

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 FEU4C089040 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 FEU4C089040 F4LC-SQ-WLI  
 Description: 4 INCH 800 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 4000K, 90CRI LEDS AND F4LC-SQW TRIM WITH LI FINISH  
 Light Source: -  
 Ballast/Driver: -

**Summary**

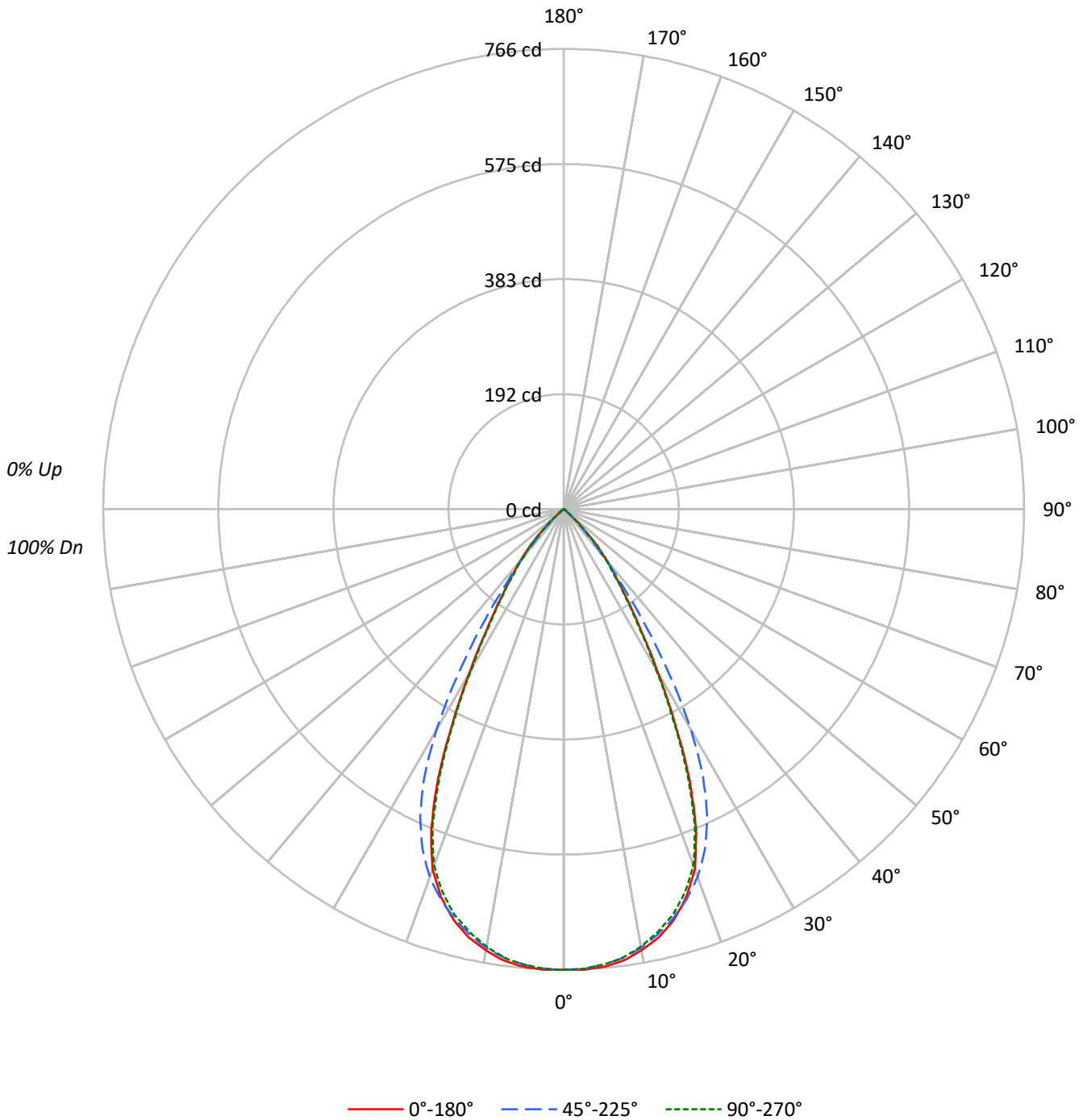
Lumens per Lamp: N/A  
 Luminaire Lumens: 686.0 lumens  
 Efficiency: N/A  
 Efficacy: 69.3 lumens/watt  
 Spacing Criteria (0/90/45): 0.91 / 0.91 / 0.9  
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
 CIE Type: Direct

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	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°	73939	73939	73939
5°	74018	73670	73670
10°	73042	72611	72386
15°	70674	70334	69865
20°	65449	66876	64730
25°	52625	60163	51933
30°	34739	47173	33915
35°	21709	28329	21320
40°	14170	13125	13616
45°	6823	5240	6441
50°	1711	2087	1606
55°	942	858	925
60°	637	540	618
65°	434	411	434
70°	339	310	339
75°	261	261	261
80°	222	278	278
85°	221	443	443

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	72.1	10.5
10°-20°	196.8	28.7
20°-30°	234.5	34.2
30°-40°	132.8	19.4
40°-50°	41.1	6.0
50°-60°	5.7	0.8
60°-70°	1.9	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°	503.4	73.4
0°-40°	636.2	92.7
0°-60°	682.9	99.6
0°-90°	686.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	686.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	766	766	766	766	766	
5°	764	762	761	760	761	72
15°	708	706	704	701	699	197
25°	494	523	565	524	488	220
35°	184	201	240	202	181	120
45°	50	58	38	57	47	41
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°	766.3	766.3	766.3	766.3	766.3
2.5°	766.5	765.2	764.9	764.5	765.2
5°	764.2	762.4	760.6	760.1	760.6
7.5°	757.6	755.9	752.9	752.2	752.7
10°	745.5	743.9	741.1	739.5	738.8
12.5°	729.5	726.8	724.2	722.4	720.7
15°	707.5	706.2	704.1	701.3	699.4
17.5°	677.0	678.8	680.0	674.4	669.3
20°	637.4	643.9	651.3	639.9	630.4
22.5°	575.6	594.3	613.1	591.5	570.3
25°	494.3	523.2	565.1	524.1	487.8
27.5°	399.4	436.0	502.0	436.2	394.1
30°	311.8	349.4	423.4	344.5	304.4
32.5°	239.4	267.6	330.8	263.3	234.3
35°	184.3	201.0	240.5	201.6	181.0
37.5°	143.3	151.7	161.8	148.7	139.1
40°	112.5	112.8	104.2	111.1	108.1
42.5°	83.4	83.1	64.1	81.0	81.5
45°	50.0	58.3	38.4	56.7	47.2
47.5°	23.8	32.9	23.1	31.2	22.0
50°	11.4	15.8	13.9	14.8	10.7
52.5°	7.7	8.1	7.9	7.7	7.4
55°	5.6	5.6	5.1	5.5	5.5
57.5°	4.2	4.2	3.7	4.0	4.0
60°	3.3	3.2	2.8	3.2	3.2
62.5°	2.5	2.5	2.1	2.5	2.5
65°	1.9	1.9	1.8	1.9	1.9
67.5°	1.6	1.6	1.2	1.6	1.4
70°	1.2	1.2	1.1	1.2	1.2
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)