

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 FEU4C709030 F4LC-SQ-WH**

Issue Date: 12/13/2022

Tested By:

Approved By:



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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 FEU4C709030 F4LC-SQ-WH
 Description: 4 INCH 7000 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 3000K, 90CRI LEDS AND F4LC-SQW TRIM WITH H FINISH
 Light Source: -
 Ballast/Driver: -

Summary

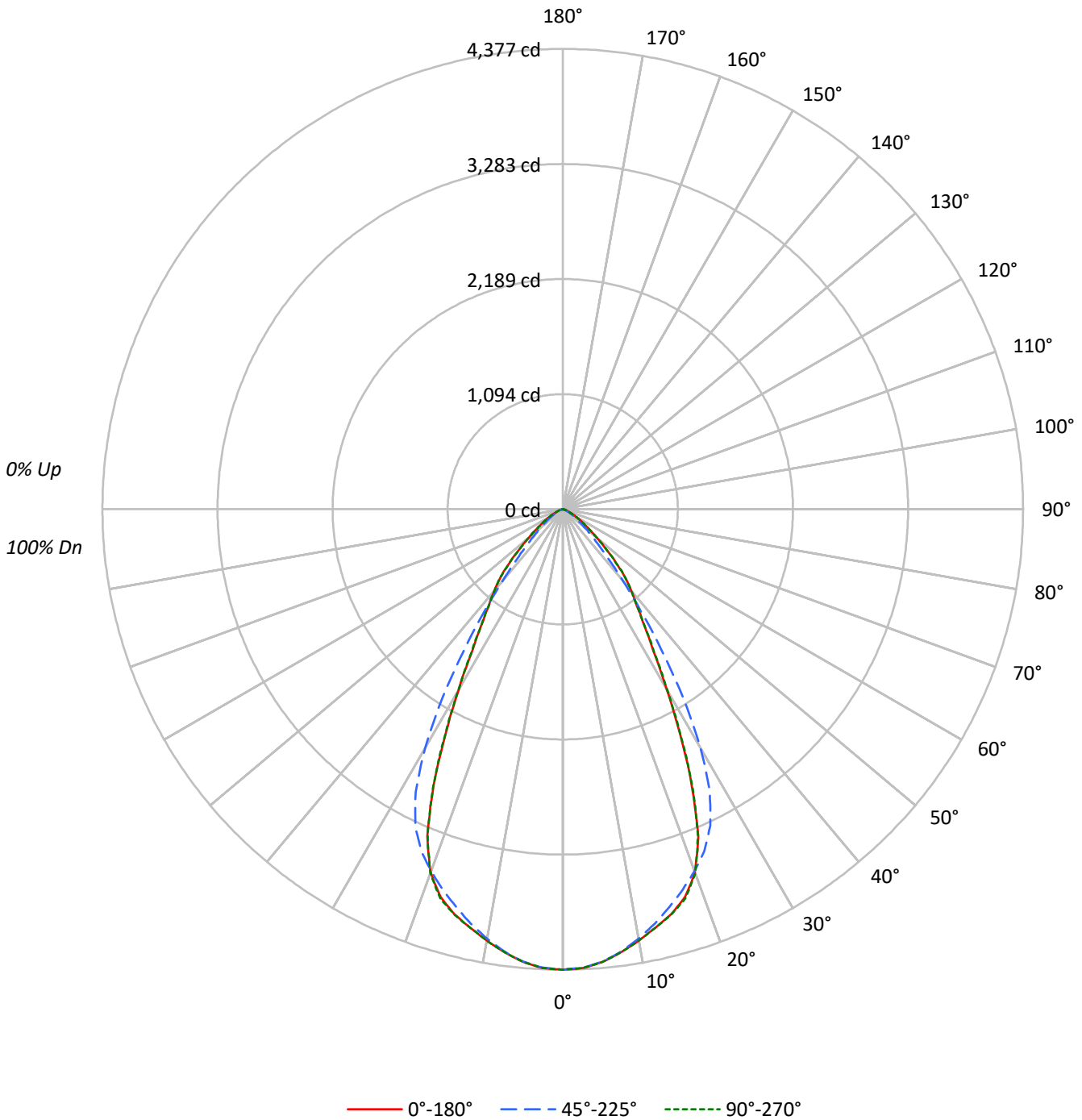
Lumens per Lamp: N/A
 Luminaire Lumens: 4633.0 lumens
 Efficiency: N/A
 Efficacy: 59.4 lumens/watt
 Spacing Criteria (0/90/45): 0.93 / 0.93 / 0.94
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

