

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: P556311

Luminaire Tested: **FUSL-12-4-LD4-1HI-40-UNV-82-87-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: P556311  
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-82-87-EDD  
Description: 4FT FUSL SURFACE MOUNT WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

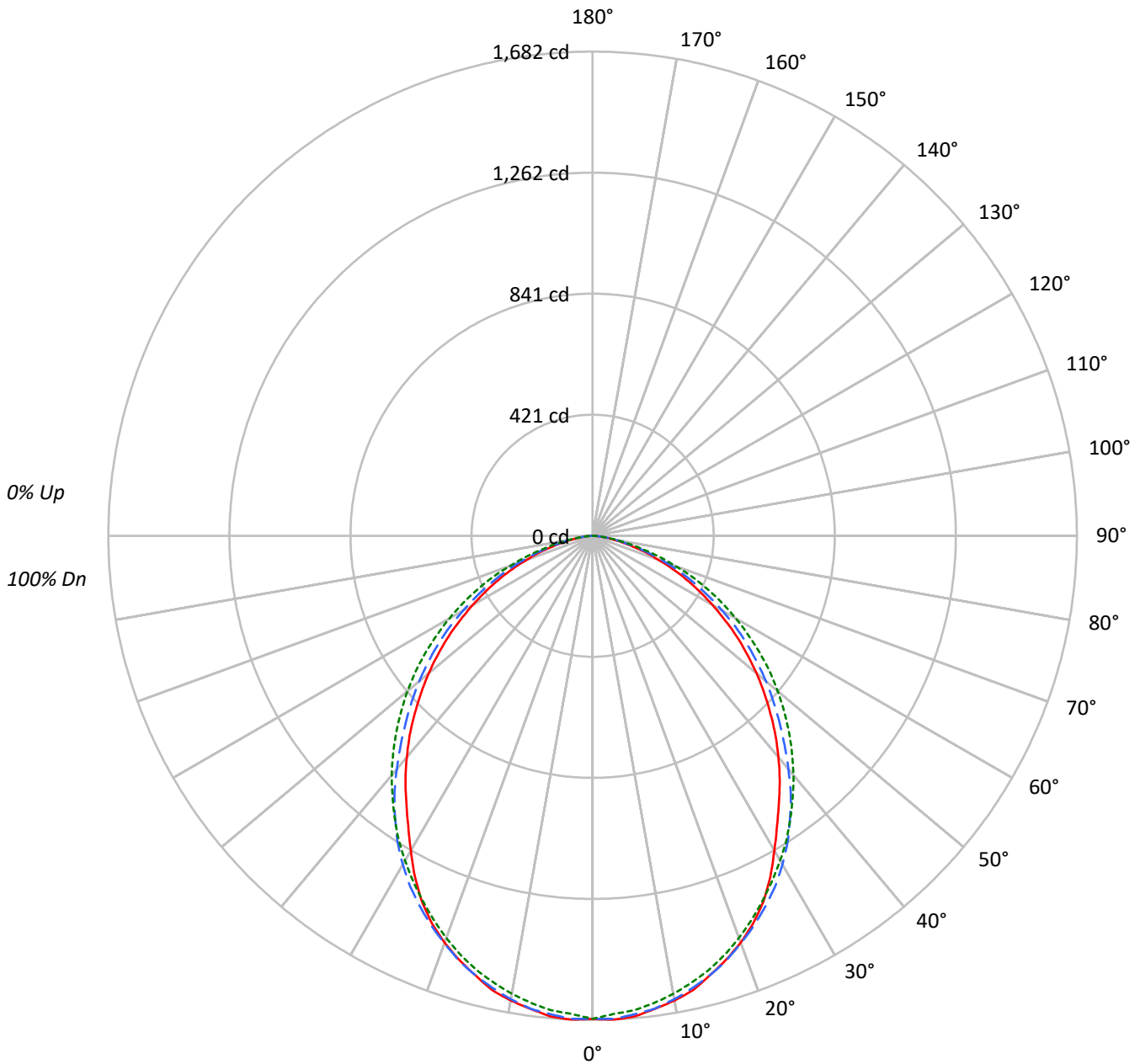
Lumens per Lamp: N/A  
Luminaire Lumens: 3880.0 lumens  
Efficiency: N/A  
Efficacy: 89.8 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

