

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 FEU4C809030 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: FLDSQ4C80D010 FEU4C809030 F4LC-SQ-WLI
 Description: 4 INCH 8000 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 3000K, 90CRI LEDS AND F4LC-SQW TRIM WITH LI FINISH
 Light Source: -
 Ballast/Driver: -

Summary

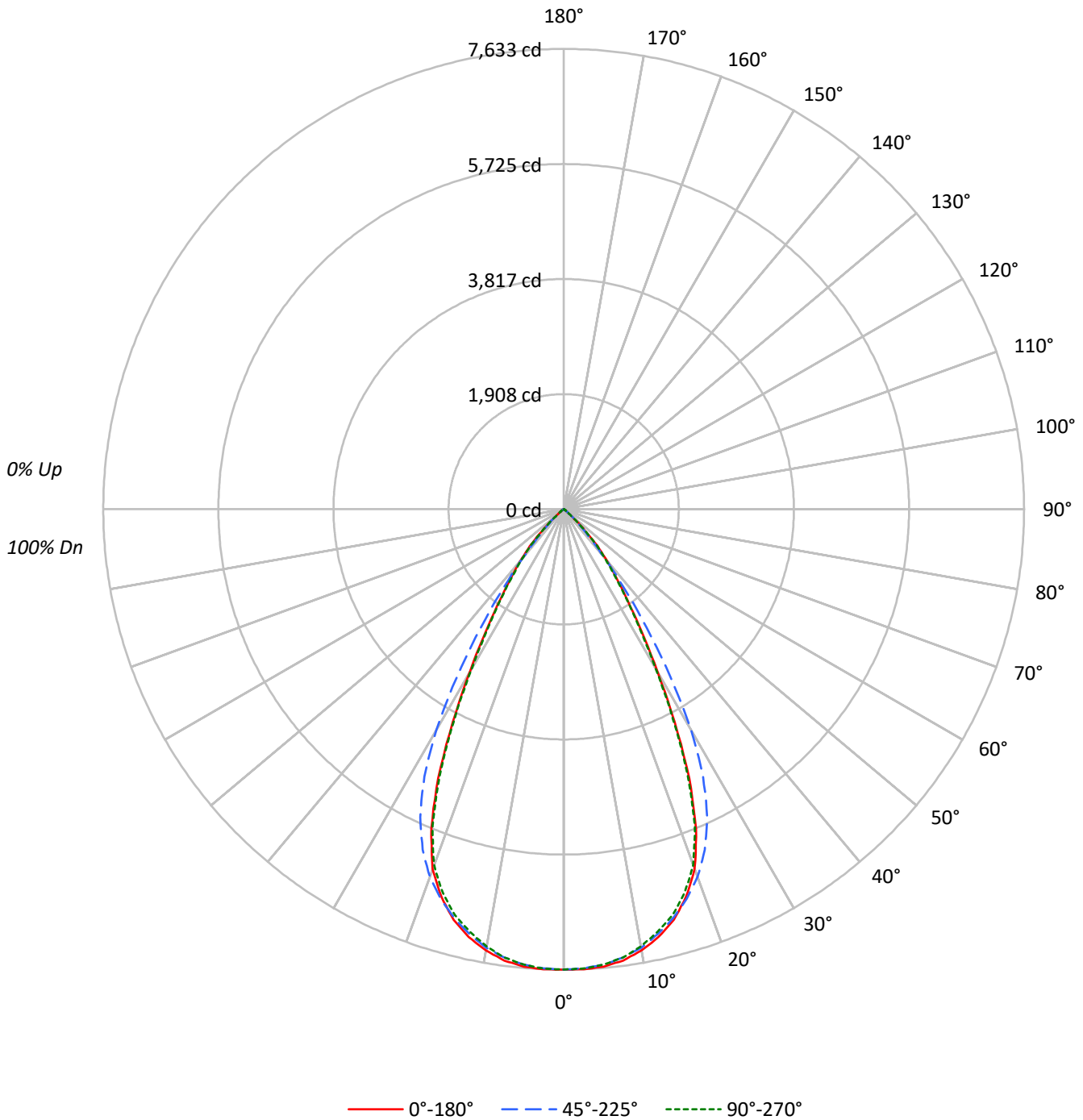
Lumens per Lamp: N/A
 Luminaire Lumens: 6832.0 lumens
 Efficiency: N/A
 Efficacy: 76.3 lumens/watt
 Spacing Criteria (0/90/45): 0.91 / 0.91 / 0.9
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

Input Watts (W): 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 FEU4C809030 F4LC-SQ-WLI

