

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 FEU4C309035 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 FEU4C309035 F4LC-SQ-WH
 Description: 4 INCH 3000 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 3500K, 90CRI LEDS AND F4LC-SQW TRIM WITH H FINISH
 Light Source: -
 Ballast/Driver: -

Summary

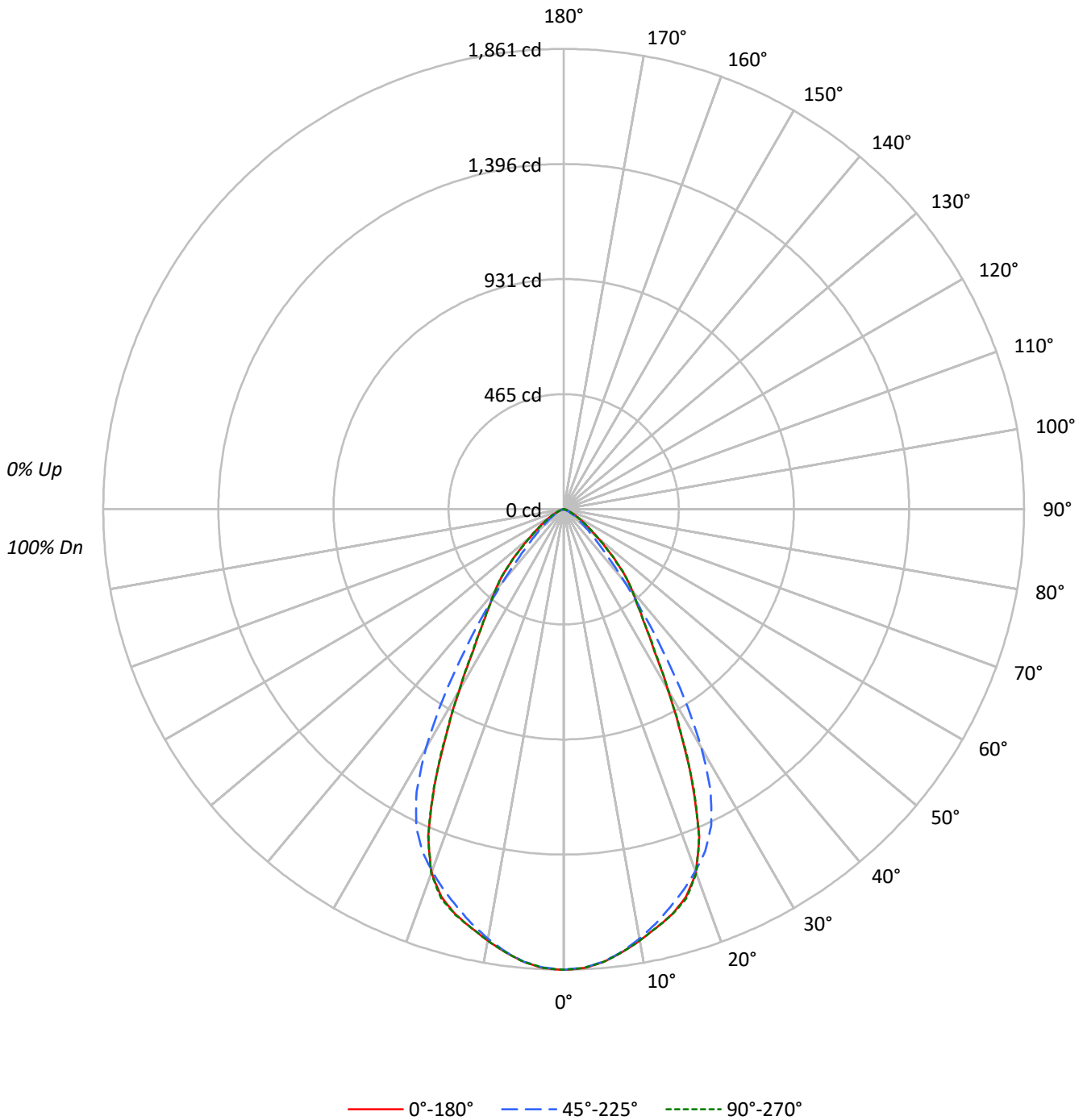
Lumens per Lamp: N/A
 Luminaire Lumens: 1970.0 lumens
 Efficiency: N/A
 Efficacy: 62.3 lumens/watt
 Spacing Criteria (0/90/45): 0.93 / 0.93 / 0.94
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

