

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: P556680

Luminaire Tested: **FUSL-12-4-LD4-1STD-30-UNV-81-88-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: P556680  
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-81-88-EDD-90  
Description: 4FT FUSL SURFACE MOUNT WITH .156 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**

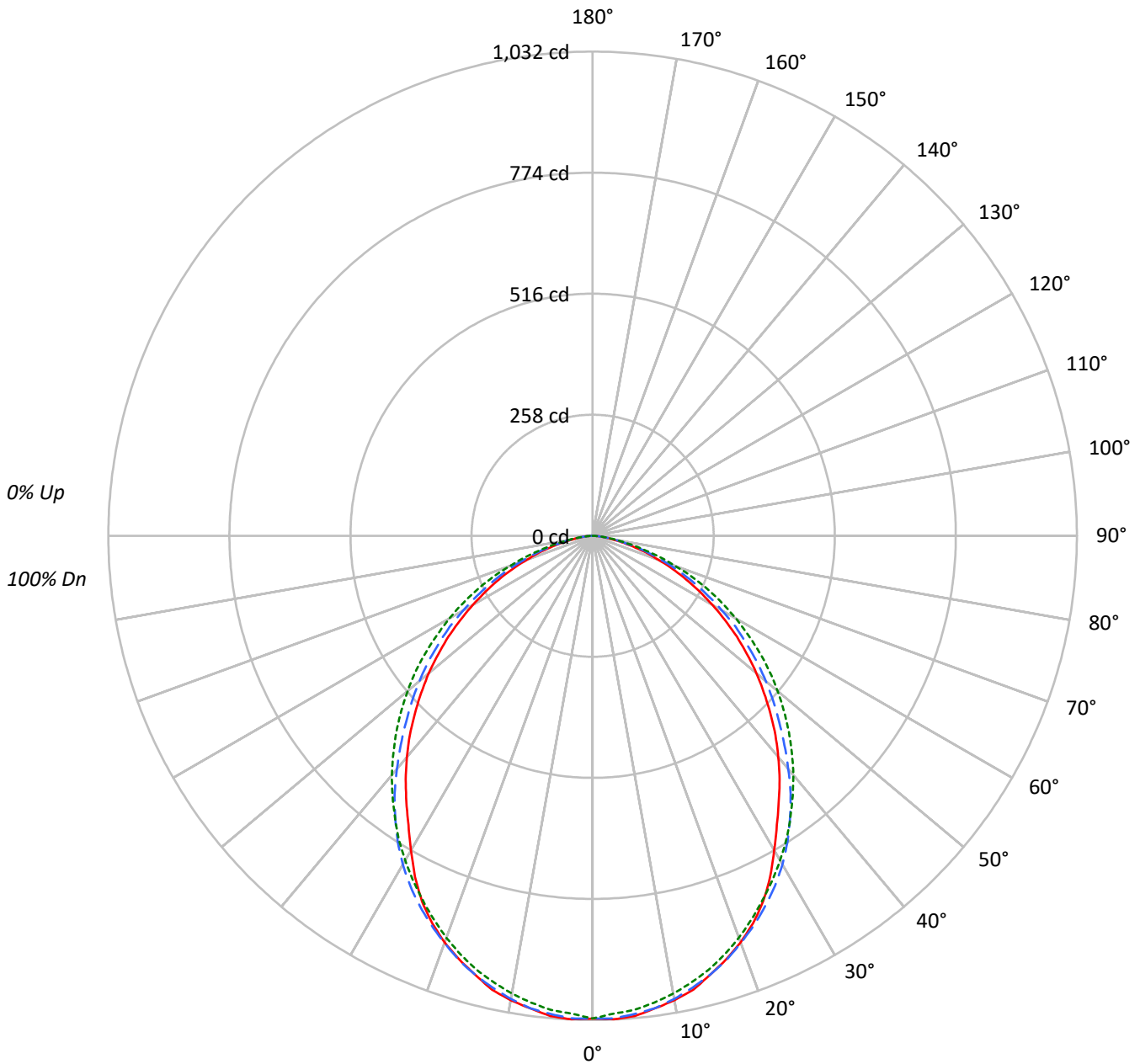
Lumens per Lamp: N/A  
Luminaire Lumens: 2379.0 lumens  
Efficiency: N/A  
Efficacy: 71.4 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

