

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 FEU4C309050 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 FEU4C309050 F4LC-SQ-WH
 Description: 4 INCH 3000 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 5000K, 90CRI LEDS AND F4LC-SQW TRIM WITH H FINISH
 Light Source: -
 Ballast/Driver: -

Summary

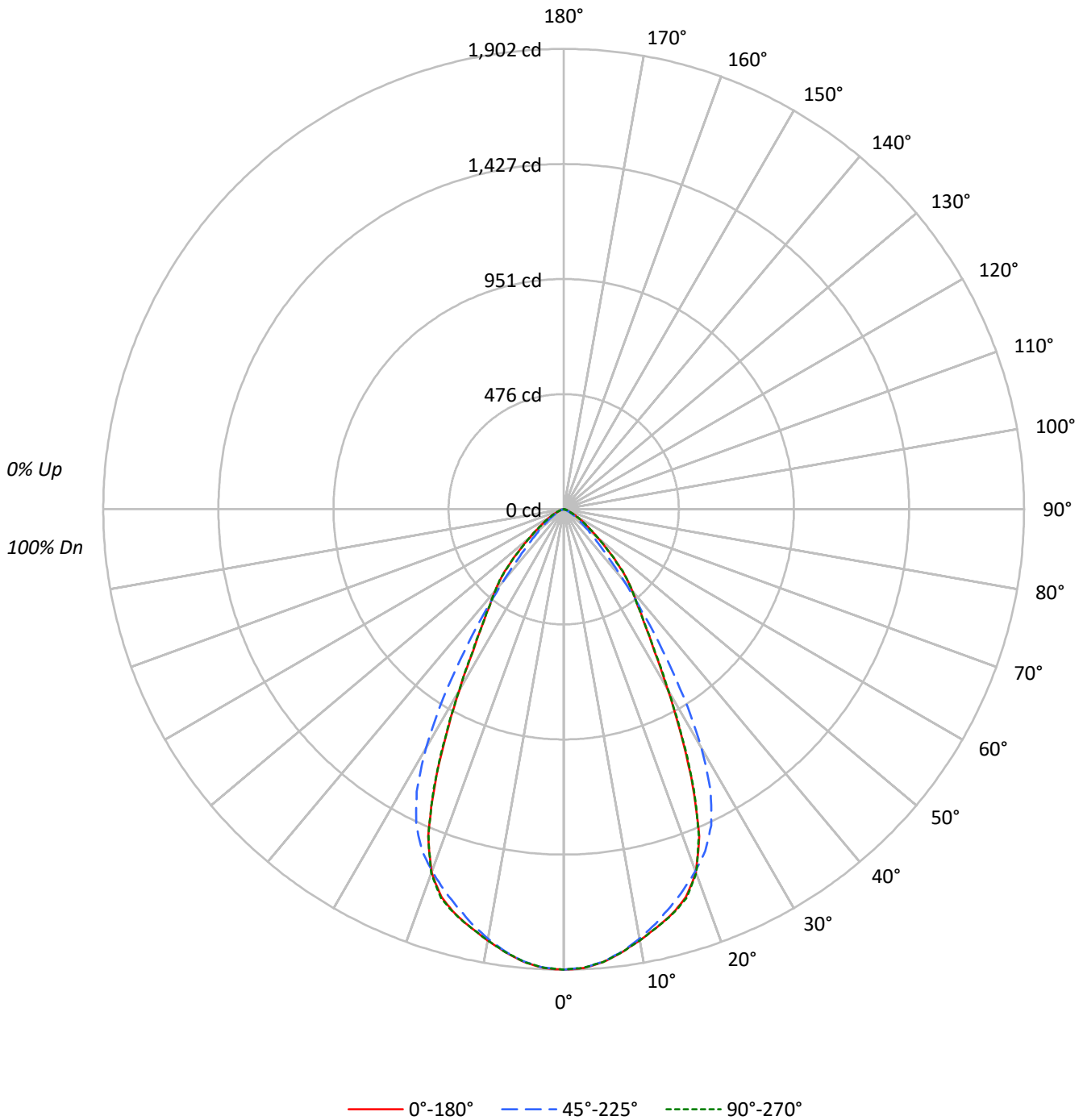
Lumens per Lamp: N/A
 Luminaire Lumens: 2013.0 lumens
 Efficiency: N/A
 Efficacy: 63.7 lumens/watt
 Spacing Criteria (0/90/45): 0.93 / 0.93 / 0.94
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