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 FEU4C309035 F4LC-SQ-WH

Luminous Intensity Polar Plot



TEST NUMBER: P#
 CATALOG NUMBER: FLDSQ4C30D010 FEU4C309035 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	0
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102	102	102	100
1	113	110	107	105	110	108	105	103	104	102	100		100	98	97		96	95	94	92
2	107	101	97	93	104	99	95	92	96	93	90		93	90	88		90	88	86	84
3	101	93	88	84	98	92	87	83	89	85	82		87	83	80		85	82	79	77
4	95	87	80	76	93	85	80	75	83	78	74		81	77	74		79	76	73	71
5	89	80	74	69	88	79	73	69	78	72	68		76	71	68		74	70	67	66
6	85	75	68	64	83	74	68	63	72	67	63		71	66	63		70	65	62	61
7	80	70	63	59	79	69	63	59	68	62	58		67	62	58		65	61	58	56
8	76	65	59	55	74	65	59	54	64	58	54		63	58	54		62	57	54	52
9	72	61	55	51	71	61	55	51	60	54	51		59	54	50		58	54	50	49
10	68	58	52	48	67	57	51	47	57	51	47		56	51	47		55	50	47	46

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	179595	179595	179595
5°	177947	177830	177888
10°	173391	172705	173391
15°	169218	166171	169398
20°	160440	159834	160737
25°	131610	150167	132292
30°	93846	124061	93979
35°	67683	82206	67895
40°	54262	47763	54262
45°	41414	27878	41087
50°	27320	17803	27230
55°	18370	11944	18168
60°	12351	8163	12466
65°	8448	5753	8311
70°	5642	4147	5642
75°	3728	3057	3728
80°	2612	2278	2612
85°	1993	1993	1993

TEST NUMBER: P#
 CATALOG NUMBER: FLDSQ4C30D010 FEU4C309035 F4LC-SQ-WH

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	173.0	8.8
10°-20°	471.8	23.9
20°-30°	589.8	29.9
30°-40°	396.8	20.1
40°-50°	209.5	10.6
50°-60°	85.2	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°	1234.6	62.7
0°-40°	1631.4	82.8
0°-60°	1926.0	97.8
0°-90°	1970.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1970.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1861	1861	1861	1861	1861	
5°	1837	1836	1836	1836	1837	173
15°	1694	1680	1664	1679	1696	475
25°	1236	1305	1410	1308	1243	556
35°	575	603	698	605	576	370
45°	304	288	204	287	301	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 FEU4C309035 F4LC-SQ-WH

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1861.3	1861.3	1861.3	1861.3	1861.3
2.5°	1856.6	1855.4	1854.8	1854.8	1855.4
5°	1837.2	1835.5	1836.0	1836.0	1836.6
7.5°	1806.1	1805.5	1803.8	1806.1	1806.1
10°	1769.7	1766.8	1762.7	1767.4	1769.7
12.5°	1732.1	1723.3	1716.3	1723.3	1732.1
15°	1694.0	1679.9	1663.5	1679.3	1695.8
17.5°	1644.1	1630.0	1611.8	1632.9	1648.8
20°	1562.5	1563.7	1556.6	1562.5	1565.4
22.5°	1431.6	1458.0	1495.0	1458.6	1427.5
25°	1236.2	1305.4	1410.5	1307.8	1242.6
27.5°	1026.6	1114.7	1286.6	1119.9	1033.1
30°	842.3	920.4	1113.5	925.7	843.5
32.5°	682.1	740.2	905.1	747.2	689.7
35°	574.6	603.4	697.9	604.6	576.4
37.5°	492.5	492.5	518.3	494.8	490.1
40°	430.8	412.1	379.2	411.5	430.8
42.5°	373.3	345.1	275.3	344.0	374.5
45°	303.5	288.2	204.3	287.0	301.1
47.5°	233.0	222.5	153.8	221.3	234.8
50°	182.0	165.5	118.6	164.4	181.4
52.5°	139.7	122.1	91.6	122.1	138.5
55°	109.2	91.6	71.0	91.6	108.0
57.5°	83.9	69.8	54.0	68.7	83.3
60°	64.0	52.2	42.3	52.2	64.6
62.5°	48.7	39.9	32.3	39.3	48.1
65°	37.0	29.9	25.2	29.9	36.4
67.5°	27.0	22.3	19.4	22.3	27.6
70°	20.0	17.0	14.7	16.4	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°	7.0	6.5	5.9	6.5	7.0
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)