

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: **FLDSQ4C65D010 FEU4C659027 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: FLDSQ4C65D010 FEU4C659027 F4LC-SQ-WLI
 Description: 4 INCH 6500 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 2700K, 90CRI LEDS AND F4LC-SQW TRIM WITH LI FINISH
 Light Source: -
 Ballast/Driver: -

Summary

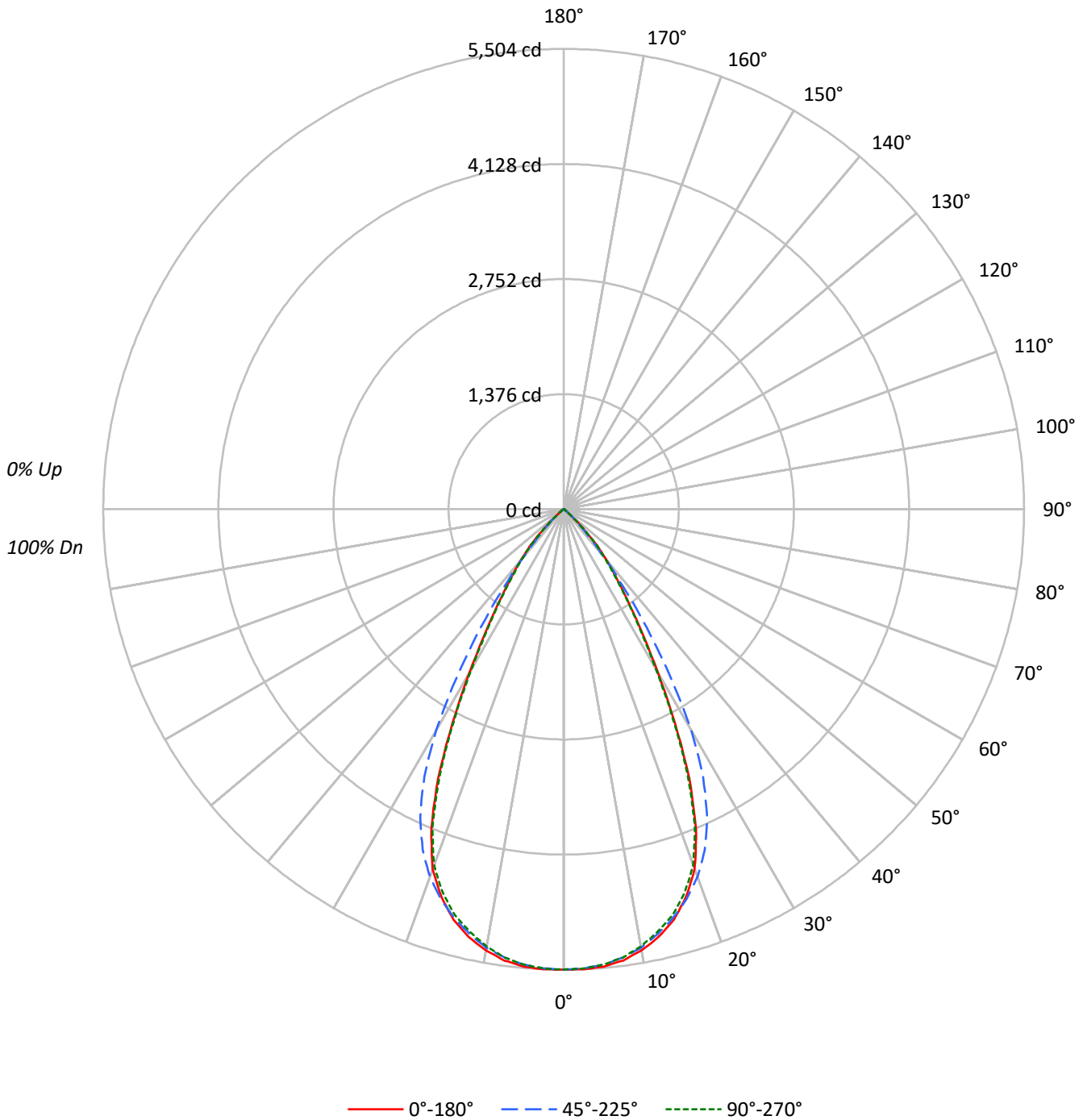
Lumens per Lamp: N/A
 Luminaire Lumens: 4926.0 lumens
 Efficiency: N/A
 Efficacy: 68.0 lumens/watt
 Spacing Criteria (0/90/45): 0.91 / 0.91 / 0.9
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

