

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: **FLDSQ4C08D010 FEU4C089050 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: FLDSQ4C08D010 FEU4C089050 F4LC-SQ-WLI  
 Description: 4 INCH 800 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 5000K, 90CRI LEDS AND F4LC-SQW TRIM WITH LI FINISH  
 Light Source: -  
 Ballast/Driver: -

**Summary**

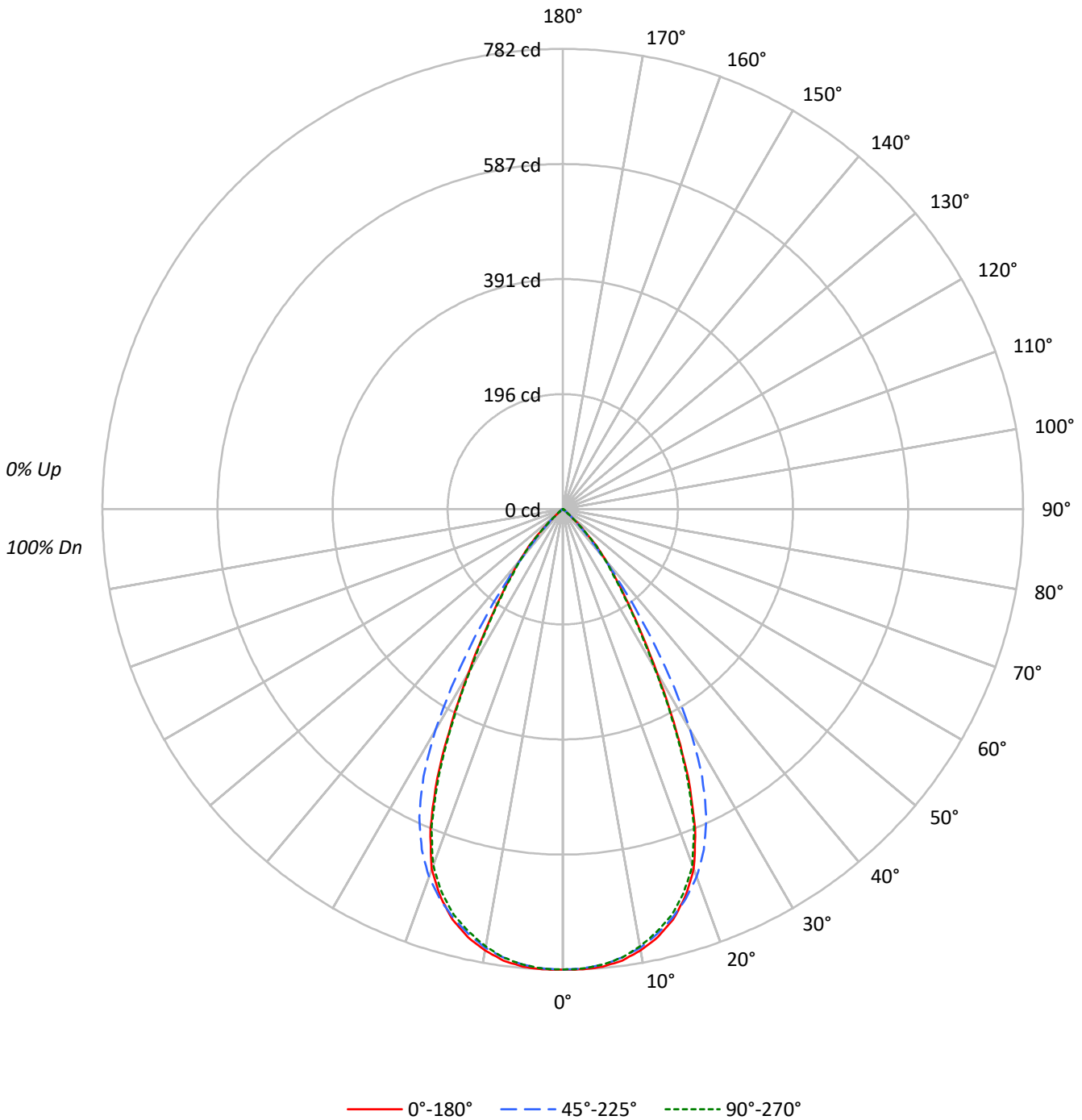
Lumens per Lamp: N/A  
 Luminaire Lumens: 700.0 lumens  
 Efficiency: N/A  
 Efficacy: 70.7 lumens/watt  
 Spacing Criteria (0/90/45): 0.91 / 0.91 / 0.9  
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
 CIE Type: Direct

