

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: P557381

Luminaire Tested: **FUSL-12-4-LD4-2LO-50-UNV-81-86-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: P557381  
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-50-UNV-81-86-EDD  
Description: 4FT FUSL SURFACE MOUNT WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

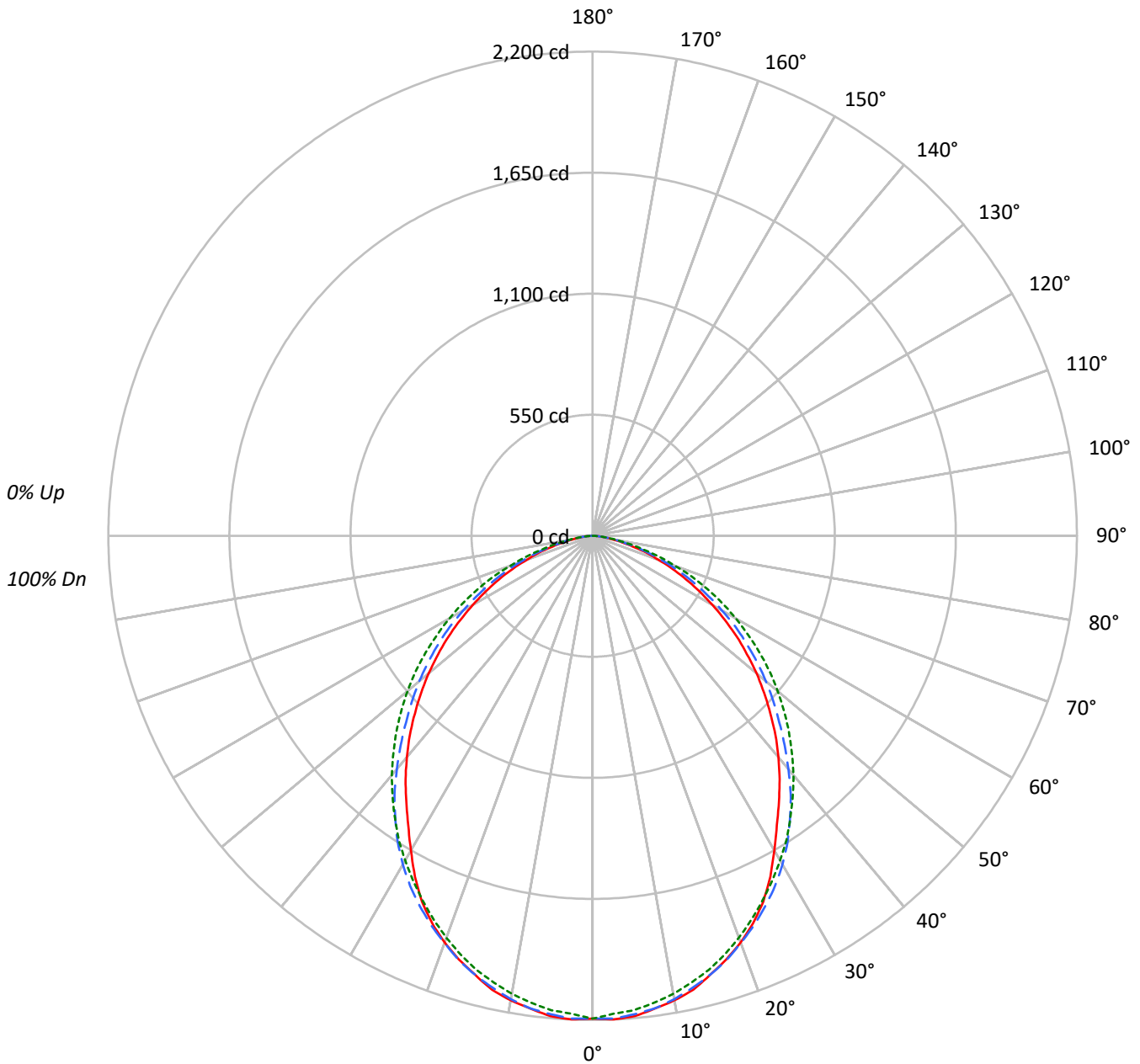
Lumens per Lamp: N/A  
Luminaire Lumens: 5073.0 lumens  
Efficiency: N/A  
Efficacy: 108.4 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

