

Scaled data based on original data using  
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: P646221

Luminaire Tested: **FLDSQ4C50D010 FEU4C509030 F4LC-SQ-LI-D2W**

Issue Date: 12/13/2022

**Test Information**

Test Method: LM-79-08  
Report Number: P646221  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P209151)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/13/2022  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: FLDSQ4C50D010 FEU4C509030 F4LC-SQ-LI-D2W  
Description: 4 INCH 5000 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 3000K, 90CRI LEDS AND F4LC-SQ TRIM WITH LI FINISH, DIM TO WARM  
Light Source: -  
Ballast/Driver: -

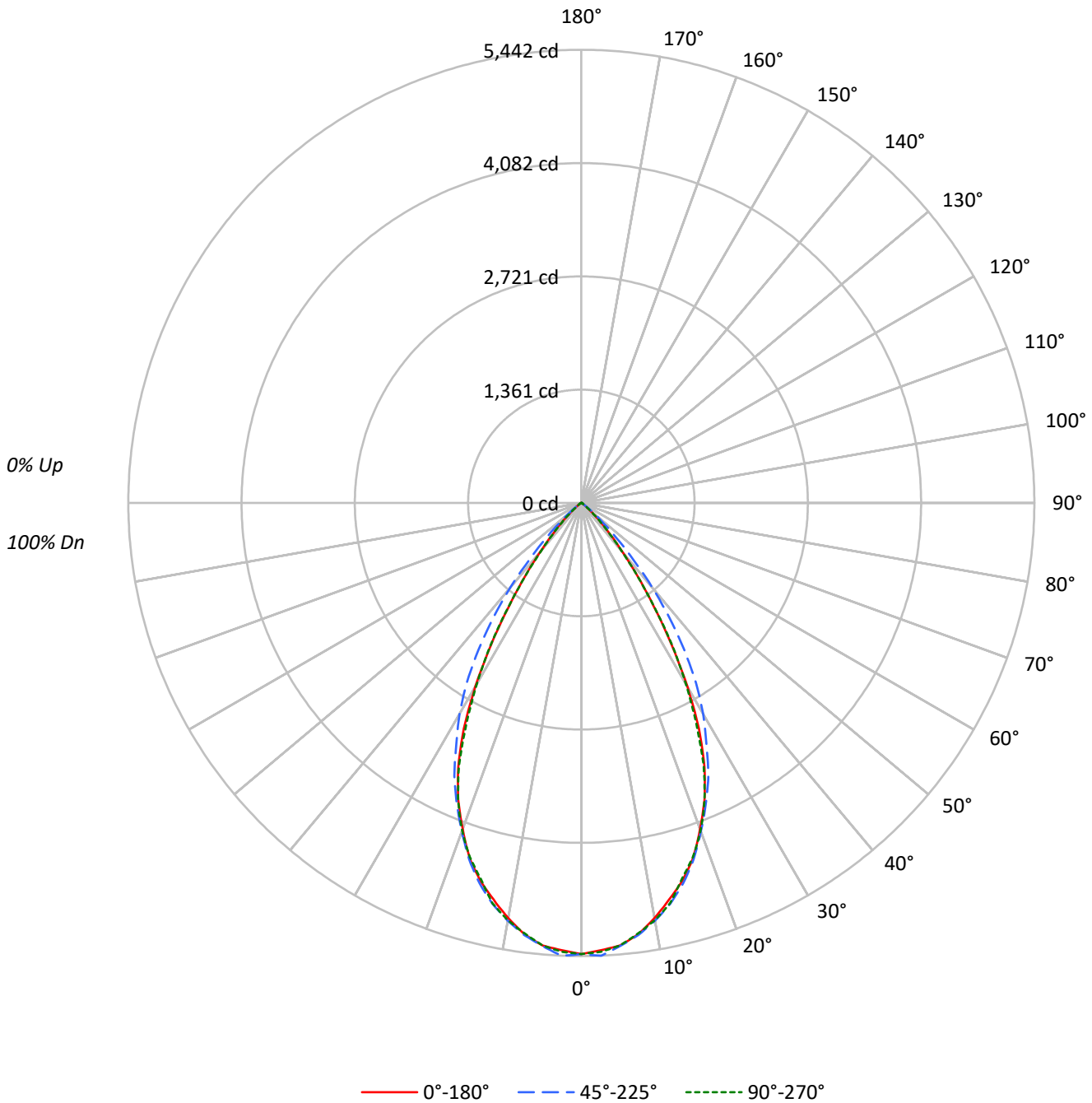
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5002.0 lumens  
Efficiency: N/A  
Efficacy: 85.7 lumens/watt  
Spacing Criteria (0/90/45): 0.91 / 0.9 / 0.94  
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 58.4  
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



