

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: P557057

Luminaire Tested: **FUSL-12-4-LD4-2HI-40-UNV-81-84-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: P557057  
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-LD4-2HI-40-UNV-81-84-EDD  
Description: 4FT FUSL SURFACE MOUNT WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

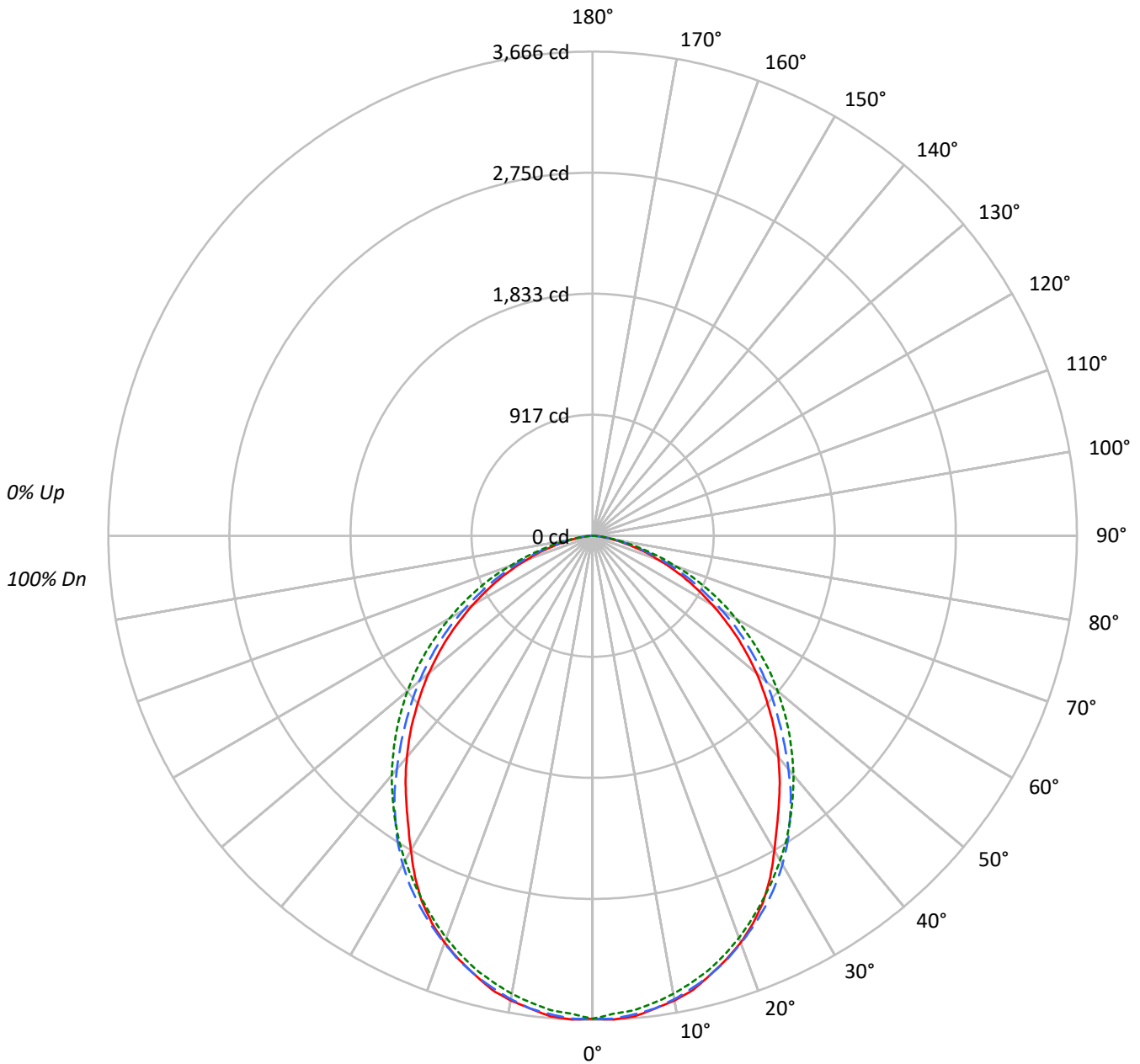
Lumens per Lamp: N/A  
Luminaire Lumens: 8455.0 lumens  
Efficiency: N/A  
Efficacy: 97.9 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 86.4  
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°	9840	9840	9840
5°	9866	9824	9741
10°	9761	9735	9623
15°	9588	9588	9478
20°	9385	9397	9277
25°	9076	9189	9043
30°	8547	8931	8822
35°	8076	8560	8574
40°	7683	8098	8310
45°	7244	7607	7998
50°	6781	7169	7657
55°	6254	6670	7243
60°	5632	6086	6736
65°	4973	5412	6127
70°	4145	4609	5205
75°	3257	3681	4075
80°	2329	2591	2873
85°	1519	1519	1433



