

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: **FLDSQ4C25D010 FEU4C259050 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: FLDSQ4C25D010 FEU4C259050 F4LC-SQ-WLI
 Description: 4 INCH 2500 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 5000K, 90CRI LEDS AND F4LC-SQW TRIM WITH LI FINISH
 Light Source: -
 Ballast/Driver: -

Summary

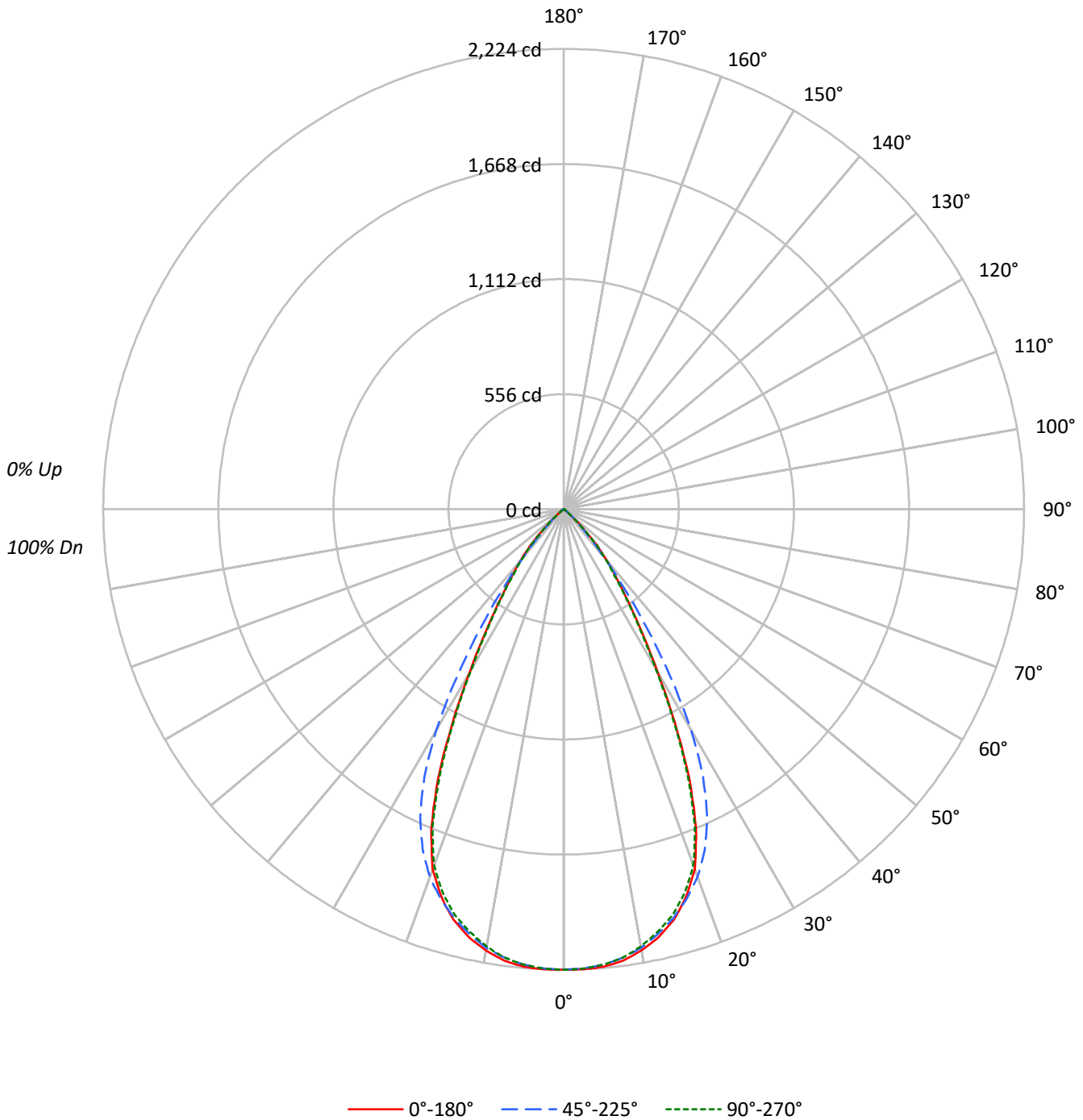
Lumens per Lamp: N/A
 Luminaire Lumens: 1991.0 lumens
 Efficiency: N/A
 Efficacy: 63.2 lumens/watt
 Spacing Criteria (0/90/45): 0.91 / 0.91 / 0.9
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

