

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-WH**

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

**Summary**

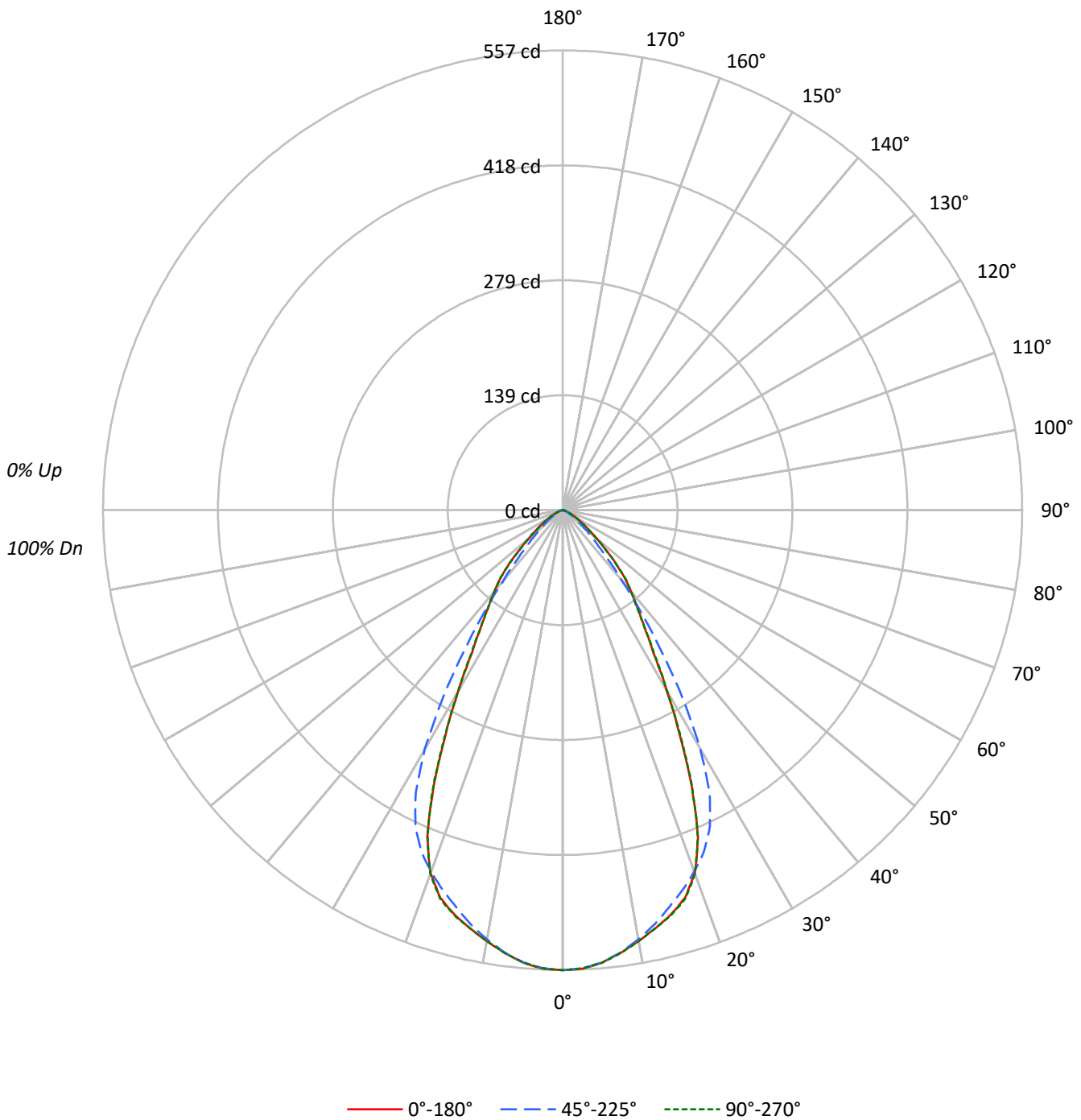
Lumens per Lamp: N/A  
 Luminaire Lumens: 590.0 lumens  
 Efficiency: N/A  
 Efficacy: 59.6 lumens/watt  
 Spacing Criteria (0/90/45): 0.93 / 0.93 / 0.94  
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
 CIE Type: Direct

