

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 FEU4C509035 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 FEU4C509035 F4LC-SQ-WLI
 Description: 4 INCH 5000 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 3500K, 90CRI LEDS AND F4LC-SQW TRIM WITH LI FINISH
 Light Source: -
 Ballast/Driver: -

Summary

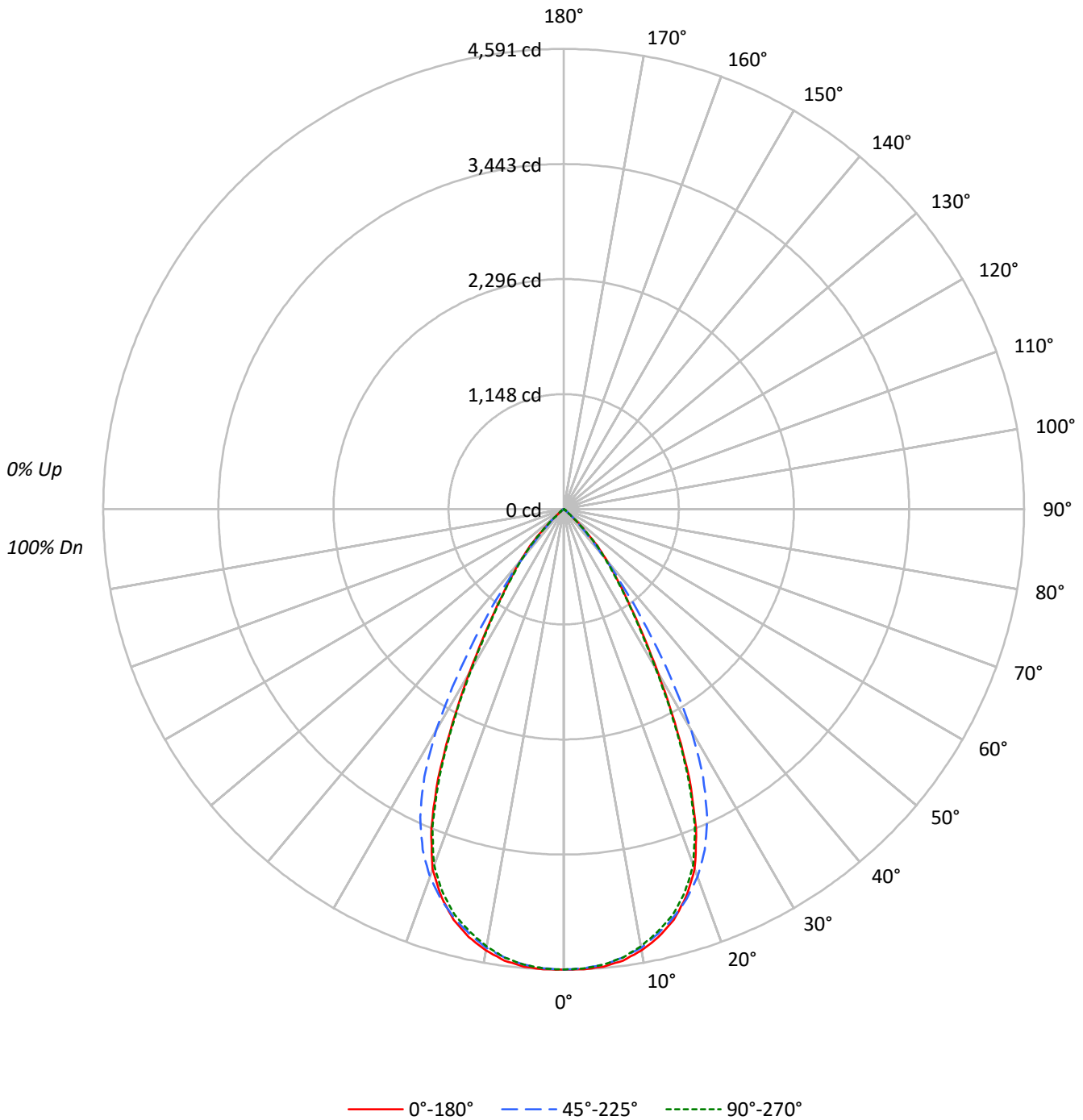
Lumens per Lamp: N/A
 Luminaire Lumens: 4109.0 lumens
 Efficiency: N/A
 Efficacy: 70.4 lumens/watt
 Spacing Criteria (0/90/45): 0.91 / 0.91 / 0.9
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

