

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: P557081

Luminaire Tested: **FUSL-12-4-LD4-2HI-40-UNV-82-88-EDD**

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: P557081  
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-LD4-2HI-40-UNV-82-88-EDD  
Description: 4FT FUSL SURFACE MOUNT WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

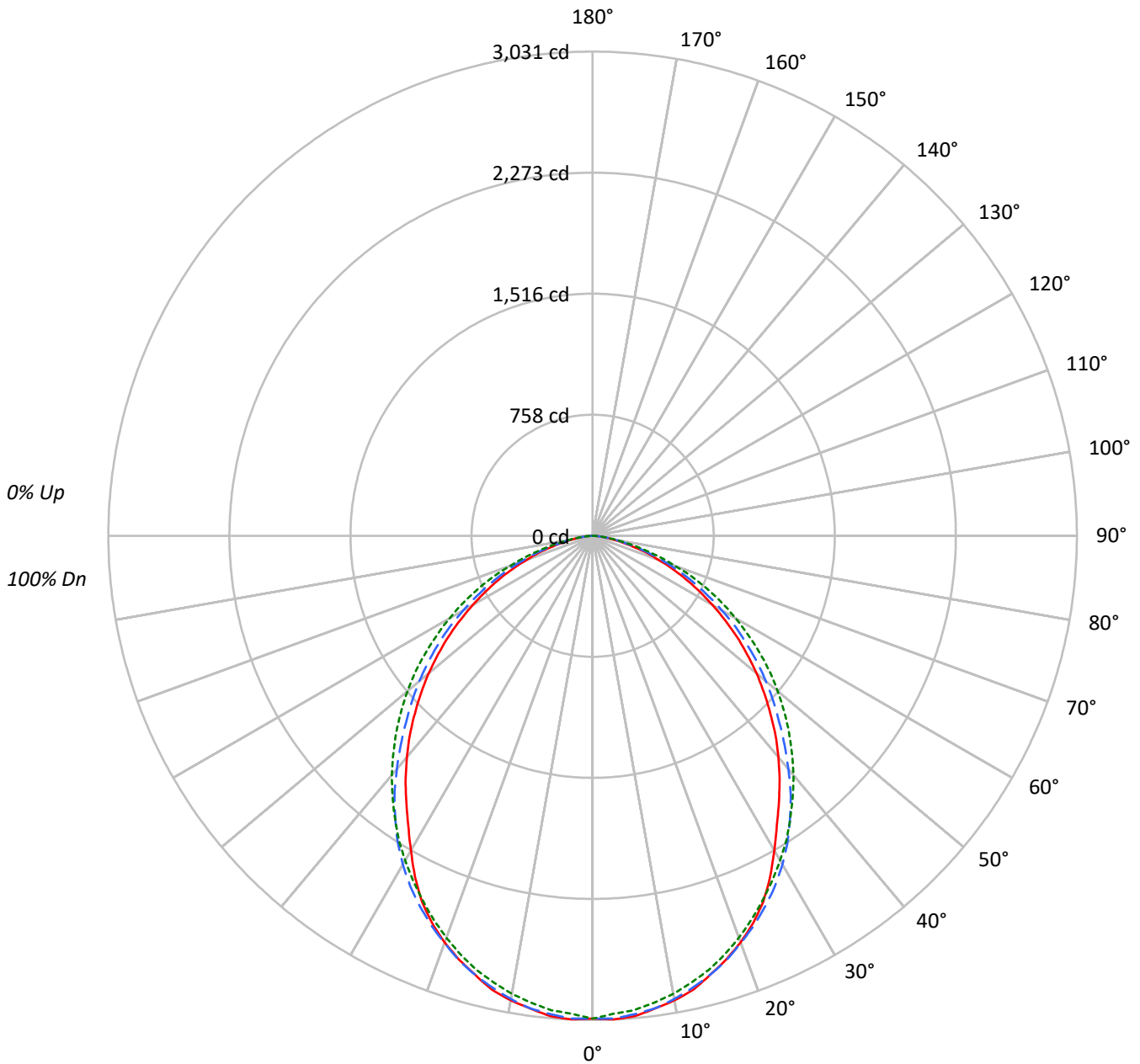
Lumens per Lamp: N/A  
Luminaire Lumens: 6989.0 lumens  
Efficiency: N/A  
Efficacy: 80.9 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 86.4  
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					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	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	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86					86			
2	101	93	87	82	98	91	86	81	88	83	79	85	81	77	82	78	75	73					73			
3	92	83	75	69	90	81	74	68	78	72	67	75	70	66	73	69	65	63					63			
4	85	74	65	59	83	72	65	59	70	63	58	68	62	57	65	61	56	54					54			
5	78	66	58	51	76	65	57	51	63	56	51	61	55	50	59	54	50	47					47			
6	73	60	51	45	71	59	51	45	57	50	45	56	49	44	54	48	44	42					42			
7	68	55	46	40	66	54	46	40	52	45	40	51	44	40	49	44	39	37					37			
8	63	50	42	36	61	49	41	36	48	41	36	47	40	36	46	40	35	34					34			
9	59	46	38	33	58	45	38	33	44	37	32	43	37	32	42	36	32	30					30			
10	55	43	35	30	54	42	35	30	41	34	30	40	34	29	39	33	29	28					28			

