

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: P557092

Luminaire Tested: **FUSL-12-4-LD4-2HI-40-UNV-93-86-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: P557092  
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-LD4-2HI-40-UNV-93-86-EDD-90  
Description: 4FT FUSL SURFACE MOUNT WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

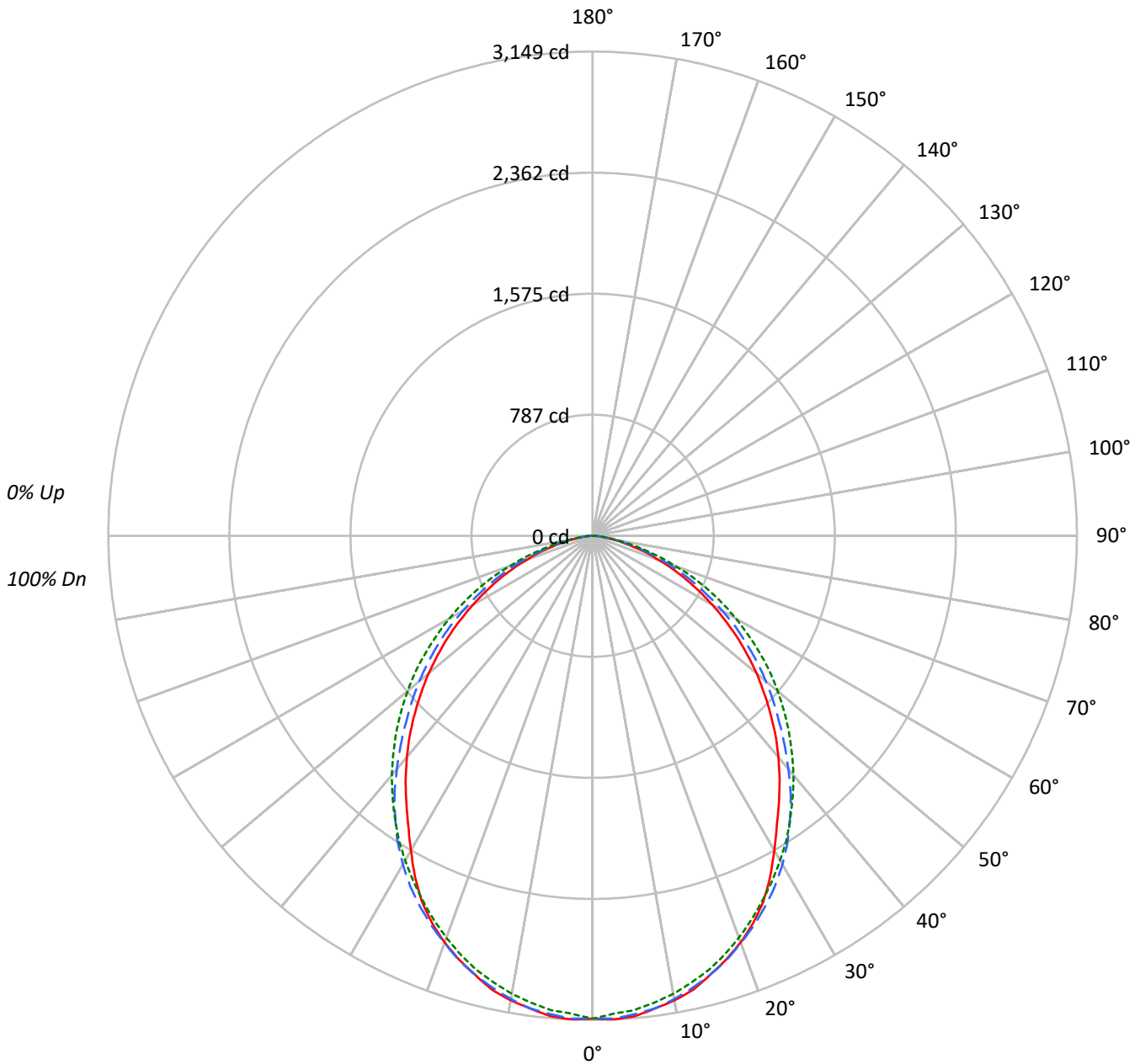
Lumens per Lamp: N/A  
Luminaire Lumens: 7261.0 lumens  
Efficiency: N/A  
Efficacy: 84.0 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 86.4  
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°	8450	8450	8450
5°	8473	8437	8365
10°	8383	8360	8264
15°	8234	8234	8140
20°	8060	8070	7966
25°	7794	7891	7766
30°	7340	7669	7576
35°	6935	7351	7363
40°	6598	6954	7136
45°	6221	6533	6868
50°	5823	6157	6576
55°	5371	5728	6220
60°	4837	5226	5785
65°	4271	4648	5262
70°	3559	3958	4471
75°	2797	3161	3500
80°	2001	2225	2467
85°	1303	1303	1229



