

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: **FLDSQ4C80D010 FEU4C809027 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: FLDSQ4C80D010 FEU4C809027 F4LC-SQ-WLI
 Description: 4 INCH 8000 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 2700K, 90CRI LEDS AND F4LC-SQW TRIM WITH LI FINISH
 Light Source: -
 Ballast/Driver: -

Summary

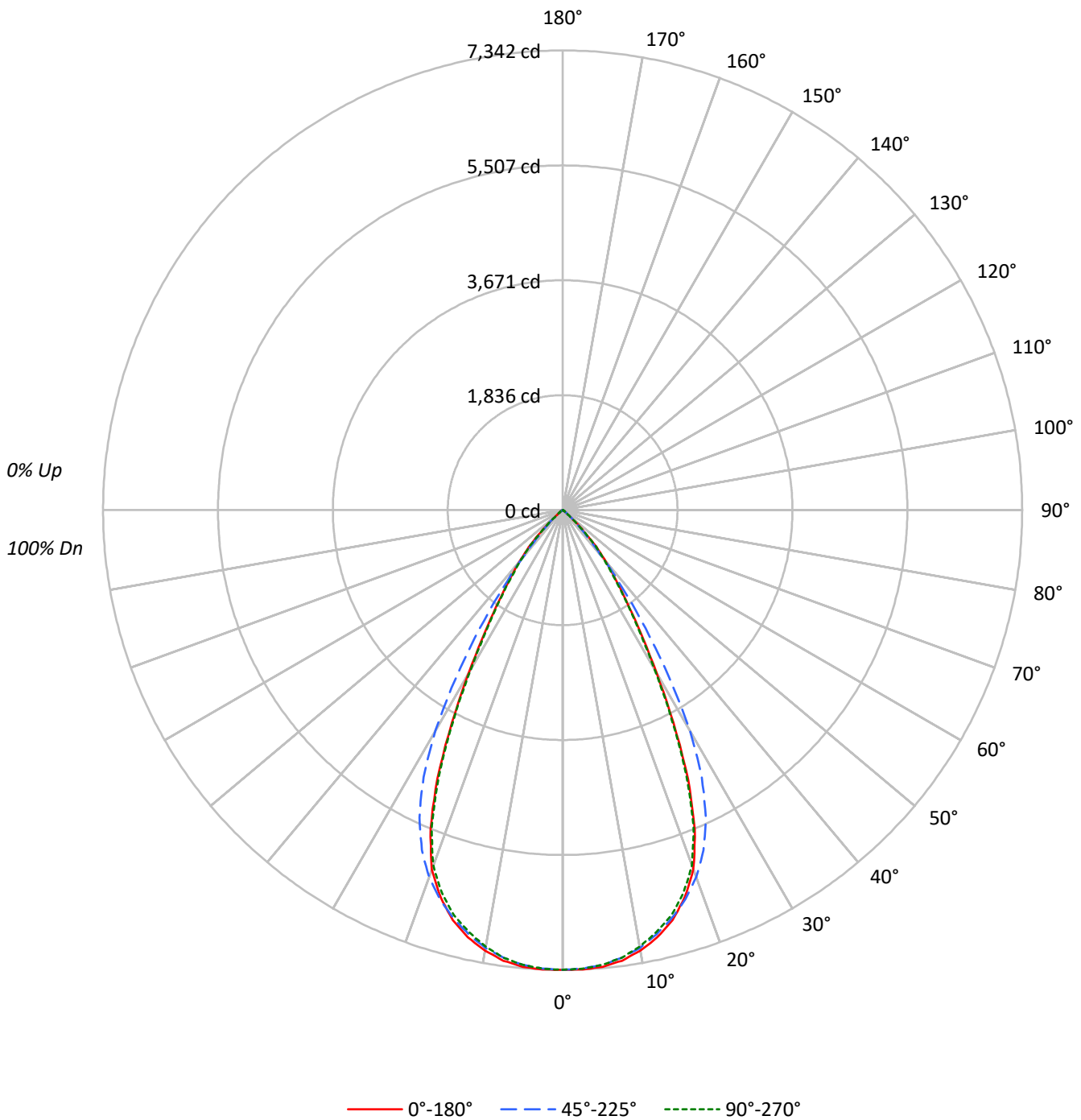
Lumens per Lamp: N/A
 Luminaire Lumens: 6571.0 lumens
 Efficiency: N/A
 Efficacy: 73.4 lumens/watt
 Spacing Criteria (0/90/45): 0.91 / 0.91 / 0.9
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

