

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: P556866

Luminaire Tested: **FUSL-12-4-LD4-1STD-50-UNV-81-85-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: P556866  
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-50-UNV-81-85-EDD-90  
Description: 4FT FUSL SURFACE MOUNT WITH .156 CLEAR PC FIXTURE SIDE AND .187  
CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

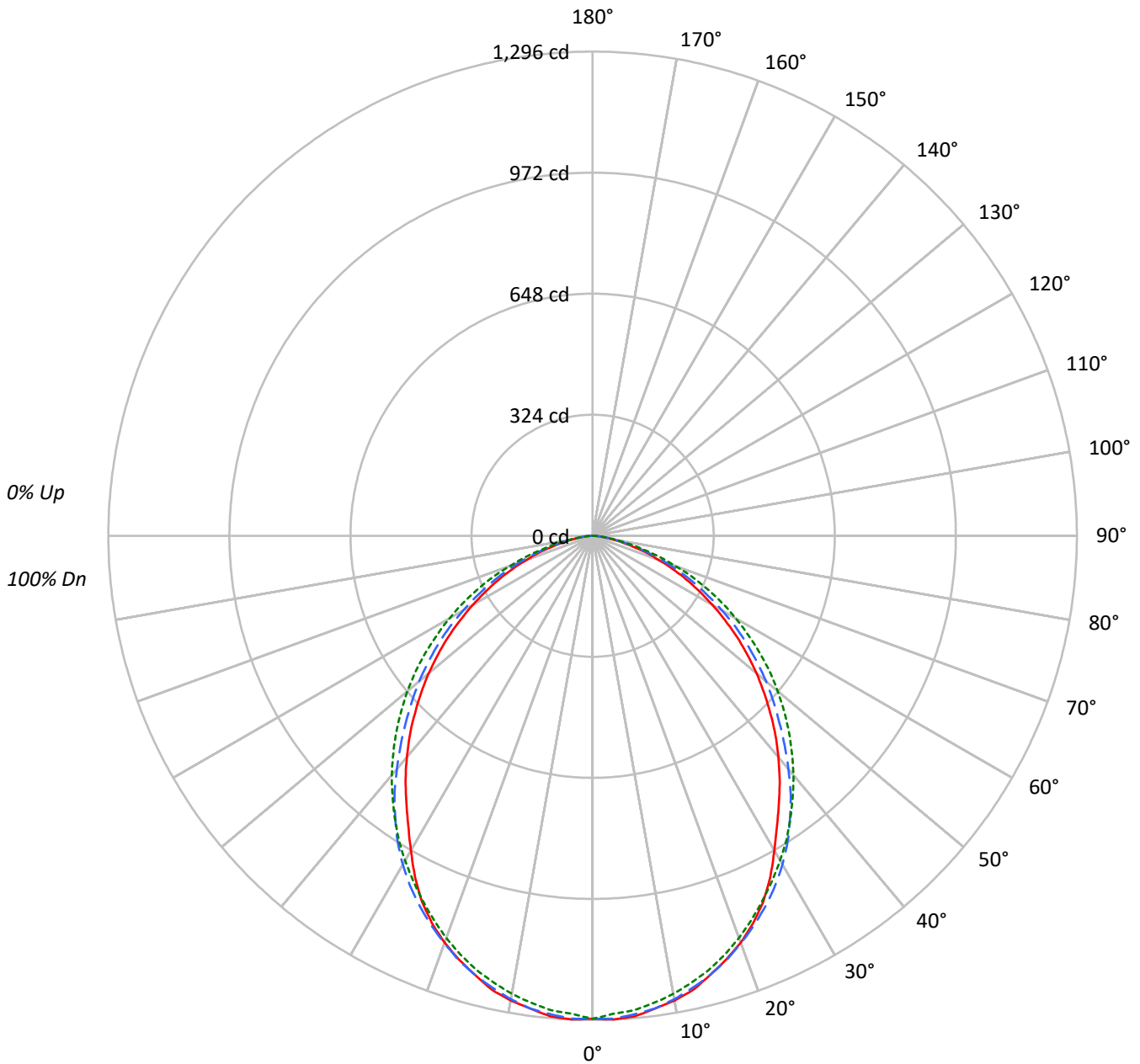
Lumens per Lamp: N/A  
Luminaire Lumens: 2989.0 lumens  
Efficiency: N/A  
Efficacy: 89.8 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 33.3  
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

