

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: P557224

Luminaire Tested: **FUSL-12-4-LD4-2LO-30-UNV-93-88-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: P557224  
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-93-88-EDD-90  
Description: 4FT FUSL SURFACE MOUNT WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

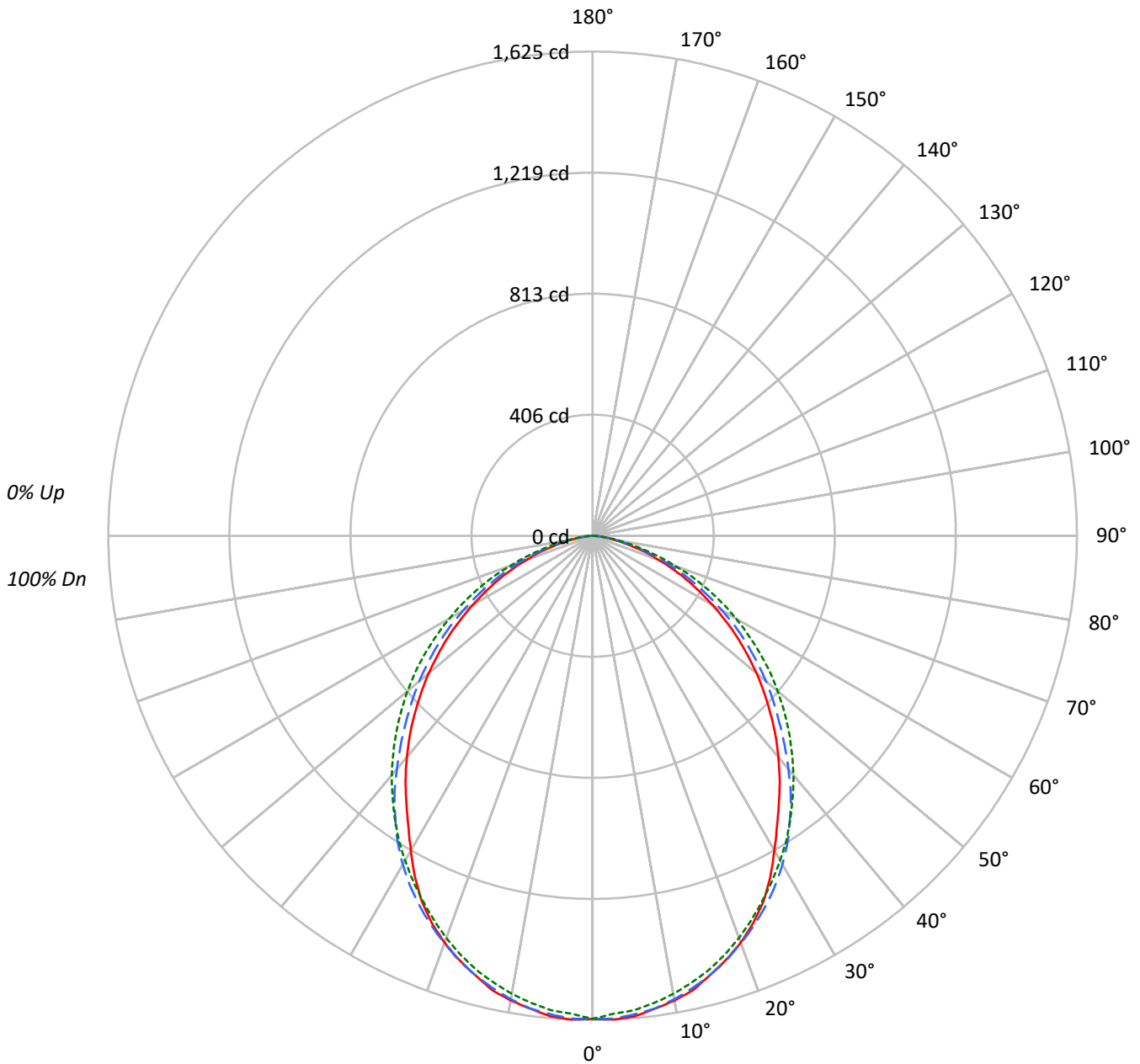
Lumens per Lamp: N/A  
Luminaire Lumens: 3748.0 lumens  
Efficiency: N/A  
Efficacy: 80.1 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 46.8  
Input Voltage (V): NR  
Input Current (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°	4362	4362	4362
5°	4373	4355	4318
10°	4327	4315	4266
15°	4250	4250	4202
20°	4160	4166	4112
25°	4023	4073	4008
30°	3789	3959	3911
35°	3580	3795	3801
40°	3406	3590	3684
45°	3211	3372	3545
50°	3006	3178	3394
55°	2773	2957	3211
60°	2497	2698	2986
65°	2204	2399	2716
70°	1837	2043	2308
75°	1444	1631	1806
80°	1032	1148	1274
85°	673	673	633



