

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: P557231

Luminaire Tested: **FUSL-12-4-LD4-2LO-30-UNV-93-97-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: P557231  
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-93-97-EDD  
Description: 4FT FUSL SURFACE MOUNT WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE  
AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND  
3000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

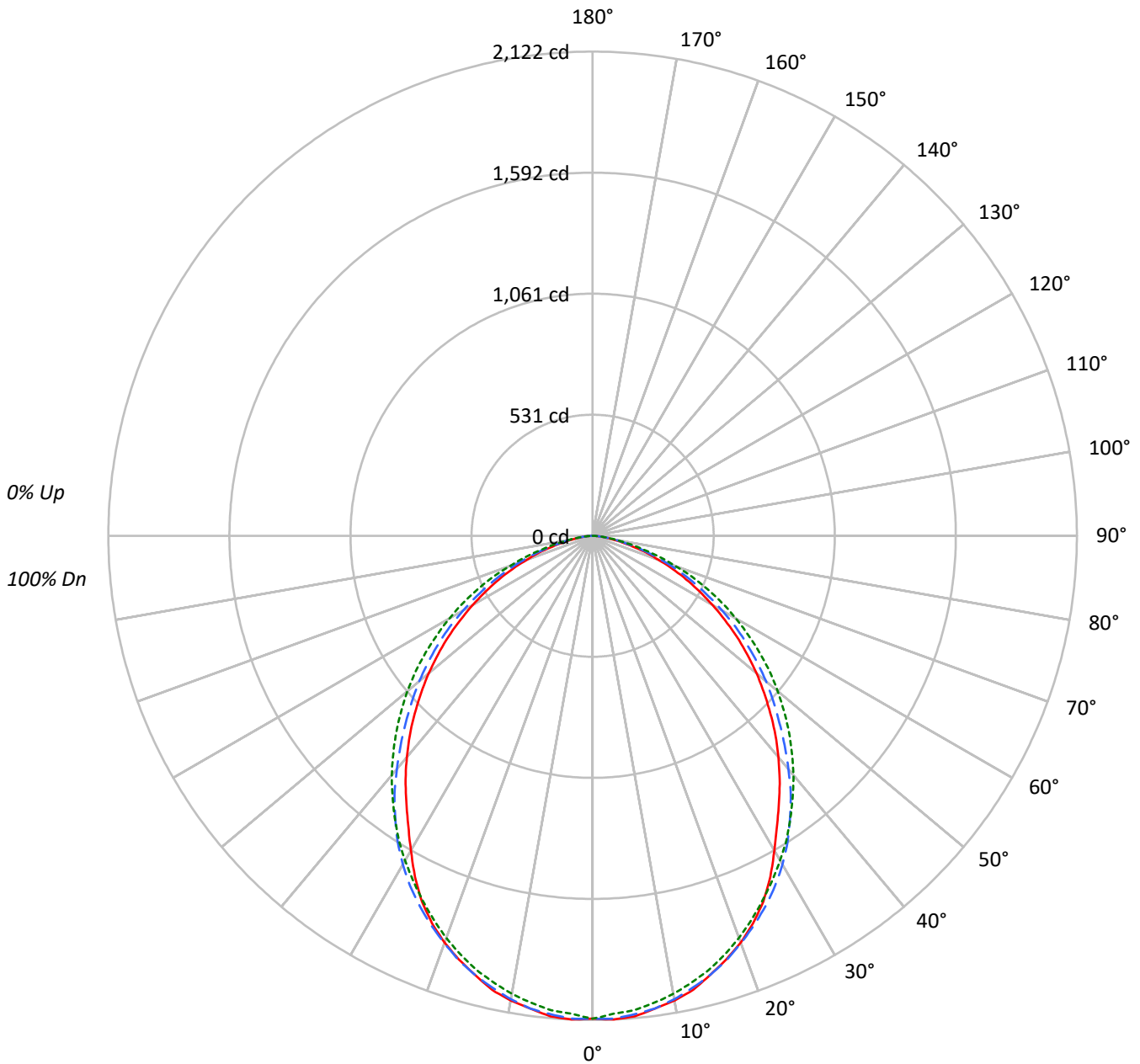
Lumens per Lamp: N/A  
Luminaire Lumens: 4894.0 lumens  
Efficiency: N/A  
Efficacy: 104.6 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 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°	5695	5695	5695
5°	5711	5686	5638
10°	5650	5635	5570
15°	5550	5550	5487
20°	5432	5439	5369
25°	5253	5319	5234
30°	4947	5169	5106
35°	4674	4955	4963
40°	4447	4687	4810
45°	4193	4403	4629
50°	3925	4150	4432
55°	3620	3861	4192
60°	3260	3523	3899
65°	2879	3132	3547
70°	2399	2668	3013
75°	1885	2130	2359
80°	1348	1500	1663
85°	880	880	827



