

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: P557202

Luminaire Tested: **FUSL-12-4-LD4-2LO-30-UNV-82-85-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: P557202  
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-LD4-2LO-30-UNV-82-85-EDD-90  
Description: 4FT FUSL SURFACE MOUNT WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

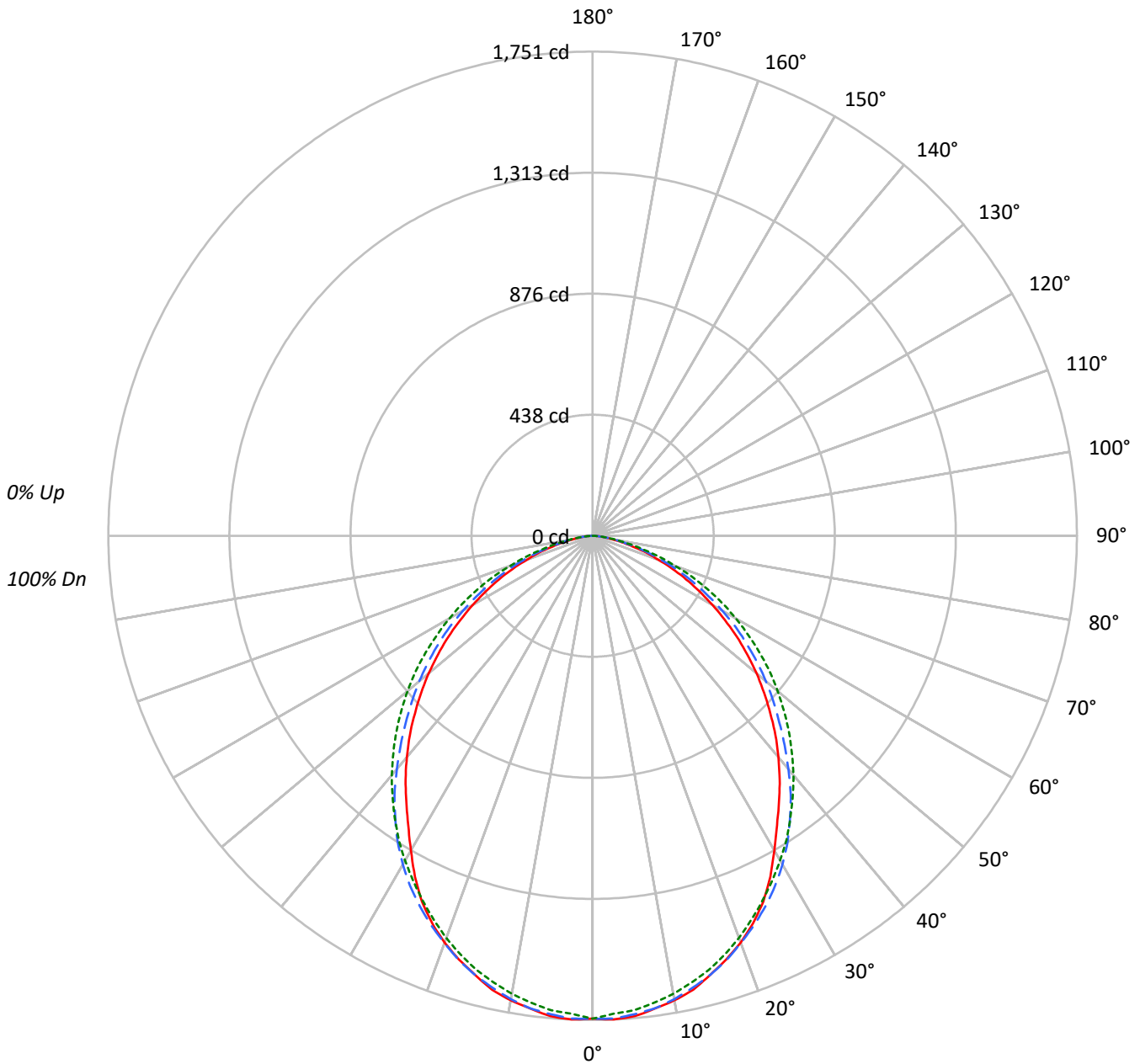
Lumens per Lamp: N/A  
Luminaire Lumens: 4038.0 lumens  
Efficiency: N/A  
Efficacy: 86.3 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 46.8  
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°	4699	4699	4699
5°	4712	4692	4652
10°	4662	4649	4596
15°	4579	4579	4527
20°	4482	4488	4430
25°	4335	4388	4319
30°	4082	4265	4213
35°	3857	4088	4095
40°	3669	3867	3969
45°	3460	3633	3820
50°	3238	3424	3657
55°	2987	3185	3459
60°	2690	2907	3217
65°	2375	2585	2926
70°	1980	2201	2486
75°	1555	1758	1946
80°	1113	1237	1373
85°	726	726	682



