

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: **FLDSQ4C55D010 FEU4C559030 F4LC-DFSSQ-MW**

Issue Date: 12/13/2022

Tested By:

Approved By:



Cooper Lighting Solutions laboratories have been accredited by National Voluntary Laboratory Accreditation Program (NVLAP) that it adheres to the requirements of ISO/IEC 17025:2005 and appropriate IESNA test methods. This report must not be used to claim product certification, approval or endorsement by NVLAP, NIST or any agency of the Federal Government. Results contained in this report are valid for luminaire sample tested, as supplied by requestor. Information related to the luminaire tested has been supplied by requestor and can affect the validity of the test results. Report shall not be reproduced except in full without approval of Cooper Lighting Solutions Lighting Laboratory. Test performed at address noted above.



**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: FLDSQ4C55D010 FEU4C559030 F4LC-DFSSQ-MW  
 Description: 4 INCH 5500 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 3000K, 90CRI LEDS AND F4LC-DFSSQ TRIM WITH MW FINISH  
 Light Source: -  
 Ballast/Driver: -

**Summary**

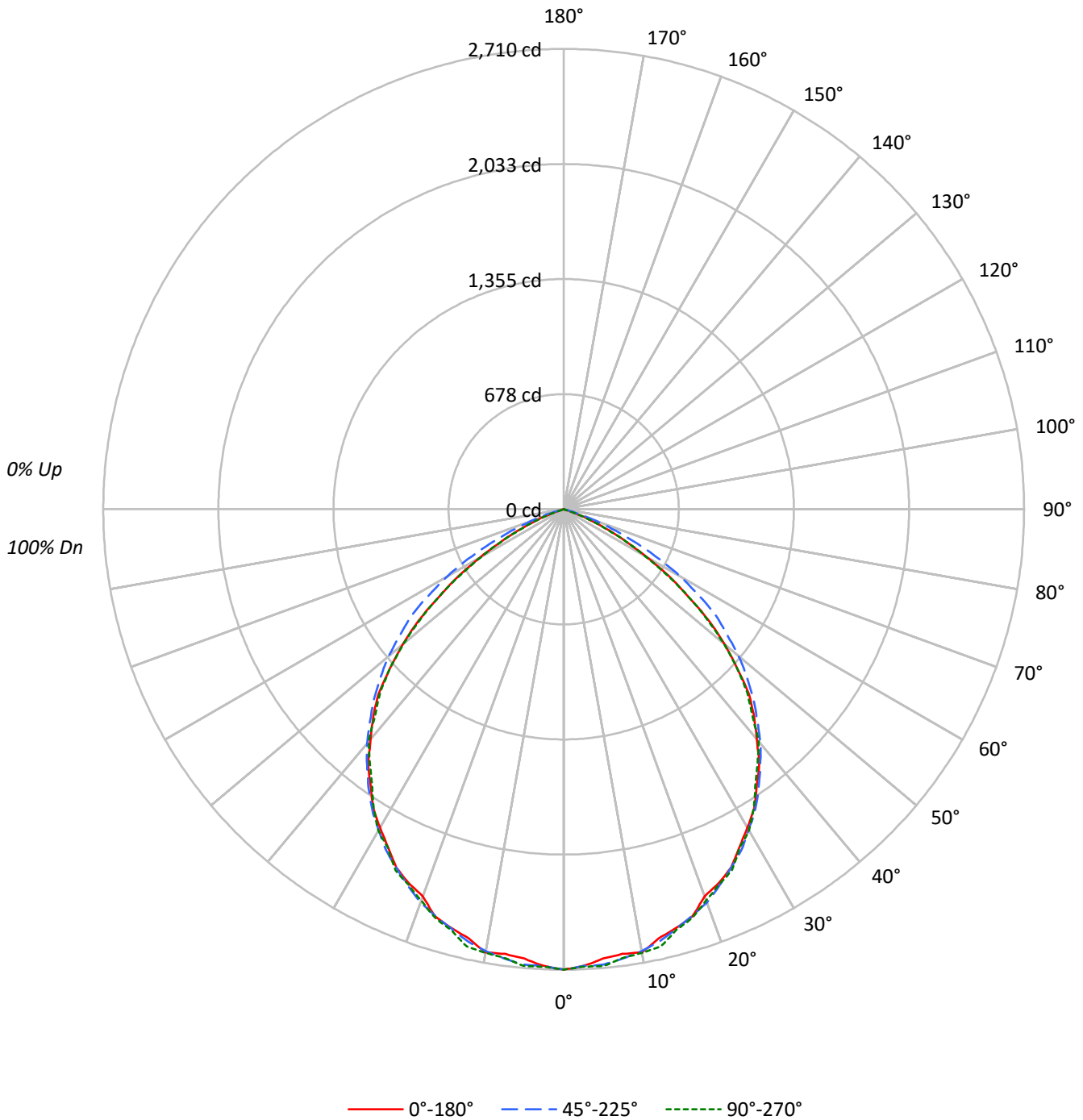
Lumens per Lamp: N/A  
 Luminaire Lumens: 5788.0 lumens  
 Efficiency: N/A  
 Efficacy: 90.6 lumens/watt  
 Spacing Criteria (0/90/45): 1.19 / 1.2 / 1.29  
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
 CIE Type: Direct

