

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: **FLDSQ4C65D010 FEU4C659040 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: FLDSQ4C65D010 FEU4C659040 F4LC-SQ-WLI
 Description: 4 INCH 6500 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 4000K, 90CRI LEDS AND F4LC-SQW TRIM WITH LI FINISH
 Light Source: -
 Ballast/Driver: -

Summary

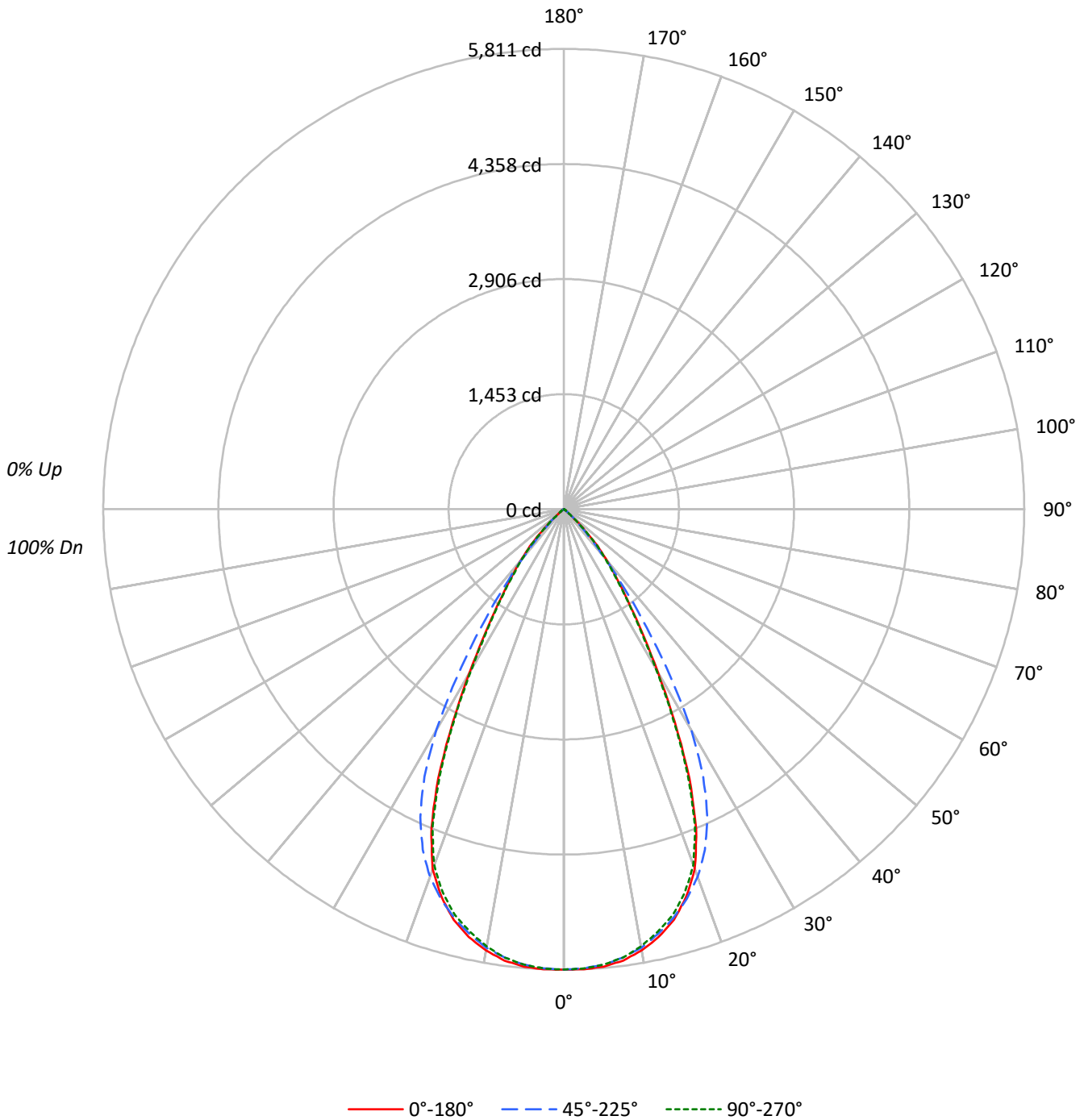
Lumens per Lamp: N/A
 Luminaire Lumens: 5201.0 lumens
 Efficiency: N/A
 Efficacy: 71.8 lumens/watt
 Spacing Criteria (0/90/45): 0.91 / 0.91 / 0.9
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

