

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: P556485

Luminaire Tested: **FUSL-12-4-LD4-1LO-35-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: P556485  
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-LD4-1LO-35-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 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

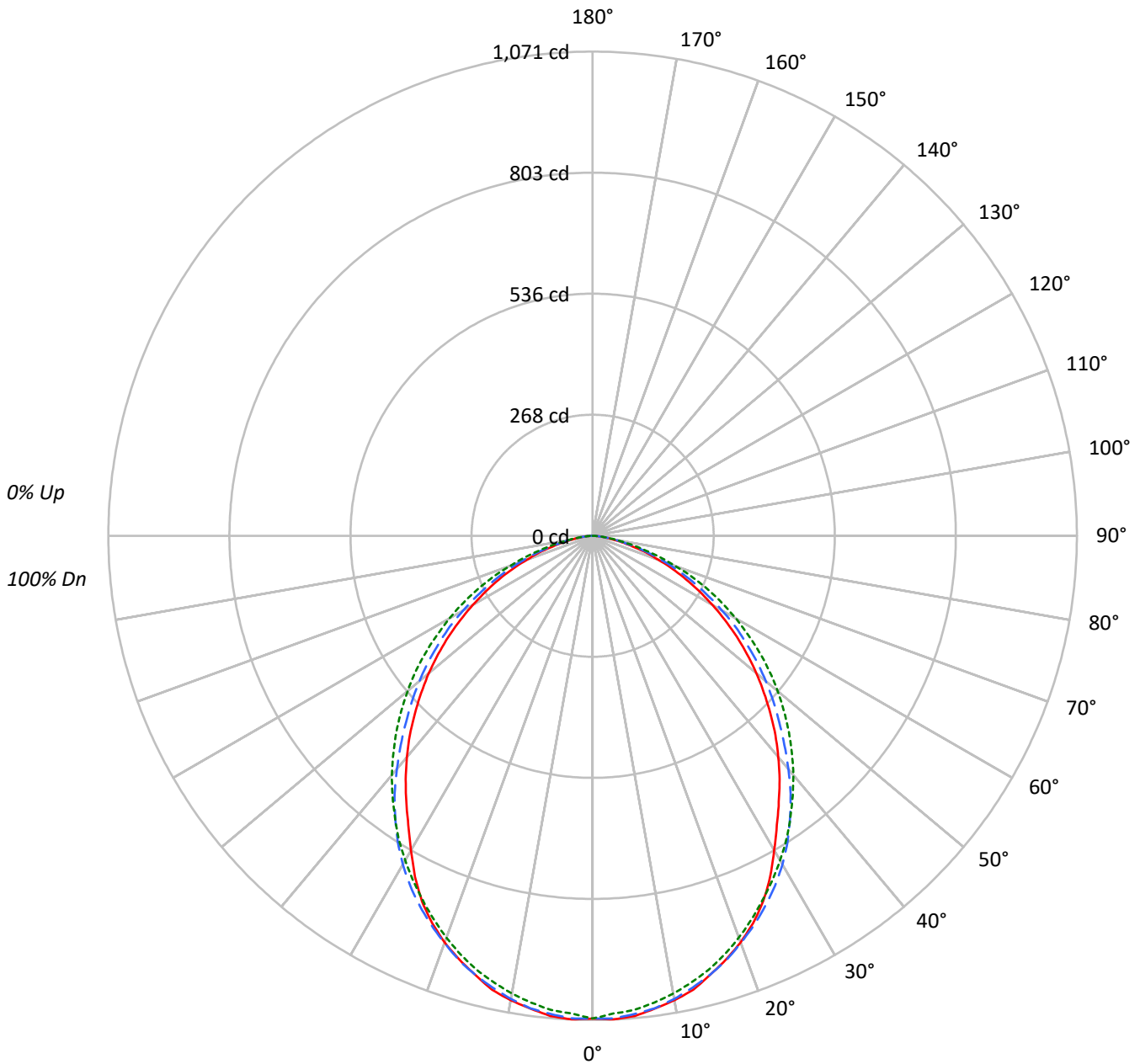
Lumens per Lamp: N/A  
Luminaire Lumens: 2469.0 lumens  
Efficiency: N/A  
Efficacy: 105.5 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 23.4  
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°	2873	2873	2873
5°	2881	2869	2844
10°	2851	2843	2810
15°	2800	2800	2768
20°	2741	2744	2709
25°	2650	2683	2640
30°	2496	2608	2576
35°	2358	2500	2504
40°	2244	2365	2427
45°	2115	2221	2336
50°	1980	2093	2236
55°	1826	1947	2115
60°	1645	1777	1967
65°	1452	1580	1789
70°	1210	1346	1520
75°	951	1075	1189
80°	680	756	838
85°	445	445	417



