

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: **FLDSQ4C30D010 FEU4C309035 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: FLDSQ4C30D010 FEU4C309035 F4LC-SQ-WLI  
 Description: 4 INCH 3000 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 3500K, 90CRI LEDS AND F4LC-SQW TRIM WITH LI FINISH  
 Light Source: -  
 Ballast/Driver: -

**Summary**

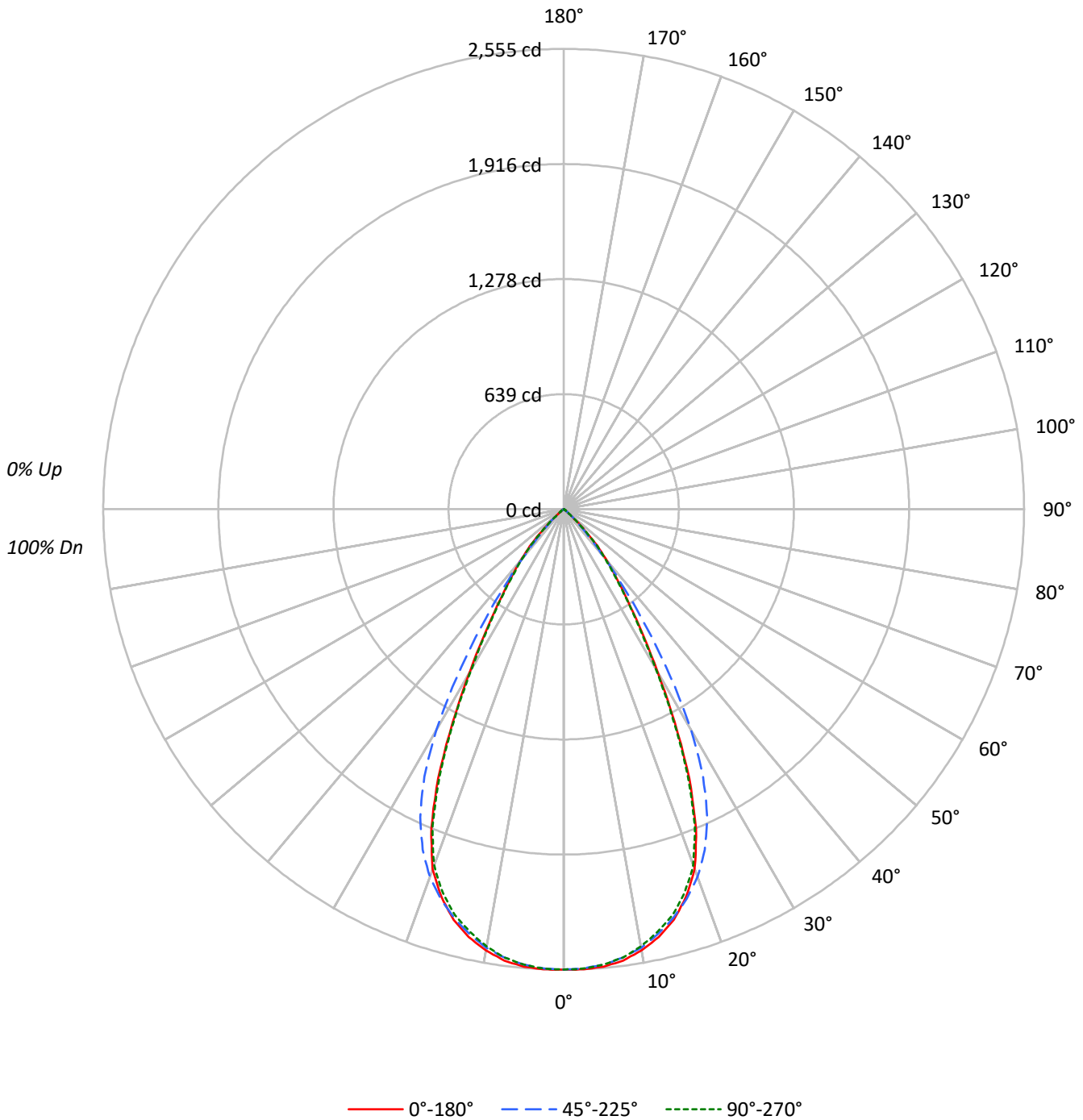
Lumens per Lamp: N/A  
 Luminaire Lumens: 2287.0 lumens  
 Efficiency: N/A  
 Efficacy: 72.4 lumens/watt  
 Spacing Criteria (0/90/45): 0.91 / 0.91 / 0.9  
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
 CIE Type: Direct

