

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: P556825

Luminaire Tested: **FUSL-12-4-LD4-1STD-40-UNV-82-88-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: P556825  
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-40-UNV-82-88-EDD  
Description: 4FT FUSL SURFACE MOUNT WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

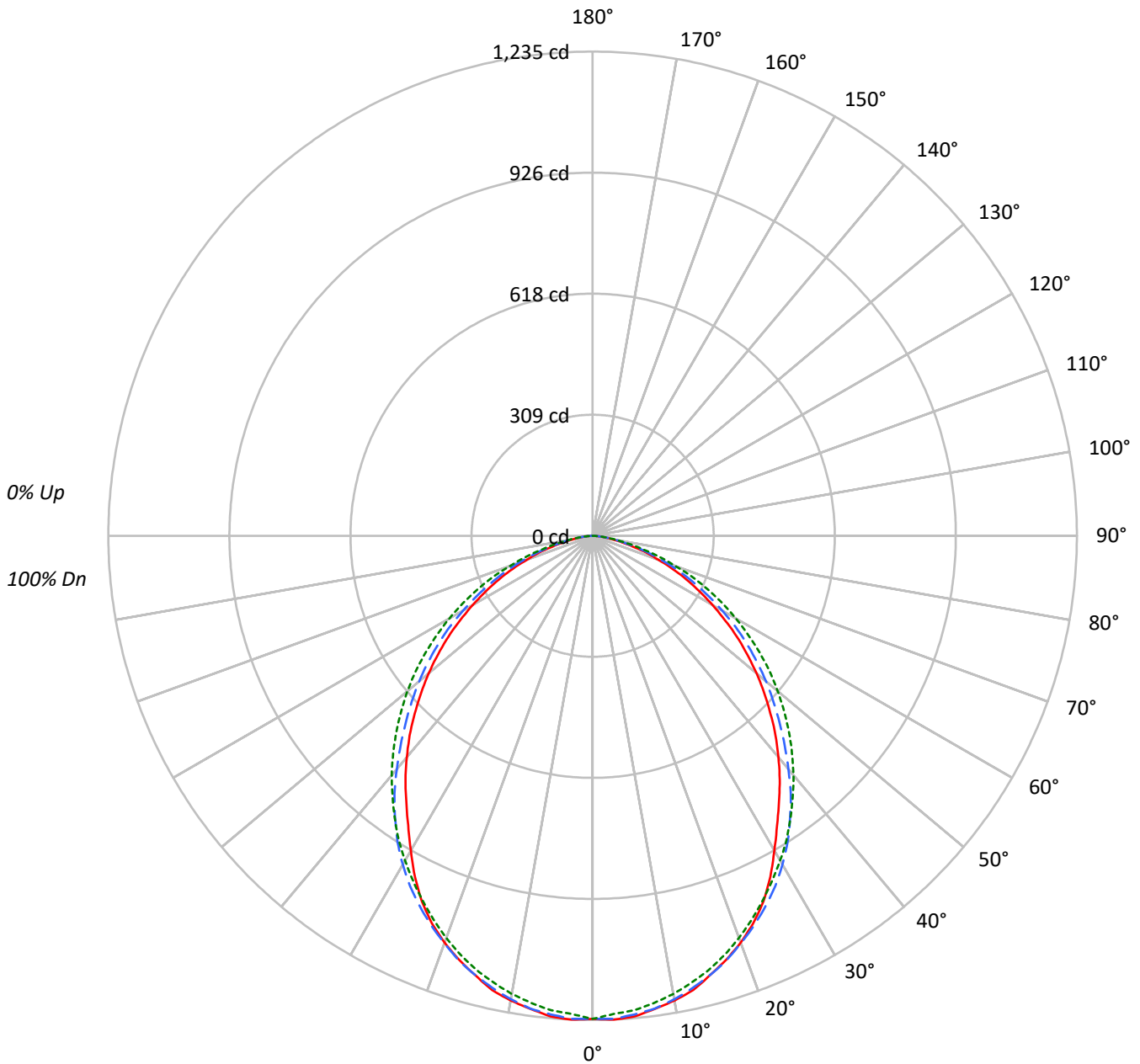
Lumens per Lamp: N/A  
Luminaire Lumens: 2849.0 lumens  
Efficiency: N/A  
Efficacy: 85.6 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 33.3  
Input Voltage (V): NR  
Input Current (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°	3316	3316	3316
5°	3324	3310	3282
10°	3289	3280	3243
15°	3231	3231	3194
20°	3162	3166	3126
25°	3058	3096	3047
30°	2880	3009	2972
35°	2721	2885	2889
40°	2589	2729	2800
45°	2441	2563	2695
50°	2285	2416	2580
55°	2107	2247	2441
60°	1898	2051	2270
65°	1676	1824	2064
70°	1397	1553	1754
75°	1098	1240	1373
80°	784	872	969
85°	513	513	482



