

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 FEU4C159050 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 FEU4C159050 F4LC-SQ-WLI  
 Description: 4 INCH 1500 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 5000K, 90CRI LEDS AND F4LC-SQW TRIM WITH LI FINISH  
 Light Source: -  
 Ballast/Driver: -

**Summary**

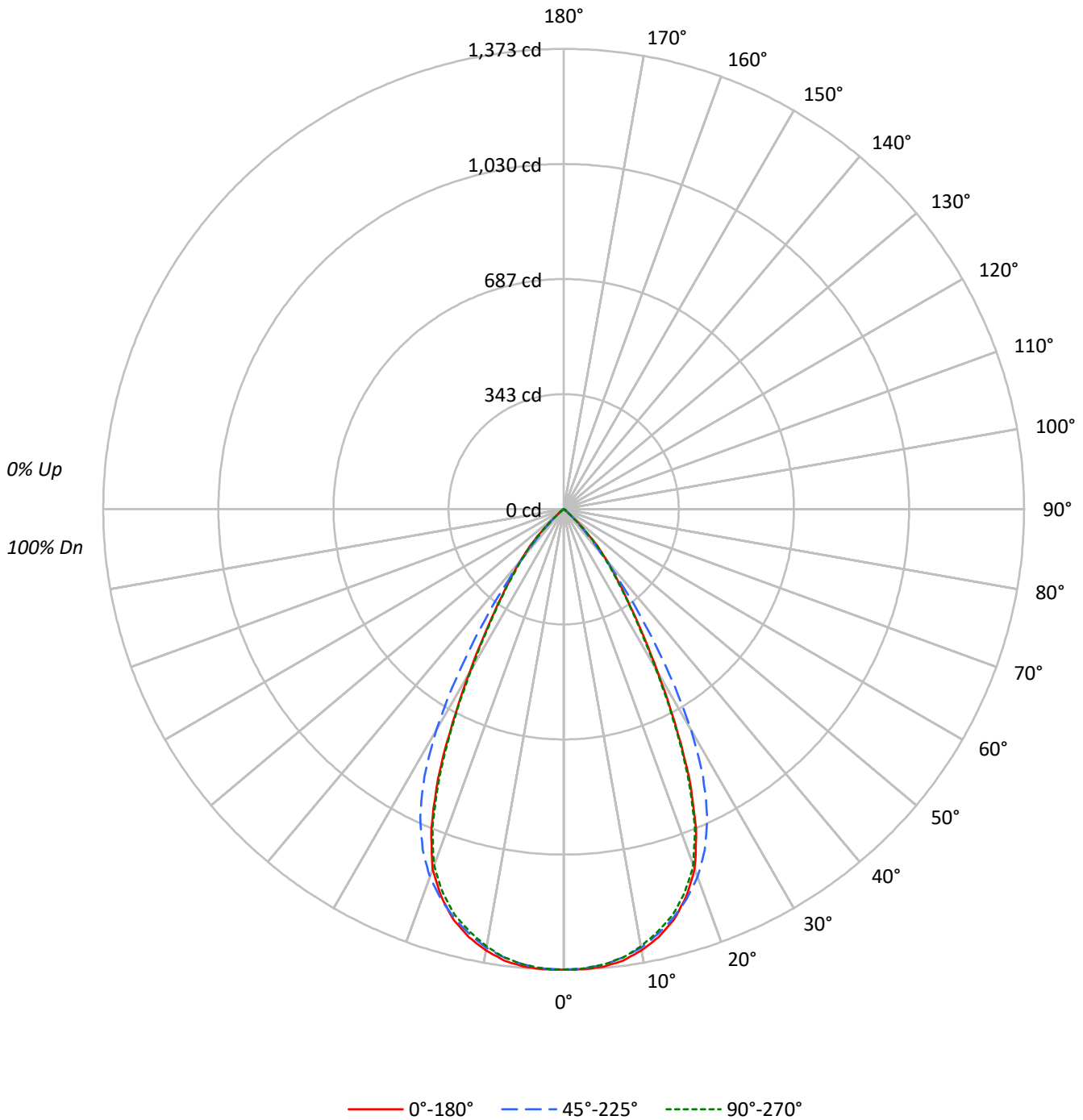
Lumens per Lamp: N/A  
 Luminaire Lumens: 1229.0 lumens  
 Efficiency: N/A  
 Efficacy: 77.8 lumens/watt  
 Spacing Criteria (0/90/45): 0.91 / 0.91 / 0.9  
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
 CIE Type: Direct