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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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	113	111	108	106	111	108	106	104	104	103	101	101	99	98	97	96	95	93
2	108	103	99	95	105	101	97	94	98	95	92	95	92	90	92	90	88	87
3	102	96	91	87	100	94	90	86	92	88	84	89	86	83	87	84	82	80
4	97	89	84	79	95	88	83	79	86	81	78	84	80	77	82	79	76	75
5	92	83	77	73	90	82	77	73	81	76	72	79	75	71	77	74	71	69
6	87	78	72	68	86	77	71	67	76	71	67	74	70	66	73	69	66	64
7	83	73	67	63	81	73	67	63	71	66	62	70	65	62	69	65	62	60
8	79	69	63	59	77	68	62	58	67	62	58	66	61	58	65	61	58	56
9	75	65	59	55	74	64	59	55	63	58	55	63	58	54	62	57	54	53
10	71	61	55	51	70	61	55	51	60	55	51	59	54	51	58	54	51	50

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

	0°	45°	90°
0°	522767	522767	522767
5°	516764	517432	516764
10°	496099	499136	498470
15°	469006	472442	466589
20°	428027	431200	430142
25°	372698	384419	370132
30°	283408	325980	279197
35°	178395	253416	180020
40°	96244	167359	94518
45°	45563	82665	45085
50°	17053	30998	17053
55°	8108	9858	7536
60°	5307	4670	5307
65°	3151	3151	3151
70°	1947	2934	1947
75°	1305	1305	1305
80°	1945	1945	1945
85°	0	0	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	502.3	10.0
10°-20°	1316.5	26.3
20°-30°	1608.2	32.2
30°-40°	1124.8	22.5
40°-50°	368.6	7.4
50°-60°	58.6	1.2
60°-70°	16.0	0.3
70°-80°	5.4	0.1
80°-90°	1.5	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°	3427.1	68.5
0°-40°	4551.9	91.0
0°-60°	4979.1	99.5
0°-90°	5002.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5002.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5418	5418	5418	5418	5418	
5°	5335	5337	5342	5310	5335	500
15°	4695	4714	4730	4698	4671	1310
25°	3501	3554	3611	3545	3477	1573
35°	1514	1788	2151	1761	1528	966
45°	334	411	606	406	330	280
55°	48	52	59	52	45	48
65°	14	17	14	17	14	15
75°	4	4	4	4	4	5
85°	0	0	0	0	0	1
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	5417.9	5417.9	5417.9	5417.9	5417.9	5417.9	5417.9	5417.9	5417.9	5417.9	5417.9
2.5°	5376.6	5414.6	5404.2	5428.3	5428.3	5400.8	5407.7	5417.9	5431.7	5442.1	5359.4
5°	5335.3	5369.8	5338.7	5373.1	5352.5	5321.6	5373.1	5345.6	5362.9	5342.2	5356.0
7.5°	5225.2	5280.3	5218.3	5259.6	5245.9	5228.6	5249.2	5242.4	5252.8	5235.5	5197.7
10°	5063.4	5108.2	5066.9	5125.4	5097.8	5080.7	5097.8	5115.1	5111.6	5094.4	5115.1
12.5°	4877.6	4929.1	4908.5	4942.9	4912.0	4912.0	4953.3	4942.9	4946.4	4932.6	4956.7
15°	4695.1	4733.0	4702.0	4746.8	4733.0	4695.1	4712.2	4712.2	4739.9	4729.5	4702.0
17.5°	4468.0	4498.9	4464.5	4474.8	4461.1	4454.2	4526.4	4478.2	4505.8	4485.1	4488.6
20°	4168.5	4182.3	4171.9	4199.4	4182.3	4202.9	4196.0	4189.1	4189.1	4199.4	4175.4
22.5°	3865.5	3865.5	3875.9	3882.8	3896.5	3875.9	3917.2	3882.8	3886.2	3910.3	3903.4
25°	3500.7	3490.3	3514.5	3548.9	3562.7	3545.4	3600.4	3572.9	3593.6	3610.8	3572.9
27.5°	3056.7	3056.7	3080.7	3139.3	3149.5	3170.2	3245.9	3245.9	3273.4	3249.4	3276.9
30°	2543.7	2581.6	2612.5	2688.3	2712.4	2757.2	2836.3	2874.2	2936.2	2925.8	2912.0
32.5°	2017.1	2068.8	2072.2	2151.4	2216.7	2292.4	2399.2	2488.7	2533.5	2564.4	2529.9
35°	1514.5	1545.6	1573.1	1628.2	1738.3	1838.1	1934.5	2051.5	2130.7	2151.4	2120.3