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	164.4	4.1
10°-20°	461.9	11.4
20°-30°	675.0	16.7
30°-40°	766.2	19.0
40°-50°	739.6	18.3
50°-60°	610.2	15.1
60°-70°	406.3	10.1
70°-80°	181.8	4.5
80°-90°	32.5	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°	1301.3	32.2
0°-40°	2067.5	51.2
0°-60°	3417.3	84.6
0°-90°	4038.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4038.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1746	1746	1746	1746	1746	
5°	1744	1744	1737	1728	1722	165
15°	1644	1648	1644	1636	1625	463
25°	1460	1471	1478	1467	1454	669
35°	1174	1190	1244	1251	1246	736
45°	909	924	955	998	1004	701
55°	637	647	679	716	737	568
65°	373	383	406	435	460	370
75°	150	158	169	177	187	164
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°	1746.3	1746.3	1746.3	1746.3	1746.3
2.5°	1751.0	1751.7	1747.7	1736.9	1730.2
5°	1744.3	1743.6	1736.9	1727.5	1722.2
7.5°	1724.9	1726.2	1724.2	1710.8	1703.4
10°	1706.1	1706.7	1701.4	1690.6	1681.9
12.5°	1681.9	1681.3	1673.9	1668.5	1654.4
15°	1643.7	1647.7	1643.7	1636.3	1624.9
17.5°	1606.8	1606.8	1609.5	1596.7	1588.0
20°	1565.2	1567.2	1567.2	1557.1	1547.1
22.5°	1516.9	1522.9	1524.9	1514.2	1502.1
25°	1459.9	1471.3	1478.0	1467.2	1454.5
27.5°	1390.8	1408.2	1428.3	1420.3	1406.2
30°	1313.6	1339.1	1372.6	1365.9	1355.9
32.5°	1240.5	1266.0	1312.3	1309.6	1304.2
35°	1174.1	1190.2	1244.5	1251.2	1246.5
37.5°	1111.0	1125.8	1176.7	1192.2	1188.1
40°	1044.6	1060.7	1100.9	1128.4	1129.8
42.5°	978.8	994.3	1027.1	1066.7	1066.7
45°	909.1	924.5	954.7	998.3	1003.7
47.5°	840.6	856.7	886.2	929.9	938.6
50°	773.5	788.3	817.8	860.1	873.5
52.5°	703.8	719.9	748.7	787.6	807.1
55°	636.7	647.4	678.9	716.5	737.3
57.5°	566.9	577.0	612.5	644.7	666.2
60°	499.8	512.6	540.1	572.9	597.8
62.5°	435.4	448.8	472.3	501.2	529.3
65°	373.0	383.1	405.9	434.7	459.6
67.5°	312.6	321.4	344.2	364.3	390.5
70°	251.6	263.0	279.8	299.2	316.0
72.5°	202.6	207.3	221.4	235.5	252.9
75°	149.6	157.7	169.1	177.1	187.2
77.5°	107.3	112.0	118.7	125.5	134.8
80°	71.8	73.8	79.8	81.2	88.6
82.5°	43.6	44.9	46.3	47.0	49.6
85°	23.5	23.5	23.5	22.1	22.1
87.5°	13.4	13.4	11.4	9.4	6.7
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)