

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: **FLDSQ4C15D010 FEU4C159030 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: FLDSQ4C15D010 FEU4C159030 F4LC-SQ-WLI  
 Description: 4 INCH 1500 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 3000K, 90CRI LEDS AND F4LC-SQW TRIM WITH LI FINISH  
 Light Source: -  
 Ballast/Driver: -

**Summary**

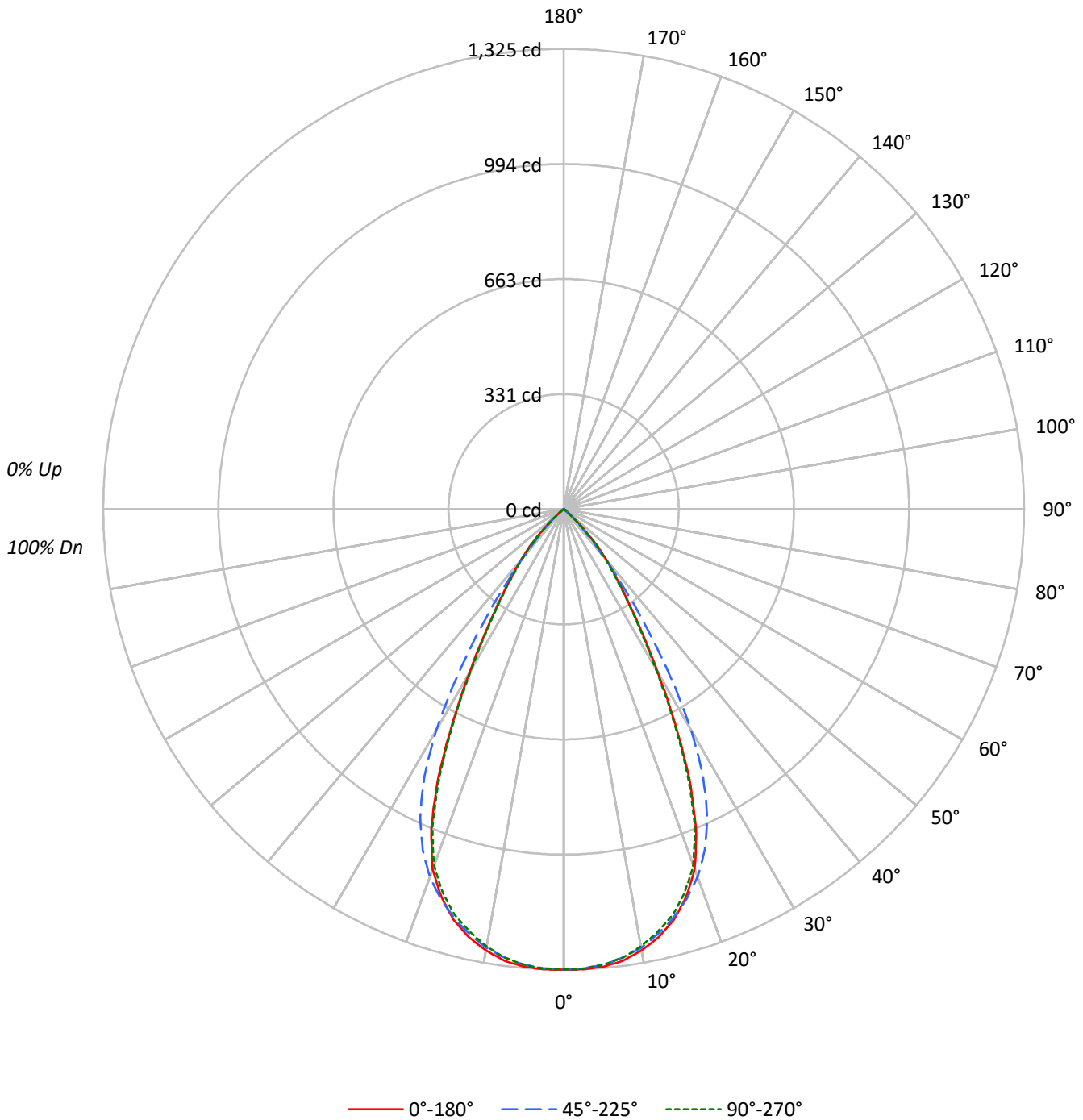
Lumens per Lamp: N/A  
 Luminaire Lumens: 1186.0 lumens  
 Efficiency: N/A  
 Efficacy: 75.1 lumens/watt  
 Spacing Criteria (0/90/45): 0.91 / 0.91 / 0.9  
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
 CIE Type: Direct

