

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: P558212

Luminaire Tested: **FUSL-12-4-LD4-3STD-30-UNV-81-86-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: P558212  
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-LD4-3STD-30-UNV-81-86-EDD-90  
Description: 4FT FUSL SURFACE MOUNT WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

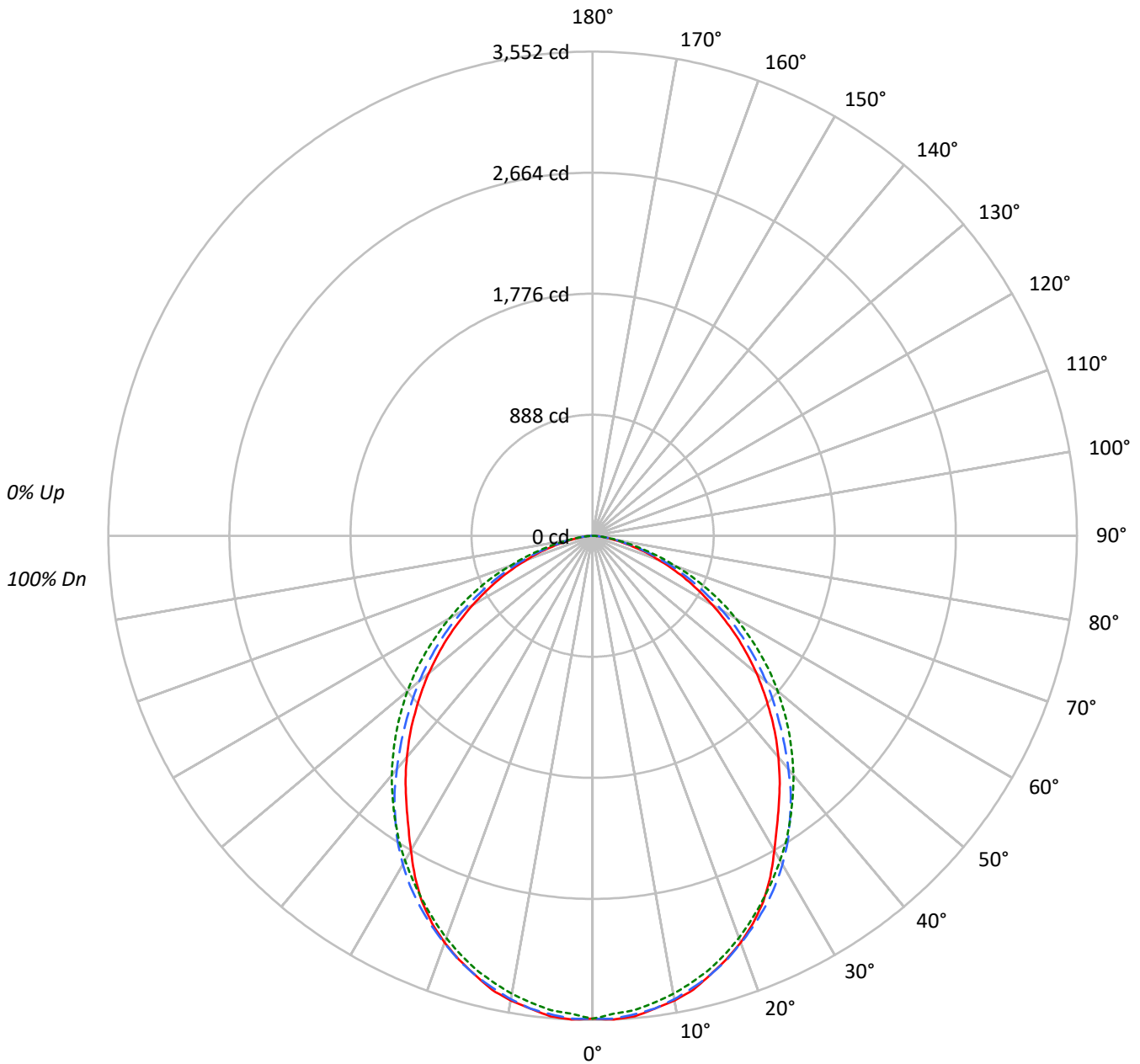
Lumens per Lamp: N/A  
Luminaire Lumens: 8192.0 lumens  
Efficiency: N/A  
Efficacy: 82.0 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 99.9  
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°	9534	9534	9534
5°	9559	9519	9438
10°	9458	9431	9324
15°	9290	9290	9184
20°	9093	9105	8988
25°	8794	8903	8761
30°	8281	8653	8547
35°	7824	8294	8307
40°	7444	7846	8051
45°	7018	7371	7749
50°	6570	6946	7419
55°	6060	6462	7018
60°	5457	5896	6527
65°	4818	5243	5936
70°	4016	4466	5044
75°	3156	3566	3948
80°	2256	2510	2785
85°	1470	1470	1386



