

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: P556676

Luminaire Tested: **FUSL-12-4-LD4-1STD-30-UNV-81-86-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: P556676  
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-81-86-EDD-90  
Description: 4FT FUSL SURFACE MOUNT WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

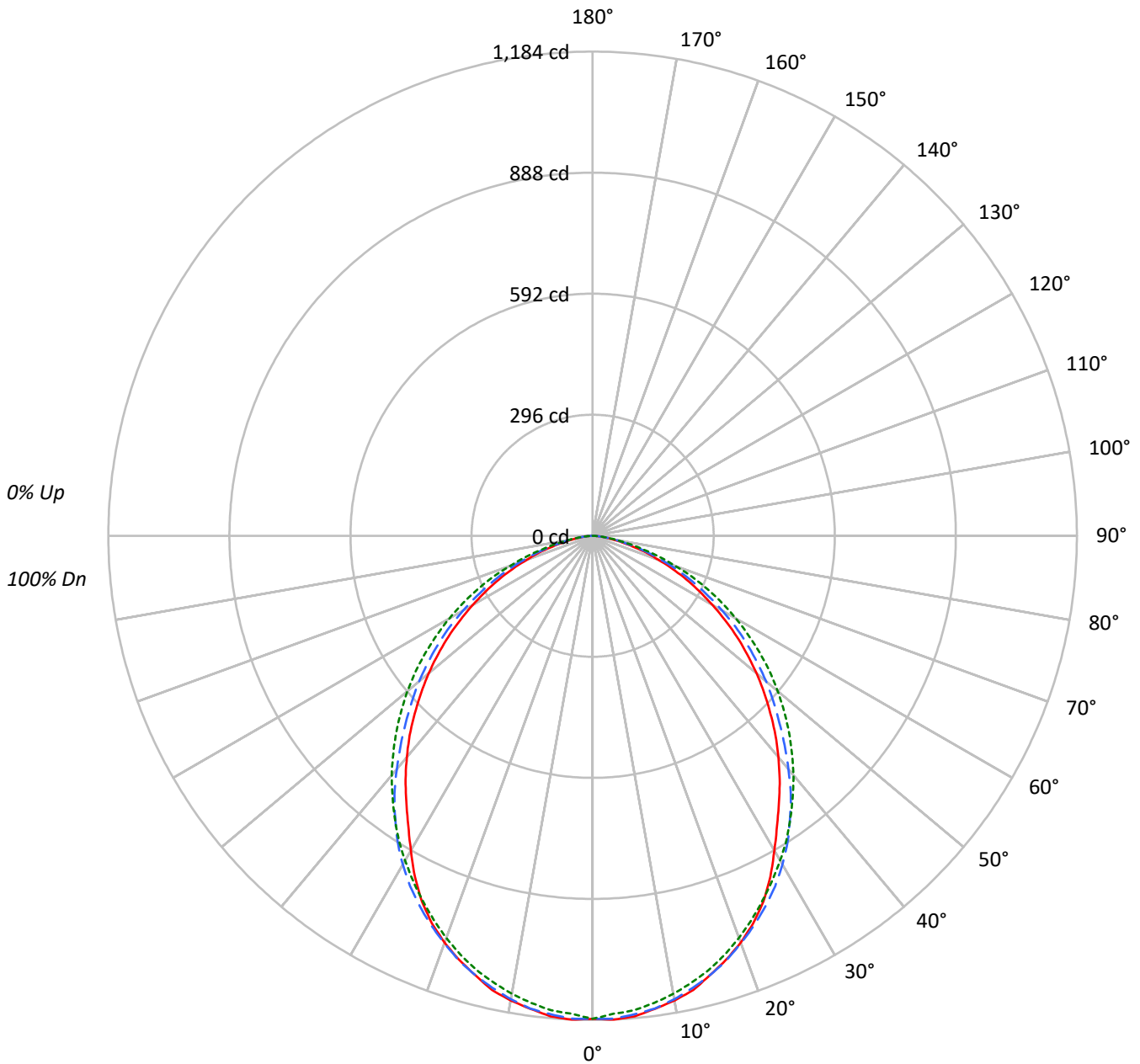
Lumens per Lamp: N/A  
Luminaire Lumens: 2731.0 lumens  
Efficiency: N/A  
Efficacy: 82.0 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

