

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: P557078

Luminaire Tested: **FUSL-12-4-LD4-2HI-40-UNV-82-87-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: P557078  
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-82-87-EDD-90  
Description: 4FT FUSL SURFACE MOUNT WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

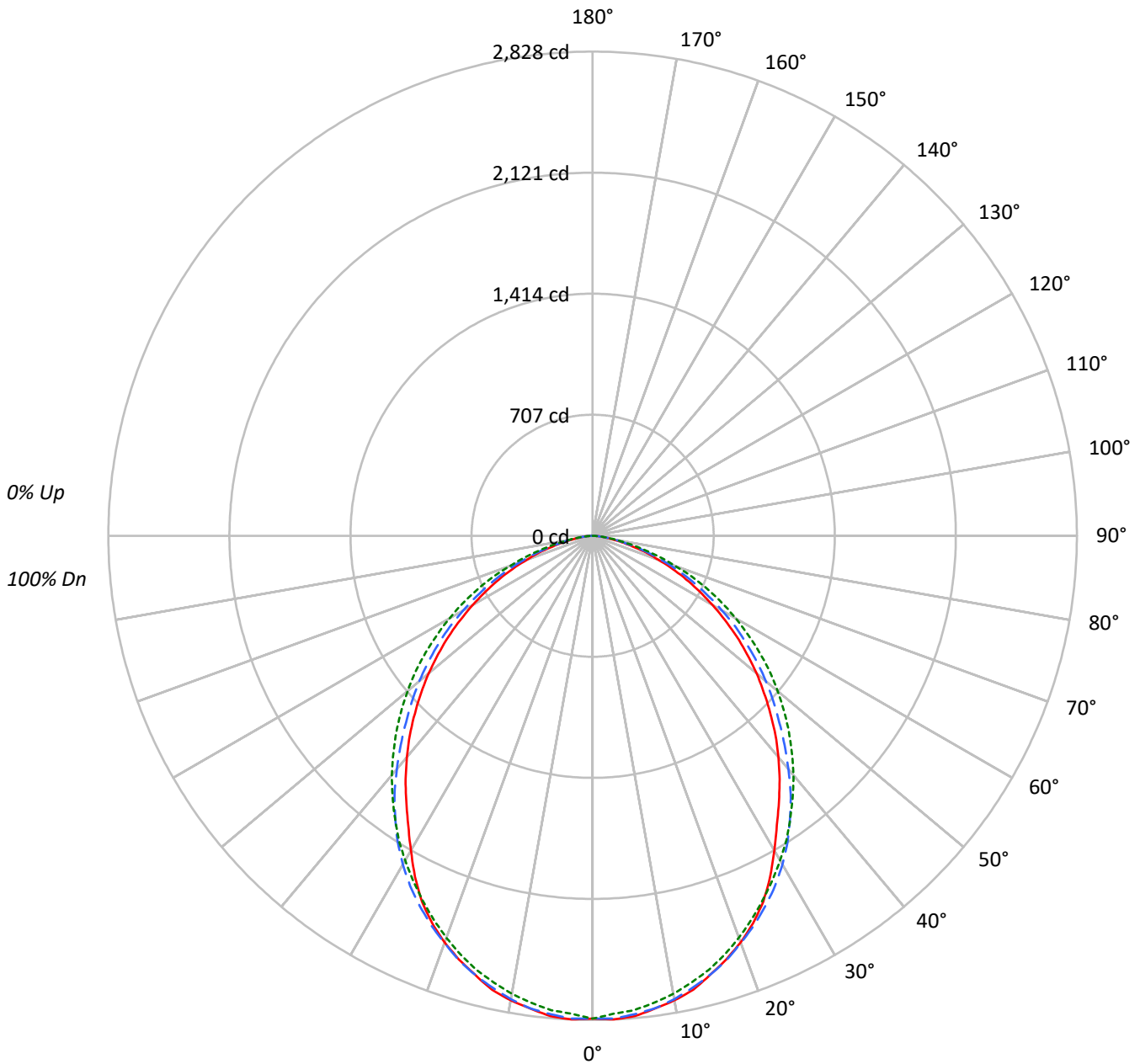
Lumens per Lamp: N/A  
Luminaire Lumens: 6521.0 lumens  
Efficiency: N/A  
Efficacy: 75.5 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 86.4  
Input Voltage (V): NR  
Input Current (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°	7589	7589	7589
5°	7609	7577	7513
10°	7529	7508	7422
15°	7395	7395	7310
20°	7238	7248	7155
25°	7000	7087	6974
30°	6592	6888	6804
35°	6229	6602	6613
40°	5926	6245	6409
45°	5587	5867	6168
50°	5230	5529	5905
55°	4824	5144	5586
60°	4344	4694	5195
65°	3836	4174	4725
70°	3197	3555	4015
75°	2512	2838	3143
80°	1796	1998	2216
85°	1170	1170	1105