37.5°	1108.4	1115.3	1142.8	1194.4	1277.0	1373.5	1490.5	1617.8	1700.5	1731.4	1697.0
40°	764.1	771.0	784.8	829.6	898.4	967.3	1060.2	1191.0	1266.7	1328.7	1283.9
42.5°	512.8	519.7	533.5	567.9	605.8	671.2	743.5	826.1	898.4	926.0	901.8
45°	333.9	333.9	340.8	364.9	385.6	437.1	488.8	540.4	588.6	605.8	588.6
47.5°	196.2	199.6	206.5	223.8	247.8	268.4	306.4	340.8	354.5	368.3	361.4
50°	113.6	113.6	123.9	134.3	151.4	165.2	179.0	192.7	199.6	206.5	199.6
52.5°	61.9	65.5	68.8	72.3	79.2	93.0	103.2	103.2	106.8	110.1	106.8
55°	48.2	48.2	48.2	48.2	51.7	51.7	51.7	55.1	55.1	58.6	55.1
57.5°	34.4	34.4	34.4	37.9	37.9	37.9	34.4	34.4	34.4	34.4	34.4
60°	27.5	27.5	27.5	27.5	27.5	27.5	27.5	24.2	24.2	24.2	24.2
62.5°	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6
65°	13.8	13.8	17.3	17.3	17.3	17.3	17.3	13.8	13.8	13.8	13.8
67.5°	10.4	10.4	10.4	10.4	13.8	13.8	10.4	10.4	10.4	10.4	10.4
70°	6.9	6.9	6.9	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4
72.5°	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9
75°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
77.5°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
80°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.5	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°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	5417.9	5417.9	5417.9	5417.9	5417.9	5417.9	5417.9	5417.9
2.5°	5417.9	5359.4	5366.3	5397.3	5380.0	5397.3	5393.9	5393.9
5°	5359.4	5342.2	5314.7	5304.3	5325.0	5369.8	5362.9	5335.3
7.5°	5249.2	5204.6	5235.5	5249.2	5232.1	5259.6	5273.4	5214.8
10°	5118.5	5101.3	5094.4	5101.3	5094.4	5122.0	5087.6	5087.6
12.5°	4932.6	4905.1	4905.1	4946.4	4922.2	4901.6	4929.1	4925.7
15°	4746.8	4691.6	4691.6	4705.4	4715.8	4702.0	4705.4	4670.9
17.5°	4471.3	4454.2	4430.0	4468.0	4478.2	4464.5	4474.8	4457.6
20°	4213.2	4213.2	4168.5	4185.6	4199.4	4209.8	4216.7	4189.1
22.5°	3882.8	3889.7	3858.6	3893.0	3903.4	3869.0	3875.9	3869.0
25°	3579.8	3576.4	3552.3	3538.5	3545.4	3531.6	3528.2	3476.6
27.5°	3245.9	3211.5	3159.9	3173.7	3115.1	3067.0	3067.0	2987.7
30°	2884.5	2826.0	2757.2	2688.3	2636.7	2581.6	2550.6	2505.9
32.5°	2461.1	2382.0	2295.9	2202.9	2144.5	2061.9	2017.1	2041.3
35°	2041.3	1924.1	1807.1	1714.3	1624.6	1576.5	1521.4	1528.3
37.5°	1635.0	1469.8	1366.6	1266.7	1191.0	1129.1	1104.9	1098.0
40°	1194.4	1063.6	960.4	888.0	836.5	788.3	760.8	750.4
42.5°	826.1	733.2	650.5	592.1	557.7	526.6	512.8	509.5
45°	537.0	481.9	426.9	385.6	358.0	337.4	333.9	330.4
47.5°	337.4	309.7	275.3	244.4	220.3	206.5	196.2	196.2
50°	192.7	182.5	165.2	148.1	134.3	127.4	117.0	113.6
52.5°	103.2	103.2	96.4	82.6	72.3	65.5	65.5	61.9
55°	55.1	55.1	51.7	51.7	48.2	48.2	48.2	44.8
57.5°	34.4	34.4	37.9	37.9	34.4	34.4	34.4	34.4
60°	24.2	27.5	27.5	27.5	27.5	27.5	27.5	27.5
62.5°	20.6	20.6	20.6	20.6	20.6	20.6	20.6	20.6
65°	13.8	17.3	17.3	17.3	17.3	13.8	13.8	13.8
67.5°	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4
70°	10.4	10.4	10.4	10.4	10.4	6.9	6.9	6.9
72.5°	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9
75°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
77.5°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
80°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
82.5°	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
87.5°	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)