

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 FEU4C259040 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 FEU4C259040 F4LC-SQ-WLI
 Description: 4 INCH 2500 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 4000K, 90CRI LEDS AND F4LC-SQW TRIM WITH LI FINISH
 Light Source: -
 Ballast/Driver: -

Summary

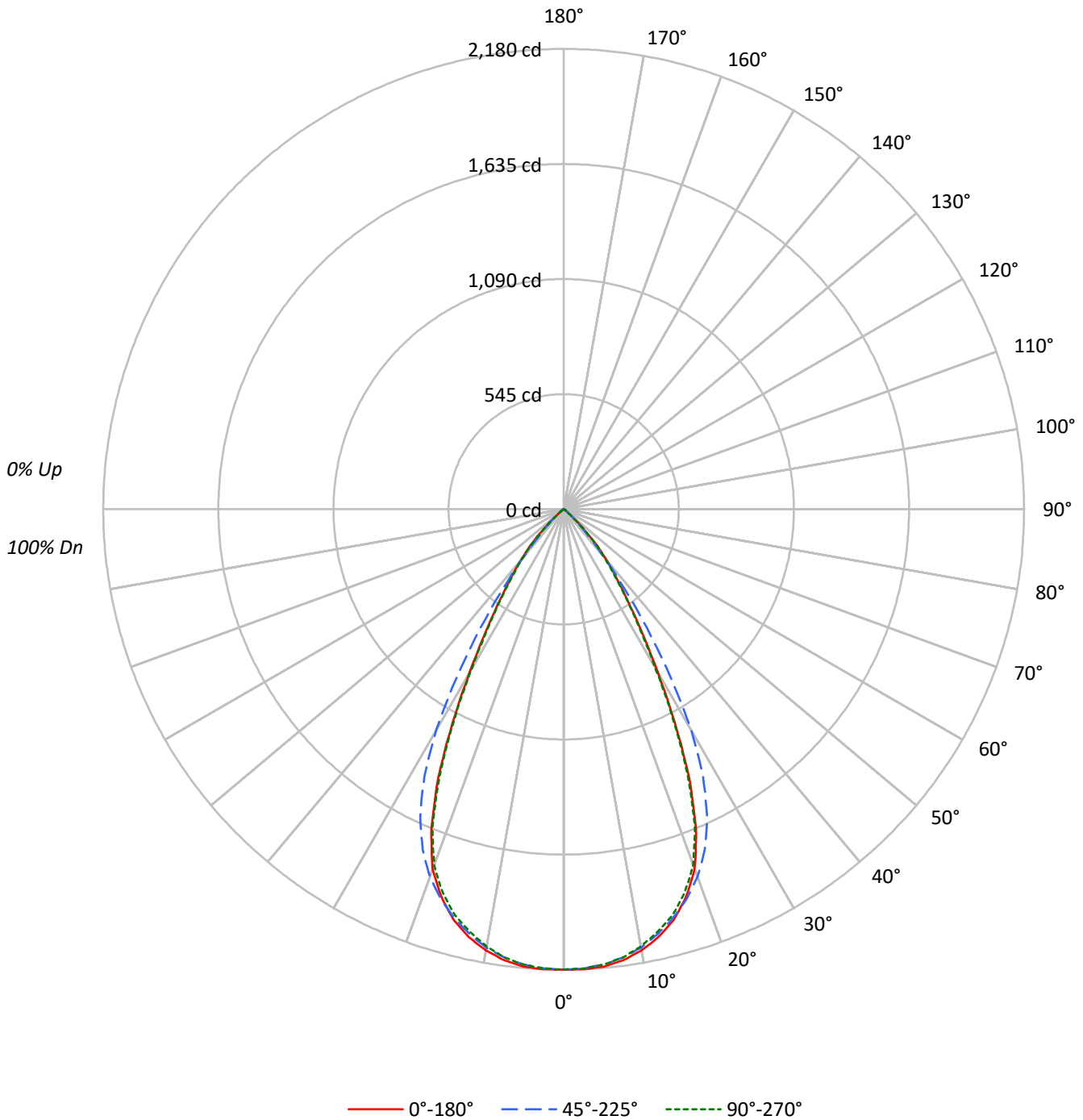
Lumens per Lamp: N/A
 Luminaire Lumens: 1951.0 lumens
 Efficiency: N/A
 Efficacy: 61.9 lumens/watt
 Spacing Criteria (0/90/45): 0.91 / 0.91 / 0.9
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
 CIE Type: Direct

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°	210278	210278	210278
5°	210500	209532	209532
10°	207732	206507	205870
15°	200994	200045	198696
20°	186141	190207	184087
25°	149667	171098	147697
30°	98781	134145	96441
35°	61746	80557	60627
40°	40294	37334	38719
45°	19404	14887	18312
50°	4879	5944	4578
55°	2692	2439	2607
60°	1833	1544	1737
65°	1256	1142	1256
70°	987	846	987
75°	746	746	746
80°	556	833	833
85°	554	1107	1107

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	205.0	10.5
10°-20°	559.7	28.7
20°-30°	667.0	34.2
30°-40°	377.7	19.4
40°-50°	116.8	6.0
50°-60°	16.2	0.8
60°-70°	5.5	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°	1431.7	73.4
0°-40°	1809.4	92.7
0°-60°	1942.3	99.6
0°-90°	1951.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1951.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2179	2179	2179	2179	2179	
5°	2173	2168	2163	2162	2163	206
15°	2012	2009	2003	1995	1989	561
25°	1406	1488	1607	1490	1387	627
35°	524	572	684	573	515	341
45°	142	166	109	161	134	117
55°	16	16	14	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°	2179.3	2179.3	2179.3	2179.3	2179.3
2.5°	2179.8	2176.3	2175.3	2174.3	2176.3
5°	2173.3	2168.3	2163.3	2161.8	2163.3
7.5°	2154.8	2149.8	2141.3	2139.3	2140.8
10°	2120.2	2115.7	2107.7	2103.2	2101.2
12.5°	2074.7	2067.2	2059.6	2054.6	2049.6
15°	2012.1	2008.6	2002.6	1994.6	1989.1
17.5°	1925.5	1930.5	1934.0	1918.0	1903.4
20°	1812.8	1831.4	1852.4	1819.8	1792.8
22.5°	1637.1	1690.2	1743.7	1682.2	1622.1
25°	1405.8	1487.9	1607.1	1490.4	1387.3
27.5°	1136.0	1240.1	1427.8	1240.6	1120.9
30°	886.6	993.8	1204.0	979.8	865.6
32.5°	680.9	761.0	940.7	749.0	666.4
35°	524.2	571.7	683.9	573.2	514.7
37.5°	407.5	431.6	460.1	423.0	395.5
40°	319.9	320.9	296.4	315.9	307.4
42.5°	237.3	236.3	182.2	230.3	231.8
45°	142.2	165.7	109.1	161.2	134.2
47.5°	67.6	93.6	65.6	88.6	62.6
50°	32.5	45.1	39.6	42.1	30.5
52.5°	22.0	23.0	22.5	22.0	21.0
55°	16.0	16.0	14.5	15.5	15.5
57.5°	12.0	12.0	10.5	11.5	11.5
60°	9.5	9.0	8.0	9.0	9.0
62.5°	7.0	7.0	6.0	7.0	7.0
65°	5.5	5.5	5.0	5.5	5.5
67.5°	4.5	4.5	3.5	4.5	4.0
70°	3.5	3.5	3.0	3.5	3.5
72.5°	2.5	2.5	2.5	2.5	2.5
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)