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°	3178	3178	3178
5°	3187	3173	3146
10°	3153	3144	3108
15°	3097	3097	3062
20°	3031	3035	2996
25°	2931	2968	2921
30°	2761	2885	2849
35°	2608	2765	2770
40°	2482	2616	2684
45°	2340	2457	2583
50°	2190	2316	2473
55°	2020	2154	2340
60°	1819	1966	2176
65°	1606	1748	1979
70°	1339	1489	1681
75°	1052	1188	1316
80°	753	837	928
85°	491	491	463



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	111.2	4.1
10°-20°	312.4	11.4
20°-30°	456.5	16.7
30°-40°	518.2	19.0
40°-50°	500.2	18.3
50°-60°	412.7	15.1
60°-70°	274.8	10.1
70°-80°	123.0	4.5
80°-90°	22.0	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°	880.1	32.2
0°-40°	1398.3	51.2
0°-60°	2311.2	84.6
0°-90°	2731.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2731.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1181	1181	1181	1181	1181	
5°	1180	1179	1175	1168	1165	112
15°	1112	1114	1112	1107	1099	313
25°	987	995	1000	992	984	452
35°	794	805	842	846	843	498
45°	615	625	646	675	679	474
55°	431	438	459	485	499	384
65°	252	259	274	294	311	250
75°	101	107	114	120	127	111
85°	16	16	16	15	15	21
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1181.1	1181.1	1181.1	1181.1	1181.1
2.5°	1184.3	1184.7	1182.0	1174.7	1170.2
5°	1179.7	1179.3	1174.7	1168.4	1164.8
7.5°	1166.6	1167.5	1166.1	1157.0	1152.0
10°	1153.9	1154.3	1150.7	1143.4	1137.5
12.5°	1137.5	1137.1	1132.1	1128.5	1118.9
15°	1111.7	1114.4	1111.7	1106.7	1099.0
17.5°	1086.7	1086.7	1088.5	1079.9	1074.0
20°	1058.6	1059.9	1059.9	1053.1	1046.3
22.5°	1025.9	1030.0	1031.4	1024.1	1015.9
25°	987.3	995.1	999.6	992.3	983.7
27.5°	940.6	952.4	966.0	960.6	951.0
30°	888.4	905.7	928.4	923.8	917.0
32.5°	839.0	856.2	887.5	885.7	882.1
35°	794.0	804.9	841.7	846.2	843.1
37.5°	751.4	761.4	795.9	806.3	803.6
40°	706.5	717.4	744.6	763.2	764.1
42.5°	662.0	672.4	694.7	721.4	721.4
45°	614.8	625.3	645.7	675.2	678.8
47.5°	568.5	579.4	599.4	628.9	634.8
50°	523.2	533.1	553.1	581.7	590.8
52.5°	476.0	486.9	506.4	532.7	545.9
55°	430.6	437.9	459.2	484.6	498.7
57.5°	383.4	390.2	414.3	436.0	450.6
60°	338.0	346.7	365.3	387.5	404.3
62.5°	294.5	303.6	319.4	338.9	358.0
65°	252.3	259.1	274.5	294.0	310.8
67.5°	211.4	217.3	232.8	246.4	264.1
70°	170.2	177.9	189.2	202.4	213.7
72.5°	137.0	140.2	149.7	159.3	171.1
75°	101.2	106.6	114.3	119.8	126.6
77.5°	72.6	75.8	80.3	84.8	91.2
80°	48.6	49.9	54.0	54.9	59.9
82.5°	29.5	30.4	31.3	31.8	33.6
85°	15.9	15.9	15.9	15.0	15.0
87.5°	9.1	9.1	7.7	6.4	4.5
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)