

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: P556902

Luminaire Tested: **FUSL-12-4-LD4-1STD-50-UNV-93-87-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: P556902  
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-93-87-EDD-90  
Description: 4FT FUSL SURFACE MOUNT WITH .156 CLEAR TEMPERED GLASS 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**

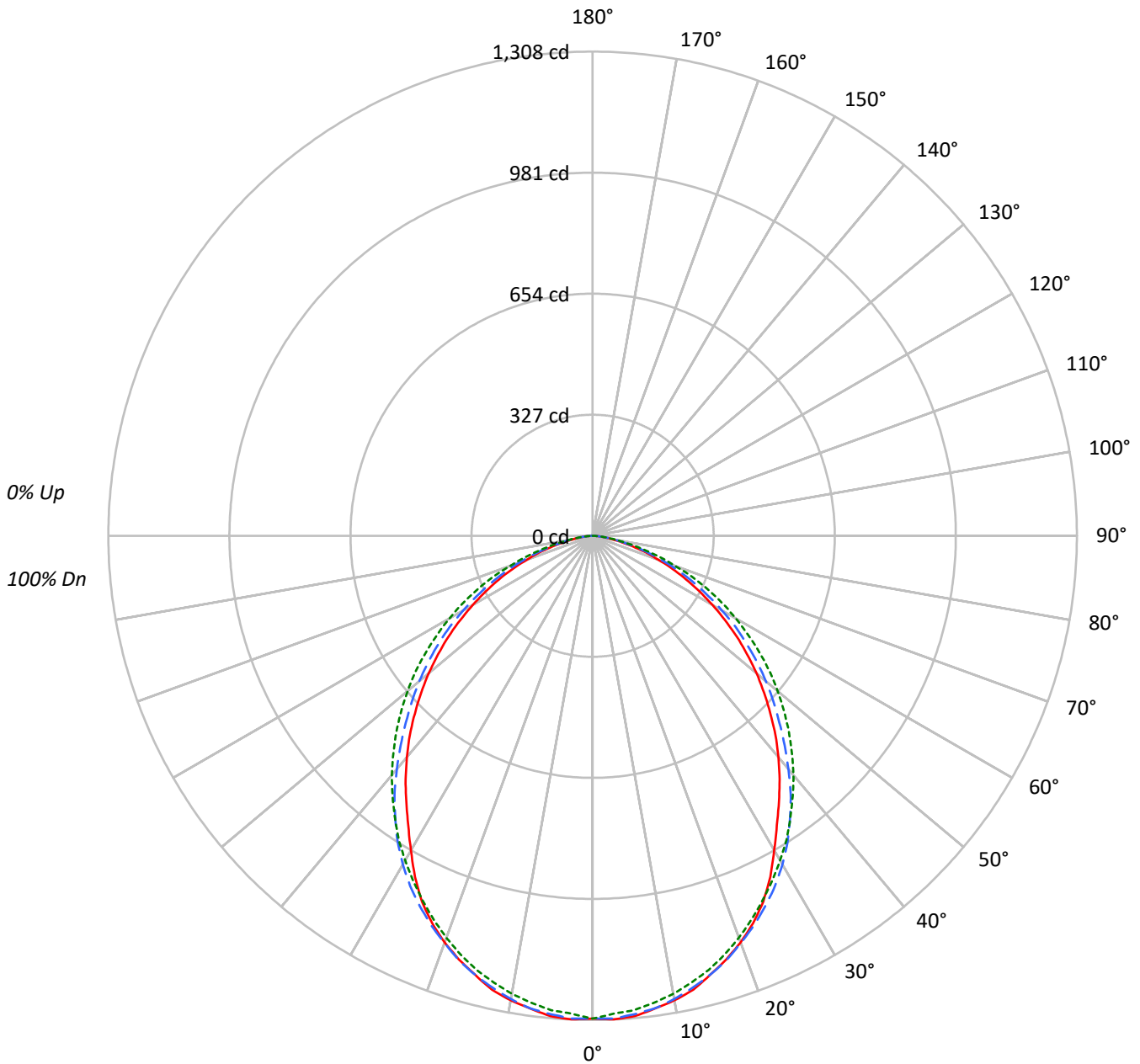
Lumens per Lamp: N/A  
Luminaire Lumens: 3016.0 lumens  
Efficiency: N/A  
Efficacy: 90.6 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

