

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: P558089

Luminaire Tested: **FUSL-12-4-LD4-3LO-40-UNV-81-88-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: P558089  
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-LD4-3LO-40-UNV-81-88-EDD  
Description: 4FT FUSL SURFACE MOUNT WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

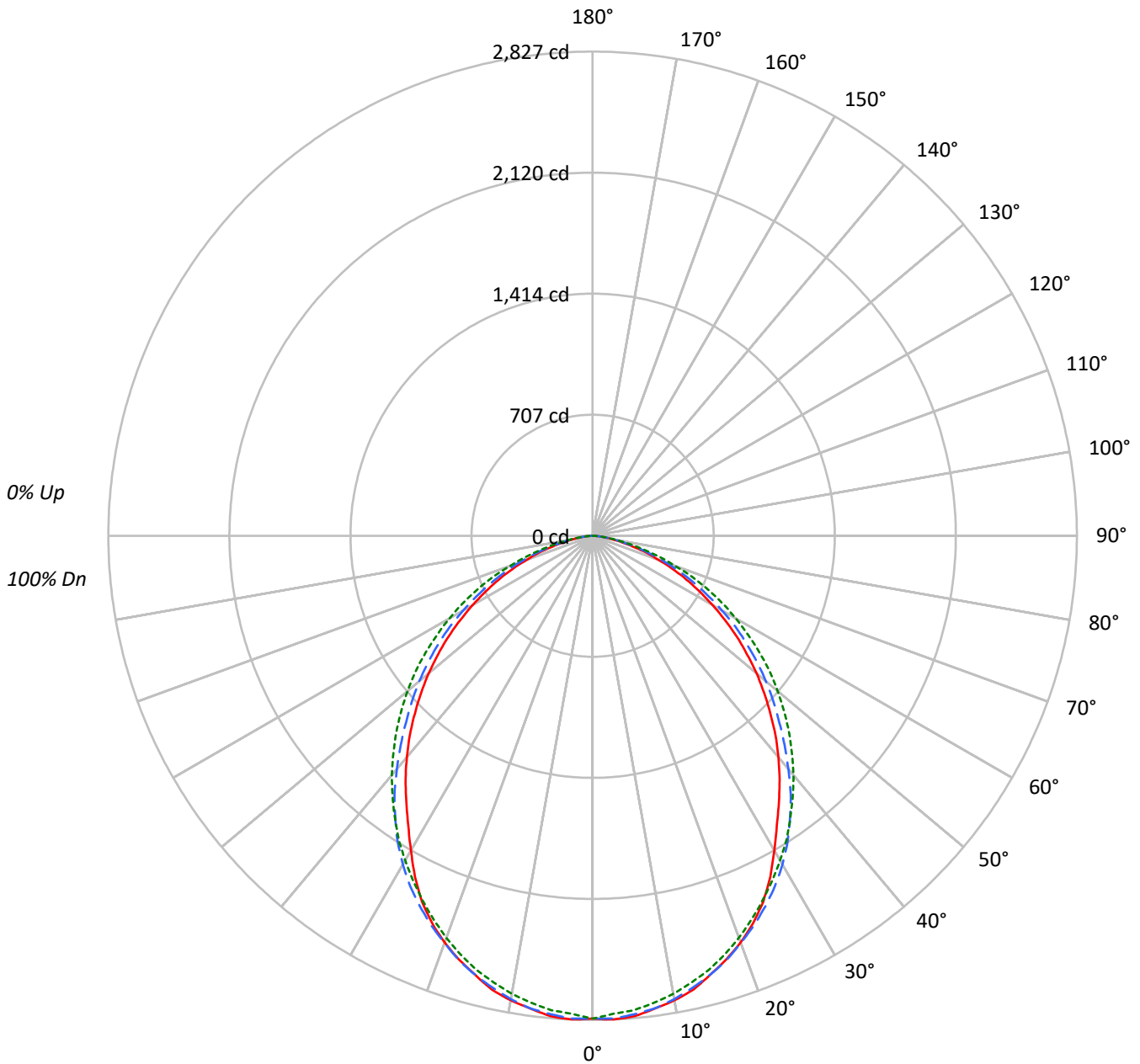
Lumens per Lamp: N/A  
Luminaire Lumens: 6519.0 lumens  
Efficiency: N/A  
Efficacy: 92.9 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 70.2  
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°	7587	7587	7587
5°	7607	7575	7510
10°	7526	7505	7420
15°	7393	7393	7308
20°	7236	7245	7152
25°	6998	7085	6972
30°	6590	6886	6802
35°	6227	6600	6611
40°	5924	6244	6407
45°	5585	5865	6166
50°	5228	5527	5904
55°	4822	5142	5584
60°	4343	4693	5194
65°	3834	4173	4724
70°	3196	3554	4013
75°	2511	2837	3142
80°	1796	1998	2216
85°	1170	1170	1102



