

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 FEU4C059027 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 FEU4C059027 F4LC-SQ-WLI
 Description: 4 INCH 500 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 2700K, 90CRI LEDS AND F4LC-SQW TRIM WITH LI FINISH
 Light Source: -
 Ballast/Driver: -

Summary

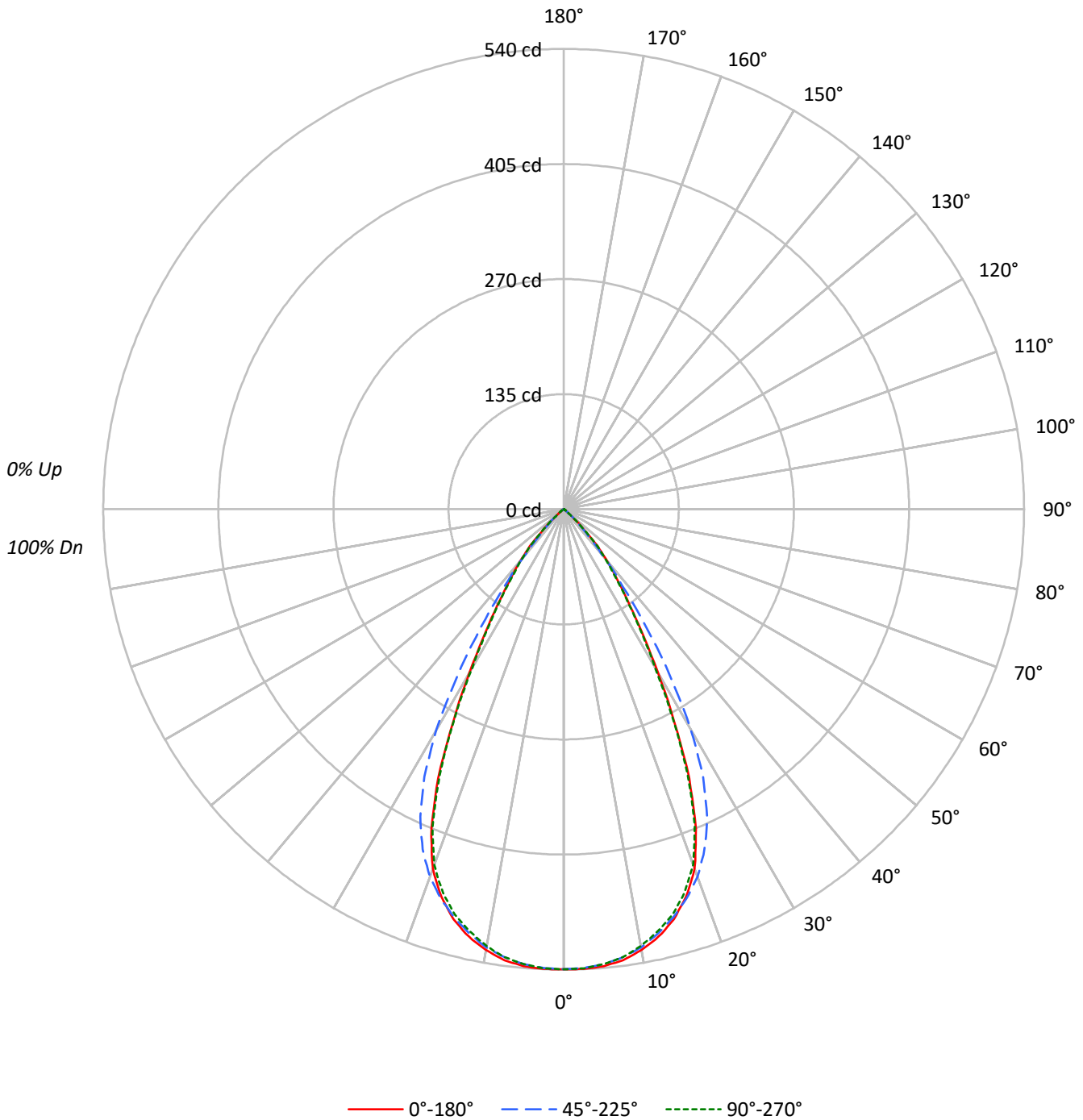
Lumens per Lamp: N/A
 Luminaire Lumens: 483.0 lumens
 Efficiency: N/A
 Efficacy: 67.1 lumens/watt
 Spacing Criteria (0/90/45): 0.91 / 0.91 / 0.9
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

