

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: P558408

Luminaire Tested: **FUSL-12-4-LD4-3STD-50-UNV-81-88-EDD-90**

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: P558408  
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-LD4-3STD-50-UNV-81-88-EDD-90  
Description: 4FT FUSL SURFACE MOUNT WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

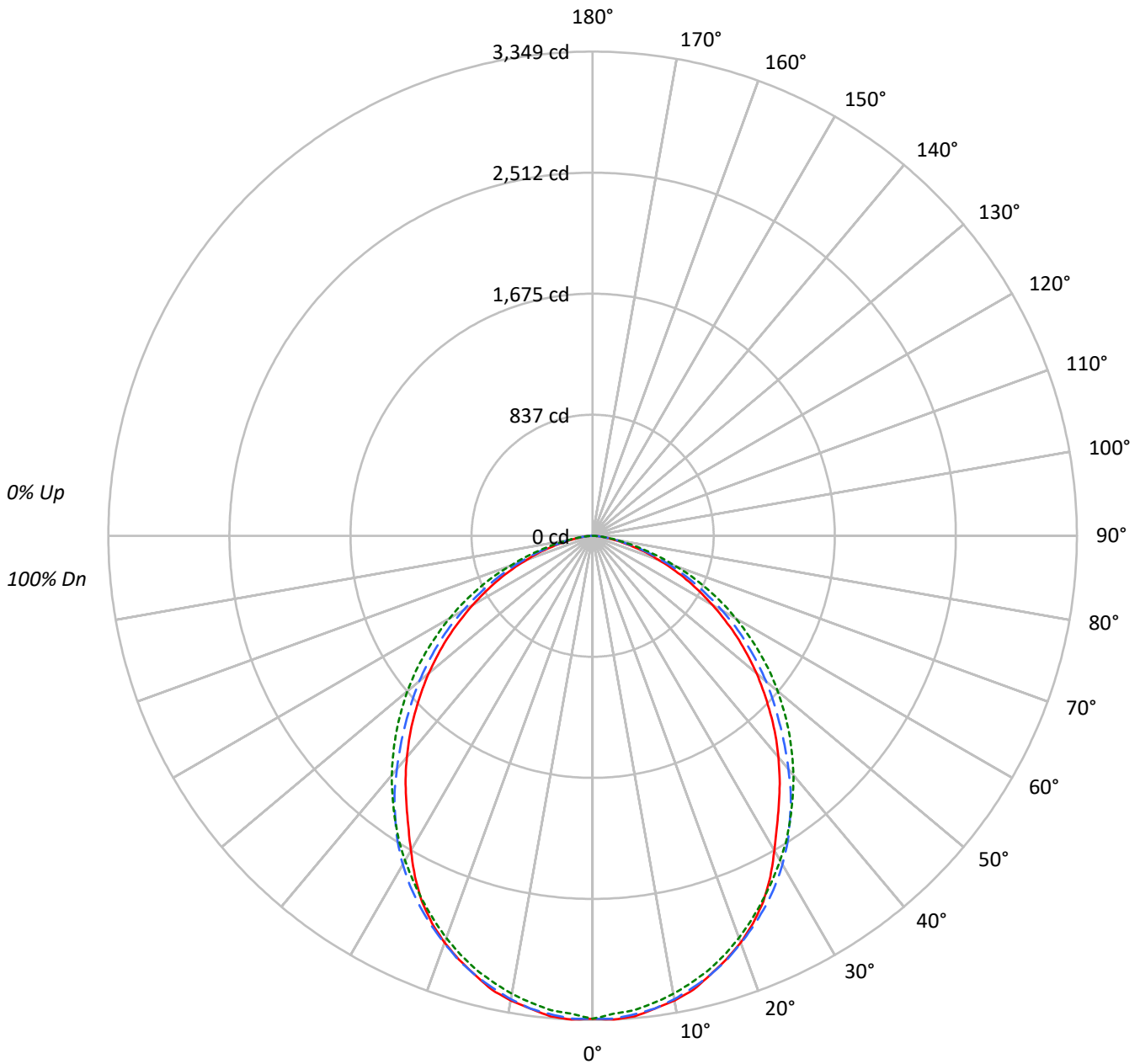
Lumens per Lamp: N/A  
Luminaire Lumens: 7724.0 lumens  
Efficiency: N/A  
Efficacy: 77.3 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 99.9  
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°	8989	8989	8989
5°	9013	8975	8898
10°	8917	8893	8791
15°	8759	8759	8659
20°	8574	8585	8474
25°	8291	8394	8261
30°	7808	8158	8059
35°	7378	7820	7833
40°	7019	7398	7592
45°	6618	6949	7306
50°	6194	6549	6995
55°	5714	6093	6617
60°	5146	5560	6154
65°	4543	4944	5598
70°	3786	4210	4755
75°	2976	3362	3722
80°	2128	2366	2625
85°	1386	1386	1306



