

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: P556887

Luminaire Tested: **FUSL-12-4-LD4-1STD-50-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: P556887  
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-50-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 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

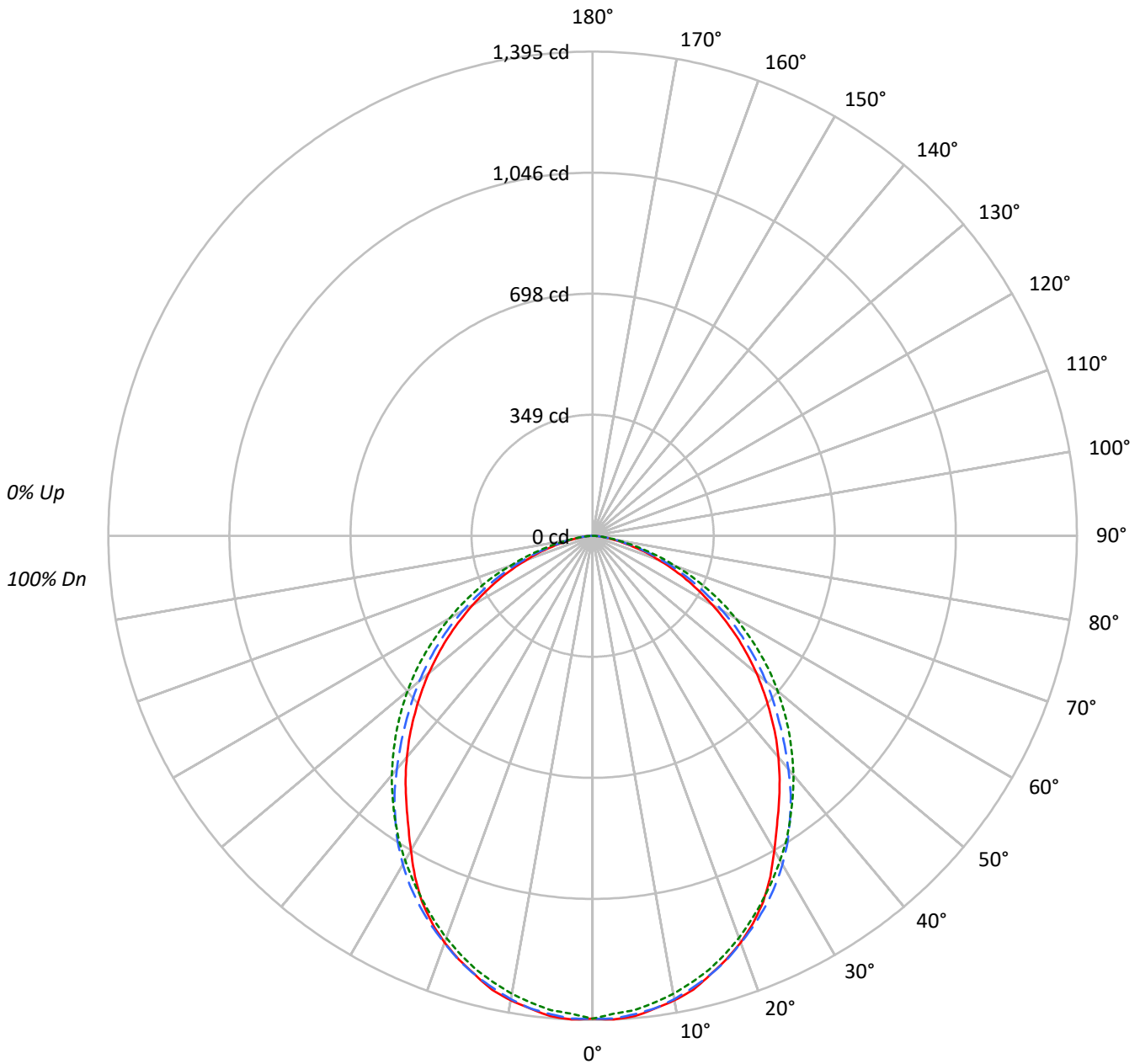
Lumens per Lamp: N/A  
Luminaire Lumens: 3217.0 lumens  
Efficiency: N/A  
Efficacy: 96.6 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 33.3  
Input Voltage (V): NR  
Input Current (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°	3744	3744	3744
5°	3754	3738	3706
10°	3714	3704	3662
15°	3648	3648	3606
20°	3571	3576	3529
25°	3453	3496	3441
30°	3252	3398	3356
35°	3073	3257	3262
40°	2923	3081	3162
45°	2756	2895	3043
50°	2580	2727	2913
55°	2380	2538	2756
60°	2143	2316	2563
65°	1892	2059	2331
70°	1577	1754	1980
75°	1239	1400	1550
80°	886	986	1094
85°	577	577	543



