

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: P558431

Luminaire Tested: **FUSL-12-4-LD4-3STD-50-UNV-82-97-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: P558431  
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-82-97-EDD  
Description: 4FT FUSL SURFACE MOUNT WITH .187 CLEAR PC FIXTURE SIDE AND .375  
CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT  
LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

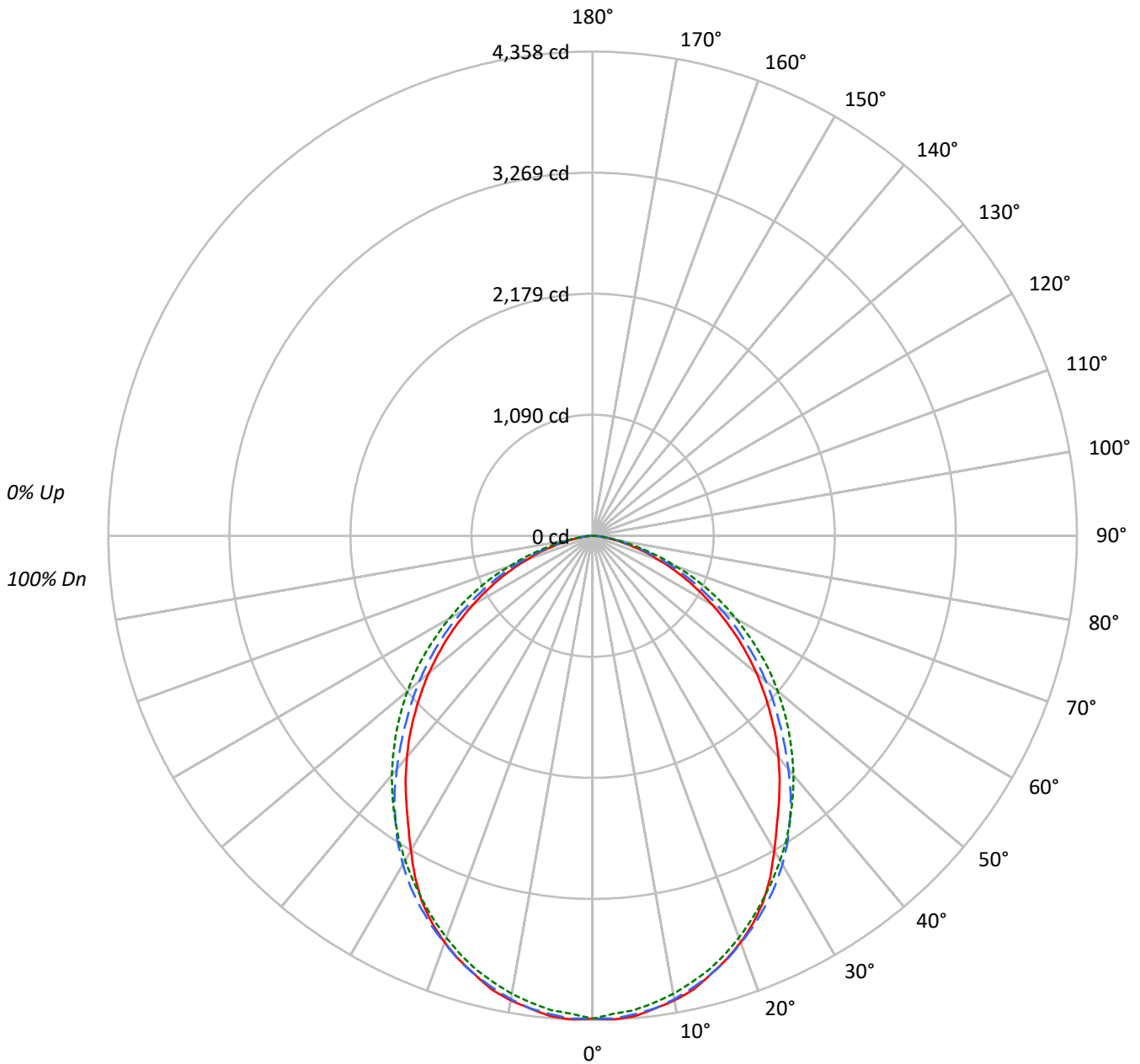
Lumens per Lamp: N/A  
Luminaire Lumens: 10049.0 lumens  
Efficiency: N/A  
Efficacy: 100.6 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 99.9  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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°	11695	11695	11695
5°	11726	11676	11577
10°	11602	11570	11437
15°	11396	11396	11265
20°	11154	11169	11025
25°	10787	10921	10747
30°	10158	10614	10485
35°	9598	10174	10191
40°	9132	9624	9877
45°	8609	9041	9505
50°	8059	8520	9100
55°	7433	7927	8609
60°	6694	7233	8006
65°	5911	6432	7282
70°	4926	5478	6187
75°	3871	4374	4843
80°	2768	3079	3415
85°	1803	1803	1701