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	314.5	4.1
10°-20°	883.6	11.4
20°-30°	1291.2	16.7
30°-40°	1465.6	19.0
40°-50°	1414.8	18.3
50°-60°	1167.1	15.1
60°-70°	777.2	10.1
70°-80°	347.8	4.5
80°-90°	62.2	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°	2489.2	32.2
0°-40°	3954.8	51.2
0°-60°	6536.8	84.6
0°-90°	7724.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7724.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3340	3340	3340	3340	3340	
5°	3337	3335	3322	3304	3294	316
15°	3144	3152	3144	3130	3108	886
25°	2792	2814	2827	2807	2782	1279
35°	2246	2277	2380	2393	2384	1407
45°	1739	1768	1826	1910	1920	1342
55°	1218	1238	1299	1371	1410	1087
65°	714	733	776	832	879	707
75°	286	302	323	339	358	313
85°	45	45	45	42	42	61
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3340.4	3340.4	3340.4	3340.4	3340.4
2.5°	3349.4	3350.7	3343.0	3322.5	3309.6
5°	3336.6	3335.3	3322.5	3304.5	3294.2
7.5°	3299.4	3301.9	3298.1	3272.4	3258.3
10°	3263.4	3264.7	3254.4	3233.9	3217.2
12.5°	3217.2	3216.0	3201.8	3191.6	3164.6
15°	3144.1	3151.8	3144.1	3130.0	3108.2
17.5°	3073.5	3073.5	3078.6	3054.3	3037.6
20°	2993.9	2997.8	2997.8	2978.5	2959.3
22.5°	2901.5	2913.1	2916.9	2896.4	2873.3
25°	2792.5	2814.3	2827.1	2806.6	2782.2
27.5°	2660.3	2693.6	2732.1	2716.7	2689.8
30°	2512.7	2561.5	2625.6	2612.8	2593.5
32.5°	2372.8	2421.6	2510.1	2505.0	2494.7
35°	2245.8	2276.6	2380.5	2393.4	2384.4
37.5°	2125.1	2153.4	2250.9	2280.4	2272.7
40°	1998.1	2028.9	2105.9	2158.5	2161.1
42.5°	1872.3	1901.9	1964.7	2040.4	2040.4
45°	1738.9	1768.4	1826.1	1909.6	1919.8
47.5°	1608.0	1638.8	1695.2	1778.7	1795.3
50°	1479.6	1507.9	1564.3	1645.2	1670.9
52.5°	1346.2	1377.0	1432.2	1506.6	1543.8
55°	1217.9	1238.4	1298.7	1370.6	1410.3
57.5°	1084.4	1103.6	1171.7	1233.3	1274.3
60°	956.1	980.4	1033.1	1095.9	1143.4
62.5°	832.9	858.5	903.4	958.6	1012.5
65°	713.5	732.8	776.4	831.6	879.1
67.5°	598.0	614.7	658.3	696.8	746.9
70°	481.2	503.1	535.1	572.4	604.4
72.5°	387.6	396.5	423.5	450.4	483.8
75°	286.2	301.6	323.4	338.8	358.0
77.5°	205.3	214.3	227.1	240.0	257.9
80°	137.3	141.2	152.7	155.3	169.4
82.5°	83.4	86.0	88.5	89.8	95.0
85°	44.9	44.9	44.9	42.3	42.3
87.5°	25.7	25.7	21.8	18.0	12.8
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)