

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: P556828

Luminaire Tested: **FUSL-12-4-LD4-1STD-40-UNV-82-96-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: P556828  
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-40-UNV-82-96-EDD-90  
Description: 4FT FUSL SURFACE MOUNT WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

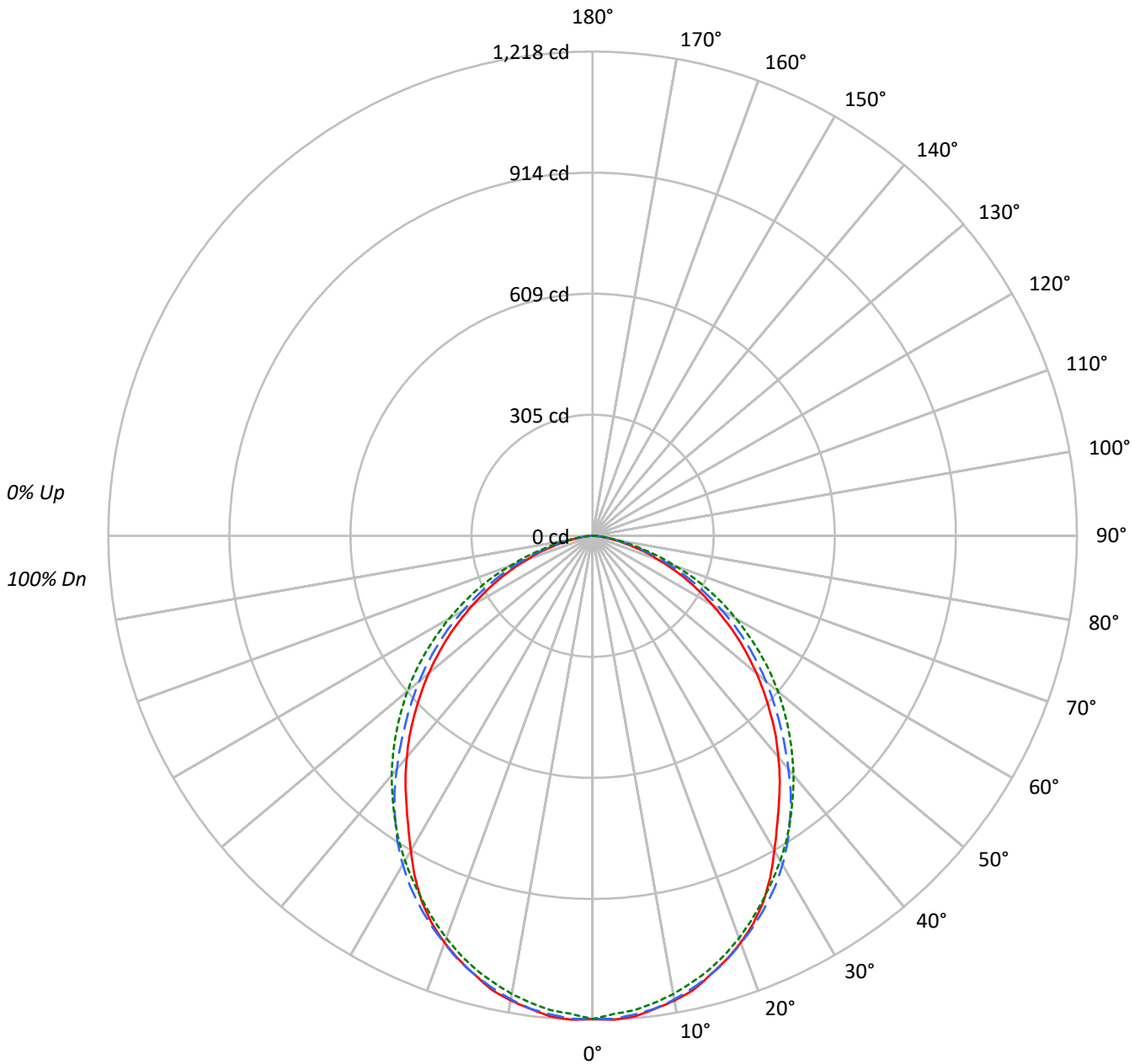
Lumens per Lamp: N/A  
Luminaire Lumens: 2810.0 lumens  
Efficiency: N/A  
Efficacy: 84.4 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 33.3  
Input Voltage (V): NR  
Input Current (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°	3270	3270	3270
5°	3279	3265	3237
10°	3244	3235	3198
15°	3187	3187	3150
20°	3119	3123	3083
25°	3016	3054	3005
30°	2840	2968	2932
35°	2684	2845	2849
40°	2553	2691	2762
45°	2407	2528	2658
50°	2254	2382	2545
55°	2079	2217	2407
60°	1872	2023	2239
65°	1653	1799	2036
70°	1378	1532	1730
75°	1082	1224	1355
80°	775	862	955
85°	503	503	475



