

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: P557829

Luminaire Tested: **FUSL-12-4-LD4-3HI-40-UNV-81-86-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: P557829  
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-LD4-3HI-40-UNV-81-86-EDD  
Description: 4FT FUSL SURFACE MOUNT WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

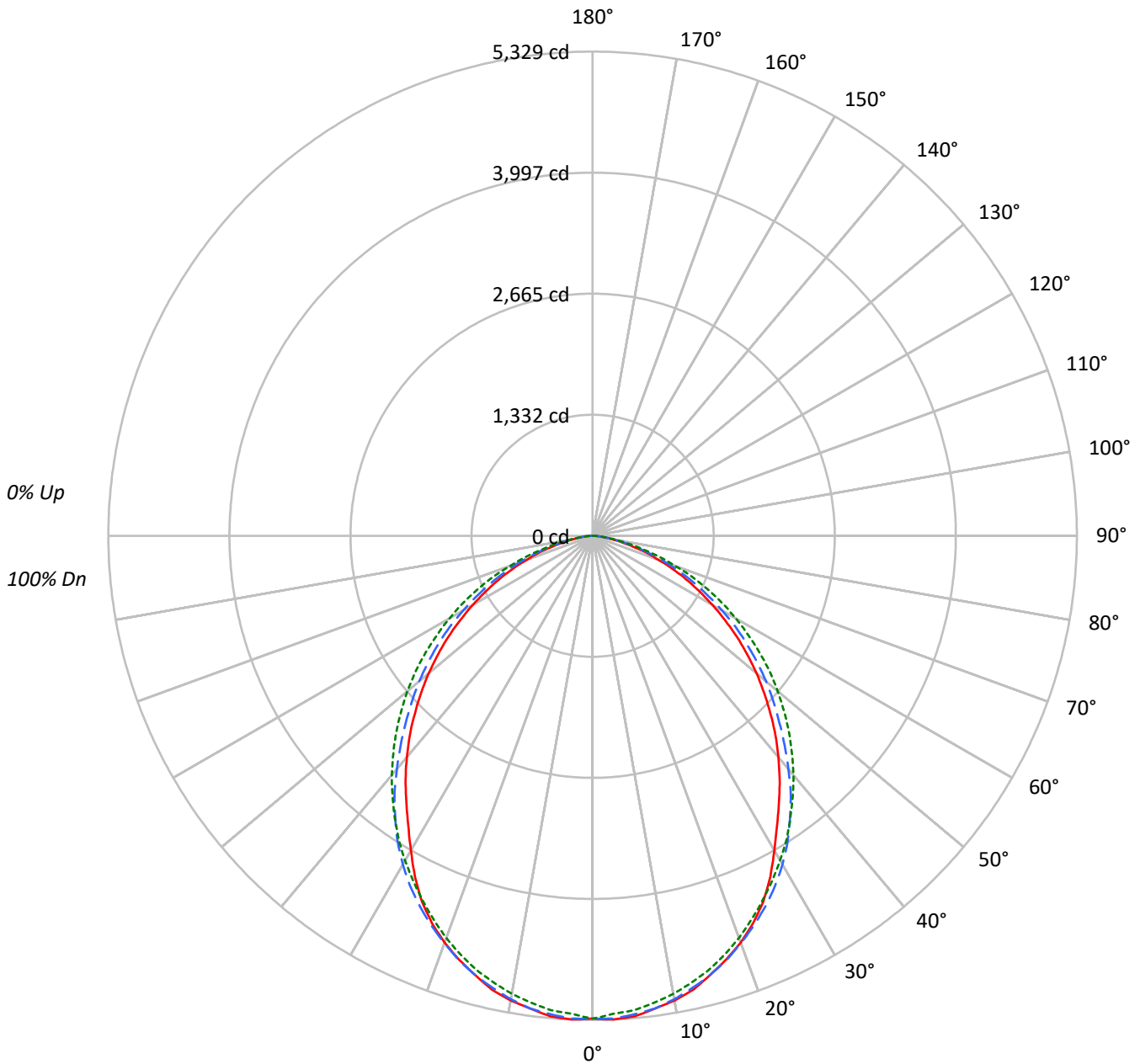
Lumens per Lamp: N/A  
Luminaire Lumens: 12290.0 lumens  
Efficiency: N/A  
Efficacy: 94.8 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 129.6  
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°	14303	14303	14303
5°	14341	14280	14159
10°	14189	14150	13988
15°	13937	13937	13778
20°	13642	13659	13484
25°	13193	13356	13144
30°	12423	12982	12823
35°	11739	12443	12463
40°	11168	11771	12079
45°	10529	11058	11625
50°	9856	10420	11130
55°	9091	9695	10528
60°	8187	8846	9791
65°	7229	7866	8906
70°	6024	6700	7567
75°	4734	5350	5923
80°	3386	3766	4176
85°	2208	2208	2081



