

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: P556951

Luminaire Tested: **FUSL-12-4-LD4-2HI-30-UNV-82-87-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: P556951  
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-30-UNV-82-87-EDD  
Description: 4FT FUSL SURFACE MOUNT WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

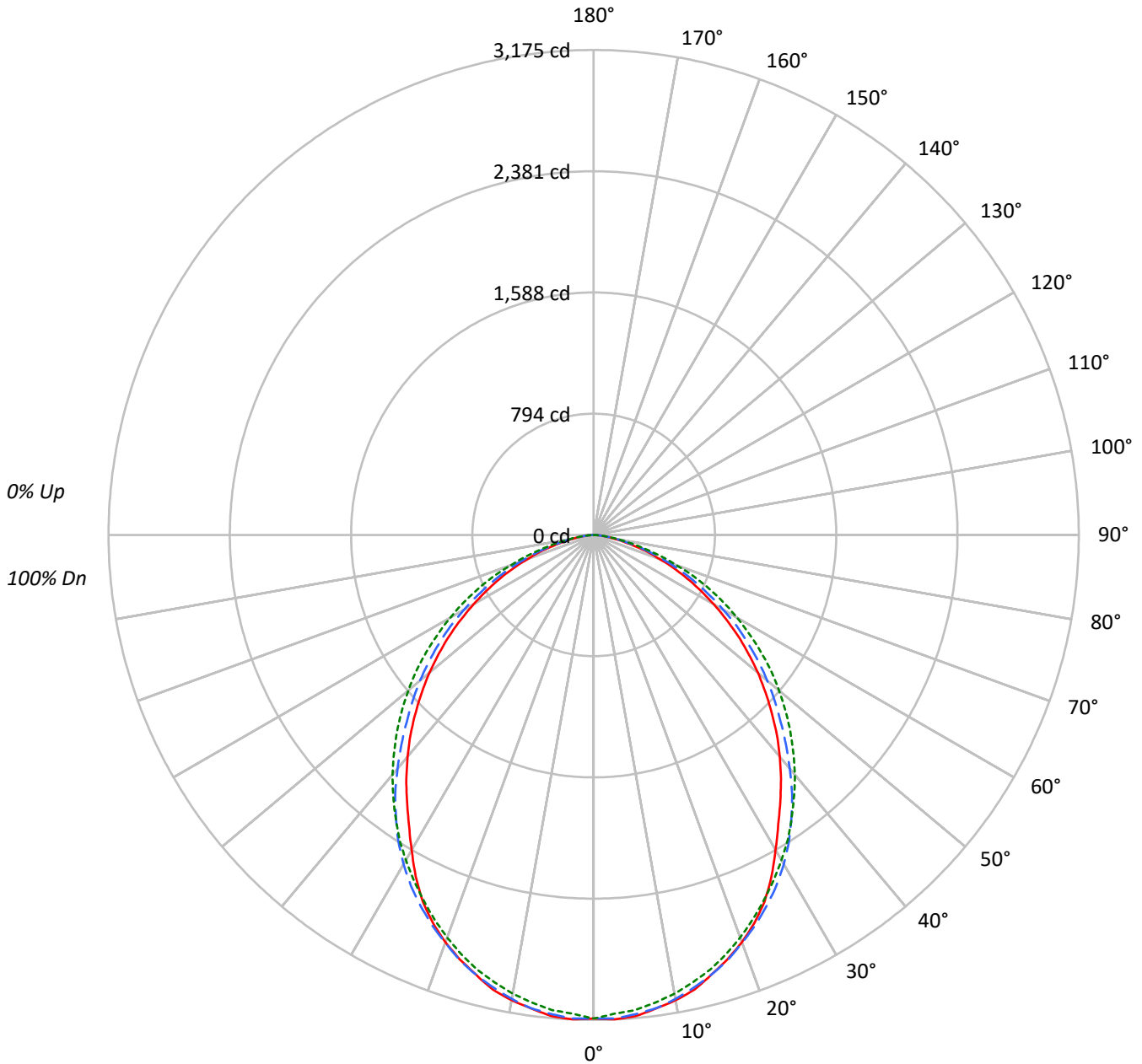
Lumens per Lamp: N/A  
Luminaire Lumens: 7321.0 lumens  
Efficiency: N/A  
Efficacy: 84.7 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