Input Watts (W): 31.6  
 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				
RC	80					70					50					30				
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°	246491	246491	246491
5°	246754	245611	245611
10°	243513	242073	241328
15°	235607	234498	232910
20°	218198	222962	215795
25°	175442	200556	173131
30°	115794	157252	113054
35°	72371	94433	71063
40°	47234	43758	45382
45°	22747	17453	21465
50°	5719	6965	5374
55°	3163	2860	3062
60°	2161	1814	2046
65°	1484	1347	1484
70°	1157	987	1157
75°	857	857	857
80°	667	1000	1000
85°	664	1329	1329

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	240.2	10.5
10°-20°	656.1	28.7
20°-30°	781.9	34.2
30°-40°	442.7	19.4
40°-50°	136.9	6.0
50°-60°	19.0	0.8
60°-70°	6.5	0.3
70°-80°	2.6	0.1
80°-90°	1.1	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°	1678.2	73.4
0°-40°	2121.0	92.7
0°-60°	2276.9	99.6
0°-90°	2287.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2287.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2555	2555	2555	2555	2555	
5°	2548	2542	2536	2534	2536	241
15°	2359	2354	2348	2338	2332	658
25°	1648	1744	1884	1747	1626	735
35°	614	670	802	672	603	400
45°	167	194	128	189	157	138
55°	19	19	17	18	18	18
65°	6	6	6	6	6	7
75°	2	2	2	2	2	3
85°	1	1	1	1	1	1
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2554.6	2554.6	2554.6	2554.6	2554.6
2.5°	2555.2	2551.1	2549.9	2548.8	2551.1
5°	2547.6	2541.7	2535.8	2534.1	2535.8
7.5°	2525.9	2520.0	2510.0	2507.7	2509.4
10°	2485.4	2480.1	2470.7	2465.4	2463.1
12.5°	2432.0	2423.2	2414.4	2408.5	2402.6
15°	2358.6	2354.5	2347.5	2338.1	2331.6
17.5°	2257.1	2262.9	2267.1	2248.3	2231.3
20°	2125.0	2146.8	2171.4	2133.3	2101.6
22.5°	1919.0	1981.3	2044.0	1971.9	1901.4
25°	1647.9	1744.2	1883.8	1747.1	1626.2
27.5°	1331.6	1453.7	1673.7	1454.3	1314.0
30°	1039.3	1164.9	1411.4	1148.5	1014.7
32.5°	798.1	892.0	1102.7	877.9	781.1
35°	614.4	670.2	801.7	672.0	603.3
37.5°	477.7	505.9	539.3	495.9	463.6
40°	375.0	376.2	347.4	370.3	360.3
42.5°	278.2	277.0	213.6	270.0	271.7
45°	166.7	194.3	127.9	189.0	157.3
47.5°	79.2	109.7	76.9	103.9	73.4
50°	38.1	52.8	46.4	49.3	35.8
52.5°	25.8	27.0	26.4	25.8	24.6
55°	18.8	18.8	17.0	18.2	18.2
57.5°	14.1	14.1	12.3	13.5	13.5
60°	11.2	10.6	9.4	10.6	10.6
62.5°	8.2	8.2	7.0	8.2	8.2
65°	6.5	6.5	5.9	6.5	6.5
67.5°	5.3	5.3	4.1	5.3	4.7
70°	4.1	4.1	3.5	4.1	4.1
72.5°	2.9	2.9	2.9	2.9	2.9
75°	2.3	2.3	2.3	2.3	2.3
77.5°	1.8	1.8	1.8	1.8	1.8
80°	1.2	1.2	1.8	1.8	1.8
82.5°	1.2	1.2	1.2	1.2	1.2
85°	0.6	1.2	1.2	1.2	1.2
87.5°	0.6	0.6	1.2	1.2	1.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)