Input Watts (W): 63.9  
 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

TEST NUMBER: P#  
CATALOG NUMBER: FLDSQ4C55D010 FEU4C559030 F4LC-DFSSQ-MW

### Luminous Intensity Polar Plot



TEST NUMBER: P#  
 CATALOG NUMBER: FLDSQ4C55D010 FEU4C559030 F4LC-DFSSQ-MW

**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
1	111	108	104	101	109	105	102	100	101	99	96	97	95	94	94	92	91	89				89
2	103	96	91	86	100	94	89	85	91	87	83	88	84	81	85	82	79	77				77
3	95	86	79	74	93	85	78	73	82	76	72	79	74	71	77	73	69	67				67
4	88	77	70	64	86	76	69	63	74	67	63	71	66	62	69	65	61	59				59
5	81	70	62	56	79	69	61	56	67	60	55	65	59	54	63	58	54	52				52
6	75	63	55	49	73	62	55	49	61	54	49	59	53	48	57	52	48	46				46
7	70	58	50	44	68	57	49	44	55	49	44	54	48	43	53	47	43	41				41
8	65	53	45	40	64	52	45	39	51	44	39	50	44	39	49	43	39	37				37
9	61	49	41	36	60	48	41	36	47	40	36	46	40	35	45	39	35	33				33
10	57	45	38	33	56	44	37	33	44	37	32	43	37	32	42	36	32	31				31

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	261437	261437	261437
5°	257224	260566	261312
10°	259444	258690	259816
15°	254896	255276	256045
20°	248971	252925	251744
25°	247890	247890	249530
30°	240981	242697	243132
35°	233462	235736	231648
40°	222516	226862	224922
45°	210592	215327	208491
50°	185461	201628	184305
55°	150207	184524	150863
60°	109901	152993	107701
65°	66781	108951	65023
70°	26039	58652	24995
75°	2871	15807	2871
80°	2167	2167	2167
85°	0	0	0

TEST NUMBER: P#  
 CATALOG NUMBER: FLDSQ4C55D010 FEU4C559030 F4LC-DFSSQ-MW

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	255.8	4.4
10°-20°	723.7	12.5
20°-30°	1073.8	18.6
30°-40°	1244.3	21.5
40°-50°	1193.0	20.6
50°-60°	877.2	15.2
60°-70°	378.8	6.5
70°-80°	40.9	0.7
80°-90°	0.5	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°	2053.3	35.5
0°-40°	3297.6	57.0
0°-60°	5367.7	92.7
0°-90°	5788.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5788.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2710	2710	2710	2710	2710	
5°	2656	2682	2690	2694	2698	253
15°	2552	2567	2556	2559	2563	719
25°	2328	2325	2328	2332	2344	1066
35°	1982	1994	2001	1997	1967	1239
45°	1543	1547	1578	1555	1528	1173
55°	893	985	1097	981	897	804
65°	292	366	477	362	285	301
75°	8	12	42	8	8	24
85°	0	0	0	0	0	1
90°	0	0	0	0	0	

