

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: P557156

Luminaire Tested: **FUSL-12-4-LD4-2HI-50-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: P557156  
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-93-86-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 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

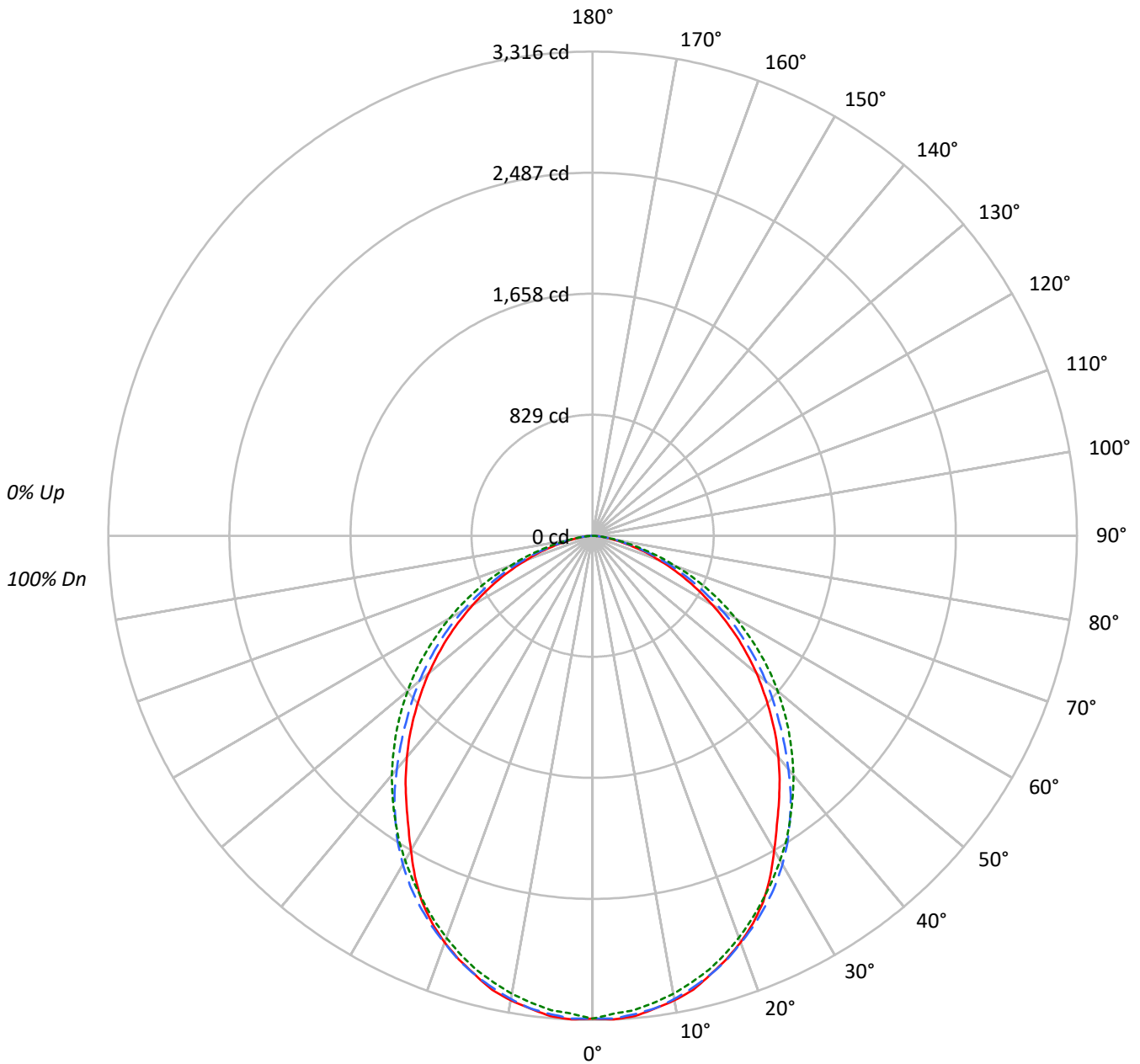
Lumens per Lamp: N/A  
Luminaire Lumens: 7646.0 lumens  
Efficiency: N/A  
Efficacy: 88.5 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 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				20				
RC	80				70				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°	8898	8898	8898
5°	8922	8884	8809
10°	8827	8803	8702
15°	8671	8671	8572
20°	8487	8498	8389
25°	8208	8310	8177
30°	7729	8076	7978
35°	7303	7741	7754
40°	6948	7323	7515
45°	6551	6879	7232
50°	6132	6483	6924
55°	5656	6031	6550
60°	5093	5504	6092
65°	4497	4894	5541
70°	3748	4168	4707
75°	2946	3328	3685
80°	2106	2343	2599
85°	1374	1374	1294