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	295.7	4.1
10°-20°	830.6	11.4
20°-30°	1213.8	16.7
30°-40°	1377.8	19.0
40°-50°	1330.0	18.3
50°-60°	1097.2	15.1
60°-70°	730.6	10.1
70°-80°	326.9	4.5
80°-90°	58.5	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°	2340.0	32.2
0°-40°	3717.8	51.2
0°-60°	6144.9	84.6
0°-90°	7261.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7261.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3140	3140	3140	3140	3140	
5°	3137	3135	3123	3106	3097	297
15°	2956	2963	2956	2942	2922	833
25°	2625	2646	2658	2638	2615	1202
35°	2111	2140	2238	2250	2241	1323
45°	1635	1662	1717	1795	1805	1261
55°	1145	1164	1221	1288	1326	1022
65°	671	689	730	782	826	665
75°	269	284	304	318	337	294
85°	42	42	42	40	40	57
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3140.2	3140.2	3140.2	3140.2	3140.2
2.5°	3148.6	3149.8	3142.6	3123.3	3111.2
5°	3136.6	3135.4	3123.3	3106.4	3096.8
7.5°	3101.6	3104.0	3100.4	3076.3	3063.0
10°	3067.8	3069.0	3059.4	3040.1	3024.4
12.5°	3024.4	3023.2	3009.9	3000.3	2974.9
15°	2955.6	2962.9	2955.6	2942.3	2921.8
17.5°	2889.3	2889.3	2894.1	2871.2	2855.5
20°	2814.5	2818.1	2818.1	2800.0	2781.9
22.5°	2727.6	2738.5	2742.1	2722.8	2701.1
25°	2625.1	2645.6	2657.6	2638.3	2615.4
27.5°	2500.8	2532.2	2568.4	2553.9	2528.6
30°	2362.1	2407.9	2468.2	2456.2	2438.1
32.5°	2230.6	2276.4	2359.7	2354.8	2345.2
35°	2111.2	2140.1	2237.8	2249.9	2241.4
37.5°	1997.8	2024.3	2116.0	2143.7	2136.5
40°	1878.3	1907.3	1979.7	2029.1	2031.5
42.5°	1760.1	1787.8	1847.0	1918.1	1918.1
45°	1634.6	1662.4	1716.7	1795.1	1804.7
47.5°	1511.6	1540.5	1593.6	1672.0	1687.7
50°	1391.0	1417.5	1470.6	1546.6	1570.7
52.5°	1265.5	1294.4	1346.3	1416.3	1451.3
55°	1144.9	1164.2	1220.9	1288.4	1325.8
57.5°	1019.4	1037.5	1101.4	1159.3	1197.9
60°	898.7	921.7	971.1	1030.2	1074.9
62.5°	782.9	807.1	849.3	901.2	951.8
65°	670.7	688.8	729.9	781.7	826.4
67.5°	562.2	577.9	618.9	655.1	702.1
70°	452.4	472.9	503.1	538.0	568.2
72.5°	364.3	372.8	398.1	423.4	454.8
75°	269.0	283.5	304.0	318.5	336.6
77.5°	193.0	201.5	213.5	225.6	242.5
80°	129.1	132.7	143.6	146.0	159.2
82.5°	78.4	80.8	83.2	84.4	89.3
85°	42.2	42.2	42.2	39.8	39.8
87.5°	24.1	24.1	20.5	16.9	12.1
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)