TEST NUMBER: P#  
 CATALOG NUMBER: FLDSQ4C55D010 FEU4C559030 F4LC-DFSSQ-MW

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	2709.5	2709.5	2709.5	2709.5	2709.5	2709.5	2709.5	2709.5	2709.5	2709.5	2709.5
2.5°	2690.2	2721.0	2724.9	2705.6	2697.9	2686.5	2713.3	2694.2	2701.8	2694.2	2690.2
5°	2655.7	2690.2	2694.2	2694.2	2686.5	2682.5	2694.2	2690.2	2686.5	2678.8	2690.2
7.5°	2640.3	2659.5	2678.8	2655.7	2667.1	2663.4	2690.2	2678.8	2674.8	2674.8	2667.1
10°	2648.0	2644.1	2659.5	2636.4	2644.1	2636.4	2659.5	2659.5	2651.8	2644.1	2640.3
12.5°	2586.3	2617.1	2617.1	2613.3	2605.6	2594.0	2617.1	2632.6	2609.4	2609.4	2605.6
15°	2551.7	2559.4	2563.2	2563.2	2559.4	2567.1	2578.6	2563.2	2567.1	2547.8	2555.5
17.5°	2513.3	2497.9	2509.3	2501.6	2505.6	2513.3	2528.6	2528.6	2505.6	2501.6	2509.3
20°	2424.7	2470.9	2474.8	2451.7	2455.5	2455.5	2482.5	2459.4	2474.8	2455.5	2463.2
22.5°	2382.3	2413.1	2417.0	2386.2	2405.4	2382.3	2409.3	2374.6	2413.1	2386.2	2397.7
25°	2328.4	2324.7	2336.1	2320.7	2324.7	2324.7	2343.8	2328.4	2340.1	2324.7	2328.4
27.5°	2240.0	2270.8	2266.9	2251.5	2259.2	2255.4	2293.9	2251.5	2274.6	2255.4	2263.1
30°	2162.9	2189.9	2182.2	2166.8	2166.8	2155.2	2197.6	2186.0	2182.2	2182.2	2178.3
32.5°	2086.0	2089.9	2082.2	2086.0	2089.9	2074.5	2109.1	2093.7	2089.9	2093.7	2097.6
35°	1982.0	1982.0	1989.7	1978.3	1993.6	1993.6	2024.4	2005.1	2001.3	1989.7	2001.3
37.5°	1889.7	1878.2	1882.0	1882.0	1889.7	1897.4	1912.8	1905.1	1905.1	1893.6	1901.3
40°	1766.6	1758.9	1770.4	1770.4	1782.0	1782.0	1797.4	1789.7	1801.1	1801.1	1801.1
42.5°	1658.9	1658.9	1651.2	1662.6	1666.6	1662.6	1689.6	1685.7	1689.6	1681.9	1685.7
45°	1543.3	1543.3	1535.6	1531.8	1551.0	1547.2	1578.0	1566.4	1581.8	1574.1	1578.0
47.5°	1385.5	1404.8	1393.2	1404.8	1427.9	1431.8	1451.0	1443.3	1458.6	1447.2	1462.6
50°	1235.5	1235.5	1247.0	1262.4	1285.4	1289.4	1312.5	1327.8	1335.5	1339.3	1343.2
52.5°	1077.7	1073.8	1085.4	1104.5	1123.9	1139.2	1162.3	1185.4	1200.8	1223.9	1212.3
55°	892.9	900.6	912.2	935.3	966.0	985.2	1004.5	1035.3	1062.3	1073.8	1096.9
57.5°	735.1	727.4	735.1	765.8	800.5	815.9	842.9	873.7	912.2	935.3	943.0
60°	569.5	573.5	581.2	608.2	635.0	658.1	669.7	719.7	754.4	777.5	792.8
62.5°	419.6	427.3	435.0	458.1	484.9	504.2	523.4	565.8	596.6	619.6	635.0
65°	292.5	296.3	307.9	319.4	346.4	365.6	381.0	415.7	446.4	465.7	477.2
67.5°	180.9	184.7	192.4	207.9	227.1	242.5	257.8	280.9	307.9	327.1	331.0
70°	92.3	96.3	100.0	111.6	127.0	134.7	146.2	165.5	184.7	200.1	207.9
72.5°	30.8	30.8	34.7	42.4	50.1	57.8	61.6	80.9	96.3	104.0	107.7
75°	7.7	7.7	7.7	7.7	7.7	11.6	11.6	23.1	30.8	38.5	42.4
77.5°	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	7.7	7.7
80°	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P#  
 CATALOG NUMBER: FLDSQ4C55D010 FEU4C559030 F4LC-DFSSQ-MW

