

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: **FLDSQ4C70D010 FEU4C709050 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: FLDSQ4C70D010 FEU4C709050 F4LC-SQ-WH
 Description: 4 INCH 7000 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 5000K, 90CRI LEDS AND F4LC-SQW TRIM WITH H FINISH
 Light Source: -
 Ballast/Driver: -

Summary

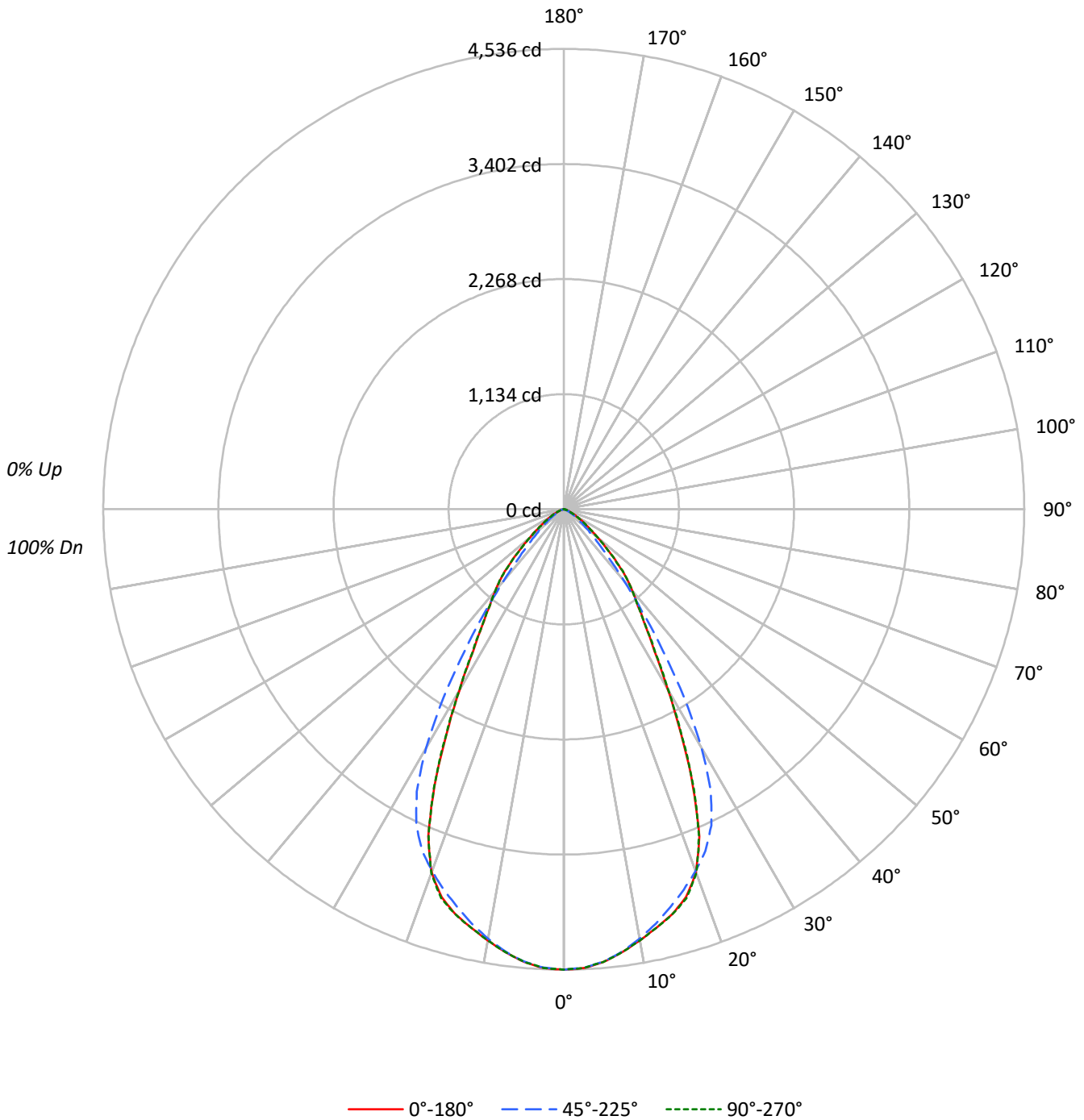
Lumens per Lamp: N/A
 Luminaire Lumens: 4801.0 lumens
 Efficiency: N/A
 Efficacy: 61.6 lumens/watt
 Spacing Criteria (0/90/45): 0.93 / 0.93 / 0.94
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

