

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: P558149

Luminaire Tested: **FUSL-12-4-LD4-3LO-50-UNV-81-86-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: P558149  
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-LD4-3LO-50-UNV-81-86-EDD  
Description: 4FT FUSL SURFACE MOUNT WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

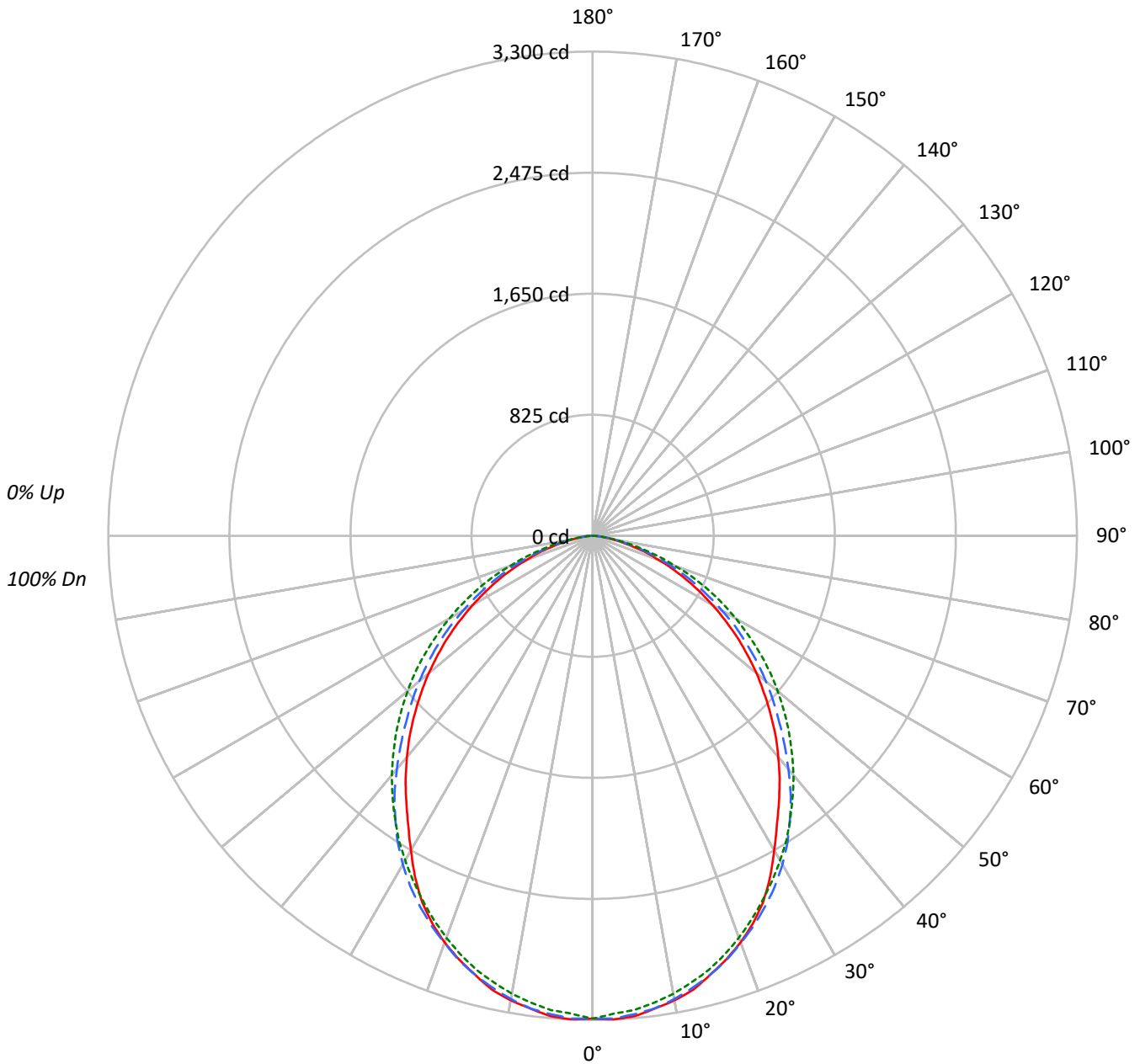
Lumens per Lamp: N/A  
Luminaire Lumens: 7609.0 lumens  
Efficiency: N/A  
Efficacy: 108.4 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 70.2  
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

