

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 FEU4C559040 F4LC-SQ-WH**

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 FEU4C559040 F4LC-SQ-WH  
 Description: 4 INCH 5500 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 4000K, 90CRI LEDS AND F4LC-SQW TRIM WITH H FINISH  
 Light Source: -  
 Ballast/Driver: -

**Summary**

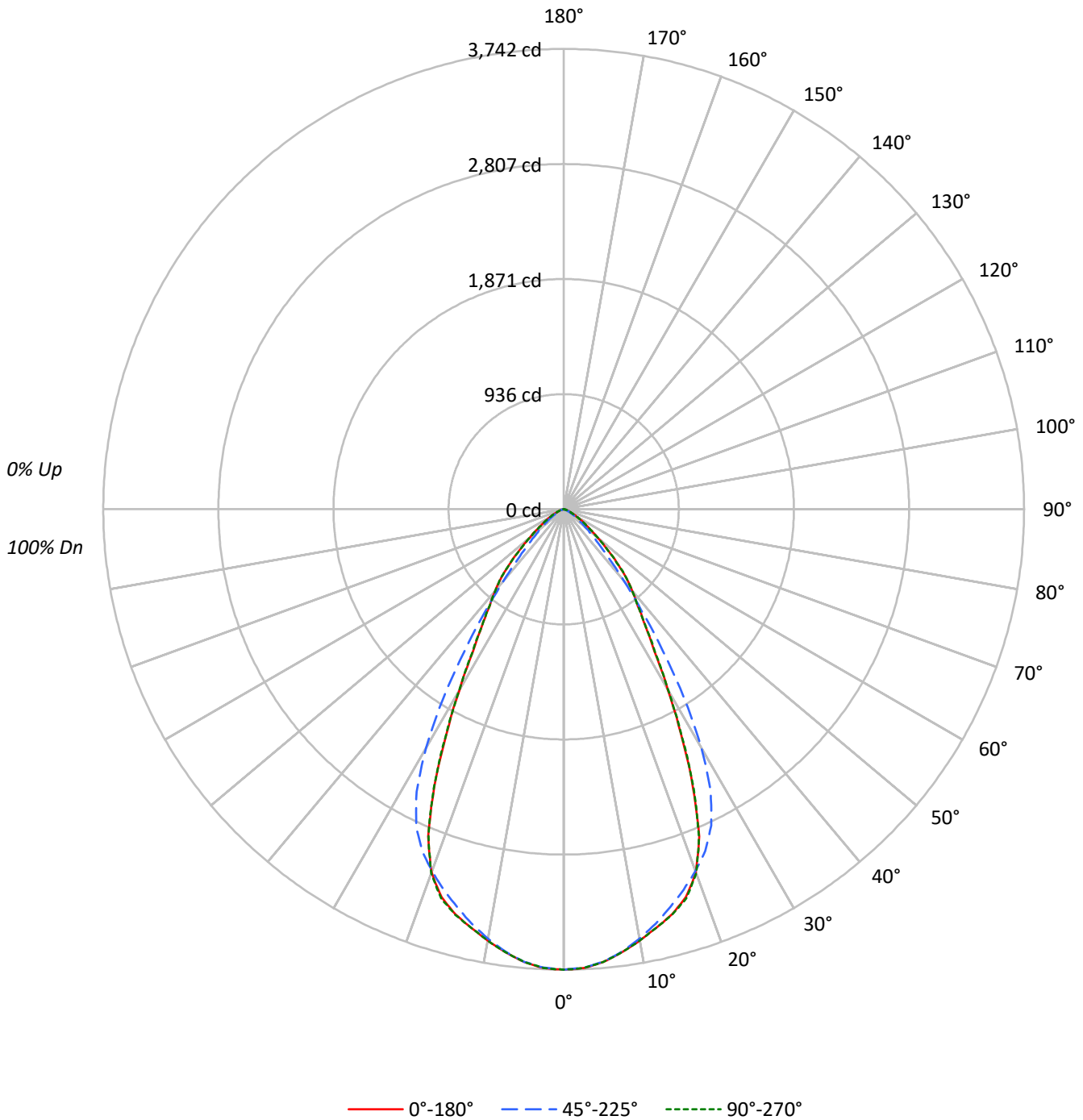
Lumens per Lamp: N/A  
 Luminaire Lumens: 3961.0 lumens  
 Efficiency: N/A  
 Efficacy: 62.0 lumens/watt  
 Spacing Criteria (0/90/45): 0.93 / 0.93 / 0.94  
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
 CIE Type: Direct

