

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: P558017

Luminaire Tested: **FUSL-12-4-LD4-3LO-35-UNV-81-84-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: P558017  
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-LD4-3LO-35-UNV-81-84-EDD  
Description: 4FT FUSL SURFACE MOUNT WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

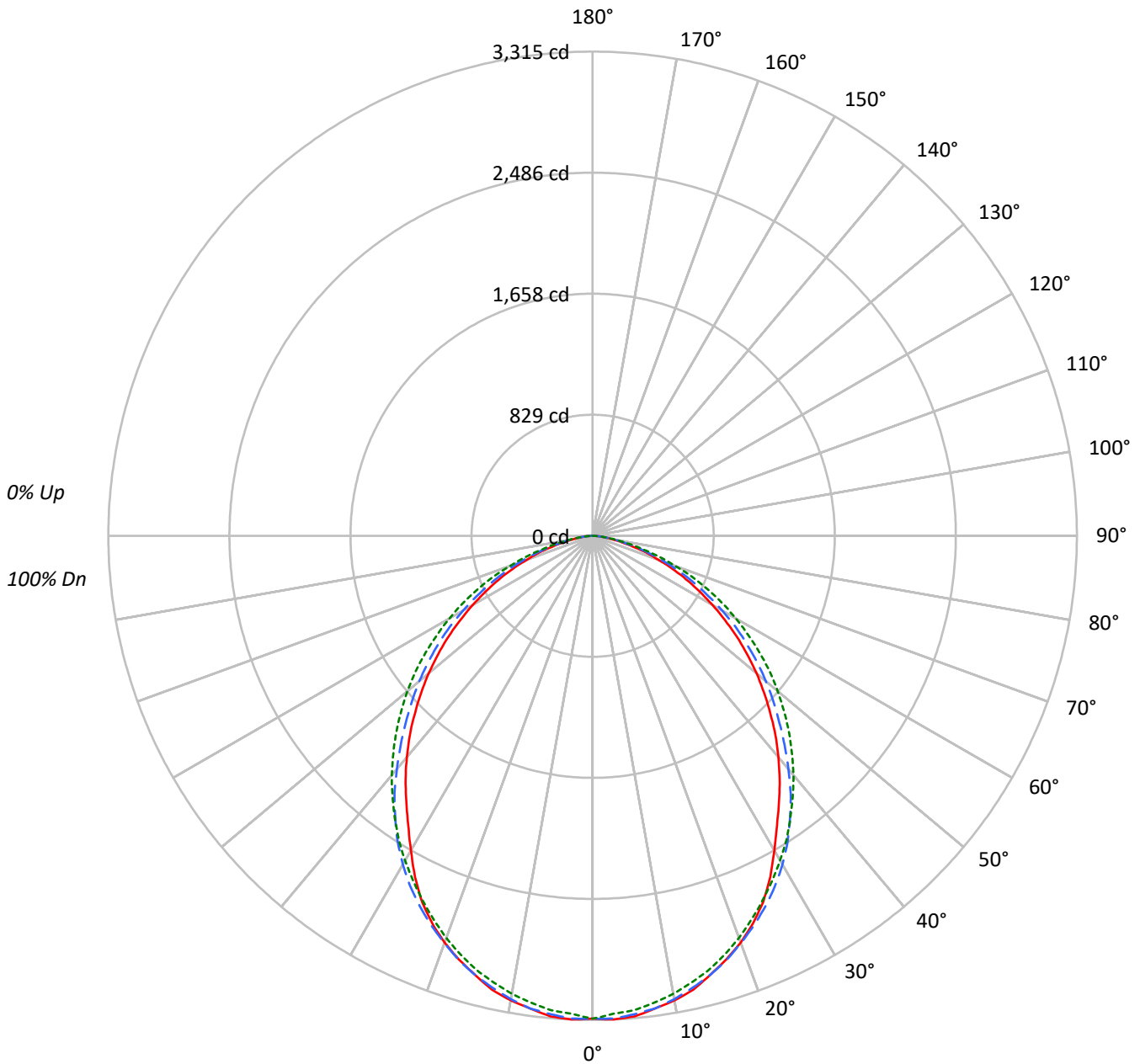
Lumens per Lamp: N/A  
Luminaire Lumens: 7645.0 lumens  
Efficiency: N/A  
Efficacy: 108.9 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 70.2  
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°	8897	8897	8897
5°	8921	8883	8807
10°	8826	8802	8701
15°	8669	8669	8571
20°	8486	8497	8388
25°	8206	8308	8176
30°	7728	8075	7976
35°	7302	7740	7753
40°	6947	7322	7514
45°	6550	6879	7231
50°	6131	6482	6924
55°	5655	6031	6549
60°	5093	5503	6091
65°	4497	4893	5540
70°	3747	4168	4707
75°	2944	3328	3685
80°	2106	2343	2599
85°	1374	1374	1294