Input Watts (W): 72.4
 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°	530920	530920	530920
5°	531486	529035	529035
10°	524502	521406	519790
15°	507475	505077	501671
20°	469983	480241	464797
25°	377893	431987	372910
30°	249415	338715	243510
35°	155897	203390	153058
40°	101736	94254	97755
45°	48988	37607	46231
50°	12339	14996	11573
55°	6796	6174	6594
60°	4631	3898	4400
65°	3174	2877	3174
70°	2483	2144	2483
75°	1901	1901	1901
80°	1389	2111	2111
85°	1439	2768	2768

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	517.5	10.5
10°-20°	1413.2	28.7
20°-30°	1684.1	34.2
30°-40°	953.6	19.4
40°-50°	294.8	6.0
50°-60°	41.0	0.8
60°-70°	14.0	0.3
70°-80°	5.6	0.1
80°-90°	2.3	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°	3614.7	73.4
0°-40°	4568.3	92.7
0°-60°	4904.1	99.6
0°-90°	4926.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4926.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5502	5502	5502	5502	5502	
5°	5487	5475	5462	5458	5462	520
15°	5080	5071	5056	5036	5022	1417
25°	3550	3757	4058	3763	3503	1583
35°	1324	1444	1727	1447	1299	861
45°	359	418	276	407	339	296
55°	40	40	37	39	39	40
65°	14	14	13	14	14	15
75°	5	5	5	5	5	5
85°	1	2	2	2	2	2
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5502.4	5502.4	5502.4	5502.4	5502.4
2.5°	5503.7	5494.8	5492.3	5489.8	5494.8
5°	5487.3	5474.6	5462.0	5458.2	5462.0
7.5°	5440.5	5427.9	5406.4	5401.3	5405.1
10°	5353.3	5341.9	5321.7	5310.3	5305.2
12.5°	5238.2	5219.3	5200.3	5187.7	5175.0
15°	5080.2	5071.4	5056.2	5036.0	5022.1
17.5°	4861.6	4874.2	4883.0	4842.6	4805.9
20°	4577.1	4623.9	4677.0	4594.8	4526.6
22.5°	4133.5	4267.5	4402.7	4247.2	4095.5
25°	3549.5	3756.8	4057.6	3763.1	3502.7
27.5°	2868.1	3131.1	3605.1	3132.3	2830.2
30°	2238.6	2509.1	3040.1	2473.8	2185.6
32.5°	1719.1	1921.4	2375.2	1891.0	1682.5
35°	1323.5	1443.6	1726.7	1447.3	1299.4
37.5°	1028.9	1089.6	1161.7	1068.1	998.6
40°	807.7	810.3	748.3	797.6	776.1
42.5°	599.2	596.6	460.1	581.5	585.3
45°	359.0	418.4	275.6	407.0	338.8
47.5°	170.6	236.4	165.6	223.7	158.0
50°	82.2	113.8	99.9	106.2	77.1
52.5°	55.6	58.1	56.9	55.6	53.1
55°	40.4	40.4	36.7	39.2	39.2
57.5°	30.3	30.3	26.5	29.1	29.1
60°	24.0	22.8	20.2	22.8	22.8
62.5°	17.7	17.7	15.2	17.7	17.7
65°	13.9	13.9	12.6	13.9	13.9
67.5°	11.4	11.4	8.8	11.4	10.1
70°	8.8	8.8	7.6	8.8	8.8
72.5°	6.3	6.3	6.3	6.3	6.3
75°	5.1	5.1	5.1	5.1	5.1
77.5°	3.8	3.8	3.8	3.8	3.8
80°	2.5	2.5	3.8	3.8	3.8
82.5°	2.5	2.5	2.5	2.5	2.5
85°	1.3	2.5	2.5	2.5	2.5
87.5°	1.3	1.3	2.5	2.5	2.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)