

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: P556246

Luminaire Tested: **FUSL-12-4-LD4-1HI-35-UNV-82-87-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: P556246  
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-LD4-1HI-35-UNV-82-87-EDD-90  
Description: 4FT FUSL SURFACE MOUNT WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

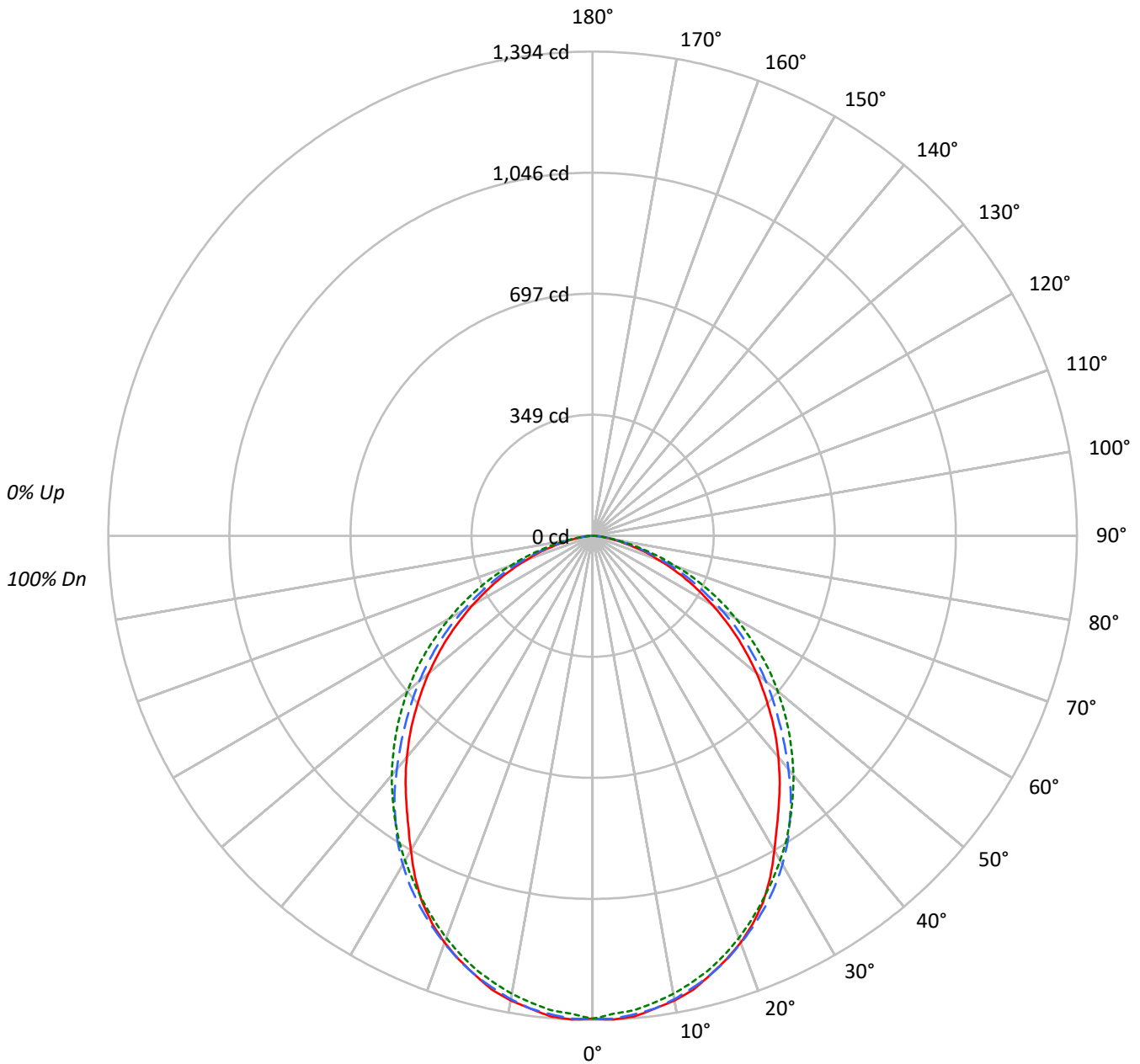
Lumens per Lamp: N/A  
Luminaire Lumens: 3215.0 lumens  
Efficiency: N/A  
Efficacy: 74.4 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 43.2  
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°	3742	3742	3742
5°	3752	3736	3704
10°	3712	3701	3659
15°	3646	3646	3604
20°	3569	3573	3527
25°	3451	3494	3438
30°	3250	3396	3354
35°	3071	3255	3260
40°	2922	3079	3160
45°	2755	2893	3041
50°	2578	2726	2912
55°	2378	2536	2754
60°	2141	2314	2561
65°	1891	2058	2330
70°	1576	1752	1980
75°	1238	1399	1549
80°	886	986	1093
85°	577	577	543



