

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: **FLDSQ4C60D010 FEU4C609050 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: FLDSQ4C60D010 FEU4C609050 F4LC-SQ-WLI  
 Description: 4 INCH 6000 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 5000K, 90CRI LEDS AND F4LC-SQW TRIM WITH LI FINISH  
 Light Source: -  
 Ballast/Driver: -

**Summary**

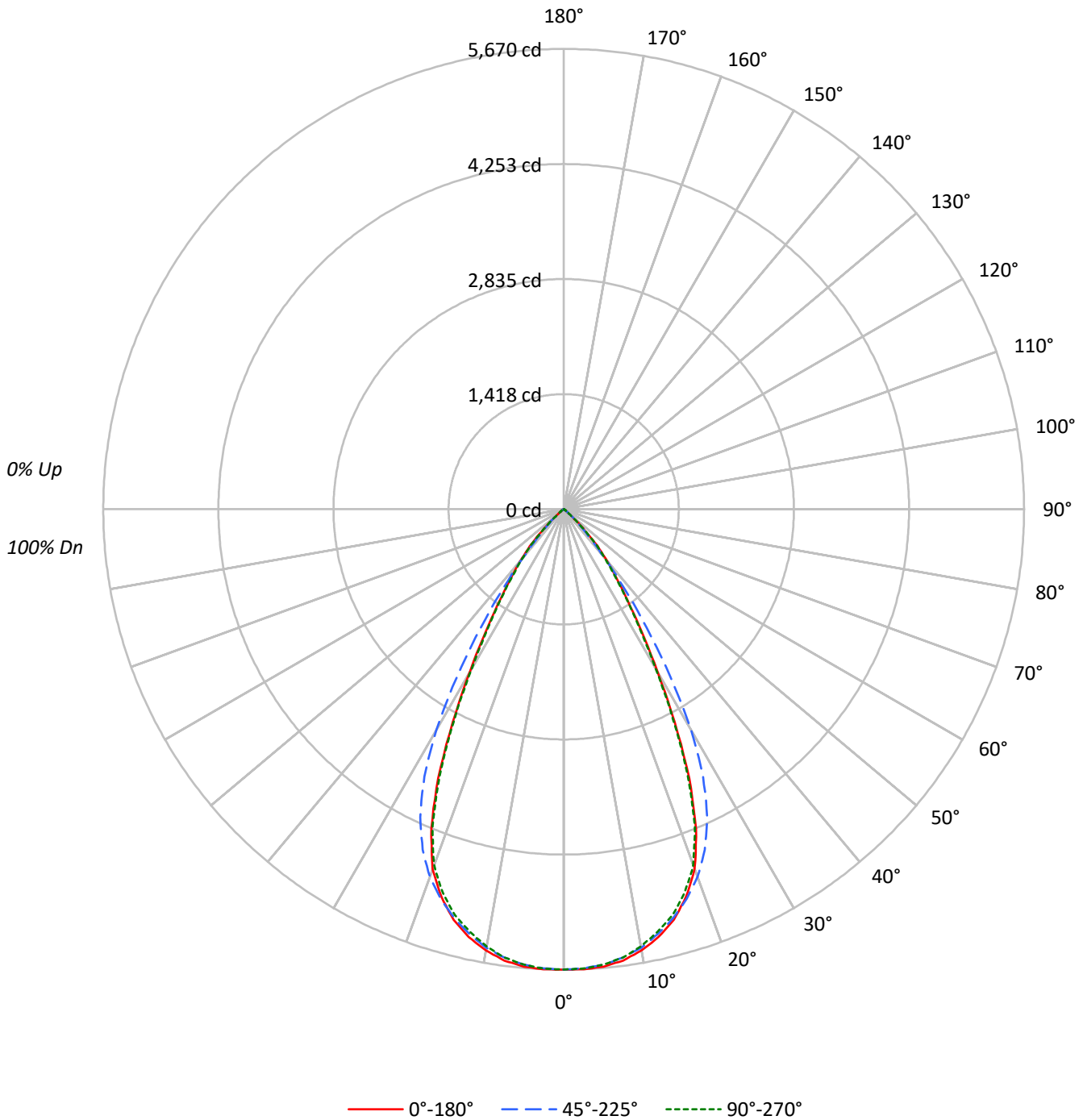
Lumens per Lamp: N/A  
 Luminaire Lumens: 5075.0 lumens  
 Efficiency: N/A  
 Efficacy: 70.5 lumens/watt  
 Spacing Criteria (0/90/45): 0.91 / 0.91 / 0.9  
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
 CIE Type: Direct