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				20				20	
RC	80				70				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				100
1	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86				86
2	101	93	87	82	98	91	86	81	88	83	79	85	81	77	82	78	75	73				73
3	92	83	75	69	90	81	74	68	78	72	67	75	70	66	73	69	65	63				63
4	85	74	65	59	83	72	65	59	70	63	58	68	62	57	65	61	56	54				54
5	78	66	58	51	76	65	57	51	63	56	51	61	55	50	59	54	50	47				47
6	73	60	51	45	71	59	51	45	57	50	45	56	49	44	54	48	44	42				42
7	68	55	46	40	66	54	46	40	52	45	40	51	44	40	49	44	39	37				37
8	63	50	42	36	61	49	41	36	48	41	36	47	40	36	46	40	35	34				34
9	59	46	38	33	58	45	38	33	44	37	32	43	37	32	42	36	32	30				30
10	55	43	35	30	54	42	35	30	41	34	30	40	34	29	39	33	29	28				28

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	4515	4515	4515
5°	4528	4508	4470
10°	4479	4467	4416
15°	4400	4400	4350
20°	4307	4312	4257
25°	4165	4217	4150
30°	3922	4098	4048
35°	3706	3928	3935
40°	3526	3716	3814
45°	3324	3491	3670
50°	3112	3290	3514
55°	2870	3061	3324
60°	2585	2793	3091
65°	2282	2483	2812
70°	1902	2115	2389
75°	1495	1688	1870
80°	1069	1189	1319
85°	698	698	658



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	158.0	4.1
10°-20°	443.8	11.4
20°-30°	648.6	16.7
30°-40°	736.2	19.0
40°-50°	710.7	18.3
50°-60°	586.3	15.1
60°-70°	390.4	10.1
70°-80°	174.7	4.5
80°-90°	31.3	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°	1250.4	32.2
0°-40°	1986.6	51.2
0°-60°	3283.6	84.6
0°-90°	3880.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3880.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1678	1678	1678	1678	1678	
5°	1676	1675	1669	1660	1655	159
15°	1579	1583	1579	1572	1561	445
25°	1403	1414	1420	1410	1398	642
35°	1128	1144	1196	1202	1198	707
45°	874	888	917	959	964	674
55°	612	622	652	688	708	546
65°	358	368	390	418	442	355
75°	144	152	162	170	180	157
85°	23	23	23	21	21	30
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1678.0	1678.0	1678.0	1678.0	1678.0
2.5°	1682.5	1683.2	1679.3	1669.0	1662.5
5°	1676.1	1675.4	1669.0	1659.9	1654.8
7.5°	1657.4	1658.7	1656.7	1643.8	1636.7
10°	1639.3	1640.0	1634.8	1624.5	1616.1
12.5°	1616.1	1615.5	1608.4	1603.2	1589.7
15°	1579.4	1583.2	1579.4	1572.3	1561.3
17.5°	1543.9	1543.9	1546.5	1534.2	1525.9
20°	1503.9	1505.9	1505.9	1496.2	1486.5
22.5°	1457.5	1463.3	1465.3	1455.0	1443.4
25°	1402.7	1413.7	1420.1	1409.8	1397.6
27.5°	1336.3	1353.1	1372.4	1364.7	1351.2
30°	1262.2	1286.7	1318.9	1312.5	1302.8
32.5°	1191.9	1216.4	1260.9	1258.3	1253.2
35°	1128.1	1143.6	1195.8	1202.3	1197.7
37.5°	1067.5	1081.7	1130.7	1145.5	1141.7
40°	1003.7	1019.2	1057.9	1084.3	1085.6
42.5°	940.5	955.4	986.9	1025.0	1025.0
45°	873.5	888.3	917.3	959.2	964.4
47.5°	807.7	823.2	851.6	893.5	901.9
50°	743.3	757.5	785.8	826.4	839.3
52.5°	676.2	691.7	719.4	756.8	775.5
55°	611.8	622.1	652.4	688.5	708.5
57.5°	544.7	554.4	588.6	619.5	640.1
60°	480.3	492.5	518.9	550.5	574.4
62.5°	418.4	431.3	453.8	481.5	508.6
65°	358.4	368.1	390.0	417.7	441.6
67.5°	300.4	308.8	330.7	350.0	375.2
70°	241.7	252.7	268.8	287.5	303.6
72.5°	194.7	199.2	212.7	226.3	243.0
75°	143.8	151.5	162.4	170.2	179.9
77.5°	103.1	107.7	114.1	120.5	129.6
80°	69.0	70.9	76.7	78.0	85.1
82.5°	41.9	43.2	44.5	45.1	47.7
85°	22.6	22.6	22.6	21.3	21.3
87.5°	12.9	12.9	11.0	9.0	6.4
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)