

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 FEU4C259027 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 FEU4C259027 F4LC-SQ-WLI
 Description: 4 INCH 2500 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 2700K, 90CRI LEDS AND F4LC-SQW TRIM WITH LI FINISH
 Light Source: -
 Ballast/Driver: -

Summary

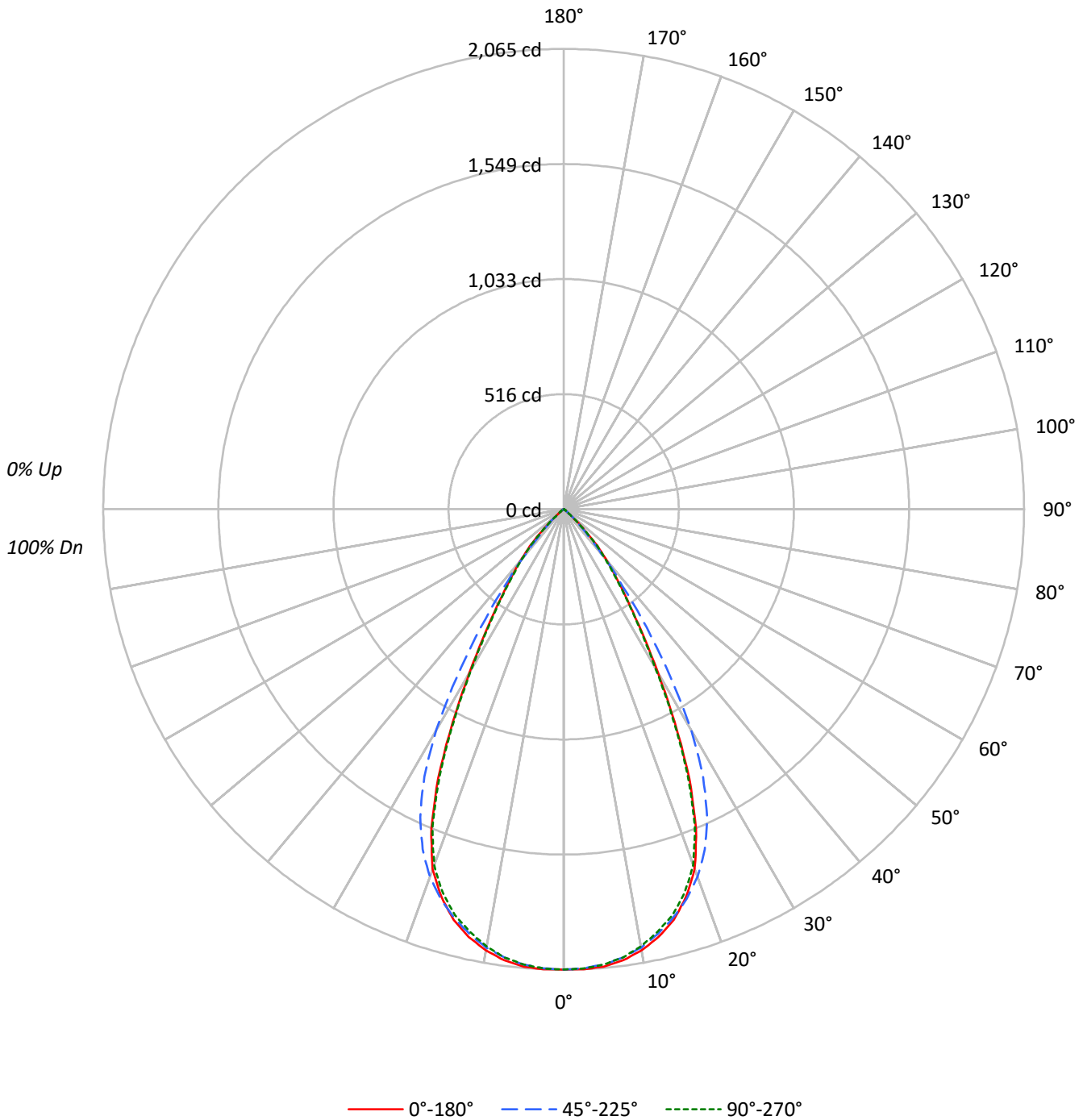
Lumens per Lamp: N/A
 Luminaire Lumens: 1848.0 lumens
 Efficiency: N/A
 Efficacy: 58.7 lumens/watt
 Spacing Criteria (0/90/45): 0.91 / 0.91 / 0.9
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

