

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: P556695

Luminaire Tested: **FUSL-12-4-LD4-1STD-30-UNV-82-87-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: P556695  
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-82-87-EDD  
Description: 4FT FUSL SURFACE MOUNT WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

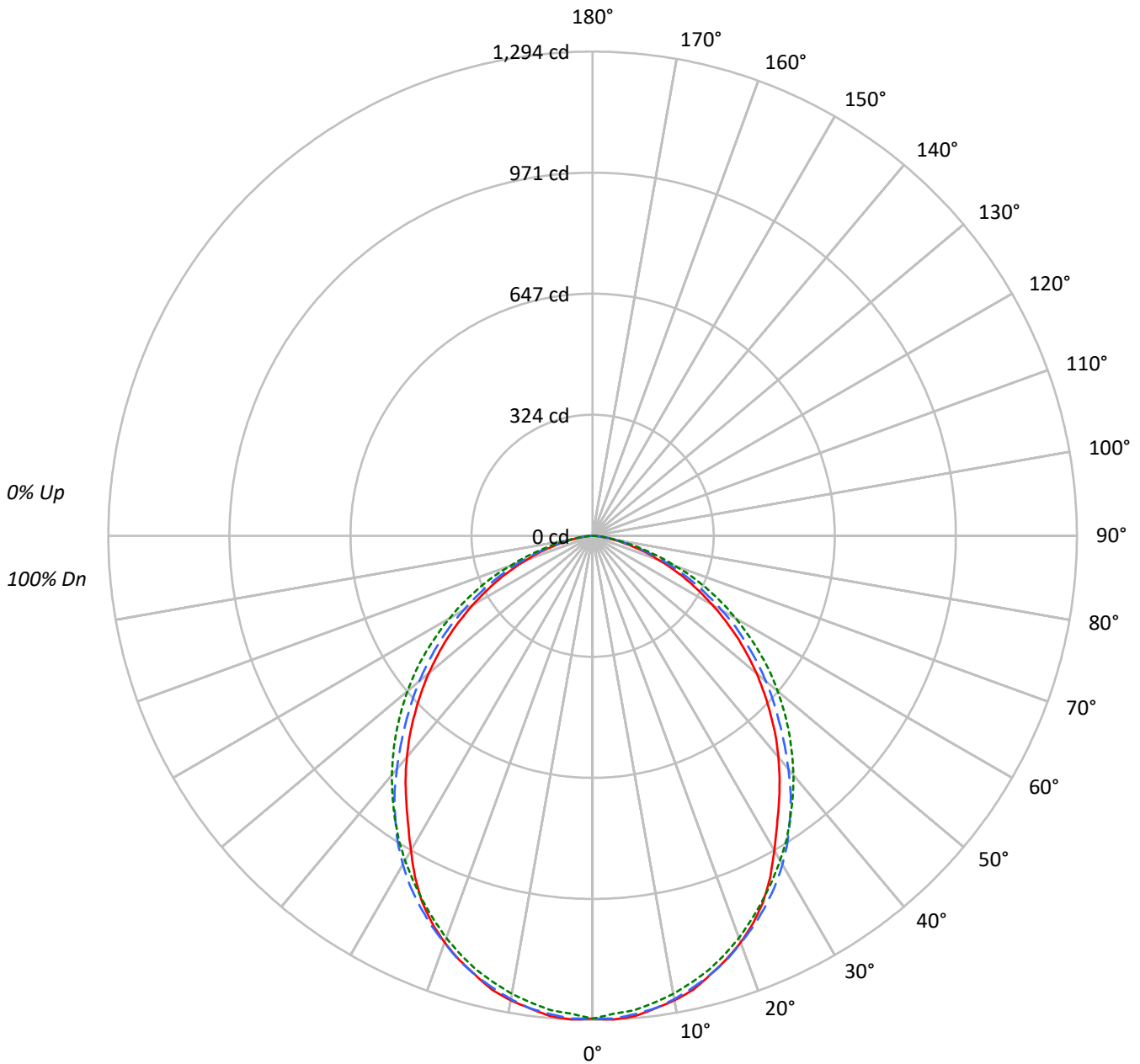
Lumens per Lamp: N/A  
Luminaire Lumens: 2984.0 lumens  
Efficiency: N/A  
Efficacy: 89.6 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 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°	3473	3473	3473
5°	3482	3467	3438
10°	3445	3436	3396
15°	3384	3384	3345
20°	3312	3316	3274
25°	3203	3243	3191
30°	3016	3152	3113
35°	2850	3021	3026
40°	2712	2858	2933
45°	2557	2685	2823
50°	2393	2530	2702
55°	2207	2354	2556
60°	1988	2148	2377
65°	1755	1910	2162
70°	1463	1626	1837
75°	1150	1299	1438
80°	821	914	1013
85°	537	537	506



