

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: P556844

Luminaire Tested: **FUSL-12-4-LD4-1STD-40-UNV-93-96-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: P556844  
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-40-UNV-93-96-EDD-90  
Description: 4FT FUSL SURFACE MOUNT WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

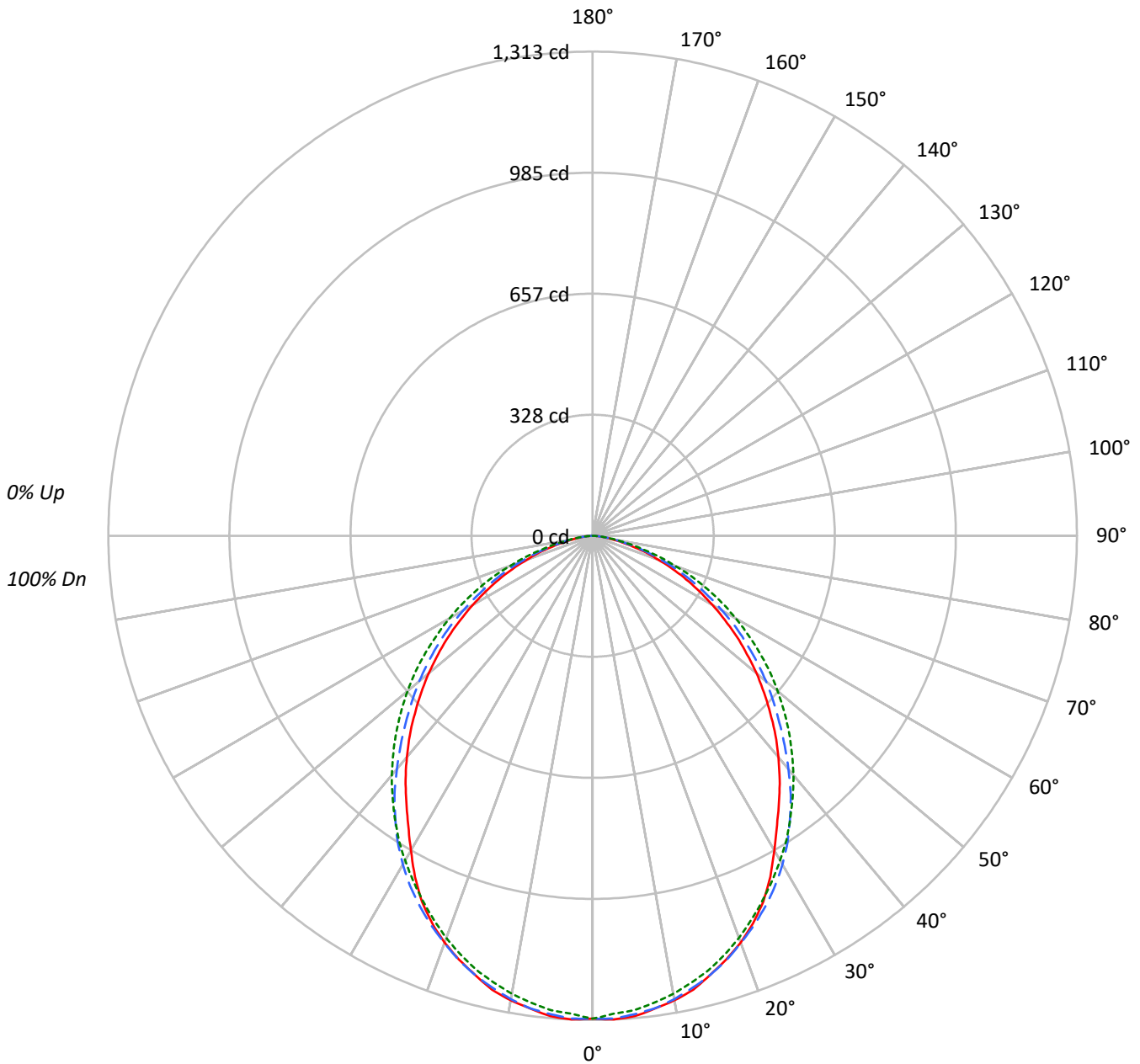
Lumens per Lamp: N/A  
Luminaire Lumens: 3028.0 lumens  
Efficiency: N/A  
Efficacy: 90.9 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 33.3  
Input Voltage (V): NR  
Input Current (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°	3524	3524	3524
5°	3533	3518	3488
10°	3496	3486	3446
15°	3434	3434	3395
20°	3361	3365	3322
25°	3250	3291	3238
30°	3061	3198	3159
35°	2892	3066	3071
40°	2752	2900	2976
45°	2594	2724	2864
50°	2429	2568	2742
55°	2240	2388	2594
60°	2017	2180	2412
65°	1781	1938	2194
70°	1485	1651	1865
75°	1167	1318	1460
80°	834	928	1029
85°	543	543	513



