

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: P556876

Luminaire Tested: **FUSL-12-4-LD4-1STD-50-UNV-81-96-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: P556876  
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-81-96-EDD-90  
Description: 4FT FUSL SURFACE MOUNT WITH .156 CLEAR PC FIXTURE SIDE AND .250  
CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT  
LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

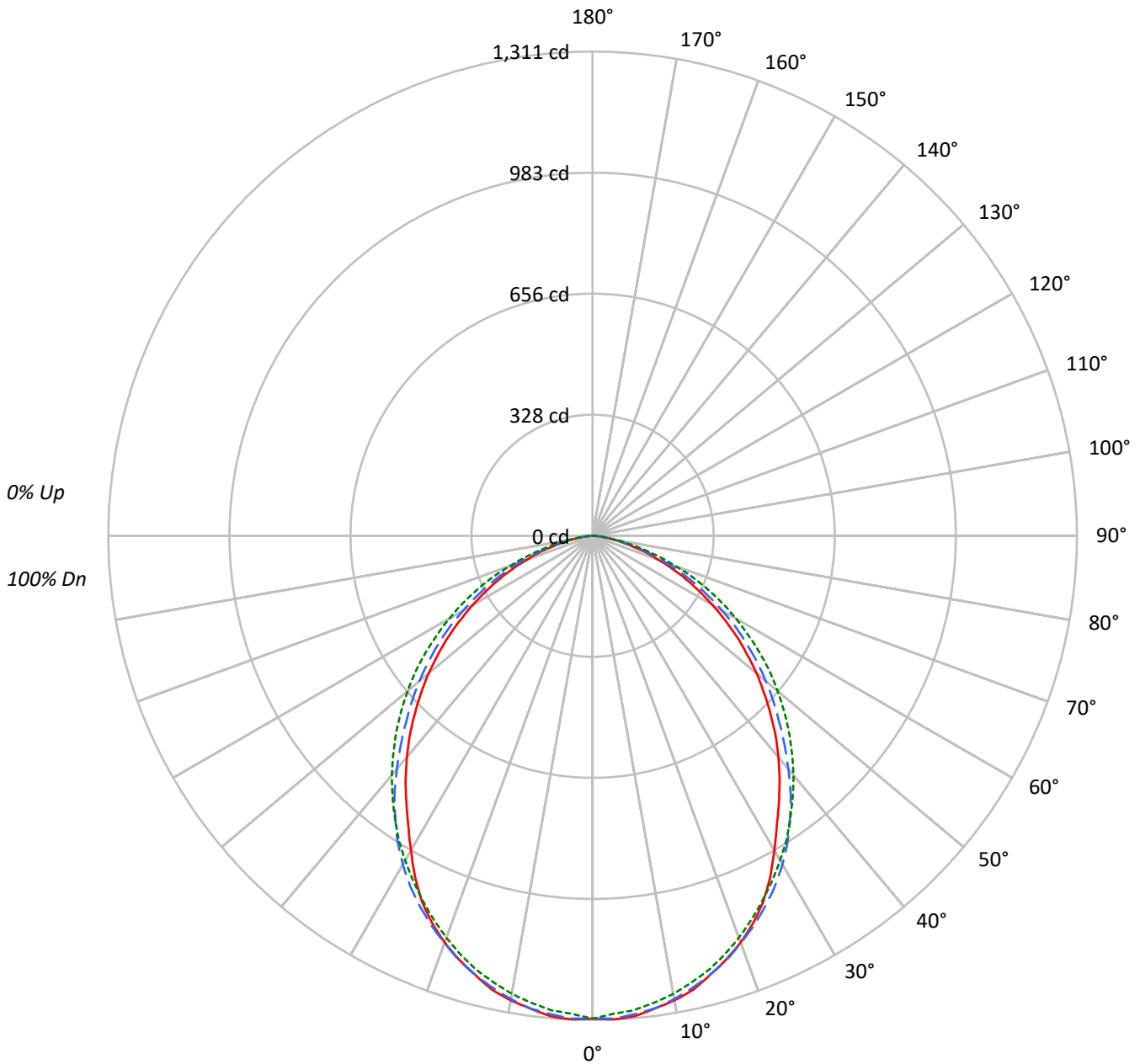
Lumens per Lamp: N/A  
Luminaire Lumens: 3023.0 lumens  
Efficiency: N/A  
Efficacy: 90.8 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 33.3  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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°	3518	3518	3518
5°	3528	3512	3483
10°	3490	3480	3441
15°	3428	3428	3389
20°	3356	3360	3317
25°	3245	3285	3233
30°	3056	3193	3154
35°	2887	3061	3066
40°	2747	2895	2971
45°	2590	2720	2860
50°	2424	2563	2737
55°	2236	2385	2590
60°	2014	2176	2408
65°	1778	1935	2190
70°	1482	1648	1862
75°	1164	1316	1457
80°	832	927	1027
85°	543	543	513



