

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: **FLDSQ4C75D010 FEU4C759035 F4LC-CSSQ-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: FLDSQ4C75D010 FEU4C759035 F4LC-CSSQ-MW  
 Description: 4 INCH 7500 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 3500K, 90CRI LEDS AND F4LC-CSSQ TRIM WITH MW FINISH  
 Light Source: -  
 Ballast/Driver: -

**Summary**

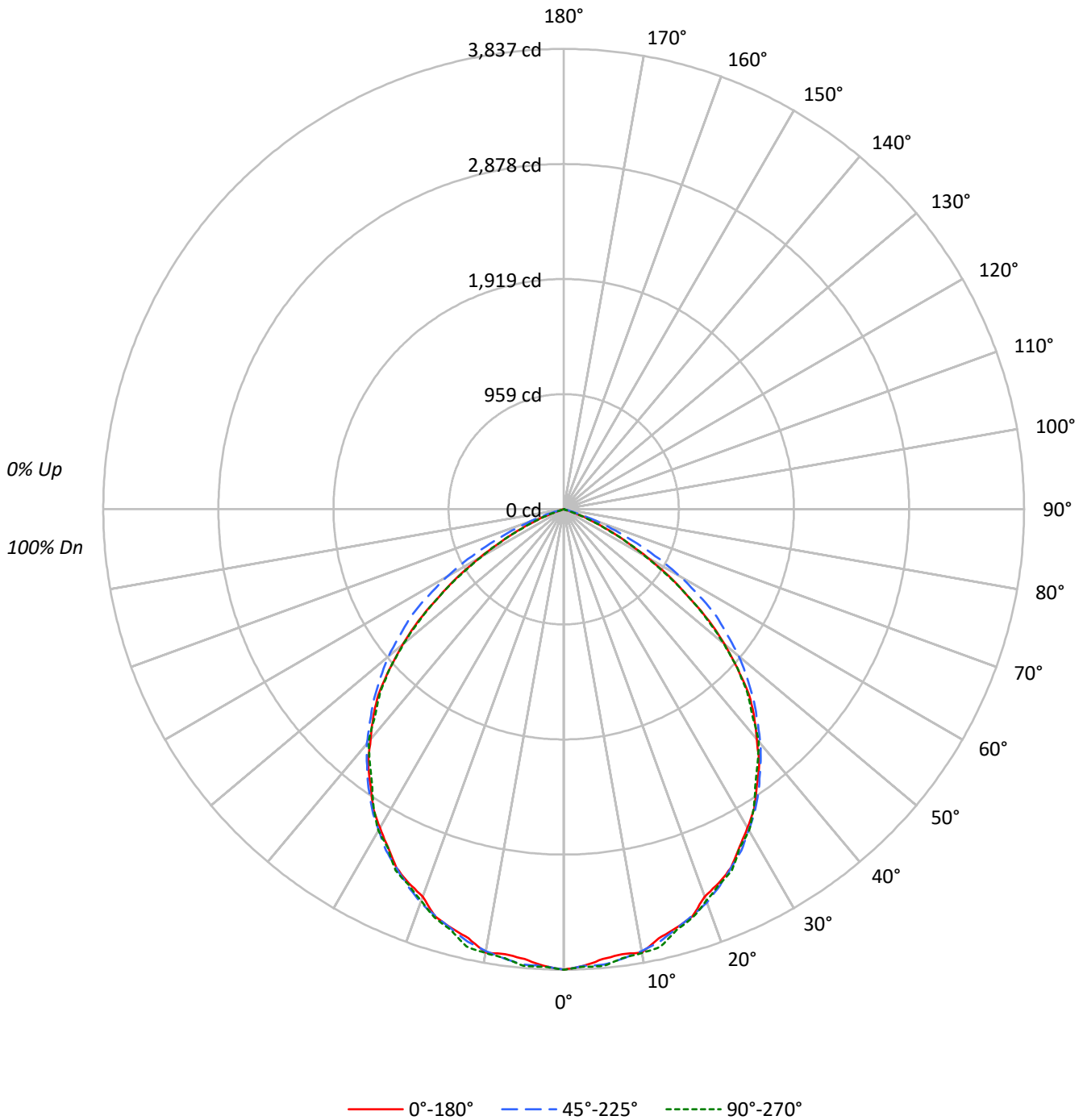
Lumens per Lamp: N/A  
 Luminaire Lumens: 8197.0 lumens  
 Efficiency: N/A  
 Efficacy: 100.6 lumens/watt  
 Spacing Criteria (0/90/45): 1.19 / 1.2 / 1.29  
 Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
 CIE Type: Direct

Input Watts (W): 81.5  
 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

TEST NUMBER: P#  
CATALOG NUMBER: FLDSQ4C75D010 FEU4C759035 F4LC-CSSQ-MW

### Luminous Intensity Polar Plot



TEST NUMBER: P#  
 CATALOG NUMBER: FLDSQ4C75D010 FEU4C759035 F4LC-CSSQ-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°	370257	370257	370257
5°	364281	369017	370073
10°	367425	366357	367944
15°	360992	361522	362610
20°	352597	358183	356520
25°	351064	351064	353385
30°	341278	343707	344330
35°	330640	333856	328072
40°	315120	321292	318546
45°	298238	304952	295263
50°	262648	285554	261011
55°	212718	261318	213644
60°	155656	216675	152530
65°	94590	154293	92101
70°	36901	83055	35377
75°	4064	22368	4064
80°	3112	3112	3112
85°	0	0	0

