

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: P556461

Luminaire Tested: **FUSL-12-4-LD4-1LO-30-UNV-93-96-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: P556461  
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-30-UNV-93-96-EDD  
Description: 4FT FUSL SURFACE MOUNT WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

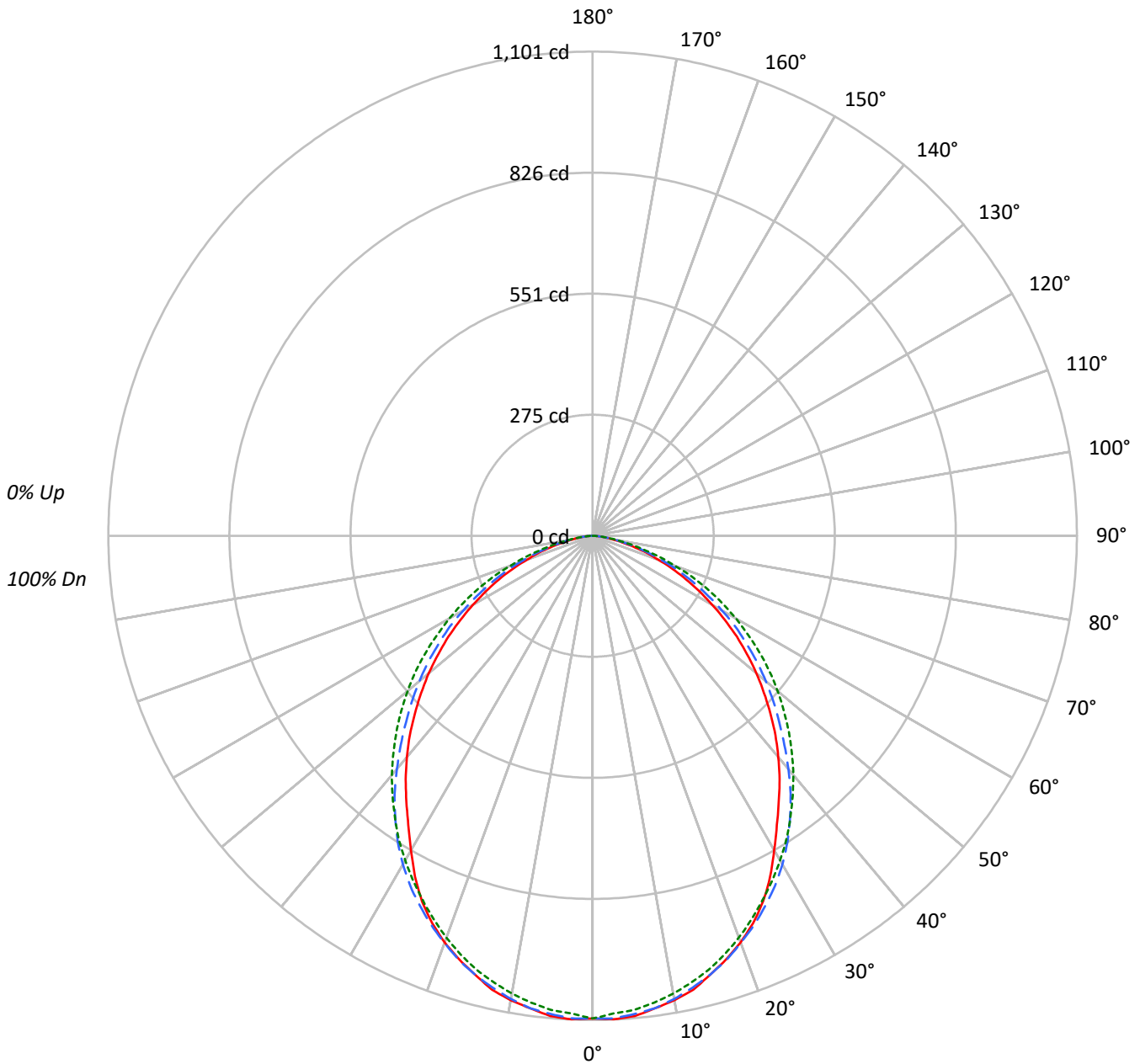
Lumens per Lamp: N/A  
Luminaire Lumens: 2538.0 lumens  
Efficiency: N/A  
Efficacy: 108.5 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

