

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: P558432

Luminaire Tested: **FUSL-12-4-LD4-3STD-50-UNV-93-84-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: P558432  
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-LD4-3STD-50-UNV-93-84-EDD-90  
Description: 4FT FUSL SURFACE MOUNT WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

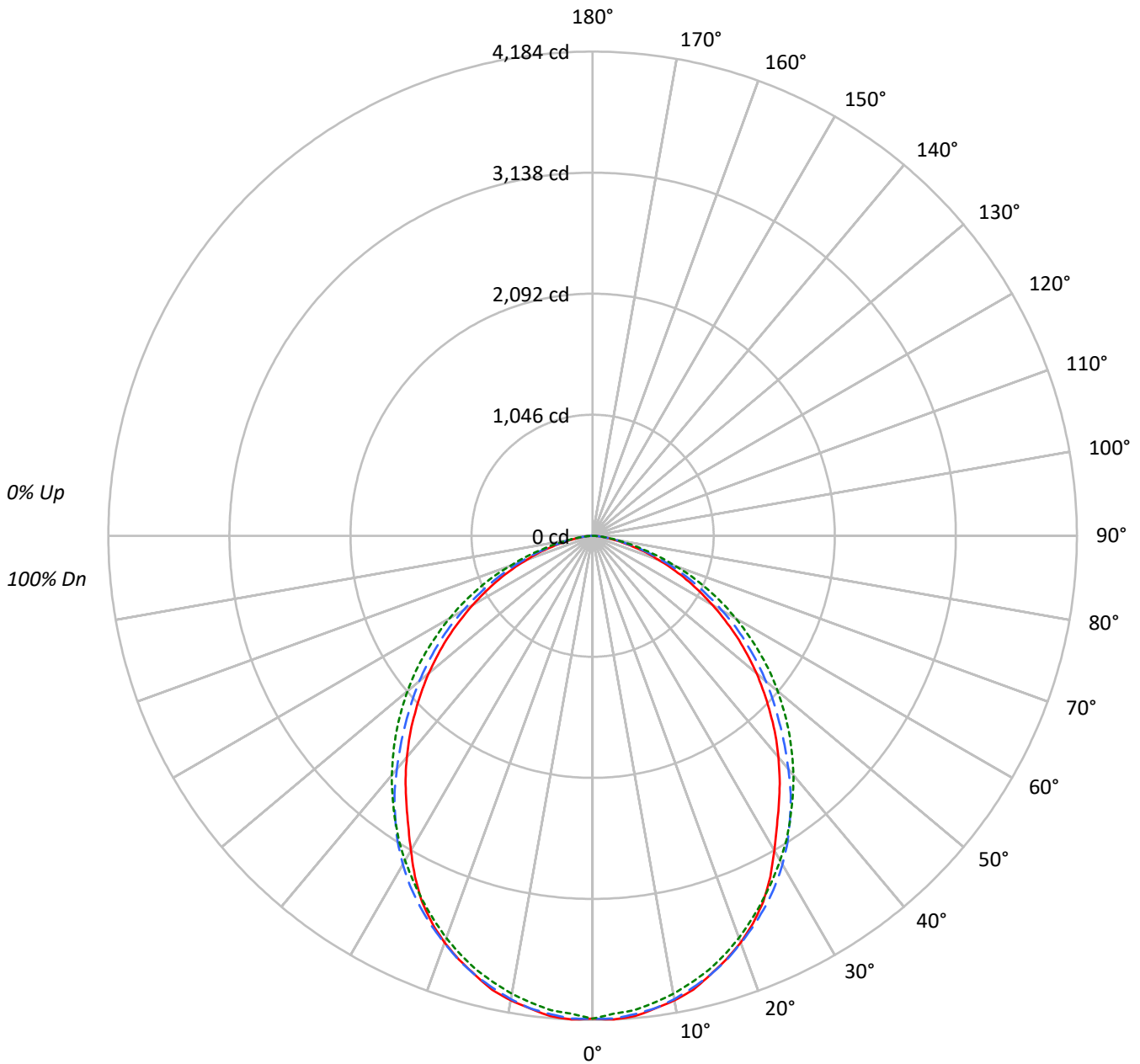
Lumens per Lamp: N/A  
Luminaire Lumens: 9649.0 lumens  
Efficiency: N/A  
Efficacy: 96.6 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 99.9  
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°	11229	11229	11229
5°	11259	11212	11116
10°	11140	11109	10982
15°	10942	10942	10817
20°	10710	10724	10586
25°	10358	10486	10320
30°	9753	10192	10067
35°	9216	9769	9785
40°	8768	9241	9484
45°	8267	8682	9127
50°	7738	8181	8738
55°	7138	7612	8266
60°	6428	6945	7688
65°	5675	6176	6992
70°	4730	5260	5941
75°	3717	4200	4651
80°	2658	2957	3279
85°	1732	1732	1633



