

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: P557203

Luminaire Tested: **FUSL-12-4-LD4-2LO-30-UNV-82-85-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: P557203  
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-82-85-EDD  
Description: 4FT FUSL SURFACE MOUNT WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

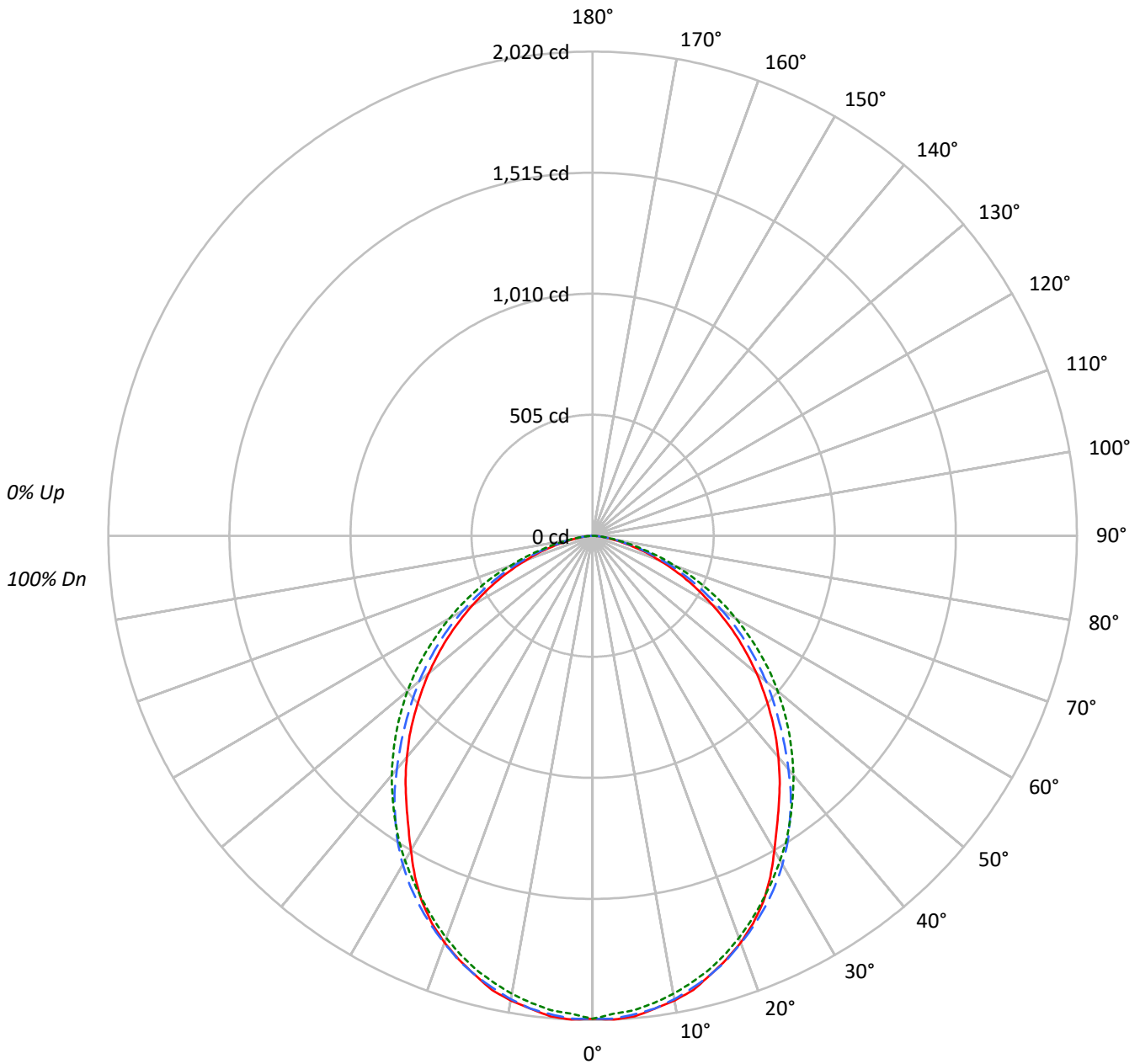
Lumens per Lamp: N/A  
Luminaire Lumens: 4659.0 lumens  
Efficiency: N/A  
Efficacy: 99.6 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