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				
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	113	110	107	105	110	108	105	103	104	102	100	100	98	97	96	95	94	92		
2	107	101	97	93	104	99	95	92	96	93	90	93	90	88	90	88	86	84		
3	101	93	88	84	98	92	87	83	89	85	82	87	83	80	85	82	79	77		
4	95	87	80	76	93	85	80	75	83	78	74	81	77	74	79	76	73	71		
5	89	80	74	69	88	79	73	69	78	72	68	76	71	68	74	70	67	66		
6	85	75	68	64	83	74	68	63	72	67	63	71	66	63	70	65	62	61		
7	80	70	63	59	79	69	63	59	68	62	58	67	62	58	65	61	58	56		
8	76	65	59	55	74	65	59	54	64	58	54	63	58	54	62	57	54	52		
9	72	61	55	51	71	61	55	51	60	54	51	59	54	50	58	54	50	49		
10	68	58	52	48	67	57	51	47	57	51	47	56	51	47	55	50	47	46		

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

	0°	45°	90°
0°	361100	361100	361100
5°	357791	357569	357675
10°	348633	347242	348633
15°	340234	334111	340594
20°	322594	321382	323200
25°	264616	301931	266000
30°	188694	249438	188950
35°	136096	165296	136520
40°	109117	96030	109117
45°	83265	56042	82610
50°	54925	35786	54745
55°	36925	24022	36538
60°	24817	16403	25049
65°	16986	11575	16712
70°	11313	8322	11313
75°	7493	6151	7493
80°	5223	4612	5223
85°	3875	3875	3875

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	347.9	8.8
10°-20°	948.6	23.9
20°-30°	1185.9	29.9
30°-40°	797.8	20.1
40°-50°	421.2	10.6
50°-60°	171.2	4.3
60°-70°	63.5	1.6
70°-80°	20.5	0.5
80°-90°	4.4	0.1
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°	2482.4	62.7
0°-40°	3280.1	82.8
0°-60°	3872.6	97.8
0°-90°	3961.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3961.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3742	3742	3742	3742	3742	
5°	3694	3690	3692	3692	3693	348
15°	3406	3378	3345	3376	3410	954
25°	2486	2625	2836	2630	2498	1119
35°	1155	1213	1403	1216	1159	744
45°	610	580	411	577	605	468
55°	220	184	143	184	217	204
65°	74	60	51	60	73	77
75°	20	18	16	18	20	23
85°	4	4	4	4	4	4
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3742.4	3742.4	3742.4	3742.4	3742.4
2.5°	3733.0	3730.6	3729.4	3729.4	3730.6
5°	3694.0	3690.5	3691.7	3691.7	3692.8
7.5°	3631.5	3630.3	3626.7	3631.5	3631.5
10°	3558.3	3552.4	3544.1	3553.6	3558.3
12.5°	3482.8	3465.1	3450.9	3465.1	3482.8
15°	3406.0	3377.7	3344.7	3376.5	3409.6
17.5°	3305.7	3277.4	3240.8	3283.3	3315.2
20°	3141.7	3144.0	3129.9	3141.7	3147.6
22.5°	2878.5	2931.6	3006.0	2932.8	2870.2
25°	2485.5	2624.8	2836.0	2629.5	2498.5
27.5°	2064.2	2241.2	2587.0	2251.8	2077.1
30°	1693.6	1850.5	2238.8	1861.2	1695.9
32.5°	1371.4	1488.2	1819.9	1502.4	1386.7
35°	1155.4	1213.2	1403.3	1215.6	1159.0
37.5°	990.2	990.2	1042.1	994.9	985.5
40°	866.3	828.5	762.4	827.3	866.3
42.5°	750.6	694.0	553.5	691.6	753.0
45°	610.2	579.5	410.7	577.1	605.4
47.5°	468.5	447.3	309.2	444.9	472.1
50°	365.9	332.8	238.4	330.5	364.7
52.5°	280.9	245.5	184.1	245.5	278.5
55°	219.5	184.1	142.8	184.1	217.2
57.5°	168.8	140.4	108.6	138.1	167.6
60°	128.6	105.0	85.0	105.0	129.8
62.5°	98.0	80.3	64.9	79.1	96.8
65°	74.4	60.2	50.7	60.2	73.2
67.5°	54.3	44.8	38.9	44.8	55.5
70°	40.1	34.2	29.5	33.0	40.1
72.5°	29.5	24.8	22.4	24.8	29.5
75°	20.1	17.7	16.5	17.7	20.1
77.5°	14.2	13.0	11.8	13.0	14.2
80°	9.4	8.3	8.3	9.4	9.4
82.5°	5.9	5.9	5.9	5.9	5.9
85°	3.5	3.5	3.5	3.5	3.5
87.5°	2.4	2.4	2.4	2.4	2.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)