

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: P556166

Luminaire Tested: **FUSL-12-4-LD4-1HI-30-UNV-81-87-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: P556166  
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-LD4-1HI-30-UNV-81-87-EDD-90  
Description: 4FT FUSL SURFACE MOUNT WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

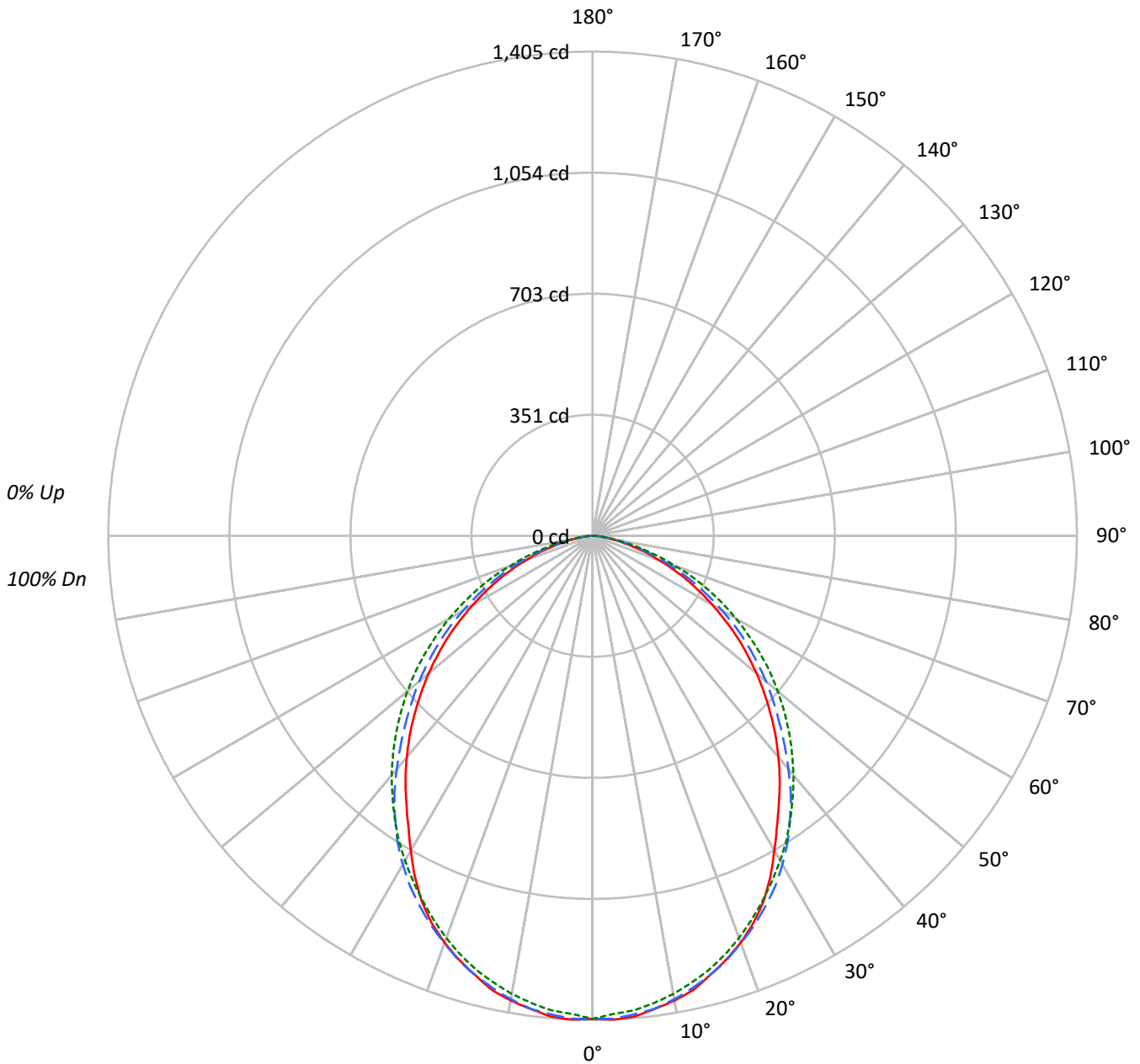
Lumens per Lamp: N/A  
Luminaire Lumens: 3241.0 lumens  
Efficiency: N/A  
Efficacy: 75.0 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 43.2  
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: P556166