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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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			
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100
1	114	111	108	106	111	109	106	104	105	103	101	101	100	98	97	96	95	94	94	94
2	108	103	99	96	106	102	98	95	98	95	93	95	93	91	93	91	89	87	87	87
3	103	96	91	88	101	95	90	87	92	89	85	90	87	84	88	85	83	81	81	81
4	98	90	85	80	96	89	84	80	87	82	79	85	81	78	83	80	77	76	76	76
5	93	84	79	74	91	84	78	74	82	77	73	80	76	73	79	75	72	71	71	71
6	88	79	73	69	87	79	73	69	77	72	68	76	71	68	74	71	68	66	66	66
7	84	75	69	65	82	74	68	64	73	68	64	71	67	64	70	66	63	62	62	62
8	80	70	64	60	79	70	64	60	69	64	60	68	63	60	67	63	59	58	58	58
9	76	66	61	57	75	66	60	57	65	60	56	64	60	56	63	59	56	55	55	55
10	72	63	57	53	71	62	57	53	62	57	53	61	56	53	60	56	53	52	52	52

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	442865	442865	442865
5°	443336	441292	441292
10°	437508	434922	433579
15°	423315	421307	418470
20°	392037	400591	387704
25°	315218	360337	311066
30°	208058	282528	203122
35°	130041	169655	127674
40°	84870	78623	81545
45°	40869	31371	38562
50°	10283	12504	9652
55°	5669	5148	5501
60°	3860	3261	3667
65°	2648	2397	2648
70°	2088	1777	2088
75°	1566	1566	1566
80°	1167	1778	1778
85°	1218	2325	2325

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	431.6	10.5
10°-20°	1178.8	28.7
20°-30°	1404.8	34.2
30°-40°	795.5	19.4
40°-50°	245.9	6.0
50°-60°	34.2	0.8
60°-70°	11.7	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°	3015.2	73.4
0°-40°	3810.7	92.7
0°-60°	4090.8	99.6
0°-90°	4109.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4109.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4590	4590	4590	4590	4590	
5°	4577	4567	4556	4553	4556	433
15°	4238	4230	4218	4201	4189	1182
25°	2961	3134	3385	3139	2922	1320
35°	1104	1204	1440	1207	1084	719
45°	300	349	230	340	283	247
55°	34	34	31	33	33	33
65°	12	12	10	12	12	12
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°	4589.8	4589.8	4589.8	4589.8	4589.8
2.5°	4590.9	4583.5	4581.4	4579.3	4583.5
5°	4577.2	4566.6	4556.1	4552.9	4556.1
7.5°	4538.2	4527.6	4509.7	4505.5	4508.6
10°	4465.4	4455.9	4439.0	4429.6	4425.3
12.5°	4369.5	4353.6	4337.8	4327.3	4316.7
15°	4237.7	4230.3	4217.6	4200.8	4189.2
17.5°	4055.2	4065.8	4073.2	4039.4	4008.9
20°	3818.0	3857.0	3901.3	3832.8	3775.8
22.5°	3447.9	3559.7	3672.5	3542.8	3416.3
25°	2960.8	3133.7	3384.6	3139.0	2921.8
27.5°	2392.4	2611.8	3007.2	2612.8	2360.8
30°	1867.4	2093.0	2535.8	2063.5	1823.1
32.5°	1434.0	1602.7	1981.2	1577.4	1403.4
35°	1104.0	1204.1	1440.3	1207.3	1083.9
37.5°	858.3	908.9	969.0	891.0	833.0
40°	673.8	675.9	624.2	665.3	647.4
42.5°	499.8	497.7	383.8	485.0	488.2
45°	299.5	349.0	229.9	339.5	282.6
47.5°	142.3	197.2	138.1	186.6	131.8
50°	68.5	94.9	83.3	88.6	64.3
52.5°	46.4	48.5	47.4	46.4	44.3
55°	33.7	33.7	30.6	32.7	32.7
57.5°	25.3	25.3	22.1	24.3	24.3
60°	20.0	19.0	16.9	19.0	19.0
62.5°	14.8	14.8	12.7	14.8	14.8
65°	11.6	11.6	10.5	11.6	11.6
67.5°	9.5	9.5	7.4	9.5	8.4
70°	7.4	7.4	6.3	7.4	7.4
72.5°	5.3	5.3	5.3	5.3	5.3
75°	4.2	4.2	4.2	4.2	4.2
77.5°	3.2	3.2	3.2	3.2	3.2
80°	2.1	2.1	3.2	3.2	3.2
82.5°	2.1	2.1	2.1	2.1	2.1
85°	1.1	2.1	2.1	2.1	2.1
87.5°	1.1	1.1	2.1	2.1	2.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)