

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: **FLDSQ4C05D010 FEU4C059030 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: FLDSQ4C05D010 FEU4C059030 F4LC-SQ-WLI
 Description: 4 INCH 500 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 3000K, 90CRI LEDS AND F4LC-SQW TRIM WITH LI FINISH
 Light Source: -
 Ballast/Driver: -

Summary

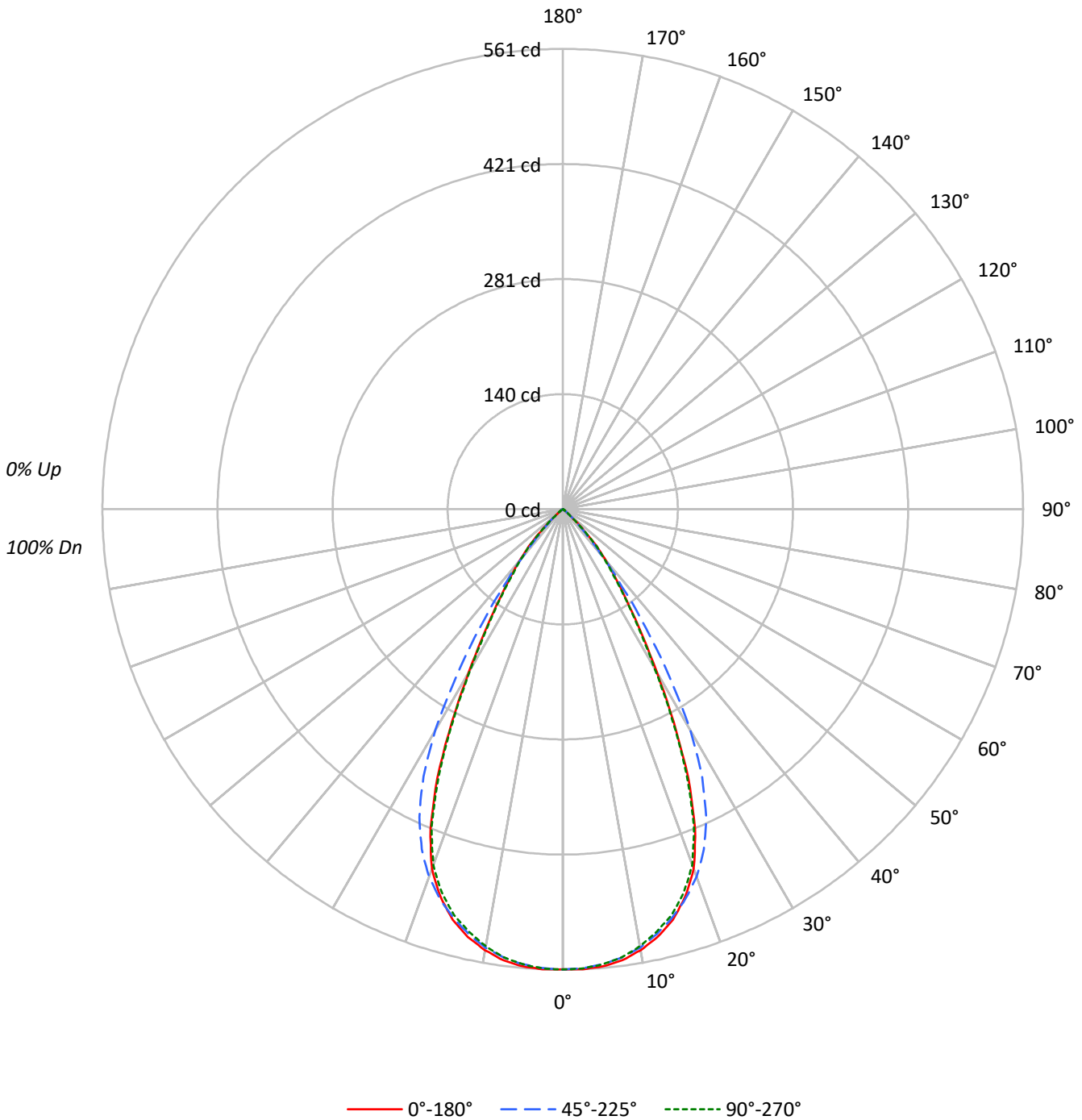
Lumens per Lamp: N/A
 Luminaire Lumens: 502.0 lumens
 Efficiency: N/A
 Efficacy: 69.7 lumens/watt
 Spacing Criteria (0/90/45): 0.91 / 0.91 / 0.9
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

Input Watts (W): 7.2
 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: FLDSQ4C05D010 FEU4C059030 F4LC-SQ-WLI