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	131.0	4.1
10°-20°	368.0	11.4
20°-30°	537.8	16.7
30°-40°	610.4	19.0
40°-50°	589.3	18.3
50°-60°	486.1	15.1
60°-70°	323.7	10.1
70°-80°	144.9	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°	1036.7	32.2
0°-40°	1647.2	51.2
0°-60°	2722.5	84.6
0°-90°	3217.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3217.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1391	1391	1391	1391	1391	
5°	1390	1389	1384	1376	1372	132
15°	1310	1313	1310	1304	1294	369
25°	1163	1172	1178	1169	1159	533
35°	935	948	992	997	993	586
45°	724	736	761	795	800	559
55°	507	516	541	571	587	453
65°	297	305	323	346	366	295
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°	1391.3	1391.3	1391.3	1391.3	1391.3
2.5°	1395.0	1395.5	1392.3	1383.8	1378.4
5°	1389.7	1389.1	1383.8	1376.3	1372.0
7.5°	1374.2	1375.2	1373.6	1362.9	1357.1
10°	1359.2	1359.7	1355.5	1346.9	1340.0
12.5°	1340.0	1339.4	1333.5	1329.3	1318.0
15°	1309.5	1312.7	1309.5	1303.6	1294.5
17.5°	1280.1	1280.1	1282.2	1272.1	1265.1
20°	1247.0	1248.6	1248.6	1240.5	1232.5
22.5°	1208.5	1213.3	1214.9	1206.3	1196.7
25°	1163.0	1172.1	1177.5	1168.9	1158.8
27.5°	1108.0	1121.9	1137.9	1131.5	1120.3
30°	1046.5	1066.8	1093.6	1088.2	1080.2
32.5°	988.3	1008.6	1045.5	1043.3	1039.0
35°	935.4	948.2	991.5	996.8	993.1
37.5°	885.1	896.9	937.5	949.8	946.6
40°	832.2	845.0	877.1	899.0	900.1
42.5°	779.8	792.1	818.3	849.8	849.8
45°	724.2	736.5	760.6	795.3	799.6
47.5°	669.7	682.5	706.1	740.8	747.7
50°	616.3	628.0	651.5	685.2	695.9
52.5°	560.7	573.5	596.5	627.5	643.0
55°	507.2	515.8	540.9	570.8	587.4
57.5°	451.6	459.7	488.0	513.6	530.7
60°	398.2	408.3	430.3	456.5	476.2
62.5°	346.9	357.6	376.3	399.3	421.7
65°	297.2	305.2	323.4	346.3	366.1
67.5°	249.1	256.0	274.2	290.2	311.1
70°	200.4	209.5	222.9	238.4	251.7
72.5°	161.4	165.2	176.4	187.6	201.5
75°	119.2	125.6	134.7	141.1	149.1
77.5°	85.5	89.3	94.6	99.9	107.4
80°	57.2	58.8	63.6	64.7	70.6
82.5°	34.7	35.8	36.9	37.4	39.6
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)