

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: P558409

Luminaire Tested: **FUSL-12-4-LD4-3STD-50-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: P558409  
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-LD4-3STD-50-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 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

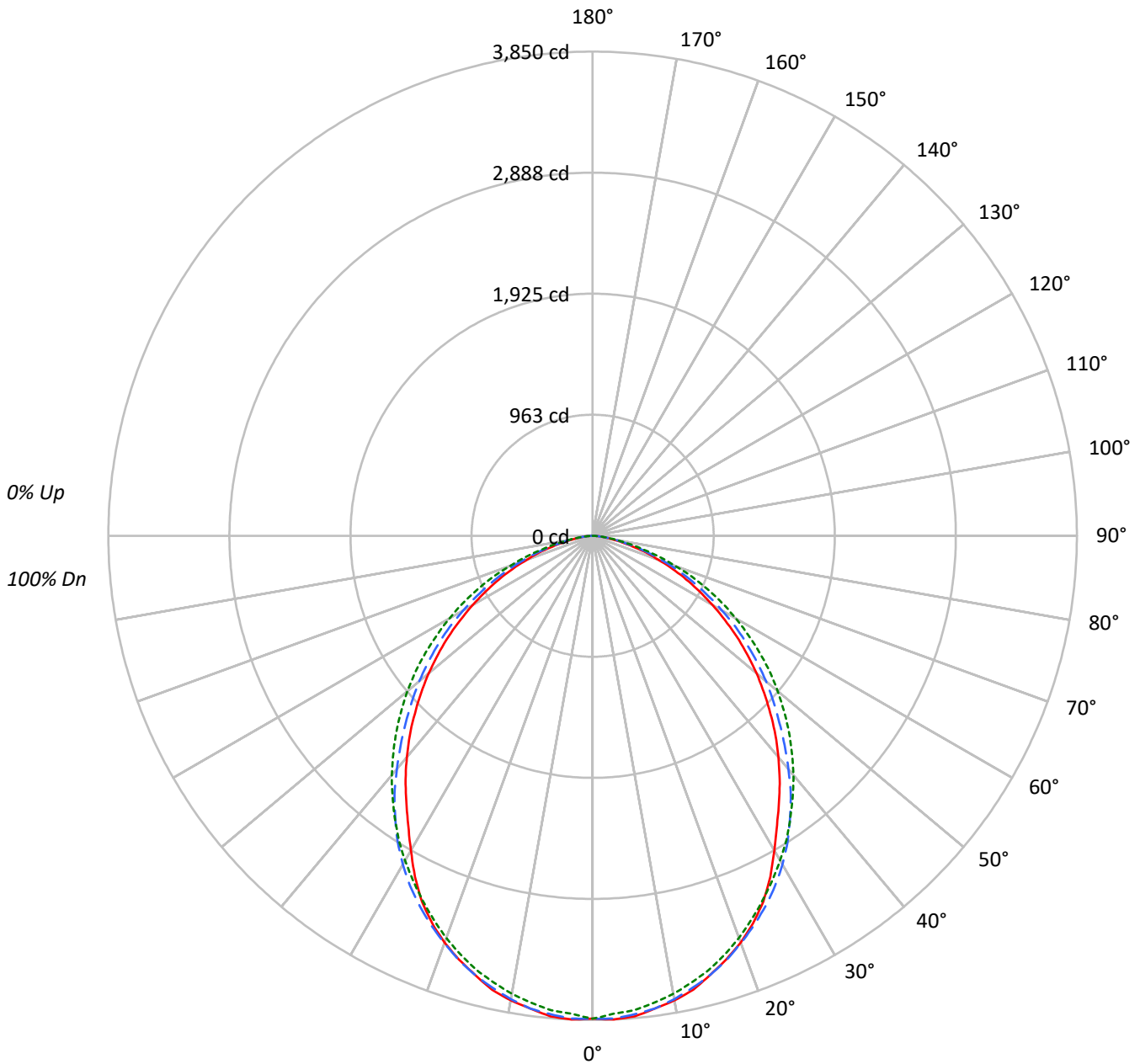
Lumens per Lamp: N/A  
Luminaire Lumens: 8879.0 lumens  
Efficiency: N/A  
Efficacy: 88.9 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 99.9  
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					
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								
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°	10333	10333	10333
5°	10361	10317	10229
10°	10251	10223	10106
15°	10069	10069	9954
20°	9856	9869	9742
25°	9531	9649	9496
30°	8975	9379	9264
35°	8481	8990	9004
40°	8069	8504	8727
45°	7607	7989	8399
50°	7121	7528	8041
55°	6568	7004	7606
60°	5915	6391	7074
65°	5223	5683	6434
70°	4353	4840	5467
75°	3421	3865	4279
80°	2445	2720	3017
85°	1593	1593	1504



