

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: P556999

Luminaire Tested: **FUSL-12-4-LD4-2HI-35-UNV-81-87-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: P556999  
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-35-UNV-81-87-EDD  
Description: 4FT FUSL SURFACE MOUNT WITH .156 CLEAR PC FIXTURE SIDE AND .375  
CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

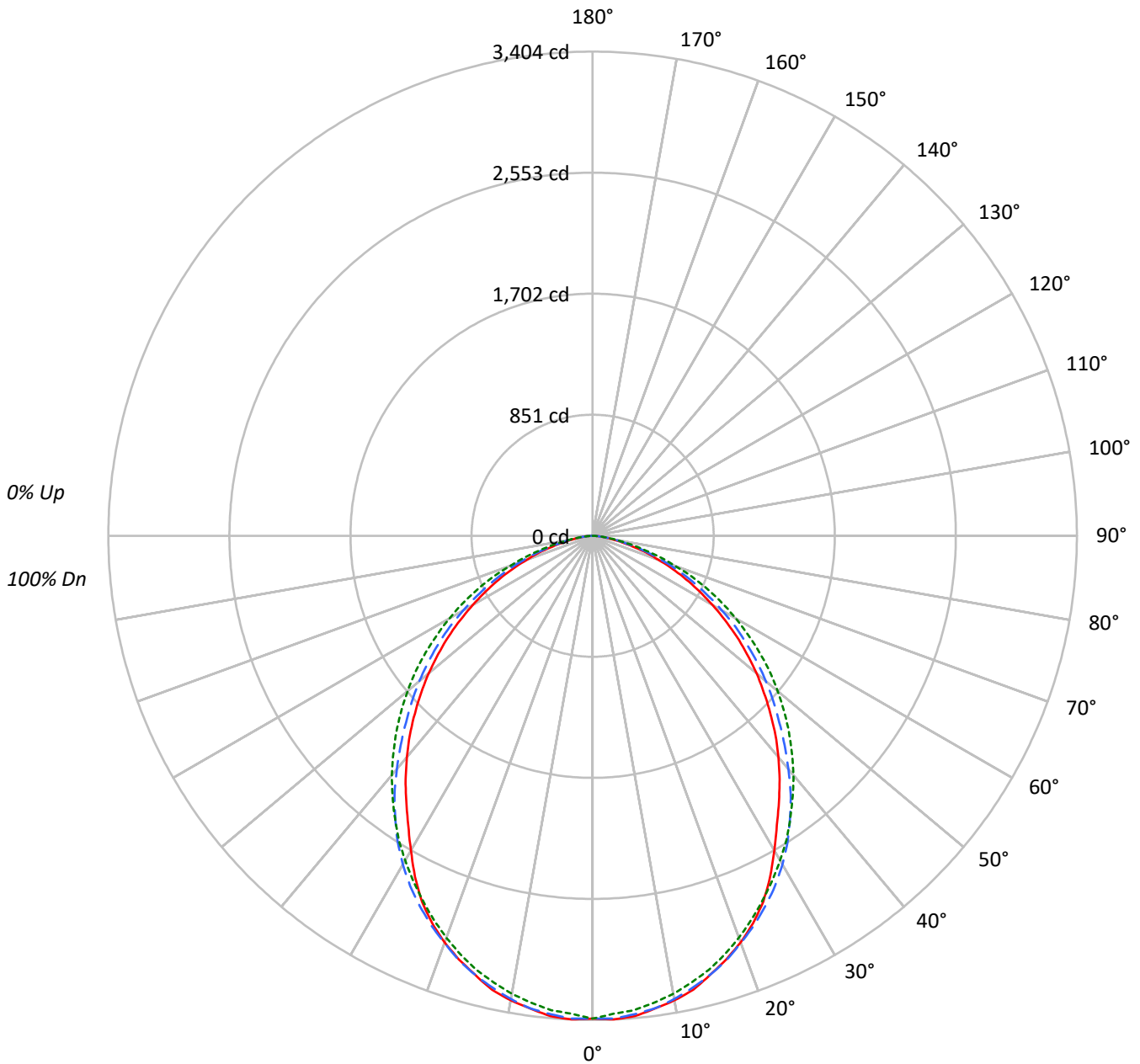
Lumens per Lamp: N/A  
Luminaire Lumens: 7849.0 lumens  
Efficiency: N/A  
Efficacy: 90.8 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 86.4  
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°	9135	9135	9135
5°	9159	9120	9042
10°	9061	9037	8933
15°	8901	8901	8799
20°	8712	8724	8612
25°	8426	8530	8394
30°	7934	8291	8189
35°	7497	7947	7960
40°	7132	7517	7715
45°	6725	7062	7424
50°	6295	6655	7108
55°	5806	6191	6724
60°	5229	5650	6253
65°	4617	5024	5688
70°	3847	4279	4832
75°	3023	3417	3782
80°	2162	2405	2667
85°	1408	1408	1328



