

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 FEU4C809035 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 FEU4C809035 F4LC-SQ-WLI
 Description: 4 INCH 8000 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 3500K, 90CRI LEDS AND F4LC-SQW TRIM WITH LI FINISH
 Light Source: -
 Ballast/Driver: -

Summary

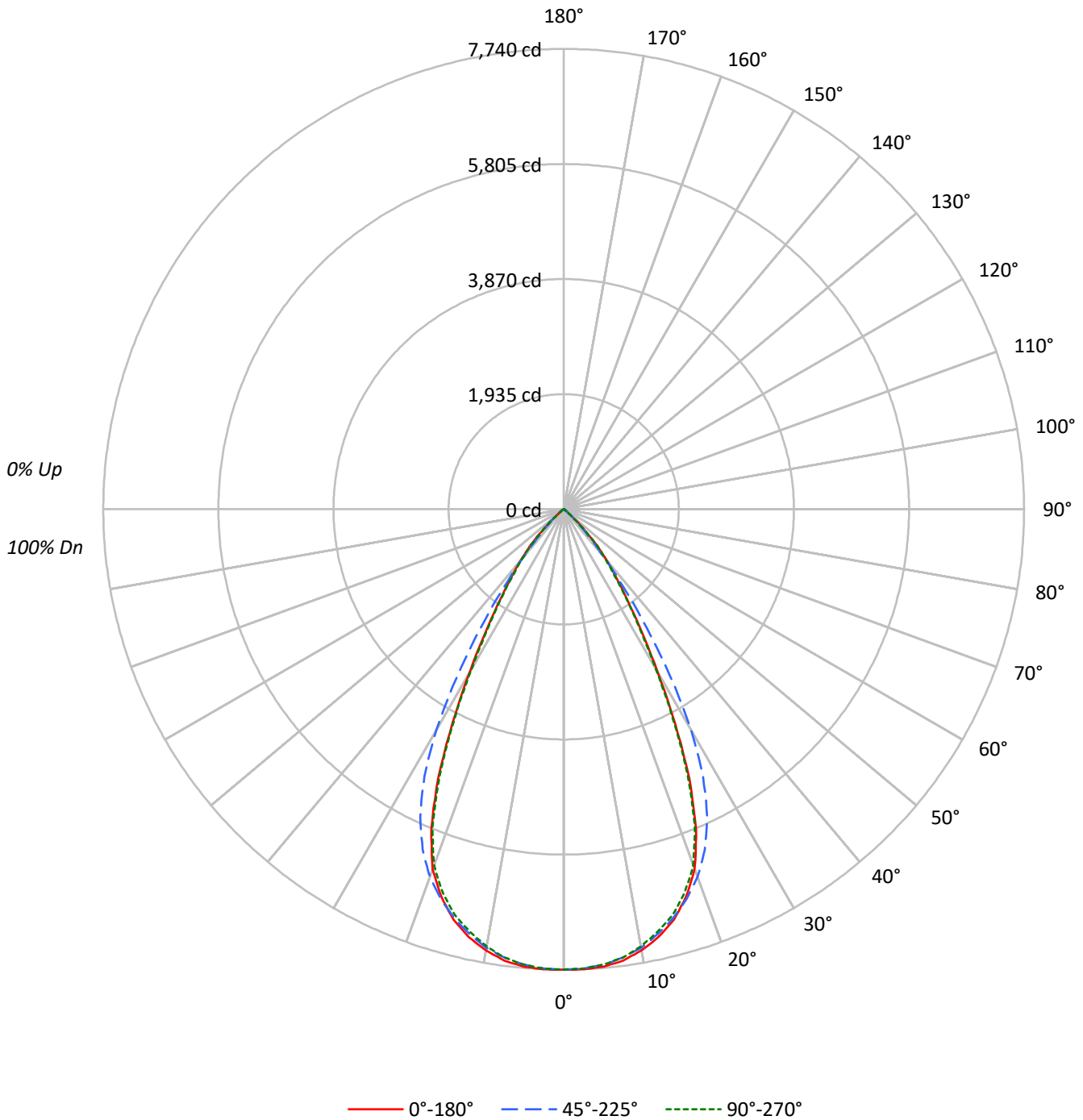
Lumens per Lamp: N/A
 Luminaire Lumens: 6928.0 lumens
 Efficiency: N/A
 Efficacy: 77.4 lumens/watt
 Spacing Criteria (0/90/45): 0.91 / 0.91 / 0.9
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

