

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: P556884

Luminaire Tested: **FUSL-12-4-LD4-1STD-50-UNV-82-86-EDD-90**

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: P556884  
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-LD4-1STD-50-UNV-82-86-EDD-90  
Description: 4FT FUSL SURFACE MOUNT WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

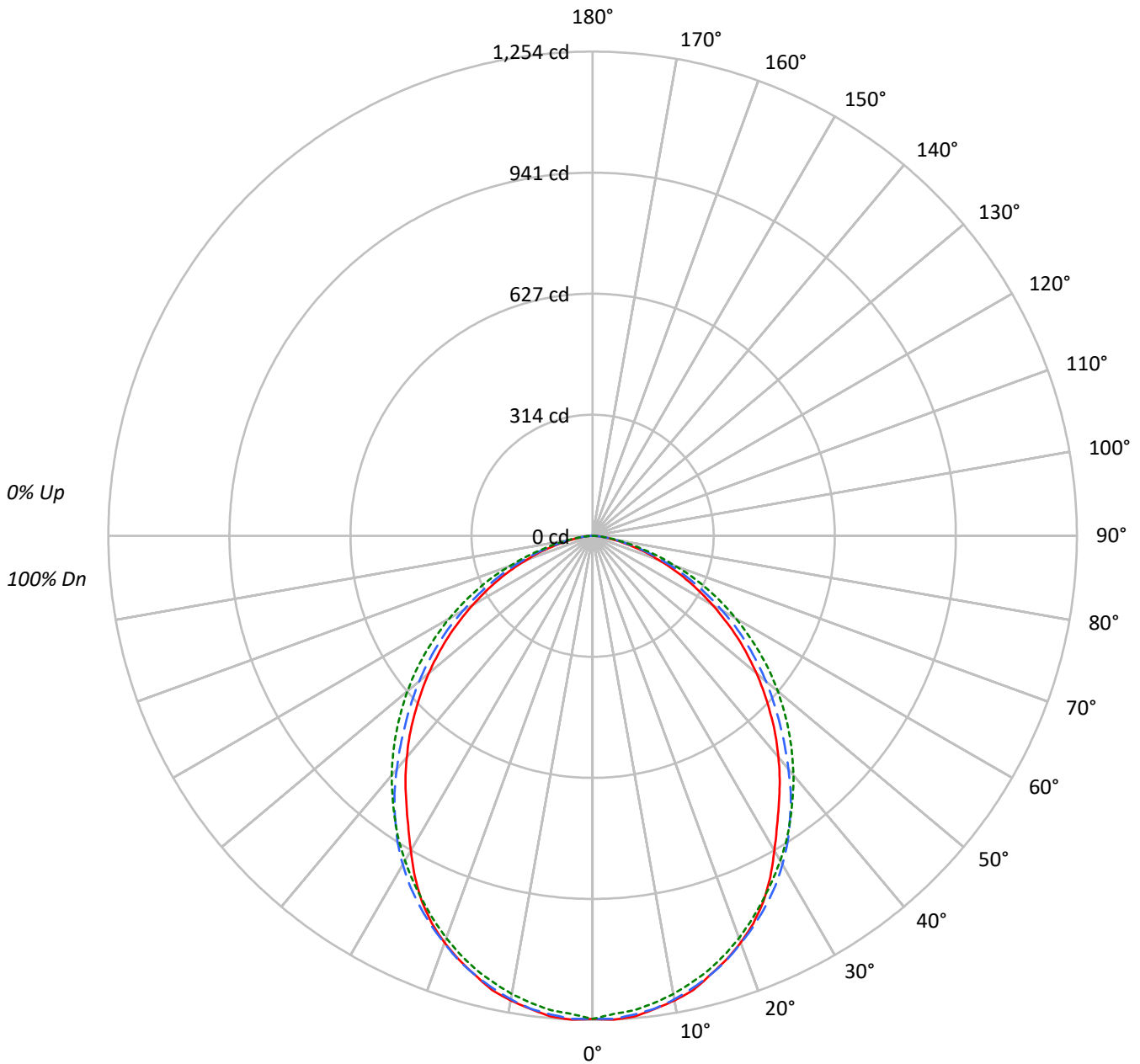
Lumens per Lamp: N/A  
Luminaire Lumens: 2893.0 lumens  
Efficiency: N/A  
Efficacy: 86.9 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 33.3  
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°	3367	3367	3367
5°	3376	3361	3333
10°	3340	3331	3293
15°	3281	3281	3243
20°	3211	3215	3174
25°	3105	3144	3094
30°	2924	3056	3018
35°	2763	2929	2934
40°	2629	2771	2843
45°	2479	2603	2737
50°	2320	2453	2620
55°	2140	2282	2478
60°	1927	2082	2305
65°	1701	1852	2096
70°	1418	1577	1781
75°	1115	1259	1394
80°	797	886	982
85°	519	519	491



