

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: P557221

Luminaire Tested: **FUSL-12-4-LD4-2LO-30-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: P557221  
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-LD4-2LO-30-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 3000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

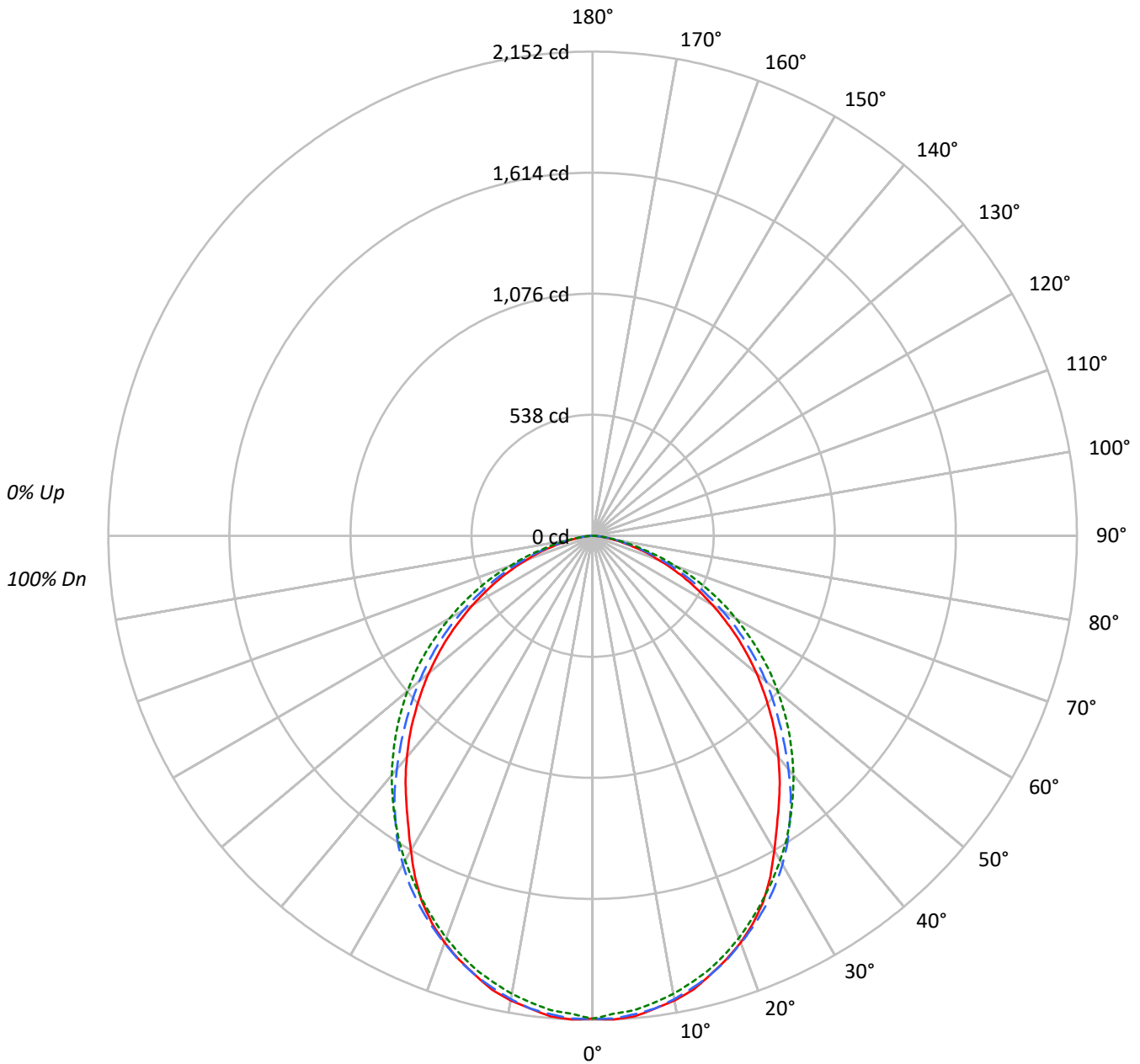
Lumens per Lamp: N/A  
Luminaire Lumens: 4963.0 lumens  
Efficiency: N/A  
Efficacy: 106.0 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 46.8  
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°	5776	5776	5776
5°	5791	5767	5718
10°	5730	5714	5649
15°	5628	5628	5564
20°	5509	5516	5445
25°	5328	5393	5308
30°	5017	5242	5178
35°	4740	5025	5033
40°	4510	4753	4878
45°	4252	4466	4695
50°	3980	4208	4495
55°	3671	3915	4252
60°	3306	3573	3954
65°	2919	3177	3596
70°	2433	2705	3056
75°	1912	2161	2392
80°	1367	1520	1686
85°	892	892	840



