

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: P556418

Luminaire Tested: **FUSL-12-4-LD4-1LO-30-UNV-81-85-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: P556418  
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-30-UNV-81-85-EDD-90  
Description: 4FT FUSL SURFACE MOUNT WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

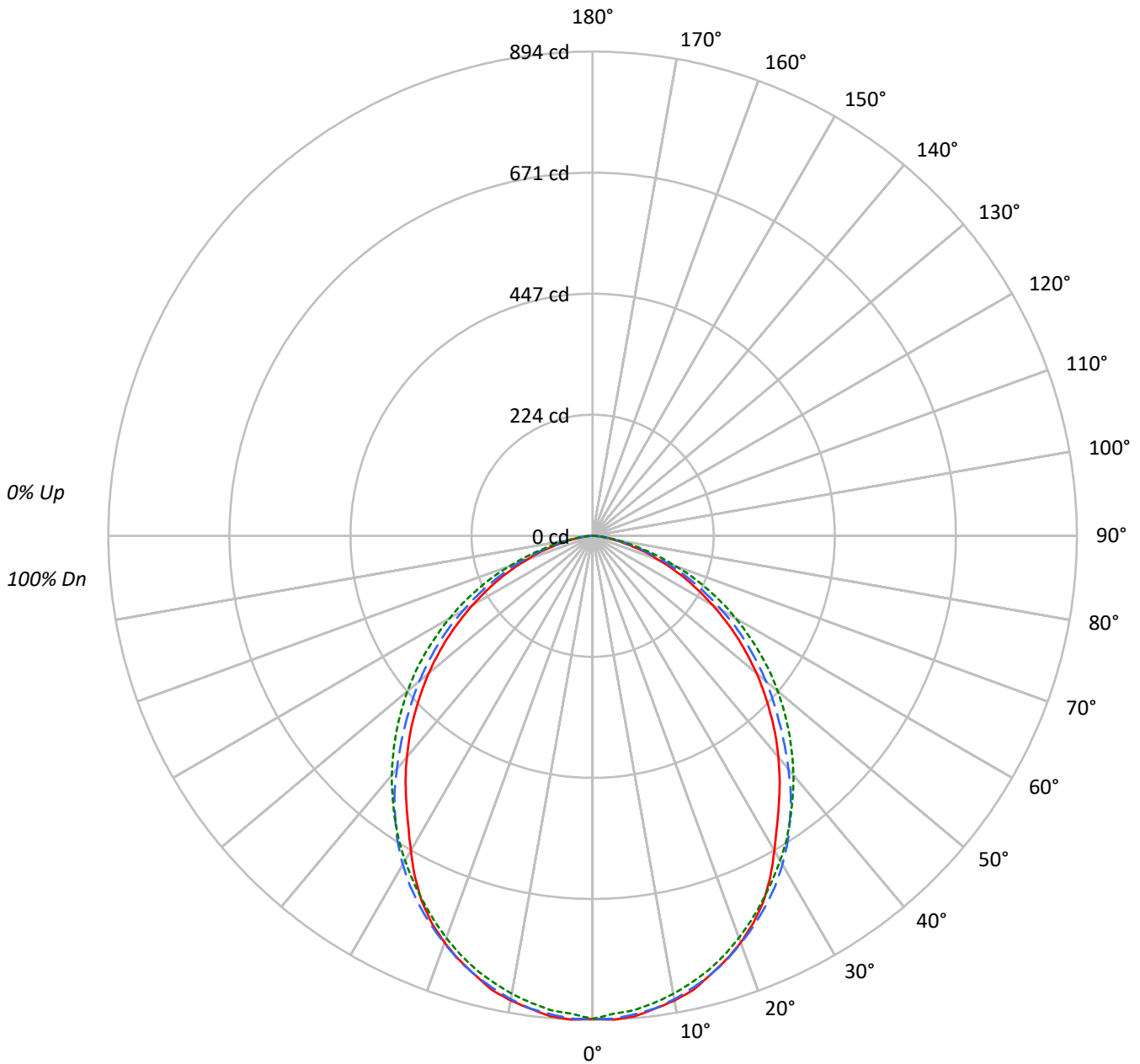
Lumens per Lamp: N/A  
Luminaire Lumens: 2062.0 lumens  
Efficiency: N/A  
Efficacy: 88.1 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

