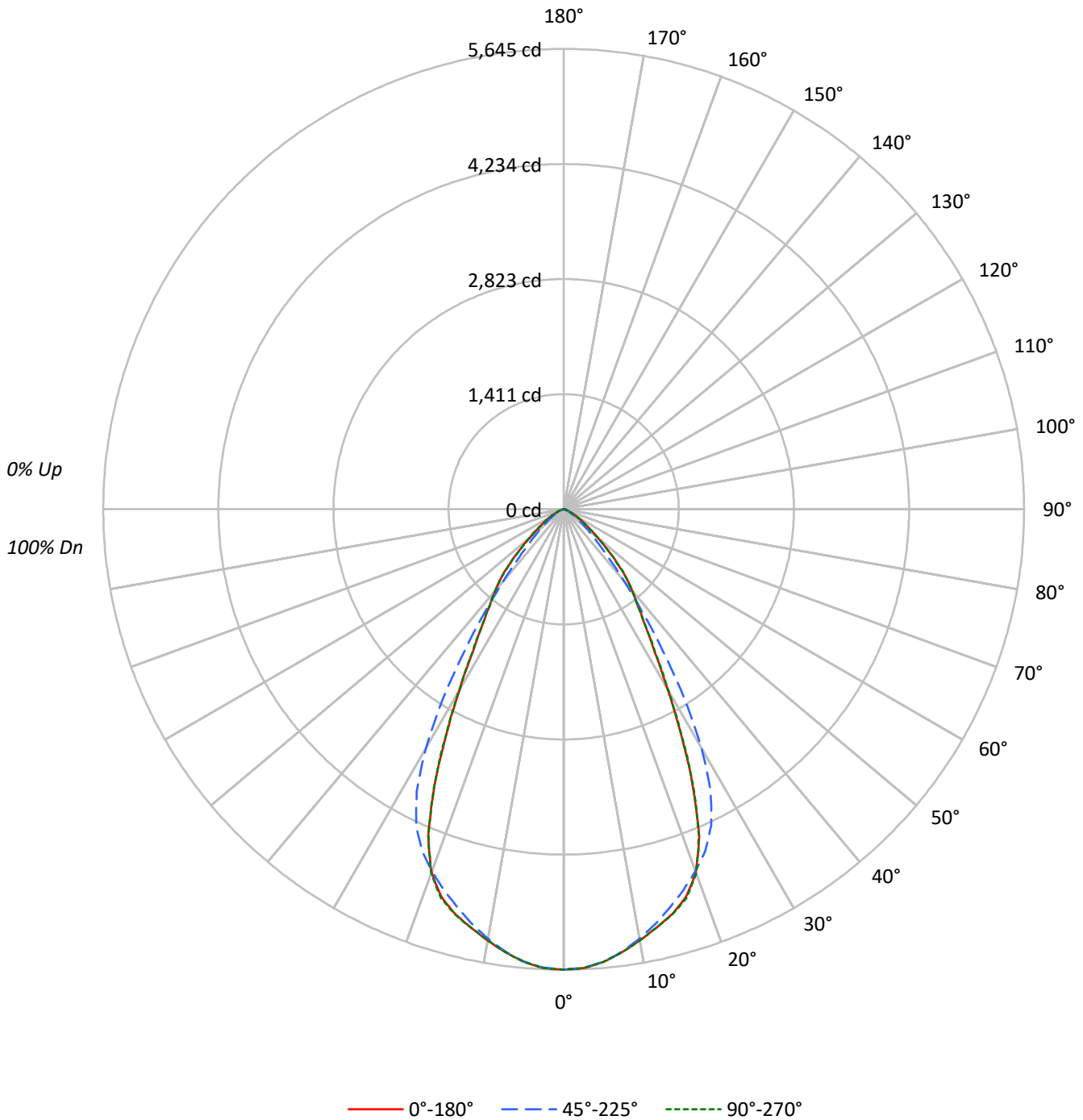
Lumens per Lamp: N/A  
 Luminaire Lumens: 5975.0 lumens  
 Efficiency: N/A  
 Efficacy: 66.8 lumens/watt  
 Spacing Criteria (0/90/45): 0.93 / 0.93 / 0.94  
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
 CIE Type: Direct

Input Watts (W): 89.5  
 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: FLDSQ4C80D010 FEU4C809040 F4LC-SQ-WH