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	500.4	4.1
10°-20°	1405.9	11.4
20°-30°	2054.4	16.7
30°-40°	2332.0	19.0
40°-50°	2251.2	18.3
50°-60°	1857.1	15.1
60°-70°	1236.7	10.1
70°-80°	553.4	4.5
80°-90°	99.0	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°	3960.7	32.2
0°-40°	6292.7	51.2
0°-60°	10401.0	84.6
0°-90°	12290.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12290.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5315	5315	5315	5315	5315	
5°	5309	5307	5286	5258	5242	502
15°	5003	5015	5003	4980	4946	1410
25°	4443	4478	4498	4466	4427	2035
35°	3573	3622	3788	3808	3794	2239
45°	2767	2814	2906	3038	3055	2135
55°	1938	1970	2066	2181	2244	1730
65°	1135	1166	1235	1323	1399	1126
75°	455	480	515	539	570	498
85°	72	72	72	67	67	96
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5315.1	5315.1	5315.1	5315.1	5315.1
2.5°	5329.4	5331.4	5319.2	5286.5	5266.1
5°	5309.0	5306.9	5286.5	5257.9	5241.6
7.5°	5249.8	5253.9	5247.7	5206.9	5184.4
10°	5192.6	5194.6	5178.3	5145.6	5119.1
12.5°	5119.1	5117.0	5094.6	5078.2	5035.4
15°	5002.7	5014.9	5002.7	4980.2	4945.5
17.5°	4890.4	4890.4	4898.6	4859.8	4833.2
20°	4763.8	4769.9	4769.9	4739.3	4708.7
22.5°	4616.8	4635.1	4641.3	4608.6	4571.9
25°	4443.2	4477.9	4498.3	4465.7	4426.9
27.5°	4232.9	4286.0	4347.2	4322.7	4279.9
30°	3998.1	4075.7	4177.8	4157.3	4126.7
32.5°	3775.5	3853.1	3994.0	3985.8	3969.5
35°	3573.4	3622.4	3787.8	3808.2	3793.9
37.5°	3381.4	3426.3	3581.5	3628.5	3616.2
40°	3179.3	3228.3	3350.8	3434.5	3438.6
42.5°	2979.2	3026.1	3126.2	3246.6	3246.6
45°	2766.8	2813.8	2905.6	3038.4	3054.7
47.5°	2558.5	2607.5	2697.4	2830.1	2856.6
50°	2354.3	2399.3	2489.1	2617.7	2658.6
52.5°	2142.0	2191.0	2278.8	2397.2	2456.4
55°	1937.8	1970.4	2066.4	2180.8	2244.1
57.5°	1725.4	1756.0	1864.3	1962.3	2027.6
60°	1521.2	1560.0	1643.7	1743.8	1819.3
62.5°	1325.2	1366.0	1437.5	1525.3	1611.1
65°	1135.3	1165.9	1235.4	1323.2	1398.7
67.5°	951.5	978.1	1047.5	1108.8	1188.4
70°	765.7	800.4	851.5	910.7	961.7
72.5°	616.7	631.0	673.8	716.7	769.8
75°	455.3	479.9	514.6	539.1	569.7
77.5°	326.7	341.0	361.4	381.8	410.4
80°	218.5	224.6	243.0	247.1	269.5
82.5°	132.7	136.8	140.9	142.9	151.1
85°	71.5	71.5	71.5	67.4	67.4
87.5°	40.8	40.8	34.7	28.6	20.4
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)