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°	2400	2400	2400
5°	2406	2396	2375
10°	2381	2374	2347
15°	2338	2338	2312
20°	2289	2292	2262
25°	2214	2241	2205
30°	2084	2178	2151
35°	1969	2088	2091
40°	1874	1975	2027
45°	1767	1855	1950
50°	1654	1748	1868
55°	1525	1627	1766
60°	1373	1484	1643
65°	1213	1320	1494
70°	1011	1124	1270
75°	794	897	994
80°	569	632	700
85°	371	371	349



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	84.0	4.1
10°-20°	235.9	11.4
20°-30°	344.7	16.7
30°-40°	391.3	19.0
40°-50°	377.7	18.3
50°-60°	311.6	15.1
60°-70°	207.5	10.1
70°-80°	92.9	4.5
80°-90°	16.6	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°	664.5	32.2
0°-40°	1055.8	51.2
0°-60°	1745.0	84.6
0°-90°	2062.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2062.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	892	892	892	892	892	
5°	891	890	887	882	879	84
15°	839	841	839	836	830	237
25°	746	751	755	749	743	341
35°	600	608	636	639	636	376
45°	464	472	488	510	512	358
55°	325	331	347	366	376	290
65°	190	196	207	222	235	189
75°	76	80	86	90	96	84
85°	12	12	12	11	11	16
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	891.8	891.8	891.8	891.8	891.8
2.5°	894.2	894.5	892.4	887.0	883.5
5°	890.7	890.4	887.0	882.2	879.4
7.5°	880.8	881.5	880.5	873.6	869.8
10°	871.2	871.5	868.8	863.3	858.9
12.5°	858.9	858.5	854.8	852.0	844.8
15°	839.3	841.4	839.3	835.6	829.8
17.5°	820.5	820.5	821.9	815.4	810.9
20°	799.3	800.3	800.3	795.2	790.0
22.5°	774.6	777.7	778.7	773.2	767.1
25°	745.5	751.3	754.7	749.2	742.7
27.5°	710.2	719.1	729.4	725.3	718.1
30°	670.8	683.8	700.9	697.5	692.4
32.5°	633.4	646.5	670.1	668.7	666.0
35°	599.5	607.8	635.5	638.9	636.5
37.5°	567.3	574.9	600.9	608.8	606.7
40°	533.4	541.6	562.2	576.2	576.9
42.5°	499.8	507.7	524.5	544.7	544.7
45°	464.2	472.1	487.5	509.8	512.5
47.5°	429.3	437.5	452.6	474.8	479.3
50°	395.0	402.5	417.6	439.2	446.1
52.5°	359.4	367.6	382.3	402.2	412.1
55°	325.1	330.6	346.7	365.9	376.5
57.5°	289.5	294.6	312.8	329.2	340.2
60°	255.2	261.7	275.8	292.6	305.2
62.5°	222.3	229.2	241.2	255.9	270.3
65°	190.5	195.6	207.3	222.0	234.7
67.5°	159.6	164.1	175.7	186.0	199.4
70°	128.5	134.3	142.9	152.8	161.4
72.5°	103.5	105.9	113.1	120.2	129.2
75°	76.4	80.5	86.3	90.4	95.6
77.5°	54.8	57.2	60.6	64.1	68.9
80°	36.7	37.7	40.8	41.5	45.2
82.5°	22.3	23.0	23.6	24.0	25.4
85°	12.0	12.0	12.0	11.3	11.3
87.5°	6.9	6.9	5.8	4.8	3.4
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)