

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: P557398

Luminaire Tested: **FUSL-12-4-LD4-2LO-50-UNV-82-87-EDD-90**

Issue Date: 7/16/2021

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.



**Test Information**

Test Method: LM-79-08  
Report Number: P557398  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2105-257-2)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/16/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: FUSL-12-4-LD4-2LO-50-UNV-82-87-EDD-90  
Description: 4FT FUSL SURFACE MOUNT WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

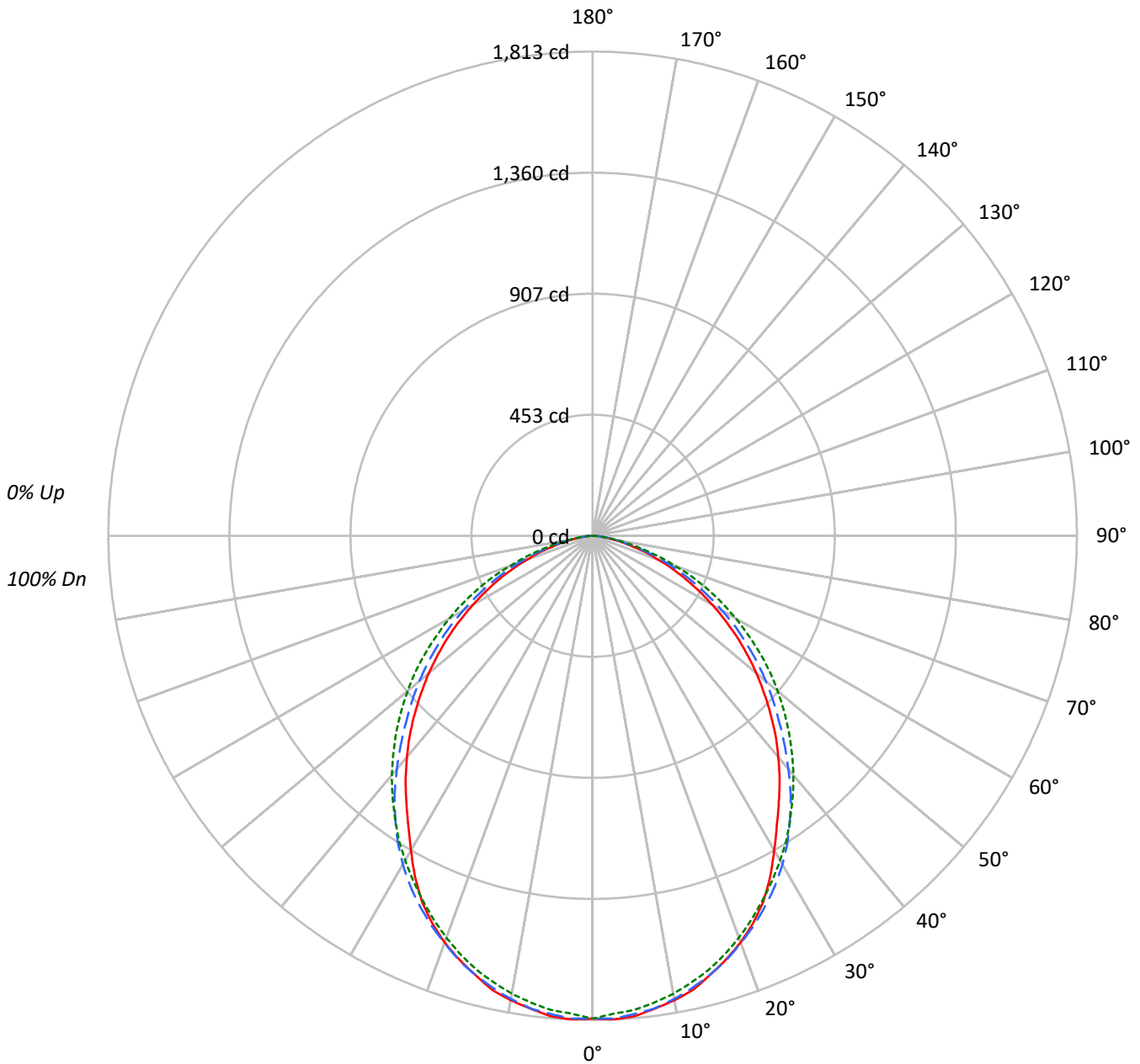
Lumens per Lamp: N/A  
Luminaire Lumens: 4180.0 lumens  
Efficiency: N/A  
Efficacy: 89.3 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 46.8  
Input Voltage (V): NR  
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									
RC	80									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																			
1	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86																			
2	101	93	87	82	98	91	86	81	88	83	79	85	81	77	82	78	75	73																			
3	92	83	75	69	90	81	74	68	78	72	67	75	70	66	73	69	65	63																			
4	85	74	65	59	83	72	65	59	70	63	58	68	62	57	65	61	56	54																			
5	78	66	58	51	76	65	57	51	63	56	51	61	55	50	59	54	50	47																			
6	73	60	51	45	71	59	51	45	57	50	45	56	49	44	54	48	44	42																			
7	68	55	46	40	66	54	46	40	52	45	40	51	44	40	49	44	39	37																			
8	63	50	42	36	61	49	41	36	48	41	36	47	40	36	46	40	35	34																			
9	59	46	38	33	58	45	38	33	44	37	32	43	37	32	42	36	32	30																			
10	55	43	35	30	54	42	35	30	41	34	30	40	34	29	39	33	29	28																			

