

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: P556964

Luminaire Tested: **FUSL-12-4-LD4-2HI-30-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: P556964  
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-30-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 3000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

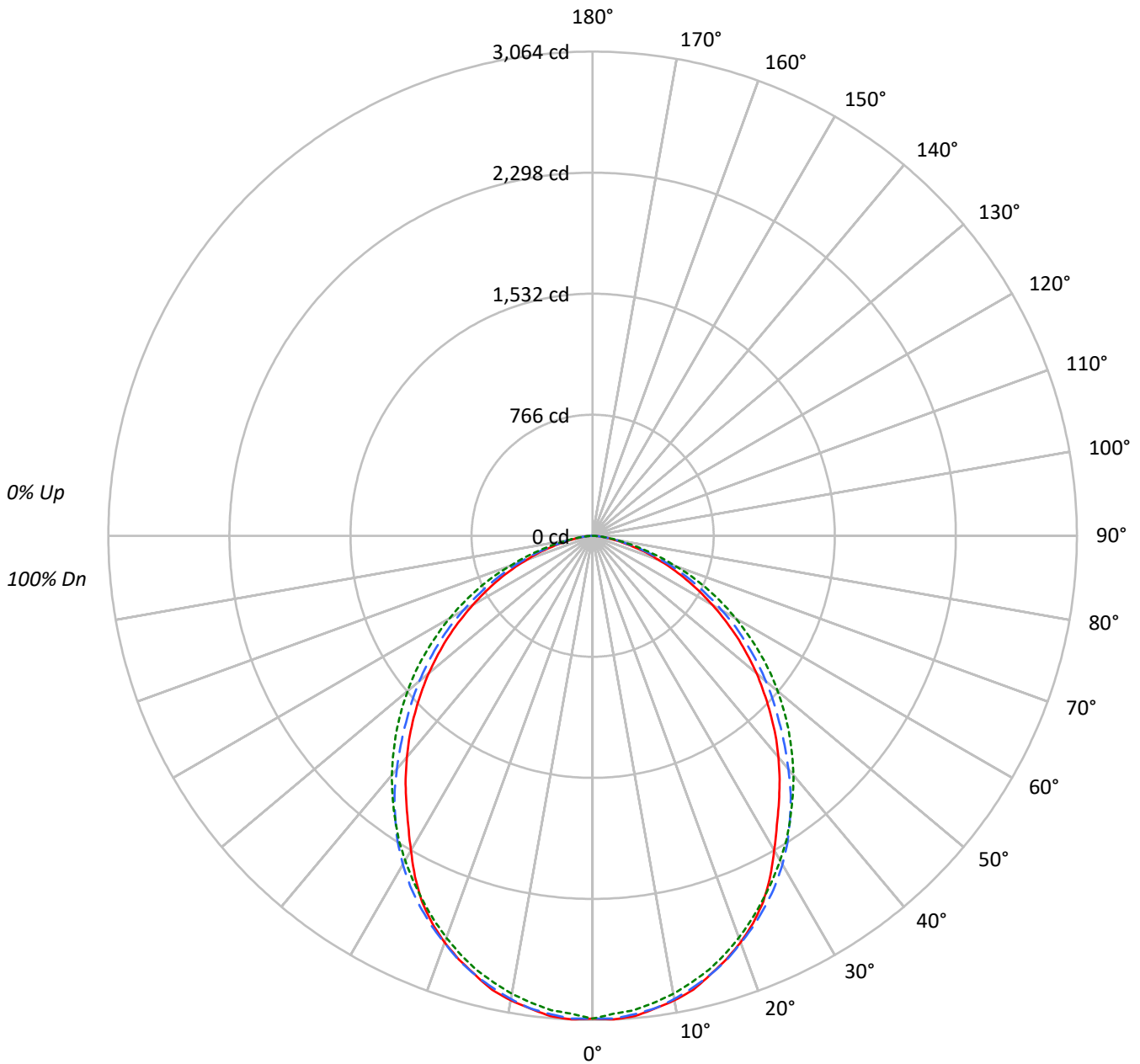
Lumens per Lamp: N/A  
Luminaire Lumens: 7065.0 lumens  
Efficiency: N/A  
Efficacy: 81.8 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