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	265.4	4.1
10°-20°	745.7	11.4
20°-30°	1089.7	16.7
30°-40°	1237.0	19.0
40°-50°	1194.1	18.3
50°-60°	985.1	15.1
60°-70°	656.0	10.1
70°-80°	293.5	4.5
80°-90°	52.5	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°	2100.9	32.2
0°-40°	3337.8	51.2
0°-60°	5517.0	84.6
0°-90°	6519.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6519.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2819	2819	2819	2819	2819	
5°	2816	2815	2804	2789	2780	267
15°	2654	2660	2654	2642	2623	748
25°	2357	2375	2386	2369	2348	1079
35°	1895	1921	2009	2020	2012	1188
45°	1468	1492	1541	1612	1620	1132
55°	1028	1045	1096	1157	1190	917
65°	602	618	655	702	742	597
75°	242	254	273	286	302	264
85°	38	38	38	36	36	51
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2819.3	2819.3	2819.3	2819.3	2819.3
2.5°	2826.9	2828.0	2821.5	2804.1	2793.3
5°	2816.0	2815.0	2804.1	2789.0	2780.3
7.5°	2784.6	2786.8	2783.6	2761.9	2750.0
10°	2754.3	2755.4	2746.7	2729.4	2715.3
12.5°	2715.3	2714.2	2702.3	2693.7	2670.9
15°	2653.6	2660.1	2653.6	2641.7	2623.3
17.5°	2594.0	2594.0	2598.3	2577.8	2563.7
20°	2526.9	2530.1	2530.1	2513.9	2497.6
22.5°	2448.9	2458.6	2461.9	2444.5	2425.1
25°	2356.8	2375.2	2386.1	2368.7	2348.2
27.5°	2245.3	2273.4	2305.9	2292.9	2270.2
30°	2120.7	2161.9	2216.0	2205.2	2188.9
32.5°	2002.6	2043.8	2118.5	2114.2	2105.5
35°	1895.4	1921.4	2009.1	2020.0	2012.4
37.5°	1793.6	1817.4	1899.8	1924.7	1918.2
40°	1686.4	1712.4	1777.4	1821.8	1823.9
42.5°	1580.2	1605.1	1658.2	1722.1	1722.1
45°	1467.6	1492.5	1541.2	1611.6	1620.3
47.5°	1357.1	1383.1	1430.8	1501.2	1515.3
50°	1248.8	1272.6	1320.3	1388.5	1410.2
52.5°	1136.2	1162.2	1208.7	1271.6	1303.0
55°	1027.9	1045.2	1096.1	1156.7	1190.3
57.5°	915.2	931.5	988.9	1040.9	1075.5
60°	806.9	827.5	871.9	925.0	965.0
62.5°	702.9	724.6	762.5	809.1	854.6
65°	602.2	618.4	655.3	701.8	741.9
67.5°	504.7	518.8	555.6	588.1	630.4
70°	406.2	424.6	451.7	483.1	510.1
72.5°	327.1	334.7	357.4	380.2	408.3
75°	241.5	254.5	272.9	285.9	302.2
77.5°	173.3	180.9	191.7	202.5	217.7
80°	115.9	119.1	128.9	131.1	143.0
82.5°	70.4	72.6	74.7	75.8	80.1
85°	37.9	37.9	37.9	35.7	35.7
87.5°	21.7	21.7	18.4	15.2	10.8
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)