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	2709.5	2709.5	2709.5	2709.5	2709.5	2709.5	2709.5	2709.5	2709.5	2709.5
2.5°	2709.5	2701.8	2697.9	2701.8	2701.8	2697.9	2709.5	2724.9	2744.1	2694.2
5°	2705.6	2697.9	2705.6	2682.5	2694.2	2686.5	2701.8	2697.9	2713.3	2697.9
7.5°	2694.2	2678.8	2682.5	2671.1	2686.5	2667.1	2678.8	2701.8	2686.5	2663.4
10°	2655.7	2648.0	2674.8	2636.4	2628.7	2644.1	2674.8	2651.8	2644.1	2651.8
12.5°	2617.1	2617.1	2628.7	2597.9	2601.7	2609.4	2624.8	2609.4	2617.1	2636.4
15°	2574.8	2567.1	2586.3	2563.2	2559.4	2551.7	2567.1	2567.1	2574.8	2563.2
17.5°	2524.7	2513.3	2513.3	2505.6	2501.6	2520.9	2528.6	2532.4	2536.3	2520.9
20°	2463.2	2459.4	2470.9	2459.4	2463.2	2467.1	2467.1	2459.4	2493.9	2451.7
22.5°	2397.7	2409.3	2393.9	2386.2	2393.9	2401.6	2401.6	2405.4	2397.7	2390.0
25°	2332.4	2340.1	2343.8	2320.7	2332.4	2320.7	2347.7	2351.5	2336.1	2343.8
27.5°	2274.6	2263.1	2259.2	2243.8	2251.5	2247.7	2251.5	2251.5	2274.6	2243.8
30°	2186.0	2174.5	2178.3	2166.8	2170.6	2166.8	2170.6	2170.6	2186.0	2182.2
32.5°	2101.4	2089.9	2093.7	2082.2	2082.2	2086.0	2078.3	2078.3	2089.9	2082.2
35°	2020.5	1993.6	1997.4	1993.6	1997.4	1982.0	1982.0	1978.3	1986.0	1966.6
37.5°	1905.1	1893.6	1889.7	1885.9	1889.7	1882.0	1889.7	1878.2	1889.7	1874.3
40°	1801.1	1793.4	1797.4	1774.3	1774.3	1778.0	1770.4	1766.6	1770.4	1785.7
42.5°	1697.3	1681.9	1674.2	1666.6	1670.3	1658.9	1654.9	1647.2	1654.9	1639.5
45°	1574.1	1574.1	1570.3	1551.0	1554.9	1554.9	1539.5	1524.1	1527.9	1527.9
47.5°	1462.6	1454.9	1451.0	1431.8	1427.9	1424.1	1408.6	1397.1	1397.1	1385.5
50°	1339.3	1331.6	1320.1	1300.8	1293.1	1270.1	1258.6	1243.2	1227.8	1227.8
52.5°	1223.9	1196.9	1181.5	1150.7	1139.2	1127.6	1096.9	1085.4	1073.8	1062.3
55°	1085.4	1062.3	1031.5	996.8	981.4	962.1	931.3	908.3	892.9	896.8
57.5°	950.7	912.2	881.4	835.2	815.9	804.3	773.5	742.8	727.4	727.4
60°	785.1	754.4	715.9	673.5	658.1	639.0	600.3	581.2	569.5	558.1
62.5°	627.3	604.2	569.5	515.7	504.2	484.9	458.1	435.0	423.4	423.4
65°	469.5	446.4	415.7	377.2	361.8	346.4	323.3	300.2	288.6	284.8
67.5°	331.0	304.0	277.2	246.4	234.8	227.1	204.0	188.6	180.9	177.0
70°	200.1	184.7	165.5	142.4	130.8	123.1	107.7	96.3	92.3	88.6
72.5°	104.0	92.3	76.9	61.6	53.9	46.2	38.5	30.8	27.0	27.0
75°	38.5	30.8	19.3	11.6	7.7	7.7	7.7	7.7	7.7	7.7
77.5°	7.7	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
80°	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)