

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: P557191

Luminaire Tested: **FUSL-12-4-LD4-2LO-30-UNV-81-87-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: P557191  
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-81-87-EDD  
Description: 4FT FUSL SURFACE MOUNT WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

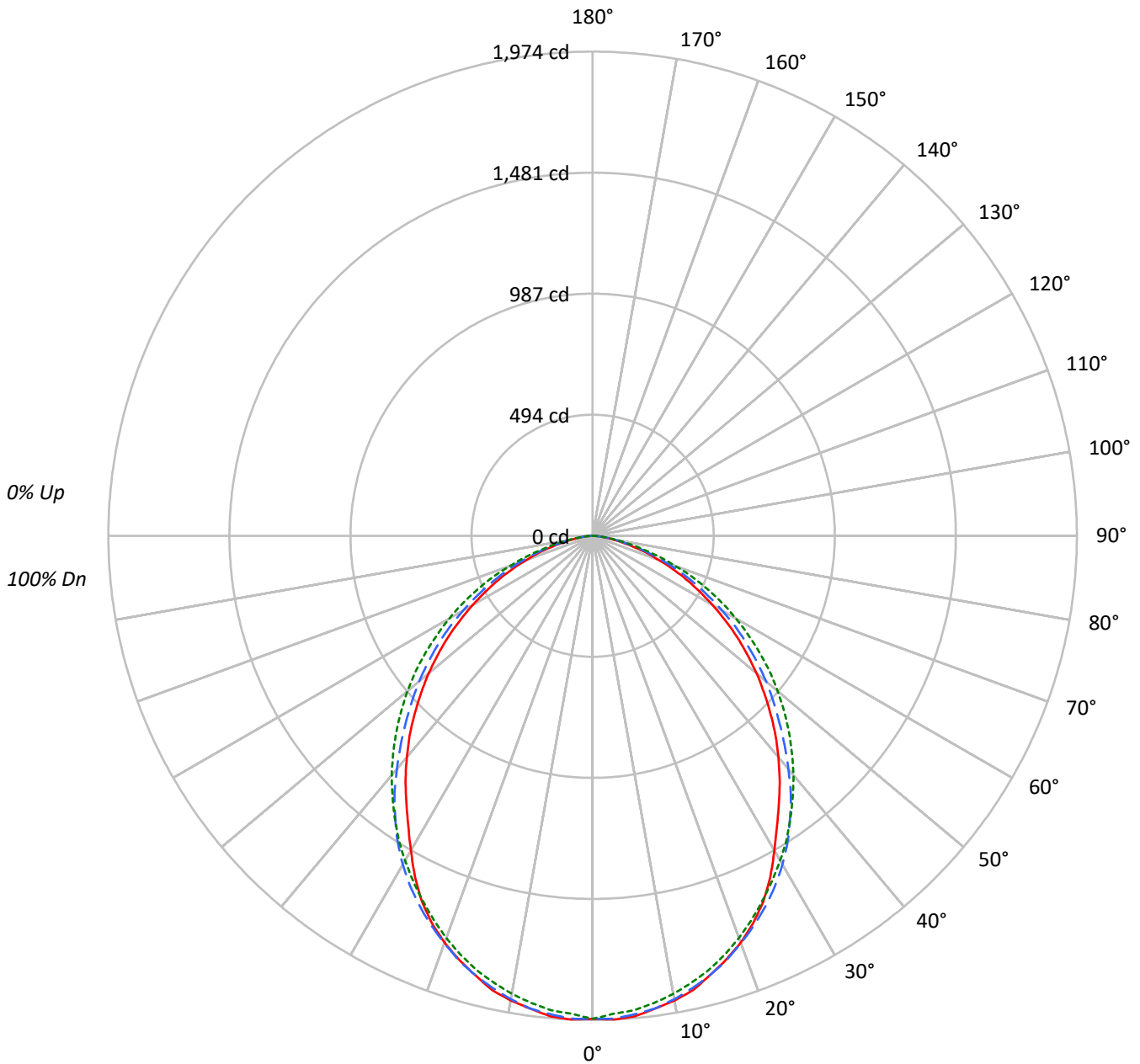
Lumens per Lamp: N/A  
Luminaire Lumens: 4553.0 lumens  
Efficiency: N/A  
Efficacy: 97.3 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

