

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 FEU4C709027 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 FEU4C709027 F4LC-SQ-WH
 Description: 4 INCH 7000 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 2700K, 90CRI LEDS AND F4LC-SQW TRIM WITH H FINISH
 Light Source: -
 Ballast/Driver: -

Summary

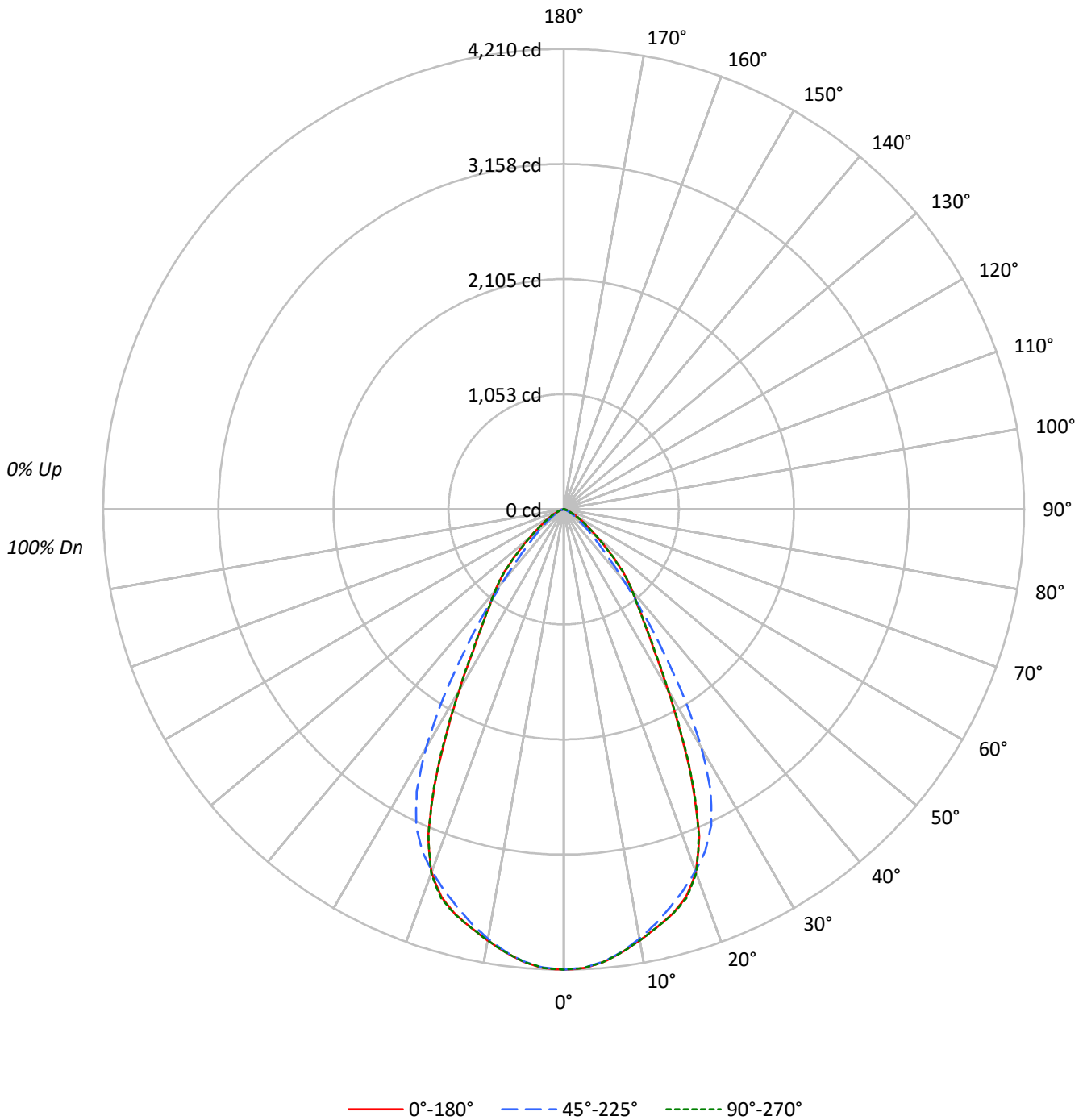
Lumens per Lamp: N/A
 Luminaire Lumens: 4456.0 lumens
 Efficiency: N/A
 Efficacy: 57.1 lumens/watt
 Spacing Criteria (0/90/45): 0.93 / 0.93 / 0.94
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