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					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°	8520	8520	8520
5°	8543	8507	8434
10°	8452	8429	8332
15°	8302	8302	8207
20°	8126	8137	8032
25°	7859	7956	7830
30°	7400	7733	7638
35°	6993	7412	7424
40°	6653	7012	7195
45°	6272	6587	6925
50°	5871	6207	6630
55°	5415	5775	6272
60°	4877	5270	5833
65°	4306	4686	5305
70°	3589	3991	4508
75°	2820	3187	3529
80°	2016	2242	2489
85°	1315	1315	1238



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	298.1	4.1
10°-20°	837.5	11.4
20°-30°	1223.8	16.7
30°-40°	1389.1	19.0
40°-50°	1341.0	18.3
50°-60°	1106.2	15.1
60°-70°	736.7	10.1
70°-80°	329.6	4.5
80°-90°	59.0	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°	2359.3	32.2
0°-40°	3748.5	51.2
0°-60°	6195.7	84.6
0°-90°	7321.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7321.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3166	3166	3166	3166	3166	
5°	3162	3161	3149	3132	3122	299
15°	2980	2987	2980	2967	2946	840
25°	2647	2667	2680	2660	2637	1212
35°	2129	2158	2256	2268	2260	1334
45°	1648	1676	1731	1810	1820	1272
55°	1154	1174	1231	1299	1337	1030
65°	676	694	736	788	833	671
75°	271	286	306	321	339	297
85°	43	43	43	40	40	57
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3166.1	<i>3166.1</i>	3166.1	3166.1	3166.1
2.5°	<i>3174.7</i>	<i>3175.9</i>	<i>3168.6</i>	<i>3149.1</i>	<i>3137.0</i>
5°	3162.5	<i>3161.3</i>	3149.1	3132.1	3122.4
7.5°	3127.2	<i>3129.7</i>	3126.0	3101.7	3088.3
10°	3093.2	<i>3094.4</i>	3084.6	3065.2	3049.4
12.5°	3049.4	<i>3048.2</i>	3034.8	3025.0	2999.5
15°	2980.0	<i>2987.3</i>	2980.0	2966.7	2946.0
17.5°	2913.1	<i>2913.1</i>	2918.0	2894.9	2879.1
20°	2837.7	<i>2841.4</i>	2841.4	2823.1	2804.9
22.5°	2750.2	<i>2761.1</i>	2764.7	2745.3	2723.4
25°	2646.8	<i>2667.4</i>	2679.6	2660.1	2637.0
27.5°	2521.5	<i>2553.1</i>	2589.6	2575.0	2549.5
30°	2381.6	<i>2427.8</i>	2488.6	2476.5	2458.2
32.5°	2249.0	<i>2295.2</i>	2379.2	2374.3	2364.6
35°	2128.6	<i>2157.8</i>	2256.3	2268.5	2260.0
37.5°	2014.3	<i>2041.0</i>	2133.5	2161.4	2154.1
40°	1893.8	<i>1923.0</i>	1996.0	2045.9	2048.3
42.5°	1774.6	<i>1802.6</i>	1862.2	1934.0	1934.0
45°	1648.1	<i>1676.1</i>	1730.9	1809.9	1819.7
47.5°	1524.1	<i>1553.3</i>	1606.8	1685.9	1701.7
50°	1402.4	<i>1429.2</i>	1482.7	1559.4	1583.7
52.5°	1275.9	<i>1305.1</i>	1357.4	1428.0	1463.3
55°	1154.3	<i>1173.8</i>	1230.9	1299.1	1336.8
57.5°	1027.8	<i>1046.1</i>	1110.5	1168.9	1207.8
60°	906.2	<i>929.3</i>	979.2	1038.8	1083.8
62.5°	789.4	<i>813.7</i>	856.3	908.6	959.7
65°	676.3	<i>694.5</i>	735.9	788.2	833.2
67.5°	566.8	<i>582.6</i>	624.0	660.5	707.9
70°	456.1	<i>476.8</i>	507.2	542.5	572.9
72.5°	367.3	<i>375.9</i>	401.4	426.9	458.6
75°	271.2	<i>285.8</i>	306.5	321.1	339.4
77.5°	194.6	<i>203.1</i>	215.3	227.5	244.5
80°	130.1	<i>133.8</i>	144.7	147.2	160.6
82.5°	79.1	<i>81.5</i>	83.9	85.1	90.0
85°	42.6	<i>42.6</i>	42.6	40.1	40.1
87.5°	24.3	<i>24.3</i>	20.7	17.0	12.2
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)