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	100.5	4.1
10°-20°	282.4	11.4
20°-30°	412.7	16.7
30°-40°	468.5	19.0
40°-50°	452.2	18.3
50°-60°	373.1	15.1
60°-70°	248.4	10.1
70°-80°	111.2	4.5
80°-90°	19.9	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°	795.7	32.2
0°-40°	1264.2	51.2
0°-60°	2089.5	84.6
0°-90°	2469.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2469.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1068	1068	1068	1068	1068	
5°	1066	1066	1062	1056	1053	101
15°	1005	1008	1005	1000	994	283
25°	893	900	904	897	889	409
35°	718	728	761	765	762	450
45°	556	565	584	610	614	429
55°	389	396	415	438	451	347
65°	228	234	248	266	281	226
75°	92	96	103	108	114	100
85°	14	14	14	14	14	19
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1067.8	1067.8	1067.8	1067.8	1067.8
2.5°	1070.7	1071.1	1068.6	1062.0	1057.9
5°	1066.5	1066.1	1062.0	1056.3	1053.0
7.5°	1054.7	1055.5	1054.2	1046.0	1041.5
10°	1043.2	1043.6	1040.3	1033.7	1028.4
12.5°	1028.4	1028.0	1023.5	1020.2	1011.6
15°	1005.0	1007.5	1005.0	1000.5	993.5
17.5°	982.5	982.5	984.1	976.3	971.0
20°	957.0	958.3	958.3	952.1	945.9
22.5°	927.5	931.2	932.4	925.8	918.5
25°	892.6	899.6	903.7	897.1	889.3
27.5°	850.4	861.0	873.3	868.4	859.8
30°	803.2	818.8	839.3	835.2	829.0
32.5°	758.5	774.1	802.4	800.7	797.4
35°	717.9	727.7	760.9	765.0	762.2
37.5°	679.3	688.3	719.5	728.9	726.5
40°	638.7	648.5	673.2	690.0	690.8
42.5°	598.5	607.9	628.0	652.2	652.2
45°	555.8	565.3	583.7	610.4	613.7
47.5°	514.0	523.8	541.9	568.6	573.9
50°	473.0	482.0	500.0	525.9	534.1
52.5°	430.3	440.2	457.8	481.6	493.5
55°	389.3	395.9	415.1	438.1	450.8
57.5°	346.6	352.8	374.5	394.2	407.3
60°	305.6	313.4	330.2	350.3	365.5
62.5°	266.2	274.4	288.8	306.4	323.7
65°	228.1	234.2	248.2	265.8	281.0
67.5°	191.2	196.5	210.4	222.7	238.7
70°	153.8	160.8	171.1	183.0	193.2
72.5°	123.9	126.8	135.4	144.0	154.6
75°	91.5	96.4	103.4	108.3	114.4
77.5°	65.6	68.5	72.6	76.7	82.5
80°	43.9	45.1	48.8	49.6	54.1
82.5°	26.7	27.5	28.3	28.7	30.4
85°	14.4	14.4	14.4	13.5	13.5
87.5°	8.2	8.2	7.0	5.7	4.1
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)