

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: **FLDSQ4C05D010 FEU4C059035 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: FLDSQ4C05D010 FEU4C059035 F4LC-SQ-WLI
 Description: 4 INCH 500 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 3500K, 90CRI LEDS AND F4LC-SQW TRIM WITH LI FINISH
 Light Source: -
 Ballast/Driver: -

Summary

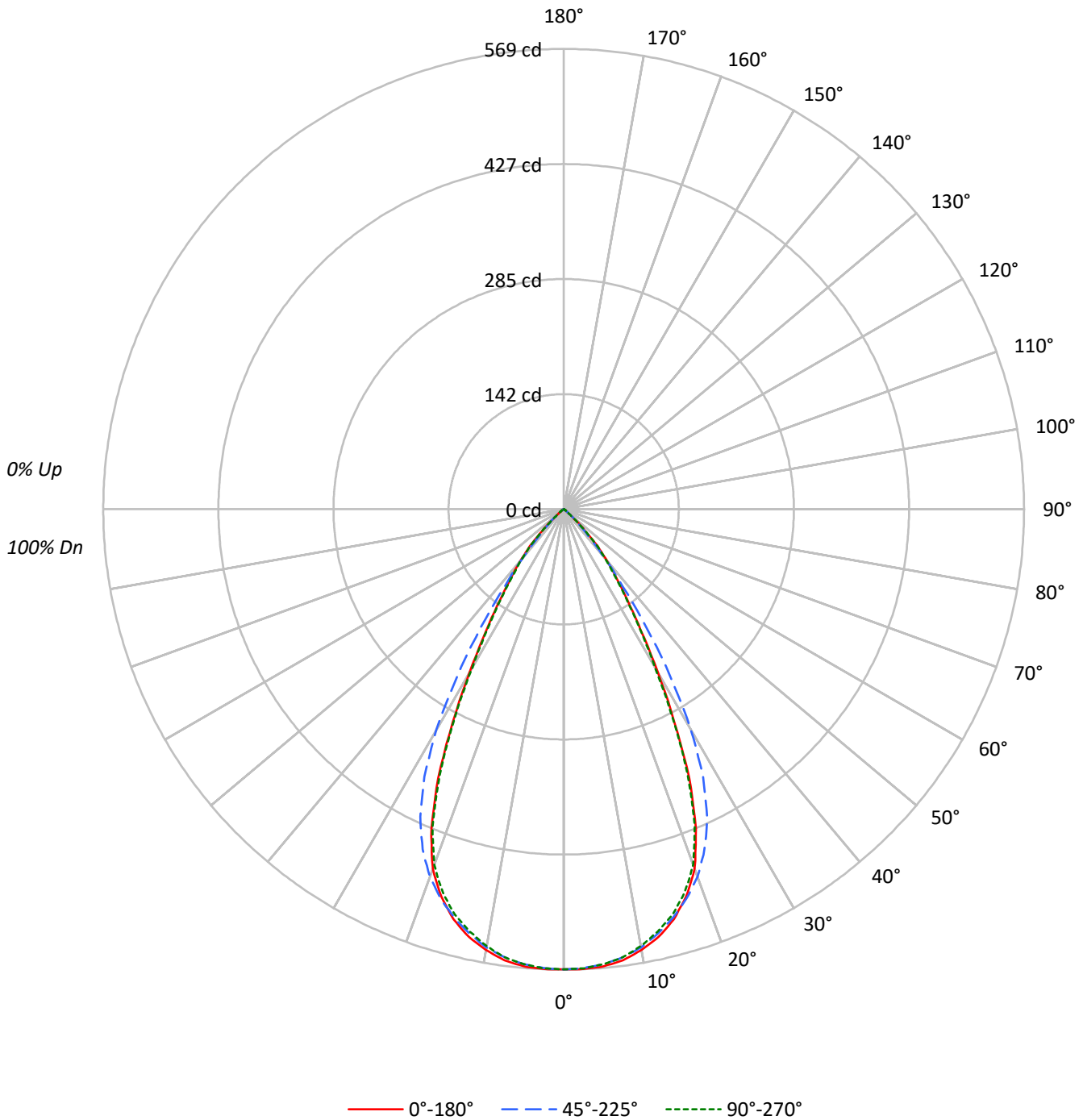
Lumens per Lamp: N/A
 Luminaire Lumens: 509.0 lumens
 Efficiency: N/A
 Efficacy: 70.7 lumens/watt
 Spacing Criteria (0/90/45): 0.91 / 0.91 / 0.9
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

