

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: P558412

Luminaire Tested: **FUSL-12-4-LD4-3STD-50-UNV-81-96-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: P558412  
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-LD4-3STD-50-UNV-81-96-EDD-90  
Description: 4FT FUSL SURFACE MOUNT WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

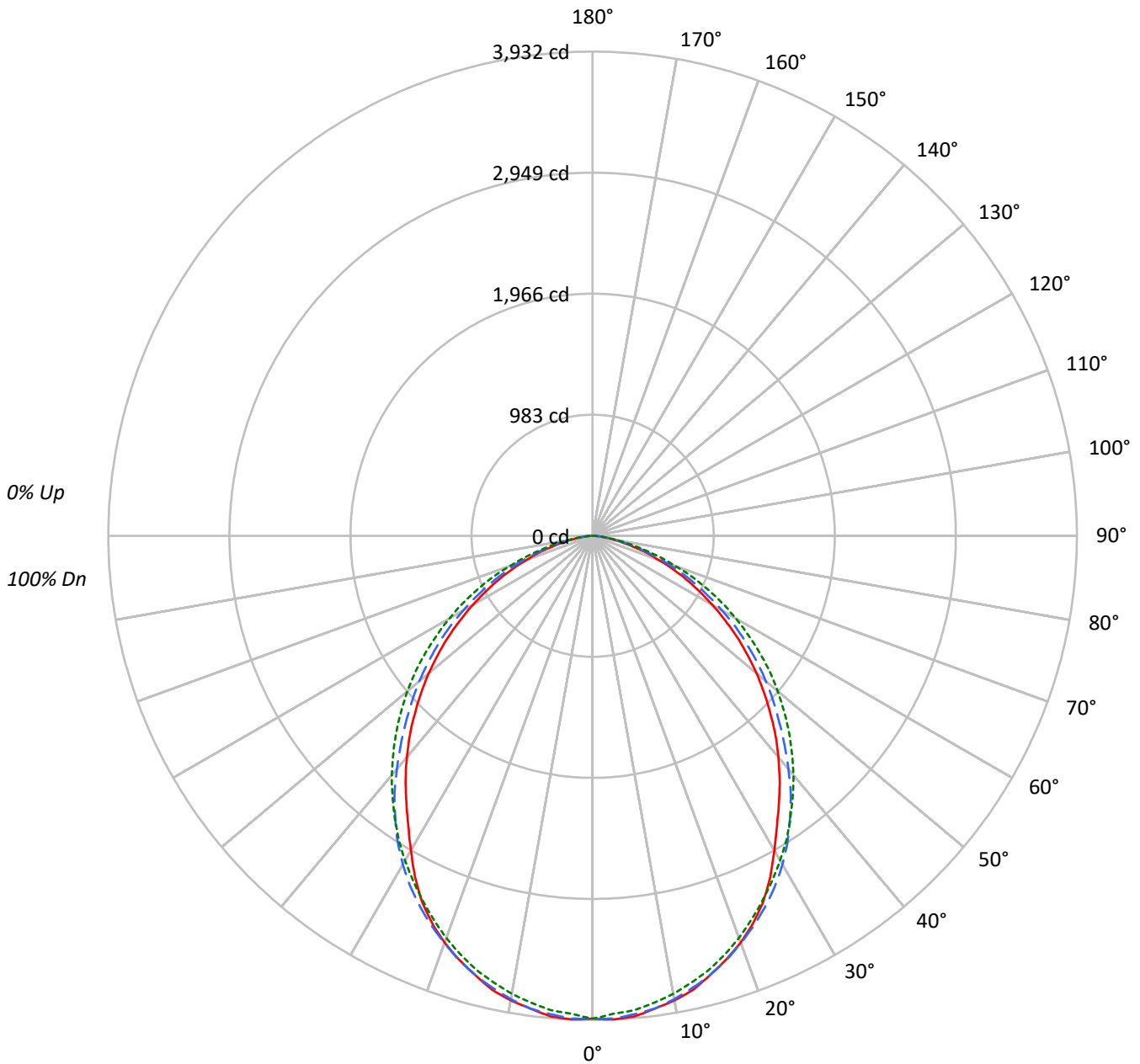
Lumens per Lamp: N/A  
Luminaire Lumens: 9068.0 lumens  
Efficiency: N/A  
Efficacy: 90.8 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 99.9  
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					20					
RC	80					70					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	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86					86			
2	101	93	87	82	98	91	86	81	88	83	79	85	81	77	82	78	75	73					73			
3	92	83	75	69	90	81	74	68	78	72	67	75	70	66	73	69	65	63					63			
4	85	74	65	59	83	72	65	59	70	63	58	68	62	57	65	61	56	54					54			
5	78	66	58	51	76	65	57	51	63	56	51	61	55	50	59	54	50	47					47			
6	73	60	51	45	71	59	51	45	57	50	45	56	49	44	54	48	44	42					42			
7	68	55	46	40	66	54	46	40	52	45	40	51	44	40	49	44	39	37					37			
8	63	50	42	36	61	49	41	36	48	41	36	47	40	36	46	40	35	34					34			
9	59	46	38	33	58	45	38	33	44	37	32	43	37	32	42	36	32	30					30			
10	55	43	35	30	54	42	35	30	41	34	30	40	34	29	39	33	29	28					28			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	10553	10553	10553
5°	10581	10537	10447
10°	10469	10440	10321
15°	10283	10283	10166
20°	10066	10078	9949
25°	9734	9855	9698
30°	9166	9578	9461
35°	8661	9181	9196
40°	8240	8685	8912
45°	7769	8159	8577
50°	7272	7688	8212
55°	6708	7153	7768
60°	6041	6527	7225
65°	5334	5804	6571
70°	4445	4943	5583
75°	3493	3948	4370
80°	2498	2779	3082
85°	1627	1627	1535



