

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: P556422

Luminaire Tested: **FUSL-12-4-LD4-1LO-30-UNV-81-87-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: P556422  
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-81-87-EDD-90  
Description: 4FT FUSL SURFACE MOUNT WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

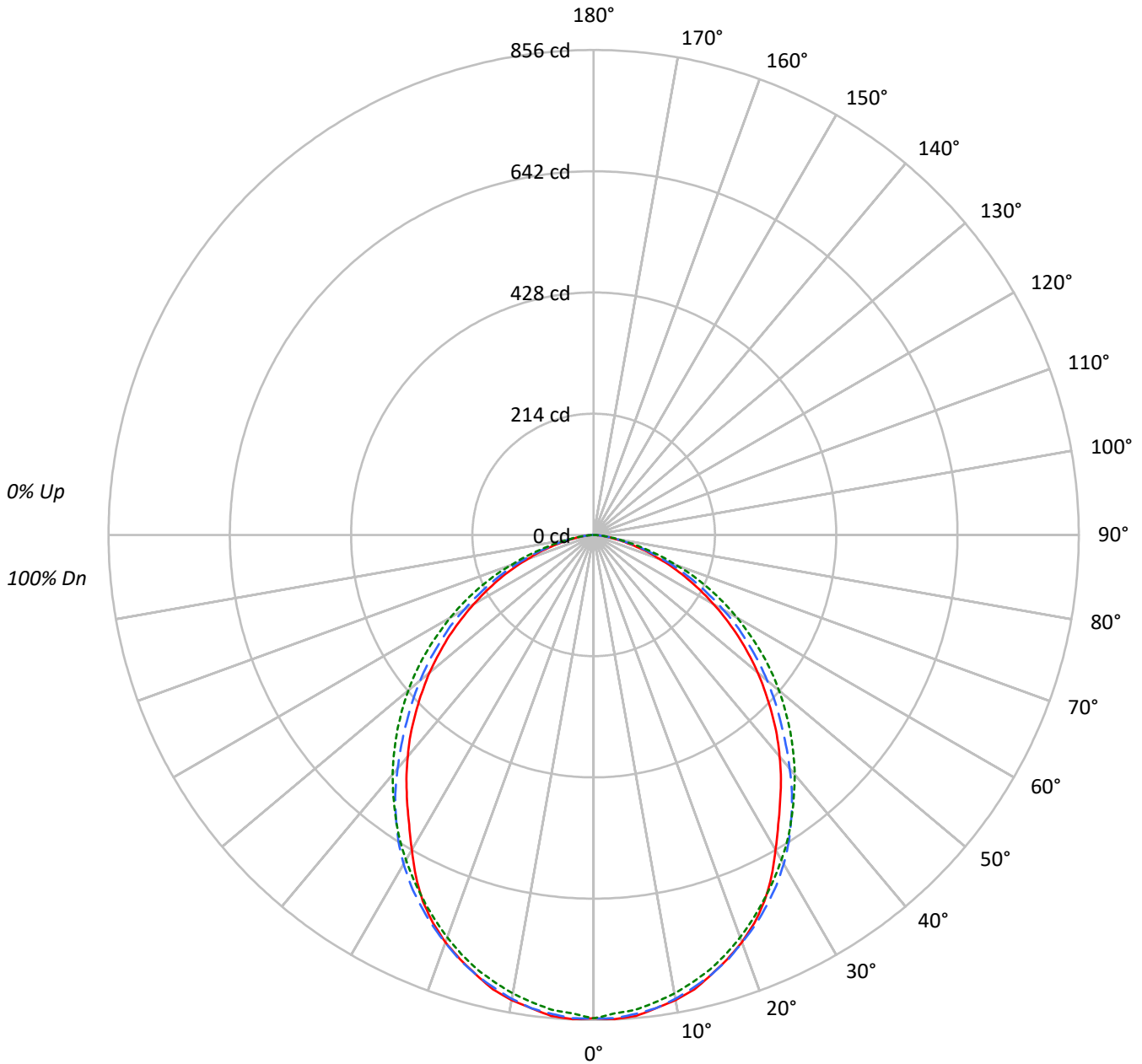
Lumens per Lamp: N/A  
Luminaire Lumens: 1973.0 lumens  
Efficiency: N/A  
Efficacy: 84.3 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

