

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: P556548

Luminaire Tested: **FUSL-12-4-LD4-1LO-40-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: P556548  
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-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 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

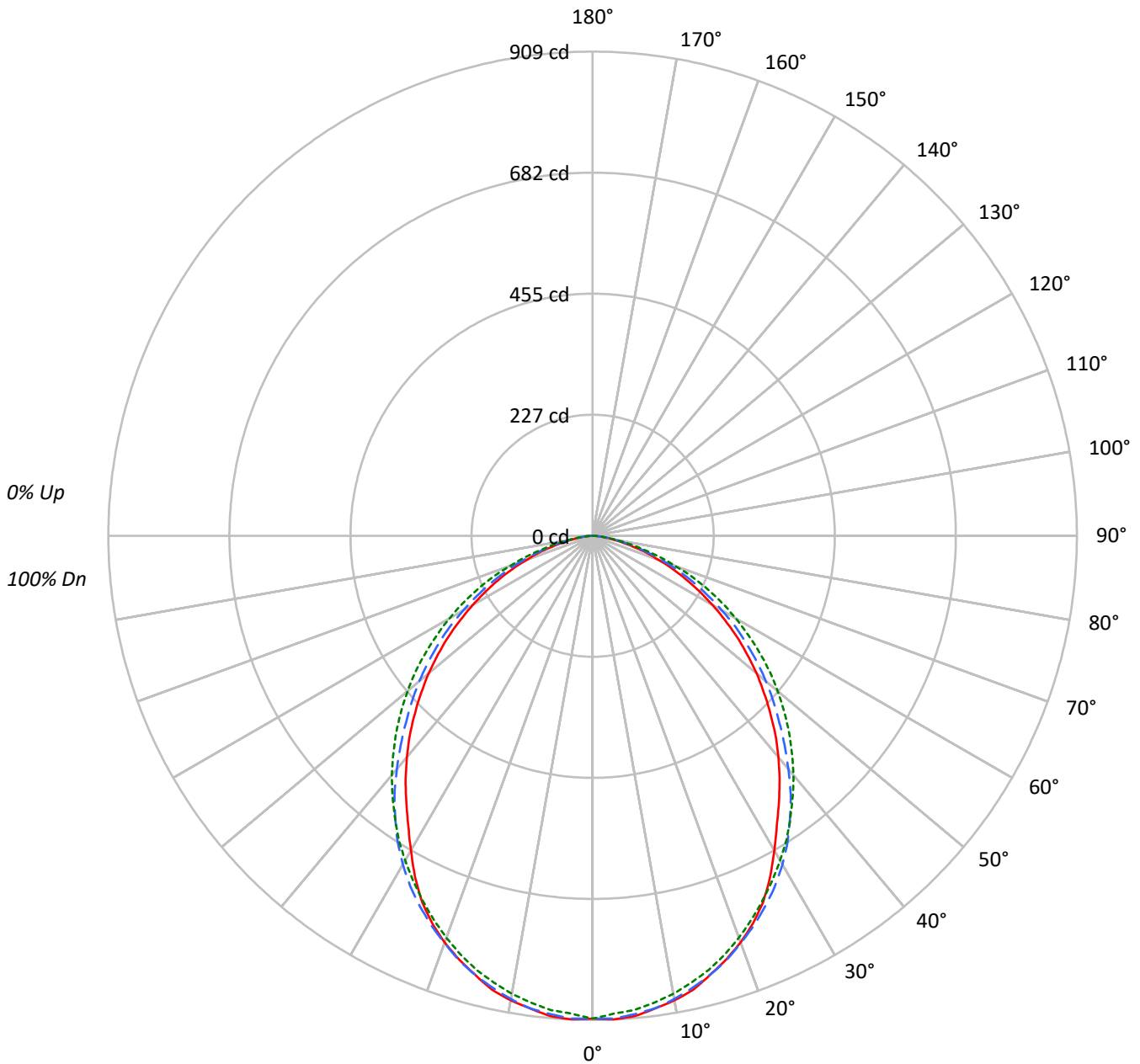
Lumens per Lamp: N/A  
Luminaire Lumens: 2096.0 lumens  
Efficiency: N/A  
Efficacy: 89.6 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 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				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	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°	2439	2439	2439
5°	2446	2435	2415
10°	2420	2413	2385
15°	2377	2377	2350
20°	2326	2330	2300
25°	2250	2278	2242
30°	2119	2214	2187
35°	2002	2122	2125
40°	1905	2008	2060
45°	1796	1886	1983
50°	1681	1777	1898
55°	1551	1653	1795
60°	1396	1509	1670
65°	1233	1342	1519
70°	1028	1142	1290
75°	808	913	1011
80°	578	642	713
85°	377	377	355



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	85.3	4.1
10°-20°	239.8	11.4
20°-30°	350.4	16.7
30°-40°	397.7	19.0
40°-50°	383.9	18.3
50°-60°	316.7	15.1
60°-70°	210.9	10.1
70°-80°	94.4	4.5
80°-90°	16.9	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°	675.5	32.2
0°-40°	1073.2	51.2
0°-60°	1773.8	84.6
0°-90°	2096.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2096.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	906	906	906	906	906	
5°	905	905	902	897	894	86
15°	853	855	853	849	843	241
25°	758	764	767	762	755	347
35°	609	618	646	650	647	382
45°	472	480	496	518	521	364
55°	330	336	352	372	383	295
65°	194	199	211	226	238	192
75°	78	82	88	92	97	85
85°	12	12	12	12	12	16
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	906.5	906.5	906.5	906.5	906.5
2.5°	908.9	909.3	907.2	901.6	898.1
5°	905.4	905.1	901.6	896.7	893.9
7.5°	895.3	896.0	895.0	888.0	884.2
10°	885.6	885.9	883.1	877.6	873.0
12.5°	873.0	872.7	868.9	866.1	858.8
15°	853.2	855.3	853.2	849.4	843.4
17.5°	834.0	834.0	835.4	828.8	824.3
20°	812.4	813.5	813.5	808.3	803.0
22.5°	787.4	790.5	791.5	786.0	779.7
25°	757.8	763.7	767.2	761.6	755.0
27.5°	721.9	731.0	741.4	737.2	729.9
30°	681.9	695.1	712.5	709.0	703.8
32.5°	643.9	657.1	681.2	679.8	677.0
35°	609.4	617.8	646.0	649.5	647.0
37.5°	576.7	584.3	610.8	618.8	616.7
40°	542.2	550.6	571.5	585.7	586.4
42.5°	508.1	516.1	533.2	553.7	553.7
45°	471.9	479.9	495.5	518.2	521.0
47.5°	436.3	444.7	460.0	482.7	487.2
50°	401.5	409.2	424.5	446.4	453.4
52.5°	365.3	373.7	388.6	408.8	418.9
55°	330.5	336.1	352.4	371.9	382.7
57.5°	294.3	299.5	317.9	334.7	345.8
60°	259.4	266.1	280.3	297.4	310.3
62.5°	226.0	233.0	245.2	260.1	274.8
65°	193.6	198.8	210.7	225.7	238.5
67.5°	162.3	166.8	178.6	189.1	202.7
70°	130.6	136.5	145.2	155.3	164.0
72.5°	105.2	107.6	114.9	122.2	131.3
75°	77.7	81.8	87.8	91.9	97.2
77.5°	55.7	58.2	61.6	65.1	70.0
80°	37.3	38.3	41.4	42.1	46.0
82.5°	22.6	23.3	24.0	24.4	25.8
85°	12.2	12.2	12.2	11.5	11.5
87.5°	7.0	7.0	5.9	4.9	3.5
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)