

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: P556171

Luminaire Tested: **FUSL-12-4-LD4-1HI-30-UNV-81-94-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: P556171  
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-30-UNV-81-94-EDD  
Description: 4FT FUSL SURFACE MOUNT WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

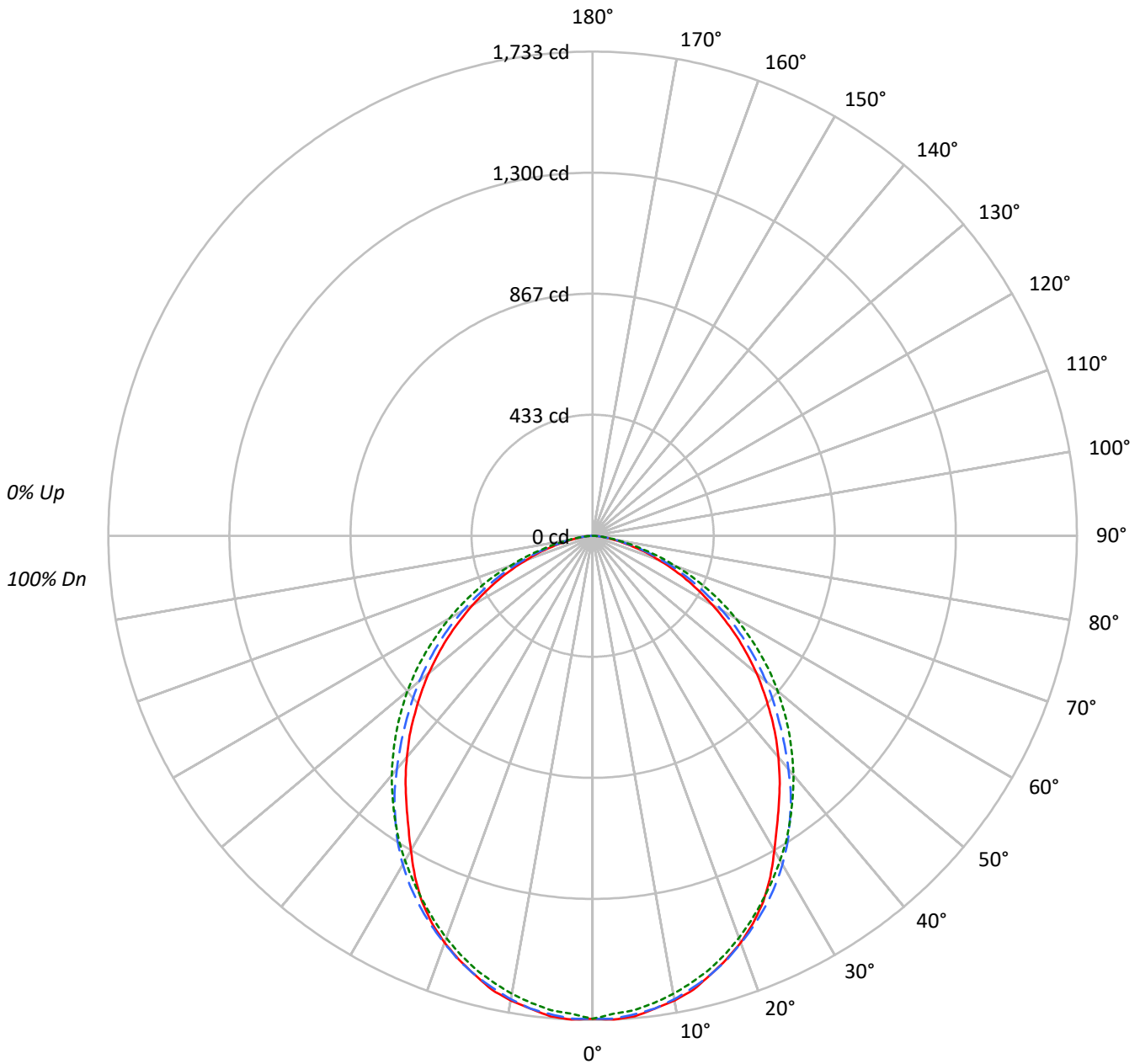
Lumens per Lamp: N/A  
Luminaire Lumens: 3997.0 lumens  
Efficiency: N/A  
Efficacy: 92.5 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 43.2  
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°	4652	4652	4652
5°	4664	4644	4605
10°	4615	4602	4549
15°	4533	4533	4481
20°	4437	4442	4385
25°	4290	4344	4275
30°	4040	4222	4170
35°	3818	4047	4053
40°	3632	3828	3928
45°	3424	3596	3781
50°	3206	3389	3620
55°	2957	3153	3424
60°	2662	2877	3185
65°	2351	2558	2897
70°	1959	2179	2461
75°	1540	1739	1927
80°	1102	1224	1359
85°	716	716	676



