

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: P556696

Luminaire Tested: **FUSL-12-4-LD4-1STD-30-UNV-82-88-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: P556696  
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-LD4-1STD-30-UNV-82-88-EDD-90  
Description: 4FT FUSL SURFACE MOUNT WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

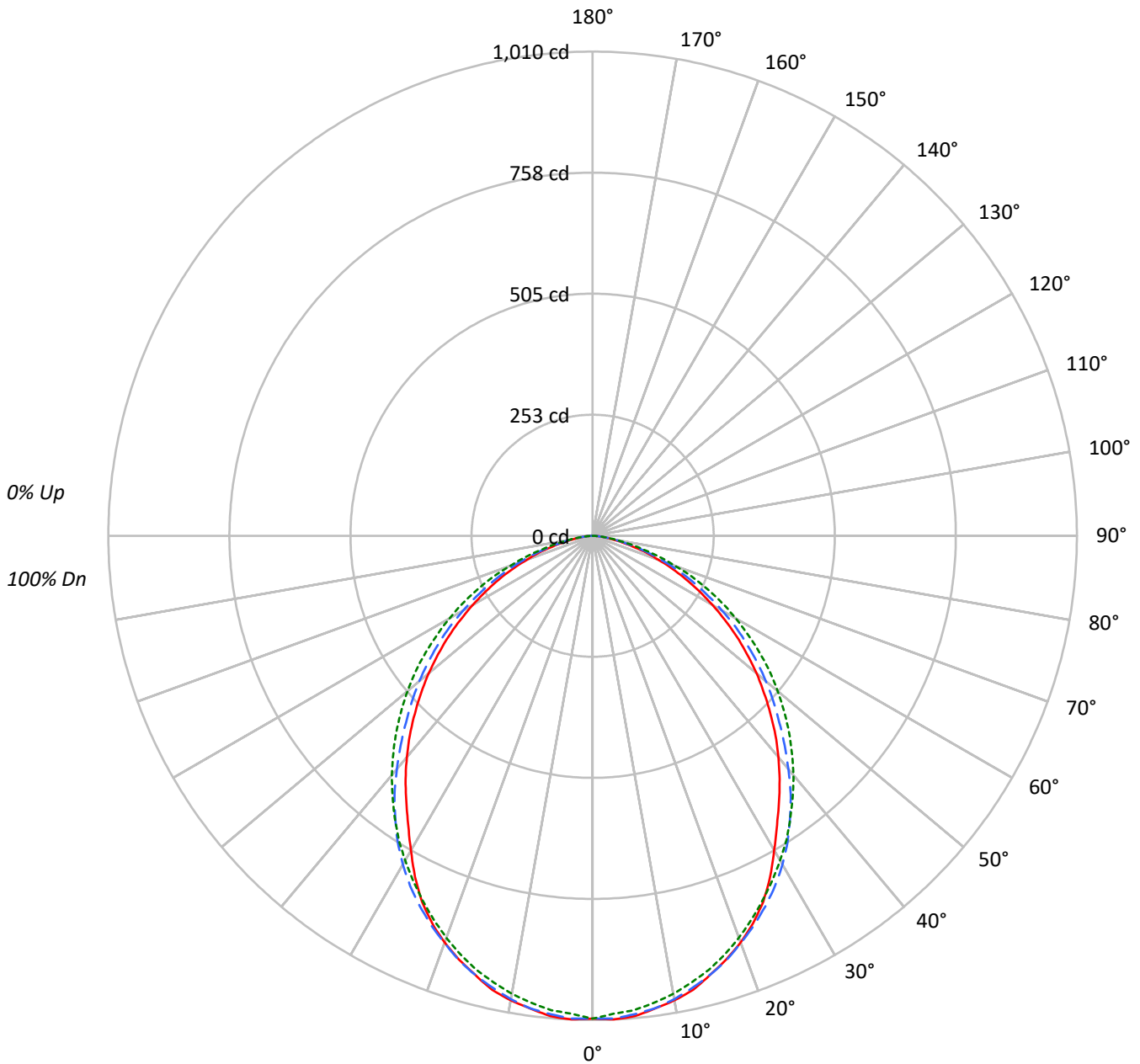
Lumens per Lamp: N/A  
Luminaire Lumens: 2329.0 lumens  
Efficiency: N/A  
Efficacy: 69.9 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 33.3  
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°	2710	2710	2710
5°	2718	2706	2683
10°	2689	2681	2651
15°	2641	2641	2611
20°	2585	2588	2555
25°	2500	2531	2491
30°	2354	2460	2430
35°	2225	2358	2362
40°	2116	2231	2289
45°	1995	2095	2203
50°	1868	1975	2109
55°	1723	1837	1995
60°	1552	1676	1856
65°	1370	1491	1688
70°	1142	1270	1434
75°	897	1014	1123
80°	642	713	792
85°	417	417	395



