

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: P556840

Luminaire Tested: **FUSL-12-4-LD4-1STD-40-UNV-93-88-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: P556840  
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-LD4-1STD-40-UNV-93-88-EDD-90  
Description: 4FT FUSL SURFACE MOUNT WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

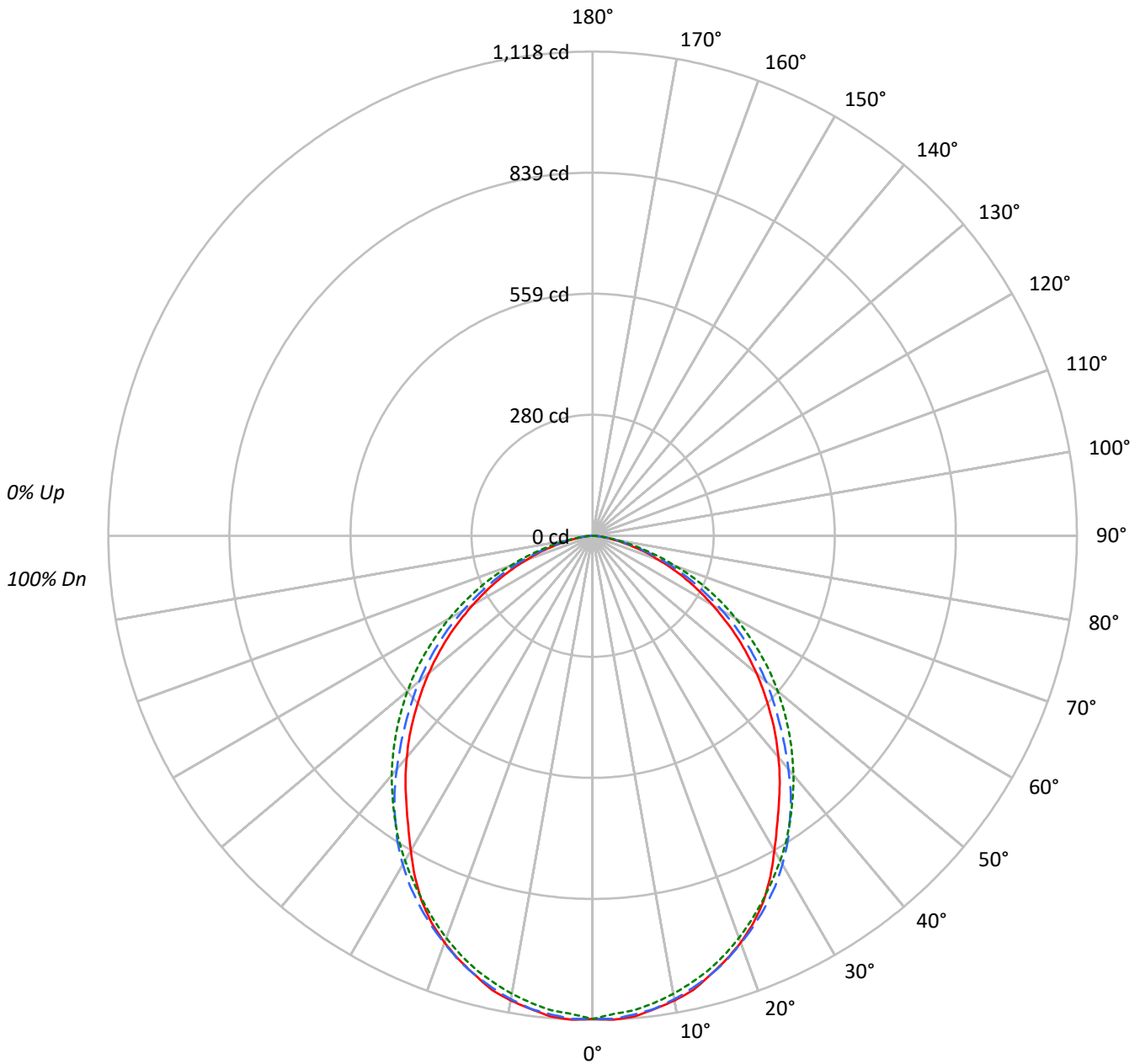
Lumens per Lamp: N/A  
Luminaire Lumens: 2579.0 lumens  
Efficiency: N/A  
Efficacy: 77.4 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 33.3  
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