Luminous Intensity Polar Plot



TEST NUMBER: P#
 CATALOG NUMBER: FLDSQ4C05D010 FEU4C059030 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	0
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102	102	102	100
1	114	111	108	106	111	109	106	104	105	103	101		101	100	98		97	96	95	94
2	108	103	99	96	106	102	98	95	98	95	93		95	93	91		93	91	89	87
3	103	96	91	88	101	95	90	87	92	89	85		90	87	84		88	85	83	81
4	98	90	85	80	96	89	84	80	87	82	79		85	81	78		83	80	77	76
5	93	84	79	74	91	83	78	74	82	77	73		80	76	73		79	75	72	71
6	88	79	73	69	87	79	73	69	77	72	68		76	71	68		74	71	68	66
7	84	75	69	65	82	74	68	64	73	68	64		71	67	64		70	66	63	62
8	80	70	64	60	79	70	64	60	69	64	60		68	63	60		67	63	59	58
9	76	66	61	57	75	66	60	57	65	60	56		64	60	56		63	59	56	55
10	72	63	57	53	71	62	57	53	62	57	53		61	56	53		60	56	53	52

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	54101	54101	54101
5°	54163	53911	53911
10°	53447	53133	52967
15°	51714	51475	51125
20°	47891	48938	47367
25°	38508	44023	38008
30°	25414	34517	24812
35°	15890	20731	15596
40°	10366	9611	9963
45°	4994	3834	4708
50°	1261	1531	1186
55°	690	622	673
60°	463	405	444
65°	320	297	320
70°	254	226	254
75°	186	186	186
80°	167	222	222
85°	111	332	332

TEST NUMBER: P#
 CATALOG NUMBER: FLDSQ4C05D010 FEU4C059030 F4LC-SQ-WLI

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	52.7	10.5
10°-20°	144.0	28.7
20°-30°	171.6	34.2
30°-40°	97.2	19.4
40°-50°	30.1	6.0
50°-60°	4.2	0.8
60°-70°	1.4	0.3
70°-80°	0.6	0.1
80°-90°	0.3	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°	368.4	73.4
0°-40°	465.6	92.7
0°-60°	499.8	99.6
0°-90°	502.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	502.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	561	561	561	561	561	
5°	559	558	557	556	557	53
15°	518	517	515	513	512	144
25°	362	383	414	384	357	161
35°	135	147	176	148	132	88
45°	37	43	28	42	34	30
55°	4	4	4	4	4	4
65°	1	1	1	1	1	1
75°	0	0	0	0	0	1
85°	0	0	0	0	0	0
90°	0	0	0	0	0	

TEST NUMBER: P#
 CATALOG NUMBER: FLDSQ4C05D010 FEU4C059030 F4LC-SQ-WLI

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	560.7	560.7	560.7	560.7	560.7
2.5°	560.9	560.0	559.7	559.5	560.0
5°	559.2	557.9	556.6	556.2	556.6
7.5°	554.4	553.1	551.0	550.4	550.8
10°	545.5	544.4	542.3	541.2	540.6
12.5°	533.8	531.9	530.0	528.7	527.4
15°	517.7	516.8	515.3	513.2	511.8
17.5°	495.4	496.7	497.6	493.5	489.8
20°	466.4	471.2	476.6	468.3	461.3
22.5°	421.2	434.9	448.7	432.8	417.4
25°	361.7	382.8	413.5	383.5	357.0
27.5°	292.3	319.1	367.4	319.2	288.4
30°	228.1	255.7	309.8	252.1	222.7
32.5°	175.2	195.8	242.0	192.7	171.5
35°	134.9	147.1	176.0	147.5	132.4
37.5°	104.9	111.0	118.4	108.9	101.8
40°	82.3	82.6	76.3	81.3	79.1
42.5°	61.1	60.8	46.9	59.3	59.6
45°	36.6	42.6	28.1	41.5	34.5
47.5°	17.4	24.1	16.9	22.8	16.1
50°	8.4	11.6	10.2	10.8	7.9
52.5°	5.7	5.9	5.8	5.7	5.4
55°	4.1	4.1	3.7	4.0	4.0
57.5°	3.1	3.1	2.7	3.0	3.0
60°	2.4	2.3	2.1	2.3	2.3
62.5°	1.8	1.8	1.5	1.8	1.8
65°	1.4	1.4	1.3	1.4	1.4
67.5°	1.2	1.2	0.9	1.2	1.0
70°	0.9	0.9	0.8	0.9	0.9
72.5°	0.6	0.6	0.6	0.6	0.6
75°	0.5	0.5	0.5	0.5	0.5
77.5°	0.4	0.4	0.4	0.4	0.4
80°	0.3	0.3	0.4	0.4	0.4
82.5°	0.3	0.3	0.3	0.3	0.3
85°	0.1	0.3	0.3	0.3	0.3
87.5°	0.1	0.1	0.3	0.3	0.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)