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	202.1	4.1
10°-20°	567.7	11.4
20°-30°	829.6	16.7
30°-40°	941.7	19.0
40°-50°	909.1	18.3
50°-60°	749.9	15.1
60°-70°	499.4	10.1
70°-80°	223.5	4.5
80°-90°	40.0	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°	1599.4	32.2
0°-40°	2541.2	51.2
0°-60°	4200.2	84.6
0°-90°	4963.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4963.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2146	2146	2146	2146	2146	
5°	2144	2143	2135	2123	2117	203
15°	2020	2025	2020	2011	1997	570
25°	1794	1808	1816	1803	1788	822
35°	1443	1463	1530	1538	1532	904
45°	1117	1136	1173	1227	1234	862
55°	782	796	834	881	906	698
65°	458	471	499	534	565	455
75°	184	194	208	218	230	201
85°	29	29	29	27	27	39
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2146.4	2146.4	2146.4	2146.4	2146.4
2.5°	2152.1	2153.0	2148.0	2134.8	2126.6
5°	2143.9	2143.1	2134.8	2123.3	2116.7
7.5°	2120.0	2121.6	2119.2	2102.7	2093.6
10°	2096.9	2097.7	2091.1	2077.9	2067.2
12.5°	2067.2	2066.4	2057.3	2050.7	2033.4
15°	2020.2	2025.2	2020.2	2011.1	1997.1
17.5°	1974.9	1974.9	1978.2	1962.5	1951.8
20°	1923.7	1926.2	1926.2	1913.8	1901.5
22.5°	1864.4	1871.8	1874.3	1861.1	1846.2
25°	1794.3	1808.3	1816.5	1803.3	1787.7
27.5°	1709.3	1730.8	1755.5	1745.6	1728.3
30°	1614.5	1645.9	1687.1	1678.8	1666.5
32.5°	1524.6	1556.0	1612.9	1609.6	1603.0
35°	1443.0	1462.8	1529.6	1537.8	1532.1
37.5°	1365.5	1383.6	1446.3	1465.3	1460.3
40°	1283.9	1303.7	1353.1	1386.9	1388.6
42.5°	1203.1	1222.0	1262.4	1311.1	1311.1
45°	1117.3	1136.3	1173.4	1227.0	1233.6
47.5°	1033.2	1053.0	1089.3	1142.9	1153.6
50°	950.7	968.9	1005.2	1057.1	1073.6
52.5°	865.0	884.8	920.2	968.1	992.0
55°	782.5	795.7	834.5	880.6	906.2
57.5°	696.8	709.1	752.8	792.4	818.8
60°	614.3	630.0	663.8	704.2	734.7
62.5°	535.1	551.6	580.5	616.0	650.6
65°	458.5	470.8	498.9	534.3	564.8
67.5°	384.3	395.0	423.0	447.7	479.9
70°	309.2	323.2	343.8	367.8	388.4
72.5°	249.0	254.8	272.1	289.4	310.9
75°	183.9	193.8	207.8	217.7	230.1
77.5°	131.9	137.7	145.9	154.2	165.7
80°	88.2	90.7	98.1	99.8	108.8
82.5°	53.6	55.2	56.9	57.7	61.0
85°	28.9	28.9	28.9	27.2	27.2
87.5°	16.5	16.5	14.0	11.5	8.2
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)