

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: P557321

Luminaire Tested: **FUSL-12-4-LD4-2LO-40-UNV-81-88-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: P557321  
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-40-UNV-81-88-EDD  
Description: 4FT FUSL SURFACE MOUNT WITH .156 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**

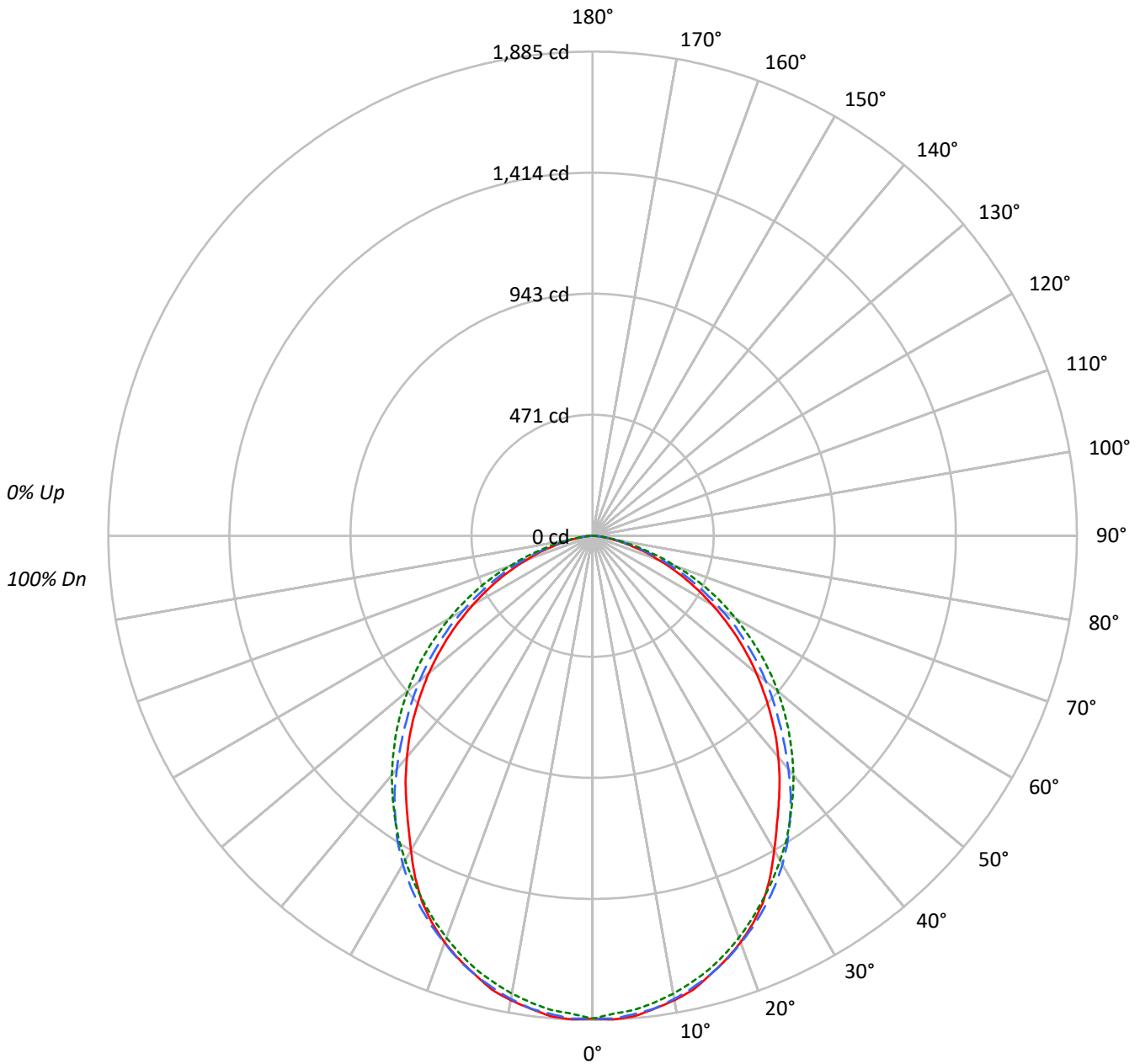
Lumens per Lamp: N/A  
Luminaire Lumens: 4346.0 lumens  
Efficiency: N/A  
Efficacy: 92.9 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 46.8  
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°	5058	5058	5058
5°	5071	5050	5007
10°	5017	5004	4946
15°	4929	4929	4872
20°	4824	4830	4768
25°	4665	4723	4648
30°	4393	4590	4534
35°	4151	4400	4407
40°	3949	4162	4272
45°	3723	3910	4111
50°	3485	3685	3936
55°	3215	3428	3723
60°	2895	3129	3463
65°	2557	2781	3149
70°	2131	2369	2676
75°	1674	1892	2095
80°	1198	1331	1477
85°	781	781	735



