

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: P556688

Luminaire Tested: **FUSL-12-4-LD4-1STD-30-UNV-82-84-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: P556688  
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-LD4-1STD-30-UNV-82-84-EDD-90  
Description: 4FT FUSL SURFACE MOUNT WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

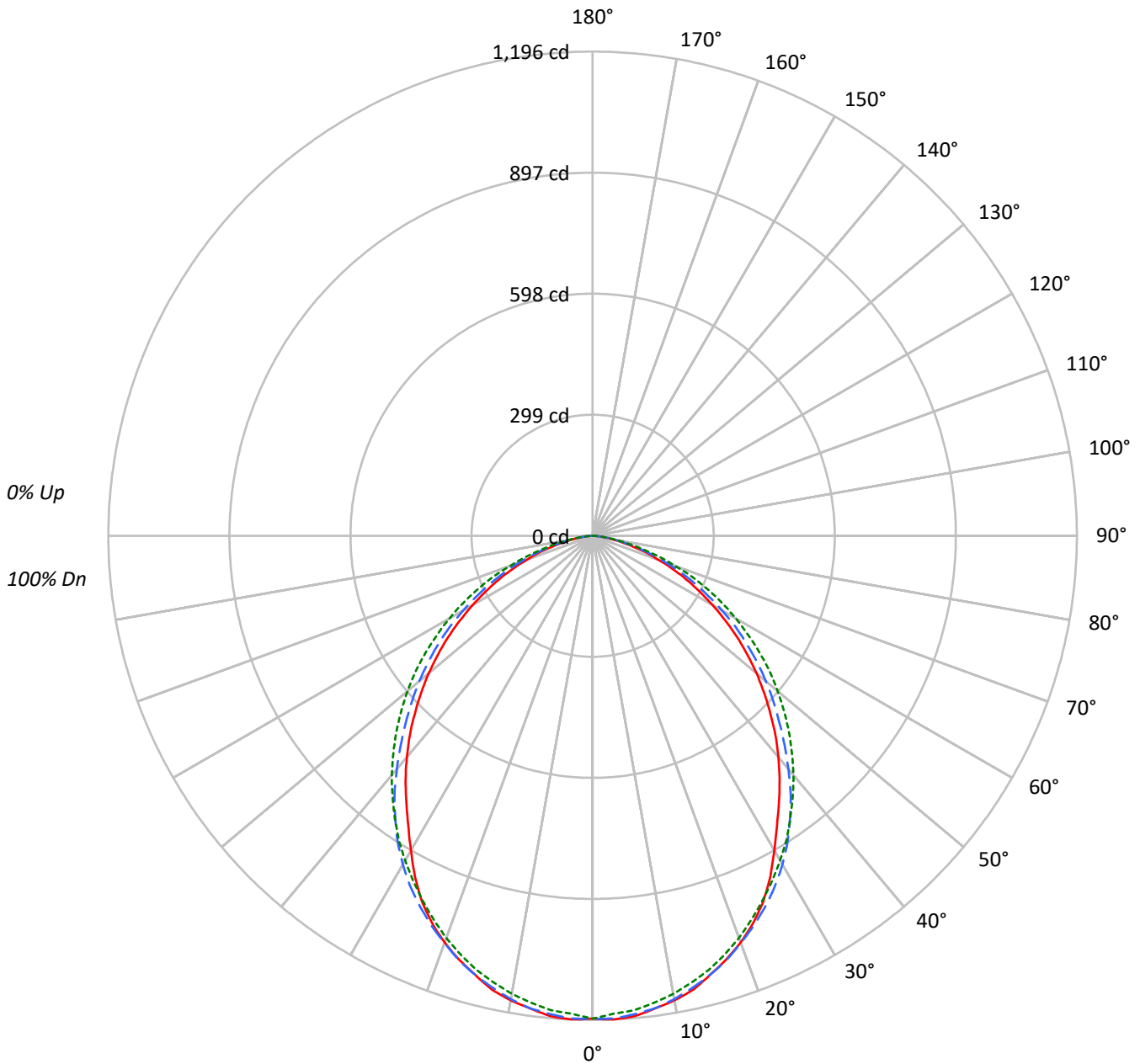
Lumens per Lamp: N/A  
Luminaire Lumens: 2758.0 lumens  
Efficiency: N/A  
Efficacy: 82.8 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 33.3  
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°	3210	3210	3210
5°	3218	3205	3177
10°	3184	3175	3139
15°	3128	3128	3092
20°	3061	3065	3026
25°	2961	2997	2950
30°	2788	2913	2878
35°	2634	2792	2797
40°	2506	2641	2711
45°	2363	2482	2609
50°	2212	2339	2498
55°	2040	2175	2363
60°	1837	1985	2197
65°	1622	1765	1999
70°	1352	1504	1698
75°	1063	1201	1329
80°	759	845	938
85°	494	494	466