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	94.8	4.1
10°-20°	266.4	11.4
20°-30°	389.3	16.7
30°-40°	441.9	19.0
40°-50°	426.6	18.3
50°-60°	351.9	15.1
60°-70°	234.3	10.1
70°-80°	104.9	4.5
80°-90°	18.8	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°	750.6	32.2
0°-40°	1192.5	51.2
0°-60°	1971.0	84.6
0°-90°	2329.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2329.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1007	1007	1007	1007	1007	
5°	1006	1006	1002	996	993	95
15°	948	950	948	944	937	267
25°	842	849	852	846	839	386
35°	677	686	718	722	719	424
45°	524	533	551	576	579	405
55°	367	373	392	413	425	328
65°	215	221	234	251	265	213
75°	86	91	98	102	108	94
85°	14	14	14	13	13	18
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1007.2	1007.2	1007.2	1007.2	1007.2
2.5°	1009.9	1010.3	1008.0	1001.8	997.9
5°	1006.1	1005.7	1001.8	996.4	993.3
7.5°	994.8	995.6	994.5	986.7	982.5
10°	984.0	984.4	981.3	975.1	970.1
12.5°	970.1	969.7	965.4	962.3	954.2
15°	948.0	950.4	948.0	943.8	937.2
17.5°	926.7	926.7	928.3	920.9	915.9
20°	902.8	903.9	903.9	898.1	892.3
22.5°	874.9	878.4	879.5	873.3	866.4
25°	842.0	848.6	852.5	846.3	838.9
27.5°	802.1	812.2	823.8	819.2	811.0
30°	757.6	772.4	791.7	787.8	782.0
32.5°	715.5	730.2	756.9	755.3	752.2
35°	677.2	686.5	717.8	721.7	719.0
37.5°	640.8	649.3	678.7	687.6	685.3
40°	602.5	611.8	635.0	650.9	651.6
42.5°	564.6	573.5	592.4	615.3	615.3
45°	524.3	533.2	550.6	575.8	578.9
47.5°	484.8	494.1	511.2	536.3	541.3
50°	446.2	454.7	471.7	496.1	503.8
52.5°	405.9	415.2	431.8	454.3	465.5
55°	367.2	373.4	391.6	413.3	425.3
57.5°	327.0	332.8	353.3	371.9	384.2
60°	288.3	295.6	311.5	330.5	344.8
62.5°	251.1	258.9	272.4	289.1	305.3
65°	215.1	220.9	234.1	250.7	265.1
67.5°	180.3	185.3	198.5	210.1	225.2
70°	145.1	151.7	161.4	172.6	182.3
72.5°	116.9	119.6	127.7	135.8	145.9
75°	86.3	90.9	97.5	102.2	108.0
77.5°	61.9	64.6	68.5	72.4	77.8
80°	41.4	42.6	46.0	46.8	51.1
82.5°	25.2	25.9	26.7	27.1	28.6
85°	13.5	13.5	13.5	12.8	12.8
87.5°	7.7	7.7	6.6	5.4	3.9
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)