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°	2954	2954	2954
5°	2962	2949	2924
10°	2930	2922	2889
15°	2878	2878	2845
20°	2817	2821	2785
25°	2725	2758	2714
30°	2565	2681	2648
35°	2424	2570	2574
40°	2306	2431	2494
45°	2175	2283	2401
50°	2035	2152	2298
55°	1878	2002	2174
60°	1690	1827	2022
65°	1493	1624	1839
70°	1244	1383	1563
75°	977	1105	1223
80°	699	778	863
85°	457	457	429



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	103.3	4.1
10°-20°	290.3	11.4
20°-30°	424.3	16.7
30°-40°	481.6	19.0
40°-50°	464.9	18.3
50°-60°	383.5	15.1
60°-70°	255.4	10.1
70°-80°	114.3	4.5
80°-90°	20.5	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°	817.9	32.2
0°-40°	1299.5	51.2
0°-60°	2147.9	84.6
0°-90°	2538.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2538.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1098	1098	1098	1098	1098	
5°	1096	1096	1092	1086	1082	104
15°	1033	1036	1033	1028	1021	291
25°	918	925	929	922	914	420
35°	738	748	782	786	784	462
45°	571	581	600	628	631	441
55°	400	407	427	450	463	357
65°	234	241	255	273	289	232
75°	94	99	106	111	118	103
85°	15	15	15	14	14	20
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1097.6	1097.6	1097.6	1097.6	1097.6
2.5°	1100.6	1101.0	1098.5	1091.7	1087.5
5°	1096.4	1095.9	1091.7	1085.8	1082.4
7.5°	1084.1	1085.0	1083.7	1075.3	1070.6
10°	1072.3	1072.7	1069.4	1062.6	1057.1
12.5°	1057.1	1056.7	1052.1	1048.7	1039.9
15°	1033.1	1035.6	1033.1	1028.5	1021.3
17.5°	1009.9	1009.9	1011.6	1003.6	998.1
20°	983.8	985.0	985.0	978.7	972.4
22.5°	953.4	957.2	958.5	951.7	944.1
25°	917.6	924.7	928.9	922.2	914.2
27.5°	874.1	885.1	897.7	892.7	883.8
30°	825.6	841.7	862.7	858.5	852.2
32.5°	779.7	795.7	824.8	823.1	819.7
35°	737.9	748.1	782.2	786.4	783.5
37.5°	698.3	707.6	739.6	749.3	746.8
40°	656.5	666.7	692.0	709.3	710.1
42.5°	615.2	624.9	645.6	670.5	670.5
45°	571.4	581.1	600.0	627.5	630.8
47.5°	528.4	538.5	557.0	584.4	589.9
50°	486.2	495.5	514.0	540.6	549.0
52.5°	442.3	452.5	470.6	495.0	507.3
55°	400.2	406.9	426.7	450.3	463.4
57.5°	356.3	362.6	385.0	405.2	418.7
60°	314.1	322.2	339.4	360.1	375.7
62.5°	273.7	282.1	296.9	315.0	332.7
65°	234.5	240.8	255.1	273.2	288.8
67.5°	196.5	202.0	216.3	229.0	245.4
70°	158.1	165.3	175.8	188.1	198.6
72.5°	127.3	130.3	139.2	148.0	159.0
75°	94.0	99.1	106.3	111.3	117.6
77.5°	67.5	70.4	74.6	78.9	84.8
80°	45.1	46.4	50.2	51.0	55.7
82.5°	27.4	28.3	29.1	29.5	31.2
85°	14.8	14.8	14.8	13.9	13.9
87.5°	8.4	8.4	7.2	5.9	4.2
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)