

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 FEU4C259030 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 FEU4C259030 F4LC-SQ-WLI  
 Description: 4 INCH 2500 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 3000K, 90CRI LEDS AND F4LC-SQW TRIM WITH LI FINISH  
 Light Source: -  
 Ballast/Driver: -

**Summary**

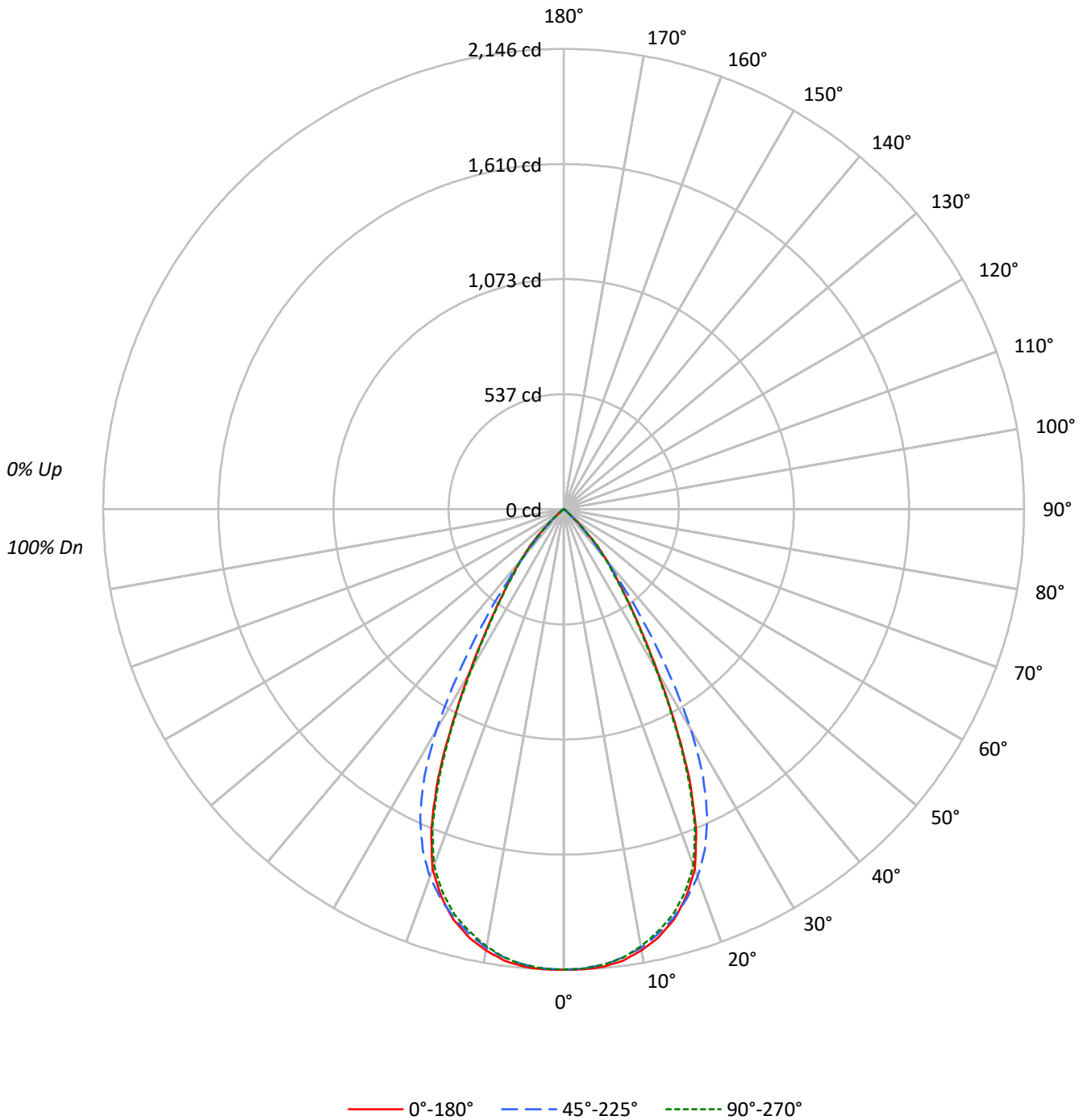
Lumens per Lamp: N/A  
 Luminaire Lumens: 1921.0 lumens  
 Efficiency: N/A  
 Efficacy: 61.0 lumens/watt  
 Spacing Criteria (0/90/45): 0.91 / 0.91 / 0.9  
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
 CIE Type: Direct

Input Watts (W): 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°	207046	207046	207046
5°	207265	206306	206306
10°	204538	203332	202705
15°	197897	196968	195640
20°	183286	187280	181253
25°	147367	168468	145429
30°	97266	132083	94960
35°	60792	79321	59685
40°	39677	36754	38127
45°	19104	14669	18026
50°	4804	5839	4518
55°	2658	2406	2574
60°	1814	1525	1718
65°	1233	1119	1233
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°	201.8	10.5
10°-20°	551.1	28.7
20°-30°	656.7	34.2
30°-40°	371.9	19.4
40°-50°	115.0	6.0
50°-60°	16.0	0.8
60°-70°	5.4	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°	1409.6	73.4
0°-40°	1781.5	92.7
0°-60°	1912.5	99.6
0°-90°	1921.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1921.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2146	2146	2146	2146	2146	
5°	2140	2135	2130	2128	2130	203
15°	1981	1978	1972	1964	1958	552
25°	1384	1465	1582	1468	1366	617
35°	516	563	673	564	507	336
45°	140	163	108	159	132	116
55°	16	16	14	15	15	16
65°	5	5	5	5	5	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°	2145.8	2145.8	2145.8	2145.8	2145.8
2.5°	2146.3	2142.8	2141.8	2140.9	2142.8
5°	2139.9	2134.9	2130.0	2128.5	2130.0
7.5°	2121.6	2116.7	2108.3	2106.4	2107.8
10°	2087.6	2083.2	2075.3	2070.9	2068.9
12.5°	2042.8	2035.4	2028.0	2023.0	2018.1
15°	1981.1	1977.7	1971.8	1963.9	1958.5
17.5°	1895.9	1900.8	1904.2	1888.5	1874.2
20°	1785.0	1803.2	1823.9	1791.9	1765.2
22.5°	1611.9	1664.2	1716.9	1656.3	1597.1
25°	1384.2	1465.0	1582.4	1467.5	1366.0
27.5°	1118.5	1221.0	1405.9	1221.5	1103.7
30°	873.0	978.5	1185.5	964.7	852.3
32.5°	670.4	749.3	926.2	737.4	656.1
35°	516.1	562.9	673.4	564.4	506.7
37.5°	401.3	424.9	453.0	416.5	389.4
40°	315.0	316.0	291.8	311.0	302.7
42.5°	233.7	232.7	179.4	226.8	228.2
45°	140.0	163.2	107.5	158.7	132.1
47.5°	66.5	92.2	64.6	87.3	61.6
50°	32.0	44.4	38.9	41.4	30.1
52.5°	21.7	22.7	22.2	21.7	20.7
55°	15.8	15.8	14.3	15.3	15.3
57.5°	11.8	11.8	10.4	11.3	11.3
60°	9.4	8.9	7.9	8.9	8.9
62.5°	6.9	6.9	5.9	6.9	6.9
65°	5.4	5.4	4.9	5.4	5.4
67.5°	4.4	4.4	3.5	4.4	3.9
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)