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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°	8855	8855	8855
5°	8879	8841	8766
10°	8784	8760	8660
15°	8629	8629	8530
20°	8446	8457	8348
25°	8168	8269	8138
30°	7691	8037	7939
35°	7268	7704	7716
40°	6914	7287	7478
45°	6519	6846	7197
50°	6102	6452	6891
55°	5628	6002	6518
60°	5069	5477	6062
65°	4476	4870	5514
70°	3730	4148	4685
75°	2931	3313	3667
80°	2097	2331	2586
85°	1365	1365	1288



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	309.8	4.1
10°-20°	870.4	11.4
20°-30°	1271.9	16.7
30°-40°	1443.8	19.0
40°-50°	1393.8	18.3
50°-60°	1149.7	15.1
60°-70°	765.6	10.1
70°-80°	342.6	4.5
80°-90°	61.3	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°	2452.2	32.2
0°-40°	3895.9	51.2
0°-60°	6439.4	84.6
0°-90°	7609.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7609.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3291	3291	3291	3291	3291	
5°	3287	3286	3273	3255	3245	311
15°	3097	3105	3097	3083	3062	873
25°	2751	2772	2785	2765	2741	1260
35°	2212	2243	2345	2358	2349	1386
45°	1713	1742	1799	1881	1891	1322
55°	1200	1220	1279	1350	1389	1071
65°	703	722	765	819	866	697
75°	282	297	319	334	353	308
85°	44	44	44	42	42	60
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3290.7	3290.7	3290.7	3290.7	3290.7
2.5°	3299.5	3300.8	3293.2	3273.0	3260.4
5°	3286.9	3285.6	3273.0	3255.3	3245.2
7.5°	3250.2	3252.8	3249.0	3223.7	3209.8
10°	3214.8	3216.1	3206.0	3185.8	3169.3
12.5°	3169.3	3168.1	3154.2	3144.0	3117.5
15°	3097.3	3104.9	3097.3	3083.4	3061.9
17.5°	3027.7	3027.7	3032.8	3008.8	2992.3
20°	2949.4	2953.2	2953.2	2934.2	2915.2
22.5°	2858.3	2869.7	2873.5	2853.3	2830.5
25°	2750.9	2772.4	2785.0	2764.8	2740.8
27.5°	2620.7	2653.5	2691.5	2676.3	2649.7
30°	2475.3	2523.3	2586.5	2573.9	2554.9
32.5°	2337.5	2385.5	2472.8	2467.7	2457.6
35°	2212.3	2242.7	2345.1	2357.7	2348.9
37.5°	2093.5	2121.3	2217.4	2246.5	2238.9
40°	1968.3	1998.7	2074.5	2126.4	2128.9
42.5°	1844.5	1873.5	1935.5	2010.1	2010.1
45°	1713.0	1742.1	1798.9	1881.1	1891.2
47.5°	1584.0	1614.4	1670.0	1752.2	1768.6
50°	1457.6	1485.4	1541.1	1620.7	1646.0
52.5°	1326.1	1356.5	1410.8	1484.2	1520.8
55°	1199.7	1219.9	1279.4	1350.2	1389.3
57.5°	1068.2	1087.2	1154.2	1214.9	1255.3
60°	941.8	965.8	1017.7	1079.6	1126.4
62.5°	820.5	845.7	890.0	944.4	997.4
65°	702.9	721.9	764.8	819.2	866.0
67.5°	589.1	605.5	648.5	686.5	735.8
70°	474.1	495.6	527.2	563.8	595.4
72.5°	381.8	390.6	417.2	443.7	476.6
75°	281.9	297.1	318.6	333.7	352.7
77.5°	202.3	211.1	223.8	236.4	254.1
80°	135.3	139.1	150.4	153.0	166.9
82.5°	82.2	84.7	87.2	88.5	93.6
85°	44.2	44.2	44.2	41.7	41.7
87.5°	25.3	25.3	21.5	17.7	12.6
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)