

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: **FLDSQ4C50D010 FEU4C509050 F4LC-SQ-WLI**

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: FLDSQ4C50D010 FEU4C509050 F4LC-SQ-WLI
 Description: 4 INCH 5000 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 5000K, 90CRI LEDS AND F4LC-SQW TRIM WITH LI FINISH
 Light Source: -
 Ballast/Driver: -

Summary

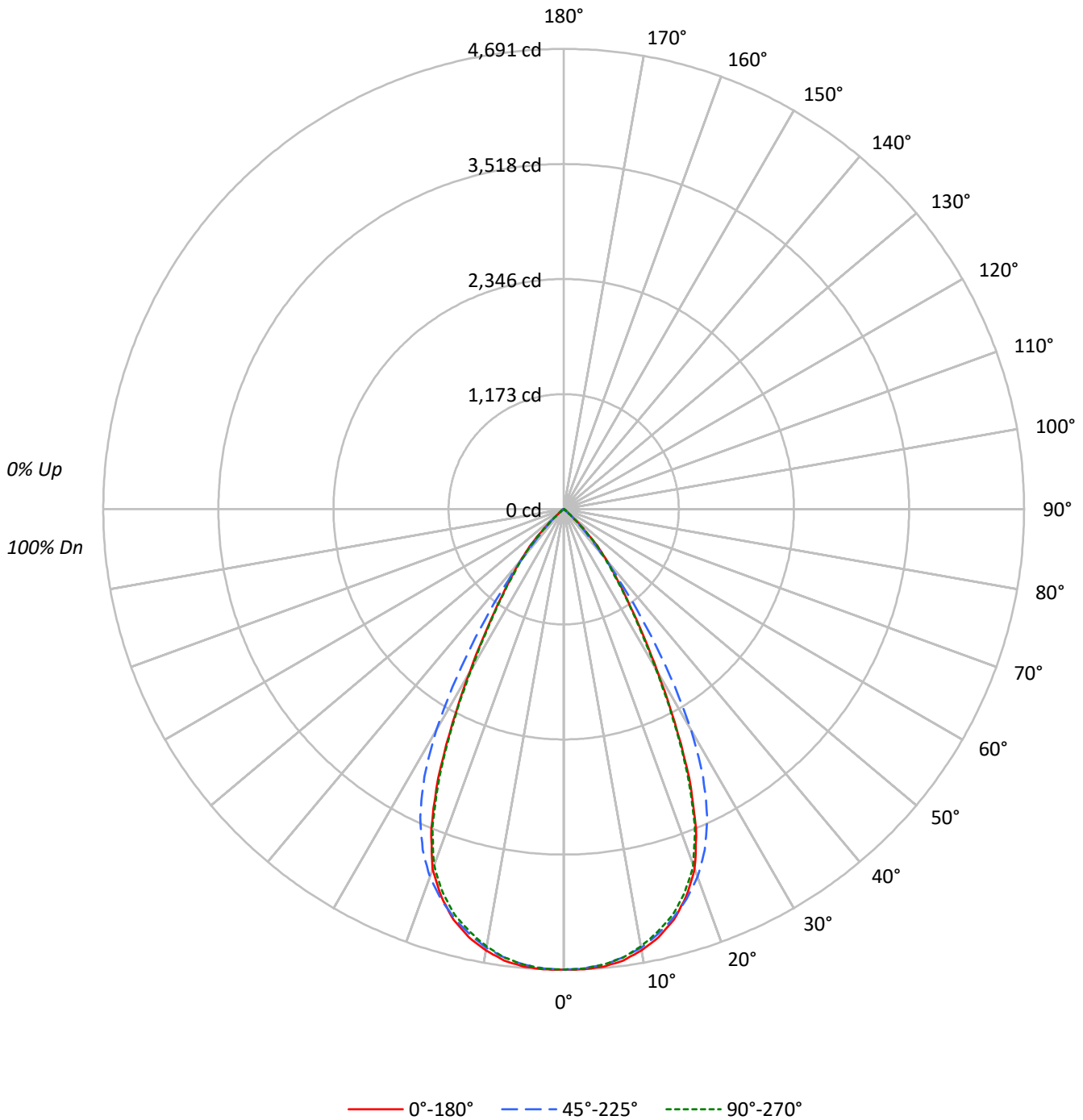
Lumens per Lamp: N/A
 Luminaire Lumens: 4199.0 lumens
 Efficiency: N/A
 Efficacy: 71.9 lumens/watt
 Spacing Criteria (0/90/45): 0.91 / 0.91 / 0.9
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

