

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: **FLDSQ4C80D010 FEU4C809050 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: FLDSQ4C80D010 FEU4C809050 F4LC-SQ-WH  
 Description: 4 INCH 8000 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 5000K, 90CRI LEDS AND F4LC-SQW TRIM WITH H FINISH  
 Light Source: -  
 Ballast/Driver: -

**Summary**

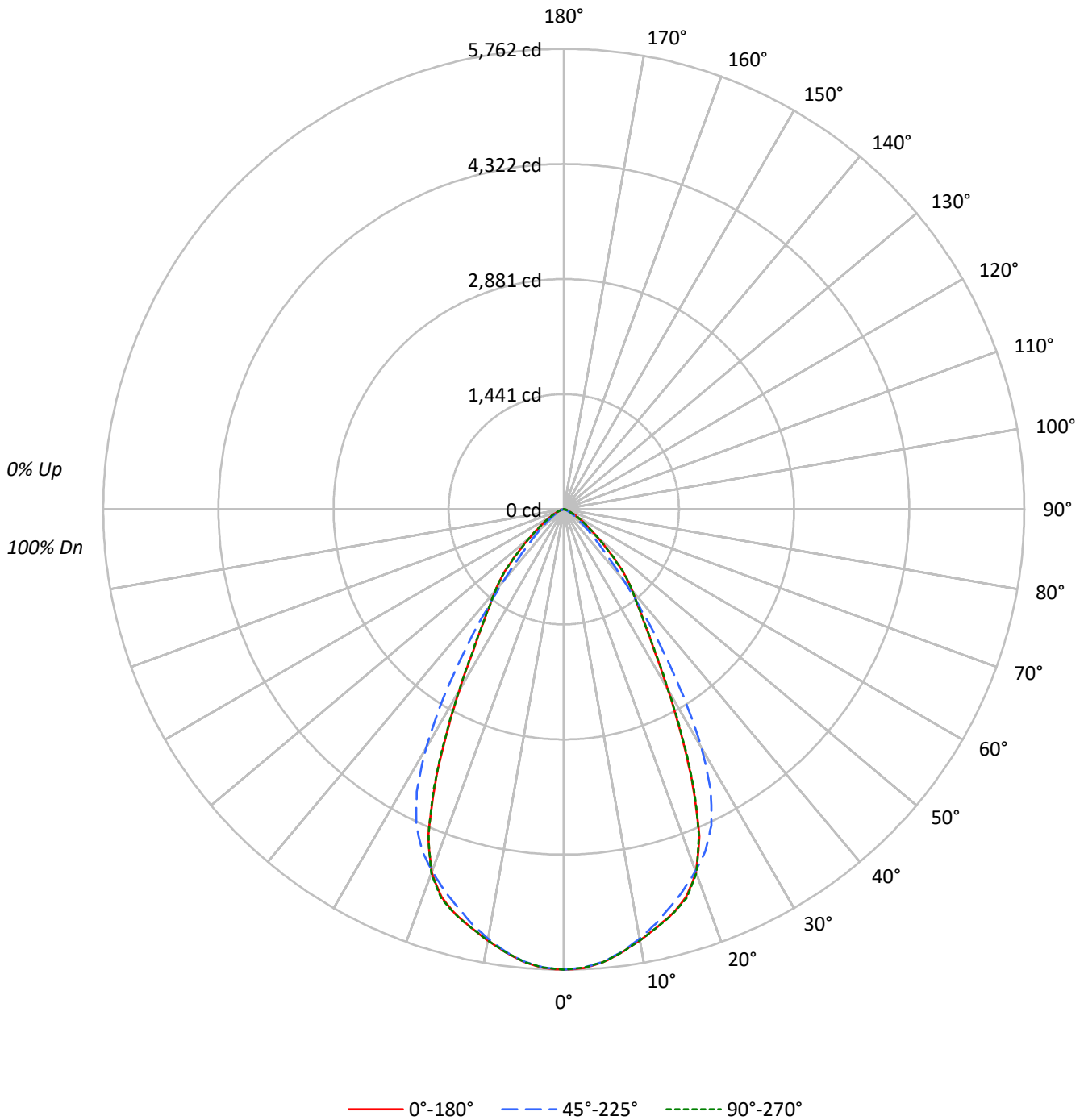
Lumens per Lamp: N/A  
 Luminaire Lumens: 6098.0 lumens  
 Efficiency: N/A  
 Efficacy: 68.1 lumens/watt  
 Spacing Criteria (0/90/45): 0.93 / 0.93 / 0.94  
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
 CIE Type: Direct