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	114.4	4.1
10°-20°	321.4	11.4
20°-30°	469.7	16.7
30°-40°	533.2	19.0
40°-50°	514.7	18.3
50°-60°	424.6	15.1
60°-70°	282.7	10.1
70°-80°	126.5	4.5
80°-90°	22.6	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°	905.6	32.2
0°-40°	1438.8	51.2
0°-60°	2378.1	84.6
0°-90°	2810.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2810.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1215	1215	1215	1215	1215	
5°	1214	1213	1209	1202	1198	115
15°	1144	1147	1144	1139	1131	322
25°	1016	1024	1028	1021	1012	465
35°	817	828	866	871	867	512
45°	633	643	664	695	698	488
55°	443	450	472	499	513	395
65°	260	267	282	302	320	257
75°	104	110	118	123	130	114
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°	1215.3	1215.3	1215.3	1215.3	1215.3
2.5°	1218.5	1219.0	1216.2	1208.7	1204.0
5°	1213.9	1213.4	1208.7	1202.2	1198.4
7.5°	1200.3	1201.2	1199.8	1190.5	1185.4
10°	1187.2	1187.7	1184.0	1176.5	1170.4
12.5°	1170.4	1170.0	1164.8	1161.1	1151.3
15°	1143.8	1146.6	1143.8	1138.7	1130.7
17.5°	1118.1	1118.1	1120.0	1111.1	1105.1
20°	1089.2	1090.6	1090.6	1083.6	1076.6
22.5°	1055.6	1059.8	1061.2	1053.7	1045.3
25°	1015.9	1023.8	1028.5	1021.0	1012.2
27.5°	967.8	980.0	994.0	988.4	978.6
30°	914.1	931.9	955.2	950.5	943.5
32.5°	863.2	881.0	913.2	911.3	907.6
35°	817.0	828.2	866.0	870.7	867.4
37.5°	773.1	783.4	818.9	829.6	826.8
40°	726.9	738.1	766.1	785.3	786.2
42.5°	681.2	691.9	714.8	742.3	742.3
45°	632.6	643.3	664.4	694.7	698.4
47.5°	585.0	596.2	616.7	647.1	653.1
50°	538.3	548.6	569.1	598.5	607.9
52.5°	489.7	500.9	521.0	548.1	561.6
55°	443.1	450.5	472.5	498.6	513.1
57.5°	394.5	401.5	426.2	448.7	463.6
60°	347.8	356.7	375.8	398.7	416.0
62.5°	303.0	312.3	328.7	348.7	368.4
65°	259.6	266.6	282.5	302.5	319.8
67.5°	217.6	223.6	239.5	253.5	271.7
70°	175.1	183.0	194.7	208.2	219.9
72.5°	141.0	144.3	154.1	163.9	176.0
75°	104.1	109.7	117.7	123.3	130.3
77.5°	74.7	78.0	82.6	87.3	93.8
80°	50.0	51.4	55.6	56.5	61.6
82.5°	30.3	31.3	32.2	32.7	34.5
85°	16.3	16.3	16.3	15.4	15.4
87.5°	9.3	9.3	7.9	6.5	4.7
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)