Input Watts (W): 9.9  
 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°	75445	75445	75445
5°	75529	75181	75181
10°	74531	74091	73865
15°	72113	71773	71293
20°	66784	68242	66045
25°	53700	61387	52987
30°	35441	48132	34606
35°	22157	28906	21756
40°	14460	13389	13893
45°	6959	5349	6564
50°	1756	2132	1651
55°	959	875	942
60°	656	560	618
65°	457	411	457
70°	367	310	367
75°	261	261	261
80°	222	278	278
85°	221	443	443

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	73.5	10.5
10°-20°	200.8	28.7
20°-30°	239.3	34.2
30°-40°	135.5	19.4
40°-50°	41.9	6.0
50°-60°	5.8	0.8
60°-70°	2.0	0.3
70°-80°	0.8	0.1
80°-90°	0.4	0.1
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°	513.7	73.4
0°-40°	649.2	92.7
0°-60°	696.9	99.6
0°-90°	700.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	700.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	782	782	782	782	782	
5°	780	778	776	776	776	74
15°	722	721	718	716	714	201
25°	504	534	577	535	498	225
35°	188	205	245	206	185	122
45°	51	60	39	58	48	42
55°	6	6	5	6	6	6
65°	2	2	2	2	2	2
75°	1	1	1	1	1	1
85°	0	0	0	0	0	0
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	781.9	781.9	781.9	781.9	781.9
2.5°	782.1	780.8	780.5	780.1	780.8
5°	779.8	778.0	776.2	775.6	776.2
7.5°	773.1	771.3	768.3	767.5	768.1
10°	760.7	759.1	756.2	754.6	753.9
12.5°	744.4	741.7	739.0	737.2	735.4
15°	721.9	720.7	718.5	715.6	713.7
17.5°	690.8	692.6	693.9	688.1	682.9
20°	650.4	657.1	664.6	652.9	643.2
22.5°	587.4	606.4	625.6	603.5	582.0
25°	504.4	533.8	576.6	534.7	497.7
27.5°	407.6	444.9	512.3	445.1	402.2
30°	318.1	356.6	432.0	351.5	310.6
32.5°	244.3	273.0	337.5	268.7	239.1
35°	188.1	205.1	245.4	205.7	184.7
37.5°	146.2	154.8	165.1	151.8	141.9
40°	114.8	115.1	106.3	113.3	110.3
42.5°	85.1	84.8	65.4	82.6	83.2
45°	51.0	59.5	39.2	57.8	48.1
47.5°	24.2	33.6	23.5	31.8	22.5
50°	11.7	16.2	14.2	15.1	11.0
52.5°	7.9	8.3	8.1	7.9	7.5
55°	5.7	5.7	5.2	5.6	5.6
57.5°	4.3	4.3	3.8	4.1	4.1
60°	3.4	3.2	2.9	3.2	3.2
62.5°	2.5	2.5	2.2	2.5	2.5
65°	2.0	2.0	1.8	2.0	2.0
67.5°	1.6	1.6	1.3	1.6	1.4
70°	1.3	1.3	1.1	1.3	1.3
72.5°	0.9	0.9	0.9	0.9	0.9
75°	0.7	0.7	0.7	0.7	0.7
77.5°	0.5	0.5	0.5	0.5	0.5
80°	0.4	0.4	0.5	0.5	0.5
82.5°	0.4	0.4	0.4	0.4	0.4
85°	0.2	0.4	0.4	0.4	0.4
87.5°	0.2	0.2	0.4	0.4	0.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)