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	319.6	4.1
10°-20°	897.9	11.4
20°-30°	1312.1	16.7
30°-40°	1489.3	19.0
40°-50°	1437.7	18.3
50°-60°	1186.0	15.1
60°-70°	789.8	10.1
70°-80°	353.4	4.5
80°-90°	63.2	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°	2529.5	32.2
0°-40°	4018.8	51.2
0°-60°	6642.6	84.6
0°-90°	7849.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7849.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3394	3394	3394	3394	3394	
5°	3391	3389	3376	3358	3348	321
15°	3195	3203	3195	3181	3158	901
25°	2838	2860	2873	2852	2827	1300
35°	2282	2313	2419	2432	2423	1430
45°	1767	1797	1856	1940	1951	1363
55°	1238	1258	1320	1393	1433	1105
65°	725	745	789	845	893	719
75°	291	306	329	344	364	318
85°	46	46	46	43	43	62
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3394.5	3394.5	3394.5	3394.5	3394.5
2.5°	3403.6	3404.9	3397.1	3376.2	3363.2
5°	3390.6	3389.3	3376.2	3358.0	3347.5
7.5°	3352.8	3355.4	3351.5	3325.4	3311.0
10°	3316.2	3317.5	3307.1	3286.3	3269.3
12.5°	3269.3	3268.0	3253.7	3243.2	3215.8
15°	3195.0	3202.8	3195.0	3180.6	3158.5
17.5°	3123.2	3123.2	3128.5	3103.7	3086.7
20°	3042.4	3046.3	3046.3	3026.7	3007.2
22.5°	2948.5	2960.2	2964.1	2943.3	2919.8
25°	2837.7	2859.8	2872.9	2852.0	2827.2
27.5°	2703.3	2737.2	2776.4	2760.7	2733.3
30°	2553.4	2602.9	2668.1	2655.1	2635.5
32.5°	2411.2	2460.8	2550.8	2545.5	2535.1
35°	2282.1	2313.4	2419.0	2432.1	2423.0
37.5°	2159.5	2188.2	2287.3	2317.3	2309.5
40°	2030.4	2061.7	2140.0	2193.4	2196.1
42.5°	1902.6	1932.6	1996.5	2073.5	2073.5
45°	1767.0	1797.0	1855.7	1940.5	1950.9
47.5°	1634.0	1665.3	1722.7	1807.4	1824.4
50°	1503.6	1532.3	1589.7	1671.8	1697.9
52.5°	1368.0	1399.3	1455.3	1531.0	1568.8
55°	1237.6	1258.4	1319.7	1392.7	1433.2
57.5°	1101.9	1121.5	1190.6	1253.2	1294.9
60°	971.5	996.3	1049.8	1113.7	1161.9
62.5°	846.3	872.4	918.1	974.1	1028.9
65°	725.1	744.6	789.0	845.0	893.3
67.5°	607.7	624.6	669.0	708.1	759.0
70°	489.0	511.2	543.8	581.6	614.2
72.5°	393.8	403.0	430.3	457.7	491.6
75°	290.8	306.5	328.6	344.3	363.8
77.5°	208.7	217.8	230.8	243.9	262.1
80°	139.5	143.4	155.2	157.8	172.1
82.5°	84.8	87.4	90.0	91.3	96.5
85°	45.6	45.6	45.6	43.0	43.0
87.5°	26.1	26.1	22.2	18.3	13.0
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)