

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: **FLDSQ4C55D010 FEU4C559030 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: FLDSQ4C55D010 FEU4C559030 F4LC-SQ-WLI  
 Description: 4 INCH 5500 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 3000K, 90CRI LEDS AND F4LC-SQW TRIM WITH LI FINISH  
 Light Source: -  
 Ballast/Driver: -

**Summary**

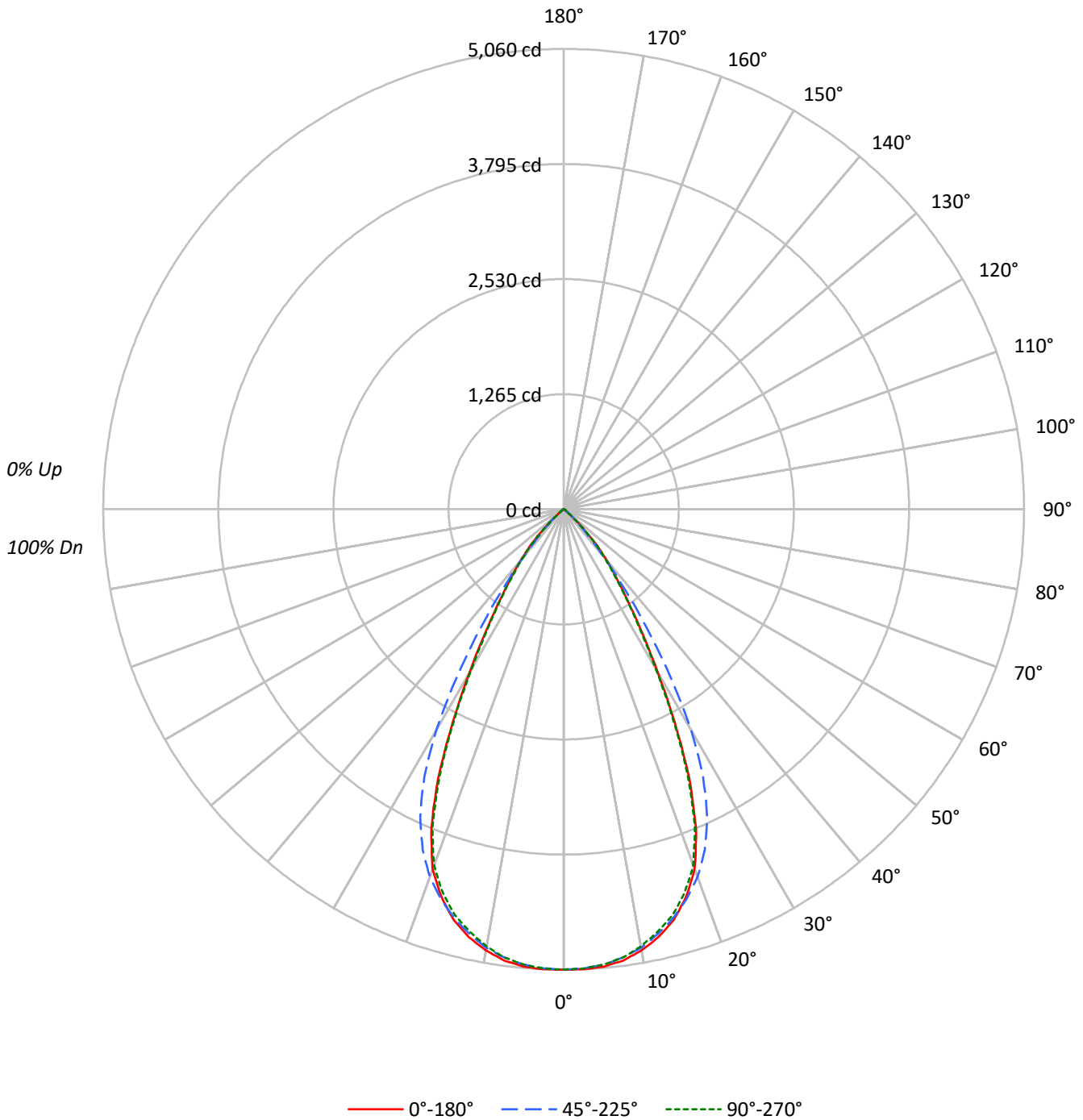
Lumens per Lamp: N/A  
 Luminaire Lumens: 4529.0 lumens  
 Efficiency: N/A  
 Efficacy: 70.9 lumens/watt  
 Spacing Criteria (0/90/45): 0.91 / 0.91 / 0.9  
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
 CIE Type: Direct