Input Watts (W): 58.4
 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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CATALOG NUMBER: FLDSQ4C50D010 FEU4C509050 F4LC-SQ-WLI

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	50	30	10	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				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	84	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°	452572	452572	452572
5°	453041	450959	450959
10°	447090	444455	443083
15°	432585	430537	427630
20°	400622	409370	396196
25°	322117	368237	317879
30°	212615	288723	207568
35°	132880	173377	130477
40°	86722	80348	83333
45°	41756	32053	39408
50°	10508	12774	9862
55°	5804	5249	5619
60°	3956	3319	3744
65°	2717	2466	2717
70°	2116	1834	2116
75°	1603	1603	1603
80°	1222	1778	1778
85°	1218	2436	2436

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	441.1	10.5
10°-20°	1204.6	28.7
20°-30°	1435.5	34.2
30°-40°	812.9	19.4
40°-50°	251.3	6.0
50°-60°	34.9	0.8
60°-70°	11.9	0.3
70°-80°	4.7	0.1
80°-90°	2.0	0.0
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°	3081.2	73.4
0°-40°	3894.1	92.7
0°-60°	4180.4	99.6
0°-90°	4199.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4199.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4690	4690	4690	4690	4690	
5°	4677	4667	4656	4653	4656	443
15°	4330	4323	4310	4293	4281	1208
25°	3026	3202	3459	3208	2986	1349
35°	1128	1230	1472	1234	1108	734
45°	306	357	235	347	289	253
55°	34	34	31	33	33	34
65°	12	12	11	12	12	13
75°	4	4	4	4	4	5
85°	1	2	2	2	2	1
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4690.4	4690.4	4690.4	4690.4	4690.4
2.5°	4691.4	4683.9	4681.7	4679.6	4683.9
5°	4677.4	4666.7	4655.9	4652.6	4655.9
7.5°	4637.6	4626.8	4608.5	4604.2	4607.4
10°	4563.2	4553.5	4536.3	4526.6	4522.3
12.5°	4465.2	4449.0	4432.8	4422.1	4411.3
15°	4330.5	4322.9	4310.0	4292.8	4280.9
17.5°	4144.1	4154.8	4162.4	4127.9	4096.7
20°	3901.6	3941.5	3986.8	3916.7	3858.5
22.5°	3523.4	3637.6	3752.9	3620.4	3491.1
25°	3025.6	3202.3	3458.8	3207.7	2985.8
27.5°	2444.8	2669.0	3073.0	2670.0	2412.5
30°	1908.3	2138.8	2591.4	2108.7	1863.0
32.5°	1465.4	1637.8	2024.6	1611.9	1434.2
35°	1128.1	1230.5	1471.9	1233.7	1107.7
37.5°	877.1	928.8	990.2	910.5	851.2
40°	688.5	690.7	637.9	679.9	661.6
42.5°	510.7	508.6	392.2	495.7	498.9
45°	306.0	356.7	234.9	347.0	288.8
47.5°	145.5	201.5	141.2	190.7	134.7
50°	70.0	97.0	85.1	90.5	65.7
52.5°	47.4	49.6	48.5	47.4	45.3
55°	34.5	34.5	31.2	33.4	33.4
57.5°	25.9	25.9	22.6	24.8	24.8
60°	20.5	19.4	17.2	19.4	19.4
62.5°	15.1	15.1	12.9	15.1	15.1
65°	11.9	11.9	10.8	11.9	11.9
67.5°	9.7	9.7	7.5	9.7	8.6
70°	7.5	7.5	6.5	7.5	7.5
72.5°	5.4	5.4	5.4	5.4	5.4
75°	4.3	4.3	4.3	4.3	4.3
77.5°	3.2	3.2	3.2	3.2	3.2
80°	2.2	2.2	3.2	3.2	3.2
82.5°	2.2	2.2	2.2	2.2	2.2
85°	1.1	2.2	2.2	2.2	2.2
87.5°	1.1	1.1	2.2	2.2	2.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)