

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: P556293

Luminaire Tested: **FUSL-12-4-LD4-1HI-40-UNV-81-86-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: P556293  
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-LD4-1HI-40-UNV-81-86-EDD  
Description: 4FT FUSL SURFACE MOUNT WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

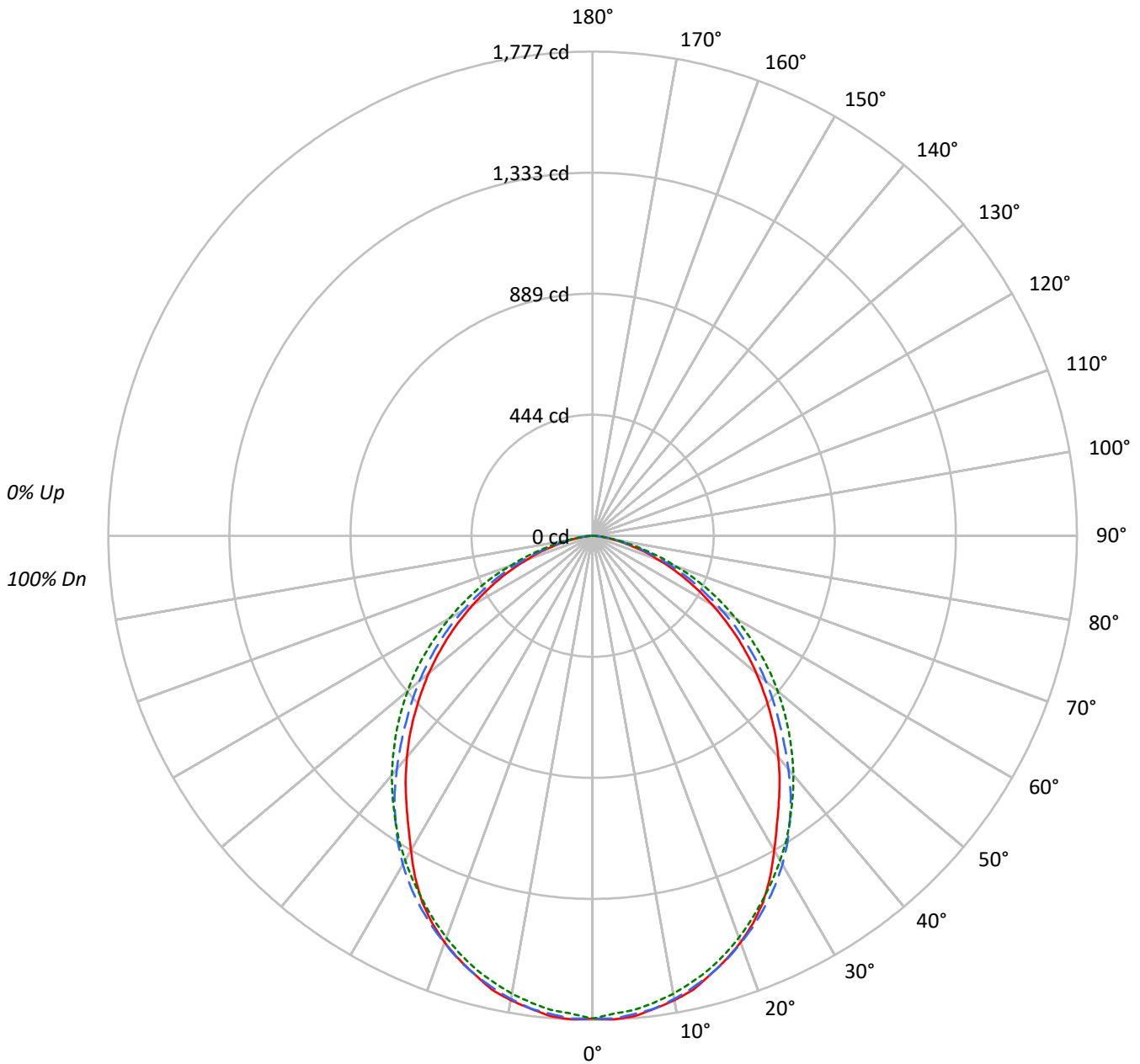
Lumens per Lamp: N/A  
Luminaire Lumens: 4097.0 lumens  
Efficiency: N/A  
Efficacy: 94.8 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 43.2  
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°	4768	4768	4768
5°	4781	4760	4720
10°	4730	4717	4663
15°	4646	4646	4593
20°	4548	4554	4495
25°	4398	4453	4382
30°	4141	4328	4275
35°	3913	4148	4155
40°	3723	3924	4027
45°	3510	3686	3875
50°	3286	3474	3710
55°	3031	3232	3510
60°	2729	2949	3264
65°	2410	2622	2969
70°	2009	2233	2522
75°	1578	1783	1974
80°	1128	1255	1393
85°	735	735	695



