

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: **FLDSQ4C90D010 FEU4C909040 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: FLDSQ4C90D010 FEU4C909040 F4LC-SQ-WLI
 Description: 4 INCH 9000 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 4000K, 90CRI LEDS AND F4LC-SQW TRIM WITH LI FINISH
 Light Source: -
 Ballast/Driver: -

Summary

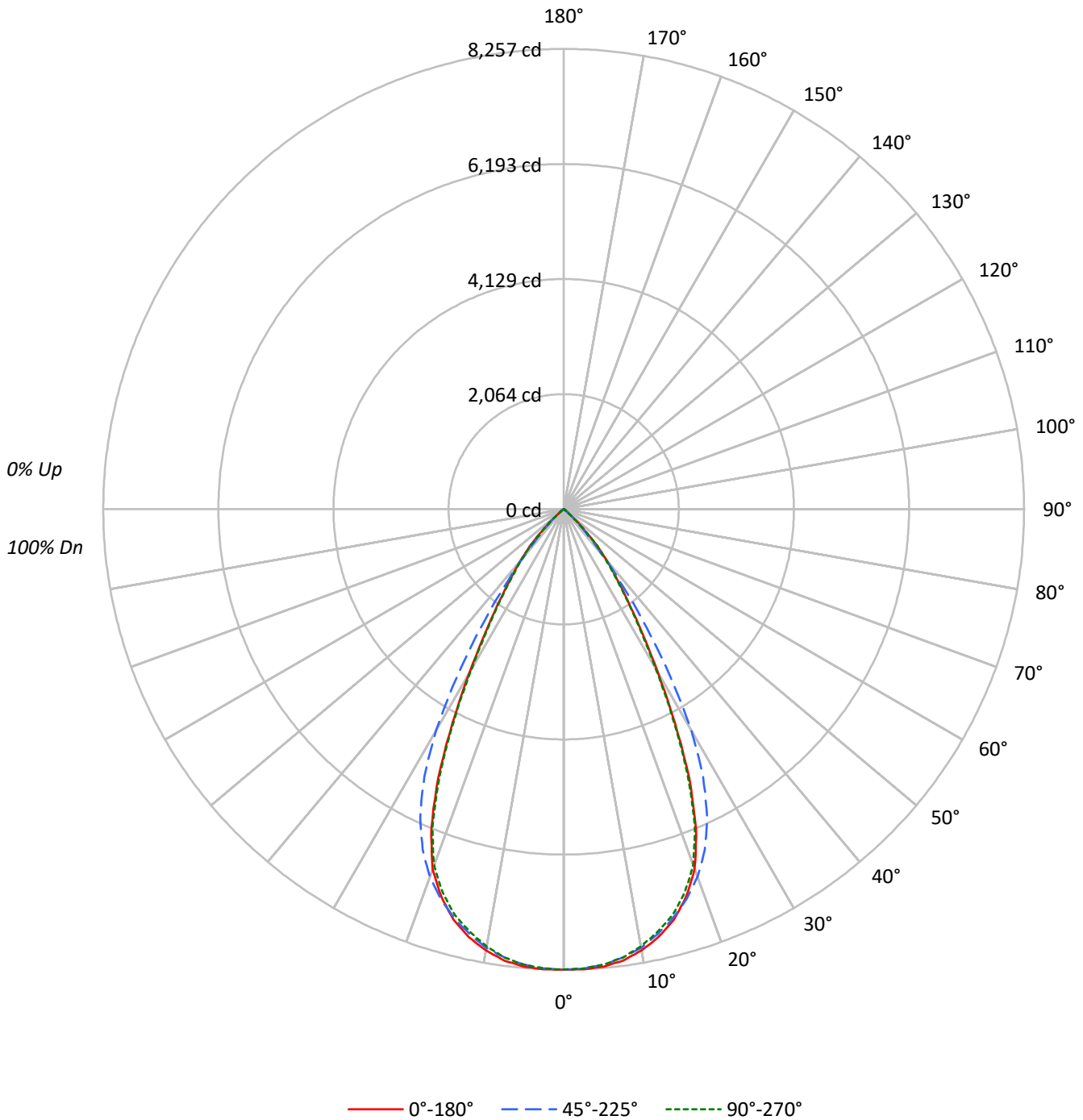
Lumens per Lamp: N/A
 Luminaire Lumens: 7390.0 lumens
 Efficiency: N/A
 Efficacy: 76.1 lumens/watt
 Spacing Criteria (0/90/45): 0.91 / 0.91 / 0.9
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

