

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-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: FLDSQ4C70D010 FEU4C709030 F4LC-SQ-WLI
 Description: 4 INCH 7000 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 3000K, 90CRI LEDS AND F4LC-SQW TRIM WITH LI FINISH
 Light Source: -
 Ballast/Driver: -

Summary

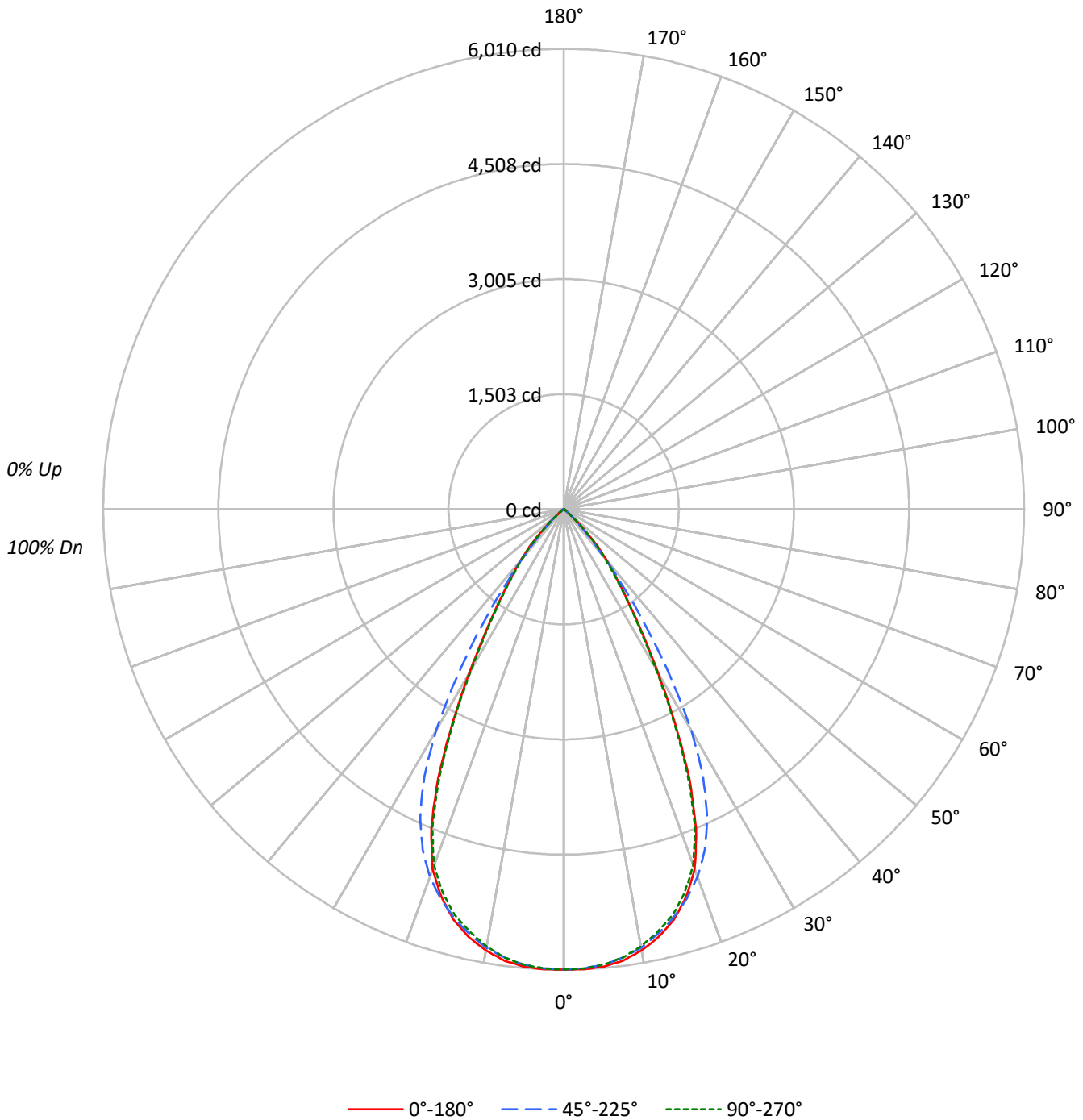
Lumens per Lamp: N/A
 Luminaire Lumens: 5379.0 lumens
 Efficiency: N/A
 Efficacy: 69.0 lumens/watt
 Spacing Criteria (0/90/45): 0.91 / 0.91 / 0.9
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

