

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: P556889

Luminaire Tested: **FUSL-12-4-LD4-1STD-50-UNV-82-88-EDD**

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: P556889  
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-82-88-EDD  
Description: 4FT FUSL SURFACE MOUNT WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

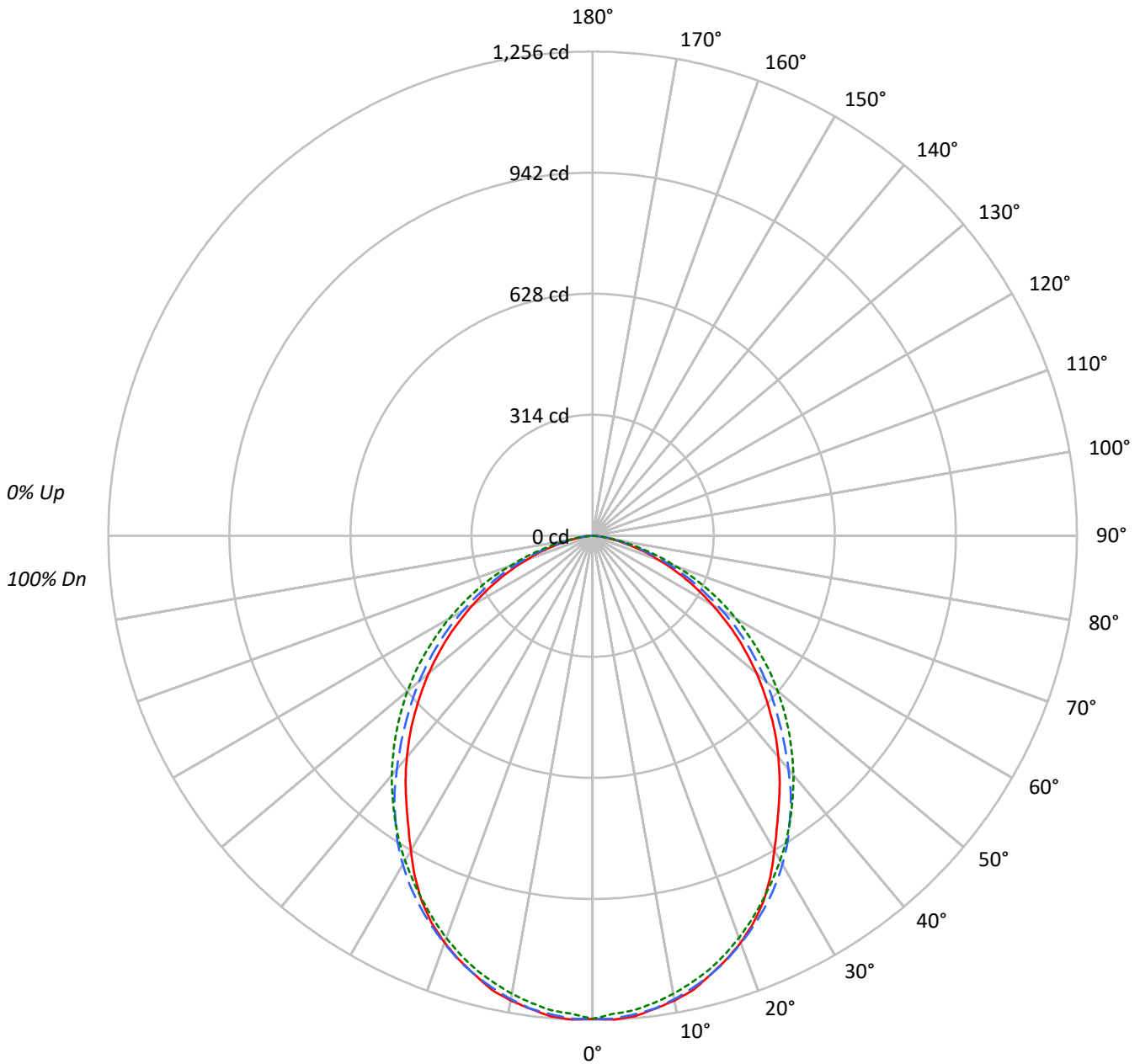
Lumens per Lamp: N/A  
Luminaire Lumens: 2897.0 lumens  
Efficiency: N/A  
Efficacy: 87.0 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

