

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: **FLDSQ4C30D010 FEU4C309040 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: FLDSQ4C30D010 FEU4C309040 F4LC-SQ-WH
 Description: 4 INCH 3000 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 4000K, 90CRI LEDS AND F4LC-SQW TRIM WITH H FINISH
 Light Source: -
 Ballast/Driver: -

Summary

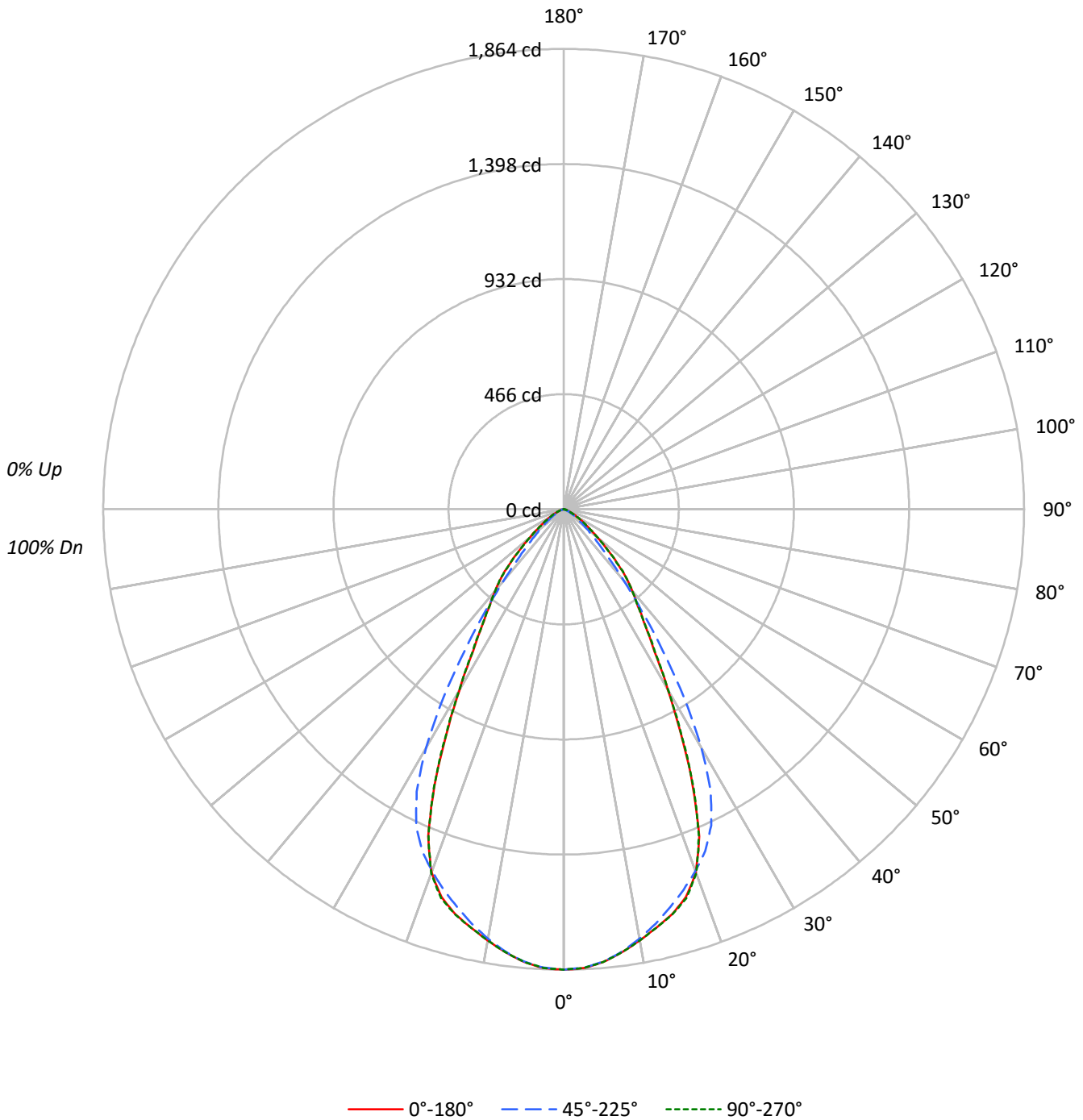
Lumens per Lamp: N/A
 Luminaire Lumens: 1973.0 lumens
 Efficiency: N/A
 Efficacy: 62.4 lumens/watt
 Spacing Criteria (0/90/45): 0.93 / 0.93 / 0.94
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

Input Watts (W): 31.6
 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: FLDSQ4C30D010 FEU4C309040 F4LC-SQ-WH