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	311.3	4.1
10°-20°	874.5	11.4
20°-30°	1278.0	16.7
30°-40°	1450.6	19.0
40°-50°	1400.4	18.3
50°-60°	1155.2	15.1
60°-70°	769.3	10.1
70°-80°	344.2	4.5
80°-90°	61.6	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°	2463.8	32.2
0°-40°	3914.4	51.2
0°-60°	6469.9	84.6
0°-90°	7645.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7645.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3306	3306	3306	3306	3306	
5°	3302	3301	3288	3271	3260	313
15°	3112	3120	3112	3098	3076	877
25°	2764	2786	2798	2778	2754	1266
35°	2223	2253	2356	2369	2360	1393
45°	1721	1750	1808	1890	1900	1328
55°	1205	1226	1285	1356	1396	1076
65°	706	725	768	823	870	700
75°	283	298	320	335	354	310
85°	44	44	44	42	42	60
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3306.3	<i>3306.3</i>	3306.3	3306.3	3306.3
2.5°	<i>3315.2</i>	<i>3316.4</i>	<i>3308.8</i>	<i>3288.5</i>	<i>3275.8</i>
5°	3302.5	<i>3301.2</i>	3288.5	3270.7	3260.5
7.5°	3265.6	<i>3268.2</i>	3264.3	3238.9	3225.0
10°	3230.1	<i>3231.3</i>	3221.2	3200.8	3184.3
12.5°	3184.3	<i>3183.1</i>	3169.1	3158.9	3132.3
15°	3111.9	<i>3119.5</i>	3111.9	3098.0	3076.4
17.5°	3042.1	<i>3042.1</i>	3047.1	3023.0	3006.5
20°	2963.3	<i>2967.1</i>	2967.1	2948.1	2929.0
22.5°	2871.9	<i>2883.3</i>	2887.1	2866.8	2843.9
25°	2763.9	<i>2785.5</i>	2798.2	2777.9	2753.7
27.5°	2633.1	<i>2666.1</i>	2704.2	2689.0	2662.3
30°	2487.0	<i>2535.3</i>	2598.8	2586.1	2567.0
32.5°	2348.6	<i>2396.8</i>	2484.5	2479.4	2469.2
35°	2222.8	<i>2253.3</i>	2356.2	2368.9	2360.0
37.5°	2103.4	<i>2131.4</i>	2227.9	2257.1	2249.5
40°	1977.7	<i>2008.1</i>	2084.4	2136.4	2139.0
42.5°	1853.2	<i>1882.4</i>	1944.6	2019.6	2019.6
45°	1721.1	<i>1750.3</i>	1807.5	1890.0	1900.2
47.5°	1591.5	<i>1622.0</i>	1677.9	1760.5	1777.0
50°	1464.5	<i>1492.5</i>	1548.3	1628.4	1653.8
52.5°	1332.4	<i>1362.9</i>	1417.5	1491.2	1528.0
55°	1205.4	<i>1225.7</i>	1285.4	1356.5	1395.9
57.5°	1073.3	<i>1092.4</i>	1159.7	1220.6	1261.3
60°	946.3	<i>970.4</i>	1022.5	1084.7	1131.7
62.5°	824.3	<i>849.7</i>	894.2	948.8	1002.2
65°	706.2	<i>725.3</i>	768.5	823.1	870.1
67.5°	591.9	<i>608.4</i>	651.6	689.7	739.2
70°	476.3	<i>497.9</i>	529.7	566.5	598.3
72.5°	383.6	<i>392.5</i>	419.2	445.8	478.9
75°	283.2	<i>298.5</i>	320.1	335.3	354.4
77.5°	203.2	<i>212.1</i>	224.8	237.5	255.3
80°	135.9	<i>139.7</i>	151.2	153.7	167.7
82.5°	82.6	<i>85.1</i>	87.6	88.9	94.0
85°	44.5	<i>44.5</i>	44.5	41.9	41.9
87.5°	25.4	<i>25.4</i>	21.6	17.8	12.7
90°	0.0	<i>0.0</i>	0.0	0.0	0.0



Report Generated By 670246072 / DESKTOP-MV3F9LC







— 0°-180°    - - 45°-225°    - - - - 90°-270°







(END OF REPORT)