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°	8222	8222	8222
5°	8244	8209	8139
10°	8156	8134	8041
15°	8012	8012	7920
20°	7842	7852	7751
25°	7584	7678	7556
30°	7141	7462	7371
35°	6748	7153	7164
40°	6420	6766	6944
45°	6053	6357	6683
50°	5666	5990	6398
55°	5226	5573	6052
60°	4707	5085	5629
65°	4155	4522	5120
70°	3463	3851	4350
75°	2722	3075	3405
80°	1946	2165	2400
85°	1269	1269	1195



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	287.7	4.1
10°-20°	808.2	11.4
20°-30°	1181.0	16.7
30°-40°	1340.6	19.0
40°-50°	1294.1	18.3
50°-60°	1067.5	15.1
60°-70°	710.9	10.1
70°-80°	318.1	4.5
80°-90°	56.9	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°	2276.8	32.2
0°-40°	3617.4	51.2
0°-60°	5979.1	84.6
0°-90°	7065.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7065.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3055	3055	3055	3055	3055	
5°	3052	3051	3039	3023	3013	289
15°	2876	2883	2876	2863	2843	811
25°	2554	2574	2586	2567	2545	1170
35°	2054	2082	2177	2189	2181	1287
45°	1590	1618	1670	1747	1756	1227
55°	1114	1133	1188	1254	1290	994
65°	653	670	710	761	804	647
75°	262	276	296	310	328	286
85°	41	41	41	39	39	55
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3055.4	3055.4	3055.4	3055.4	3055.4
2.5°	3063.6	3064.8	3057.8	3039.0	3027.3
5°	3051.9	3050.7	3039.0	3022.6	3013.2
7.5°	3017.9	3020.2	3016.7	2993.2	2980.3
10°	2985.0	2986.2	2976.8	2958.0	2942.7
12.5°	2942.7	2941.6	2928.7	2919.3	2894.6
15°	2875.8	2882.9	2875.8	2862.9	2843.0
17.5°	2811.3	2811.3	2816.0	2793.7	2778.4
20°	2738.5	2742.0	2742.0	2724.4	2706.8
22.5°	2654.0	2664.6	2668.1	2649.3	2628.2
25°	2554.2	2574.2	2585.9	2567.1	2544.8
27.5°	2433.3	2463.8	2499.0	2485.0	2460.3
30°	2298.3	2342.9	2401.6	2389.9	2372.3
32.5°	2170.4	2215.0	2296.0	2291.3	2281.9
35°	2054.2	2082.3	2177.4	2189.2	2180.9
37.5°	1943.8	1969.7	2058.9	2085.9	2078.8
40°	1827.6	1855.8	1926.2	1974.4	1976.7
42.5°	1712.6	1739.6	1797.1	1866.4	1866.4
45°	1590.5	1617.5	1670.3	1746.6	1756.0
47.5°	1470.8	1499.0	1550.6	1626.9	1642.2
50°	1353.4	1379.2	1430.9	1504.8	1528.3
52.5°	1231.3	1259.5	1310.0	1378.1	1412.1
55°	1113.9	1132.7	1187.9	1253.6	1290.0
57.5°	991.9	1009.5	1071.7	1128.0	1165.6
60°	874.5	896.8	944.9	1002.4	1045.9
62.5°	761.8	785.3	826.4	876.8	926.1
65°	652.6	670.2	710.2	760.6	804.1
67.5°	547.0	562.3	602.2	637.4	683.2
70°	440.2	460.1	489.5	523.5	552.9
72.5°	354.5	362.7	387.4	412.0	442.5
75°	261.8	275.8	295.8	309.9	327.5
77.5°	187.8	196.0	207.8	219.5	235.9
80°	125.6	129.1	139.7	142.0	154.9
82.5°	76.3	78.6	81.0	82.2	86.9
85°	41.1	41.1	41.1	38.7	38.7
87.5°	23.5	23.5	20.0	16.4	11.7
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)