Input Watts (W): 72.4
 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	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	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°	560562	560562	560562
5°	561153	558567	558567
10°	553778	550515	548811
15°	535804	533277	529681
20°	496228	507051	490745
25°	398983	456101	393724
30°	263342	357622	257103
35°	164590	214745	161610
40°	107416	99519	103222
45°	51717	39695	48810
50°	13030	15822	12219
55°	7183	6510	6964
60°	4902	4130	4631
65°	3356	3037	3356
70°	2624	2257	2624
75°	1976	1976	1976
80°	1500	2223	2223
85°	1439	2989	2989

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	546.4	10.5
10°-20°	1492.0	28.7
20°-30°	1778.1	34.2
30°-40°	1006.9	19.4
40°-50°	311.3	6.0
50°-60°	43.2	0.8
60°-70°	14.7	0.3
70°-80°	5.9	0.1
80°-90°	2.5	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°	3816.5	73.4
0°-40°	4823.4	92.7
0°-60°	5177.9	99.6
0°-90°	5201.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5201.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5810	5810	5810	5810	5810	
5°	5794	5780	5767	5763	5767	549
15°	5364	5354	5338	5317	5302	1496
25°	3748	3966	4284	3973	3698	1671
35°	1397	1524	1823	1528	1372	909
45°	379	442	291	430	358	313
55°	43	43	39	41	41	42
65°	15	15	13	15	15	15
75°	5	5	5	5	5	6
85°	1	3	3	3	3	2
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5809.6	5809.6	5809.6	5809.6	5809.6
2.5°	5810.9	5801.6	5798.9	5796.3	5801.6
5°	5793.6	5780.3	5766.9	5762.9	5766.9
7.5°	5744.2	5730.9	5708.2	5702.8	5706.8
10°	5652.1	5640.1	5618.8	5606.8	5601.4
12.5°	5530.7	5510.7	5490.6	5477.3	5463.9
15°	5363.8	5354.5	5338.5	5317.1	5302.5
17.5°	5133.0	5146.3	5155.6	5112.9	5074.2
20°	4832.7	4882.0	4938.1	4851.4	4779.3
22.5°	4364.2	4505.7	4648.5	4484.3	4324.2
25°	3747.6	3966.5	4284.1	3973.2	3698.2
27.5°	3028.3	3305.9	3806.3	3307.2	2988.2
30°	2363.6	2649.2	3209.8	2611.9	2307.6
32.5°	1815.1	2028.6	2507.8	1996.6	1776.4
35°	1397.3	1524.1	1823.1	1528.1	1372.0
37.5°	1086.4	1150.4	1226.5	1127.8	1054.4
40°	852.8	855.5	790.1	842.1	819.5
42.5°	632.6	629.9	485.8	613.9	617.9
45°	379.0	441.8	290.9	429.7	357.7
47.5°	180.2	249.6	174.8	236.2	166.8
50°	86.8	120.1	105.4	112.1	81.4
52.5°	58.7	61.4	60.1	58.7	56.1
55°	42.7	42.7	38.7	41.4	41.4
57.5°	32.0	32.0	28.0	30.7	30.7
60°	25.4	24.0	21.4	24.0	24.0
62.5°	18.7	18.7	16.0	18.7	18.7
65°	14.7	14.7	13.3	14.7	14.7
67.5°	12.0	12.0	9.3	12.0	10.7
70°	9.3	9.3	8.0	9.3	9.3
72.5°	6.7	6.7	6.7	6.7	6.7
75°	5.3	5.3	5.3	5.3	5.3
77.5°	4.0	4.0	4.0	4.0	4.0
80°	2.7	2.7	4.0	4.0	4.0
82.5°	2.7	2.7	2.7	2.7	2.7
85°	1.3	2.7	2.7	2.7	2.7
87.5°	1.3	1.3	2.7	2.7	2.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)