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°	2296	2296	2296
5°	2302	2293	2273
10°	2278	2272	2246
15°	2237	2237	2212
20°	2190	2193	2165
25°	2118	2144	2110
30°	1994	2084	2059
35°	1885	1998	2001
40°	1793	1890	1939
45°	1690	1775	1866
50°	1582	1673	1787
55°	1460	1556	1690
60°	1314	1420	1572
65°	1161	1263	1429
70°	967	1076	1215
75°	760	859	951
80°	544	604	671
85°	355	355	333



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	80.3	4.1
10°-20°	225.7	11.4
20°-30°	329.8	16.7
30°-40°	374.4	19.0
40°-50°	361.4	18.3
50°-60°	298.1	15.1
60°-70°	198.5	10.1
70°-80°	88.8	4.5
80°-90°	15.9	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°	635.8	32.2
0°-40°	1010.2	51.2
0°-60°	1669.7	84.6
0°-90°	1973.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1973.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	853	853	853	853	853	
5°	852	852	849	844	842	81
15°	803	805	803	800	794	226
25°	713	719	722	717	711	327
35°	574	582	608	611	609	359
45°	444	452	466	488	490	343
55°	311	316	332	350	360	278
65°	182	187	198	212	224	181
75°	73	77	83	86	92	80
85°	12	12	12	11	11	15
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	853.3	853.3	853.3	853.3	853.3
2.5°	855.6	855.9	853.9	848.7	845.4
5°	852.3	852.0	848.7	844.1	841.5
7.5°	842.8	843.4	842.5	835.9	832.3
10°	833.6	833.9	831.3	826.1	821.8
12.5°	821.8	821.5	817.9	815.2	808.4
15°	803.1	805.1	803.1	799.5	793.9
17.5°	785.1	785.1	786.4	780.2	775.9
20°	764.8	765.7	765.7	760.8	755.9
22.5°	741.2	744.1	745.1	739.9	734.0
25°	713.3	718.9	722.2	716.9	710.7
27.5°	679.5	688.1	697.9	694.0	687.1
30°	641.8	654.3	670.7	667.4	662.5
32.5°	606.1	618.6	641.2	639.9	637.2
35°	573.7	581.5	608.1	611.4	609.1
37.5°	542.8	550.1	575.0	582.5	580.5
40°	510.4	518.3	537.9	551.4	552.0
42.5°	478.3	485.8	501.9	521.2	521.2
45°	444.2	451.7	466.5	487.8	490.4
47.5°	410.7	418.6	433.0	454.3	458.6
50°	378.0	385.2	399.6	420.2	426.8
52.5°	343.9	351.7	365.8	384.8	394.3
55°	311.1	316.3	331.7	350.1	360.3
57.5°	277.0	281.9	299.3	315.0	325.5
60°	244.2	250.4	263.9	279.9	292.1
62.5°	212.7	219.3	230.8	244.9	258.6
65°	182.3	187.2	198.3	212.4	224.5
67.5°	152.8	157.0	168.2	178.0	190.8
70°	122.9	128.5	136.7	146.2	154.4
72.5°	99.0	101.3	108.2	115.1	123.6
75°	73.1	77.0	82.6	86.5	91.5
77.5°	52.4	54.7	58.0	61.3	65.9
80°	35.1	36.1	39.0	39.7	43.3
82.5°	21.3	22.0	22.6	22.9	24.3
85°	11.5	11.5	11.5	10.8	10.8
87.5°	6.6	6.6	5.6	4.6	3.3
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)