Input Watts (W): 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	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°	52056	52056	52056
5°	52109	51877	51877
10°	51428	51125	50968
15°	49757	49527	49187
20°	46083	47090	45570
25°	37049	42362	36560
30°	24456	33213	23876
35°	15289	19942	15007
40°	9976	9245	9585
45°	4803	3684	4530
50°	1216	1471	1141
55°	673	606	639
60°	463	386	425
65°	320	274	320
70°	254	197	254
75°	186	186	186
80°	111	222	222
85°	111	221	221

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	50.7	10.5
10°-20°	138.6	28.7
20°-30°	165.1	34.2
30°-40°	93.5	19.4
40°-50°	28.9	6.0
50°-60°	4.0	0.8
60°-70°	1.4	0.3
70°-80°	0.6	0.1
80°-90°	0.2	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°	354.4	73.4
0°-40°	447.9	92.7
0°-60°	480.9	99.6
0°-90°	483.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	483.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	540	540	540	540	540	
5°	538	537	536	535	536	51
15°	498	497	496	494	492	139
25°	348	368	398	369	343	155
35°	130	142	169	142	127	84
45°	35	41	27	40	33	29
55°	4	4	4	4	4	4
65°	1	1	1	1	1	1
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°	539.5	539.5	539.5	539.5	539.5
2.5°	539.6	538.8	538.5	538.3	538.8
5°	538.0	536.8	535.6	535.2	535.6
7.5°	533.4	532.2	530.1	529.6	530.0
10°	524.9	523.8	521.8	520.7	520.2
12.5°	513.6	511.8	509.9	508.7	507.4
15°	498.1	497.3	495.8	493.8	492.4
17.5°	476.7	477.9	478.8	474.8	471.2
20°	448.8	453.4	458.6	450.5	443.8
22.5°	405.3	418.4	431.7	416.4	401.6
25°	348.0	368.4	397.9	369.0	343.4
27.5°	281.2	307.0	353.5	307.1	277.5
30°	219.5	246.0	298.1	242.6	214.3
32.5°	168.6	188.4	232.9	185.4	165.0
35°	129.8	141.5	169.3	141.9	127.4
37.5°	100.9	106.8	113.9	104.7	97.9
40°	79.2	79.4	73.4	78.2	76.1
42.5°	58.7	58.5	45.1	57.0	57.4
45°	35.2	41.0	27.0	39.9	33.2
47.5°	16.7	23.2	16.2	21.9	15.5
50°	8.1	11.2	9.8	10.4	7.6
52.5°	5.5	5.7	5.6	5.5	5.2
55°	4.0	4.0	3.6	3.8	3.8
57.5°	3.0	3.0	2.6	2.9	2.9
60°	2.4	2.2	2.0	2.2	2.2
62.5°	1.7	1.7	1.5	1.7	1.7
65°	1.4	1.4	1.2	1.4	1.4
67.5°	1.1	1.1	0.9	1.1	1.0
70°	0.9	0.9	0.7	0.9	0.9
72.5°	0.6	0.6	0.6	0.6	0.6
75°	0.5	0.5	0.5	0.5	0.5
77.5°	0.4	0.4	0.4	0.4	0.4
80°	0.2	0.2	0.4	0.4	0.4
82.5°	0.2	0.2	0.2	0.2	0.2
85°	0.1	0.2	0.2	0.2	0.2
87.5°	0.1	0.1	0.2	0.2	0.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)