

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: P556433

Luminaire Tested: **FUSL-12-4-LD4-1LO-30-UNV-82-84-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: P556433  
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-82-84-EDD  
Description: 4FT FUSL SURFACE MOUNT WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

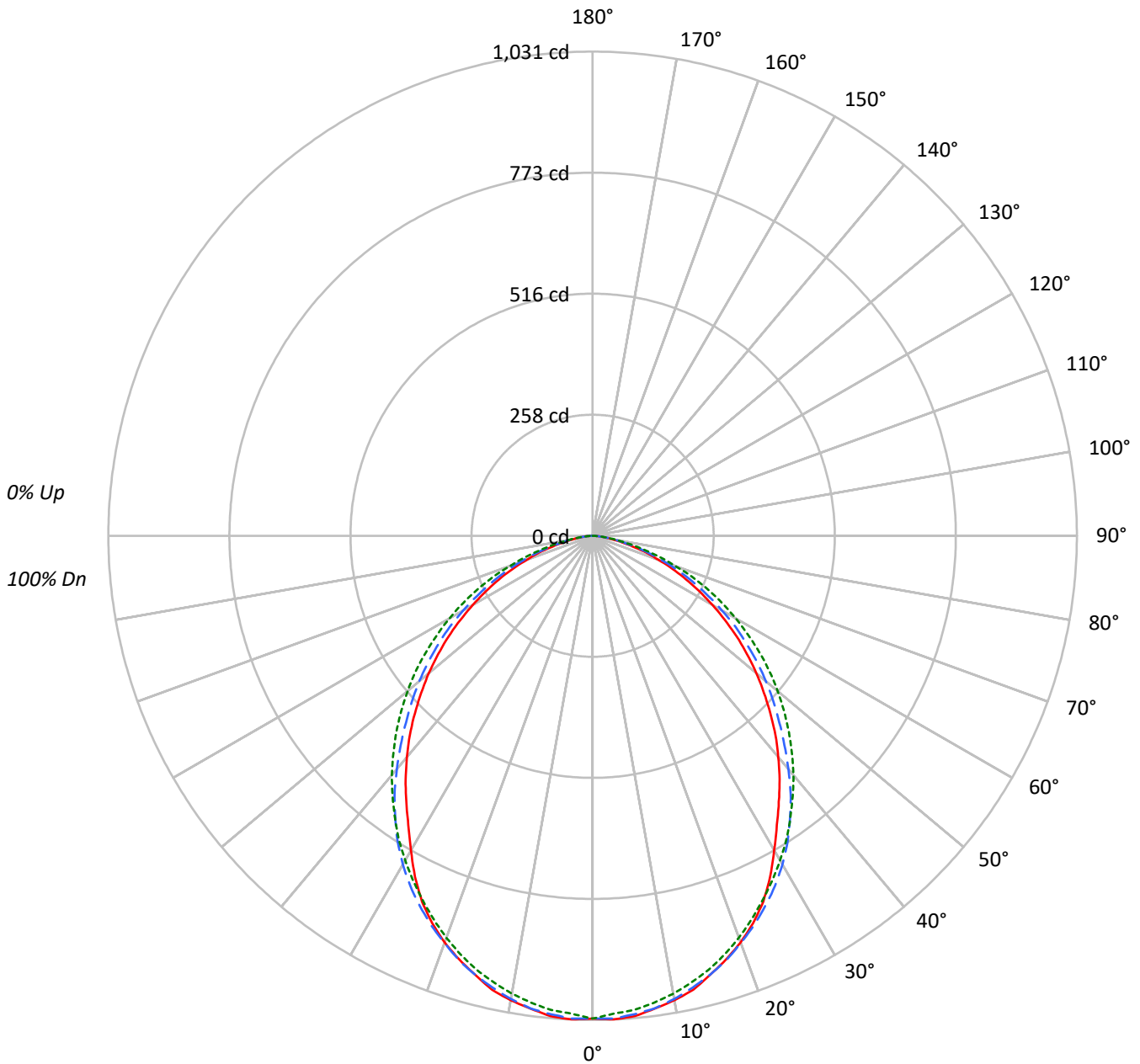
Lumens per Lamp: N/A  
Luminaire Lumens: 2377.0 lumens  
Efficiency: N/A  
Efficacy: 101.6 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

