

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: P556499

Luminaire Tested: **FUSL-12-4-LD4-1LO-35-UNV-82-85-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: P556499  
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-82-85-EDD  
Description: 4FT FUSL SURFACE MOUNT WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

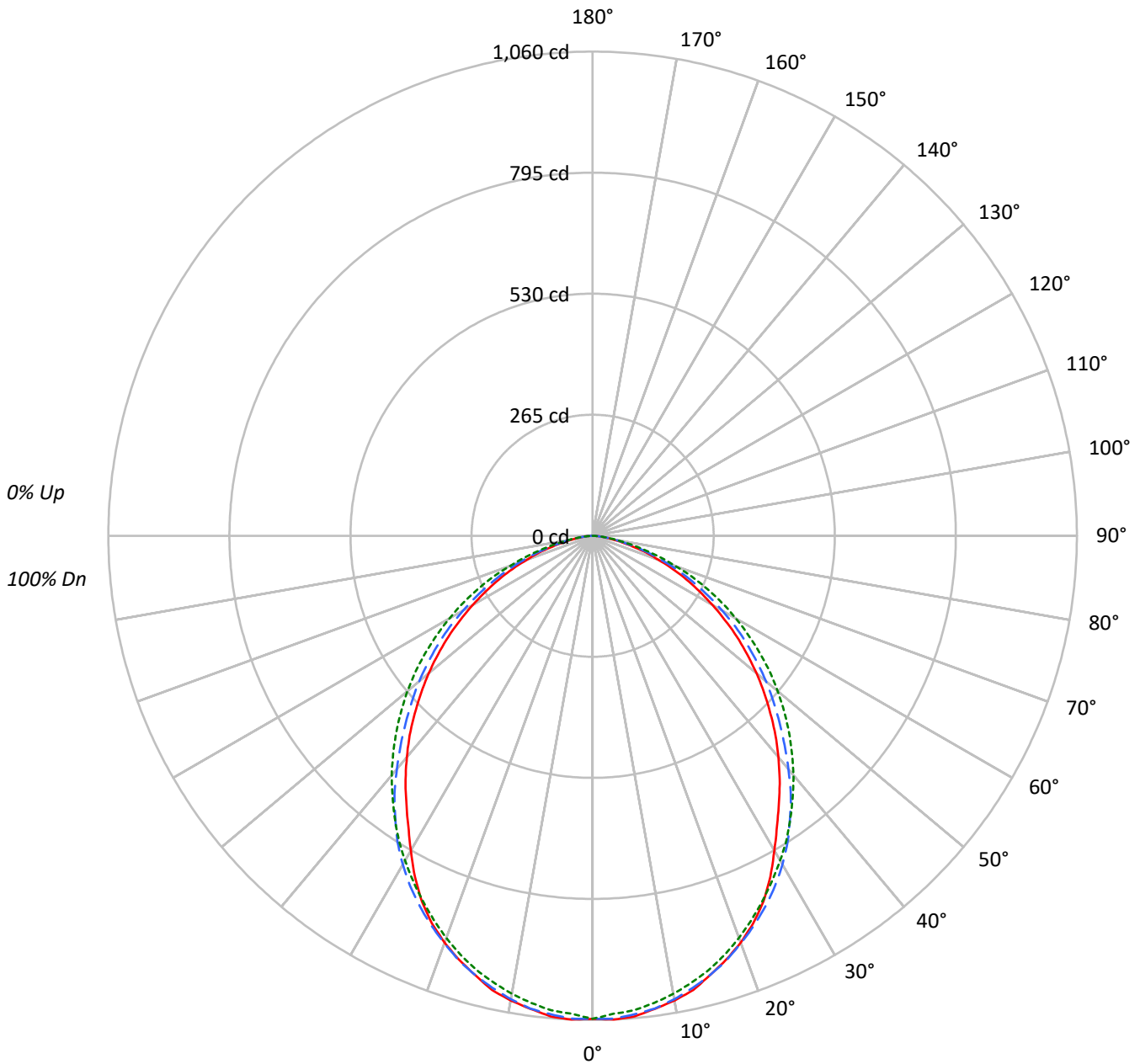
Lumens per Lamp: N/A  
Luminaire Lumens: 2445.0 lumens  
Efficiency: N/A  
Efficacy: 104.5 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 23.4  
Input Voltage (V): NR  
Input Current (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

