

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: P557157

Luminaire Tested: **FUSL-12-4-LD4-2HI-50-UNV-93-86-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: P557157  
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-50-UNV-93-86-EDD  
Description: 4FT FUSL SURFACE MOUNT WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

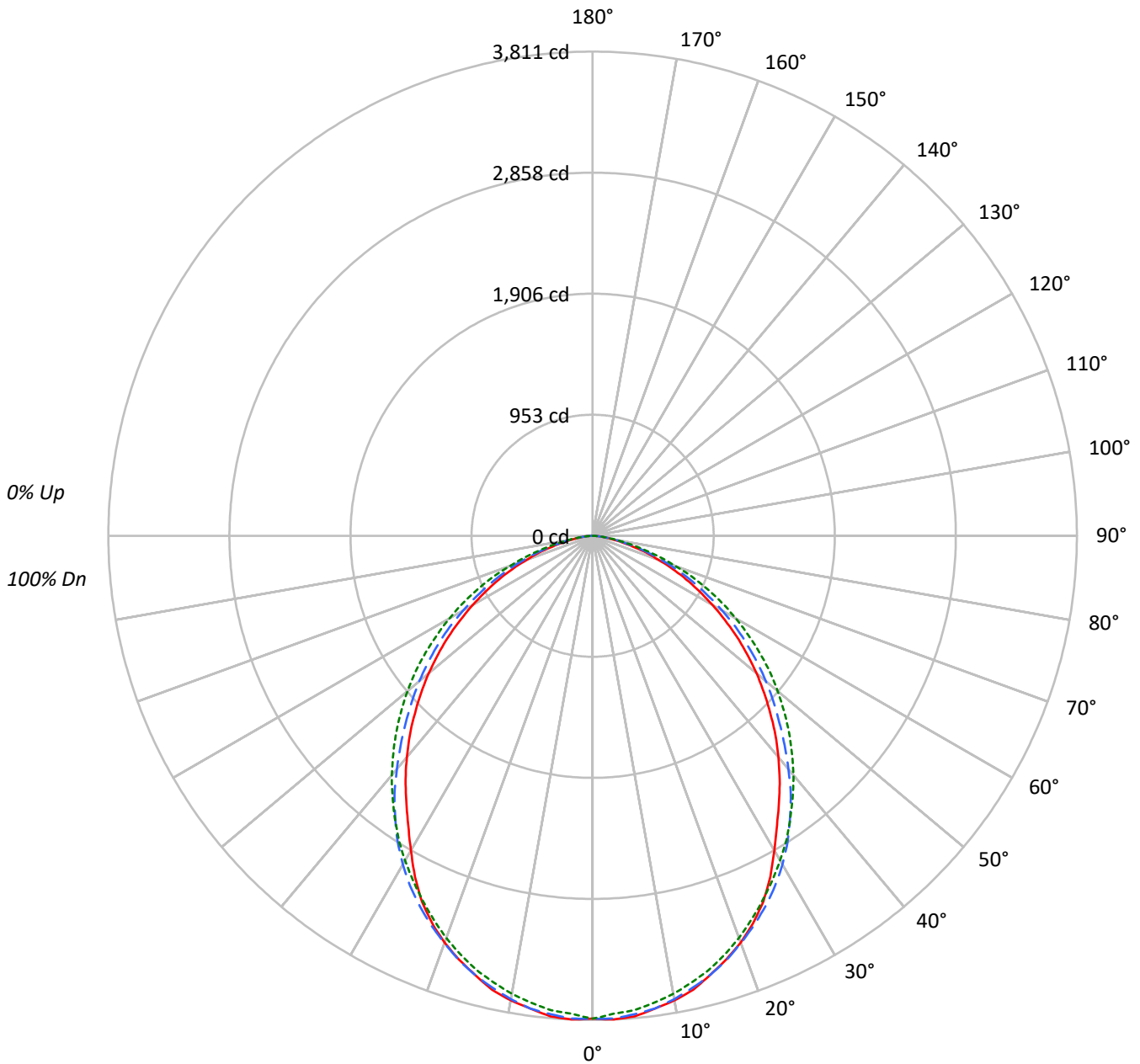
Lumens per Lamp: N/A  
Luminaire Lumens: 8789.0 lumens  
Efficiency: N/A  
Efficacy: 101.7 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 86.4  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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°	10228	10228	10228
5°	10256	10212	10125
10°	10147	10119	10003
15°	9967	9967	9853
20°	9756	9768	9643
25°	9435	9552	9400
30°	8884	9284	9170
35°	8395	8899	8913
40°	7987	8418	8638
45°	7530	7908	8313
50°	7049	7452	7959
55°	6502	6933	7529
60°	5855	6326	7002
65°	5170	5625	6369
70°	4308	4791	5412
75°	3385	3826	4236
80°	2421	2693	2988
85°	1578	1578	1488