Input Watts (W): 89.5
 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	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	100	100	
1	114	111	108	106	111	109	106	104	105	103	101	101	100	98	97	96	95	94	94	94	94	
2	108	103	99	96	106	102	98	95	98	95	93	95	93	91	93	91	89	87	87	87	87	
3	103	96	91	88	101	95	90	87	92	89	85	90	87	84	88	85	83	81	81	81	81	
4	98	90	85	80	96	89	84	80	87	82	79	85	81	78	83	80	77	76	76	76	76	
5	93	84	79	74	91	84	78	74	82	77	73	80	76	73	79	75	72	71	71	71	71	
6	88	79	73	69	87	79	73	69	77	72	68	76	71	68	74	71	68	66	66	66	66	
7	84	75	69	65	82	74	68	64	73	68	64	71	67	64	70	66	63	62	62	62	62	
8	80	70	64	60	79	70	64	60	69	64	60	68	63	60	67	63	59	58	58	58	58	
9	76	66	61	57	75	66	60	57	65	60	56	64	60	56	63	59	56	55	55	55	55	
10	72	63	57	53	71	62	57	53	62	57	53	61	56	53	60	56	53	52	52	52	52	

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	708219	708219	708219
5°	708968	705703	705703
10°	699657	695522	693376
15°	676943	673746	669201
20°	626931	640619	620010
25°	504084	576246	497441
30°	332710	451824	324822
35°	207949	271308	204179
40°	135719	125731	130404
45°	65349	50161	61664
50°	16452	19995	15446
55°	9084	8226	8798
60°	6175	5210	5867
65°	4224	3858	4224
70°	3329	2849	3329
75°	2498	2498	2498
80°	1889	2834	2834
85°	1882	3764	3764

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	690.3	10.5
10°-20°	1885.1	28.7
20°-30°	2246.5	34.2
30°-40°	1272.1	19.4
40°-50°	393.3	6.0
50°-60°	54.7	0.8
60°-70°	18.6	0.3
70°-80°	7.4	0.1
80°-90°	3.2	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°	4821.8	73.4
0°-40°	6093.9	92.7
0°-60°	6541.8	99.6
0°-90°	6571.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6571.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7340	7340	7340	7340	7340	
5°	7320	7303	7286	7281	7286	693
15°	6777	6765	6745	6718	6699	1890
25°	4735	5011	5413	5020	4672	2111
35°	1765	1926	2303	1931	1733	1149
45°	479	558	368	543	452	395
55°	54	54	49	52	52	53
65°	18	18	17	18	18	20
75°	7	7	7	7	7	7
85°	2	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°	7339.9	7339.9	7339.9	7339.9	7339.9
2.5°	7341.6	7329.8	7326.4	7323.1	7329.8
5°	7319.7	7302.8	7286.0	7280.9	7286.0
7.5°	7257.3	7240.4	7211.8	7205.0	7210.1
10°	7141.0	7125.8	7098.8	7083.6	7076.9
12.5°	6987.5	6962.2	6936.9	6920.1	6903.2
15°	6776.7	6764.9	6744.7	6717.7	6699.2
17.5°	6485.0	6501.9	6513.7	6459.7	6410.8
20°	6105.6	6168.0	6238.9	6129.3	6038.2
22.5°	5513.8	5692.5	5873.0	5665.6	5463.2
25°	4734.8	5011.3	5412.6	5019.7	4672.4
27.5°	3825.9	4176.7	4809.0	4178.3	3775.4
30°	2986.2	3347.1	4055.3	3299.8	2915.4
32.5°	2293.2	2563.0	3168.3	2522.5	2244.3
35°	1765.4	1925.6	2303.3	1930.7	1733.4
37.5°	1372.5	1453.5	1549.6	1424.8	1332.1
40°	1077.5	1080.8	998.2	1064.0	1035.3
42.5°	799.2	795.9	613.8	775.6	780.7
45°	478.9	558.1	367.6	542.9	451.9
47.5°	227.6	315.3	220.9	298.5	210.8
50°	109.6	151.8	133.2	141.6	102.9
52.5°	74.2	77.6	75.9	74.2	70.8
55°	54.0	54.0	48.9	52.3	52.3
57.5°	40.5	40.5	35.4	38.8	38.8
60°	32.0	30.4	27.0	30.4	30.4
62.5°	23.6	23.6	20.2	23.6	23.6
65°	18.5	18.5	16.9	18.5	18.5
67.5°	15.2	15.2	11.8	15.2	13.5
70°	11.8	11.8	10.1	11.8	11.8
72.5°	8.4	8.4	8.4	8.4	8.4
75°	6.7	6.7	6.7	6.7	6.7
77.5°	5.1	5.1	5.1	5.1	5.1
80°	3.4	3.4	5.1	5.1	5.1
82.5°	3.4	3.4	3.4	3.4	3.4
85°	1.7	3.4	3.4	3.4	3.4
87.5°	1.7	1.7	3.4	3.4	3.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)