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°	5299	5299	5299
5°	5313	5290	5245
10°	5256	5242	5182
15°	5163	5163	5104
20°	5054	5060	4995
25°	4887	4948	4869
30°	4602	4809	4750
35°	4349	4610	4617
40°	4137	4360	4475
45°	3901	4096	4307
50°	3651	3860	4123
55°	3368	3591	3900
60°	3033	3277	3627
65°	2678	2914	3300
70°	2232	2482	2803
75°	1754	1982	2195
80°	1254	1395	1548
85°	818	818	772



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	185.4	4.1
10°-20°	520.8	11.4
20°-30°	761.1	16.7
30°-40°	863.9	19.0
40°-50°	834.0	18.3
50°-60°	688.0	15.1
60°-70°	458.1	10.1
70°-80°	205.0	4.5
80°-90°	36.7	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°	1467.3	32.2
0°-40°	2331.2	51.2
0°-60°	3853.2	84.6
0°-90°	4553.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4553.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1969	1969	1969	1969	1969	
5°	1967	1966	1958	1948	1942	186
15°	1853	1858	1853	1845	1832	522
25°	1646	1659	1666	1654	1640	754
35°	1324	1342	1403	1411	1406	829
45°	1025	1042	1076	1126	1132	791
55°	718	730	766	808	831	641
65°	421	432	458	490	518	417
75°	169	178	191	200	211	184
85°	26	26	26	25	25	36
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1969.1	1969.1	1969.1	1969.1	1969.1
2.5°	1974.4	1975.1	1970.6	1958.5	1950.9
5°	1966.8	1966.0	1958.5	1947.9	1941.8
7.5°	1944.8	1946.4	1944.1	1929.0	1920.6
10°	1923.7	1924.4	1918.4	1906.3	1896.4
12.5°	1896.4	1895.7	1887.4	1881.3	1865.4
15°	1853.3	1857.9	1853.3	1845.0	1832.1
17.5°	1811.7	1811.7	1814.7	1800.4	1790.5
20°	1764.8	1767.1	1767.1	1755.7	1744.4
22.5°	1710.3	1717.2	1719.4	1707.3	1693.7
25°	1646.0	1658.9	1666.5	1654.4	1640.0
27.5°	1568.1	1587.8	1610.5	1601.4	1585.5
30°	1481.1	1509.9	1547.7	1540.1	1528.8
32.5°	1398.7	1427.4	1479.6	1476.6	1470.6
35°	1323.8	1342.0	1403.2	1410.8	1405.5
37.5°	1252.7	1269.3	1326.8	1344.2	1339.7
40°	1177.8	1196.0	1241.3	1272.4	1273.9
42.5°	1103.7	1121.1	1158.1	1202.8	1202.8
45°	1025.0	1042.4	1076.4	1125.6	1131.7
47.5°	947.8	966.0	999.3	1048.4	1058.3
50°	872.2	888.8	922.1	969.8	984.9
52.5°	793.5	811.7	844.2	888.1	910.0
55°	717.9	730.0	765.5	807.9	831.3
57.5°	639.2	650.6	690.6	727.0	751.2
60°	563.6	577.9	608.9	646.0	674.0
62.5°	490.9	506.1	532.5	565.1	596.8
65°	420.6	431.9	457.7	490.2	518.2
67.5°	352.5	362.3	388.1	410.8	440.3
70°	283.7	296.5	315.4	337.4	356.3
72.5°	228.4	233.7	249.6	265.5	285.2
75°	168.7	177.8	190.6	199.7	211.1
77.5°	121.0	126.3	133.9	141.5	152.0
80°	80.9	83.2	90.0	91.5	99.9
82.5°	49.2	50.7	52.2	53.0	56.0
85°	26.5	26.5	26.5	25.0	25.0
87.5°	15.1	15.1	12.9	10.6	7.6
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)