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	123.3	4.1
10°-20°	346.4	11.4
20°-30°	506.2	16.7
30°-40°	574.6	19.0
40°-50°	554.7	18.3
50°-60°	457.5	15.1
60°-70°	304.7	10.1
70°-80°	136.3	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°	975.8	32.2
0°-40°	1550.4	51.2
0°-60°	2562.6	84.6
0°-90°	3028.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3028.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1310	1310	1310	1310	1310	
5°	1308	1308	1302	1295	1291	124
15°	1233	1236	1233	1227	1218	347
25°	1095	1103	1108	1100	1091	501
35°	880	892	933	938	935	552
45°	682	693	716	749	753	526
55°	477	486	509	537	553	426
65°	280	287	304	326	345	277
75°	112	118	127	133	140	123
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°	1309.5	1309.5	1309.5	1309.5	1309.5
2.5°	1313.1	1313.6	1310.5	1302.5	1297.5
5°	1308.0	1307.5	1302.5	1295.4	1291.4
7.5°	1293.4	1294.4	1292.9	1282.9	1277.3
10°	1279.3	1279.8	1275.8	1267.8	1261.2
12.5°	1261.2	1260.7	1255.2	1251.2	1240.6
15°	1232.6	1235.6	1232.6	1227.0	1218.5
17.5°	1204.9	1204.9	1206.9	1197.3	1190.8
20°	1173.7	1175.2	1175.2	1167.7	1160.1
22.5°	1137.5	1142.0	1143.5	1135.5	1126.4
25°	1094.7	1103.3	1108.3	1100.2	1090.7
27.5°	1042.9	1056.0	1071.1	1065.0	1054.5
30°	985.0	1004.2	1029.3	1024.3	1016.7
32.5°	930.2	949.3	984.0	982.0	978.0
35°	880.4	892.5	933.2	938.3	934.7
37.5°	833.1	844.2	882.4	894.0	891.0
40°	783.3	795.4	825.6	846.2	847.2
42.5°	734.0	745.6	770.2	799.9	799.9
45°	681.7	693.3	715.9	748.6	752.6
47.5°	630.4	642.4	664.6	697.3	703.8
50°	580.1	591.1	613.3	645.0	655.0
52.5°	527.7	539.8	561.4	590.6	605.2
55°	477.4	485.5	509.1	537.3	552.9
57.5°	425.1	432.7	459.3	483.5	499.6
60°	374.8	384.4	405.0	429.6	448.2
62.5°	326.5	336.6	354.2	375.8	396.9
65°	279.7	287.3	304.4	326.0	344.6
67.5°	234.4	241.0	258.1	273.2	292.8
70°	188.7	197.2	209.8	224.4	237.0
72.5°	151.9	155.5	166.0	176.6	189.7
75°	112.2	118.2	126.8	132.8	140.4
77.5°	80.5	84.0	89.0	94.1	101.1
80°	53.8	55.3	59.9	60.9	66.4
82.5°	32.7	33.7	34.7	35.2	37.2
85°	17.6	17.6	17.6	16.6	16.6
87.5°	10.1	10.1	8.6	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)