

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: P556870

Luminaire Tested: **FUSL-12-4-LD4-1STD-50-UNV-81-87-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: P556870  
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-50-UNV-81-87-EDD-90  
Description: 4FT FUSL SURFACE MOUNT WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

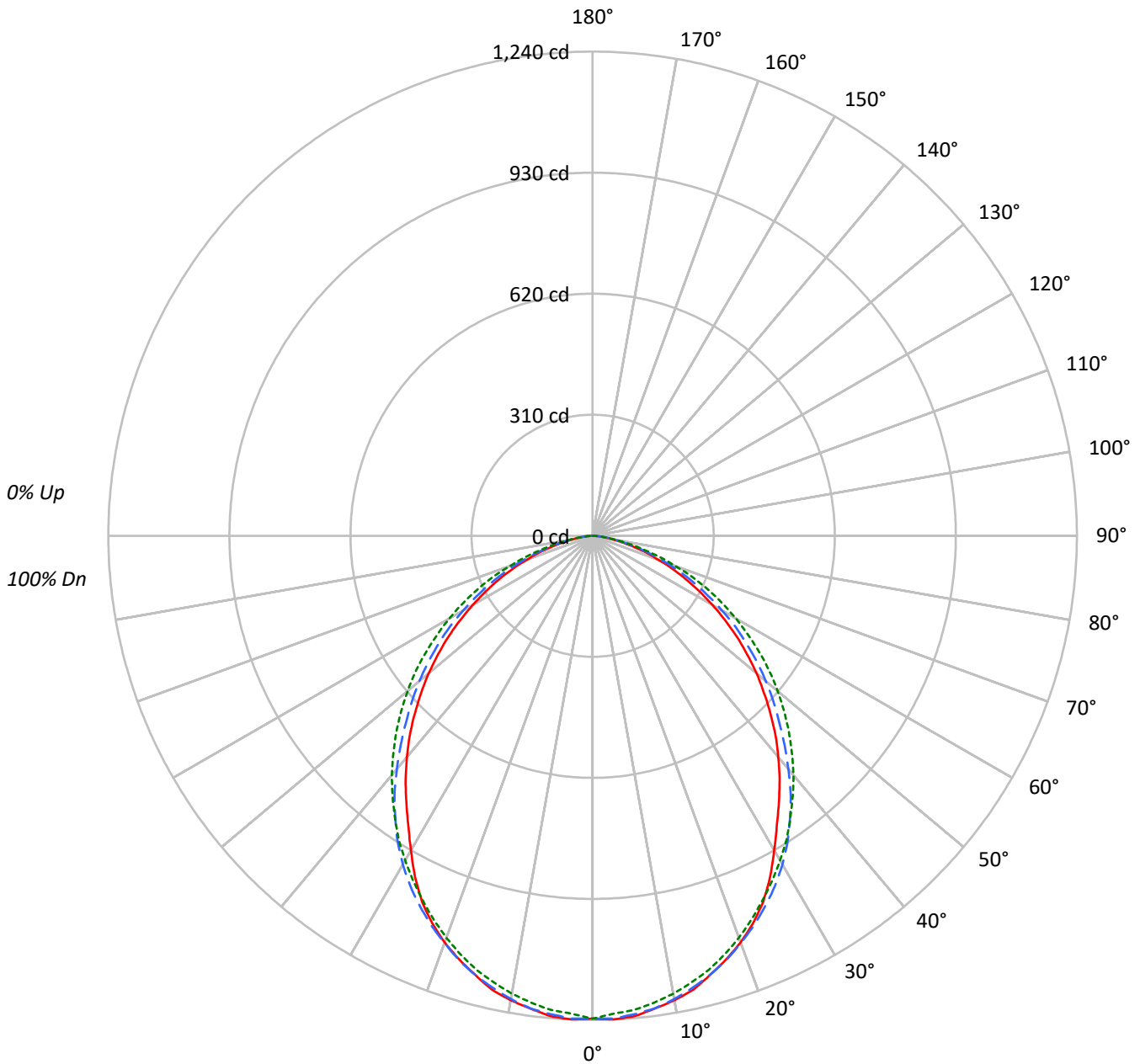
Lumens per Lamp: N/A  
Luminaire Lumens: 2859.0 lumens  
Efficiency: N/A  
Efficacy: 85.9 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