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

	0°	45°	90°
0°	4864	4864	4864
5°	4878	4857	4816
10°	4826	4812	4758
15°	4740	4740	4686
20°	4640	4646	4586
25°	4487	4543	4470
30°	4225	4415	4361
35°	3992	4232	4239
40°	3798	4003	4108
45°	3581	3761	3954
50°	3352	3544	3785
55°	3092	3297	3581
60°	2785	3009	3330
65°	2458	2676	3029
70°	2049	2279	2574
75°	1611	1820	2015
80°	1151	1280	1421
85°	750	750	707



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	170.2	4.1
10°-20°	478.2	11.4
20°-30°	698.7	16.7
30°-40°	793.1	19.0
40°-50°	765.7	18.3
50°-60°	631.6	15.1
60°-70°	420.6	10.1
70°-80°	188.2	4.5
80°-90°	33.7	0.8
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°	1347.1	32.2
0°-40°	2140.2	51.2
0°-60°	3537.5	84.6
0°-90°	4180.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4180.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1808	1808	1808	1808	1808	
5°	1806	1805	1798	1788	1783	171
15°	1702	1706	1702	1694	1682	480
25°	1511	1523	1530	1519	1506	692
35°	1215	1232	1288	1295	1290	761
45°	941	957	988	1033	1039	726
55°	659	670	703	742	763	588
65°	386	397	420	450	476	383
75°	155	163	175	183	194	169
85°	24	24	24	23	23	33
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1807.7	1807.7	1807.7	1807.7	1807.7
2.5°	1812.6	1813.3	1809.1	1798.0	1791.1
5°	1805.7	1805.0	1798.0	1788.3	1782.7
7.5°	1785.5	1786.9	1784.8	1770.9	1763.3
10°	1766.1	1766.8	1761.2	1750.1	1741.1
12.5°	1741.1	1740.4	1732.7	1727.2	1712.6
15°	1701.5	1705.7	1701.5	1693.8	1682.0
17.5°	1663.3	1663.3	1666.1	1652.9	1643.8
20°	1620.2	1622.3	1622.3	1611.9	1601.5
22.5°	1570.2	1576.5	1578.6	1567.5	1554.9
25°	1511.2	1523.0	1529.9	1518.8	1505.6
27.5°	1439.7	1457.7	1478.6	1470.2	1455.6
30°	1359.8	1386.2	1420.9	1414.0	1403.6
32.5°	1284.1	1310.5	1358.4	1355.6	1350.1
35°	1215.3	1232.0	1288.3	1295.2	1290.4
37.5°	1150.1	1165.3	1218.1	1234.1	1229.9
40°	1081.3	1098.0	1139.6	1168.1	1169.5
42.5°	1013.3	1029.2	1063.3	1104.2	1104.2
45°	941.0	957.0	988.3	1033.4	1038.9
47.5°	870.2	886.9	917.4	962.6	971.6
50°	800.7	816.0	846.6	890.3	904.2
52.5°	728.5	745.2	775.0	815.3	835.5
55°	659.1	670.2	702.8	741.7	763.2
57.5°	586.8	597.3	634.1	667.4	689.6
60°	517.4	530.6	559.1	593.1	618.8
62.5°	450.7	464.6	488.9	518.8	547.9
65°	386.1	396.6	420.2	450.0	475.7
67.5°	323.6	332.7	356.3	377.1	404.2
70°	260.4	272.2	289.6	309.7	327.1
72.5°	209.7	214.6	229.2	243.8	261.8
75°	154.9	163.2	175.0	183.3	193.8
77.5°	111.1	116.0	122.9	129.9	139.6
80°	74.3	76.4	82.6	84.0	91.7
82.5°	45.1	46.5	47.9	48.6	51.4
85°	24.3	24.3	24.3	22.9	22.9
87.5°	13.9	13.9	11.8	9.7	6.9
90°	0.0	0.0	0.0	0.0	0.0



Report Generated By 670246072 / DESKTOP-MV3F9LC







— 0°-180°    - - 45°-225°    - - - - 90°-270°







(END OF REPORT)