

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: P556565

Luminaire Tested: **FUSL-12-4-LD4-1LO-40-UNV-82-86-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: P556565  
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-LD4-1LO-40-UNV-82-86-EDD  
Description: 4FT FUSL SURFACE MOUNT WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

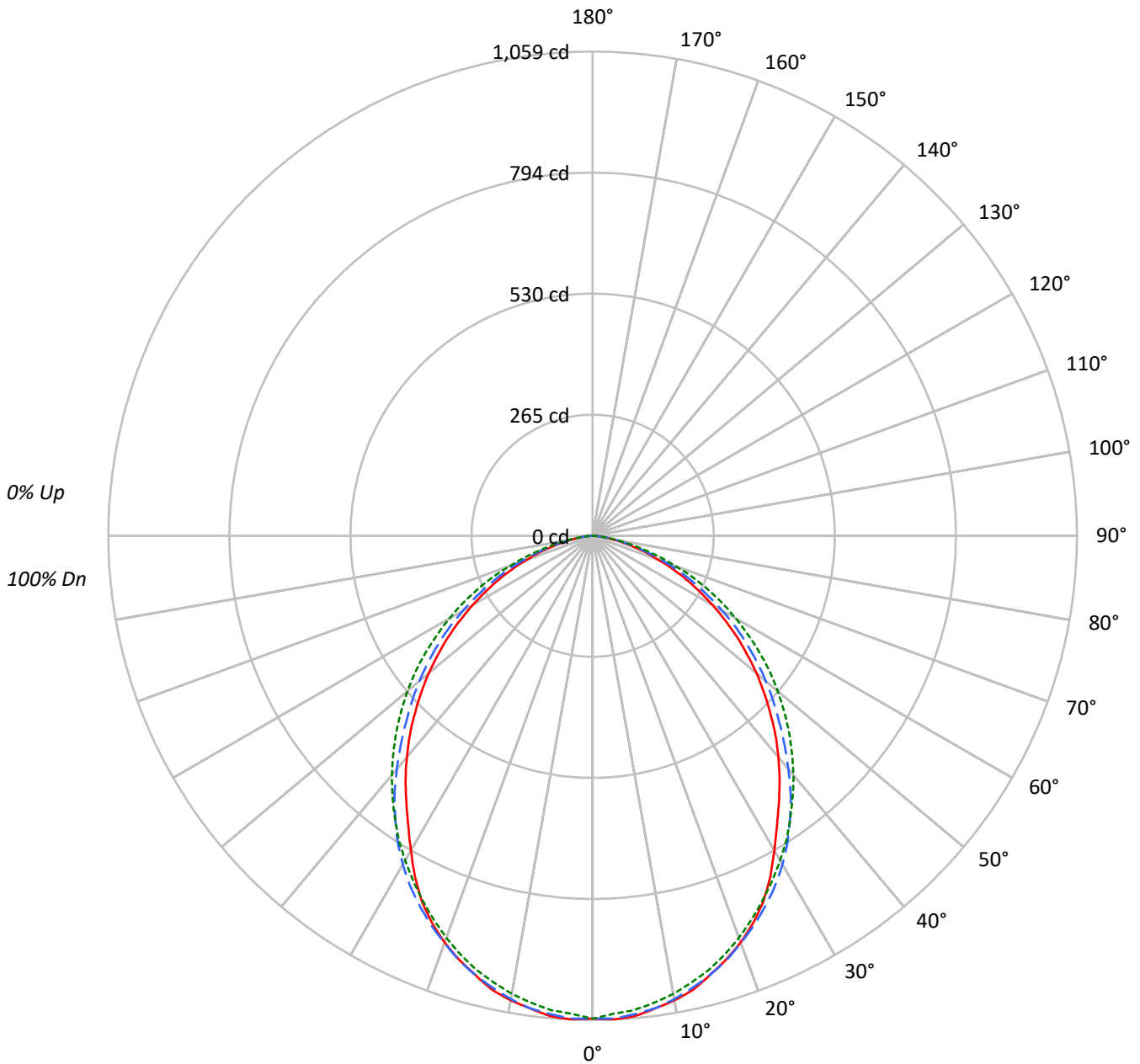
Lumens per Lamp: N/A  
Luminaire Lumens: 2442.0 lumens  
Efficiency: N/A  
Efficacy: 104.4 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 23.4  
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°	2842	2842	2842
5°	2850	2837	2813
10°	2819	2811	2779
15°	2769	2769	2738
20°	2711	2714	2679
25°	2621	2654	2612
30°	2468	2579	2548
35°	2332	2472	2476
40°	2219	2339	2400
45°	2092	2197	2310
50°	1958	2071	2212
55°	1806	1926	2092
60°	1627	1758	1946
65°	1436	1563	1769
70°	1197	1331	1504
75°	941	1063	1177
80°	673	748	831
85°	438	438	414