Input Watts (W): 31.5
 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	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°	214591	214591	214591
5°	214820	213823	213823
10°	211994	210740	210093
15°	205110	204141	202762
20°	189960	194109	187866
25°	152733	174600	150721
30°	100809	136897	98425
35°	63007	82206	61864
40°	41125	38102	39513
45°	19800	15201	18681
50°	4984	6064	4683
55°	2742	2490	2658
60°	1872	1582	1775
65°	1279	1164	1279
70°	1016	875	1016
75°	746	746	746
80°	556	833	833
85°	554	1107	1107

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	209.2	10.5
10°-20°	571.2	28.7
20°-30°	680.7	34.2
30°-40°	385.4	19.4
40°-50°	119.2	6.0
50°-60°	16.6	0.8
60°-70°	5.7	0.3
70°-80°	2.2	0.1
80°-90°	0.9	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°	1461.0	73.4
0°-40°	1846.4	92.7
0°-60°	1982.2	99.6
0°-90°	1991.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1991.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2224	2224	2224	2224	2224	
5°	2218	2213	2208	2206	2208	210
15°	2053	2050	2044	2036	2030	573
25°	1435	1518	1640	1521	1416	640
35°	535	584	698	585	525	348
45°	145	169	111	164	137	120
55°	16	16	15	16	16	16
65°	6	6	5	6	6	6
75°	2	2	2	2	2	2
85°	0	1	1	1	1	1
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2224.0	2224.0	2224.0	2224.0	2224.0
2.5°	2224.5	2220.9	2219.9	2218.9	2220.9
5°	2217.9	2212.7	2207.6	2206.1	2207.6
7.5°	2198.9	2193.8	2185.2	2183.1	2184.6
10°	2163.7	2159.1	2150.9	2146.3	2144.3
12.5°	2117.2	2109.5	2101.9	2096.8	2091.7
15°	2053.3	2049.8	2043.6	2035.5	2029.8
17.5°	1965.0	1970.1	1973.6	1957.3	1942.5
20°	1850.0	1868.9	1890.4	1857.2	1829.6
22.5°	1670.7	1724.8	1779.5	1716.7	1655.3
25°	1434.6	1518.4	1640.0	1521.0	1415.7
27.5°	1159.3	1265.5	1457.1	1266.0	1143.9
30°	904.8	1014.2	1228.7	999.8	883.4
32.5°	694.8	776.6	960.0	764.3	680.0
35°	534.9	583.5	697.9	585.0	525.2
37.5°	415.9	440.4	469.5	431.7	403.6
40°	326.5	327.5	302.5	322.4	313.7
42.5°	242.2	241.1	186.0	235.0	236.6
45°	145.1	169.1	111.4	164.5	136.9
47.5°	69.0	95.5	66.9	90.4	63.9
50°	33.2	46.0	40.4	42.9	31.2
52.5°	22.5	23.5	23.0	22.5	21.5
55°	16.3	16.3	14.8	15.8	15.8
57.5°	12.3	12.3	10.7	11.8	11.8
60°	9.7	9.2	8.2	9.2	9.2
62.5°	7.2	7.2	6.1	7.2	7.2
65°	5.6	5.6	5.1	5.6	5.6
67.5°	4.6	4.6	3.6	4.6	4.1
70°	3.6	3.6	3.1	3.6	3.6
72.5°	2.6	2.6	2.6	2.6	2.6
75°	2.0	2.0	2.0	2.0	2.0
77.5°	1.5	1.5	1.5	1.5	1.5
80°	1.0	1.0	1.5	1.5	1.5
82.5°	1.0	1.0	1.0	1.0	1.0
85°	0.5	1.0	1.0	1.0	1.0
87.5°	0.5	0.5	1.0	1.0	1.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)