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	177.0	4.1
10°-20°	497.1	11.4
20°-30°	726.5	16.7
30°-40°	824.6	19.0
40°-50°	796.1	18.3
50°-60°	656.7	15.1
60°-70°	437.3	10.1
70°-80°	195.7	4.5
80°-90°	35.0	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°	1400.6	32.2
0°-40°	2225.2	51.2
0°-60°	3678.0	84.6
0°-90°	4346.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4346.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1880	1880	1880	1880	1880	
5°	1877	1877	1869	1859	1854	178
15°	1769	1773	1769	1761	1749	499
25°	1571	1584	1591	1579	1565	720
35°	1264	1281	1339	1347	1342	792
45°	978	995	1028	1074	1080	755
55°	685	697	731	771	794	612
65°	402	412	437	468	495	398
75°	161	170	182	191	202	176
85°	25	25	25	24	24	34
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1879.5	1879.5	1879.5	1879.5	1879.5
2.5°	1884.6	1885.3	1881.0	1869.4	1862.2
5°	1877.4	1876.6	1869.4	1859.3	1853.5
7.5°	1856.4	1857.9	1855.7	1841.3	1833.3
10°	1836.2	1836.9	1831.2	1819.6	1810.2
12.5°	1810.2	1809.5	1801.5	1795.8	1780.6
15°	1769.1	1773.4	1769.1	1761.1	1748.8
17.5°	1729.3	1729.3	1732.2	1718.5	1709.1
20°	1684.6	1686.7	1686.7	1675.9	1665.1
22.5°	1632.6	1639.1	1641.3	1629.7	1616.7
25°	1571.2	1583.5	1590.7	1579.2	1565.4
27.5°	1496.8	1515.6	1537.3	1528.6	1513.4
30°	1413.8	1441.2	1477.3	1470.1	1459.3
32.5°	1335.1	1362.5	1412.4	1409.5	1403.7
35°	1263.6	1280.9	1339.4	1346.6	1341.6
37.5°	1195.7	1211.6	1266.5	1283.1	1278.8
40°	1124.3	1141.6	1184.9	1214.5	1216.0
42.5°	1053.5	1070.1	1105.5	1148.1	1148.1
45°	978.4	995.0	1027.5	1074.4	1080.2
47.5°	904.7	922.1	953.8	1000.8	1010.2
50°	832.5	848.4	880.2	925.7	940.1
52.5°	757.4	774.8	805.8	847.7	868.6
55°	685.2	696.8	730.7	771.2	793.5
57.5°	610.1	621.0	659.2	693.9	717.0
60°	537.9	551.7	581.3	616.6	643.4
62.5°	468.6	483.1	508.3	539.4	569.7
65°	401.5	412.3	436.8	467.9	494.6
67.5°	336.5	345.9	370.4	392.1	420.2
70°	270.8	283.0	301.1	322.0	340.1
72.5°	218.1	223.1	238.3	253.4	272.2
75°	161.0	169.7	182.0	190.6	201.5
77.5°	115.5	120.6	127.8	135.0	145.1
80°	77.3	79.4	85.9	87.4	95.3
82.5°	46.9	48.4	49.8	50.5	53.4
85°	25.3	25.3	25.3	23.8	23.8
87.5°	14.4	14.4	12.3	10.1	7.2
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)