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	199.3	4.1
10°-20°	559.8	11.4
20°-30°	818.1	16.7
30°-40°	928.6	19.0
40°-50°	896.4	18.3
50°-60°	739.5	15.1
60°-70°	492.4	10.1
70°-80°	220.4	4.5
80°-90°	39.4	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°	1577.2	32.2
0°-40°	2505.8	51.2
0°-60°	4141.8	84.6
0°-90°	4894.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4894.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2116	2116	2116	2116	2116	
5°	2114	2113	2105	2094	2087	200
15°	1992	1997	1992	1983	1969	562
25°	1769	1783	1791	1778	1763	810
35°	1423	1442	1508	1516	1511	892
45°	1102	1120	1157	1210	1216	850
55°	772	785	823	868	894	689
65°	452	464	492	527	557	448
75°	181	191	205	215	227	198
85°	28	28	28	27	27	38
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2116.5	2116.5	2116.5	2116.5	2116.5
2.5°	2122.2	2123.0	2118.2	2105.1	2097.0
5°	2114.1	2113.3	2105.1	2093.8	2087.3
7.5°	2090.5	2092.1	2089.7	2073.4	2064.5
10°	2067.7	2068.6	2062.1	2049.0	2038.5
12.5°	2038.5	2037.7	2028.7	2022.2	2005.1
15°	1992.1	1997.0	1992.1	1983.2	1969.4
17.5°	1947.4	1947.4	1950.7	1935.2	1924.6
20°	1897.0	1899.4	1899.4	1887.2	1875.0
22.5°	1838.4	1845.8	1848.2	1835.2	1820.6
25°	1769.3	1783.2	1791.3	1778.3	1762.8
27.5°	1685.6	1706.7	1731.1	1721.4	1704.3
30°	1592.1	1623.0	1663.6	1655.5	1643.3
32.5°	1503.4	1534.3	1590.4	1587.2	1580.7
35°	1422.9	1442.5	1508.3	1516.5	1510.8
37.5°	1346.5	1364.4	1426.2	1444.9	1440.0
40°	1266.0	1285.5	1334.3	1367.7	1369.3
42.5°	1186.3	1205.0	1244.9	1292.8	1292.8
45°	1101.8	1120.5	1157.1	1209.9	1216.4
47.5°	1018.8	1038.3	1074.1	1127.0	1137.5
50°	937.5	955.4	991.2	1042.4	1058.7
52.5°	853.0	872.5	907.4	954.6	978.2
55°	771.6	784.7	822.9	868.4	893.6
57.5°	687.1	699.3	742.4	781.4	807.4
60°	605.8	621.2	654.6	694.4	724.5
62.5°	527.7	544.0	572.4	607.4	641.5
65°	452.1	464.3	491.9	526.9	557.0
67.5°	378.9	389.5	417.1	441.5	473.2
70°	304.9	318.7	339.1	362.6	383.0
72.5°	245.6	251.3	268.3	285.4	306.5
75°	181.3	191.1	204.9	214.7	226.9
77.5°	130.1	135.8	143.9	152.1	163.4
80°	87.0	89.4	96.8	98.4	107.3
82.5°	52.9	54.5	56.1	56.9	60.2
85°	28.5	28.5	28.5	26.8	26.8
87.5°	16.3	16.3	13.8	11.4	8.1
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)