

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: P556969

Luminaire Tested: **FUSL-12-4-LD4-2HI-30-UNV-93-88-EDD**

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: P556969  
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-93-88-EDD  
Description: 4FT FUSL SURFACE MOUNT WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

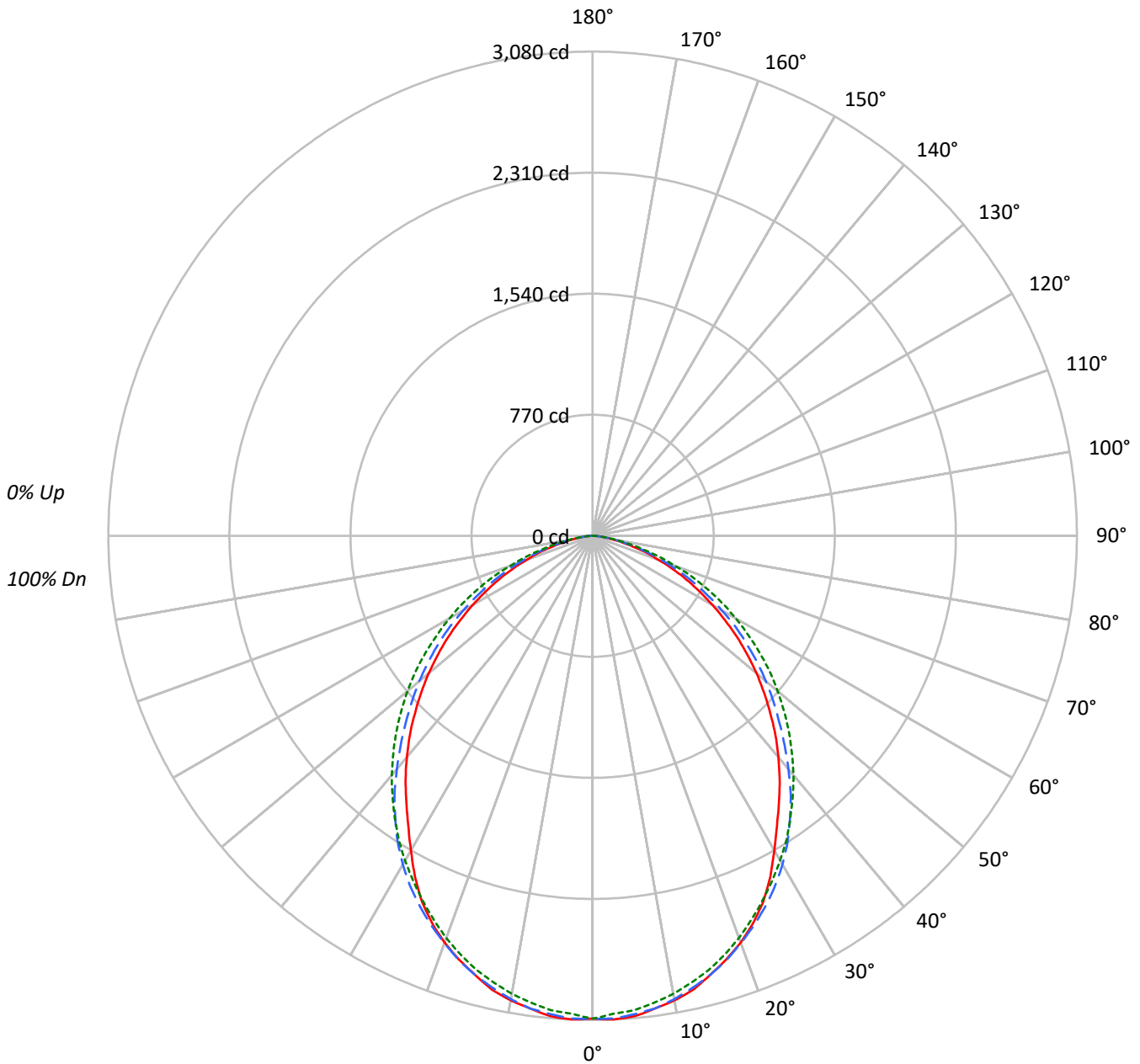
Lumens per Lamp: N/A  
Luminaire Lumens: 7103.0 lumens  
Efficiency: N/A  
Efficacy: 82.2 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

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

TEST NUMBER: P556969

CATALOG NUMBER: FUSL-12-4-LD4-2HI-30-UNV-93-88-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P556969