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	152.6	4.1
10°-20°	428.7	11.4
20°-30°	626.5	16.7
30°-40°	711.2	19.0
40°-50°	686.5	18.3
50°-60°	566.3	15.1
60°-70°	377.1	10.1
70°-80°	168.8	4.5
80°-90°	30.2	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°	1207.9	32.2
0°-40°	1919.0	51.2
0°-60°	3171.9	84.6
0°-90°	3748.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3748.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1621	1621	1621	1621	1621	
5°	1619	1618	1612	1604	1598	153
15°	1526	1529	1526	1519	1508	430
25°	1355	1366	1372	1362	1350	621
35°	1090	1105	1155	1161	1157	683
45°	844	858	886	927	932	651
55°	591	601	630	665	684	527
65°	346	356	377	404	427	343
75°	139	146	157	164	174	152
85°	22	22	22	20	20	29
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1620.9	1620.9	1620.9	1620.9	1620.9
2.5°	1625.3	1625.9	1622.2	1612.2	1606.0
5°	1619.0	1618.4	1612.2	1603.5	1598.5
7.5°	1601.0	1602.2	1600.4	1587.9	1581.1
10°	1583.6	1584.2	1579.2	1569.2	1561.1
12.5°	1561.1	1560.5	1553.7	1548.7	1535.6
15°	1525.6	1529.4	1525.6	1518.8	1508.2
17.5°	1491.4	1491.4	1493.9	1482.0	1474.0
20°	1452.8	1454.6	1454.6	1445.3	1436.0
22.5°	1407.9	1413.6	1415.4	1405.5	1394.2
25°	1355.0	1365.6	1371.8	1361.9	1350.0
27.5°	1290.9	1307.1	1325.7	1318.3	1305.2
30°	1219.3	1242.9	1274.1	1267.8	1258.5
32.5°	1151.4	1175.1	1218.0	1215.5	1210.5
35°	1089.7	1104.7	1155.1	1161.4	1157.0
37.5°	1031.2	1044.9	1092.2	1106.6	1102.8
40°	969.6	984.5	1021.9	1047.4	1048.6
42.5°	908.5	922.9	953.4	990.1	990.1
45°	843.8	858.1	886.1	926.6	931.6
47.5°	780.3	795.2	822.6	863.1	871.2
50°	718.0	731.7	759.1	798.3	810.8
52.5°	653.2	668.2	694.9	731.1	749.1
55°	591.0	600.9	630.2	665.1	684.4
57.5°	526.2	535.5	568.5	598.4	618.4
60°	463.9	475.8	501.3	531.8	554.8
62.5°	404.1	416.6	438.4	465.2	491.3
65°	346.2	355.6	376.7	403.5	426.6
67.5°	290.2	298.3	319.5	338.1	362.4
70°	233.5	244.1	259.7	277.7	293.3
72.5°	188.1	192.4	205.5	218.6	234.8
75°	138.9	146.3	156.9	164.4	173.7
77.5°	99.6	104.0	110.2	116.4	125.2
80°	66.6	68.5	74.1	75.3	82.2
82.5°	40.5	41.7	43.0	43.6	46.1
85°	21.8	21.8	21.8	20.5	20.5
87.5°	12.5	12.5	10.6	8.7	6.2
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)