

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: P557331

Luminaire Tested: **FUSL-12-4-LD4-2LO-40-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: P557331  
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-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 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

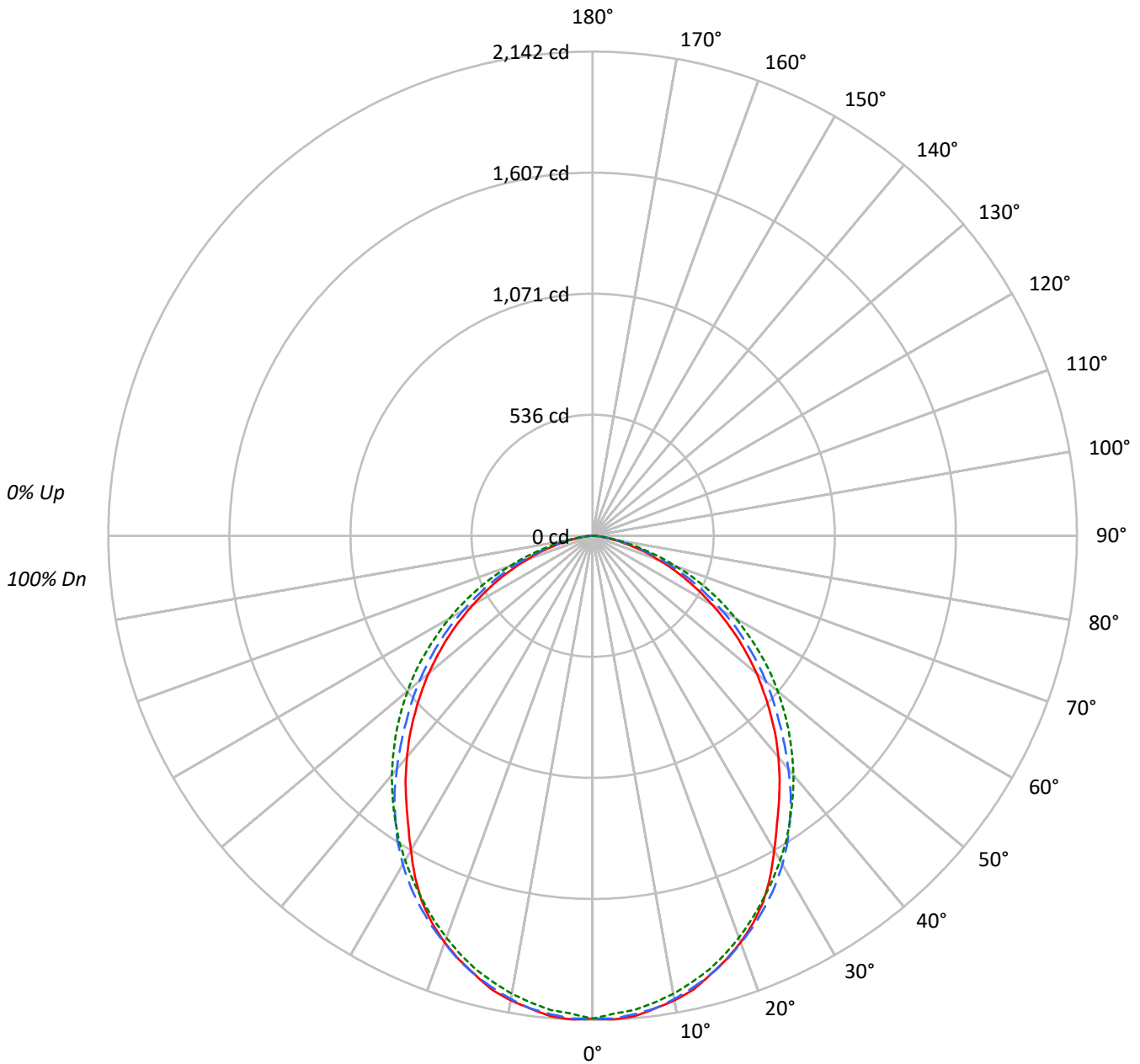
Lumens per Lamp: N/A  
Luminaire Lumens: 4939.0 lumens  
Efficiency: N/A  
Efficacy: 105.5 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