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	344.3	4.1
10°-20°	967.2	11.4
20°-30°	1413.4	16.7
30°-40°	1604.3	19.0
40°-50°	1548.7	18.3
50°-60°	1277.6	15.1
60°-70°	850.8	10.1
70°-80°	380.7	4.5
80°-90°	68.1	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°	2724.8	32.2
0°-40°	4329.1	51.2
0°-60°	7155.4	84.6
0°-90°	8455.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8455.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3657	3657	3657	3657	3657	
5°	3652	3651	3637	3617	3606	346
15°	3442	3450	3442	3426	3402	970
25°	3057	3081	3095	3072	3046	1400
35°	2458	2492	2606	2620	2610	1540
45°	1903	1936	1999	2090	2102	1469
55°	1333	1356	1422	1500	1544	1190
65°	781	802	850	910	962	774
75°	313	330	354	371	392	343
85°	49	49	49	46	46	66
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3656.6	3656.6	3656.6	3656.6	3656.6
2.5°	3666.4	3667.8	3659.4	3636.9	3622.9
5°	3652.4	3651.0	3636.9	3617.2	3606.0
7.5°	3611.6	3614.4	3610.2	3582.1	3566.7
10°	3572.3	3573.7	3562.5	3540.0	3521.7
12.5°	3521.7	3520.3	3504.9	3493.6	3464.1
15°	3441.6	3450.1	3441.6	3426.2	3402.3
17.5°	3364.4	3364.4	3370.0	3343.3	3325.0
20°	3277.3	3281.5	3281.5	3260.4	3239.4
22.5°	3176.1	3188.8	3193.0	3170.5	3145.2
25°	3056.7	3080.6	3094.7	3072.2	3045.5
27.5°	2912.1	2948.6	2990.7	2973.9	2944.4
30°	2750.5	2803.9	2874.1	2860.1	2839.0
32.5°	2597.4	2650.8	2747.7	2742.1	2730.8
35°	2458.3	2492.0	2605.8	2619.9	2610.0
37.5°	2326.3	2357.2	2463.9	2496.2	2487.8
40°	2187.2	2220.9	2305.2	2362.8	2365.6
42.5°	2049.5	2081.8	2150.7	2233.6	2233.6
45°	1903.4	1935.7	1999.0	2090.3	2101.5
47.5°	1760.2	1793.9	1855.7	1947.0	1965.2
50°	1619.7	1650.6	1712.4	1800.9	1829.0
52.5°	1473.6	1507.3	1567.7	1649.2	1689.9
55°	1333.1	1355.6	1421.6	1500.3	1543.8
57.5°	1187.0	1208.1	1282.5	1350.0	1394.9
60°	1046.5	1073.2	1130.8	1199.7	1251.6
62.5°	911.7	939.8	988.9	1049.3	1108.3
65°	781.0	802.1	849.9	910.3	962.3
67.5°	654.6	672.9	720.6	762.8	817.6
70°	526.8	550.7	585.8	626.5	661.6
72.5°	424.2	434.1	463.6	493.1	529.6
75°	313.3	330.1	354.0	370.9	391.9
77.5°	224.8	234.6	248.6	262.7	282.4
80°	150.3	154.5	167.2	170.0	185.4
82.5°	91.3	94.1	96.9	98.3	104.0
85°	49.2	49.2	49.2	46.4	46.4
87.5°	28.1	28.1	23.9	19.7	14.0
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)