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	333.6	4.1
10°-20°	937.1	11.4
20°-30°	1369.4	16.7
30°-40°	1554.4	19.0
40°-50°	1500.5	18.3
50°-60°	1237.8	15.1
60°-70°	824.3	10.1
70°-80°	368.9	4.5
80°-90°	66.0	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°	2640.0	32.2
0°-40°	4194.5	51.2
0°-60°	6932.8	84.6
0°-90°	8192.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8192.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3543	3543	3543	3543	3543	
5°	3539	3537	3524	3505	3494	335
15°	3335	3343	3335	3320	3296	940
25°	2962	2985	2998	2977	2951	1356
35°	2382	2414	2525	2538	2529	1492
45°	1844	1876	1937	2025	2036	1423
55°	1292	1313	1377	1454	1496	1153
65°	757	777	823	882	932	750
75°	304	320	343	359	380	332
85°	48	48	48	45	45	64
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3542.8	3542.8	3542.8	3542.8	3542.8
2.5°	3552.4	3553.7	3545.6	3523.8	3510.2
5°	3538.7	3537.4	3523.8	3504.7	3493.8
7.5°	3499.3	3502.0	3497.9	3470.7	3455.7
10°	3461.2	3462.5	3451.6	3429.9	3412.2
12.5°	3412.2	3410.8	3395.8	3384.9	3356.4
15°	3334.6	3342.8	3334.6	3319.6	3296.5
17.5°	3259.7	3259.7	3265.2	3239.3	3221.6
20°	3175.3	3179.4	3179.4	3159.0	3138.6
22.5°	3077.3	3089.6	3093.7	3071.9	3047.4
25°	2961.7	2984.8	2998.4	2976.6	2950.8
27.5°	2821.5	2856.9	2897.7	2881.4	2852.8
30°	2664.9	2716.7	2784.7	2771.1	2750.7
32.5°	2516.6	2568.3	2662.2	2656.8	2645.9
35°	2381.8	2414.5	2524.8	2538.4	2528.8
37.5°	2253.9	2283.9	2387.3	2418.6	2410.4
40°	2119.2	2151.8	2233.5	2289.3	2292.0
42.5°	1985.8	2017.1	2083.8	2164.1	2164.1
45°	1844.2	1875.5	1936.8	2025.3	2036.1
47.5°	1705.4	1738.1	1798.0	1886.4	1904.1
50°	1569.3	1599.2	1659.1	1744.9	1772.1
52.5°	1427.7	1460.4	1518.9	1597.9	1637.4
55°	1291.6	1313.4	1377.4	1453.6	1495.8
57.5°	1150.1	1170.5	1242.6	1308.0	1351.5
60°	1014.0	1039.8	1095.6	1162.3	1212.7
62.5°	883.3	910.5	958.2	1016.7	1073.9
65°	756.7	777.2	823.4	882.0	932.3
67.5°	634.3	651.9	698.2	739.1	792.1
70°	510.4	533.5	567.6	607.0	641.1
72.5°	411.0	420.6	449.1	477.7	513.1
75°	303.5	319.8	343.0	359.3	379.7
77.5°	217.8	227.3	240.9	254.5	273.6
80°	145.6	149.7	162.0	164.7	179.7
82.5°	88.5	91.2	93.9	95.3	100.7
85°	47.6	47.6	47.6	44.9	44.9
87.5°	27.2	27.2	23.1	19.1	13.6
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)