

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 FEU4C609040 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: FLDSQ4C60D010 FEU4C609040 F4LC-SQ-WH  
 Description: 4 INCH 6000 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 4000K, 90CRI LEDS AND F4LC-SQW TRIM WITH H FINISH  
 Light Source: -  
 Ballast/Driver: -

**Summary**

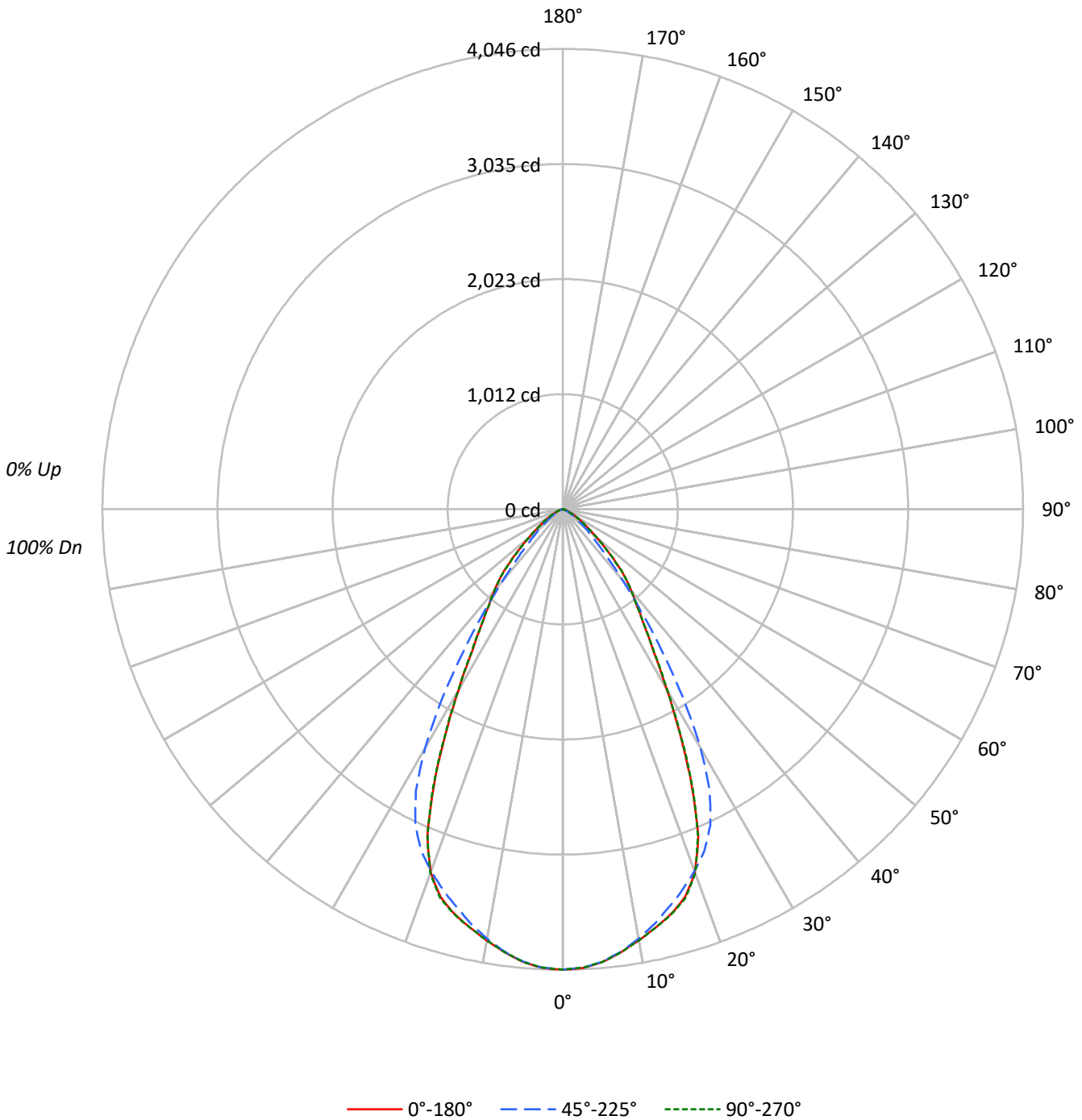
Lumens per Lamp: N/A  
 Luminaire Lumens: 4282.0 lumens  
 Efficiency: N/A  
 Efficacy: 59.5 lumens/watt  
 Spacing Criteria (0/90/45): 0.93 / 0.93 / 0.94  
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
 CIE Type: Direct