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	116.0	4.1
10°-20°	325.9	11.4
20°-30°	476.2	16.7
30°-40°	540.6	19.0
40°-50°	521.9	18.3
50°-60°	430.5	15.1
60°-70°	286.7	10.1
70°-80°	128.3	4.5
80°-90°	23.0	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°	918.1	32.2
0°-40°	1458.7	51.2
0°-60°	2411.1	84.6
0°-90°	2849.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2849.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1232	1232	1232	1232	1232	
5°	1231	1230	1226	1219	1215	116
15°	1160	1162	1160	1154	1146	327
25°	1030	1038	1043	1035	1026	472
35°	828	840	878	883	880	519
45°	641	652	674	704	708	495
55°	449	457	479	506	520	401
65°	263	270	286	307	324	261
75°	106	111	119	125	132	115
85°	17	17	17	16	16	22
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1232.1	<i>1232.1</i>	1232.1	1232.1	1232.1
2.5°	<i>1235.4</i>	<i>1235.9</i>	<i>1233.1</i>	<i>1225.5</i>	<i>1220.8</i>
5°	1230.7	<i>1230.2</i>	1225.5	1218.9	1215.1
7.5°	1217.0	<i>1217.9</i>	1216.5	1207.0	1201.8
10°	1203.7	<i>1204.2</i>	1200.4	1192.8	1186.7
12.5°	1186.7	<i>1186.2</i>	1181.0	1177.2	1167.3
15°	1159.7	<i>1162.5</i>	1159.7	1154.5	1146.4
17.5°	1133.7	<i>1133.7</i>	1135.6	1126.6	1120.4
20°	1104.3	<i>1105.7</i>	1105.7	1098.6	1091.5
22.5°	1070.2	<i>1074.5</i>	1075.9	1068.3	1059.8
25°	1030.0	<i>1038.0</i>	1042.8	1035.2	1026.2
27.5°	981.2	<i>993.6</i>	1007.8	1002.1	992.1
30°	926.8	<i>944.8</i>	968.5	963.7	956.6
32.5°	875.2	<i>893.2</i>	925.9	924.0	920.2
35°	828.4	<i>839.7</i>	878.1	882.8	879.5
37.5°	783.9	<i>794.3</i>	830.2	841.1	838.3
40°	737.0	<i>748.4</i>	776.8	796.2	797.1
42.5°	690.6	<i>701.5</i>	724.7	752.6	752.6
45°	641.4	<i>652.3</i>	673.6	704.3	708.1
47.5°	593.1	<i>604.5</i>	625.3	656.1	662.2
50°	545.8	<i>556.2</i>	577.0	606.8	616.3
52.5°	496.5	<i>507.9</i>	528.3	555.7	569.4
55°	449.2	<i>456.8</i>	479.0	505.5	520.2
57.5°	400.0	<i>407.1</i>	432.2	454.9	470.0
60°	352.6	<i>361.6</i>	381.0	404.2	421.8
62.5°	307.2	<i>316.7</i>	333.2	353.6	373.5
65°	263.2	<i>270.3</i>	286.4	306.7	324.2
67.5°	220.6	<i>226.7</i>	242.8	257.0	275.5
70°	177.5	<i>185.6</i>	197.4	211.1	222.9
72.5°	143.0	<i>146.3</i>	156.2	166.1	178.5
75°	105.6	<i>111.2</i>	119.3	125.0	132.1
77.5°	75.7	<i>79.0</i>	83.8	88.5	95.1
80°	50.6	<i>52.1</i>	56.3	57.3	62.5
82.5°	30.8	<i>31.7</i>	32.7	33.1	35.0
85°	16.6	<i>16.6</i>	16.6	15.6	15.6
87.5°	9.5	<i>9.5</i>	8.0	6.6	4.7
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)