Input Watts (W): 97.1
 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	50	30	10	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100	100	
1	114	111	108	106	111	109	106	104	105	103	101	101	100	98	97	96	95	94	94	94	94	
2	108	103	99	96	106	102	98	95	98	95	93	95	93	91	93	91	89	87	87	87	87	
3	103	96	91	88	101	95	90	87	92	89	85	90	87	84	88	85	83	81	81	81	81	
4	98	90	85	80	96	89	84	80	87	82	79	85	81	78	83	80	77	76	76	76	76	
5	93	84	79	74	91	84	78	74	82	77	73	80	76	73	79	75	72	71	71	71	71	
6	88	79	73	69	87	79	73	69	77	72	68	76	71	68	74	71	68	66	66	66	66	
7	84	75	69	65	82	74	68	64	73	68	64	71	67	64	70	66	63	62	62	62	62	
8	80	70	64	60	79	70	64	60	69	64	60	68	63	60	67	63	59	58	58	58	58	
9	76	66	61	57	75	66	60	57	65	60	56	64	60	56	63	59	56	55	55	55	55	
10	72	63	57	53	71	62	57	53	62	57	53	61	56	53	60	56	53	52	52	52	52	

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	796497	796497	796497
5°	797331	793660	793660
10°	786856	782212	779792
15°	761322	757726	752611
20°	705072	720464	697288
25°	566909	648066	559446
30°	374179	508134	365310
35°	233874	305126	229622
40°	152635	141400	146665
45°	73495	56411	69347
50°	18509	22486	17368
55°	10211	9252	9892
60°	6947	5847	6581
65°	4772	4338	4772
70°	3752	3216	3752
75°	2833	2833	2833
80°	2111	3167	3167
85°	2103	4207	4207

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	776.3	10.5
10°-20°	2120.0	28.7
20°-30°	2526.5	34.2
30°-40°	1430.6	19.4
40°-50°	442.3	6.0
50°-60°	61.4	0.8
60°-70°	21.0	0.3
70°-80°	8.4	0.1
80°-90°	3.5	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°	5422.8	73.4
0°-40°	6853.4	92.7
0°-60°	7357.2	99.6
0°-90°	7390.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7390.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	8255	8255	8255	8255	8255	
5°	8232	8213	8194	8188	8194	779
15°	7621	7608	7585	7555	7534	2125
25°	5325	5636	6087	5645	5255	2374
35°	1986	2166	2590	2171	1949	1292
45°	539	628	413	611	508	445
55°	61	61	55	59	59	60
65°	21	21	19	21	21	22
75°	8	8	8	8	8	8
85°	2	4	4	4	4	3
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	8254.8	8254.8	8254.8	8254.8	8254.8
2.5°	8256.7	8243.4	8239.6	8235.8	8243.4
5°	8232.0	8213.0	8194.1	8188.4	8194.1
7.5°	8161.8	8142.9	8110.6	8103.1	8108.7
10°	8031.0	8013.9	7983.6	7966.5	7958.9
12.5°	7858.4	7830.0	7801.5	7782.6	7763.6
15°	7621.4	7608.1	7585.4	7555.0	7534.2
17.5°	7293.3	7312.3	7325.6	7264.9	7209.9
20°	6866.6	6936.8	7016.5	6893.2	6790.8
22.5°	6201.0	6402.0	6605.0	6371.7	6144.1
25°	5324.9	5635.9	6087.2	5645.4	5254.8
27.5°	4302.8	4697.2	5408.4	4699.1	4245.9
30°	3358.4	3764.2	4560.7	3711.1	3278.8
32.5°	2579.0	2882.4	3563.2	2836.9	2524.0
35°	1985.5	2165.6	2590.4	2171.3	1949.4
37.5°	1543.6	1634.6	1742.7	1602.4	1498.1
40°	1211.8	1215.6	1122.6	1196.6	1164.4
42.5°	898.9	895.1	690.3	872.3	878.0
45°	538.6	627.7	413.4	610.6	508.2
47.5°	256.0	354.6	248.4	335.7	237.0
50°	123.3	170.7	149.8	159.3	115.7
52.5°	83.4	87.2	85.3	83.4	79.6
55°	60.7	60.7	55.0	58.8	58.8
57.5°	45.5	45.5	39.8	43.6	43.6
60°	36.0	34.1	30.3	34.1	34.1
62.5°	26.5	26.5	22.8	26.5	26.5
65°	20.9	20.9	19.0	20.9	20.9
67.5°	17.1	17.1	13.3	17.1	15.2
70°	13.3	13.3	11.4	13.3	13.3
72.5°	9.5	9.5	9.5	9.5	9.5
75°	7.6	7.6	7.6	7.6	7.6
77.5°	5.7	5.7	5.7	5.7	5.7
80°	3.8	3.8	5.7	5.7	5.7
82.5°	3.8	3.8	3.8	3.8	3.8
85°	1.9	3.8	3.8	3.8	3.8
87.5°	1.9	1.9	3.8	3.8	3.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)