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	112.3	4.1
10°-20°	315.5	11.4
20°-30°	461.0	16.7
30°-40°	523.3	19.0
40°-50°	505.2	18.3
50°-60°	416.8	15.1
60°-70°	277.5	10.1
70°-80°	124.2	4.5
80°-90°	22.2	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°	888.8	32.2
0°-40°	1412.1	51.2
0°-60°	2334.1	84.6
0°-90°	2758.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2758.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1193	1193	1193	1193	1193	
5°	1191	1191	1186	1180	1176	113
15°	1123	1125	1123	1118	1110	316
25°	997	1005	1010	1002	993	457
35°	802	813	850	855	851	502
45°	621	631	652	682	686	479
55°	435	442	464	489	504	388
65°	255	262	277	297	314	253
75°	102	108	116	121	128	112
85°	16	16	16	15	15	22
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1192.8	1192.8	1192.8	1192.8	1192.8
2.5°	1196.0	1196.4	1193.7	1186.3	1181.8
5°	1191.4	1190.9	1186.3	1179.9	1176.3
7.5°	1178.1	1179.0	1177.6	1168.5	1163.4
10°	1165.3	1165.7	1162.1	1154.7	1148.8
12.5°	1148.8	1148.3	1143.3	1139.6	1130.0
15°	1122.7	1125.4	1122.7	1117.6	1109.8
17.5°	1097.5	1097.5	1099.3	1090.6	1084.6
20°	1069.0	1070.4	1070.4	1063.5	1056.7
22.5°	1036.1	1040.2	1041.5	1034.2	1026.0
25°	997.1	1004.9	1009.5	1002.1	993.4
27.5°	949.9	961.8	975.6	970.1	960.4
30°	897.2	914.6	937.5	932.9	926.1
32.5°	847.3	864.7	896.3	894.5	890.8
35°	801.9	812.9	850.0	854.6	851.4
37.5°	758.8	768.9	803.7	814.3	811.5
40°	713.5	724.5	751.9	770.7	771.7
42.5°	668.6	679.1	701.5	728.6	728.6
45°	620.9	631.4	652.1	681.8	685.5
47.5°	574.2	585.2	605.3	635.1	641.1
50°	528.3	538.4	558.6	587.4	596.6
52.5°	480.7	491.7	511.4	538.0	551.2
55°	434.9	442.2	463.7	489.4	503.6
57.5°	387.2	394.1	418.4	440.4	455.0
60°	341.4	350.1	368.9	391.3	408.3
62.5°	297.4	306.6	322.6	342.3	361.5
65°	254.8	261.6	277.2	296.9	313.9
67.5°	213.5	219.5	235.1	248.8	266.7
70°	171.8	179.6	191.1	204.4	215.8
72.5°	138.4	141.6	151.2	160.8	172.8
75°	102.2	107.7	115.5	121.0	127.8
77.5°	73.3	76.5	81.1	85.7	92.1
80°	49.0	50.4	54.5	55.4	60.5
82.5°	29.8	30.7	31.6	32.1	33.9
85°	16.0	16.0	16.0	15.1	15.1
87.5°	9.2	9.2	7.8	6.4	4.6
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)