

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: P556377

Luminaire Tested: **FUSL-12-4-LD4-1HI-50-UNV-82-88-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: P556377  
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-50-UNV-82-88-EDD  
Description: 4FT FUSL SURFACE MOUNT WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

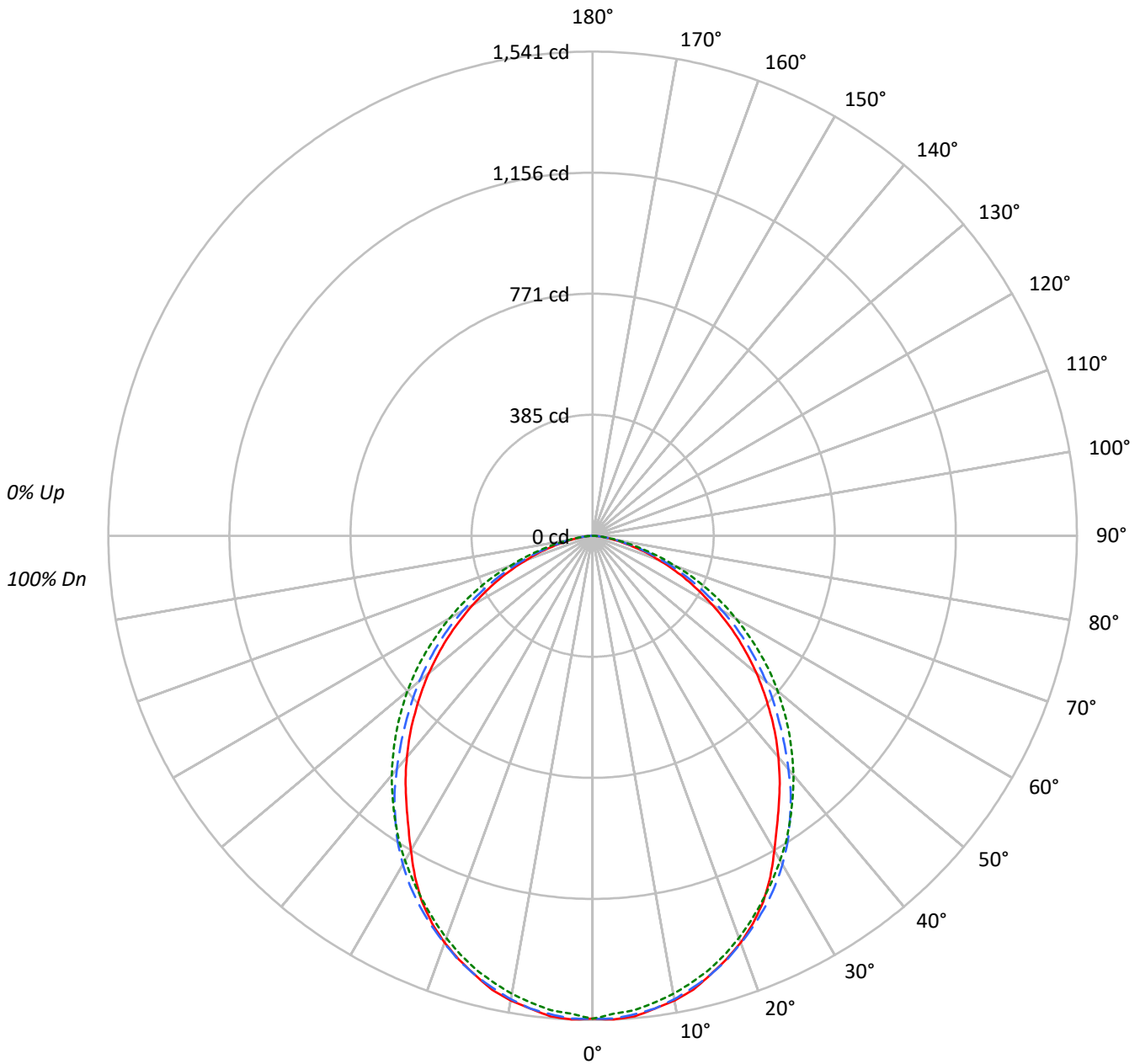
Lumens per Lamp: N/A  
Luminaire Lumens: 3554.0 lumens  
Efficiency: N/A  
Efficacy: 82.3 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