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	369.2	4.1
10°-20°	1037.3	11.4
20°-30°	1515.8	16.7
30°-40°	1720.6	19.0
40°-50°	1661.0	18.3
50°-60°	1370.2	15.1
60°-70°	912.5	10.1
70°-80°	408.3	4.5
80°-90°	73.0	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°	2922.4	32.2
0°-40°	4643.0	51.2
0°-60°	7674.2	84.6
0°-90°	9068.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9068.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3922	3922	3922	3922	3922	
5°	3917	3916	3901	3880	3867	371
15°	3691	3700	3691	3675	3649	1041
25°	3278	3304	3319	3295	3266	1501
35°	2636	2673	2795	2810	2799	1652
45°	2041	2076	2144	2242	2254	1575
55°	1430	1454	1525	1609	1656	1276
65°	838	860	912	976	1032	831
75°	336	354	380	398	420	367
85°	53	53	53	50	50	71
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3921.7	3921.7	3921.7	3921.7	3921.7
2.5°	3932.2	3933.7	3924.7	3900.6	3885.5
5°	3917.2	3915.6	3900.6	3879.5	3867.4
7.5°	3873.5	3876.5	3872.0	3841.8	3825.3
10°	3831.3	3832.8	3820.7	3796.6	3777.0
12.5°	3777.0	3775.5	3759.0	3746.9	3715.3
15°	3691.2	3700.2	3691.2	3674.6	3649.0
17.5°	3608.3	3608.3	3614.3	3585.7	3566.1
20°	3514.9	3519.4	3519.4	3496.8	3474.2
22.5°	3406.4	3420.0	3424.5	3400.4	3373.3
25°	3278.4	3304.0	3319.0	3294.9	3266.3
27.5°	3123.2	3162.4	3207.5	3189.5	3157.8
30°	2949.9	3007.2	3082.5	3067.4	3044.8
32.5°	2785.7	2843.0	2946.9	2940.9	2928.8
35°	2636.5	2672.7	2794.7	2809.8	2799.3
37.5°	2494.9	2528.1	2642.6	2677.2	2668.2
40°	2345.8	2381.9	2472.3	2534.1	2537.1
42.5°	2198.1	2232.8	2306.6	2395.5	2395.5
45°	2041.4	2076.1	2143.9	2241.8	2253.9
47.5°	1887.8	1923.9	1990.2	2088.1	2107.7
50°	1737.1	1770.3	1836.5	1931.5	1961.6
52.5°	1580.4	1616.6	1681.4	1768.7	1812.4
55°	1429.8	1453.9	1524.7	1609.0	1655.8
57.5°	1273.1	1295.7	1375.5	1447.8	1496.1
60°	1122.4	1151.0	1212.8	1286.6	1342.4
62.5°	977.8	1007.9	1060.6	1125.4	1188.7
65°	837.7	860.3	911.5	976.3	1032.0
67.5°	702.1	721.7	772.9	818.1	876.8
70°	565.0	590.6	628.3	671.9	709.6
72.5°	455.0	465.5	497.2	528.8	568.0
75°	336.0	354.1	379.7	397.7	420.3
77.5°	241.1	251.6	266.7	281.7	302.8
80°	161.2	165.7	179.3	182.3	198.9
82.5°	97.9	100.9	104.0	105.5	111.5
85°	52.7	52.7	52.7	49.7	49.7
87.5°	30.1	30.1	25.6	21.1	15.1
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)