

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: P556708

Luminaire Tested: **FUSL-12-4-LD4-1STD-30-UNV-93-86-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: P556708  
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-93-86-EDD-90  
Description: 4FT FUSL SURFACE MOUNT WITH .156 CLEAR TEMPERED GLASS 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**

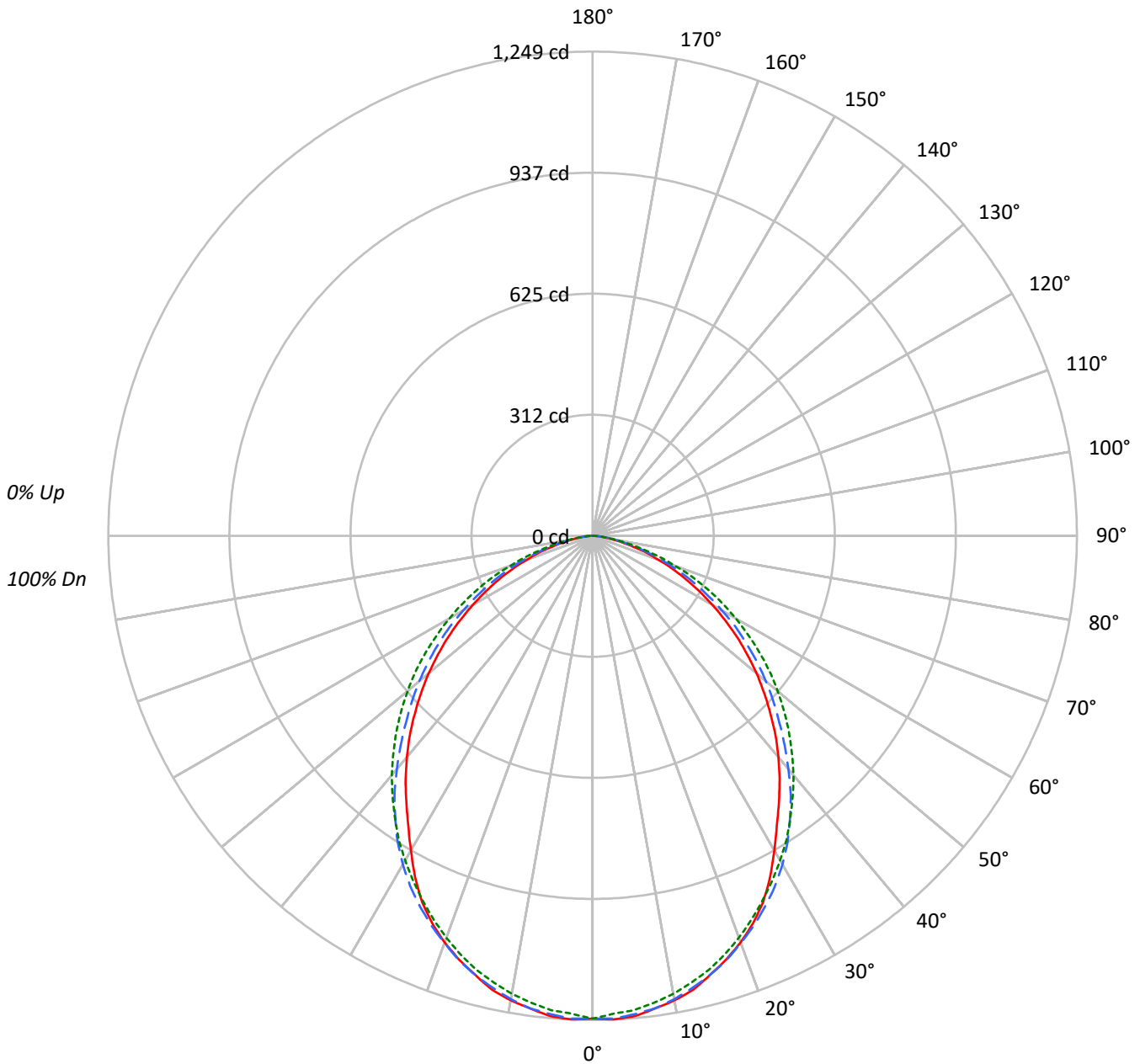
Lumens per Lamp: N/A  
Luminaire Lumens: 2880.0 lumens  
Efficiency: N/A  
Efficacy: 86.5 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 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°	3352	3352	3352
5°	3361	3346	3318
10°	3325	3316	3278
15°	3266	3266	3229
20°	3197	3201	3160
25°	3091	3130	3080
30°	2911	3042	3005
35°	2751	2916	2920
40°	2617	2758	2831
45°	2468	2591	2724
50°	2310	2442	2608
55°	2130	2272	2467
60°	1919	2073	2294
65°	1694	1843	2087
70°	1412	1570	1773
75°	1109	1254	1388
80°	793	882	979
85°	516	516	488



