

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: P556996

Luminaire Tested: **FUSL-12-4-LD4-2HI-35-UNV-81-86-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: P556996  
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-35-UNV-81-86-EDD-90  
Description: 4FT FUSL SURFACE MOUNT WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

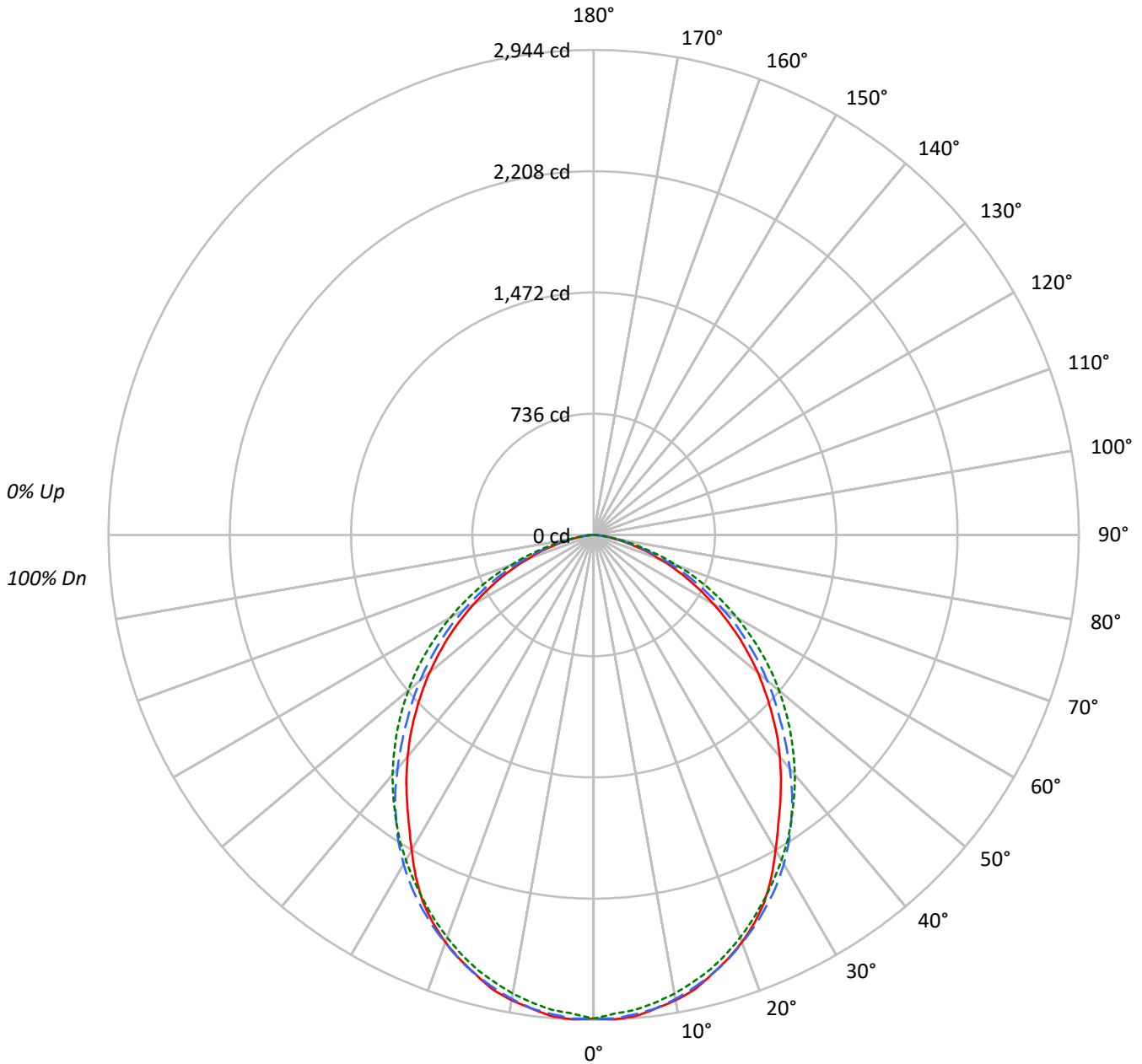
Lumens per Lamp: N/A  
Luminaire Lumens: 6788.0 lumens  
Efficiency: N/A  
Efficacy: 78.6 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