Input Watts (W): 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	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°	579744	579744	579744
5°	580360	577687	577687
10°	572737	569356	567593
15°	554145	551527	547801
20°	513212	524404	507544
25°	412643	471719	407202
30°	272356	369856	265894
35°	170232	222095	167134
40°	111094	102920	106749
45°	53491	41060	50475
50°	13465	16362	12639
55°	7435	6729	7200
60°	5056	4265	4786
65°	3470	3151	3470
70°	2737	2342	2737
75°	2050	2050	2050
80°	1556	2278	2278
85°	1550	3100	3100

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	565.1	10.5
10°-20°	1543.1	28.7
20°-30°	1839.0	34.2
30°-40°	1041.3	19.4
40°-50°	321.9	6.0
50°-60°	44.7	0.8
60°-70°	15.3	0.3
70°-80°	6.1	0.1
80°-90°	2.6	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°	3947.1	73.4
0°-40°	4988.5	92.7
0°-60°	5355.1	99.6
0°-90°	5379.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5379.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6008	6008	6008	6008	6008	
5°	5992	5978	5964	5960	5964	567
15°	5547	5538	5521	5499	5484	1547
25°	3876	4102	4431	4109	3825	1728
35°	1445	1576	1886	1580	1419	941
45°	392	457	301	444	370	324
55°	44	44	40	43	43	43
65°	15	15	14	15	15	16
75°	6	6	6	6	6	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°	6008.4	6008.4	6008.4	6008.4	6008.4
2.5°	6009.8	6000.2	5997.4	5994.6	6000.2
5°	5991.9	5978.1	5964.3	5960.1	5964.3
7.5°	5940.8	5927.0	5903.5	5898.0	5902.2
10°	5845.6	5833.1	5811.1	5798.6	5793.1
12.5°	5720.0	5699.3	5678.6	5664.7	5650.9
15°	5547.4	5537.8	5521.2	5499.1	5483.9
17.5°	5308.6	5322.4	5332.1	5287.9	5247.9
20°	4998.1	5049.1	5107.1	5017.4	4942.9
22.5°	4513.6	4659.9	4807.6	4637.8	4472.2
25°	3875.9	4102.2	4430.8	4109.2	3824.8
27.5°	3131.9	3419.0	3936.6	3420.4	3090.5
30°	2444.5	2739.9	3319.6	2701.2	2386.5
32.5°	1877.2	2098.1	2593.6	2064.9	1837.2
35°	1445.2	1576.3	1885.5	1580.4	1418.9
37.5°	1123.6	1189.8	1268.5	1166.4	1090.4
40°	882.0	884.8	817.1	871.0	847.5
42.5°	654.3	651.5	502.4	634.9	639.1
45°	392.0	456.9	300.9	444.5	369.9
47.5°	186.3	258.1	180.8	244.3	172.5
50°	89.7	124.2	109.0	115.9	84.2
52.5°	60.7	63.5	62.1	60.7	58.0
55°	44.2	44.2	40.0	42.8	42.8
57.5°	33.1	33.1	29.0	31.7	31.7
60°	26.2	24.8	22.1	24.8	24.8
62.5°	19.3	19.3	16.6	19.3	19.3
65°	15.2	15.2	13.8	15.2	15.2
67.5°	12.4	12.4	9.7	12.4	11.0
70°	9.7	9.7	8.3	9.7	9.7
72.5°	6.9	6.9	6.9	6.9	6.9
75°	5.5	5.5	5.5	5.5	5.5
77.5°	4.1	4.1	4.1	4.1	4.1
80°	2.8	2.8	4.1	4.1	4.1
82.5°	2.8	2.8	2.8	2.8	2.8
85°	1.4	2.8	2.8	2.8	2.8
87.5°	1.4	1.4	2.8	2.8	2.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)