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	265.5	4.1
10°-20°	745.9	11.4
20°-30°	1090.1	16.7
30°-40°	1237.3	19.0
40°-50°	1194.5	18.3
50°-60°	985.3	15.1
60°-70°	656.2	10.1
70°-80°	293.6	4.5
80°-90°	52.5	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°	2101.5	32.2
0°-40°	3338.9	51.2
0°-60°	5518.7	84.6
0°-90°	6521.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6521.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2820	2820	2820	2820	2820	
5°	2817	2816	2805	2790	2781	267
15°	2654	2661	2654	2642	2624	748
25°	2358	2376	2387	2370	2349	1080
35°	1896	1922	2010	2021	2013	1188
45°	1468	1493	1542	1612	1621	1133
55°	1028	1046	1096	1157	1191	918
65°	602	619	656	702	742	597
75°	242	255	273	286	302	264
85°	38	38	38	36	36	51
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2820.2	2820.2	2820.2	2820.2	2820.2
2.5°	2827.7	2828.8	2822.3	2805.0	2794.2
5°	2816.9	2815.8	2805.0	2789.8	2781.2
7.5°	2785.5	2787.7	2784.4	2762.7	2750.8
10°	2755.2	2756.2	2747.6	2730.2	2716.2
12.5°	2716.2	2715.1	2703.2	2694.5	2671.7
15°	2654.4	2660.9	2654.4	2642.5	2624.1
17.5°	2594.8	2594.8	2599.1	2578.6	2564.5
20°	2527.6	2530.9	2530.9	2514.6	2498.4
22.5°	2449.6	2459.4	2462.6	2445.3	2425.8
25°	2357.5	2376.0	2386.8	2369.5	2348.9
27.5°	2245.9	2274.1	2306.6	2293.6	2270.9
30°	2121.4	2162.5	2216.7	2205.9	2189.6
32.5°	2003.3	2044.4	2119.2	2114.9	2106.2
35°	1896.0	1922.0	2009.8	2020.6	2013.0
37.5°	1794.2	1818.0	1900.3	1925.3	1918.8
40°	1686.9	1712.9	1777.9	1822.3	1824.5
42.5°	1580.7	1605.6	1658.7	1722.7	1722.7
45°	1468.0	1493.0	1541.7	1612.1	1620.8
47.5°	1357.5	1383.5	1431.2	1501.6	1515.7
50°	1249.2	1273.0	1320.7	1389.0	1410.6
52.5°	1136.5	1162.5	1209.1	1271.9	1303.4
55°	1028.2	1045.5	1096.4	1157.1	1190.7
57.5°	915.5	931.7	989.2	1041.2	1075.8
60°	807.2	827.7	872.2	925.2	965.3
62.5°	703.1	724.8	762.7	809.3	854.8
65°	602.4	618.6	655.5	702.1	742.1
67.5°	504.9	519.0	555.8	588.3	630.6
70°	406.3	424.7	451.8	483.2	510.3
72.5°	327.2	334.8	357.5	380.3	408.5
75°	241.6	254.6	273.0	286.0	302.3
77.5°	173.3	180.9	191.8	202.6	217.8
80°	115.9	119.2	128.9	131.1	143.0
82.5°	70.4	72.6	74.8	75.8	80.2
85°	37.9	37.9	37.9	35.8	35.8
87.5°	21.7	21.7	18.4	15.2	10.8
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)