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	166.8	4.1
10°-20°	468.7	11.4
20°-30°	684.9	16.7
30°-40°	777.4	19.0
40°-50°	750.4	18.3
50°-60°	619.1	15.1
60°-70°	412.3	10.1
70°-80°	184.5	4.5
80°-90°	33.0	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°	1320.3	32.2
0°-40°	2097.7	51.2
0°-60°	3467.3	84.6
0°-90°	4097.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4097.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1772	1772	1772	1772	1772	
5°	1770	1769	1762	1753	1747	168
15°	1668	1672	1668	1660	1649	470
25°	1481	1493	1500	1489	1476	678
35°	1191	1208	1263	1270	1265	746
45°	922	938	969	1013	1018	712
55°	646	657	689	727	748	577
65°	378	389	412	441	466	375
75°	152	160	172	180	190	166
85°	24	24	24	22	22	32
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1771.8	1771.8	1771.8	1771.8	1771.8
2.5°	1776.6	1777.3	1773.2	1762.3	1755.5
5°	1769.8	1769.1	1762.3	1752.8	1747.3
7.5°	1750.1	1751.4	1749.4	1735.8	1728.3
10°	1731.0	1731.7	1726.2	1715.3	1706.5
12.5°	1706.5	1705.8	1698.3	1692.9	1678.6
15°	1667.7	1671.8	1667.7	1660.2	1648.6
17.5°	1630.3	1630.3	1633.0	1620.1	1611.2
20°	1588.1	1590.1	1590.1	1579.9	1569.7
22.5°	1539.0	1545.2	1547.2	1536.3	1524.1
25°	1481.2	1492.8	1499.6	1488.7	1475.7
27.5°	1411.1	1428.8	1449.2	1441.0	1426.7
30°	1332.8	1358.7	1392.7	1385.9	1375.7
32.5°	1258.6	1284.5	1331.4	1328.7	1323.3
35°	1191.2	1207.6	1262.7	1269.5	1264.7
37.5°	1127.2	1142.2	1193.9	1209.6	1205.5
40°	1059.8	1076.2	1117.0	1144.9	1146.3
42.5°	993.1	1008.8	1042.1	1082.3	1082.3
45°	922.3	938.0	968.6	1012.9	1018.3
47.5°	852.9	869.2	899.2	943.4	952.3
50°	784.8	799.8	829.8	872.6	886.3
52.5°	714.0	730.4	759.7	799.1	818.9
55°	646.0	656.9	688.9	727.0	748.1
57.5°	575.2	585.4	621.5	654.1	675.9
60°	507.1	520.1	548.0	581.3	606.5
62.5°	441.8	455.4	479.2	508.5	537.1
65°	378.5	388.7	411.8	441.1	466.3
67.5°	317.2	326.1	349.2	369.6	396.2
70°	255.3	266.8	283.8	303.6	320.6
72.5°	205.6	210.3	224.6	238.9	256.6
75°	151.8	160.0	171.5	179.7	189.9
77.5°	108.9	113.7	120.5	127.3	136.8
80°	72.8	74.9	81.0	82.4	89.9
82.5°	44.2	45.6	47.0	47.6	50.4
85°	23.8	23.8	23.8	22.5	22.5
87.5°	13.6	13.6	11.6	9.5	6.8
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)