TEST NUMBER: P#  
 CATALOG NUMBER: FLDSQ4C75D010 FEU4C759035 F4LC-CSSQ-MW

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	362.2	4.4
10°-20°	1024.9	12.5
20°-30°	1520.8	18.6
30°-40°	1762.1	21.5
40°-50°	1689.5	20.6
50°-60°	1242.2	15.2
60°-70°	536.5	6.5
70°-80°	57.9	0.7
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°	2907.9	35.5
0°-40°	4670.1	57.0
0°-60°	7601.8	92.7
0°-90°	8197.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8197.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3837	3837	3837	3837	3837	
5°	3761	3799	3810	3816	3821	359
15°	3614	3636	3619	3625	3630	1019
25°	3298	3292	3298	3303	3319	1510
35°	2807	2823	2834	2829	2785	1755
45°	2186	2191	2235	2202	2164	1661
55°	1264	1395	1553	1390	1270	1138
65°	414	518	676	512	403	426
75°	11	16	60	11	11	34
85°	0	0	0	0	0	1
90°	0	0	0	0	0	

TEST NUMBER: P#  
 CATALOG NUMBER: FLDSQ4C75D010 FEU4C759035 F4LC-CSSQ-MW

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	3837.3	3837.3	3837.3	3837.3	3837.3	3837.3	3837.3	3837.3	3837.3	3837.3	3837.3
2.5°	3809.9	3853.5	3859.1	3831.7	3820.8	3804.6	3842.6	3815.5	3826.4	3815.5	3809.9
5°	3761.0	3809.9	3815.5	3815.5	3804.6	3799.0	3815.5	3809.9	3804.6	3793.7	3809.9
7.5°	3739.2	3766.3	3793.7	3761.0	3777.2	3771.9	3809.9	3793.7	3788.1	3788.1	3777.2
10°	3750.1	3744.5	3766.3	3733.6	3744.5	3733.6	3766.3	3766.3	3755.4	3744.5	3739.2
12.5°	3662.7	3706.3	3706.3	3700.9	3690.1	3673.6	3706.3	3728.3	3695.4	3695.4	3690.1
15°	3613.8	3624.7	3630.0	3630.0	3624.7	3635.6	3651.8	3630.0	3635.6	3608.2	3619.1
17.5°	3559.3	3537.5	3553.7	3542.8	3548.4	3559.3	3581.1	3581.1	3548.4	3542.8	3553.7
20°	3433.9	3499.2	3504.8	3472.1	3477.5	3477.5	3515.7	3483.0	3504.8	3477.5	3488.3
22.5°	3373.8	3417.4	3423.0	3379.4	3406.5	3373.8	3412.1	3362.9	3417.4	3379.4	3395.6
25°	3297.5	3292.2	3308.4	3286.6	3292.2	3292.2	3319.3	3297.5	3314.0	3292.2	3297.5
27.5°	3172.3	3215.9	3210.4	3188.6	3199.5	3194.1	3248.6	3188.6	3221.3	3194.1	3205.0
30°	3063.1	3101.4	3090.5	3068.7	3068.7	3052.3	3112.3	3095.8	3090.5	3090.5	3084.9
32.5°	2954.2	2959.7	2948.8	2954.2	2959.7	2937.9	2986.9	2965.1	2959.7	2965.1	2970.6
35°	2807.0	2807.0	2817.9	2801.6	2823.4	2823.4	2867.0	2839.7	2834.3	2817.9	2834.3
37.5°	2676.2	2660.0	2665.3	2665.3	2676.2	2687.1	2708.9	2698.0	2698.0	2681.8	2692.6
40°	2501.8	2490.9	2507.2	2507.2	2523.6	2523.6	2545.4	2534.5	2550.8	2550.8	2550.8
42.5°	2349.3	2349.3	2338.4	2354.6	2360.2	2354.6	2392.9	2387.3	2392.9	2382.0	2387.3
45°	2185.6	2185.6	2174.7	2169.4	2196.5	2191.2	2234.8	2218.3	2240.1	2229.2	2234.8
47.5°	1962.1	1989.5	1973.0	1989.5	2022.2	2027.7	2054.8	2044.0	2065.7	2049.5	2071.3
50°	1749.7	1749.7	1766.0	1787.8	1820.5	1826.0	1858.7	1880.5	1891.4	1896.7	1902.3
52.5°	1526.2	1520.7	1537.1	1564.3	1591.6	1613.4	1646.1	1678.8	1700.6	1733.3	1716.8
55°	1264.5	1275.4	1291.8	1324.5	1368.1	1395.3	1422.6	1466.2	1504.4	1520.7	1553.4
57.5°	1041.0	1030.1	1041.0	1084.6	1133.7	1155.5	1193.8	1237.4	1291.8	1324.5	1335.4
60°	806.6	812.2	823.1	861.3	899.3	932.0	948.5	1019.2	1068.3	1101.0	1122.8
62.5°	594.2	605.1	616.0	648.7	686.7	714.1	741.2	801.3	844.8	877.5	899.3
65°	414.3	419.6	436.1	452.3	490.6	517.7	539.5	588.7	632.2	659.6	675.8
67.5°	256.2	261.5	272.4	294.4	321.6	343.4	365.2	397.9	436.1	463.2	468.8
70°	130.8	136.3	141.7	158.1	179.9	190.8	207.0	234.4	261.5	283.3	294.4
72.5°	43.6	43.6	49.1	60.0	70.9	81.8	87.2	114.5	136.3	147.2	152.6
75°	10.9	10.9	10.9	10.9	10.9	16.5	16.5	32.7	43.6	54.5	60.0
77.5°	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	10.9	10.9
80°	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
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: FLDSQ4C75D010 FEU4C759035 F4LC-CSSQ-MW