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°	3327	3327	3327
5°	3336	3322	3294
10°	3301	3292	3254
15°	3242	3242	3205
20°	3174	3178	3137
25°	3069	3107	3058
30°	2890	3020	2983
35°	2731	2894	2899
40°	2598	2738	2810
45°	2449	2572	2704
50°	2293	2424	2589
55°	2115	2255	2449
60°	1905	2058	2278
65°	1682	1830	2072
70°	1401	1559	1760
75°	1101	1245	1378
80°	787	876	972
85°	513	513	485



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	116.4	4.1
10°-20°	327.0	11.4
20°-30°	477.9	16.7
30°-40°	542.5	19.0
40°-50°	523.7	18.3
50°-60°	432.0	15.1
60°-70°	287.7	10.1
70°-80°	128.7	4.5
80°-90°	23.0	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°	921.4	32.2
0°-40°	1463.9	51.2
0°-60°	2419.6	84.6
0°-90°	2859.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2859.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1236	1236	1236	1236	1236	
5°	1235	1234	1230	1223	1219	117
15°	1164	1167	1164	1158	1150	328
25°	1034	1042	1046	1039	1030	473
35°	831	843	881	886	883	521
45°	644	655	676	707	711	497
55°	451	458	481	507	522	402
65°	264	271	287	308	325	262
75°	106	112	120	125	132	116
85°	17	17	17	16	16	22
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1236.4	1236.4	1236.4	1236.4	1236.4
2.5°	1239.8	1240.2	1237.4	1229.8	1225.0
5°	1235.0	1234.5	1229.8	1223.1	1219.3
7.5°	1221.2	1222.2	1220.8	1211.3	1206.0
10°	1207.9	1208.4	1204.6	1197.0	1190.8
12.5°	1190.8	1190.4	1185.1	1181.3	1171.4
15°	1163.8	1166.6	1163.8	1158.5	1150.5
17.5°	1137.6	1137.6	1139.5	1130.5	1124.3
20°	1108.2	1109.6	1109.6	1102.5	1095.4
22.5°	1074.0	1078.3	1079.7	1072.1	1063.5
25°	1033.6	1041.7	1046.4	1038.8	1029.8
27.5°	984.7	997.0	1011.3	1005.6	995.6
30°	930.1	948.1	971.9	967.1	960.0
32.5°	878.3	896.3	929.1	927.2	923.4
35°	831.3	842.7	881.1	885.9	882.6
37.5°	786.6	797.1	833.2	844.1	841.2
40°	739.6	751.0	779.5	799.0	799.9
42.5°	693.0	704.0	727.2	755.3	755.3
45°	643.6	654.6	675.9	706.8	710.6
47.5°	595.2	606.6	627.5	658.4	664.5
50°	547.7	558.1	579.0	609.0	618.5
52.5°	498.3	509.7	530.1	557.7	571.4
55°	450.8	458.4	480.7	507.3	522.0
57.5°	401.4	408.5	433.7	456.5	471.7
60°	353.9	362.9	382.4	405.7	423.2
62.5°	308.3	317.8	334.4	354.8	374.8
65°	264.1	271.2	287.4	307.8	325.4
67.5°	221.4	227.5	243.7	257.9	276.5
70°	178.1	186.2	198.1	211.9	223.7
72.5°	143.5	146.8	156.8	166.7	179.1
75°	105.9	111.6	119.7	125.4	132.5
77.5°	76.0	79.3	84.1	88.8	95.5
80°	50.8	52.3	56.5	57.5	62.7
82.5°	30.9	31.8	32.8	33.3	35.2
85°	16.6	16.6	16.6	15.7	15.7
87.5°	9.5	9.5	8.1	6.7	4.8
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)