

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: P557252

Luminaire Tested: **FUSL-12-4-LD4-2LO-35-UNV-81-86-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: P557252  
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-35-UNV-81-86-EDD-90  
Description: 4FT FUSL SURFACE MOUNT WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

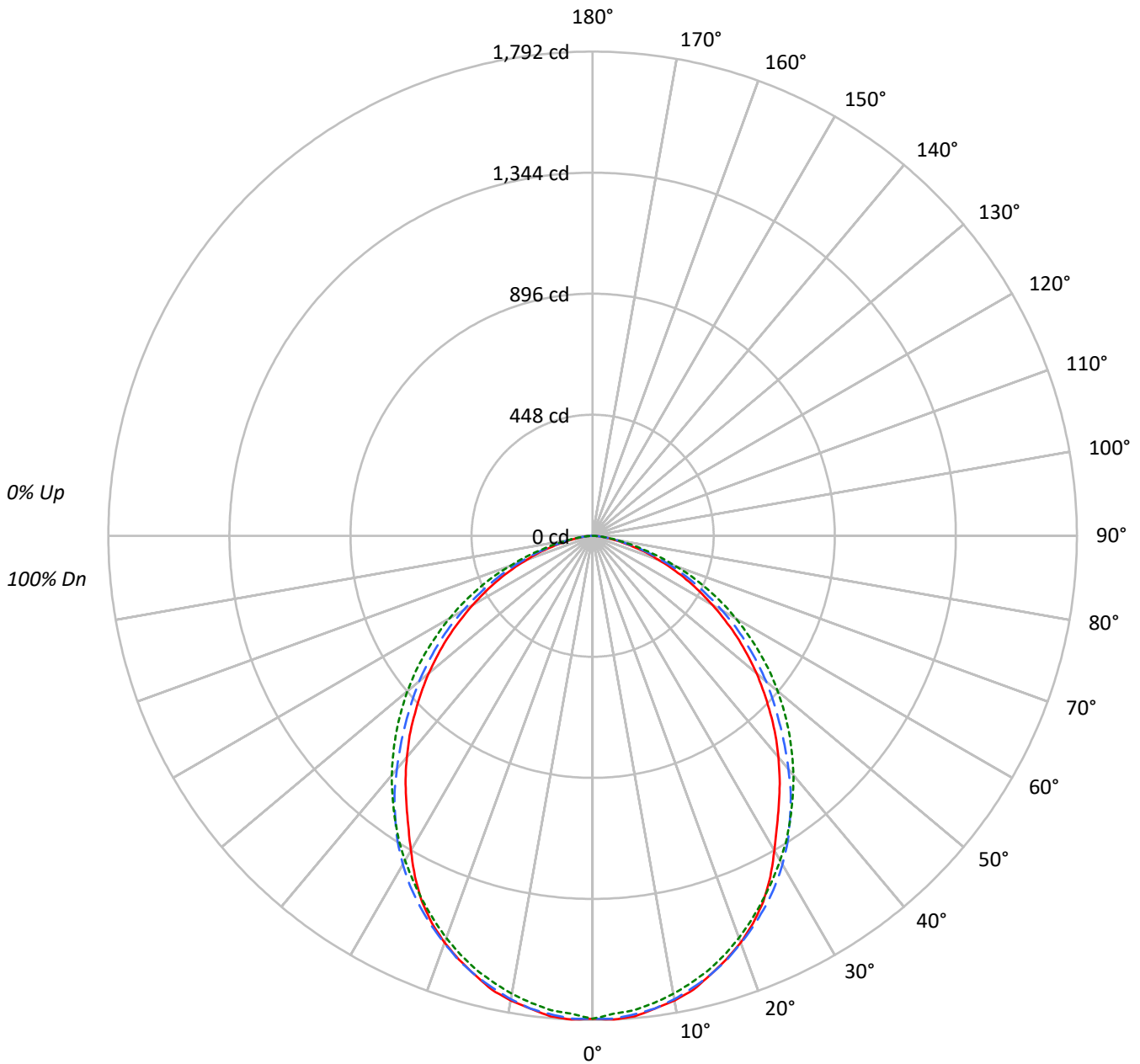
Lumens per Lamp: N/A  
Luminaire Lumens: 4133.0 lumens  
Efficiency: N/A  
Efficacy: 88.3 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