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									
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°	7900	7900	7900
5°	7921	7887	7820
10°	7837	7815	7726
15°	7698	7698	7610
20°	7535	7544	7448
25°	7287	7377	7260
30°	6861	7170	7082
35°	6483	6872	6884
40°	6169	6501	6672
45°	5816	6107	6421
50°	5444	5755	6147
55°	5021	5354	5815
60°	4522	4886	5408
65°	3993	4344	4919
70°	3327	3700	4179
75°	2615	2955	3272
80°	1870	2080	2307
85°	1220	1220	1149



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	276.4	4.1
10°-20°	776.5	11.4
20°-30°	1134.7	16.7
30°-40°	1288.0	19.0
40°-50°	1243.4	18.3
50°-60°	1025.7	15.1
60°-70°	683.0	10.1
70°-80°	305.6	4.5
80°-90°	54.7	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°	2187.6	32.2
0°-40°	3475.6	51.2
0°-60°	5744.6	84.6
0°-90°	6788.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6788.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2936	2936	2936	2936	2936	
5°	2932	2931	2920	2904	2895	278
15°	2763	2770	2763	2751	2732	779
25°	2454	2473	2484	2466	2445	1124
35°	1974	2001	2092	2103	2095	1237
45°	1528	1554	1605	1678	1687	1179
55°	1070	1088	1141	1204	1239	955
65°	627	644	682	731	772	622
75°	252	265	284	298	315	275
85°	40	40	40	37	37	53
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2935.6	2935.6	2935.6	2935.6	2935.6
2.5°	2943.5	2944.7	2937.9	2919.8	2908.6
5°	2932.3	2931.1	2919.8	2904.1	2895.0
7.5°	2899.5	2901.8	2898.4	2875.9	2863.5
10°	2868.0	2869.1	2860.1	2842.0	2827.4
12.5°	2827.4	2826.2	2813.8	2804.8	2781.1
15°	2763.1	2769.8	2763.1	2750.7	2731.5
17.5°	2701.1	2701.1	2705.6	2684.1	2669.5
20°	2631.1	2634.5	2634.5	2617.6	2600.7
22.5°	2549.9	2560.1	2563.5	2545.4	2525.1
25°	2454.1	2473.2	2484.5	2466.5	2445.0
27.5°	2337.9	2367.2	2401.1	2387.5	2363.8
30°	2208.2	2251.1	2307.5	2296.2	2279.3
32.5°	2085.3	2128.1	2206.0	2201.4	2192.4
35°	1973.6	2000.7	2092.0	2103.3	2095.4
37.5°	1867.6	1892.4	1978.1	2004.1	1997.3
40°	1756.0	1783.0	1850.7	1896.9	1899.2
42.5°	1645.4	1671.4	1726.6	1793.2	1793.2
45°	1528.2	1554.1	1604.8	1678.1	1687.2
47.5°	1413.1	1440.2	1489.8	1563.1	1577.8
50°	1300.3	1325.2	1374.8	1445.8	1468.4
52.5°	1183.1	1210.1	1258.6	1324.0	1356.7
55°	1070.3	1088.3	1141.3	1204.5	1239.4
57.5°	953.0	969.9	1029.7	1083.8	1119.9
60°	840.2	861.6	907.9	963.1	1004.9
62.5°	731.9	754.5	794.0	842.5	889.8
65°	627.1	644.0	682.3	730.8	772.5
67.5°	525.5	540.2	578.6	612.4	656.4
70°	422.9	442.1	470.3	503.0	531.2
72.5°	340.6	348.5	372.2	395.9	425.2
75°	251.5	265.0	284.2	297.7	314.7
77.5°	180.4	188.3	199.6	210.9	226.7
80°	120.7	124.1	134.2	136.5	148.9
82.5°	73.3	75.6	77.8	78.9	83.5
85°	39.5	39.5	39.5	37.2	37.2
87.5°	22.6	22.6	19.2	15.8	11.3
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)