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	123.1	4.1
10°-20°	345.8	11.4
20°-30°	505.3	16.7
30°-40°	573.6	19.0
40°-50°	553.7	18.3
50°-60°	456.8	15.1
60°-70°	304.2	10.1
70°-80°	136.1	4.5
80°-90°	24.4	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°	974.2	32.2
0°-40°	1547.8	51.2
0°-60°	2558.3	84.6
0°-90°	3023.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3023.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1307	1307	1307	1307	1307	
5°	1306	1305	1300	1293	1289	124
15°	1230	1234	1230	1225	1216	347
25°	1093	1101	1106	1098	1089	501
35°	879	891	932	937	933	551
45°	681	692	715	747	751	525
55°	477	485	508	536	552	425
65°	279	287	304	326	344	277
75°	112	118	127	133	140	122
85°	18	18	18	17	17	24
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1307.4	1307.4	1307.4	1307.4	1307.4
2.5°	1310.9	1311.4	1308.4	1300.3	1295.3
5°	1305.9	1305.4	1300.3	1293.3	1289.3
7.5°	1291.3	1292.3	1290.8	1280.7	1275.2
10°	1277.2	1277.7	1273.7	1265.7	1259.2
12.5°	1259.2	1258.7	1253.1	1249.1	1238.6
15°	1230.5	1233.5	1230.5	1225.0	1216.5
17.5°	1202.9	1202.9	1204.9	1195.4	1188.8
20°	1171.8	1173.3	1173.3	1165.7	1158.2
22.5°	1135.6	1140.1	1141.6	1133.6	1124.5
25°	1092.9	1101.4	1106.5	1098.4	1088.9
27.5°	1041.2	1054.2	1069.3	1063.3	1052.7
30°	983.4	1002.5	1027.6	1022.6	1015.1
32.5°	928.7	947.8	982.4	980.4	976.4
35°	878.9	891.0	931.7	936.7	933.2
37.5°	831.7	842.8	881.0	892.5	889.5
40°	782.0	794.1	824.2	844.8	845.8
42.5°	732.8	744.3	769.0	798.6	798.6
45°	680.6	692.1	714.7	747.4	751.4
47.5°	629.3	641.4	663.5	696.1	702.7
50°	579.1	590.1	612.2	643.9	653.9
52.5°	526.9	538.9	560.5	589.6	604.2
55°	476.6	484.7	508.3	536.4	552.0
57.5°	424.4	431.9	458.6	482.7	498.7
60°	374.2	383.7	404.3	428.9	447.5
62.5°	326.0	336.0	353.6	375.2	396.3
65°	279.3	286.8	303.9	325.5	344.0
67.5°	234.1	240.6	257.7	272.7	292.3
70°	188.3	196.9	209.4	224.0	236.6
72.5°	151.7	155.2	165.7	176.3	189.4
75°	112.0	118.0	126.6	132.6	140.1
77.5°	80.4	83.9	88.9	93.9	101.0
80°	53.7	55.2	59.8	60.8	66.3
82.5°	32.6	33.7	34.7	35.2	37.2
85°	17.6	17.6	17.6	16.6	16.6
87.5°	10.0	10.0	8.5	7.0	5.0
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)