

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: P558417

Luminaire Tested: **FUSL-12-4-LD4-3STD-50-UNV-82-84-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: P558417  
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-82-84-EDD  
Description: 4FT FUSL SURFACE MOUNT WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

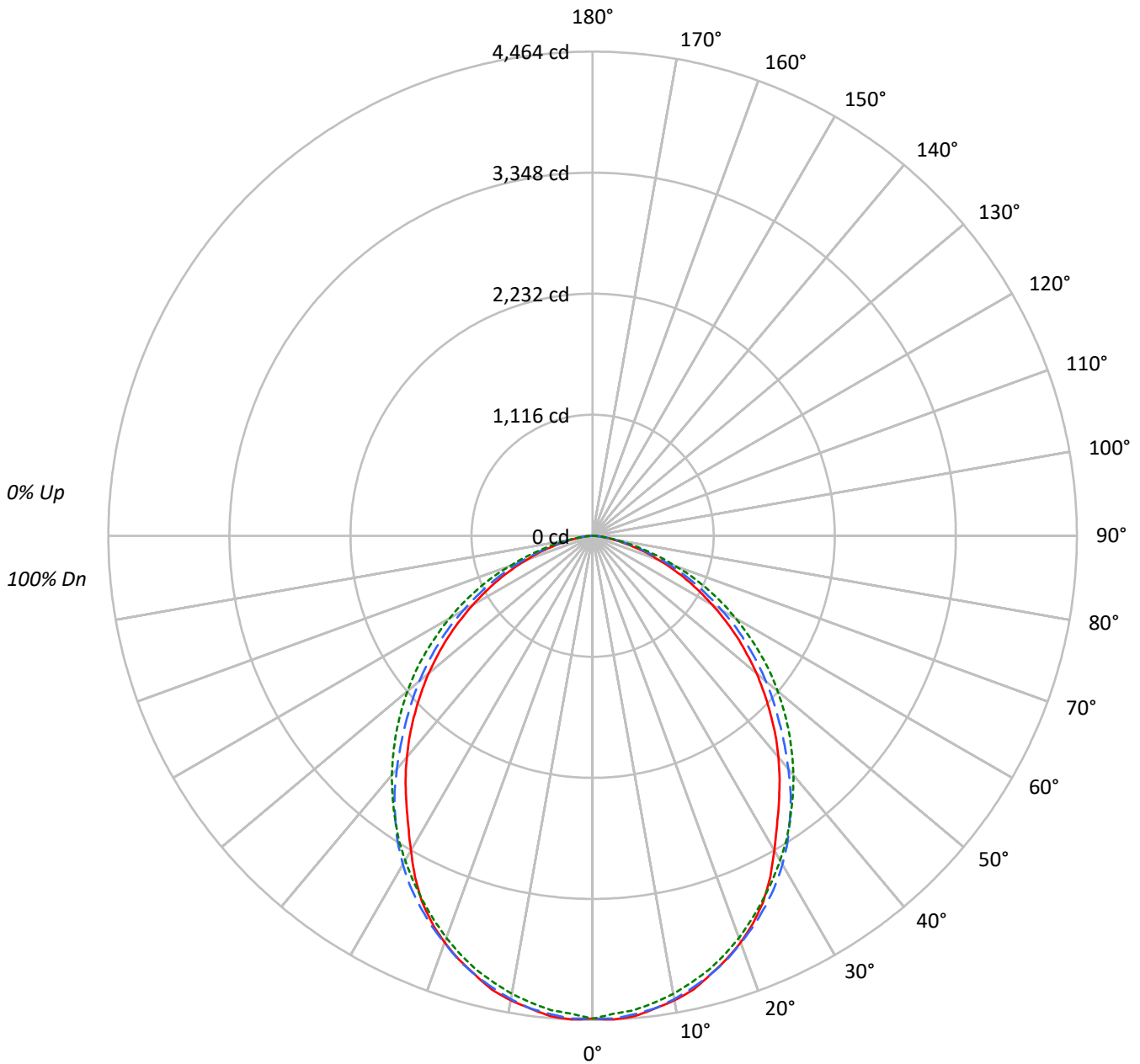
Lumens per Lamp: N/A  
Luminaire Lumens: 10294.0 lumens  
Efficiency: N/A  
Efficacy: 103.0 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

