

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: P556227

Luminaire Tested: **FUSL-12-4-LD4-1HI-35-UNV-81-85-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: P556227  
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-LD4-1HI-35-UNV-81-85-EDD  
Description: 4FT FUSL SURFACE MOUNT WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

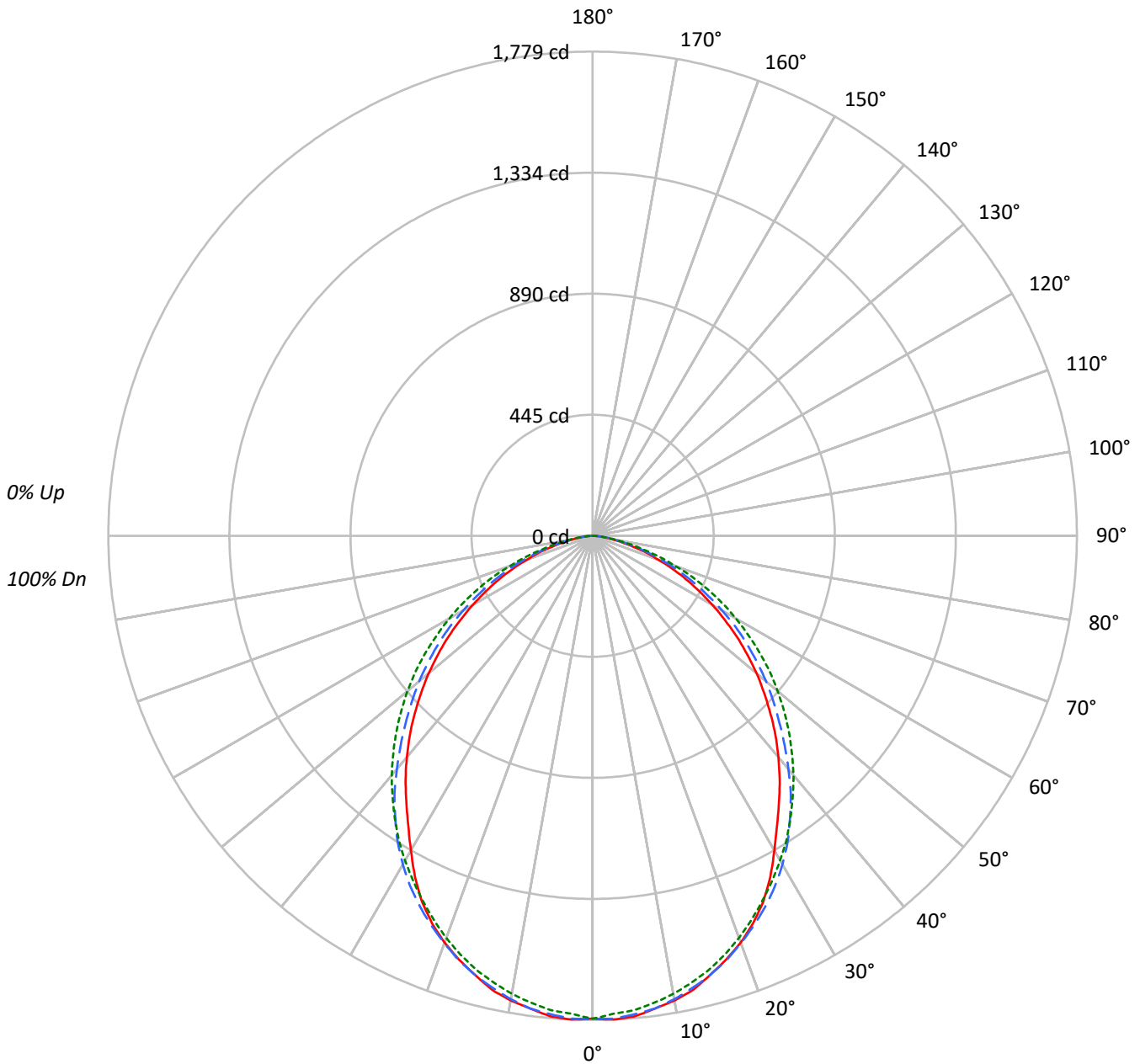
Lumens per Lamp: N/A  
Luminaire Lumens: 4103.0 lumens  
Efficiency: N/A  
Efficacy: 95.0 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 43.2  
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°	4775	4775	4775
5°	4788	4767	4727
10°	4737	4724	4670
15°	4653	4653	4600
20°	4554	4560	4502
25°	4404	4459	4388
30°	4148	4334	4281
35°	3919	4154	4161
40°	3729	3930	4033
45°	3515	3691	3881
50°	3291	3479	3716
55°	3035	3237	3515
60°	2733	2954	3269
65°	2413	2626	2974
70°	2011	2237	2526
75°	1580	1786	1978
80°	1130	1257	1395
85°	738	738	695