Input Watts (W): 89.5  
 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°	555921	555921	555921
5°	550828	550470	550654
10°	536720	534584	536720
15°	523797	514367	524347
20°	496629	494770	497563
25°	407373	464831	409502
30°	290494	384017	290895
35°	209527	254464	210163
40°	167977	147836	167977
45°	128173	86281	127191
50°	84542	55090	84272
55°	56843	36975	56237
60°	38210	25241	38576
65°	26142	17831	25708
70°	17435	12808	17435
75°	11520	9469	11520
80°	8057	7057	8057
85°	6089	6089	6089

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	535.6	8.8
10°-20°	1460.4	23.9
20°-30°	1825.7	29.9
30°-40°	1228.2	20.1
40°-50°	648.5	10.6
50°-60°	263.6	4.3
60°-70°	97.7	1.6
70°-80°	31.6	0.5
80°-90°	6.8	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°	3821.6	62.7
0°-40°	5049.8	82.8
0°-60°	5961.9	97.8
0°-90°	6098.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6098.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5762	5762	5762	5762	5762	
5°	5687	5682	5683	5683	5685	536
15°	5244	5200	5149	5198	5249	1469
25°	3826	4041	4366	4048	3846	1722
35°	1779	1868	2160	1871	1784	1145
45°	939	892	632	888	932	720
55°	338	283	220	283	334	313
65°	114	93	78	93	113	118
75°	31	27	25	27	31	36
85°	6	6	6	6	6	7
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5761.5	5761.5	5761.5	5761.5	5761.5
2.5°	5746.9	5743.3	5741.5	5741.5	5743.3
5°	5687.0	5681.5	5683.3	5683.3	5685.2
7.5°	5590.7	5588.9	5583.4	5590.7	5590.7
10°	5478.0	5468.9	5456.2	5470.8	5478.0
12.5°	5361.7	5334.5	5312.7	5334.5	5361.7
15°	5243.6	5200.0	5149.2	5198.2	5249.1
17.5°	5089.2	5045.6	4989.3	5054.7	5103.7
20°	4836.6	4840.3	4818.5	4836.6	4845.7
22.5°	4431.5	4513.2	4627.7	4515.1	4418.8
25°	3826.4	4040.8	4366.1	4048.1	3846.4
27.5°	3177.8	3450.3	3982.7	3466.7	3197.8
30°	2607.3	2848.9	3446.7	2865.3	2610.9
32.5°	2111.3	2291.1	2801.7	2312.9	2134.9
35°	1778.8	1867.8	2160.3	1871.4	1784.2
37.5°	1524.4	1524.4	1604.3	1531.7	1517.1
40°	1333.6	1275.5	1173.7	1273.7	1333.6
42.5°	1155.6	1068.4	852.1	1064.7	1159.2
45°	939.3	892.1	632.3	888.5	932.1
47.5°	721.3	688.6	476.0	685.0	726.8
50°	563.2	512.4	367.0	508.7	561.4
52.5°	432.4	377.9	283.4	377.9	428.8
55°	337.9	283.4	219.8	283.4	334.3
57.5°	259.8	216.2	167.2	212.6	258.0
60°	198.0	161.7	130.8	161.7	199.9
62.5°	150.8	123.6	99.9	121.7	149.0
65°	114.5	92.7	78.1	92.7	112.6
67.5°	83.6	69.0	60.0	69.0	85.4
70°	61.8	52.7	45.4	50.9	61.8
72.5°	45.4	38.2	34.5	38.2	45.4
75°	30.9	27.3	25.4	27.3	30.9
77.5°	21.8	20.0	18.2	20.0	21.8
80°	14.5	12.7	12.7	14.5	14.5
82.5°	9.1	9.1	9.1	9.1	9.1
85°	5.5	5.5	5.5	5.5	5.5
87.5°	3.6	3.6	3.6	3.6	3.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)