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°	3510	3510	3510
5°	3519	3504	3475
10°	3482	3472	3433
15°	3420	3420	3381
20°	3348	3352	3309
25°	3238	3278	3226
30°	3049	3186	3147
35°	2881	3053	3058
40°	2741	2889	2964
45°	2584	2714	2853
50°	2419	2557	2731
55°	2231	2379	2584
60°	2009	2171	2403
65°	1774	1931	2185
70°	1478	1644	1857
75°	1161	1313	1454
80°	831	924	1024
85°	540	540	509



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	122.8	4.1
10°-20°	345.0	11.4
20°-30°	504.2	16.7
30°-40°	572.3	19.0
40°-50°	552.4	18.3
50°-60°	455.7	15.1
60°-70°	303.5	10.1
70°-80°	135.8	4.5
80°-90°	24.3	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°	972.0	32.2
0°-40°	1544.2	51.2
0°-60°	2552.4	84.6
0°-90°	3016.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3016.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1304	1304	1304	1304	1304	
5°	1303	1302	1297	1290	1286	123
15°	1228	1231	1228	1222	1214	346
25°	1090	1099	1104	1096	1086	499
35°	877	889	930	934	931	549
45°	679	690	713	746	750	524
55°	476	484	507	535	551	424
65°	279	286	303	325	343	276
75°	112	118	126	132	140	122
85°	18	18	18	16	16	24
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1304.3	1304.3	1304.3	1304.3	1304.3
2.5°	1307.8	1308.4	1305.3	1297.3	1292.3
5°	1302.8	1302.3	1297.3	1290.3	1286.3
7.5°	1288.3	1289.3	1287.8	1277.8	1272.3
10°	1274.3	1274.8	1270.8	1262.8	1256.2
12.5°	1256.2	1255.7	1250.2	1246.2	1235.7
15°	1227.7	1230.7	1227.7	1222.2	1213.6
17.5°	1200.1	1200.1	1202.1	1192.6	1186.1
20°	1169.0	1170.6	1170.6	1163.0	1155.5
22.5°	1133.0	1137.5	1139.0	1131.0	1121.9
25°	1090.4	1098.9	1103.9	1095.9	1086.4
27.5°	1038.8	1051.8	1066.8	1060.8	1050.3
30°	981.1	1000.2	1025.2	1020.2	1012.7
32.5°	926.5	945.6	980.1	978.1	974.1
35°	876.9	888.9	929.5	934.5	931.0
37.5°	829.8	840.8	878.9	890.4	887.4
40°	780.2	792.2	822.3	842.8	843.8
42.5°	731.1	742.6	767.2	796.7	796.7
45°	679.0	690.5	713.1	745.6	749.6
47.5°	627.9	639.9	661.9	694.5	701.0
50°	577.8	588.8	610.8	642.4	652.4
52.5°	525.6	537.7	559.2	588.3	602.8
55°	475.5	483.6	507.1	535.2	550.7
57.5°	423.4	430.9	457.5	481.5	497.6
60°	373.3	382.8	403.4	427.9	446.5
62.5°	325.2	335.2	352.8	374.3	395.4
65°	278.6	286.1	303.2	324.7	343.2
67.5°	233.5	240.0	257.1	272.1	291.6
70°	187.9	196.4	209.0	223.5	236.0
72.5°	151.3	154.8	165.4	175.9	188.9
75°	111.7	117.8	126.3	132.3	139.8
77.5°	80.2	83.7	88.7	93.7	100.7
80°	53.6	55.1	59.6	60.6	66.1
82.5°	32.6	33.6	34.6	35.1	37.1
85°	17.5	17.5	17.5	16.5	16.5
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)