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									
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°	2766	2766	2766
5°	2774	2762	2739
10°	2744	2737	2705
15°	2696	2696	2665
20°	2639	2642	2608
25°	2552	2583	2542
30°	2403	2511	2480
35°	2270	2407	2411
40°	2160	2277	2336
45°	2036	2139	2248
50°	1906	2015	2153
55°	1758	1875	2036
60°	1583	1711	1894
65°	1398	1521	1722
70°	1165	1296	1463
75°	916	1035	1146
80°	656	728	807
85°	426	426	401



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	96.8	4.1
10°-20°	271.9	11.4
20°-30°	397.3	16.7
30°-40°	451.0	19.0
40°-50°	435.4	18.3
50°-60°	359.2	15.1
60°-70°	239.2	10.1
70°-80°	107.0	4.5
80°-90°	19.1	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°	766.0	32.2
0°-40°	1217.1	51.2
0°-60°	2011.6	84.6
0°-90°	2377.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2377.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1028	1028	1028	1028	1028	
5°	1027	1026	1022	1017	1014	97
15°	968	970	968	963	956	273
25°	859	866	870	864	856	394
35°	691	701	733	736	734	433
45°	535	544	562	588	591	413
55°	375	381	400	422	434	335
65°	220	226	239	256	270	218
75°	88	93	100	104	110	96
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°	1028.0	1028.0	1028.0	1028.0	1028.0
2.5°	1030.8	1031.2	1028.8	1022.5	1018.5
5°	1026.8	1026.4	1022.5	1016.9	1013.8
7.5°	1015.4	1016.1	1015.0	1007.1	1002.7
10°	1004.3	1004.7	1001.5	995.2	990.1
12.5°	990.1	989.7	985.3	982.2	973.9
15°	967.6	969.9	967.6	963.2	956.5
17.5°	945.8	945.8	947.4	939.9	934.8
20°	921.4	922.5	922.5	916.6	910.7
22.5°	892.9	896.5	897.7	891.3	884.2
25°	859.4	866.1	870.0	863.7	856.2
27.5°	818.7	828.9	840.8	836.1	827.8
30°	773.3	788.3	808.0	804.1	798.1
32.5°	730.2	745.2	772.5	770.9	767.7
35°	691.1	700.6	732.6	736.5	733.8
37.5°	654.0	662.7	692.7	701.8	699.4
40°	614.9	624.4	648.1	664.3	665.1
42.5°	576.2	585.3	604.6	627.9	627.9
45°	535.1	544.2	562.0	587.6	590.8
47.5°	494.8	504.3	521.7	547.4	552.5
50°	455.3	464.0	481.4	506.3	514.2
52.5°	414.3	423.8	440.7	463.6	475.1
55°	374.8	381.1	399.7	421.8	434.0
57.5°	333.7	339.6	360.6	379.5	392.2
60°	294.2	301.7	317.9	337.3	351.9
62.5°	256.3	264.2	278.0	295.0	311.6
65°	219.6	225.5	238.9	255.9	270.5
67.5°	184.0	189.2	202.6	214.4	229.8
70°	148.1	154.8	164.7	176.1	186.0
72.5°	119.3	122.0	130.3	138.6	148.9
75°	88.1	92.8	99.5	104.3	110.2
77.5°	63.2	66.0	69.9	73.9	79.4
80°	42.3	43.4	47.0	47.8	52.1
82.5°	25.7	26.5	27.2	27.6	29.2
85°	13.8	13.8	13.8	13.0	13.0
87.5°	7.9	7.9	6.7	5.5	3.9
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)