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	113	110	107	105	110	108	105	103	104	102	100	100	98	97	96	95	94	92
2	107	101	97	93	104	99	95	92	96	93	90	93	90	88	90	88	86	84
3	101	93	88	84	98	92	87	83	89	85	82	87	83	80	85	82	79	77
4	95	87	80	76	93	85	80	75	83	78	74	81	77	74	79	76	73	71
5	89	80	74	69	88	79	73	69	78	72	68	76	71	68	74	70	67	65
6	85	75	68	64	83	74	68	63	72	67	63	71	66	63	70	65	62	61
7	80	70	63	59	79	69	63	59	68	62	58	67	62	58	65	61	58	56
8	76	65	59	55	74	65	59	54	64	58	54	63	58	54	62	57	54	52
9	72	61	55	51	71	61	55	51	60	54	51	59	54	50	58	54	50	49
10	68	58	52	48	67	57	51	47	57	51	47	56	51	47	55	50	47	46

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	53783	53783	53783
5°	53291	53262	53281
10°	51928	51722	51928
15°	50676	49767	50735
20°	48055	47870	48137
25°	39413	44970	39626
30°	28110	37157	28144
35°	20272	24618	20331
40°	16248	14309	16248
45°	12404	8351	12308
50°	8181	5329	8151
55°	5501	3583	5434
60°	3705	2451	3724
65°	2534	1735	2489
70°	1693	1241	1693
75°	1118	932	1118
80°	778	667	778
85°	554	554	554

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	51.8	8.8
10°-20°	141.3	23.9
20°-30°	176.6	29.9
30°-40°	118.8	20.1
40°-50°	62.7	10.6
50°-60°	25.5	4.3
60°-70°	9.5	1.6
70°-80°	3.0	0.5
80°-90°	0.7	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°	369.8	62.7
0°-40°	488.6	82.8
0°-60°	576.8	97.8
0°-90°	590.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	590.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	557	557	557	557	557	
5°	550	550	550	550	550	52
15°	507	503	498	503	508	142
25°	370	391	422	392	372	167
35°	172	181	209	181	173	111
45°	91	86	61	86	90	70
55°	33	27	21	27	32	30
65°	11	9	8	9	11	11
75°	3	3	2	3	3	3
85°	0	0	0	0	0	1
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	557.4	557.4	557.4	557.4	557.4
2.5°	556.0	555.7	555.5	555.5	555.7
5°	550.2	549.7	549.9	549.9	550.1
7.5°	540.9	540.7	540.2	540.9	540.9
10°	530.0	529.1	527.9	529.3	530.0
12.5°	518.8	516.1	514.0	516.1	518.8
15°	507.3	503.1	498.2	502.9	507.9
17.5°	492.4	488.2	482.7	489.1	493.8
20°	468.0	468.3	466.2	468.0	468.8
22.5°	428.8	436.7	447.7	436.8	427.5
25°	370.2	391.0	422.4	391.7	372.2
27.5°	307.5	333.8	385.3	335.4	309.4
30°	252.3	275.6	333.5	277.2	252.6
32.5°	204.3	221.7	271.1	223.8	206.6
35°	172.1	180.7	209.0	181.1	172.6
37.5°	147.5	147.5	155.2	148.2	146.8
40°	129.0	123.4	113.6	123.2	129.0
42.5°	111.8	103.4	82.4	103.0	112.2
45°	90.9	86.3	61.2	86.0	90.2
47.5°	69.8	66.6	46.1	66.3	70.3
50°	54.5	49.6	35.5	49.2	54.3
52.5°	41.8	36.6	27.4	36.6	41.5
55°	32.7	27.4	21.3	27.4	32.3
57.5°	25.1	20.9	16.2	20.6	25.0
60°	19.2	15.6	12.7	15.6	19.3
62.5°	14.6	12.0	9.7	11.8	14.4
65°	11.1	9.0	7.6	9.0	10.9
67.5°	8.1	6.7	5.8	6.7	8.3
70°	6.0	5.1	4.4	4.9	6.0
72.5°	4.4	3.7	3.3	3.7	4.4
75°	3.0	2.6	2.5	2.6	3.0
77.5°	2.1	1.9	1.8	1.9	2.1
80°	1.4	1.2	1.2	1.4	1.4
82.5°	0.9	0.9	0.9	0.9	0.9
85°	0.5	0.5	0.5	0.5	0.5
87.5°	0.4	0.4	0.4	0.4	0.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)