Input Watts (W): 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°	199182	199182	199182
5°	199391	198471	198471
10°	196768	195602	195004
15°	190385	189486	188198
20°	176314	180165	174373
25°	141767	162059	139893
30°	93567	127070	91350
35°	58483	76305	57423
40°	38165	35356	36679
45°	18381	14110	17344
50°	4623	5629	4338
55°	2557	2321	2473
60°	1737	1467	1640
65°	1187	1073	1187
70°	931	790	931
75°	708	708	708
80°	500	778	778
85°	554	996	996

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	194.1	10.5
10°-20°	530.2	28.7
20°-30°	631.8	34.2
30°-40°	357.8	19.4
40°-50°	110.6	6.0
50°-60°	15.4	0.8
60°-70°	5.2	0.3
70°-80°	2.1	0.1
80°-90°	0.8	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°	1356.1	73.4
0°-40°	1713.8	92.7
0°-60°	1839.8	99.6
0°-90°	1848.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1848.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2064	2064	2064	2064	2064	
5°	2059	2054	2049	2048	2049	195
15°	1906	1902	1897	1889	1884	531
25°	1332	1409	1522	1412	1314	594
35°	496	542	648	543	488	323
45°	135	157	103	153	127	111
55°	15	15	14	15	15	15
65°	5	5	5	5	5	5
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°	2064.3	2064.3	2064.3	2064.3	2064.3
2.5°	2064.7	2061.4	2060.5	2059.5	2061.4
5°	2058.6	2053.8	2049.1	2047.7	2049.1
7.5°	2041.0	2036.3	2028.2	2026.3	2027.7
10°	2008.3	2004.0	1996.4	1992.2	1990.3
12.5°	1965.1	1958.0	1950.9	1946.2	1941.4
15°	1905.9	1902.5	1896.9	1889.3	1884.0
17.5°	1823.8	1828.6	1831.9	1816.7	1803.0
20°	1717.1	1734.7	1754.6	1723.8	1698.2
22.5°	1550.7	1600.9	1651.7	1593.4	1536.5
25°	1331.6	1409.4	1522.2	1411.7	1314.0
27.5°	1076.0	1174.6	1352.5	1175.1	1061.8
30°	839.8	941.3	1140.5	928.0	819.9
32.5°	644.9	720.8	891.0	709.4	631.2
35°	496.5	541.6	647.8	543.0	487.5
37.5°	386.0	408.8	435.8	400.7	374.6
40°	303.0	304.0	280.7	299.2	291.2
42.5°	224.8	223.8	172.6	218.1	219.6
45°	134.7	157.0	103.4	152.7	127.1
47.5°	64.0	88.7	62.1	83.9	59.3
50°	30.8	42.7	37.5	39.8	28.9
52.5°	20.9	21.8	21.3	20.9	19.9
55°	15.2	15.2	13.8	14.7	14.7
57.5°	11.4	11.4	10.0	10.9	10.9
60°	9.0	8.5	7.6	8.5	8.5
62.5°	6.6	6.6	5.7	6.6	6.6
65°	5.2	5.2	4.7	5.2	5.2
67.5°	4.3	4.3	3.3	4.3	3.8
70°	3.3	3.3	2.8	3.3	3.3
72.5°	2.4	2.4	2.4	2.4	2.4
75°	1.9	1.9	1.9	1.9	1.9
77.5°	1.4	1.4	1.4	1.4	1.4
80°	0.9	0.9	1.4	1.4	1.4
82.5°	0.9	0.9	0.9	0.9	0.9
85°	0.5	0.9	0.9	0.9	0.9
87.5°	0.5	0.5	0.9	0.9	0.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)