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

	0°	45°	90°
0°	8134	8134	8134
5°	8155	8121	8052
10°	8069	8047	7955
15°	7926	7926	7835
20°	7758	7768	7668
25°	7502	7595	7475
30°	7065	7382	7292
35°	6676	7076	7088
40°	6351	6694	6869
45°	5988	6288	6611
50°	5605	5926	6329
55°	5170	5513	5987
60°	4656	5031	5568
65°	4111	4473	5065
70°	3426	3810	4303
75°	2692	3042	3369
80°	1925	2142	2376
85°	1254	1254	1183



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	284.6	4.1
10°-20°	799.5	11.4
20°-30°	1168.3	16.7
30°-40°	1326.1	19.0
40°-50°	1280.2	18.3
50°-60°	1056.1	15.1
60°-70°	703.2	10.1
70°-80°	314.7	4.5
80°-90°	56.3	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°	2252.4	32.2
0°-40°	3578.5	51.2
0°-60°	5914.7	84.6
0°-90°	6989.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6989.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3023	3023	3023	3023	3023	
5°	3019	3018	3006	2990	2981	286
15°	2845	2852	2845	2832	2812	802
25°	2527	2546	2558	2540	2517	1157
35°	2032	2060	2154	2166	2158	1273
45°	1573	1600	1652	1728	1737	1214
55°	1102	1120	1175	1240	1276	984
65°	646	663	702	752	795	640
75°	259	273	293	307	324	283
85°	41	41	41	38	38	55
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3022.6	3022.6	3022.6	3022.6	3022.6
2.5°	3030.7	3031.9	3024.9	3006.3	2994.7
5°	3019.1	3017.9	3006.3	2990.0	2980.8
7.5°	2985.4	2987.7	2984.2	2961.0	2948.2
10°	2952.9	2954.1	2944.8	2926.2	2911.1
12.5°	2911.1	2909.9	2897.2	2887.9	2863.5
15°	2844.9	2851.9	2844.9	2832.1	2812.4
17.5°	2781.0	2781.0	2785.7	2763.6	2748.5
20°	2709.0	2712.5	2712.5	2695.1	2677.7
22.5°	2625.4	2635.9	2639.4	2620.8	2599.9
25°	2526.7	2546.5	2558.1	2539.5	2517.4
27.5°	2407.1	2437.3	2472.2	2458.2	2433.8
30°	2273.6	2317.7	2375.8	2364.2	2346.8
32.5°	2147.0	2191.2	2271.3	2266.6	2257.3
35°	2032.1	2059.9	2154.0	2165.6	2157.5
37.5°	1922.9	1948.5	2036.7	2063.4	2056.5
40°	1808.0	1835.8	1905.5	1953.1	1955.4
42.5°	1694.2	1720.9	1777.8	1846.3	1846.3
45°	1573.4	1600.1	1652.4	1727.8	1737.1
47.5°	1455.0	1482.8	1533.9	1609.4	1624.5
50°	1338.8	1364.4	1415.5	1488.6	1511.9
52.5°	1218.1	1246.0	1295.9	1363.2	1396.9
55°	1102.0	1120.5	1175.1	1240.1	1276.1
57.5°	981.2	998.6	1060.2	1115.9	1153.1
60°	865.1	887.1	934.8	991.7	1034.6
62.5°	753.6	776.8	817.5	867.4	916.2
65°	645.6	663.0	702.5	752.4	795.4
67.5°	541.1	556.2	595.7	630.5	675.8
70°	435.4	455.2	484.2	517.9	546.9
72.5°	350.7	358.8	383.2	407.6	437.8
75°	258.9	272.9	292.6	306.6	324.0
77.5°	185.8	193.9	205.5	217.1	233.4
80°	124.2	127.7	138.2	140.5	153.3
82.5°	75.5	77.8	80.1	81.3	85.9
85°	40.6	40.6	40.6	38.3	38.3
87.5°	23.2	23.2	19.7	16.3	11.6
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)