

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: P556616

Luminaire Tested: **FUSL-12-4-LD4-1LO-50-UNV-81-88-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: P556616  
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-LD4-1LO-50-UNV-81-88-EDD-90  
Description: 4FT FUSL SURFACE MOUNT WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

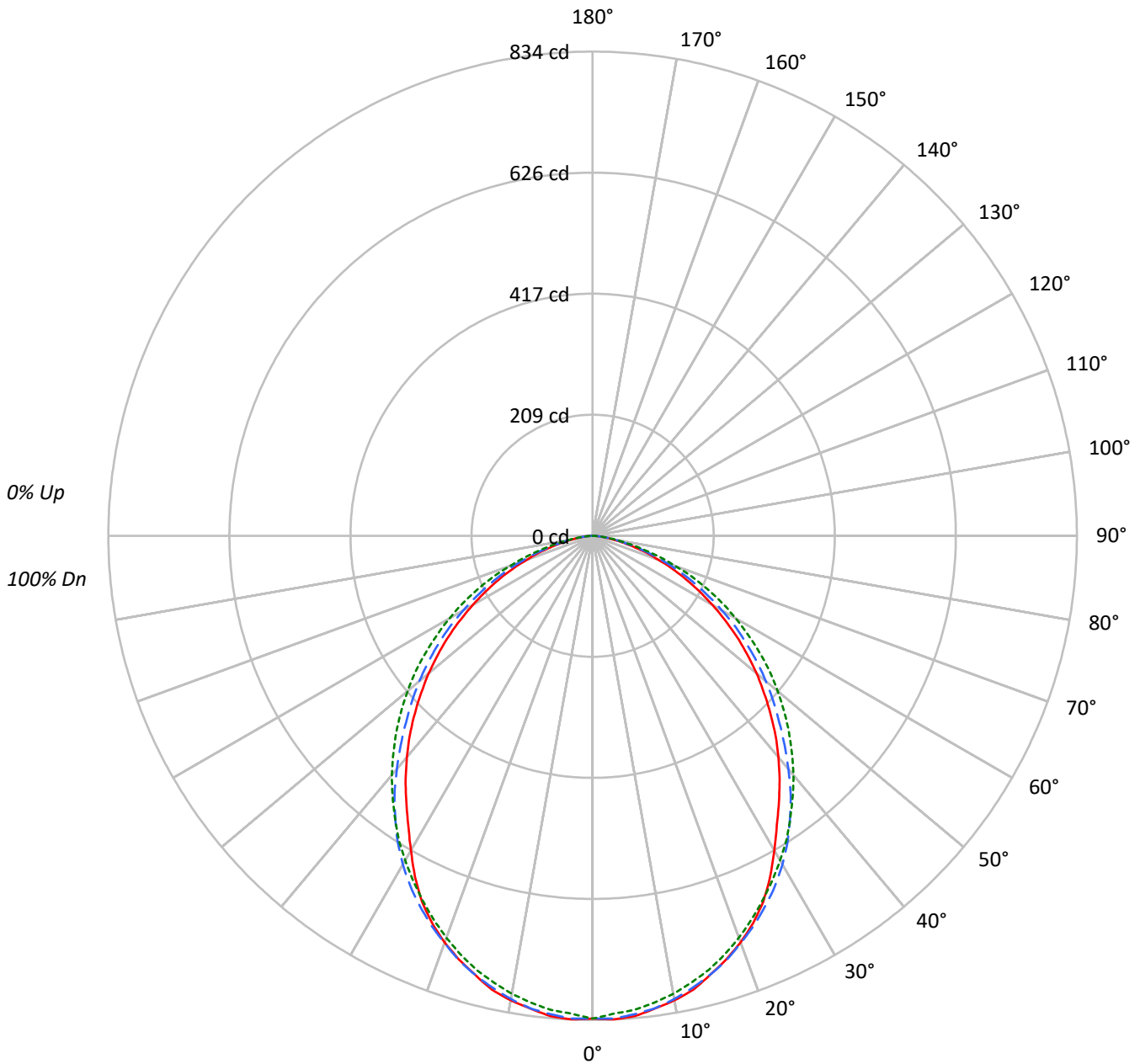
Lumens per Lamp: N/A  
Luminaire Lumens: 1923.0 lumens  
Efficiency: N/A  
Efficacy: 82.2 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 23.4  
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°	2238	2238	2238
5°	2244	2234	2215
10°	2220	2214	2189
15°	2181	2181	2156
20°	2135	2137	2110
25°	2064	2090	2057
30°	1944	2031	2006
35°	1837	1947	1950
40°	1748	1842	1890
45°	1647	1730	1819
50°	1542	1631	1742
55°	1422	1517	1647
60°	1281	1384	1532
65°	1131	1231	1394
70°	943	1048	1184
75°	740	837	926
80°	530	589	654
85°	346	346	324