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°	406228	406228	406228
5°	402501	402249	402375
10°	392203	390636	392203
15°	382759	375866	383158
20°	362907	361541	363584
25°	297683	339662	299238
30°	212269	280612	212570
35°	153105	185945	153576
40°	122745	108034	122745
45°	93663	63043	92940
50°	61785	40260	61590
55°	41534	27017	41097
60°	27924	18449	28175
65°	19087	13037	18790
70°	12723	9366	12723
75°	8425	6934	8425
80°	5890	5168	5890
85°	4428	4428	4428

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	391.4	8.8
10°-20°	1067.1	23.9
20°-30°	1334.1	29.9
30°-40°	897.5	20.1
40°-50°	473.9	10.6
50°-60°	192.6	4.3
60°-70°	71.4	1.6
70°-80°	23.1	0.5
80°-90°	5.0	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°	2792.6	62.7
0°-40°	3690.1	82.8
0°-60°	4356.5	97.8
0°-90°	4456.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4456.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4210	4210	4210	4210	4210	
5°	4156	4152	4153	4153	4154	392
15°	3832	3800	3763	3798	3836	1073
25°	2796	2953	3190	2958	2811	1259
35°	1300	1365	1579	1368	1304	836
45°	686	652	462	649	681	526
55°	247	207	161	207	244	229
65°	84	68	57	68	82	86
75°	23	20	19	20	23	26
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°	4210.1	4210.1	4210.1	4210.1	4210.1
2.5°	4199.5	4196.8	4195.5	4195.5	4196.8
5°	4155.6	4151.7	4153.0	4153.0	4154.3
7.5°	4085.3	4084.0	4080.0	4085.3	4085.3
10°	4003.0	3996.3	3987.0	3997.7	4003.0
12.5°	3918.0	3898.1	3882.1	3898.1	3918.0
15°	3831.7	3799.8	3762.7	3798.5	3835.7
17.5°	3718.8	3687.0	3645.8	3693.6	3729.5
20°	3534.3	3536.9	3521.0	3534.3	3540.9
22.5°	3238.2	3298.0	3381.6	3299.3	3228.9
25°	2796.1	2952.8	3190.4	2958.1	2810.7
27.5°	2322.1	2521.3	2910.3	2533.2	2336.7
30°	1905.2	2081.8	2518.6	2093.8	1907.9
32.5°	1542.8	1674.2	2047.3	1690.1	1560.0
35°	1299.8	1364.9	1578.6	1367.5	1303.8
37.5°	1113.9	1113.9	1172.3	1119.2	1108.6
40°	974.5	932.0	857.7	930.7	974.5
42.5°	844.4	780.7	622.7	778.0	847.1
45°	686.4	651.9	462.0	649.2	681.1
47.5°	527.1	503.2	347.9	500.5	531.1
50°	411.6	374.4	268.2	371.8	410.3
52.5°	316.0	276.2	207.1	276.2	313.3
55°	246.9	207.1	160.6	207.1	244.3
57.5°	189.9	158.0	122.1	155.3	188.5
60°	144.7	118.2	95.6	118.2	146.0
62.5°	110.2	90.3	73.0	89.0	108.9
65°	83.6	67.7	57.1	67.7	82.3
67.5°	61.1	50.5	43.8	50.5	62.4
70°	45.1	38.5	33.2	37.2	45.1
72.5°	33.2	27.9	25.2	27.9	33.2
75°	22.6	19.9	18.6	19.9	22.6
77.5°	15.9	14.6	13.3	14.6	15.9
80°	10.6	9.3	9.3	10.6	10.6
82.5°	6.6	6.6	6.6	6.6	6.6
85°	4.0	4.0	4.0	4.0	4.0
87.5°	2.7	2.7	2.7	2.7	2.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)