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	361.5	4.1
10°-20°	1015.7	11.4
20°-30°	1484.2	16.7
30°-40°	1684.8	19.0
40°-50°	1626.4	18.3
50°-60°	1341.7	15.1
60°-70°	893.4	10.1
70°-80°	399.8	4.5
80°-90°	71.5	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°	2861.4	32.2
0°-40°	4546.2	51.2
0°-60°	7514.3	84.6
0°-90°	8879.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8879.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3840	3840	3840	3840	3840	
5°	3836	3834	3819	3799	3787	363
15°	3614	3623	3614	3598	3573	1019
25°	3210	3235	3250	3226	3198	1470
35°	2582	2617	2736	2751	2741	1618
45°	1999	2033	2099	2195	2207	1542
55°	1400	1424	1493	1576	1621	1250
65°	820	842	892	956	1010	813
75°	329	347	372	390	412	360
85°	52	52	52	49	49	70
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3839.9	3839.9	3839.9	3839.9	3839.9
2.5°	3850.3	3851.7	3842.9	3819.3	3804.5
5°	3835.5	3834.0	3819.3	3798.6	3786.8
7.5°	3792.7	3795.7	3791.3	3761.8	3745.5
10°	3751.4	3752.9	3741.1	3717.5	3698.3
12.5°	3698.3	3696.8	3680.6	3668.8	3637.8
15°	3614.2	3623.1	3614.2	3598.0	3572.9
17.5°	3533.1	3533.1	3539.0	3511.0	3491.8
20°	3441.6	3446.1	3446.1	3423.9	3401.8
22.5°	3335.4	3348.7	3353.1	3329.5	3303.0
25°	3210.0	3235.1	3249.9	3226.3	3198.2
27.5°	3058.1	3096.4	3140.7	3123.0	3092.0
30°	2888.4	2944.5	3018.3	3003.5	2981.4
32.5°	2727.6	2783.7	2885.5	2879.6	2867.8
35°	2581.6	2617.0	2736.5	2751.2	2740.9
37.5°	2442.9	2475.4	2587.5	2621.4	2612.6
40°	2296.9	2332.3	2420.8	2481.3	2484.2
42.5°	2152.3	2186.2	2258.5	2345.6	2345.6
45°	1998.9	2032.8	2099.2	2195.1	2206.9
47.5°	1848.4	1883.8	1948.7	2044.6	2063.8
50°	1700.9	1733.4	1798.3	1891.2	1920.7
52.5°	1547.5	1582.9	1646.3	1731.9	1774.7
55°	1400.0	1423.6	1492.9	1575.5	1621.2
57.5°	1246.5	1268.7	1346.9	1417.7	1464.9
60°	1099.0	1127.1	1187.5	1259.8	1314.4
62.5°	957.4	986.9	1038.5	1102.0	1163.9
65°	820.2	842.3	892.5	955.9	1010.5
67.5°	687.4	706.6	756.8	801.0	858.6
70°	553.2	578.3	615.2	657.9	694.8
72.5°	445.5	455.8	486.8	517.8	556.1
75°	329.0	346.7	371.7	389.5	411.6
77.5°	236.0	246.4	261.1	275.9	296.5
80°	157.8	162.3	175.5	178.5	194.7
82.5°	95.9	98.8	101.8	103.3	109.2
85°	51.6	51.6	51.6	48.7	48.7
87.5°	29.5	29.5	25.1	20.7	14.8
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)