

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: P557161

Luminaire Tested: **FUSL-12-4-LD4-2HI-50-UNV-93-88-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: P557161  
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-50-UNV-93-88-EDD  
Description: 4FT FUSL SURFACE MOUNT WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

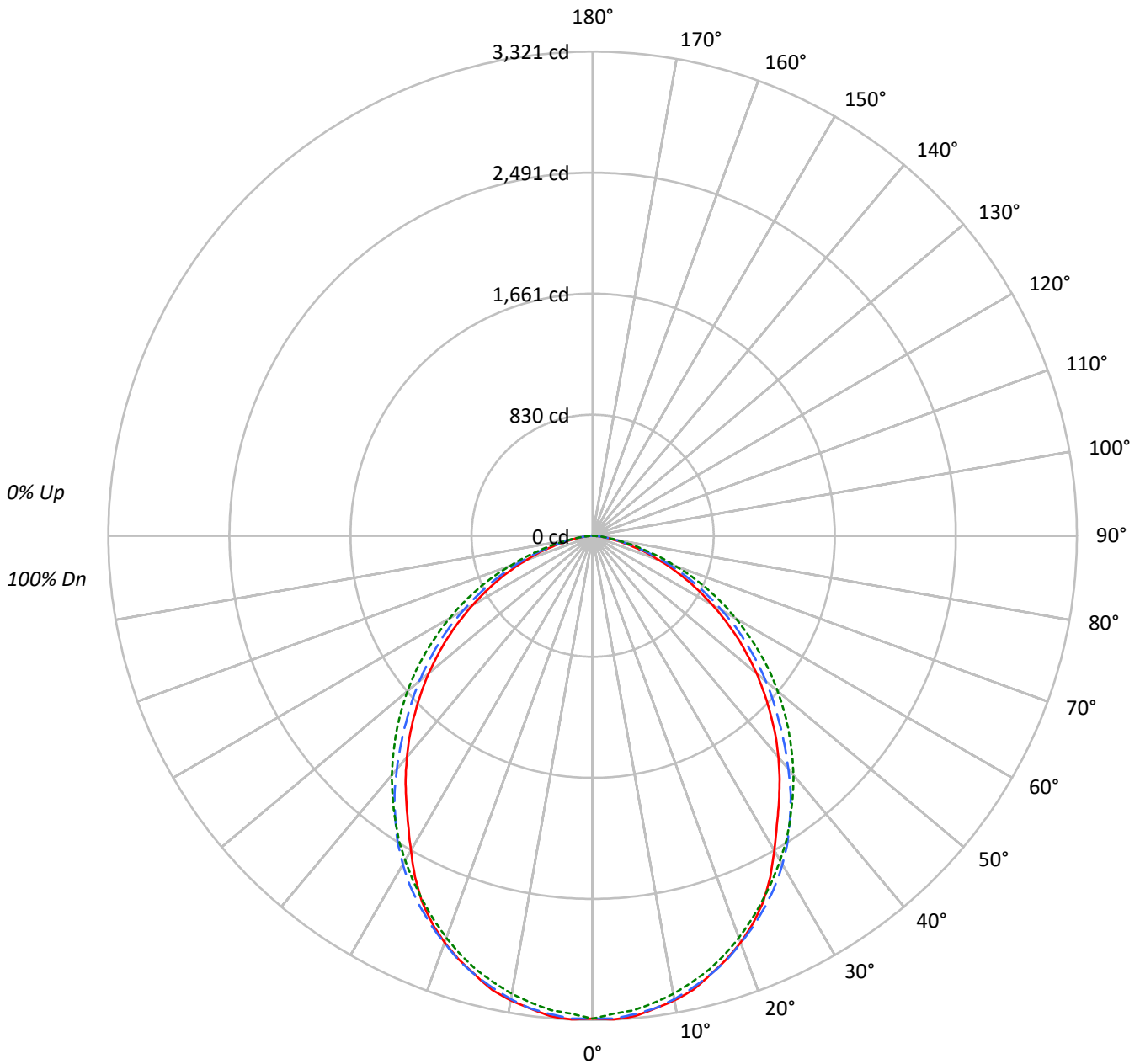
Lumens per Lamp: N/A  
Luminaire Lumens: 7658.0 lumens  
Efficiency: N/A  
Efficacy: 88.6 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 86.4  
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°	8912	8912	8912
5°	8936	8898	8823
10°	8841	8817	8716
15°	8684	8684	8585
20°	8501	8511	8402
25°	8220	8323	8190
30°	7741	8089	7990
35°	7315	7753	7766
40°	6959	7334	7527
45°	6561	6890	7244
50°	6141	6493	6935
55°	5665	6041	6560
60°	5102	5512	6102
65°	4504	4902	5549
70°	3754	4175	4715
75°	2950	3333	3691
80°	2109	2346	2602
85°	1374	1374	1297