Input Watts (W): 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	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°	390365	390365	390365
5°	386791	386539	386665
10°	376890	375381	376890
15°	367815	361182	368194
20°	348737	347422	349394
25°	286057	326396	287558
30°	203980	269660	204270
35°	147121	178689	147581
40°	117959	103814	117959
45°	90006	60586	89310
50°	59369	38683	59173
55°	39919	25974	39499
60°	26843	17735	27075
65°	18356	12534	18059
70°	12244	8999	12244
75°	8090	6673	8090
80°	5668	4945	5668
85°	4207	4207	4207

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	376.1	8.8
10°-20°	1025.5	23.9
20°-30°	1282.0	29.9
30°-40°	862.4	20.1
40°-50°	455.4	10.6
50°-60°	185.1	4.3
60°-70°	68.6	1.6
70°-80°	22.2	0.5
80°-90°	4.8	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°	2683.6	62.7
0°-40°	3546.0	82.8
0°-60°	4186.4	97.8
0°-90°	4282.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4282.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4046	4046	4046	4046	4046	
5°	3993	3990	3991	3991	3992	376
15°	3682	3652	3616	3650	3686	1032
25°	2687	2838	3066	2843	2701	1209
35°	1249	1312	1517	1314	1253	804
45°	660	626	444	624	654	506
55°	237	199	154	199	235	220
65°	80	65	55	65	79	83
75°	22	19	18	19	22	25
85°	4	4	4	4	4	5
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4045.7	4045.7	4045.7	4045.7	4045.7
2.5°	4035.5	4032.9	4031.7	4031.7	4032.9
5°	3993.4	3989.5	3990.8	3990.8	3992.1
7.5°	3925.8	3924.5	3920.7	3925.8	3925.8
10°	3846.7	3840.3	3831.3	3841.6	3846.7
12.5°	3765.0	3745.9	3730.6	3745.9	3765.0
15°	3682.1	3651.5	3615.7	3650.2	3685.9
17.5°	3573.6	3543.0	3503.5	3549.4	3583.8
20°	3396.3	3398.8	3383.5	3396.3	3402.7
22.5°	3111.8	3169.2	3249.6	3170.5	3102.8
25°	2686.9	2837.5	3065.8	2842.6	2701.0
27.5°	2231.4	2422.8	2796.6	2434.3	2245.5
30°	1830.8	2000.5	2420.3	2012.0	1833.4
32.5°	1482.5	1608.8	1967.3	1624.1	1499.1
35°	1249.0	1311.6	1517.0	1314.1	1252.9
37.5°	1070.4	1070.4	1126.6	1075.5	1065.3
40°	936.5	895.6	824.2	894.4	936.5
42.5°	811.4	750.2	598.4	747.6	814.0
45°	659.6	626.4	444.0	623.9	654.5
47.5°	506.5	483.5	334.3	481.0	510.3
50°	395.5	359.8	257.7	357.2	394.2
52.5°	303.6	265.4	199.0	265.4	301.1
55°	237.3	199.0	154.4	199.0	234.8
57.5°	182.4	151.8	117.4	149.3	181.2
60°	139.1	113.5	91.9	113.5	140.3
62.5°	105.9	86.8	70.2	85.5	104.6
65°	80.4	65.1	54.9	65.1	79.1
67.5°	58.7	48.5	42.1	48.5	60.0
70°	43.4	37.0	31.9	35.7	43.4
72.5°	31.9	26.8	24.2	26.8	31.9
75°	21.7	19.1	17.9	19.1	21.7
77.5°	15.3	14.0	12.8	14.0	15.3
80°	10.2	8.9	8.9	10.2	10.2
82.5°	6.4	6.4	6.4	6.4	6.4
85°	3.8	3.8	3.8	3.8	3.8
87.5°	2.6	2.6	2.6	2.6	2.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)