Input Watts (W): 63.9  
 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			
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100
1	114	111	108	106	111	109	106	104	105	103	101	101	100	98	97	96	95	94	94	94
2	108	103	99	96	106	102	98	95	98	95	93	95	93	91	93	91	89	87	87	87
3	103	96	91	88	101	95	90	87	92	89	85	90	87	84	88	85	83	81	81	81
4	98	90	85	80	96	89	84	80	87	82	79	85	81	78	83	80	77	76	76	76
5	93	84	79	74	91	84	78	74	82	77	73	80	76	73	79	75	72	71	71	71
6	88	79	73	69	87	79	73	69	77	72	68	76	71	68	74	71	68	66	66	66
7	84	75	69	65	82	74	68	64	73	68	64	71	67	64	70	66	63	62	62	62
8	80	70	64	60	79	70	64	60	69	64	60	68	63	60	67	63	59	58	58	58
9	76	66	61	57	75	66	60	57	65	60	56	64	60	56	63	59	56	55	55	55
10	72	63	57	53	71	62	57	53	62	57	53	61	56	53	60	56	53	52	52	52

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

	0°	45°	90°
0°	488137	488137	488137
5°	488646	486399	486399
10°	482225	479384	477904
15°	466579	464371	461234
20°	432114	441540	427339
25°	347434	397174	342856
30°	229316	311407	223879
35°	143328	186994	140725
40°	93536	86659	89883
45°	45044	34578	42506
50°	11333	13780	10643
55°	6258	5669	6056
60°	4265	3589	4033
65°	2922	2648	2922
70°	2285	1975	2285
75°	1715	1715	1715
80°	1278	1945	1945
85°	1329	2546	2546

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	475.8	10.5
10°-20°	1299.3	28.7
20°-30°	1548.4	34.2
30°-40°	876.8	19.4
40°-50°	271.1	6.0
50°-60°	37.7	0.8
60°-70°	12.9	0.3
70°-80°	5.1	0.1
80°-90°	2.1	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°	3323.4	73.4
0°-40°	4200.2	92.7
0°-60°	4508.9	99.6
0°-90°	4529.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4529.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5059	5059	5059	5059	5059	
5°	5045	5033	5022	5018	5022	478
15°	4671	4663	4649	4630	4617	1302
25°	3263	3454	3731	3460	3220	1455
35°	1217	1327	1588	1331	1195	792
45°	330	385	253	374	312	273
55°	37	37	34	36	36	37
65°	13	13	12	13	13	13
75°	5	5	5	5	5	5
85°	1	2	2	2	2	2
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5059.0	5059.0	5059.0	5059.0	5059.0
2.5°	5060.1	5052.0	5049.7	5047.4	5052.0
5°	5045.0	5033.4	5021.8	5018.3	5021.8
7.5°	5002.0	4990.4	4970.7	4966.0	4969.5
10°	4921.8	4911.4	4892.8	4882.3	4877.7
12.5°	4816.1	4798.6	4781.2	4769.6	4758.0
15°	4670.8	4662.7	4648.7	4630.1	4617.3
17.5°	4469.8	4481.4	4489.5	4452.3	4418.6
20°	4208.3	4251.3	4300.1	4224.5	4161.8
22.5°	3800.3	3923.5	4047.9	3904.9	3765.5
25°	3263.4	3454.0	3730.6	3459.8	3220.4
27.5°	2637.0	2878.7	3314.5	2879.9	2602.1
30°	2058.2	2306.9	2795.0	2274.4	2009.4
32.5°	1580.6	1766.5	2183.7	1738.6	1546.9
35°	1216.8	1327.2	1587.5	1330.7	1194.7
37.5°	946.0	1001.8	1068.0	982.0	918.1
40°	742.6	745.0	688.0	733.3	713.6
42.5°	550.9	548.5	423.0	534.6	538.1
45°	330.1	384.7	253.4	374.2	311.5
47.5°	156.9	217.3	152.2	205.7	145.3
50°	75.5	104.6	91.8	97.6	70.9
52.5°	51.1	53.5	52.3	51.1	48.8
55°	37.2	37.2	33.7	36.0	36.0
57.5°	27.9	27.9	24.4	26.7	26.7
60°	22.1	20.9	18.6	20.9	20.9
62.5°	16.3	16.3	13.9	16.3	16.3
65°	12.8	12.8	11.6	12.8	12.8
67.5°	10.5	10.5	8.1	10.5	9.3
70°	8.1	8.1	7.0	8.1	8.1
72.5°	5.8	5.8	5.8	5.8	5.8
75°	4.6	4.6	4.6	4.6	4.6
77.5°	3.5	3.5	3.5	3.5	3.5
80°	2.3	2.3	3.5	3.5	3.5
82.5°	2.3	2.3	2.3	2.3	2.3
85°	1.2	2.3	2.3	2.3	2.3
87.5°	1.2	1.2	2.3	2.3	2.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)