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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°	2845	2845	2845
5°	2853	2841	2817
10°	2823	2815	2783
15°	2773	2773	2741
20°	2714	2717	2683
25°	2624	2657	2615
30°	2472	2582	2551
35°	2335	2475	2480
40°	2222	2342	2403
45°	2095	2200	2313
50°	1961	2073	2214
55°	1809	1929	2094
60°	1629	1760	1948
65°	1438	1565	1772
70°	1198	1333	1505
75°	942	1065	1178
80°	674	748	831
85°	438	438	414



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	99.6	4.1
10°-20°	279.7	11.4
20°-30°	408.7	16.7
30°-40°	463.9	19.0
40°-50°	447.9	18.3
50°-60°	369.5	15.1
60°-70°	246.0	10.1
70°-80°	110.1	4.5
80°-90°	19.7	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°	787.9	32.2
0°-40°	1251.9	51.2
0°-60°	2069.2	84.6
0°-90°	2445.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2445.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1057	1057	1057	1057	1057	
5°	1056	1056	1052	1046	1043	100
15°	995	998	995	991	984	281
25°	884	891	895	888	881	405
35°	711	721	754	758	755	445
45°	550	560	578	604	608	425
55°	386	392	411	434	446	344
65°	226	232	246	263	278	224
75°	91	96	102	107	113	99
85°	14	14	14	13	13	19
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1057.4	1057.4	1057.4	1057.4	1057.4
2.5°	1060.2	1060.6	1058.2	1051.7	1047.6
5°	1056.2	1055.8	1051.7	1046.0	1042.8
7.5°	1044.4	1045.2	1044.0	1035.9	1031.4
10°	1033.0	1033.4	1030.2	1023.7	1018.4
12.5°	1018.4	1018.0	1013.5	1010.3	1001.7
15°	995.2	997.7	995.2	990.8	983.9
17.5°	972.9	972.9	974.5	966.8	961.5
20°	947.7	948.9	948.9	942.8	936.8
22.5°	918.5	922.1	923.3	916.8	909.5
25°	883.9	890.8	894.9	888.4	880.7
27.5°	842.1	852.7	864.8	860.0	851.4
30°	795.4	810.8	831.1	827.1	821.0
32.5°	751.1	766.5	794.6	792.9	789.7
35°	710.9	720.6	753.5	757.6	754.8
37.5°	672.7	681.6	712.5	721.9	719.4
40°	632.5	642.2	666.6	683.3	684.1
42.5°	592.7	602.0	621.9	645.9	645.9
45°	550.4	559.8	578.1	604.5	607.7
47.5°	509.0	518.7	536.6	563.0	568.3
50°	468.4	477.3	495.2	520.8	528.9
52.5°	426.1	435.9	453.3	476.9	488.7
55°	385.5	392.0	411.1	433.8	446.4
57.5°	343.3	349.4	370.9	390.4	403.4
60°	302.6	310.4	327.0	346.9	361.9
62.5°	263.6	271.8	286.0	303.4	320.5
65°	225.9	232.0	245.8	263.2	278.3
67.5°	189.3	194.6	208.4	220.6	236.4
70°	152.3	159.2	169.4	181.2	191.3
72.5°	122.7	125.5	134.1	142.6	153.1
75°	90.6	95.5	102.4	107.2	113.3
77.5°	65.0	67.8	71.9	76.0	81.7
80°	43.5	44.7	48.3	49.2	53.6
82.5°	26.4	27.2	28.0	28.4	30.1
85°	14.2	14.2	14.2	13.4	13.4
87.5°	8.1	8.1	6.9	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)