### Luminous Intensity Polar Plot



TEST NUMBER: P#

CATALOG NUMBER: FLDSQ4C80D010 FEU4C809040 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°	544709	544709	544709
5°	539719	539370	539545
10°	525894	523807	525894
15°	513238	503988	513768
20°	486617	484789	487531
25°	399164	455452	401240
30°	284634	376273	285035
35°	205298	249329	205923
40°	164588	144863	164588
45°	125594	84534	124625
50°	82846	53980	82576
55°	55699	36235	55110
60°	37438	24740	37785
65°	25617	17489	25206
70°	17068	12554	17068
75°	11296	9283	11296
80°	7890	6946	7890
85°	5868	5868	5868

TEST NUMBER: P#  
 CATALOG NUMBER: FLDSQ4C80D010 FEU4C809040 F4LC-SQ-WH

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	524.8	8.8
10°-20°	1430.9	23.9
20°-30°	1788.9	29.9
30°-40°	1203.4	20.1
40°-50°	635.4	10.6
50°-60°	258.3	4.3
60°-70°	95.8	1.6
70°-80°	30.9	0.5
80°-90°	6.7	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°	3744.6	62.7
0°-40°	4948.0	82.8
0°-60°	5841.6	97.8
0°-90°	5975.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5975.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5645	5645	5645	5645	5645	
5°	5572	5567	5569	5569	5570	525
15°	5138	5095	5045	5093	5143	1439
25°	3749	3959	4278	3966	3769	1688
35°	1743	1830	2117	1834	1748	1122
45°	920	874	620	871	913	706
55°	331	278	215	278	328	307
65°	112	91	77	91	110	116
75°	30	27	25	27	30	35
85°	5	5	5	5	5	7
90°	0	0	0	0	0	

TEST NUMBER: P#  
 CATALOG NUMBER: FLDSQ4C80D010 FEU4C809040 F4LC-SQ-WH

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5645.3	5645.3	5645.3	5645.3	5645.3
2.5°	5631.0	5627.4	5625.7	5625.7	5627.4
5°	5572.3	5566.9	5568.7	5568.7	5570.5
7.5°	5477.9	5476.1	5470.8	5477.9	5477.9
10°	5367.5	5358.6	5346.2	5360.4	5367.5
12.5°	5253.6	5226.9	5205.5	5226.9	5253.6
15°	5137.9	5095.1	5045.3	5093.4	5143.2
17.5°	4986.5	4943.8	4888.6	4952.7	5000.8
20°	4739.1	4742.7	4721.3	4739.1	4748.0
22.5°	4342.1	4422.2	4534.4	4424.0	4329.6
25°	3749.3	3959.3	4278.0	3966.5	3768.8
27.5°	3113.7	3380.7	3902.4	3396.8	3133.3
30°	2554.7	2791.5	3377.2	2807.5	2558.3
32.5°	2068.7	2244.9	2745.2	2266.3	2091.8
35°	1742.9	1830.1	2116.7	1833.7	1748.2
37.5°	1493.7	1493.7	1572.0	1500.8	1486.5
40°	1306.7	1249.8	1150.1	1248.0	1306.7
42.5°	1132.3	1046.8	834.9	1043.2	1135.8
45°	920.4	874.1	619.5	870.6	913.3
47.5°	706.8	674.7	466.4	671.2	712.1
50°	551.9	502.0	359.6	498.5	550.1
52.5°	423.7	370.3	277.7	370.3	420.1
55°	331.1	277.7	215.4	277.7	327.6
57.5°	254.6	211.9	163.8	208.3	252.8
60°	194.0	158.4	128.2	158.4	195.8
62.5°	147.8	121.1	97.9	119.3	146.0
65°	112.2	90.8	76.6	90.8	110.4
67.5°	81.9	67.7	58.7	67.7	83.7
70°	60.5	51.6	44.5	49.8	60.5
72.5°	44.5	37.4	33.8	37.4	44.5
75°	30.3	26.7	24.9	26.7	30.3
77.5°	21.4	19.6	17.8	19.6	21.4
80°	14.2	12.5	12.5	14.2	14.2
82.5°	8.9	8.9	8.9	8.9	8.9
85°	5.3	5.3	5.3	5.3	5.3
87.5°	3.6	3.6	3.6	3.6	3.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)