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	99.4	4.1
10°-20°	279.3	11.4
20°-30°	408.2	16.7
30°-40°	463.4	19.0
40°-50°	447.3	18.3
50°-60°	369.0	15.1
60°-70°	245.7	10.1
70°-80°	110.0	4.5
80°-90°	19.7	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°	787.0	32.2
0°-40°	1250.3	51.2
0°-60°	2066.6	84.6
0°-90°	2442.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2442.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1056	1056	1056	1056	1056	
5°	1055	1054	1050	1045	1042	100
15°	994	996	994	990	983	280
25°	883	890	894	887	880	404
35°	710	720	753	757	754	445
45°	550	559	577	604	607	424
55°	385	392	411	433	446	344
65°	226	232	246	263	278	224
75°	90	95	102	107	113	99
85°	14	14	14	13	13	19
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1056.1	1056.1	1056.1	1056.1	1056.1
2.5°	1058.9	1059.3	1056.9	1050.4	1046.4
5°	1054.9	1054.5	1050.4	1044.7	1041.5
7.5°	1043.1	1043.9	1042.7	1034.6	1030.1
10°	1031.8	1032.2	1028.9	1022.4	1017.2
12.5°	1017.2	1016.7	1012.3	1009.0	1000.5
15°	994.0	996.5	994.0	989.6	982.7
17.5°	971.7	971.7	973.3	965.6	960.4
20°	946.6	947.8	947.8	941.7	935.6
22.5°	917.3	921.0	922.2	915.7	908.4
25°	882.9	889.8	893.8	887.3	879.6
27.5°	841.1	851.6	863.8	858.9	850.4
30°	794.4	809.8	830.1	826.1	820.0
32.5°	750.2	765.6	793.6	792.0	788.7
35°	710.0	719.8	752.6	756.7	753.8
37.5°	671.9	680.8	711.6	721.0	718.5
40°	631.7	641.5	665.8	682.4	683.2
42.5°	592.0	601.3	621.2	645.1	645.1
45°	549.8	559.1	577.3	603.7	607.0
47.5°	508.4	518.1	536.0	562.3	567.6
50°	467.8	476.7	494.6	520.1	528.3
52.5°	425.6	435.3	452.8	476.3	488.1
55°	385.0	391.5	410.6	433.3	445.9
57.5°	342.8	348.9	370.4	389.9	402.9
60°	302.3	310.0	326.6	346.5	361.5
62.5°	263.3	271.4	285.6	303.1	320.1
65°	225.6	231.7	245.5	262.9	277.9
67.5°	189.1	194.3	208.1	220.3	236.1
70°	152.1	159.0	169.2	181.0	191.1
72.5°	122.5	125.4	133.9	142.4	153.0
75°	90.5	95.3	102.2	107.1	113.2
77.5°	64.9	67.8	71.8	75.9	81.6
80°	43.4	44.6	48.3	49.1	53.6
82.5°	26.4	27.2	28.0	28.4	30.0
85°	14.2	14.2	14.2	13.4	13.4
87.5°	8.1	8.1	6.9	5.7	4.1
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)