Input Watts (W): 15.8  
 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°	127828	127828	127828
5°	127958	127368	127368
10°	126283	125538	125147
15°	122179	121609	120780
20°	113155	115629	111902
25°	90984	104004	89781
30°	60053	81545	58627
35°	37528	48966	36857
40°	24499	22698	23541
45°	11790	9047	11135
50°	2972	3603	2792
55°	1632	1480	1581
60°	1119	946	1061
65°	753	685	753
70°	592	508	592
75°	447	447	447
80°	333	500	500
85°	332	664	664

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	124.6	10.5
10°-20°	340.2	28.7
20°-30°	405.5	34.2
30°-40°	229.6	19.4
40°-50°	71.0	6.0
50°-60°	9.9	0.8
60°-70°	3.4	0.3
70°-80°	1.3	0.1
80°-90°	0.6	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°	870.3	73.4
0°-40°	1099.9	92.7
0°-60°	1180.7	99.6
0°-90°	1186.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1186.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1325	1325	1325	1325	1325	
5°	1321	1318	1315	1314	1315	125
15°	1223	1221	1217	1212	1209	341
25°	855	904	977	906	843	381
35°	319	348	416	348	313	207
45°	86	101	66	98	82	71
55°	10	10	9	9	9	10
65°	3	3	3	3	3	4
75°	1	1	1	1	1	1
85°	0	1	1	1	1	0
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1324.8	1324.8	1324.8	1324.8	1324.8
2.5°	1325.1	1323.0	1322.3	1321.7	1323.0
5°	1321.1	1318.1	1315.0	1314.1	1315.0
7.5°	1309.9	1306.8	1301.7	1300.4	1301.3
10°	1288.9	1286.1	1281.3	1278.5	1277.3
12.5°	1261.2	1256.6	1252.0	1249.0	1246.0
15°	1223.1	1221.0	1217.4	1212.5	1209.1
17.5°	1170.5	1173.5	1175.7	1165.9	1157.1
20°	1102.0	1113.3	1126.1	1106.3	1089.8
22.5°	995.2	1027.4	1060.0	1022.6	986.1
25°	854.6	904.5	976.9	906.0	843.3
27.5°	690.5	753.8	868.0	754.1	681.4
30°	539.0	604.1	731.9	595.6	526.2
32.5°	413.9	462.6	571.9	455.3	405.1
35°	318.6	347.6	415.7	348.5	312.9
37.5°	247.7	262.3	279.7	257.2	240.4
40°	194.5	195.1	180.2	192.0	186.9
42.5°	144.3	143.6	110.8	140.0	140.9
45°	86.4	100.7	66.3	98.0	81.6
47.5°	41.1	56.9	39.9	53.9	38.0
50°	19.8	27.4	24.0	25.6	18.6
52.5°	13.4	14.0	13.7	13.4	12.8
55°	9.7	9.7	8.8	9.4	9.4
57.5°	7.3	7.3	6.4	7.0	7.0
60°	5.8	5.5	4.9	5.5	5.5
62.5°	4.3	4.3	3.7	4.3	4.3
65°	3.3	3.3	3.0	3.3	3.3
67.5°	2.7	2.7	2.1	2.7	2.4
70°	2.1	2.1	1.8	2.1	2.1
72.5°	1.5	1.5	1.5	1.5	1.5
75°	1.2	1.2	1.2	1.2	1.2
77.5°	0.9	0.9	0.9	0.9	0.9
80°	0.6	0.6	0.9	0.9	0.9
82.5°	0.6	0.6	0.6	0.6	0.6
85°	0.3	0.6	0.6	0.6	0.6
87.5°	0.3	0.3	0.6	0.6	0.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)