Input Watts (W): 72  
 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°	546986	546986	546986
5°	547555	545036	545036
10°	540365	537171	535515
15°	522828	520361	516845
20°	484204	494770	478854
25°	389317	445061	384185
30°	256969	348954	250875
35°	160608	209539	157699
40°	104822	97113	100715
45°	50475	38740	47623
50°	12699	15446	11919
55°	7015	6359	6796
60°	4767	4014	4516
65°	3265	2968	3265
70°	2567	2200	2567
75°	1939	1939	1939
80°	1445	2167	2167
85°	1439	2878	2878

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	533.1	10.5
10°-20°	1455.9	28.7
20°-30°	1735.0	34.2
30°-40°	982.5	19.4
40°-50°	303.7	6.0
50°-60°	42.2	0.8
60°-70°	14.4	0.3
70°-80°	5.7	0.1
80°-90°	2.4	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°	3724.1	73.4
0°-40°	4706.5	92.7
0°-60°	5052.5	99.6
0°-90°	5075.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5075.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5669	5669	5669	5669	5669	
5°	5653	5640	5627	5623	5627	535
15°	5234	5225	5209	5188	5174	1459
25°	3657	3870	4180	3877	3609	1630
35°	1364	1487	1779	1491	1339	887
45°	370	431	284	419	349	305
55°	42	42	38	40	40	41
65°	14	14	13	14	14	15
75°	5	5	5	5	5	6
85°	1	3	3	3	3	2
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5668.9	5668.9	5668.9	5668.9	5668.9
2.5°	5670.2	5661.1	5658.5	5655.8	5661.1
5°	5653.2	5640.2	5627.2	5623.3	5627.2
7.5°	5605.1	5592.0	5569.9	5564.7	5568.6
10°	5515.2	5503.5	5482.6	5470.9	5465.7
12.5°	5396.7	5377.2	5357.6	5344.6	5331.6
15°	5233.9	5224.8	5209.2	5188.3	5174.0
17.5°	5008.6	5021.6	5030.7	4989.1	4951.3
20°	4715.6	4763.8	4818.5	4733.8	4663.5
22.5°	4258.5	4396.5	4535.9	4375.7	4219.4
25°	3656.8	3870.4	4180.4	3876.9	3608.6
27.5°	2954.9	3225.8	3714.1	3227.1	2915.8
30°	2306.4	2585.0	3132.0	2548.6	2251.7
32.5°	1771.1	1979.5	2447.0	1948.2	1733.3
35°	1363.5	1487.2	1778.9	1491.1	1338.8
37.5°	1060.1	1122.6	1196.8	1100.4	1028.8
40°	832.2	834.8	771.0	821.7	799.6
42.5°	617.3	614.7	474.0	599.1	603.0
45°	369.9	431.1	283.9	419.3	349.0
47.5°	175.8	243.5	170.6	230.5	162.8
50°	84.6	117.2	102.9	109.4	79.4
52.5°	57.3	59.9	58.6	57.3	54.7
55°	41.7	41.7	37.8	40.4	40.4
57.5°	31.3	31.3	27.3	30.0	30.0
60°	24.7	23.4	20.8	23.4	23.4
62.5°	18.2	18.2	15.6	18.2	18.2
65°	14.3	14.3	13.0	14.3	14.3
67.5°	11.7	11.7	9.1	11.7	10.4
70°	9.1	9.1	7.8	9.1	9.1
72.5°	6.5	6.5	6.5	6.5	6.5
75°	5.2	5.2	5.2	5.2	5.2
77.5°	3.9	3.9	3.9	3.9	3.9
80°	2.6	2.6	3.9	3.9	3.9
82.5°	2.6	2.6	2.6	2.6	2.6
85°	1.3	2.6	2.6	2.6	2.6
87.5°	1.3	1.3	2.6	2.6	2.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)