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	392.9	4.1
10°-20°	1103.8	11.4
20°-30°	1613.0	16.7
30°-40°	1830.9	19.0
40°-50°	1767.4	18.3
50°-60°	1458.0	15.1
60°-70°	970.9	10.1
70°-80°	434.5	4.5
80°-90°	77.7	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°	3109.6	32.2
0°-40°	4940.5	51.2
0°-60°	8165.9	84.6
0°-90°	9649.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9649.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4173	4173	4173	4173	4173	
5°	4168	4166	4150	4128	4115	395
15°	3928	3937	3928	3910	3883	1107
25°	3488	3516	3532	3506	3476	1598
35°	2806	2844	2974	2990	2979	1758
45°	2172	2209	2281	2386	2398	1676
55°	1521	1547	1622	1712	1762	1358
65°	891	915	970	1039	1098	884
75°	358	377	404	423	447	391
85°	56	56	56	53	53	76
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4172.9	4172.9	4172.9	4172.9	4172.9
2.5°	4184.2	4185.8	4176.1	4150.5	4134.5
5°	4168.1	4166.5	4150.5	4128.1	4115.2
7.5°	4121.6	4124.8	4120.0	4088.0	4070.3
10°	4076.8	4078.4	4065.5	4039.9	4019.0
12.5°	4019.0	4017.4	3999.8	3987.0	3953.3
15°	3927.7	3937.3	3927.7	3910.0	3882.8
17.5°	3839.5	3839.5	3845.9	3815.4	3794.6
20°	3740.1	3744.9	3744.9	3720.9	3696.8
22.5°	3624.7	3639.1	3643.9	3618.3	3589.4
25°	3488.4	3515.7	3531.7	3506.0	3475.6
27.5°	3323.3	3365.0	3413.1	3393.8	3360.2
30°	3138.9	3199.8	3280.0	3264.0	3239.9
32.5°	2964.2	3025.1	3135.7	3129.3	3116.5
35°	2805.5	2843.9	2973.8	2989.8	2978.6
37.5°	2654.8	2690.0	2811.9	2848.8	2839.1
40°	2496.1	2534.5	2630.7	2696.5	2699.7
42.5°	2339.0	2375.8	2454.4	2549.0	2549.0
45°	2172.2	2209.1	2281.3	2385.5	2398.3
47.5°	2008.7	2047.2	2117.7	2221.9	2242.8
50°	1848.4	1883.7	1954.2	2055.2	2087.3
52.5°	1681.7	1720.2	1789.1	1882.1	1928.6
55°	1521.4	1547.0	1622.4	1712.1	1761.8
57.5°	1354.6	1378.7	1463.7	1540.6	1591.9
60°	1194.3	1224.8	1290.5	1369.1	1428.4
62.5°	1040.4	1072.5	1128.6	1197.5	1264.9
65°	891.3	915.4	969.9	1038.8	1098.1
67.5°	747.1	767.9	822.4	870.5	933.0
70°	601.2	628.4	668.5	715.0	755.1
72.5°	484.1	495.4	529.0	562.7	604.4
75°	357.5	376.7	404.0	423.2	447.3
77.5°	256.5	267.7	283.8	299.8	322.2
80°	171.5	176.3	190.8	194.0	211.6
82.5°	104.2	107.4	110.6	112.2	118.6
85°	56.1	56.1	56.1	52.9	52.9
87.5°	32.1	32.1	27.3	22.4	16.0
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)