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	311.3	4.1
10°-20°	874.6	11.4
20°-30°	1278.1	16.7
30°-40°	1450.8	19.0
40°-50°	1400.5	18.3
50°-60°	1155.3	15.1
60°-70°	769.4	10.1
70°-80°	344.3	4.5
80°-90°	61.6	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°	2464.1	32.2
0°-40°	3914.9	51.2
0°-60°	6470.8	84.6
0°-90°	7646.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7646.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3307	3307	3307	3307	3307	
5°	3303	3302	3289	3271	3261	313
15°	3112	3120	3112	3098	3077	877
25°	2764	2786	2799	2778	2754	1266
35°	2223	2254	2356	2369	2360	1393
45°	1721	1750	1808	1890	1900	1328
55°	1206	1226	1286	1357	1396	1076
65°	706	725	769	823	870	700
75°	283	298	320	335	354	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°	3306.7	3306.7	3306.7	3306.7	3306.7
2.5°	3315.6	3316.9	3309.2	3288.9	3276.2
5°	3302.9	3301.6	3288.9	3271.1	3261.0
7.5°	3266.0	3268.6	3264.8	3239.4	3225.4
10°	3230.5	3231.7	3221.6	3201.3	3184.7
12.5°	3184.7	3183.5	3169.5	3159.3	3132.7
15°	3112.3	3120.0	3112.3	3098.4	3076.8
17.5°	3042.5	3042.5	3047.5	3023.4	3006.9
20°	2963.7	2967.5	2967.5	2948.5	2929.4
22.5°	2872.2	2883.7	2887.5	2867.2	2844.3
25°	2764.3	2785.9	2798.6	2778.2	2754.1
27.5°	2633.4	2666.4	2704.6	2689.3	2662.6
30°	2487.3	2535.6	2599.1	2586.4	2567.4
32.5°	2348.9	2397.1	2484.8	2479.7	2469.5
35°	2223.1	2253.6	2356.5	2369.2	2360.3
37.5°	2103.7	2131.6	2228.2	2257.4	2249.8
40°	1977.9	2008.4	2084.6	2136.7	2139.3
42.5°	1853.4	1882.6	1944.9	2019.8	2019.8
45°	1721.3	1750.5	1807.7	1890.3	1900.4
47.5°	1591.7	1622.2	1678.1	1760.7	1777.2
50°	1464.7	1492.7	1548.5	1628.6	1654.0
52.5°	1332.6	1363.1	1417.7	1491.4	1528.2
55°	1205.6	1225.9	1285.6	1356.7	1396.1
57.5°	1073.4	1092.5	1159.8	1220.8	1261.4
60°	946.4	970.5	1022.6	1084.9	1131.9
62.5°	824.5	849.9	894.3	948.9	1002.3
65°	706.3	725.4	768.6	823.2	870.2
67.5°	592.0	608.5	651.7	689.8	739.3
70°	476.4	498.0	529.7	566.6	598.3
72.5°	383.6	392.5	419.2	445.9	478.9
75°	283.3	298.5	320.1	335.4	354.4
77.5°	203.3	212.1	224.9	237.6	255.3
80°	135.9	139.7	151.2	153.7	167.7
82.5°	82.6	85.1	87.7	88.9	94.0
85°	44.5	44.5	44.5	41.9	41.9
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)