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°	5904	5904	5904
5°	5920	5894	5844
10°	5857	5841	5774
15°	5753	5753	5687
20°	5631	5638	5566
25°	5445	5513	5426
30°	5128	5358	5293
35°	4845	5136	5144
40°	4610	4859	4986
45°	4346	4564	4799
50°	4068	4301	4594
55°	3753	4002	4346
60°	3379	3652	4042
65°	2984	3247	3677
70°	2487	2766	3124
75°	1955	2208	2445
80°	1398	1554	1725
85°	911	911	858



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	206.6	4.1
10°-20°	580.3	11.4
20°-30°	848.0	16.7
30°-40°	962.6	19.0
40°-50°	929.2	18.3
50°-60°	766.6	15.1
60°-70°	510.5	10.1
70°-80°	228.4	4.5
80°-90°	40.9	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°	1634.9	32.2
0°-40°	2597.5	51.2
0°-60°	4293.2	84.6
0°-90°	5073.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5073.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2194	2194	2194	2194	2194	
5°	2191	2191	2182	2170	2164	207
15°	2065	2070	2065	2056	2041	582
25°	1834	1848	1857	1843	1827	840
35°	1475	1495	1564	1572	1566	924
45°	1142	1161	1199	1254	1261	881
55°	800	813	853	900	926	714
65°	469	481	510	546	577	465
75°	188	198	212	222	235	206
85°	30	30	30	28	28	40
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2193.9	2193.9	2193.9	2193.9	2193.9
2.5°	2199.8	2200.7	2195.6	2182.1	2173.7
5°	2191.4	2190.6	2182.1	2170.3	2163.6
7.5°	2167.0	2168.7	2166.1	2149.3	2140.0
10°	2143.4	2144.2	2137.5	2124.0	2113.0
12.5°	2113.0	2112.2	2102.9	2096.2	2078.5
15°	2065.0	2070.0	2065.0	2055.7	2041.4
17.5°	2018.6	2018.6	2022.0	2006.0	1995.0
20°	1966.4	1968.9	1968.9	1956.3	1943.6
22.5°	1905.7	1913.3	1915.8	1902.3	1887.1
25°	1834.0	1848.4	1856.8	1843.3	1827.3
27.5°	1747.2	1769.1	1794.4	1784.3	1766.6
30°	1650.3	1682.3	1724.5	1716.0	1703.4
32.5°	1558.4	1590.5	1648.6	1645.2	1638.5
35°	1475.0	1495.2	1563.5	1571.9	1566.0
37.5°	1395.8	1414.3	1478.4	1497.7	1492.7
40°	1312.3	1332.5	1383.1	1417.7	1419.4
42.5°	1229.7	1249.1	1290.4	1340.1	1340.1
45°	1142.1	1161.4	1199.4	1254.2	1260.9
47.5°	1056.1	1076.3	1113.4	1168.2	1179.1
50°	971.8	990.4	1027.4	1080.5	1097.4
52.5°	884.2	904.4	940.6	989.5	1013.9
55°	799.9	813.4	853.0	900.2	926.3
57.5°	712.2	724.9	769.5	810.0	837.0
60°	627.9	643.9	678.5	719.8	751.0
62.5°	547.0	563.9	593.4	629.6	665.0
65°	468.6	481.3	509.9	546.2	577.4
67.5°	392.8	403.7	432.4	457.7	490.5
70°	316.1	330.4	351.5	375.9	397.0
72.5°	254.5	260.4	278.1	295.8	317.8
75°	188.0	198.1	212.4	222.5	235.2
77.5°	134.9	140.8	149.2	157.6	169.4
80°	90.2	92.7	100.3	102.0	111.3
82.5°	54.8	56.5	58.2	59.0	62.4
85°	29.5	29.5	29.5	27.8	27.8
87.5°	16.9	16.9	14.3	11.8	8.4
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)