Input Watts (W): 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

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Luminous Intensity Polar Plot



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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°	422361	422361	422361
5°	418492	418231	418356
10°	407782	406155	407782
15°	397962	390790	398372
20°	377323	375906	378032
25°	309511	353161	311130
30°	220704	291764	221015
35°	159183	193331	159678
40°	127620	112329	127620
45°	97389	65553	96638
50°	64232	41851	64022
55°	43200	28093	42729
60°	29043	19182	29294
65°	19863	13562	19544
70°	13231	9733	13231
75°	8761	7195	8761
80°	6112	5390	6112
85°	4539	4539	4539

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	406.9	8.8
10°-20°	1109.5	23.9
20°-30°	1387.1	29.9
30°-40°	933.1	20.1
40°-50°	492.7	10.6
50°-60°	200.2	4.3
60°-70°	74.3	1.6
70°-80°	24.0	0.5
80°-90°	5.2	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°	2903.5	62.7
0°-40°	3836.6	82.8
0°-60°	4529.6	97.8
0°-90°	4633.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4633.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4377	4377	4377	4377	4377	
5°	4321	4317	4318	4318	4319	407
15°	3984	3951	3912	3949	3988	1116
25°	2907	3070	3317	3076	2922	1309
35°	1351	1419	1641	1422	1356	870
45°	714	678	480	675	708	547
55°	257	215	167	215	254	238
65°	87	70	59	70	86	90
75°	24	21	19	21	24	27
85°	4	4	4	4	4	5
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4377.3	4377.3	4377.3	4377.3	4377.3
2.5°	4366.3	4363.5	4362.1	4362.1	4363.5
5°	4320.7	4316.6	4318.0	4318.0	4319.3
7.5°	4247.6	4246.2	4242.0	4247.6	4247.6
10°	4162.0	4155.1	4145.4	4156.4	4162.0
12.5°	4073.6	4052.9	4036.3	4052.9	4073.6
15°	3983.9	3950.8	3912.1	3949.4	3988.0
17.5°	3866.6	3833.4	3790.6	3840.3	3877.6
20°	3674.7	3677.4	3660.9	3674.7	3681.6
22.5°	3366.8	3429.0	3515.9	3430.3	3357.2
25°	2907.2	3070.1	3317.2	3075.6	2922.4
27.5°	2414.4	2621.4	3025.9	2633.8	2429.5
30°	1980.9	2164.5	2618.7	2176.9	1983.7
32.5°	1604.0	1740.7	2128.6	1757.3	1622.0
35°	1351.4	1419.1	1641.3	1421.8	1355.6
37.5°	1158.2	1158.2	1218.9	1163.7	1152.7
40°	1013.2	969.1	891.8	967.7	1013.2
42.5°	877.9	811.7	647.4	808.9	880.7
45°	713.7	677.8	480.4	675.0	708.2
47.5°	548.0	523.2	361.7	520.4	552.2
50°	427.9	389.3	278.8	386.5	426.5
52.5°	328.5	287.1	215.3	287.1	325.8
55°	256.8	215.3	167.0	215.3	254.0
57.5°	197.4	164.3	127.0	161.5	196.0
60°	150.5	122.9	99.4	122.9	151.8
62.5°	114.6	93.9	75.9	92.5	113.2
65°	87.0	70.4	59.4	70.4	85.6
67.5°	63.5	52.5	45.6	52.5	64.9
70°	46.9	40.0	34.5	38.7	46.9
72.5°	34.5	29.0	26.2	29.0	34.5
75°	23.5	20.7	19.3	20.7	23.5
77.5°	16.6	15.2	13.8	15.2	16.6
80°	11.0	9.7	9.7	11.0	11.0
82.5°	6.9	6.9	6.9	6.9	6.9
85°	4.1	4.1	4.1	4.1	4.1
87.5°	2.8	2.8	2.8	2.8	2.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)