

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: P556801

Luminaire Tested: **FUSL-12-4-LD4-1STD-40-UNV-81-84-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: P556801  
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-81-84-EDD  
Description: 4FT FUSL SURFACE MOUNT WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

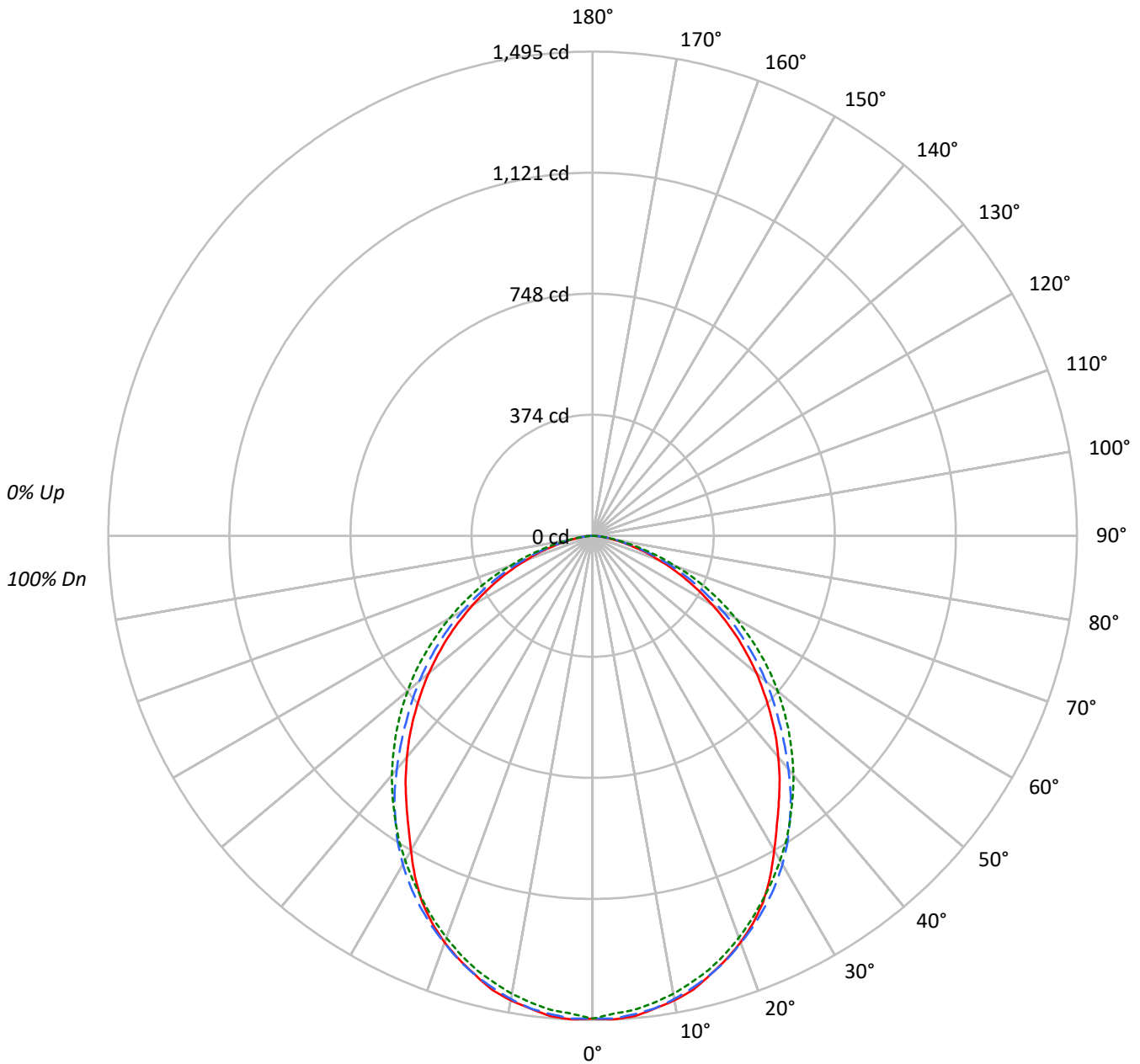
Lumens per Lamp: N/A  
Luminaire Lumens: 3447.0 lumens  
Efficiency: N/A  
Efficacy: 103.5 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