Luminous Intensity Polar Plot





TEST NUMBER: P#
 CATALOG NUMBER: FLDSQ4C80D010 FEU4C809030 F4LC-SQ-WLI

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	114	111	108	106	111	109	106	104	105	103	101	101	100	98	97	96	95	94	94	94	94	
2	108	103	99	96	106	102	98	95	98	95	93	95	93	91	93	91	89	87	87	87	87	
3	103	96	91	88	101	95	90	87	92	89	85	90	87	84	88	85	83	81	81	81	81	
4	98	90	85	80	96	89	84	80	87	82	79	85	81	78	83	80	77	76	76	76	76	
5	93	84	79	74	91	84	78	74	82	77	73	80	76	73	79	75	72	71	71	71	71	
6	88	79	73	69	87	79	73	69	77	72	68	76	71	68	74	71	68	66	66	66	66	
7	84	75	69	65	82	74	68	64	73	68	64	71	67	64	70	66	63	62	62	62	62	
8	80	70	64	60	79	70	64	60	69	64	60	68	63	60	67	63	59	58	58	58	58	
9	76	66	61	57	75	66	60	57	65	60	56	64	60	56	63	59	56	55	55	55	55	
10	72	63	57	53	71	62	57	53	62	57	53	61	56	53	60	56	53	52	52	52	52	

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	736355	736355	736355
5°	737124	733734	733734
10°	727443	723152	720918
15°	703834	700507	695782
20°	651842	666063	644633
25°	524110	599135	517201
30°	345924	469762	337724
35°	216206	282086	212283
40°	141110	130731	135580
45°	67941	52153	64107
50°	17113	20790	16047
55°	9437	8546	9135
60°	6426	5423	6098
65°	4406	3995	4406
70°	3470	2962	3470
75°	2610	2610	2610
80°	1945	2945	2945
85°	1993	3875	3875

TEST NUMBER: P#
 CATALOG NUMBER: FLDSQ4C80D010 FEU4C809030 F4LC-SQ-WLI

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	717.7	10.5
10°-20°	1959.9	28.7
20°-30°	2335.7	34.2
30°-40°	1322.6	19.4
40°-50°	408.9	6.0
50°-60°	56.8	0.8
60°-70°	19.4	0.3
70°-80°	7.7	0.1
80°-90°	3.3	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°	5013.4	73.4
0°-40°	6336.0	92.7
0°-60°	6801.6	99.6
0°-90°	6832.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6832.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7632	7632	7632	7632	7632	
5°	7610	7593	7575	7570	7575	721
15°	7046	7034	7013	6985	6965	1965
25°	4923	5210	5628	5219	4858	2195
35°	1836	2002	2395	2007	1802	1195
45°	498	580	382	564	470	411
55°	56	56	51	54	54	55
65°	19	19	18	19	19	20
75°	7	7	7	7	7	8
85°	2	4	4	4	4	2
90°	0	0	0	0	0	

TEST NUMBER: P#
 CATALOG NUMBER: FLDSQ4C80D010 FEU4C809030 F4LC-SQ-WLI

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7631.5	7631.5	7631.5	7631.5	7631.5
2.5°	7633.2	7621.0	7617.4	7613.9	7621.0
5°	7610.4	7592.9	7575.4	7570.1	7575.4
7.5°	7545.6	7528.0	7498.2	7491.2	7496.5
10°	7424.6	7408.8	7380.8	7365.0	7358.0
12.5°	7265.1	7238.8	7212.5	7194.9	7177.4
15°	7045.9	7033.6	7012.6	6984.6	6965.3
17.5°	6742.6	6760.2	6772.4	6716.3	6665.5
20°	6348.2	6413.0	6486.7	6372.7	6278.0
22.5°	5732.8	5918.6	6106.2	5890.6	5680.2
25°	4922.9	5210.4	5627.6	5219.1	4858.0
27.5°	3977.9	4342.6	5000.0	4344.3	3925.3
30°	3104.8	3480.0	4216.3	3430.9	3031.2
32.5°	2384.3	2664.8	3294.2	2622.7	2333.4
35°	1835.5	2002.1	2394.8	2007.4	1802.2
37.5°	1427.1	1511.2	1611.1	1481.4	1385.0
40°	1120.3	1123.8	1037.9	1106.2	1076.4
42.5°	831.0	827.5	638.1	806.4	811.7
45°	497.9	580.3	382.2	564.5	469.8
47.5°	236.7	327.8	229.7	310.3	219.1
50°	114.0	157.8	138.5	147.3	106.9
52.5°	77.1	80.6	78.9	77.1	73.6
55°	56.1	56.1	50.8	54.3	54.3
57.5°	42.1	42.1	36.8	40.3	40.3
60°	33.3	31.6	28.1	31.6	31.6
62.5°	24.5	24.5	21.0	24.5	24.5
65°	19.3	19.3	17.5	19.3	19.3
67.5°	15.8	15.8	12.3	15.8	14.0
70°	12.3	12.3	10.5	12.3	12.3
72.5°	8.8	8.8	8.8	8.8	8.8
75°	7.0	7.0	7.0	7.0	7.0
77.5°	5.3	5.3	5.3	5.3	5.3
80°	3.5	3.5	5.3	5.3	5.3
82.5°	3.5	3.5	3.5	3.5	3.5
85°	1.8	3.5	3.5	3.5	3.5
87.5°	1.8	1.8	3.5	3.5	3.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)