Input Watts (W): 7.2
 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	101	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	83	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°	54864	54864	54864
5°	54918	54666	54666
10°	54191	53878	53711
15°	52434	52194	51834
20°	48568	49626	48024
25°	39051	44640	38529
30°	25770	34996	25158
35°	16114	21014	15819
40°	10517	9736	10102
45°	5063	3889	4776
50°	1276	1546	1201
55°	707	639	673
60°	482	405	463
65°	320	297	320
70°	254	226	254
75°	186	186	186
80°	167	222	222
85°	111	332	332

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	53.5	10.5
10°-20°	146.0	28.7
20°-30°	174.0	34.2
30°-40°	98.5	19.4
40°-50°	30.5	6.0
50°-60°	4.2	0.8
60°-70°	1.4	0.3
70°-80°	0.6	0.1
80°-90°	0.3	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°	373.5	73.4
0°-40°	472.0	92.7
0°-60°	506.7	99.6
0°-90°	509.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	509.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	569	569	569	569	569	
5°	567	566	564	564	564	54
15°	525	524	522	520	519	146
25°	367	388	419	389	362	164
35°	137	149	178	150	134	89
45°	37	43	28	42	35	31
55°	4	4	4	4	4	4
65°	1	1	1	1	1	2
75°	0	0	0	0	0	1
85°	0	0	0	0	0	0
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	568.6	568.6	568.6	568.6	568.6
2.5°	568.7	567.8	567.5	567.3	567.8
5°	567.0	565.7	564.4	564.0	564.4
7.5°	562.2	560.9	558.6	558.1	558.5
10°	553.1	552.0	549.9	548.7	548.2
12.5°	541.3	539.3	537.3	536.0	534.7
15°	524.9	524.0	522.5	520.4	518.9
17.5°	502.3	503.6	504.6	500.4	496.6
20°	473.0	477.8	483.3	474.8	467.7
22.5°	427.1	441.0	454.9	438.9	423.2
25°	366.8	388.2	419.3	388.8	361.9
27.5°	296.4	323.5	372.5	323.7	292.4
30°	231.3	259.3	314.1	255.6	225.8
32.5°	177.6	198.5	245.4	195.4	173.8
35°	136.8	149.2	178.4	149.6	134.3
37.5°	106.3	112.6	120.0	110.4	103.2
40°	83.5	83.7	77.3	82.4	80.2
42.5°	61.9	61.6	47.5	60.1	60.5
45°	37.1	43.2	28.5	42.1	35.0
47.5°	17.6	24.4	17.1	23.1	16.3
50°	8.5	11.8	10.3	11.0	8.0
52.5°	5.7	6.0	5.9	5.7	5.5
55°	4.2	4.2	3.8	4.0	4.0
57.5°	3.1	3.1	2.7	3.0	3.0
60°	2.5	2.4	2.1	2.4	2.4
62.5°	1.8	1.8	1.6	1.8	1.8
65°	1.4	1.4	1.3	1.4	1.4
67.5°	1.2	1.2	0.9	1.2	1.0
70°	0.9	0.9	0.8	0.9	0.9
72.5°	0.7	0.7	0.7	0.7	0.7
75°	0.5	0.5	0.5	0.5	0.5
77.5°	0.4	0.4	0.4	0.4	0.4
80°	0.3	0.3	0.4	0.4	0.4
82.5°	0.3	0.3	0.3	0.3	0.3
85°	0.1	0.3	0.3	0.3	0.3
87.5°	0.1	0.1	0.3	0.3	0.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)