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°	746699	746699	746699
5°	747488	744040	744040
10°	737662	733312	731049
15°	713723	710347	705552
20°	661001	675417	653700
25°	531467	607556	524462
30°	350793	476369	342470
35°	219245	286056	215275
40°	143087	132557	137495
45°	68897	52890	65008
50°	17353	21075	16272
55°	9572	8680	9269
60°	6523	5481	6175
65°	4475	4064	4475
70°	3498	3019	3498
75°	2647	2647	2647
80°	2000	2945	2945
85°	1993	3986	3986

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	727.8	10.5
10°-20°	1987.5	28.7
20°-30°	2368.5	34.2
30°-40°	1341.2	19.4
40°-50°	414.6	6.0
50°-60°	57.6	0.8
60°-70°	19.7	0.3
70°-80°	7.8	0.1
80°-90°	3.3	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°	5083.8	73.4
0°-40°	6425.0	92.7
0°-60°	6897.2	99.6
0°-90°	6928.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6928.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7739	7739	7739	7739	7739	
5°	7717	7700	7682	7676	7682	731
15°	7145	7132	7111	7083	7063	1992
25°	4992	5284	5707	5292	4926	2226
35°	1861	2030	2428	2036	1828	1211
45°	505	588	388	572	476	417
55°	57	57	52	55	55	56
65°	20	20	18	20	20	21
75°	7	7	7	7	7	8
85°	2	4	4	4	4	2
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7738.7	7738.7	7738.7	7738.7	7738.7
2.5°	7740.5	7728.0	7724.5	7720.9	7728.0
5°	7717.4	7699.6	7681.8	7676.5	7681.8
7.5°	7651.6	7633.8	7603.6	7596.5	7601.8
10°	7528.9	7512.9	7484.5	7468.5	7461.4
12.5°	7367.1	7340.5	7313.8	7296.0	7278.3
15°	7144.9	7132.5	7111.1	7082.7	7063.1
17.5°	6837.4	6855.1	6867.6	6810.7	6759.1
20°	6437.4	6503.1	6577.8	6462.3	6366.3
22.5°	5813.4	6001.8	6192.0	5973.4	5760.0
25°	4992.0	5283.6	5706.7	5292.5	4926.2
27.5°	4033.8	4403.6	5070.2	4405.4	3980.5
30°	3148.5	3528.9	4275.6	3479.1	3073.8
32.5°	2417.8	2702.2	3340.5	2659.6	2366.2
35°	1861.3	2030.2	2428.5	2035.6	1827.6
37.5°	1447.1	1532.5	1633.8	1502.2	1404.5
40°	1136.0	1139.6	1052.4	1121.8	1091.6
42.5°	842.7	839.1	647.1	817.8	823.1
45°	504.9	588.4	387.6	572.4	476.4
47.5°	240.0	332.4	232.9	314.7	222.2
50°	115.6	160.0	140.4	149.3	108.4
52.5°	78.2	81.8	80.0	78.2	74.7
55°	56.9	56.9	51.6	55.1	55.1
57.5°	42.7	42.7	37.3	40.9	40.9
60°	33.8	32.0	28.4	32.0	32.0
62.5°	24.9	24.9	21.3	24.9	24.9
65°	19.6	19.6	17.8	19.6	19.6
67.5°	16.0	16.0	12.4	16.0	14.2
70°	12.4	12.4	10.7	12.4	12.4
72.5°	8.9	8.9	8.9	8.9	8.9
75°	7.1	7.1	7.1	7.1	7.1
77.5°	5.3	5.3	5.3	5.3	5.3
80°	3.6	3.6	5.3	5.3	5.3
82.5°	3.6	3.6	3.6	3.6	3.6
85°	1.8	3.6	3.6	3.6	3.6
87.5°	1.8	1.8	3.6	3.6	3.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)