

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: P556686

Luminaire Tested: **FUSL-12-4-LD4-1STD-30-UNV-81-97-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: P556686  
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-81-97-EDD-90  
Description: 4FT FUSL SURFACE MOUNT WITH .156 CLEAR PC FIXTURE SIDE AND .375  
CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3000K CCT  
LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

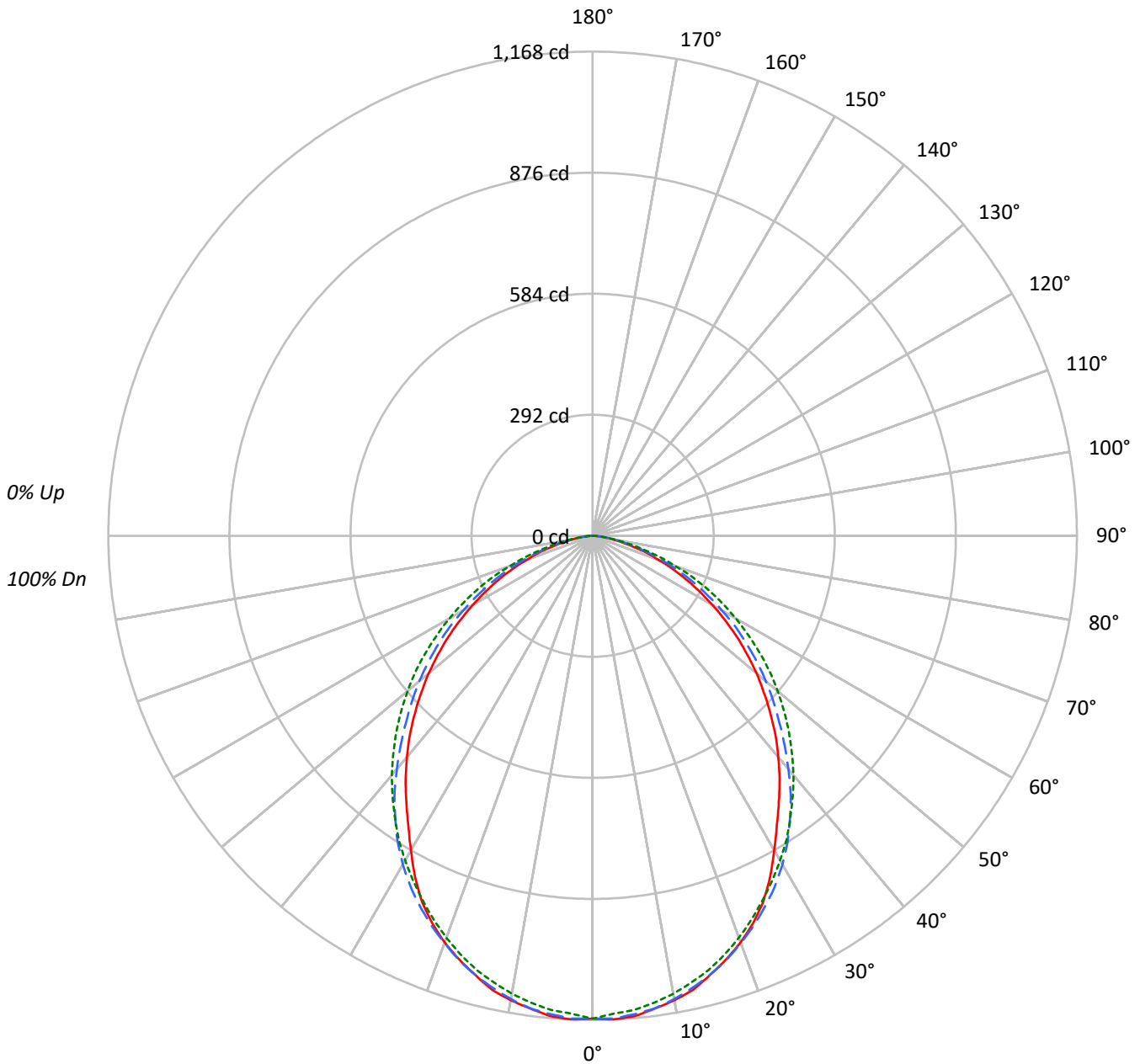
Lumens per Lamp: N/A  
Luminaire Lumens: 2693.0 lumens  
Efficiency: N/A  
Efficacy: 80.9 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