TEST NUMBER: P556866

CATALOG NUMBER: FUSL-12-4-LD4-1STD-50-UNV-81-85-EDD-90

### Luminous Intensity Polar Plot





TEST NUMBER: P556866

CATALOG NUMBER: FUSL-12-4-LD4-1STD-50-UNV-81-85-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°	3479	3479	3479
5°	3488	3473	3444
10°	3451	3441	3402
15°	3390	3390	3351
20°	3318	3322	3279
25°	3208	3248	3197
30°	3022	3157	3118
35°	2855	3026	3031
40°	2716	2863	2938
45°	2561	2689	2827
50°	2397	2534	2707
55°	2211	2358	2561
60°	1991	2152	2382
65°	1758	1913	2166
70°	1465	1629	1840
75°	1151	1301	1441
80°	823	916	1017
85°	537	537	506



TEST NUMBER: P556866

CATALOG NUMBER: FUSL-12-4-LD4-1STD-50-UNV-81-85-EDD-90

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	121.7	4.1
10°-20°	341.9	11.4
20°-30°	499.7	16.7
30°-40°	567.2	19.0
40°-50°	547.5	18.3
50°-60°	451.7	15.1
60°-70°	300.8	10.1
70°-80°	134.6	4.5
80°-90°	24.1	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°	963.3	32.2
0°-40°	1530.4	51.2
0°-60°	2529.6	84.6
0°-90°	2989.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2989.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1293	1293	1293	1293	1293	
5°	1291	1291	1286	1279	1275	122
15°	1217	1220	1217	1211	1203	343
25°	1081	1089	1094	1086	1077	495
35°	869	881	921	926	923	545
45°	673	684	707	739	743	519
55°	471	479	503	530	546	421
65°	276	284	300	322	340	274
75°	111	117	125	131	139	121
85°	17	17	17	16	16	23
90°	0	0	0	0	0	



TEST NUMBER: P556866

CATALOG NUMBER: FUSL-12-4-LD4-1STD-50-UNV-81-85-EDD-90

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1292.7	1292.7	1292.7	1292.7	1292.7
2.5°	1296.1	1296.6	1293.7	1285.7	1280.7
5°	1291.2	1290.7	1285.7	1278.8	1274.8
7.5°	1276.8	1277.8	1276.3	1266.3	1260.9
10°	1262.9	1263.4	1259.4	1251.4	1245.0
12.5°	1245.0	1244.5	1239.0	1235.1	1224.6
15°	1216.7	1219.7	1216.7	1211.2	1202.8
17.5°	1189.4	1189.4	1191.4	1181.9	1175.5
20°	1158.6	1160.1	1160.1	1152.6	1145.2
22.5°	1122.8	1127.3	1128.8	1120.8	1111.9
25°	1080.6	1089.1	1094.0	1086.1	1076.6
27.5°	1029.5	1042.4	1057.3	1051.3	1040.9
30°	972.4	991.2	1016.1	1011.1	1003.6
32.5°	918.2	937.1	971.4	969.4	965.4
35°	869.1	881.0	921.2	926.2	922.7
37.5°	822.4	833.3	871.0	882.5	879.5
40°	773.2	785.1	814.9	835.3	836.3
42.5°	724.5	736.0	760.3	789.6	789.6
45°	672.9	684.3	706.7	738.9	742.9
47.5°	622.2	634.2	656.0	688.3	694.8
50°	572.6	583.5	605.4	636.6	646.6
52.5°	520.9	532.9	554.2	583.0	597.4
55°	471.3	479.2	502.6	530.4	545.8
57.5°	419.6	427.1	453.4	477.2	493.1
60°	370.0	379.4	399.8	424.1	442.5
62.5°	322.3	332.2	349.6	371.0	391.8
65°	276.1	283.6	300.4	321.8	340.2
67.5°	231.4	237.9	254.8	269.7	289.0
70°	186.2	194.7	207.1	221.5	233.9
72.5°	150.0	153.5	163.9	174.3	187.2
75°	110.7	116.7	125.1	131.1	138.6
77.5°	79.5	82.9	87.9	92.9	99.8
80°	53.1	54.6	59.1	60.1	65.6
82.5°	32.3	33.3	34.3	34.8	36.7
85°	17.4	17.4	17.4	16.4	16.4
87.5°	9.9	9.9	8.4	7.0	5.0
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)