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	3837.3	3837.3	3837.3	3837.3	3837.3	3837.3	3837.3	3837.3	3837.3	3837.3
2.5°	3837.3	3826.4	3820.8	3826.4	3826.4	3820.8	3837.3	3859.1	3886.2	3815.5
5°	3831.7	3820.8	3831.7	3799.0	3815.5	3804.6	3826.4	3820.8	3842.6	3820.8
7.5°	3815.5	3793.7	3799.0	3782.8	3804.6	3777.2	3793.7	3826.4	3804.6	3771.9
10°	3761.0	3750.1	3788.1	3733.6	3722.7	3744.5	3788.1	3755.4	3744.5	3755.4
12.5°	3706.3	3706.3	3722.7	3679.2	3684.5	3695.4	3717.2	3695.4	3706.3	3733.6
15°	3646.5	3635.6	3662.7	3630.0	3624.7	3613.8	3635.6	3635.6	3646.5	3630.0
17.5°	3575.5	3559.3	3559.3	3548.4	3542.8	3570.2	3581.1	3586.4	3592.0	3570.2
20°	3488.3	3483.0	3499.2	3483.0	3488.3	3493.9	3493.9	3483.0	3531.9	3472.1
22.5°	3395.6	3412.1	3390.3	3379.4	3390.3	3401.2	3401.2	3406.5	3395.6	3384.7
25°	3303.1	3314.0	3319.3	3286.6	3303.1	3286.6	3324.9	3330.2	3308.4	3319.3
27.5°	3221.3	3205.0	3199.5	3177.7	3188.6	3183.2	3188.6	3188.6	3221.3	3177.7
30°	3095.8	3079.6	3084.9	3068.7	3074.0	3068.7	3074.0	3074.0	3095.8	3090.5
32.5°	2976.0	2959.7	2965.1	2948.8	2948.8	2954.2	2943.3	2943.3	2959.7	2948.8
35°	2861.4	2823.4	2828.8	2823.4	2828.8	2807.0	2807.0	2801.6	2812.5	2785.2
37.5°	2698.0	2681.8	2676.2	2670.9	2676.2	2665.3	2676.2	2660.0	2676.2	2654.4
40°	2550.8	2539.9	2545.4	2512.7	2512.7	2518.1	2507.2	2501.8	2507.2	2529.0
42.5°	2403.8	2382.0	2371.1	2360.2	2365.5	2349.3	2343.7	2332.8	2343.7	2321.9
45°	2229.2	2229.2	2223.9	2196.5	2202.1	2202.1	2180.3	2158.5	2163.8	2163.8
47.5°	2071.3	2060.4	2054.8	2027.7	2022.2	2016.8	1994.8	1978.6	1978.6	1962.1
50°	1896.7	1885.8	1869.6	1842.2	1831.4	1798.7	1782.4	1760.6	1738.8	1738.8
52.5°	1733.3	1695.0	1673.2	1629.6	1613.4	1597.0	1553.4	1537.1	1520.7	1504.4
55°	1537.1	1504.4	1460.9	1411.7	1389.9	1362.6	1319.0	1286.3	1264.5	1270.0
57.5°	1346.3	1291.8	1248.3	1182.9	1155.5	1139.1	1095.5	1051.9	1030.1	1030.1
60°	1111.9	1068.3	1013.9	953.8	932.0	904.9	850.2	823.1	806.6	790.4
62.5°	888.4	855.7	806.6	730.3	714.1	686.7	648.7	616.0	599.6	599.6
65°	664.9	632.2	588.7	534.2	512.4	490.6	457.9	425.2	408.7	403.4
67.5°	468.8	430.5	392.5	348.9	332.5	321.6	288.9	267.1	256.2	250.6
70°	283.3	261.5	234.4	201.7	185.3	174.4	152.6	136.3	130.8	125.4
72.5°	147.2	130.8	109.0	87.2	76.3	65.4	54.5	43.6	38.2	38.2
75°	54.5	43.6	27.3	16.5	10.9	10.9	10.9	10.9	10.9	10.9
77.5°	10.9	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
80°	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
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)