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°	4810	4810	4810
5°	4823	4802	4762
10°	4771	4758	4704
15°	4687	4687	4633
20°	4588	4594	4535
25°	4437	4491	4420
30°	4178	4365	4312
35°	3948	4185	4191
40°	3756	3958	4062
45°	3541	3718	3910
50°	3314	3504	3743
55°	3058	3260	3541
60°	2753	2975	3293
65°	2431	2645	2995
70°	2026	2253	2544
75°	1592	1799	1992
80°	1139	1266	1404
85°	741	741	701



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	168.3	4.1
10°-20°	472.8	11.4
20°-30°	690.9	16.7
30°-40°	784.2	19.0
40°-50°	757.0	18.3
50°-60°	624.5	15.1
60°-70°	415.9	10.1
70°-80°	186.1	4.5
80°-90°	33.3	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°	1332.0	32.2
0°-40°	2116.2	51.2
0°-60°	3497.7	84.6
0°-90°	4133.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4133.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1787	1787	1787	1787	1787	
5°	1785	1785	1778	1768	1763	169
15°	1682	1686	1682	1675	1663	474
25°	1494	1506	1513	1502	1489	684
35°	1202	1218	1274	1281	1276	753
45°	930	946	977	1022	1027	718
55°	652	663	695	733	755	582
65°	382	392	415	445	470	379
75°	153	161	173	181	192	167
85°	24	24	24	23	23	32
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1787.4	1787.4	1787.4	1787.4	1787.4
2.5°	1792.2	1792.9	1788.8	1777.8	1770.9
5°	1785.4	1784.7	1777.8	1768.2	1762.7
7.5°	1765.4	1766.8	1764.8	1751.0	1743.5
10°	1746.2	1746.9	1741.4	1730.4	1721.5
12.5°	1721.5	1720.8	1713.3	1707.8	1693.3
15°	1682.4	1686.5	1682.4	1674.8	1663.1
17.5°	1644.6	1644.6	1647.3	1634.3	1625.4
20°	1602.0	1604.1	1604.1	1593.8	1583.5
22.5°	1552.6	1558.8	1560.8	1549.8	1537.5
25°	1494.2	1505.9	1512.7	1501.8	1488.7
27.5°	1423.5	1441.3	1461.9	1453.7	1439.3
30°	1344.5	1370.6	1404.9	1398.1	1387.8
32.5°	1269.7	1295.8	1343.1	1340.4	1334.9
35°	1201.7	1218.2	1273.8	1280.6	1275.8
37.5°	1137.1	1152.2	1204.4	1220.2	1216.1
40°	1069.2	1085.6	1126.8	1155.0	1156.4
42.5°	1001.9	1017.7	1051.3	1091.8	1091.8
45°	930.4	946.2	977.1	1021.8	1027.3
47.5°	860.4	876.9	907.1	951.7	960.7
50°	791.7	806.8	837.1	880.3	894.1
52.5°	720.3	736.8	766.3	806.2	826.1
55°	651.7	662.6	694.9	733.4	754.7
57.5°	580.2	590.5	626.9	659.9	681.9
60°	511.6	524.6	552.8	586.4	611.8
62.5°	445.7	459.4	483.4	512.9	541.8
65°	381.8	392.1	415.4	445.0	470.4
67.5°	320.0	328.9	352.3	372.9	399.6
70°	257.5	269.2	286.3	306.3	323.4
72.5°	207.4	212.2	226.6	241.0	258.9
75°	153.1	161.4	173.0	181.3	191.6
77.5°	109.9	114.7	121.5	128.4	138.0
80°	73.5	75.5	81.7	83.1	90.6
82.5°	44.6	46.0	47.4	48.1	50.8
85°	24.0	24.0	24.0	22.7	22.7
87.5°	13.7	13.7	11.7	9.6	6.9
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)