CATALOG NUMBER: FUSL-12-4-LD4-2HI-30-UNV-93-88-EDD

**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°	8266	8266	8266
5°	8288	8253	8183
10°	8200	8178	8084
15°	8055	8055	7963
20°	7884	7895	7793
25°	7625	7719	7597
30°	7180	7503	7411
35°	6784	7191	7203
40°	6455	6803	6981
45°	6086	6391	6719
50°	5696	6023	6432
55°	5254	5603	6085
60°	4732	5113	5659
65°	4178	4546	5147
70°	3482	3872	4373
75°	2737	3092	3424
80°	1957	2176	2414
85°	1275	1275	1201



TEST NUMBER: P556969

CATALOG NUMBER: FUSL-12-4-LD4-2HI-30-UNV-93-88-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	289.2	4.1
10°-20°	812.5	11.4
20°-30°	1187.3	16.7
30°-40°	1347.8	19.0
40°-50°	1301.1	18.3
50°-60°	1073.3	15.1
60°-70°	714.7	10.1
70°-80°	319.8	4.5
80°-90°	57.2	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°	2289.1	32.2
0°-40°	3636.9	51.2
0°-60°	6011.2	84.6
0°-90°	7103.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7103.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3072	3072	3072	3072	3072	
5°	3068	3067	3055	3039	3029	290
15°	2891	2898	2891	2878	2858	815
25°	2568	2588	2600	2581	2558	1176
35°	2065	2094	2189	2201	2193	1294
45°	1599	1626	1679	1756	1766	1234
55°	1120	1139	1194	1260	1297	1000
65°	656	674	714	765	808	651
75°	263	277	297	312	329	288
85°	41	41	41	39	39	56
90°	0	0	0	0	0	



TEST NUMBER: P556969

CATALOG NUMBER: FUSL-12-4-LD4-2HI-30-UNV-93-88-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3071.9	3071.9	3071.9	3071.9	3071.9
2.5°	3080.1	3081.3	3074.2	3055.3	3043.5
5°	3068.3	3067.1	3055.3	3038.8	3029.4
7.5°	3034.1	3036.5	3032.9	3009.3	2996.3
10°	3001.1	3002.2	2992.8	2973.9	2958.6
12.5°	2958.6	2957.4	2944.4	2935.0	2910.2
15°	2891.3	2898.4	2891.3	2878.3	2858.3
17.5°	2826.4	2826.4	2831.1	2808.7	2793.4
20°	2753.2	2756.8	2756.8	2739.1	2721.4
22.5°	2668.3	2678.9	2682.4	2663.5	2642.3
25°	2568.0	2588.0	2599.8	2580.9	2558.5
27.5°	2446.4	2477.1	2512.5	2498.3	2473.5
30°	2310.7	2355.5	2414.5	2402.7	2385.0
32.5°	2182.1	2226.9	2308.3	2303.6	2294.2
35°	2065.2	2093.5	2189.1	2200.9	2192.7
37.5°	1954.3	1980.2	2069.9	2097.1	2090.0
40°	1837.5	1865.8	1936.6	1985.0	1987.3
42.5°	1721.8	1748.9	1806.8	1876.4	1876.4
45°	1599.1	1626.2	1679.3	1756.0	1765.5
47.5°	1478.7	1507.0	1558.9	1635.7	1651.0
50°	1360.7	1386.6	1438.6	1512.9	1536.5
52.5°	1238.0	1266.3	1317.0	1385.5	1419.7
55°	1119.9	1138.8	1194.3	1260.4	1297.0
57.5°	997.2	1014.9	1077.5	1134.1	1171.9
60°	879.2	901.6	950.0	1007.8	1051.5
62.5°	765.9	789.5	830.8	881.6	931.1
65°	656.1	673.9	714.0	764.7	808.4
67.5°	549.9	565.3	605.4	640.8	686.8
70°	442.5	462.6	492.1	526.3	555.8
72.5°	356.4	364.7	389.4	414.2	444.9
75°	263.2	277.3	297.4	311.6	329.3
77.5°	188.8	197.1	208.9	220.7	237.2
80°	126.3	129.8	140.4	142.8	155.8
82.5°	76.7	79.1	81.4	82.6	87.3
85°	41.3	41.3	41.3	38.9	38.9
87.5°	23.6	23.6	20.1	16.5	11.8
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)