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	409.2	4.1
10°-20°	1149.5	11.4
20°-30°	1679.8	16.7
30°-40°	1906.8	19.0
40°-50°	1840.7	18.3
50°-60°	1518.4	15.1
60°-70°	1011.2	10.1
70°-80°	452.5	4.5
80°-90°	81.0	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°	3238.5	32.2
0°-40°	5145.3	51.2
0°-60°	8504.4	84.6
0°-90°	10049.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10049.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4346	4346	4346	4346	4346	
5°	4341	4339	4323	4299	4286	411
15°	4090	4100	4090	4072	4044	1153
25°	3633	3661	3678	3651	3620	1664
35°	2922	2962	3097	3114	3102	1831
45°	2262	2301	2376	2484	2498	1745
55°	1584	1611	1690	1783	1835	1414
65°	928	953	1010	1082	1144	920
75°	372	392	421	441	466	407
85°	58	58	58	55	55	79
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4345.9	4345.9	4345.9	4345.9	4345.9
2.5°	4357.6	4359.3	4349.3	4322.6	4305.9
5°	4340.9	4339.3	4322.6	4299.2	4285.8
7.5°	4292.5	4295.8	4290.8	4257.4	4239.1
10°	4245.8	4247.4	4234.1	4207.4	4185.7
12.5°	4185.7	4184.0	4165.6	4152.3	4117.2
15°	4090.5	4100.5	4090.5	4072.1	4043.7
17.5°	3998.7	3998.7	4005.3	3973.6	3951.9
20°	3895.1	3900.2	3900.2	3875.1	3850.1
22.5°	3774.9	3790.0	3795.0	3768.3	3738.2
25°	3633.0	3661.4	3678.1	3651.4	3619.7
27.5°	3461.1	3504.5	3554.5	3534.5	3499.5
30°	3269.0	3332.5	3416.0	3399.3	3374.2
32.5°	3087.1	3150.5	3265.7	3259.0	3245.7
35°	2921.8	2961.8	3097.1	3113.8	3102.1
37.5°	2764.8	2801.6	2928.5	2966.9	2956.8
40°	2599.5	2639.6	2739.8	2808.2	2811.6
42.5°	2435.9	2474.3	2556.1	2654.6	2654.6
45°	2262.3	2300.7	2375.8	2484.3	2497.7
47.5°	2092.0	2132.1	2205.5	2314.0	2335.8
50°	1925.0	1961.8	2035.2	2140.4	2173.8
52.5°	1751.4	1791.5	1863.3	1960.1	2008.5
55°	1584.4	1611.2	1689.6	1783.1	1834.9
57.5°	1410.8	1435.8	1524.3	1604.5	1657.9
60°	1243.8	1275.6	1344.0	1425.8	1487.6
62.5°	1083.6	1117.0	1175.4	1247.2	1317.3
65°	928.3	953.3	1010.1	1081.9	1143.7
67.5°	778.0	799.7	856.5	906.6	971.7
70°	626.1	654.5	696.2	744.6	786.4
72.5°	504.2	515.9	551.0	586.0	629.4
75°	372.3	392.4	420.7	440.8	465.8
77.5°	267.1	278.8	295.5	312.2	335.6
80°	178.6	183.7	198.7	202.0	220.4
82.5°	108.5	111.9	115.2	116.9	123.5
85°	58.4	58.4	58.4	55.1	55.1
87.5°	33.4	33.4	28.4	23.4	16.7
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)