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				
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°	132460	132460	132460
5°	132598	131988	131988
10°	130859	130085	129683
15°	126614	126015	125165
20°	117262	119819	115958
25°	94284	107773	93039
30°	62226	84509	60755
35°	38895	50744	38188
40°	25380	23516	24385
45°	12226	9388	11531
50°	3077	3738	2882
55°	1699	1531	1649
60°	1158	965	1100
65°	799	731	799
70°	621	536	621
75°	485	485	485
80°	333	500	500
85°	332	664	664

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	129.1	10.5
10°-20°	352.6	28.7
20°-30°	420.2	34.2
30°-40°	237.9	19.4
40°-50°	73.6	6.0
50°-60°	10.2	0.8
60°-70°	3.5	0.3
70°-80°	1.4	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°	901.8	73.4
0°-40°	1139.8	92.7
0°-60°	1223.6	99.6
0°-90°	1229.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1229.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1373	1373	1373	1373	1373	
5°	1369	1366	1363	1362	1363	130
15°	1268	1265	1262	1256	1253	353
25°	886	937	1012	939	874	395
35°	330	360	431	361	324	215
45°	90	104	69	102	84	74
55°	10	10	9	10	10	10
65°	4	4	3	4	4	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°	1372.8	1372.8	1372.8	1372.8	1372.8
2.5°	1373.1	1370.9	1370.3	1369.7	1370.9
5°	1369.0	1365.9	1362.7	1361.8	1362.7
7.5°	1357.4	1354.2	1348.8	1347.6	1348.5
10°	1335.6	1332.8	1327.7	1324.9	1323.6
12.5°	1306.9	1302.2	1297.4	1294.3	1291.1
15°	1267.5	1265.3	1261.5	1256.4	1253.0
17.5°	1212.9	1216.1	1218.3	1208.2	1199.0
20°	1142.0	1153.6	1166.9	1146.4	1129.3
22.5°	1031.3	1064.7	1098.4	1059.7	1021.8
25°	885.6	937.3	1012.3	938.9	873.9
27.5°	715.6	781.2	899.4	781.5	706.1
30°	558.5	626.0	758.5	617.2	545.3
32.5°	428.9	479.4	592.6	471.8	419.8
35°	330.2	360.2	430.8	361.1	324.2
37.5°	256.7	271.9	289.8	266.5	249.1
40°	201.5	202.2	186.7	199.0	193.6
42.5°	149.5	148.9	114.8	145.1	146.0
45°	89.6	104.4	68.8	101.5	84.5
47.5°	42.6	59.0	41.3	55.8	39.4
50°	20.5	28.4	24.9	26.5	19.2
52.5°	13.9	14.5	14.2	13.9	13.2
55°	10.1	10.1	9.1	9.8	9.8
57.5°	7.6	7.6	6.6	7.3	7.3
60°	6.0	5.7	5.0	5.7	5.7
62.5°	4.4	4.4	3.8	4.4	4.4
65°	3.5	3.5	3.2	3.5	3.5
67.5°	2.8	2.8	2.2	2.8	2.5
70°	2.2	2.2	1.9	2.2	2.2
72.5°	1.6	1.6	1.6	1.6	1.6
75°	1.3	1.3	1.3	1.3	1.3
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)