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°	3372	3372	3372
5°	3380	3366	3338
10°	3345	3335	3297
15°	3285	3285	3248
20°	3216	3220	3178
25°	3110	3148	3098
30°	2928	3060	3022
35°	2767	2933	2938
40°	2633	2774	2847
45°	2482	2606	2740
50°	2323	2456	2624
55°	2143	2285	2482
60°	1930	2086	2308
65°	1704	1854	2099
70°	1420	1579	1784
75°	1116	1261	1396
80°	798	888	984
85°	519	519	491



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	118.0	4.1
10°-20°	331.4	11.4
20°-30°	484.3	16.7
30°-40°	549.7	19.0
40°-50°	530.6	18.3
50°-60°	437.8	15.1
60°-70°	291.5	10.1
70°-80°	130.4	4.5
80°-90°	23.3	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°	933.6	32.2
0°-40°	1483.3	51.2
0°-60°	2451.7	84.6
0°-90°	2897.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2897.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1253	1253	1253	1253	1253	
5°	1251	1251	1246	1239	1236	118
15°	1179	1182	1179	1174	1166	332
25°	1047	1056	1060	1053	1044	480
35°	842	854	893	898	894	528
45°	652	663	685	716	720	503
55°	457	464	487	514	529	408
65°	268	275	291	312	330	265
75°	107	113	121	127	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°	1252.9	1252.9	1252.9	1252.9	1252.9
2.5°	1256.2	1256.7	1253.8	1246.1	1241.3
5°	1251.4	1251.0	1246.1	1239.4	1235.6
7.5°	1237.5	1238.4	1237.0	1227.4	1222.1
10°	1224.0	1224.5	1220.6	1212.9	1206.7
12.5°	1206.7	1206.2	1200.9	1197.0	1186.9
15°	1179.2	1182.1	1179.2	1173.9	1165.8
17.5°	1152.8	1152.8	1154.7	1145.5	1139.3
20°	1122.9	1124.4	1124.4	1117.1	1109.9
22.5°	1088.3	1092.6	1094.0	1086.3	1077.7
25°	1047.4	1055.5	1060.3	1052.6	1043.5
27.5°	997.8	1010.3	1024.7	1019.0	1008.8
30°	942.4	960.7	984.8	980.0	972.7
32.5°	890.0	908.3	941.5	939.5	935.7
35°	842.3	853.9	892.8	897.7	894.3
37.5°	797.1	807.7	844.2	855.3	852.4
40°	749.4	761.0	789.8	809.6	810.5
42.5°	702.2	713.3	736.9	765.3	765.3
45°	652.2	663.3	684.9	716.2	720.1
47.5°	603.1	614.6	635.8	667.1	673.4
50°	555.0	565.6	586.7	617.1	626.7
52.5°	504.9	516.5	537.2	565.1	579.0
55°	456.8	464.5	487.1	514.1	529.0
57.5°	406.7	413.9	439.4	462.5	478.0
60°	358.6	367.7	387.5	411.0	428.9
62.5°	312.4	322.0	338.8	359.5	379.8
65°	267.6	274.8	291.2	311.9	329.7
67.5°	224.3	230.6	246.9	261.4	280.1
70°	180.5	188.7	200.7	214.7	226.7
72.5°	145.4	148.7	158.8	168.9	181.5
75°	107.3	113.1	121.3	127.1	134.3
77.5°	77.0	80.4	85.2	90.0	96.7
80°	51.5	52.9	57.3	58.2	63.5
82.5°	31.3	32.2	33.2	33.7	35.6
85°	16.8	16.8	16.8	15.9	15.9
87.5°	9.6	9.6	8.2	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)