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	121.5	4.1
10°-20°	341.3	11.4
20°-30°	498.8	16.7
30°-40°	566.2	19.0
40°-50°	546.6	18.3
50°-60°	450.9	15.1
60°-70°	300.3	10.1
70°-80°	134.4	4.5
80°-90°	24.0	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°	961.7	32.2
0°-40°	1527.9	51.2
0°-60°	2525.3	84.6
0°-90°	2984.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2984.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1290	1290	1290	1290	1290	
5°	1289	1288	1284	1277	1273	122
15°	1215	1218	1215	1209	1201	342
25°	1079	1087	1092	1084	1075	494
35°	868	880	920	925	921	544
45°	672	683	706	738	742	518
55°	470	478	502	530	545	420
65°	276	283	300	321	340	273
75°	111	116	125	131	138	121
85°	17	17	17	16	16	23
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1290.5	1290.5	1290.5	1290.5	1290.5
2.5°	1294.0	1294.5	1291.5	1283.6	1278.6
5°	1289.0	1288.5	1283.6	1276.6	1272.7
7.5°	1274.6	1275.6	1274.1	1264.2	1258.8
10°	1260.8	1261.3	1257.3	1249.4	1242.9
12.5°	1242.9	1242.4	1237.0	1233.0	1222.6
15°	1214.6	1217.6	1214.6	1209.2	1200.8
17.5°	1187.4	1187.4	1189.4	1179.9	1173.5
20°	1156.6	1158.1	1158.1	1150.7	1143.3
22.5°	1120.9	1125.4	1126.9	1119.0	1110.0
25°	1078.8	1087.2	1092.2	1084.3	1074.8
27.5°	1027.7	1040.6	1055.5	1049.6	1039.1
30°	970.7	989.6	1014.4	1009.4	1002.0
32.5°	916.7	935.5	969.7	967.8	963.8
35°	867.6	879.5	919.7	924.6	921.2
37.5°	821.0	831.9	869.6	881.0	878.0
40°	771.9	783.8	813.6	833.9	834.9
42.5°	723.3	734.7	759.0	788.3	788.3
45°	671.8	683.2	705.5	737.7	741.7
47.5°	621.2	633.1	654.9	687.1	693.6
50°	571.6	582.5	604.4	635.6	645.5
52.5°	520.1	532.0	553.3	582.0	596.4
55°	470.5	478.4	501.7	529.5	544.9
57.5°	418.9	426.4	452.6	476.4	492.3
60°	369.4	378.8	399.1	423.4	441.7
62.5°	321.8	331.7	349.0	370.3	391.2
65°	275.7	283.1	299.9	321.3	339.6
67.5°	231.0	237.5	254.3	269.2	288.5
70°	185.9	194.3	206.7	221.1	233.5
72.5°	149.7	153.2	163.6	174.0	186.9
75°	110.6	116.5	124.9	130.9	138.3
77.5°	79.3	82.8	87.8	92.7	99.7
80°	53.0	54.5	59.0	60.0	65.4
82.5°	32.2	33.2	34.2	34.7	36.7
85°	17.4	17.4	17.4	16.4	16.4
87.5°	9.9	9.9	8.4	6.9	5.0
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)