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°	5748	5748	5748
5°	5763	5739	5690
10°	5702	5686	5621
15°	5601	5601	5537
20°	5482	5489	5419
25°	5302	5368	5282
30°	4992	5217	5153
35°	4717	5001	5009
40°	4488	4730	4854
45°	4231	4444	4672
50°	3961	4188	4473
55°	3653	3896	4231
60°	3290	3555	3935
65°	2905	3161	3579
70°	2421	2692	3041
75°	1903	2150	2380
80°	1361	1512	1678
85°	886	886	837



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	201.1	4.1
10°-20°	565.0	11.4
20°-30°	825.6	16.7
30°-40°	937.2	19.0
40°-50°	904.7	18.3
50°-60°	746.3	15.1
60°-70°	497.0	10.1
70°-80°	222.4	4.5
80°-90°	39.8	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°	1591.7	32.2
0°-40°	2528.9	51.2
0°-60°	4179.8	84.6
0°-90°	4939.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4939.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2136	2136	2136	2136	2136	
5°	2134	2133	2124	2113	2106	202
15°	2010	2015	2010	2001	1988	567
25°	1786	1800	1808	1795	1779	818
35°	1436	1456	1522	1530	1525	900
45°	1112	1131	1168	1221	1228	858
55°	779	792	830	876	902	695
65°	456	469	496	532	562	452
75°	183	193	207	217	229	200
85°	29	29	29	27	27	39
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2136.0	2136.0	2136.0	2136.0	2136.0
2.5°	2141.7	2142.6	2137.6	2124.5	2116.3
5°	2133.5	2132.7	2124.5	2113.0	2106.4
7.5°	2109.7	2111.4	2108.9	2092.5	2083.5
10°	2086.8	2087.6	2081.0	2067.9	2057.2
12.5°	2057.2	2056.4	2047.4	2040.8	2023.6
15°	2010.4	2015.4	2010.4	2001.4	1987.5
17.5°	1965.3	1965.3	1968.6	1953.0	1942.3
20°	1914.4	1916.9	1916.9	1904.6	1892.3
22.5°	1855.3	1862.7	1865.2	1852.1	1837.3
25°	1785.6	1799.5	1807.8	1794.6	1779.0
27.5°	1701.1	1722.4	1747.0	1737.2	1720.0
30°	1606.7	1637.9	1678.9	1670.7	1658.4
32.5°	1517.3	1548.4	1605.1	1601.8	1595.2
35°	1436.0	1455.7	1522.2	1530.4	1524.7
37.5°	1358.9	1376.9	1439.3	1458.2	1453.3
40°	1277.7	1297.3	1346.6	1380.2	1381.9
42.5°	1197.2	1216.1	1256.3	1304.7	1304.7
45°	1111.9	1130.8	1167.7	1221.0	1227.6
47.5°	1028.2	1047.9	1084.0	1137.3	1148.0
50°	946.1	964.2	1000.3	1052.0	1068.4
52.5°	860.8	880.5	915.8	963.4	987.2
55°	778.7	791.9	830.4	876.4	901.8
57.5°	693.4	705.7	749.2	788.6	814.8
60°	611.3	626.9	660.6	700.8	731.1
62.5°	532.6	549.0	577.7	613.0	647.4
65°	456.2	468.6	496.5	531.7	562.1
67.5°	382.4	393.1	421.0	445.6	477.6
70°	307.7	321.7	342.2	366.0	386.5
72.5°	247.8	253.6	270.8	288.0	309.4
75°	183.0	192.8	206.8	216.6	228.9
77.5°	131.3	137.0	145.2	153.4	164.9
80°	87.8	90.3	97.6	99.3	108.3
82.5°	53.3	55.0	56.6	57.4	60.7
85°	28.7	28.7	28.7	27.1	27.1
87.5°	16.4	16.4	13.9	11.5	8.2
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)