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	130.9	4.1
10°-20°	367.8	11.4
20°-30°	537.4	16.7
30°-40°	610.0	19.0
40°-50°	588.9	18.3
50°-60°	485.8	15.1
60°-70°	323.5	10.1
70°-80°	144.8	4.5
80°-90°	25.9	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°	1036.1	32.2
0°-40°	1646.1	51.2
0°-60°	2720.8	84.6
0°-90°	3215.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3215.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1390	1390	1390	1390	1390	
5°	1389	1388	1383	1375	1371	131
15°	1309	1312	1309	1303	1294	369
25°	1162	1171	1177	1168	1158	532
35°	935	948	991	996	992	586
45°	724	736	760	795	799	558
55°	507	516	541	570	587	452
65°	297	305	323	346	366	294
75°	119	126	135	141	149	130
85°	19	19	19	18	18	25
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1390.4	1390.4	1390.4	1390.4	1390.4
2.5°	1394.1	1394.7	1391.5	1382.9	1377.6
5°	1388.8	1388.3	1382.9	1375.4	1371.2
7.5°	1373.3	1374.4	1372.8	1362.1	1356.2
10°	1358.4	1358.9	1354.6	1346.1	1339.1
12.5°	1339.1	1338.6	1332.7	1328.4	1317.2
15°	1308.7	1311.9	1308.7	1302.8	1293.7
17.5°	1279.3	1279.3	1281.4	1271.3	1264.3
20°	1246.2	1247.8	1247.8	1239.8	1231.8
22.5°	1207.7	1212.5	1214.1	1205.6	1196.0
25°	1162.3	1171.4	1176.7	1168.2	1158.0
27.5°	1107.3	1121.2	1137.2	1130.8	1119.6
30°	1045.9	1066.2	1092.9	1087.5	1079.5
32.5°	987.7	1007.9	1044.8	1042.7	1038.4
35°	934.8	947.6	990.9	996.2	992.5
37.5°	884.6	896.3	936.9	949.2	946.0
40°	831.7	844.5	876.5	898.4	899.5
42.5°	779.3	791.6	817.8	849.3	849.3
45°	723.8	736.1	760.1	794.8	799.1
47.5°	669.3	682.1	705.6	740.3	747.3
50°	615.9	627.6	651.1	684.8	695.5
52.5°	560.3	573.1	596.1	627.1	642.6
55°	506.9	515.5	540.6	570.5	587.0
57.5°	451.4	459.4	487.7	513.3	530.4
60°	397.9	408.1	430.0	456.2	475.9
62.5°	346.7	357.3	376.0	399.0	421.4
65°	297.0	305.0	323.2	346.1	365.9
67.5°	248.9	255.9	274.0	290.0	310.9
70°	200.3	209.4	222.7	238.2	251.6
72.5°	161.3	165.1	176.3	187.5	201.4
75°	119.1	125.5	134.6	141.0	149.0
77.5°	85.5	89.2	94.5	99.9	107.4
80°	57.2	58.8	63.6	64.6	70.5
82.5°	34.7	35.8	36.9	37.4	39.5
85°	18.7	18.7	18.7	17.6	17.6
87.5°	10.7	10.7	9.1	7.5	5.3
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)