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	167.1	4.1
10°-20°	469.3	11.4
20°-30°	685.9	16.7
30°-40°	778.5	19.0
40°-50°	751.6	18.3
50°-60°	620.0	15.1
60°-70°	412.9	10.1
70°-80°	184.8	4.5
80°-90°	33.0	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°	1322.3	32.2
0°-40°	2100.8	51.2
0°-60°	3472.4	84.6
0°-90°	4103.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4103.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1774	1774	1774	1774	1774	
5°	1772	1772	1765	1755	1750	168
15°	1670	1674	1670	1663	1651	471
25°	1483	1495	1502	1491	1478	679
35°	1193	1209	1264	1271	1267	747
45°	924	939	970	1014	1020	713
55°	647	658	690	728	749	577
65°	379	389	412	442	467	376
75°	152	160	172	180	190	166
85°	24	24	24	22	22	32
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1774.4	1774.4	1774.4	1774.4	1774.4
2.5°	1779.2	1779.9	1775.8	1764.9	1758.1
5°	1772.4	1771.7	1764.9	1755.4	1749.9
7.5°	1752.6	1754.0	1751.9	1738.3	1730.8
10°	1733.5	1734.2	1728.8	1717.9	1709.0
12.5°	1709.0	1708.3	1700.8	1695.4	1681.0
15°	1670.1	1674.2	1670.1	1662.6	1651.1
17.5°	1632.6	1632.6	1635.4	1622.4	1613.6
20°	1590.4	1592.4	1592.4	1582.2	1572.0
22.5°	1541.3	1547.4	1549.5	1538.6	1526.3
25°	1483.4	1494.9	1501.8	1490.9	1477.9
27.5°	1413.1	1430.9	1451.3	1443.1	1428.8
30°	1334.8	1360.7	1394.7	1387.9	1377.7
32.5°	1260.4	1286.4	1333.4	1330.7	1325.2
35°	1193.0	1209.3	1264.5	1271.4	1266.6
37.5°	1128.9	1143.9	1195.7	1211.4	1207.3
40°	1061.4	1077.8	1118.7	1146.6	1148.0
42.5°	994.6	1010.3	1043.7	1083.9	1083.9
45°	923.7	939.4	970.0	1014.4	1019.8
47.5°	854.2	870.5	900.5	944.8	953.7
50°	786.0	801.0	831.0	873.9	887.6
52.5°	715.1	731.5	760.8	800.3	820.1
55°	646.9	657.8	689.9	728.0	749.2
57.5°	576.0	586.3	622.4	655.1	676.9
60°	507.9	520.8	548.8	582.2	607.4
62.5°	442.4	456.1	479.9	509.2	537.9
65°	379.0	389.2	412.4	441.7	467.0
67.5°	317.7	326.5	349.7	370.2	396.7
70°	255.6	267.2	284.3	304.0	321.1
72.5°	205.9	210.6	225.0	239.3	257.0
75°	152.0	160.2	171.8	180.0	190.2
77.5°	109.1	113.8	120.7	127.5	137.0
80°	72.9	75.0	81.1	82.5	90.0
82.5°	44.3	45.7	47.0	47.7	50.4
85°	23.9	23.9	23.9	22.5	22.5
87.5°	13.6	13.6	11.6	9.5	6.8
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)