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	117.3	4.1
10°-20°	329.4	11.4
20°-30°	481.4	16.7
30°-40°	546.5	19.0
40°-50°	527.5	18.3
50°-60°	435.2	15.1
60°-70°	289.8	10.1
70°-80°	129.7	4.5
80°-90°	23.2	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°	928.1	32.2
0°-40°	1474.6	51.2
0°-60°	2437.3	84.6
0°-90°	2880.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2880.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1246	1246	1246	1246	1246	
5°	1244	1244	1239	1232	1228	118
15°	1172	1175	1172	1167	1159	330
25°	1041	1049	1054	1046	1037	477
35°	837	849	888	892	889	525
45°	648	659	681	712	716	500
55°	454	462	484	511	526	405
65°	266	273	290	310	328	264
75°	107	112	121	126	134	117
85°	17	17	17	16	16	23
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1245.5	1245.5	1245.5	1245.5	1245.5
2.5°	1248.9	1249.4	1246.5	1238.8	1234.0
5°	1244.1	1243.6	1238.8	1232.1	1228.3
7.5°	1230.2	1231.2	1229.7	1220.2	1214.9
10°	1216.8	1217.3	1213.5	1205.8	1199.6
12.5°	1199.6	1199.1	1193.8	1190.0	1180.0
15°	1172.3	1175.2	1172.3	1167.1	1158.9
17.5°	1146.0	1146.0	1147.9	1138.8	1132.6
20°	1116.3	1117.8	1117.8	1110.6	1103.4
22.5°	1081.9	1086.2	1087.6	1080.0	1071.4
25°	1041.2	1049.3	1054.1	1046.5	1037.4
27.5°	991.9	1004.4	1018.7	1013.0	1002.9
30°	936.9	955.1	979.0	974.2	967.0
32.5°	884.7	902.9	935.9	934.0	930.2
35°	837.4	848.9	887.6	892.4	889.0
37.5°	792.4	802.9	839.3	850.3	847.4
40°	745.0	756.5	785.2	804.8	805.8
42.5°	698.1	709.1	732.6	760.8	760.8
45°	648.4	659.4	680.9	712.0	715.8
47.5°	599.6	611.0	632.1	663.2	669.4
50°	551.7	562.2	583.3	613.4	623.0
52.5°	501.9	513.4	534.0	561.8	575.6
55°	454.1	461.7	484.2	511.0	525.9
57.5°	404.3	411.5	436.9	459.8	475.1
60°	356.5	365.6	385.2	408.6	426.3
62.5°	310.5	320.1	336.9	357.4	377.5
65°	266.0	273.2	289.5	310.1	327.8
67.5°	223.0	229.2	245.5	259.8	278.5
70°	179.4	187.6	199.5	213.4	225.4
72.5°	144.5	147.9	157.9	168.0	180.4
75°	106.7	112.4	120.6	126.3	133.5
77.5°	76.6	79.9	84.7	89.5	96.2
80°	51.2	52.6	56.9	57.9	63.2
82.5°	31.1	32.1	33.0	33.5	35.4
85°	16.7	16.7	16.7	15.8	15.8
87.5°	9.6	9.6	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)