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	357.9	4.1
10°-20°	1005.4	11.4
20°-30°	1469.2	16.7
30°-40°	1667.7	19.0
40°-50°	1609.9	18.3
50°-60°	1328.0	15.1
60°-70°	884.4	10.1
70°-80°	395.8	4.5
80°-90°	70.8	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°	2832.4	32.2
0°-40°	4500.1	51.2
0°-60°	7438.1	84.6
0°-90°	8789.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8789.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3801	3801	3801	3801	3801	
5°	3797	3795	3781	3760	3748	359
15°	3578	3586	3578	3562	3537	1009
25°	3178	3202	3217	3194	3166	1455
35°	2555	2590	2709	2723	2713	1601
45°	1979	2012	2078	2173	2184	1527
55°	1386	1409	1478	1560	1605	1237
65°	812	834	883	946	1000	805
75°	326	343	368	386	407	356
85°	51	51	51	48	48	69
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3801.0	<i>3801.0</i>	3801.0	3801.0	3801.0
2.5°	<i>3811.2</i>	<i>3812.7</i>	<i>3803.9</i>	<i>3780.6</i>	<i>3766.0</i>
5°	3796.6	<i>3795.2</i>	3780.6	3760.1	3748.4
7.5°	3754.3	<i>3757.2</i>	3752.8	3723.6	3707.6
10°	3713.4	<i>3714.9</i>	3703.2	3679.8	3660.8
12.5°	3660.8	<i>3659.4</i>	3643.3	3631.6	3601.0
15°	3577.6	<i>3586.4</i>	3577.6	3561.5	3536.7
17.5°	3497.3	<i>3497.3</i>	3503.1	3475.4	3456.4
20°	3406.7	<i>3411.1</i>	3411.1	3389.2	3367.3
22.5°	3301.6	<i>3314.8</i>	3319.1	3295.8	3269.5
25°	3177.5	<i>3202.3</i>	3216.9	3193.6	3165.8
27.5°	3027.1	<i>3065.1</i>	3108.9	3091.3	3060.7
30°	2859.2	<i>2914.6</i>	2987.7	2973.1	2951.2
32.5°	2700.0	<i>2755.5</i>	2856.2	2850.4	2838.7
35°	2555.4	<i>2590.5</i>	2708.8	2723.4	2713.1
37.5°	2418.2	<i>2450.3</i>	2561.3	2594.9	2586.1
40°	2273.6	<i>2308.6</i>	2396.3	2456.1	2459.1
42.5°	2130.5	<i>2164.1</i>	2235.6	2321.8	2321.8
45°	1978.6	<i>2012.2</i>	2077.9	2172.8	2184.5
47.5°	1829.7	<i>1864.7</i>	1929.0	2023.9	2042.9
50°	1683.7	<i>1715.8</i>	1780.0	1872.0	1901.2
52.5°	1531.8	<i>1566.8</i>	1629.6	1714.3	1756.7
55°	1385.8	<i>1409.1</i>	1477.8	1559.5	1604.8
57.5°	1233.9	<i>1255.8</i>	1333.2	1403.3	1450.0
60°	1087.9	<i>1115.6</i>	1175.5	1247.0	1301.1
62.5°	947.7	<i>976.9</i>	1028.0	1090.8	1152.1
65°	811.9	<i>833.8</i>	883.4	946.2	1000.3
67.5°	680.5	<i>699.5</i>	749.1	792.9	849.9
70°	547.6	<i>572.4</i>	608.9	651.3	687.8
72.5°	441.0	<i>451.2</i>	481.9	512.5	550.5
75°	325.6	<i>343.2</i>	368.0	385.5	407.4
77.5°	233.6	<i>243.9</i>	258.5	273.1	293.5
80°	156.2	<i>160.6</i>	173.8	176.7	192.8
82.5°	94.9	<i>97.8</i>	100.8	102.2	108.1
85°	51.1	<i>51.1</i>	51.1	48.2	48.2
87.5°	29.2	<i>29.2</i>	24.8	20.4	14.6
90°	0.0	<i>0.0</i>	0.0	0.0	0.0



Report Generated By 670246072 / DESKTOP-MV3F9LC







— 0°-180°    - - 45°-225°    - - - - 90°-270°







(END OF REPORT)