Luminous Intensity Polar Plot



TEST NUMBER: P#
 CATALOG NUMBER: FLDSQ4C30D010 FEU4C309040 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
1	113	110	107	105	110	108	105	103	104	102	100	100	98	97	96	95	94	92				92
2	107	101	97	93	104	99	95	92	96	93	90	93	90	88	90	88	86	84				84
3	101	93	88	84	98	92	87	83	89	85	82	87	83	80	85	82	79	77				77
4	95	87	80	76	93	85	80	75	83	78	74	81	77	74	79	76	73	71				71
5	89	80	74	69	88	79	73	69	78	72	68	76	71	68	74	70	67	66				66
6	85	75	68	64	83	74	68	63	72	67	63	71	66	63	70	65	62	61				61
7	80	70	63	59	79	69	63	59	68	62	58	67	62	58	65	61	58	56				56
8	76	65	59	55	74	65	59	54	64	58	54	63	58	54	62	57	54	52				52
9	72	61	55	51	71	61	55	51	60	54	51	59	54	50	58	54	50	49				49
10	68	58	52	48	67	57	51	47	57	51	47	56	51	47	55	50	47	46				46

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	179865	179865	179865
5°	178218	178102	178160
10°	173655	172969	173655
15°	169478	166421	169648
20°	160686	160080	160984
25°	131802	150391	132494
30°	93990	124251	94124
35°	67789	82336	68001
40°	54351	47839	54351
45°	41469	27919	41155
50°	27350	17818	27260
55°	18387	11961	18202
60°	12370	8163	12486
65°	8448	5776	8311
70°	5642	4147	5642
75°	3728	3057	3728
80°	2612	2278	2612
85°	1993	1993	1993

TEST NUMBER: P#
 CATALOG NUMBER: FLDSQ4C30D010 FEU4C309040 F4LC-SQ-WH

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	173.3	8.8
10°-20°	472.5	23.9
20°-30°	590.7	29.9
30°-40°	397.4	20.1
40°-50°	209.8	10.6
50°-60°	85.3	4.3
60°-70°	31.6	1.6
70°-80°	10.2	0.5
80°-90°	2.2	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°	1236.5	62.7
0°-40°	1633.9	82.8
0°-60°	1929.0	97.8
0°-90°	1973.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1973.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1864	1864	1864	1864	1864	
5°	1840	1838	1839	1839	1839	173
15°	1697	1682	1666	1682	1698	475
25°	1238	1307	1413	1310	1244	557
35°	576	604	699	606	577	370
45°	304	289	205	288	302	233
55°	109	92	71	92	108	101
65°	37	30	25	30	36	38
75°	10	9	8	9	10	12
85°	2	2	2	2	2	2
90°	0	0	0	0	0	

TEST NUMBER: P#
 CATALOG NUMBER: FLDSQ4C30D010 FEU4C309040 F4LC-SQ-WH

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1864.1	1864.1	1864.1	1864.1	1864.1
2.5°	1859.4	1858.2	1857.6	1857.6	1858.2
5°	1840.0	1838.2	1838.8	1838.8	1839.4
7.5°	1808.9	1808.3	1806.5	1808.9	1808.9
10°	1772.4	1769.5	1765.4	1770.1	1772.4
12.5°	1734.8	1726.0	1718.9	1726.0	1734.8
15°	1696.6	1682.5	1666.0	1681.9	1698.3
17.5°	1646.6	1632.5	1614.3	1635.4	1651.3
20°	1564.9	1566.1	1559.0	1564.9	1567.8
22.5°	1433.8	1460.3	1497.3	1460.8	1429.7
25°	1238.0	1307.4	1412.6	1309.8	1244.5
27.5°	1028.2	1116.4	1288.6	1121.6	1034.6
30°	843.6	921.8	1115.2	927.1	844.8
32.5°	683.1	741.3	906.5	748.3	690.7
35°	575.5	604.3	699.0	605.5	577.3
37.5°	493.2	493.2	519.1	495.6	490.9
40°	431.5	412.7	379.8	412.1	431.5
42.5°	373.9	345.7	275.7	344.5	375.1
45°	303.9	288.6	204.6	287.5	301.6
47.5°	233.4	222.8	154.0	221.6	235.1
50°	182.2	165.8	118.7	164.6	181.6
52.5°	139.9	122.3	91.7	122.3	138.7
55°	109.3	91.7	71.1	91.7	108.2
57.5°	84.1	70.0	54.1	68.8	83.5
60°	64.1	52.3	42.3	52.3	64.7
62.5°	48.8	40.0	32.3	39.4	48.2
65°	37.0	30.0	25.3	30.0	36.4
67.5°	27.0	22.3	19.4	22.3	27.6
70°	20.0	17.0	14.7	16.5	20.0
72.5°	14.7	12.3	11.2	12.3	14.7
75°	10.0	8.8	8.2	8.8	10.0
77.5°	7.1	6.5	5.9	6.5	7.1
80°	4.7	4.1	4.1	4.7	4.7
82.5°	2.9	2.9	2.9	2.9	2.9
85°	1.8	1.8	1.8	1.8	1.8
87.5°	1.2	1.2	1.2	1.2	1.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)