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°	4011	4011	4011
5°	4022	4005	3971
10°	3980	3969	3923
15°	3909	3909	3864
20°	3826	3831	3782
25°	3700	3746	3687
30°	3484	3641	3596
35°	3292	3490	3496
40°	3132	3301	3388
45°	2953	3102	3261
50°	2764	2923	3122
55°	2550	2719	2953
60°	2296	2481	2746
65°	2027	2206	2498
70°	1690	1879	2122
75°	1328	1500	1661
80°	950	1057	1172
85°	618	618	584



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	140.4	4.1
10°-20°	394.3	11.4
20°-30°	576.2	16.7
30°-40°	654.1	19.0
40°-50°	631.4	18.3
50°-60°	520.9	15.1
60°-70°	346.8	10.1
70°-80°	155.2	4.5
80°-90°	27.8	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°	1110.9	32.2
0°-40°	1764.9	51.2
0°-60°	2917.2	84.6
0°-90°	3447.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3447.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1491	1491	1491	1491	1491	
5°	1489	1488	1483	1475	1470	141
15°	1403	1407	1403	1397	1387	396
25°	1246	1256	1262	1252	1242	571
35°	1002	1016	1062	1068	1064	628
45°	776	789	815	852	857	599
55°	544	553	580	612	629	485
65°	318	327	346	371	392	316
75°	128	135	144	151	160	140
85°	20	20	20	19	19	27
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1490.7	1490.7	1490.7	1490.7	1490.7
2.5°	1494.7	1495.3	1491.9	1482.7	1477.0
5°	1489.0	1488.4	1482.7	1474.7	1470.1
7.5°	1472.4	1473.6	1471.8	1460.4	1454.1
10°	1456.4	1456.9	1452.4	1443.2	1435.8
12.5°	1435.8	1435.2	1428.9	1424.3	1412.3
15°	1403.1	1406.6	1403.1	1396.8	1387.1
17.5°	1371.6	1371.6	1373.9	1363.0	1355.6
20°	1336.1	1337.8	1337.8	1329.2	1320.6
22.5°	1294.9	1300.0	1301.7	1292.6	1282.3
25°	1246.2	1255.9	1261.7	1252.5	1241.6
27.5°	1187.2	1202.1	1219.3	1212.4	1200.4
30°	1121.3	1143.1	1171.7	1166.0	1157.4
32.5°	1058.9	1080.7	1120.2	1117.9	1113.3
35°	1002.2	1016.0	1062.4	1068.1	1064.1
37.5°	948.4	961.0	1004.5	1017.7	1014.3
40°	891.7	905.4	939.8	963.3	964.4
42.5°	835.6	848.7	876.8	910.6	910.6
45°	776.0	789.2	815.0	852.2	856.8
47.5°	717.6	731.3	756.5	793.8	801.2
50°	660.3	672.9	698.1	734.2	745.7
52.5°	600.8	614.5	639.1	672.3	689.0
55°	543.5	552.7	579.6	611.6	629.4
57.5°	483.9	492.5	522.9	550.4	568.7
60°	426.7	437.5	461.0	489.1	510.3
62.5°	371.7	383.1	403.2	427.8	451.9
65°	318.4	327.0	346.5	371.1	392.3
67.5°	266.9	274.3	293.8	311.0	333.3
70°	214.8	224.5	238.8	255.4	269.7
72.5°	173.0	177.0	189.0	201.0	215.9
75°	127.7	134.6	144.3	151.2	159.8
77.5°	91.6	95.6	101.4	107.1	115.1
80°	61.3	63.0	68.2	69.3	75.6
82.5°	37.2	38.4	39.5	40.1	42.4
85°	20.0	20.0	20.0	18.9	18.9
87.5°	11.5	11.5	9.7	8.0	5.7
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)