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°	5422	5422	5422
5°	5437	5414	5367
10°	5379	5364	5303
15°	5283	5283	5223
20°	5172	5178	5112
25°	5001	5063	4983
30°	4709	4921	4861
35°	4450	4717	4725
40°	4234	4462	4579
45°	3992	4192	4407
50°	3736	3950	4219
55°	3446	3675	3991
60°	3104	3353	3712
65°	2741	2982	3376
70°	2284	2540	2869
75°	1795	2028	2246
80°	1283	1427	1584
85°	837	837	787



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	189.7	4.1
10°-20°	532.9	11.4
20°-30°	778.8	16.7
30°-40°	884.0	19.0
40°-50°	853.4	18.3
50°-60°	704.0	15.1
60°-70°	468.8	10.1
70°-80°	209.8	4.5
80°-90°	37.5	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°	1501.5	32.2
0°-40°	2385.5	51.2
0°-60°	3942.9	84.6
0°-90°	4659.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4659.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2015	2015	2015	2015	2015	
5°	2013	2012	2004	1993	1987	190
15°	1896	1901	1896	1888	1875	535
25°	1684	1698	1705	1693	1678	771
35°	1355	1373	1436	1444	1438	849
45°	1049	1067	1102	1152	1158	809
55°	735	747	783	827	851	656
65°	430	442	468	502	530	427
75°	173	182	195	204	216	189
85°	27	27	27	26	26	37
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2014.9	2014.9	2014.9	2014.9	2014.9
2.5°	2020.3	2021.1	2016.4	2004.1	1996.3
5°	2012.6	2011.8	2004.1	1993.2	1987.0
7.5°	1990.1	1991.7	1989.4	1973.9	1965.4
10°	1968.5	1969.2	1963.0	1950.6	1940.6
12.5°	1940.6	1939.8	1931.3	1925.1	1908.8
15°	1896.5	1901.1	1896.5	1888.0	1874.8
17.5°	1853.9	1853.9	1857.0	1842.3	1832.2
20°	1805.9	1808.2	1808.2	1796.6	1785.0
22.5°	1750.2	1757.1	1759.5	1747.1	1733.1
25°	1684.4	1697.5	1705.3	1692.9	1678.2
27.5°	1604.6	1624.8	1648.0	1638.7	1622.4
30°	1515.6	1545.0	1583.7	1576.0	1564.4
32.5°	1431.3	1460.7	1514.1	1511.0	1504.8
35°	1354.6	1373.2	1435.9	1443.6	1438.2
37.5°	1281.9	1298.9	1357.7	1375.5	1370.9
40°	1205.2	1223.8	1270.2	1302.0	1303.5
42.5°	1129.4	1147.2	1185.1	1230.8	1230.8
45°	1048.9	1066.7	1101.5	1151.8	1158.0
47.5°	969.9	988.5	1022.5	1072.9	1082.9
50°	892.5	909.5	943.6	992.4	1007.8
52.5°	812.0	830.6	863.9	908.8	931.2
55°	734.6	747.0	783.4	826.7	850.7
57.5°	654.1	665.7	706.7	743.9	768.6
60°	576.7	591.4	623.1	661.1	689.7
62.5°	502.4	517.9	544.9	578.2	610.7
65°	430.4	442.0	468.3	501.6	530.2
67.5°	360.7	370.8	397.1	420.3	450.5
70°	290.3	303.4	322.8	345.2	364.6
72.5°	233.8	239.2	255.4	271.7	291.8
75°	172.6	181.9	195.1	204.4	216.0
77.5°	123.9	129.3	137.0	144.8	155.6
80°	82.8	85.1	92.1	93.7	102.2
82.5°	50.3	51.9	53.4	54.2	57.3
85°	27.1	27.1	27.1	25.5	25.5
87.5°	15.5	15.5	13.2	10.8	7.7
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)