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									
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°	11980	11980	11980
5°	12012	11961	11859
10°	11884	11852	11716
15°	11674	11674	11540
20°	11426	11441	11294
25°	11050	11187	11009
30°	10406	10873	10740
35°	9832	10422	10439
40°	9354	9859	10117
45°	8819	9262	9737
50°	8256	8728	9322
55°	7615	8120	8818
60°	6858	7410	8202
65°	6055	6588	7459
70°	5046	5611	6338
75°	3965	4481	4962
80°	2836	3154	3499
85°	1849	1849	1741



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	419.2	4.1
10°-20°	1177.5	11.4
20°-30°	1720.8	16.7
30°-40°	1953.3	19.0
40°-50°	1885.6	18.3
50°-60°	1555.5	15.1
60°-70°	1035.8	10.1
70°-80°	463.5	4.5
80°-90°	82.9	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°	3317.5	32.2
0°-40°	5270.7	51.2
0°-60°	8711.8	84.6
0°-90°	10294.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10294.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4452	4452	4452	4452	4452	
5°	4447	4445	4428	4404	4390	421
15°	4190	4200	4190	4171	4142	1181
25°	3722	3751	3768	3740	3708	1704
35°	2993	3034	3173	3190	3178	1875
45°	2317	2357	2434	2545	2559	1788
55°	1623	1650	1731	1827	1880	1449
65°	951	977	1035	1108	1172	943
75°	381	402	431	452	477	417
85°	60	60	60	56	56	81
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4451.9	4451.9	4451.9	4451.9	4451.9
2.5°	4463.9	4465.6	4455.3	4427.9	4410.8
5°	4446.8	4445.0	4427.9	4404.0	4390.3
7.5°	4397.2	4400.6	4395.4	4361.2	4342.4
10°	4349.3	4351.0	4337.3	4309.9	4287.7
12.5°	4287.7	4286.0	4267.2	4253.5	4217.6
15°	4190.2	4200.5	4190.2	4171.4	4142.3
17.5°	4096.1	4096.1	4103.0	4070.5	4048.3
20°	3990.1	3995.2	3995.2	3969.6	3943.9
22.5°	3867.0	3882.4	3887.5	3860.1	3829.3
25°	3721.6	3750.7	3767.8	3740.4	3707.9
27.5°	3545.4	3589.9	3641.2	3620.7	3584.8
30°	3348.8	3413.7	3499.3	3482.2	3456.5
32.5°	3162.3	3227.3	3345.3	3338.5	3324.8
35°	2993.0	3034.1	3172.6	3189.7	3177.7
37.5°	2832.2	2869.9	2999.9	3039.2	3028.9
40°	2662.9	2704.0	2806.6	2876.7	2880.1
42.5°	2495.3	2534.7	2618.5	2719.4	2719.4
45°	2317.4	2356.8	2433.7	2544.9	2558.6
47.5°	2143.0	2184.0	2259.3	2370.5	2392.7
50°	1972.0	2009.6	2084.8	2192.6	2226.8
52.5°	1794.1	1835.1	1908.7	2007.9	2057.5
55°	1623.1	1650.4	1730.8	1826.6	1879.6
57.5°	1445.2	1470.9	1561.5	1643.6	1698.3
60°	1274.2	1306.7	1376.8	1460.6	1523.9
62.5°	1110.0	1144.2	1204.0	1277.6	1349.4
65°	950.9	976.6	1034.7	1108.3	1171.5
67.5°	797.0	819.2	877.4	928.7	995.4
70°	641.4	670.4	713.2	762.8	805.5
72.5°	516.5	528.5	564.4	600.3	644.8
75°	381.4	401.9	431.0	451.5	477.2
77.5°	273.6	285.6	302.7	319.8	343.8
80°	183.0	188.1	203.5	206.9	225.8
82.5°	111.2	114.6	118.0	119.7	126.6
85°	59.9	59.9	59.9	56.4	56.4
87.5°	34.2	34.2	29.1	23.9	17.1
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)