

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 FEU4C809040 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: FLDSQ4C80D010 FEU4C809040 F4LC-SQ-WLI
 Description: 4 INCH 8000 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 4000K, 90CRI LEDS AND F4LC-SQW TRIM WITH LI FINISH
 Light Source: -
 Ballast/Driver: -

Summary

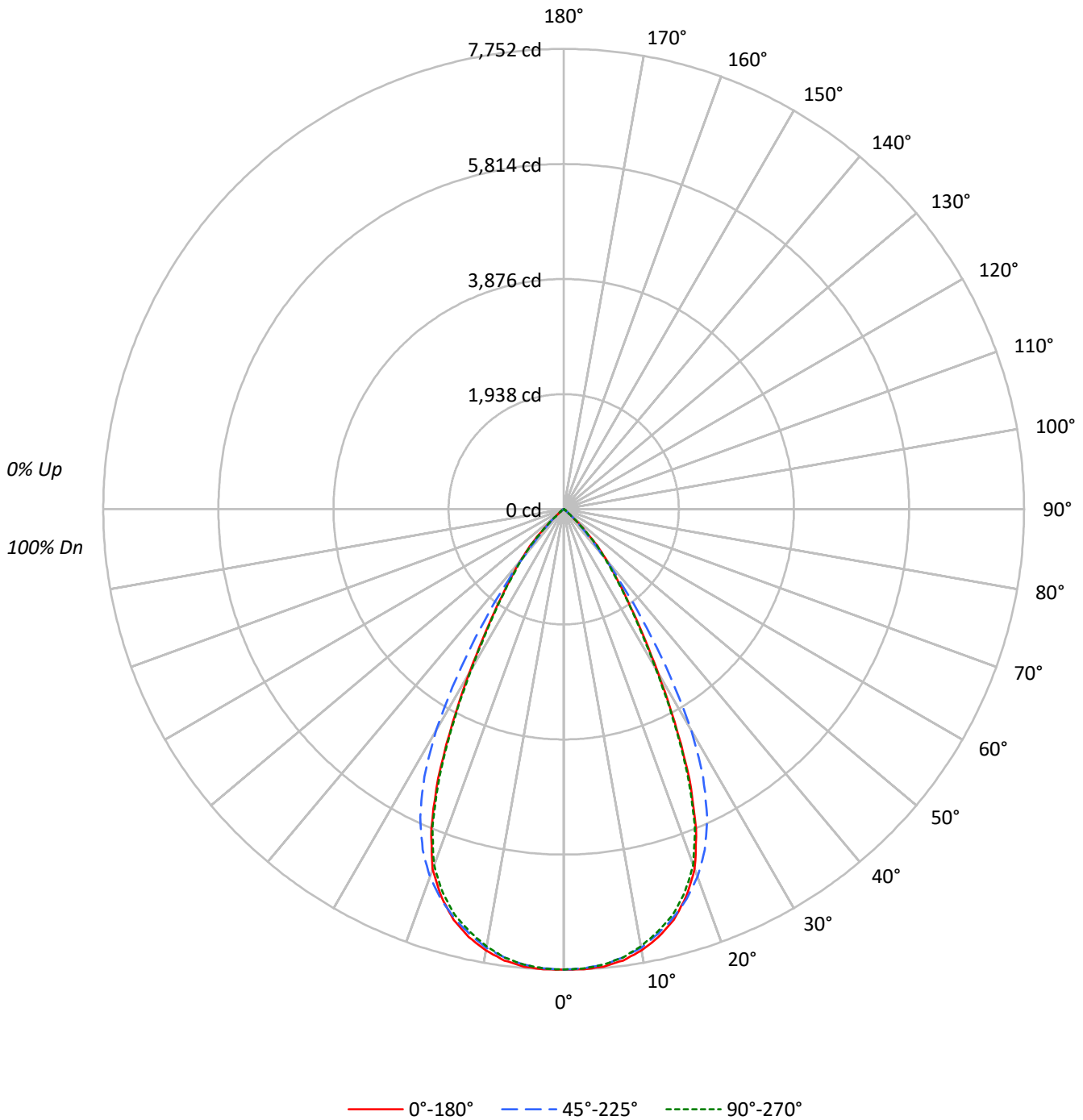
Lumens per Lamp: N/A
 Luminaire Lumens: 6938.0 lumens
 Efficiency: N/A
 Efficacy: 77.5 lumens/watt
 Spacing Criteria (0/90/45): 0.91 / 0.91 / 0.9
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	747779	747779	747779
5°	748563	745115	745115
10°	738730	734370	732097
15°	714752	711376	706571
20°	661956	676393	654635
25°	532233	608429	525228
30°	351294	477049	342960
35°	219563	286468	215581
40°	143289	132759	137684
45°	68992	52959	65103
50°	17368	21105	16302
55°	9589	8680	9286
60°	6523	5500	6175
65°	4475	4064	4475
70°	3526	3019	3526
75°	2647	2647	2647
80°	2000	2945	2945
85°	1993	3986	3986