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	78.3	4.1
10°-20°	220.0	11.4
20°-30°	321.5	16.7
30°-40°	364.9	19.0
40°-50°	352.2	18.3
50°-60°	290.6	15.1
60°-70°	193.5	10.1
70°-80°	86.6	4.5
80°-90°	15.5	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°	619.7	32.2
0°-40°	984.6	51.2
0°-60°	1627.4	84.6
0°-90°	1923.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1923.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	832	832	832	832	832	
5°	831	830	827	823	820	79
15°	783	785	783	779	774	221
25°	695	701	704	699	693	318
35°	559	567	593	596	594	350
45°	433	440	455	475	478	334
55°	303	308	323	341	351	271
65°	178	182	193	207	219	176
75°	71	75	80	84	89	78
85°	11	11	11	10	10	15
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	831.6	831.6	831.6	831.6	831.6
2.5°	833.9	834.2	832.3	827.2	824.0
5°	830.7	830.4	827.2	822.7	820.1
7.5°	821.4	822.1	821.1	814.7	811.2
10°	812.5	812.8	810.2	805.1	801.0
12.5°	801.0	800.7	797.1	794.6	787.9
15°	782.8	784.7	782.8	779.3	773.8
17.5°	765.2	765.2	766.5	760.4	756.2
20°	745.4	746.3	746.3	741.5	736.8
22.5°	722.4	725.3	726.2	721.1	715.4
25°	695.2	700.7	703.8	698.7	692.7
27.5°	662.3	670.6	680.2	676.4	669.7
30°	625.6	637.7	653.7	650.5	645.7
32.5°	590.7	602.9	624.9	623.7	621.1
35°	559.1	566.8	592.7	595.9	593.6
37.5°	529.1	536.1	560.4	567.7	565.8
40°	497.5	505.1	524.3	537.4	538.0
42.5°	466.1	473.5	489.1	508.0	508.0
45°	432.9	440.3	454.6	475.4	478.0
47.5°	400.3	408.0	422.1	442.8	447.0
50°	368.4	375.4	389.5	409.6	416.0
52.5°	335.2	342.8	356.6	375.1	384.4
55°	303.2	308.3	323.3	341.2	351.1
57.5°	270.0	274.8	291.7	307.0	317.3
60°	238.0	244.1	257.2	272.8	284.7
62.5°	207.4	213.7	224.9	238.7	252.1
65°	177.6	182.4	193.3	207.0	218.9
67.5°	148.9	153.0	163.9	173.5	185.9
70°	119.8	125.2	133.2	142.5	150.5
72.5°	96.5	98.7	105.4	112.1	120.4
75°	71.2	75.1	80.5	84.3	89.1
77.5°	51.1	53.4	56.6	59.7	64.2
80°	34.2	35.1	38.0	38.7	42.2
82.5°	20.8	21.4	22.0	22.4	23.6
85°	11.2	11.2	11.2	10.5	10.5
87.5°	6.4	6.4	5.4	4.5	3.2
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)