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	117.8	4.1
10°-20°	330.9	11.4
20°-30°	483.6	16.7
30°-40°	548.9	19.0
40°-50°	529.9	18.3
50°-60°	437.1	15.1
60°-70°	291.1	10.1
70°-80°	130.3	4.5
80°-90°	23.3	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°	932.3	32.2
0°-40°	1481.3	51.2
0°-60°	2448.3	84.6
0°-90°	2893.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2893.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1251	1251	1251	1251	1251	
5°	1250	1249	1244	1238	1234	118
15°	1178	1180	1178	1172	1164	332
25°	1046	1054	1059	1051	1042	479
35°	841	853	892	896	893	527
45°	651	662	684	715	719	503
55°	456	464	486	513	528	407
65°	267	274	291	312	329	265
75°	107	113	121	127	134	117
85°	17	17	17	16	16	23
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1251.1	<i>1251.1</i>	1251.1	1251.1	1251.1
2.5°	<i>1254.5</i>	<i>1255.0</i>	<i>1252.1</i>	<i>1244.4</i>	<i>1239.6</i>
5°	1249.7	<i>1249.2</i>	1244.4	1237.7	1233.8
7.5°	1235.8	<i>1236.7</i>	1235.3	1225.7	1220.4
10°	1222.3	<i>1222.8</i>	1218.9	1211.3	1205.0
12.5°	1205.0	<i>1204.5</i>	1199.2	1195.4	1185.3
15°	1177.6	<i>1180.5</i>	1177.6	1172.3	1164.1
17.5°	1151.2	<i>1151.2</i>	1153.1	1144.0	1137.7
20°	1121.4	<i>1122.8</i>	1122.8	1115.6	1108.4
22.5°	1086.8	<i>1091.1</i>	1092.5	1084.8	1076.2
25°	1045.9	<i>1054.1</i>	1058.9	1051.2	1042.1
27.5°	996.4	<i>1008.9</i>	1023.3	1017.5	1007.5
30°	941.1	<i>959.4</i>	983.4	978.6	971.4
32.5°	888.7	<i>907.0</i>	940.2	938.2	934.4
35°	841.1	<i>852.7</i>	891.6	896.4	893.1
37.5°	796.0	<i>806.5</i>	843.1	854.1	851.2
40°	748.4	<i>759.9</i>	788.8	808.5	809.4
42.5°	701.3	<i>712.3</i>	735.9	764.2	764.2
45°	651.3	<i>662.3</i>	684.0	715.2	719.1
47.5°	602.3	<i>613.8</i>	634.9	666.2	672.4
50°	554.2	<i>564.8</i>	585.9	616.2	625.8
52.5°	504.2	<i>515.7</i>	536.4	564.3	578.2
55°	456.1	<i>463.8</i>	486.4	513.3	528.2
57.5°	406.2	<i>413.4</i>	438.8	461.9	477.3
60°	358.1	<i>367.2</i>	386.9	410.5	428.3
62.5°	311.9	<i>321.6</i>	338.4	359.1	379.2
65°	267.2	<i>274.5</i>	290.8	311.5	329.2
67.5°	224.0	<i>230.2</i>	246.6	261.0	279.7
70°	180.2	<i>188.4</i>	200.4	214.4	226.4
72.5°	145.2	<i>148.5</i>	158.6	168.7	181.2
75°	107.2	<i>113.0</i>	121.1	126.9	134.1
77.5°	76.9	<i>80.3</i>	85.1	89.9	96.6
80°	51.4	<i>52.9</i>	57.2	58.2	63.4
82.5°	31.2	<i>32.2</i>	33.2	33.6	35.6
85°	16.8	<i>16.8</i>	16.8	15.9	15.9
87.5°	9.6	<i>9.6</i>	8.2	6.7	4.8
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)