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	728.8	10.5
10°-20°	1990.4	28.7
20°-30°	2372.0	34.2
30°-40°	1343.1	19.4
40°-50°	415.2	6.0
50°-60°	57.7	0.8
60°-70°	19.7	0.3
70°-80°	7.8	0.1
80°-90°	3.3	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°	5091.1	73.4
0°-40°	6434.3	92.7
0°-60°	6907.2	99.6
0°-90°	6938.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6938.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7750	7750	7750	7750	7750	
5°	7728	7711	7693	7688	7693	732
15°	7155	7143	7121	7093	7073	1995
25°	4999	5291	5715	5300	4933	2229
35°	1864	2033	2432	2038	1830	1213
45°	506	589	388	573	477	418
55°	57	57	52	55	55	56
65°	20	20	18	20	20	21
75°	7	7	7	7	7	8
85°	2	4	4	4	4	2
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7749.9	7749.9	7749.9	7749.9	7749.9
2.5°	7751.7	7739.2	7735.6	7732.1	7739.2
5°	7728.5	7710.7	7692.9	7687.6	7692.9
7.5°	7662.6	7644.8	7614.6	7607.4	7612.8
10°	7539.8	7523.8	7495.3	7479.3	7472.1
12.5°	7377.8	7351.1	7324.4	7306.6	7288.8
15°	7155.2	7142.8	7121.4	7092.9	7073.3
17.5°	6847.2	6865.0	6877.5	6820.5	6768.9
20°	6446.7	6512.5	6587.3	6471.6	6375.4
22.5°	5821.8	6010.5	6201.0	5982.0	5768.3
25°	4999.2	5291.2	5714.9	5300.1	4933.4
27.5°	4039.6	4409.9	5077.6	4411.7	3986.2
30°	3153.0	3534.0	4281.7	3484.1	3078.2
32.5°	2421.3	2706.1	3345.3	2663.4	2369.6
35°	1864.0	2033.2	2432.0	2038.5	1830.2
37.5°	1449.2	1534.7	1636.1	1504.4	1406.5
40°	1137.6	1141.2	1054.0	1123.4	1093.1
42.5°	843.9	840.3	648.0	819.0	824.3
45°	505.6	589.3	388.1	573.3	477.1
47.5°	240.3	332.9	233.2	315.1	222.5
50°	115.7	160.2	140.6	149.5	108.6
52.5°	78.3	81.9	80.1	78.3	74.8
55°	57.0	57.0	51.6	55.2	55.2
57.5°	42.7	42.7	37.4	40.9	40.9
60°	33.8	32.0	28.5	32.0	32.0
62.5°	24.9	24.9	21.4	24.9	24.9
65°	19.6	19.6	17.8	19.6	19.6
67.5°	16.0	16.0	12.5	16.0	14.2
70°	12.5	12.5	10.7	12.5	12.5
72.5°	8.9	8.9	8.9	8.9	8.9
75°	7.1	7.1	7.1	7.1	7.1
77.5°	5.3	5.3	5.3	5.3	5.3
80°	3.6	3.6	5.3	5.3	5.3
82.5°	3.6	3.6	3.6	3.6	3.6
85°	1.8	3.6	3.6	3.6	3.6
87.5°	1.8	1.8	3.6	3.6	3.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)