CATALOG NUMBER: FUSL-12-4-LD4-1HI-30-UNV-81-87-EDD-90

### Luminous Intensity Polar Plot





TEST NUMBER: P556166

CATALOG NUMBER: FUSL-12-4-LD4-1HI-30-UNV-81-87-EDD-90

**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20				20				20				20	
RC	80				70				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				100
1	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86				86
2	101	93	87	82	98	91	86	81	88	83	79	85	81	77	82	78	75	73				73
3	92	83	75	69	90	81	74	68	78	72	67	75	70	66	73	69	65	63				63
4	85	74	65	59	83	72	65	59	70	63	58	68	62	57	65	61	56	54				54
5	78	66	58	51	76	65	57	51	63	56	51	61	55	50	59	54	50	47				47
6	73	60	51	45	71	59	51	45	57	50	45	56	49	44	54	48	44	42				42
7	68	55	46	40	66	54	46	40	52	45	40	51	44	40	49	44	39	37				37
8	63	50	42	36	61	49	41	36	48	41	36	47	40	36	46	40	35	34				34
9	59	46	38	33	58	45	38	33	44	37	32	43	37	32	42	36	32	30				30
10	55	43	35	30	54	42	35	30	41	34	30	40	34	29	39	33	29	28				28

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	3772	3772	3772
5°	3782	3766	3734
10°	3742	3731	3689
15°	3675	3675	3633
20°	3598	3602	3556
25°	3479	3522	3466
30°	3276	3423	3382
35°	3096	3281	3287
40°	2945	3104	3185
45°	2777	2916	3066
50°	2599	2748	2935
55°	2397	2556	2776
60°	2159	2333	2582
65°	1906	2074	2349
70°	1589	1766	1995
75°	1249	1411	1562
80°	893	993	1102
85°	580	580	550



TEST NUMBER: P556166

CATALOG NUMBER: FUSL-12-4-LD4-1HI-30-UNV-81-87-EDD-90

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	132.0	4.1
10°-20°	370.7	11.4
20°-30°	541.8	16.7
30°-40°	615.0	19.0
40°-50°	593.6	18.3
50°-60°	489.7	15.1
60°-70°	326.1	10.1
70°-80°	145.9	4.5
80°-90°	26.1	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°	1044.5	32.2
0°-40°	1659.5	51.2
0°-60°	2742.8	84.6
0°-90°	3241.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3241.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1402	1402	1402	1402	1402	
5°	1400	1400	1394	1387	1382	133
15°	1319	1322	1319	1313	1304	372
25°	1172	1181	1186	1178	1167	537
35°	942	955	999	1004	1000	590
45°	730	742	766	801	806	563
55°	511	520	545	575	592	456
65°	299	308	326	349	369	297
75°	120	126	136	142	150	131
85°	19	19	19	18	18	25
90°	0	0	0	0	0	



TEST NUMBER: P556166

CATALOG NUMBER: FUSL-12-4-LD4-1HI-30-UNV-81-87-EDD-90

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1401.6	1401.6	1401.6	1401.6	1401.6
2.5°	1405.4	1406.0	1402.7	1394.1	1388.7
5°	1400.0	1399.5	1394.1	1386.6	1382.3
7.5°	1384.4	1385.5	1383.9	1373.1	1367.2
10°	1369.3	1369.9	1365.6	1357.0	1350.0
12.5°	1350.0	1349.4	1343.5	1339.2	1327.9
15°	1319.3	1322.5	1319.3	1313.3	1304.2
17.5°	1289.6	1289.6	1291.8	1281.6	1274.6
20°	1256.3	1257.9	1257.9	1249.8	1241.7
22.5°	1217.5	1222.3	1224.0	1215.3	1205.6
25°	1171.7	1180.9	1186.3	1177.6	1167.4
27.5°	1116.3	1130.3	1146.4	1140.0	1128.6
30°	1054.3	1074.8	1101.7	1096.3	1088.3
32.5°	995.6	1016.1	1053.3	1051.1	1046.8
35°	942.3	955.3	998.9	1004.3	1000.5
37.5°	891.7	903.6	944.5	956.9	953.6
40°	838.4	851.3	883.6	905.7	906.8
42.5°	785.6	798.0	824.4	856.2	856.2
45°	729.6	742.0	766.2	801.2	805.6
47.5°	674.7	687.6	711.3	746.3	753.3
50°	620.9	632.7	656.4	690.3	701.1
52.5°	564.9	577.8	600.9	632.2	647.8
55°	511.0	519.6	544.9	575.1	591.8
57.5°	455.0	463.1	491.6	517.5	534.7
60°	401.2	411.4	433.5	459.9	479.8
62.5°	349.5	360.2	379.1	402.2	424.9
65°	299.4	307.5	325.8	348.9	368.9
67.5°	250.9	257.9	276.2	292.4	313.4
70°	201.9	211.1	224.5	240.2	253.6
72.5°	162.6	166.4	177.7	189.0	203.0
75°	120.1	126.5	135.7	142.2	150.2
77.5°	86.2	89.9	95.3	100.7	108.2
80°	57.6	59.2	64.1	65.2	71.1
82.5°	35.0	36.1	37.2	37.7	39.8
85°	18.8	18.8	18.8	17.8	17.8
87.5°	10.8	10.8	9.2	7.5	5.4
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)