Input Watts (W): 78
 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: FLDSQ4C70D010 FEU4C709050 F4LC-SQ-WH

Luminous Intensity Polar Plot



TEST NUMBER: P#
 CATALOG NUMBER: FLDSQ4C70D010 FEU4C709050 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°	437674	437674	437674
5°	433670	433389	433534
10°	422567	420881	422567
15°	412397	404965	412816
20°	391000	389532	391740
25°	320733	365958	322404
30°	228703	302338	229026
35°	164955	200339	165461
40°	132255	116397	132255
45°	100923	67928	100131
50°	66559	43382	66349
55°	44764	29119	44276
60°	30085	19877	30375
65°	20571	14041	20251
70°	13711	10100	13711
75°	9059	7456	9059
80°	6334	5557	6334
85°	4760	4760	4760

TEST NUMBER: P#
 CATALOG NUMBER: FLDSQ4C70D010 FEU4C709050 F4LC-SQ-WH

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	421.7	8.8
10°-20°	1149.8	23.9
20°-30°	1437.4	29.9
30°-40°	966.9	20.1
40°-50°	510.6	10.6
50°-60°	207.5	4.3
60°-70°	77.0	1.6
70°-80°	24.8	0.5
80°-90°	5.4	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°	3008.8	62.7
0°-40°	3975.7	82.8
0°-60°	4693.9	97.8
0°-90°	4801.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4801.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4536	4536	4536	4536	4536	
5°	4477	4473	4474	4474	4476	422
15°	4128	4094	4054	4093	4133	1157
25°	3013	3181	3437	3187	3028	1356
35°	1400	1470	1701	1473	1405	901
45°	740	702	498	700	734	567
55°	266	223	173	223	263	247
65°	90	73	62	73	89	93
75°	24	22	20	22	24	28
85°	4	4	4	4	4	5
90°	0	0	0	0	0	

TEST NUMBER: P#
 CATALOG NUMBER: FLDSQ4C70D010 FEU4C709050 F4LC-SQ-WH

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4536.0	4536.0	4536.0	4536.0	4536.0
2.5°	4524.6	4521.7	4520.3	4520.3	4521.7
5°	4477.4	4473.1	4474.5	4474.5	4476.0
7.5°	4401.6	4400.1	4395.9	4401.6	4401.6
10°	4312.9	4305.7	4295.7	4307.2	4312.9
12.5°	4221.3	4199.9	4182.7	4199.9	4221.3
15°	4128.4	4094.0	4054.0	4092.6	4132.6
17.5°	4006.8	3972.4	3928.1	3979.6	4018.2
20°	3807.9	3810.8	3793.6	3807.9	3815.1
22.5°	3488.9	3553.3	3643.4	3554.7	3478.9
25°	3012.6	3181.4	3437.4	3187.1	3028.3
27.5°	2501.9	2716.5	3135.6	2729.3	2517.6
30°	2052.7	2243.0	2713.6	2255.9	2055.6
32.5°	1662.2	1803.8	2205.8	1821.0	1680.8
35°	1400.4	1470.5	1700.8	1473.4	1404.7
37.5°	1200.2	1200.2	1263.1	1205.9	1194.4
40°	1050.0	1004.2	924.1	1002.8	1050.0
42.5°	909.8	841.1	670.9	838.3	912.6
45°	739.6	702.4	497.8	699.5	733.8
47.5°	567.9	542.2	374.8	539.3	572.2
50°	443.4	403.4	289.0	400.5	442.0
52.5°	340.5	297.5	223.2	297.5	337.6
55°	266.1	223.2	173.1	223.2	263.2
57.5°	204.6	170.2	131.6	167.4	203.1
60°	155.9	127.3	103.0	127.3	157.4
62.5°	118.7	97.3	78.7	95.8	117.3
65°	90.1	73.0	61.5	73.0	88.7
67.5°	65.8	54.4	47.2	54.4	67.2
70°	48.6	41.5	35.8	40.1	48.6
72.5°	35.8	30.0	27.2	30.0	35.8
75°	24.3	21.5	20.0	21.5	24.3
77.5°	17.2	15.7	14.3	15.7	17.2
80°	11.4	10.0	10.0	11.4	11.4
82.5°	7.2	7.2	7.2	7.2	7.2
85°	4.3	4.3	4.3	4.3	4.3
87.5°	2.9	2.9	2.9	2.9	2.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)