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 FEU4C309050 F4LC-SQ-WH

Luminous Intensity Polar Plot



TEST NUMBER: P#
 CATALOG NUMBER: FLDSQ4C30D010 FEU4C309050 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°	183512	183512	183512
5°	181831	181714	181772
10°	177173	176467	177173
15°	172914	169798	173094
20°	163941	163325	164249
25°	134474	153446	135177
30°	95896	126769	96029
35°	69167	83997	69379
40°	55446	48808	55446
45°	42315	28478	41987
50°	27905	18193	27815
55°	18774	12213	18572
60°	12621	8337	12737
65°	8630	5890	8493
70°	5755	4232	5755
75°	3803	3132	3803
80°	2667	2334	2667
85°	1993	1993	1993

TEST NUMBER: P#
 CATALOG NUMBER: FLDSQ4C30D010 FEU4C309050 F4LC-SQ-WH

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	176.8	8.8
10°-20°	482.1	23.9
20°-30°	602.7	29.9
30°-40°	405.4	20.1
40°-50°	214.1	10.6
50°-60°	87.0	4.3
60°-70°	32.3	1.6
70°-80°	10.4	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°	1261.6	62.7
0°-40°	1667.0	82.8
0°-60°	1968.1	97.8
0°-90°	2013.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2013.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1902	1902	1902	1902	1902	
5°	1877	1876	1876	1876	1877	177
15°	1731	1717	1700	1716	1733	485
25°	1263	1334	1441	1336	1270	569
35°	587	617	713	618	589	378
45°	310	294	209	293	308	238
55°	112	94	73	94	110	103
65°	38	31	26	31	37	39
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 FEU4C309050 F4LC-SQ-WH

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1901.9	1901.9	1901.9	1901.9	1901.9
2.5°	1897.1	1895.9	1895.3	1895.3	1895.9
5°	1877.3	1875.5	1876.1	1876.1	1876.7
7.5°	1845.5	1844.9	1843.1	1845.5	1845.5
10°	1808.3	1805.3	1801.1	1805.9	1808.3
12.5°	1770.0	1761.0	1753.8	1761.0	1770.0
15°	1731.0	1716.6	1699.8	1716.0	1732.8
17.5°	1680.0	1665.6	1647.0	1668.6	1684.8
20°	1596.6	1597.8	1590.6	1596.6	1599.6
22.5°	1462.9	1489.9	1527.6	1490.5	1458.7
25°	1263.1	1333.9	1441.3	1336.3	1269.7
27.5°	1049.0	1139.0	1314.7	1144.4	1055.6
30°	860.7	940.5	1137.8	945.9	861.9
32.5°	696.9	756.3	924.9	763.5	704.7
35°	587.2	616.6	713.1	617.8	589.0
37.5°	503.2	503.2	529.6	505.6	500.8
40°	440.2	421.0	387.5	420.4	440.2
42.5°	381.5	352.7	281.3	351.5	382.7
45°	310.1	294.5	208.7	293.3	307.7
47.5°	238.1	227.3	157.1	226.1	239.9
50°	185.9	169.1	121.2	167.9	185.3
52.5°	142.7	124.8	93.6	124.8	141.5
55°	111.6	93.6	72.6	93.6	110.4
57.5°	85.8	71.4	55.2	70.2	85.2
60°	65.4	53.4	43.2	53.4	66.0
62.5°	49.8	40.8	33.0	40.2	49.2
65°	37.8	30.6	25.8	30.6	37.2
67.5°	27.6	22.8	19.8	22.8	28.2
70°	20.4	17.4	15.0	16.8	20.4
72.5°	15.0	12.6	11.4	12.6	15.0
75°	10.2	9.0	8.4	9.0	10.2
77.5°	7.2	6.6	6.0	6.6	7.2
80°	4.8	4.2	4.2	4.8	4.8
82.5°	3.0	3.0	3.0	3.0	3.0
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)