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°	2769	2769	2769
5°	2776	2764	2741
10°	2746	2739	2708
15°	2698	2698	2667
20°	2641	2644	2610
25°	2554	2586	2544
30°	2405	2513	2482
35°	2272	2409	2413
40°	2162	2278	2338
45°	2038	2141	2250
50°	1908	2017	2154
55°	1760	1877	2038
60°	1585	1713	1896
65°	1400	1522	1724
70°	1166	1297	1465
75°	916	1036	1147
80°	656	728	809
85°	426	426	401



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	96.9	4.1
10°-20°	272.1	11.4
20°-30°	397.7	16.7
30°-40°	451.4	19.0
40°-50°	435.8	18.3
50°-60°	359.5	15.1
60°-70°	239.4	10.1
70°-80°	107.1	4.5
80°-90°	19.2	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°	766.7	32.2
0°-40°	1218.1	51.2
0°-60°	2013.3	84.6
0°-90°	2379.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2379.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1029	1029	1029	1029	1029	
5°	1028	1027	1023	1018	1015	97
15°	968	971	968	964	957	273
25°	860	867	871	864	857	394
35°	692	701	733	737	734	433
45°	536	545	562	588	591	413
55°	375	381	400	422	434	335
65°	220	226	239	256	271	218
75°	88	93	100	104	110	96
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°	1028.9	1028.9	1028.9	1028.9	1028.9
2.5°	1031.6	1032.0	1029.6	1023.3	1019.4
5°	1027.7	1027.3	1023.3	1017.8	1014.6
7.5°	1016.2	1017.0	1015.8	1007.9	1003.6
10°	1005.1	1005.5	1002.4	996.0	990.9
12.5°	990.9	990.5	986.2	983.0	974.7
15°	968.4	970.8	968.4	964.0	957.3
17.5°	946.6	946.6	948.2	940.7	935.6
20°	922.1	923.3	923.3	917.4	911.5
22.5°	893.7	897.2	898.4	892.1	885.0
25°	860.1	866.8	870.8	864.4	856.9
27.5°	819.4	829.6	841.5	836.8	828.5
30°	773.9	788.9	808.7	804.7	798.8
32.5°	730.8	745.9	773.1	771.5	768.4
35°	691.7	701.2	733.2	737.2	734.4
37.5°	654.5	663.2	693.3	702.4	700.0
40°	615.4	624.9	648.6	664.8	665.6
42.5°	576.7	585.8	605.1	628.5	628.5
45°	535.6	544.7	562.5	588.1	591.3
47.5°	495.3	504.7	522.1	547.8	553.0
50°	455.7	464.4	481.8	506.7	514.6
52.5°	414.6	424.1	441.1	464.0	475.5
55°	375.1	381.4	400.0	422.1	434.4
57.5°	334.0	339.9	360.9	379.8	392.5
60°	294.5	302.0	318.2	337.6	352.2
62.5°	256.5	264.4	278.3	295.3	311.9
65°	219.8	225.7	239.1	256.1	270.8
67.5°	184.2	189.3	202.8	214.6	230.0
70°	148.2	154.9	164.8	176.3	186.2
72.5°	119.4	122.1	130.4	138.7	149.0
75°	88.1	92.9	99.6	104.3	110.3
77.5°	63.2	66.0	70.0	73.9	79.4
80°	42.3	43.5	47.0	47.8	52.2
82.5°	25.7	26.5	27.3	27.7	29.2
85°	13.8	13.8	13.8	13.0	13.0
87.5°	7.9	7.9	6.7	5.5	4.0
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)