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°	3134	3134	3134
5°	3142	3129	3102
10°	3109	3101	3065
15°	3054	3054	3019
20°	2989	2993	2955
25°	2891	2927	2880
30°	2722	2844	2810
35°	2572	2727	2731
40°	2447	2579	2647
45°	2307	2423	2547
50°	2160	2283	2439
55°	1992	2124	2307
60°	1794	1939	2146
65°	1584	1724	1952
70°	1320	1468	1658
75°	1038	1173	1298
80°	742	824	916
85°	485	485	457



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	109.7	4.1
10°-20°	308.1	11.4
20°-30°	450.2	16.7
30°-40°	511.0	19.0
40°-50°	493.3	18.3
50°-60°	406.9	15.1
60°-70°	271.0	10.1
70°-80°	121.3	4.5
80°-90°	21.7	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°	867.9	32.2
0°-40°	1378.9	51.2
0°-60°	2279.1	84.6
0°-90°	2693.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2693.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1165	1165	1165	1165	1165	
5°	1163	1163	1158	1152	1148	110
15°	1096	1099	1096	1091	1084	309
25°	974	981	986	978	970	446
35°	783	794	830	834	831	491
45°	606	617	637	666	669	468
55°	425	432	453	478	492	379
65°	249	256	271	290	306	247
75°	100	105	113	118	125	109
85°	16	16	16	15	15	21
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1164.7	1164.7	1164.7	1164.7	1164.7
2.5°	1167.8	1168.2	1165.5	1158.4	1153.9
5°	1163.3	1162.9	1158.4	1152.1	1148.5
7.5°	1150.3	1151.2	1149.9	1140.9	1136.0
10°	1137.8	1138.3	1134.7	1127.5	1121.7
12.5°	1121.7	1121.3	1116.3	1112.8	1103.4
15°	1096.2	1098.9	1096.2	1091.3	1083.7
17.5°	1071.6	1071.6	1073.4	1064.9	1059.1
20°	1043.8	1045.2	1045.2	1038.5	1031.8
22.5°	1011.6	1015.7	1017.0	1009.8	1001.8
25°	973.6	981.2	985.7	978.5	970.0
27.5°	927.5	939.1	952.6	947.2	937.8
30°	876.1	893.1	915.4	911.0	904.3
32.5°	827.3	844.3	875.2	873.4	869.8
35°	783.0	793.7	830.0	834.5	831.3
37.5°	740.9	750.8	784.8	795.1	792.4
40°	696.6	707.4	734.2	752.6	753.5
42.5°	652.8	663.1	685.0	711.4	711.4
45°	606.3	616.6	636.7	665.8	669.4
47.5°	560.6	571.4	591.1	620.1	626.0
50°	515.9	525.7	545.4	573.6	582.6
52.5°	469.4	480.1	499.3	525.3	538.3
55°	424.6	431.8	452.8	477.9	491.7
57.5°	378.1	384.8	408.5	430.0	444.3
60°	333.3	341.8	360.2	382.1	398.7
62.5°	290.4	299.3	315.0	334.2	353.0
65°	248.8	255.5	270.7	289.9	306.5
67.5°	208.5	214.3	229.5	243.0	260.4
70°	167.8	175.4	186.6	199.6	210.7
72.5°	135.1	138.3	147.7	157.0	168.7
75°	99.8	105.1	112.8	118.1	124.8
77.5°	71.6	74.7	79.2	83.7	89.9
80°	47.9	49.2	53.2	54.1	59.1
82.5°	29.1	30.0	30.9	31.3	33.1
85°	15.7	15.7	15.7	14.8	14.8
87.5°	8.9	8.9	7.6	6.3	4.5
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)