

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: P556423

Luminaire Tested: **FUSL-12-4-LD4-1LO-30-UNV-81-87-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: P556423  
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-30-UNV-81-87-EDD  
Description: 4FT FUSL SURFACE MOUNT WITH .156 CLEAR PC FIXTURE SIDE AND .375  
CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

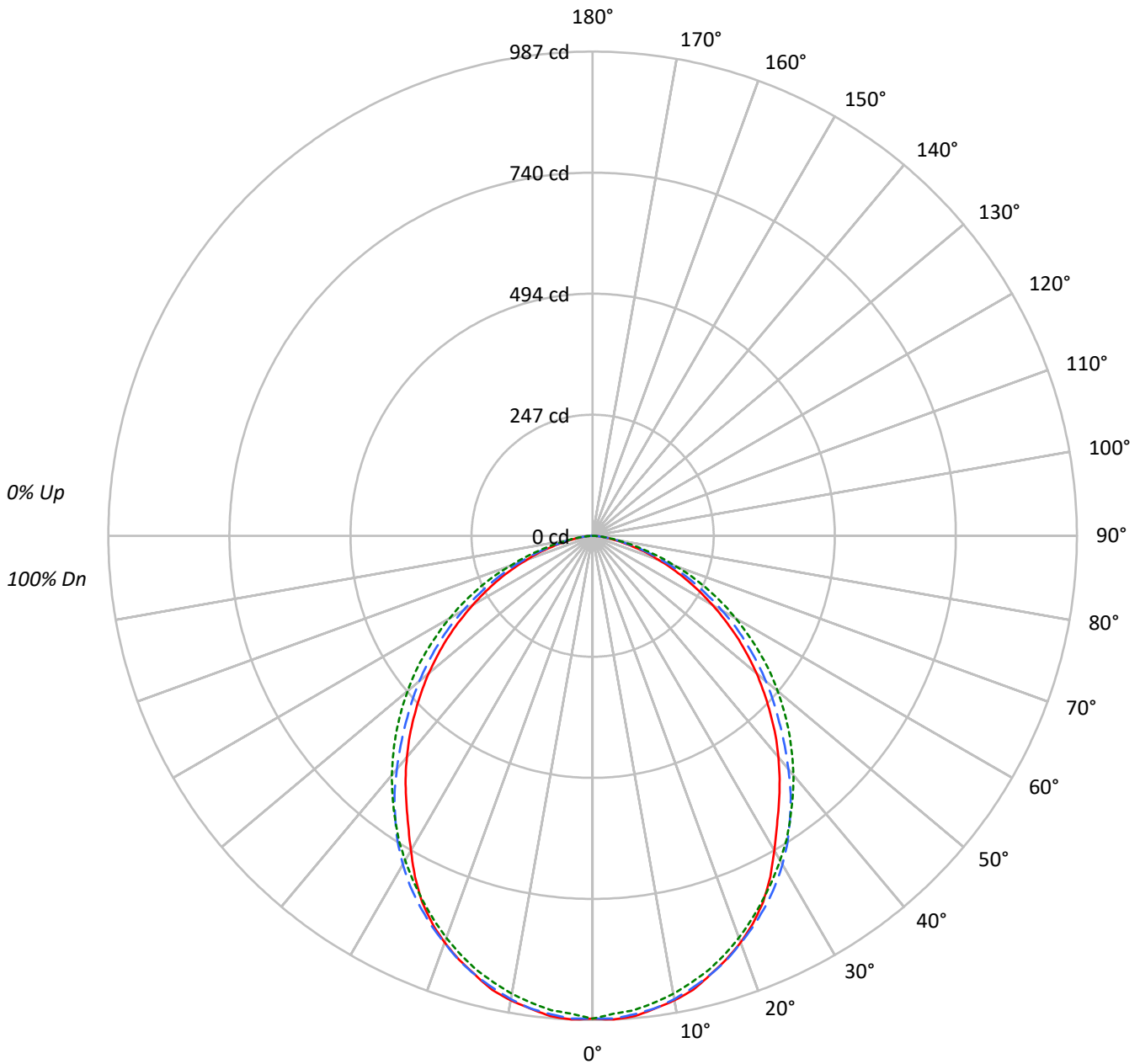
Lumens per Lamp: N/A  
Luminaire Lumens: 2276.0 lumens  
Efficiency: N/A  
Efficacy: 97.3 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 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°	2649	2649	2649
5°	2656	2645	2622
10°	2628	2620	2590
15°	2581	2581	2552
20°	2526	2529	2497
25°	2443	2474	2434
30°	2301	2404	2375
35°	2174	2304	2308
40°	2068	2180	2237
45°	1950	2048	2153
50°	1825	1930	2061
55°	1684	1795	1950
60°	1516	1638	1813
65°	1338	1457	1649
70°	1116	1241	1401
75°	876	991	1097
80°	628	697	773
85°	408	408	386