TEST NUMBER: P556840

CATALOG NUMBER: FUSL-12-4-LD4-1STD-40-UNV-93-88-EDD-90

### Luminous Intensity Polar Plot





TEST NUMBER: P556840

CATALOG NUMBER: FUSL-12-4-LD4-1STD-40-UNV-93-88-EDD-90

**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°	3002	3002	3002
5°	3009	2997	2971
10°	2977	2969	2935
15°	2925	2925	2891
20°	2863	2866	2830
25°	2768	2803	2758
30°	2607	2724	2691
35°	2463	2611	2615
40°	2344	2470	2535
45°	2210	2320	2439
50°	2068	2187	2336
55°	1908	2034	2209
60°	1718	1856	2055
65°	1517	1650	1869
70°	1264	1406	1588
75°	994	1123	1242
80°	710	790	877
85°	463	463	435



TEST NUMBER: P556840

CATALOG NUMBER: FUSL-12-4-LD4-1STD-40-UNV-93-88-EDD-90

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	105.0	4.1
10°-20°	295.0	11.4
20°-30°	431.1	16.7
30°-40°	489.4	19.0
40°-50°	472.4	18.3
50°-60°	389.7	15.1
60°-70°	259.5	10.1
70°-80°	116.1	4.5
80°-90°	20.8	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°	831.1	32.2
0°-40°	1320.5	51.2
0°-60°	2182.6	84.6
0°-90°	2579.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2579.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1115	1115	1115	1115	1115	
5°	1114	1114	1109	1103	1100	105
15°	1050	1052	1050	1045	1038	296
25°	932	940	944	937	929	427
35°	750	760	795	799	796	470
45°	581	590	610	638	641	448
55°	407	414	434	458	471	363
65°	238	245	259	278	294	236
75°	96	101	108	113	120	105
85°	15	15	15	14	14	20
90°	0	0	0	0	0	



TEST NUMBER: P556840

CATALOG NUMBER: FUSL-12-4-LD4-1STD-40-UNV-93-88-EDD-90

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1115.4	1115.4	1115.4	1115.4	1115.4
2.5°	1118.4	1118.8	1116.2	1109.4	1105.1
5°	1114.1	1113.6	1109.4	1103.4	1099.9
7.5°	1101.6	1102.5	1101.2	1092.6	1087.9
10°	1089.6	1090.1	1086.6	1079.8	1074.2
12.5°	1074.2	1073.8	1069.1	1065.6	1056.6
15°	1049.8	1052.4	1049.8	1045.1	1037.8
17.5°	1026.2	1026.2	1027.9	1019.8	1014.2
20°	999.7	1000.9	1000.9	994.5	988.1
22.5°	968.8	972.7	974.0	967.1	959.4
25°	932.4	939.7	944.0	937.1	929.0
27.5°	888.3	899.4	912.2	907.1	898.1
30°	839.0	855.3	876.7	872.4	866.0
32.5°	792.3	808.6	838.1	836.4	833.0
35°	749.9	760.1	794.8	799.1	796.1
37.5°	709.6	719.0	751.6	761.4	758.8
40°	667.2	677.4	703.1	720.7	721.6
42.5°	625.2	635.0	656.0	681.3	681.3
45°	580.6	590.5	609.7	637.6	641.0
47.5°	536.9	547.2	566.0	593.9	599.5
50°	494.0	503.5	522.3	549.3	557.9
52.5°	449.5	459.8	478.2	503.0	515.5
55°	406.6	413.5	433.6	457.6	470.9
57.5°	362.1	368.5	391.2	411.8	425.5
60°	319.2	327.4	344.9	365.9	381.8
62.5°	278.1	286.7	301.7	320.1	338.1
65°	238.2	244.7	259.2	277.7	293.5
67.5°	199.7	205.2	219.8	232.7	249.4
70°	160.7	168.0	178.7	191.1	201.8
72.5°	129.4	132.4	141.4	150.4	161.5
75°	95.6	100.7	108.0	113.1	119.5
77.5°	68.6	71.6	75.8	80.1	86.1
80°	45.8	47.1	51.0	51.8	56.6
82.5°	27.9	28.7	29.6	30.0	31.7
85°	15.0	15.0	15.0	14.1	14.1
87.5°	8.6	8.6	7.3	6.0	4.3
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)