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	311.8	4.1
10°-20°	876.0	11.4
20°-30°	1280.1	16.7
30°-40°	1453.1	19.0
40°-50°	1402.7	18.3
50°-60°	1157.1	15.1
60°-70°	770.6	10.1
70°-80°	344.8	4.5
80°-90°	61.7	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°	2468.0	32.2
0°-40°	3921.0	51.2
0°-60°	6480.9	84.6
0°-90°	7658.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7658.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3312	3312	3312	3312	3312	
5°	3308	3307	3294	3276	3266	313
15°	3117	3125	3117	3103	3082	879
25°	2769	2790	2803	2783	2758	1268
35°	2227	2257	2360	2373	2364	1395
45°	1724	1753	1810	1893	1903	1330
55°	1207	1228	1288	1359	1398	1078
65°	707	726	770	824	872	701
75°	284	299	321	336	355	310
85°	44	44	44	42	42	60
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3311.9	3311.9	3311.9	3311.9	3311.9
2.5°	3320.8	3322.1	3314.4	3294.1	3281.4
5°	3308.1	3306.8	3294.1	3276.3	3266.1
7.5°	3271.2	3273.7	3269.9	3244.5	3230.5
10°	3235.5	3236.8	3226.6	3206.3	3189.7
12.5°	3189.7	3188.5	3174.5	3164.3	3137.6
15°	3117.2	3124.9	3117.2	3103.2	3081.6
17.5°	3047.2	3047.2	3052.3	3028.2	3011.6
20°	2968.4	2972.2	2972.2	2953.1	2934.0
22.5°	2876.7	2888.2	2892.0	2871.7	2848.8
25°	2768.6	2790.2	2803.0	2782.6	2758.4
27.5°	2637.5	2670.6	2708.8	2693.5	2666.8
30°	2491.2	2539.6	2603.2	2590.5	2571.4
32.5°	2352.5	2400.9	2488.7	2483.6	2473.4
35°	2226.6	2257.1	2360.2	2372.9	2364.0
37.5°	2107.0	2135.0	2231.7	2260.9	2253.3
40°	1981.0	2011.6	2087.9	2140.1	2142.6
42.5°	1856.3	1885.6	1947.9	2023.0	2023.0
45°	1724.0	1753.3	1810.5	1893.2	1903.4
47.5°	1594.2	1624.8	1680.8	1763.5	1780.0
50°	1467.0	1495.0	1551.0	1631.1	1656.6
52.5°	1334.7	1365.2	1419.9	1493.7	1530.6
55°	1207.4	1227.8	1287.6	1358.9	1398.3
57.5°	1075.1	1094.2	1161.6	1222.7	1263.4
60°	947.9	972.1	1024.2	1086.6	1133.7
62.5°	825.7	851.2	895.7	950.4	1003.9
65°	707.4	726.5	769.8	824.5	871.5
67.5°	592.9	609.4	652.7	690.9	740.5
70°	477.1	498.8	530.6	567.5	599.3
72.5°	384.2	393.2	419.9	446.6	479.7
75°	283.7	299.0	320.6	335.9	355.0
77.5°	203.6	212.5	225.2	237.9	255.7
80°	136.1	140.0	151.4	154.0	167.9
82.5°	82.7	85.2	87.8	89.1	94.2
85°	44.5	44.5	44.5	42.0	42.0
87.5°	25.4	25.4	21.6	17.8	12.7
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)