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	162.8	4.1
10°-20°	457.2	11.4
20°-30°	668.1	16.7
30°-40°	758.4	19.0
40°-50°	732.1	18.3
50°-60°	604.0	15.1
60°-70°	402.2	10.1
70°-80°	180.0	4.5
80°-90°	32.2	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°	1288.1	32.2
0°-40°	2046.5	51.2
0°-60°	3382.6	84.6
0°-90°	3997.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3997.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1729	1729	1729	1729	1729	
5°	1727	1726	1719	1710	1705	163
15°	1627	1631	1627	1620	1608	459
25°	1445	1456	1463	1452	1440	662
35°	1162	1178	1232	1238	1234	728
45°	900	915	945	988	994	694
55°	630	641	672	709	730	562
65°	369	379	402	430	455	366
75°	148	156	167	175	185	162
85°	23	23	23	22	22	31
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1728.6	1728.6	1728.6	1728.6	1728.6
2.5°	1733.2	1733.9	1729.9	1719.3	1712.7
5°	1726.6	1725.9	1719.3	1710.0	1704.7
7.5°	1707.3	1708.7	1706.7	1693.4	1686.1
10°	1688.8	1689.4	1684.1	1673.5	1664.8
12.5°	1664.8	1664.2	1656.9	1651.6	1637.6
15°	1627.0	1631.0	1627.0	1619.7	1608.4
17.5°	1590.5	1590.5	1593.1	1580.5	1571.9
20°	1549.3	1551.3	1551.3	1541.3	1531.4
22.5°	1501.5	1507.5	1509.5	1498.8	1486.9
25°	1445.0	1456.3	1463.0	1452.3	1439.7
27.5°	1376.6	1393.9	1413.8	1405.9	1391.9
30°	1300.3	1325.5	1358.7	1352.1	1342.1
32.5°	1227.9	1253.1	1298.9	1296.3	1291.0
35°	1162.1	1178.1	1231.9	1238.5	1233.9
37.5°	1099.7	1114.3	1164.8	1180.1	1176.1
40°	1034.0	1049.9	1089.8	1117.0	1118.3
42.5°	968.9	984.2	1016.7	1055.9	1055.9
45°	899.8	915.1	945.0	988.2	993.5
47.5°	832.1	848.0	877.2	920.4	929.0
50°	765.7	780.3	809.5	851.4	864.6
52.5°	696.6	712.6	741.1	779.6	798.9
55°	630.2	640.8	672.0	709.2	729.8
57.5°	561.1	571.1	606.3	638.2	659.4
60°	494.7	507.4	534.6	567.1	591.7
62.5°	431.0	444.3	467.5	496.1	524.0
65°	369.2	379.2	401.8	430.3	454.9
67.5°	309.5	318.1	340.7	360.6	386.5
70°	249.0	260.3	276.9	296.2	312.8
72.5°	200.6	205.2	219.1	233.1	250.4
75°	148.1	156.1	167.3	175.3	185.3
77.5°	106.3	110.9	117.5	124.2	133.5
80°	71.1	73.0	79.0	80.4	87.7
82.5°	43.2	44.5	45.8	46.5	49.1
85°	23.2	23.2	23.2	21.9	21.9
87.5°	13.3	13.3	11.3	9.3	6.6
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)