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°	4136	4136	4136
5°	4147	4129	4095
10°	4103	4092	4045
15°	4030	4030	3984
20°	3945	3950	3899
25°	3815	3862	3801
30°	3593	3754	3708
35°	3394	3598	3604
40°	3230	3404	3493
45°	3045	3197	3362
50°	2850	3013	3219
55°	2629	2804	3044
60°	2368	2558	2831
65°	2090	2274	2576
70°	1742	1937	2188
75°	1369	1547	1712
80°	979	1089	1207
85°	639	639	602



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	144.7	4.1
10°-20°	406.5	11.4
20°-30°	594.1	16.7
30°-40°	674.4	19.0
40°-50°	651.0	18.3
50°-60°	537.0	15.1
60°-70°	357.6	10.1
70°-80°	160.0	4.5
80°-90°	28.6	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°	1145.4	32.2
0°-40°	1819.7	51.2
0°-60°	3007.7	84.6
0°-90°	3554.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3554.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1537	1537	1537	1537	1537	
5°	1535	1535	1529	1520	1516	145
15°	1447	1450	1447	1440	1430	408
25°	1285	1295	1301	1291	1280	588
35°	1033	1048	1095	1101	1097	647
45°	800	814	840	879	883	617
55°	560	570	598	631	649	500
65°	328	337	357	383	404	326
75°	132	139	149	156	165	144
85°	21	21	21	20	20	28
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1537.0	1537.0	1537.0	1537.0	1537.0
2.5°	1541.1	1541.7	1538.2	1528.7	1522.8
5°	1535.2	1534.7	1528.7	1520.5	1515.8
7.5°	1518.1	1519.3	1517.5	1505.7	1499.2
10°	1501.6	1502.2	1497.5	1488.0	1480.3
12.5°	1480.3	1479.7	1473.2	1468.5	1456.1
15°	1446.7	1450.2	1446.7	1440.2	1430.1
17.5°	1414.2	1414.2	1416.6	1405.3	1397.7
20°	1377.6	1379.4	1379.4	1370.5	1361.6
22.5°	1335.1	1340.4	1342.2	1332.7	1322.1
25°	1284.9	1294.9	1300.8	1291.4	1280.2
27.5°	1224.1	1239.4	1257.1	1250.0	1237.6
30°	1156.2	1178.6	1208.1	1202.2	1193.4
32.5°	1091.8	1114.2	1155.0	1152.6	1147.9
35°	1033.3	1047.5	1095.3	1101.2	1097.1
37.5°	977.8	990.8	1035.7	1049.3	1045.7
40°	919.4	933.5	969.0	993.2	994.4
42.5°	861.5	875.1	904.0	938.9	938.9
45°	800.1	813.7	840.2	878.6	883.4
47.5°	739.9	754.0	780.0	818.4	826.1
50°	680.8	693.8	719.8	757.0	768.8
52.5°	619.4	633.6	659.0	693.2	710.3
55°	560.4	569.8	597.6	630.6	648.9
57.5°	499.0	507.8	539.1	567.4	586.3
60°	439.9	451.1	475.3	504.3	526.1
62.5°	383.2	395.0	415.7	441.1	465.9
65°	328.3	337.2	357.2	382.6	404.5
67.5°	275.2	282.8	302.9	320.6	343.7
70°	221.4	231.5	246.2	263.4	278.1
72.5°	178.3	182.5	194.9	207.3	222.6
75°	131.7	138.8	148.8	155.9	164.7
77.5°	94.5	98.6	104.5	110.4	118.7
80°	63.2	65.0	70.3	71.4	77.9
82.5°	38.4	39.6	40.7	41.3	43.7
85°	20.7	20.7	20.7	19.5	19.5
87.5°	11.8	11.8	10.0	8.3	5.9
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)