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	92.7	4.1
10°-20°	260.4	11.4
20°-30°	380.5	16.7
30°-40°	431.9	19.0
40°-50°	416.9	18.3
50°-60°	343.9	15.1
60°-70°	229.0	10.1
70°-80°	102.5	4.5
80°-90°	18.3	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°	733.5	32.2
0°-40°	1165.4	51.2
0°-60°	1926.2	84.6
0°-90°	2276.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2276.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	984	984	984	984	984	
5°	983	983	979	974	971	93
15°	926	929	926	922	916	261
25°	823	829	833	827	820	377
35°	662	671	702	705	703	415
45°	512	521	538	563	566	395
55°	359	365	383	404	416	320
65°	210	216	229	245	259	208
75°	84	89	95	100	106	92
85°	13	13	13	12	12	18
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	984.3	984.3	984.3	984.3	984.3
2.5°	987.0	987.3	985.1	979.0	975.2
5°	983.2	982.8	979.0	973.7	970.7
7.5°	972.2	973.0	971.8	964.3	960.1
10°	961.6	962.0	959.0	952.9	948.0
12.5°	948.0	947.6	943.5	940.4	932.5
15°	926.5	928.7	926.5	922.3	915.9
17.5°	905.7	905.7	907.2	900.0	895.1
20°	882.2	883.3	883.3	877.7	872.0
22.5°	855.0	858.4	859.5	853.5	846.7
25°	822.8	829.3	833.1	827.0	819.8
27.5°	783.9	793.7	805.1	800.5	792.6
30°	740.4	754.8	773.7	769.9	764.2
32.5°	699.2	713.6	739.7	738.1	735.1
35°	661.8	670.8	701.5	705.2	702.6
37.5°	626.2	634.5	663.3	672.0	669.7
40°	588.8	597.8	620.5	636.0	636.8
42.5°	551.7	560.4	578.9	601.3	601.3
45°	512.4	521.1	538.1	562.7	565.7
47.5°	473.8	482.9	499.5	524.1	529.0
50°	436.0	444.3	461.0	484.8	492.3
52.5°	396.7	405.7	422.0	443.9	454.9
55°	358.9	364.9	382.7	403.9	415.6
57.5°	319.5	325.2	345.2	363.4	375.5
60°	281.7	288.9	304.4	322.9	336.9
62.5°	245.4	253.0	266.2	282.5	298.4
65°	210.2	215.9	228.8	245.0	259.0
67.5°	176.2	181.1	194.0	205.3	220.1
70°	141.8	148.2	157.7	168.7	178.1
72.5°	114.2	116.8	124.8	132.7	142.6
75°	84.3	88.9	95.3	99.8	105.5
77.5°	60.5	63.2	66.9	70.7	76.0
80°	40.5	41.6	45.0	45.8	49.9
82.5°	24.6	25.3	26.1	26.5	28.0
85°	13.2	13.2	13.2	12.5	12.5
87.5°	7.6	7.6	6.4	5.3	3.8
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)