

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: P556841

Luminaire Tested: **FUSL-12-4-LD4-1STD-40-UNV-93-88-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: P556841  
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-93-88-EDD  
Description: 4FT FUSL SURFACE MOUNT WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

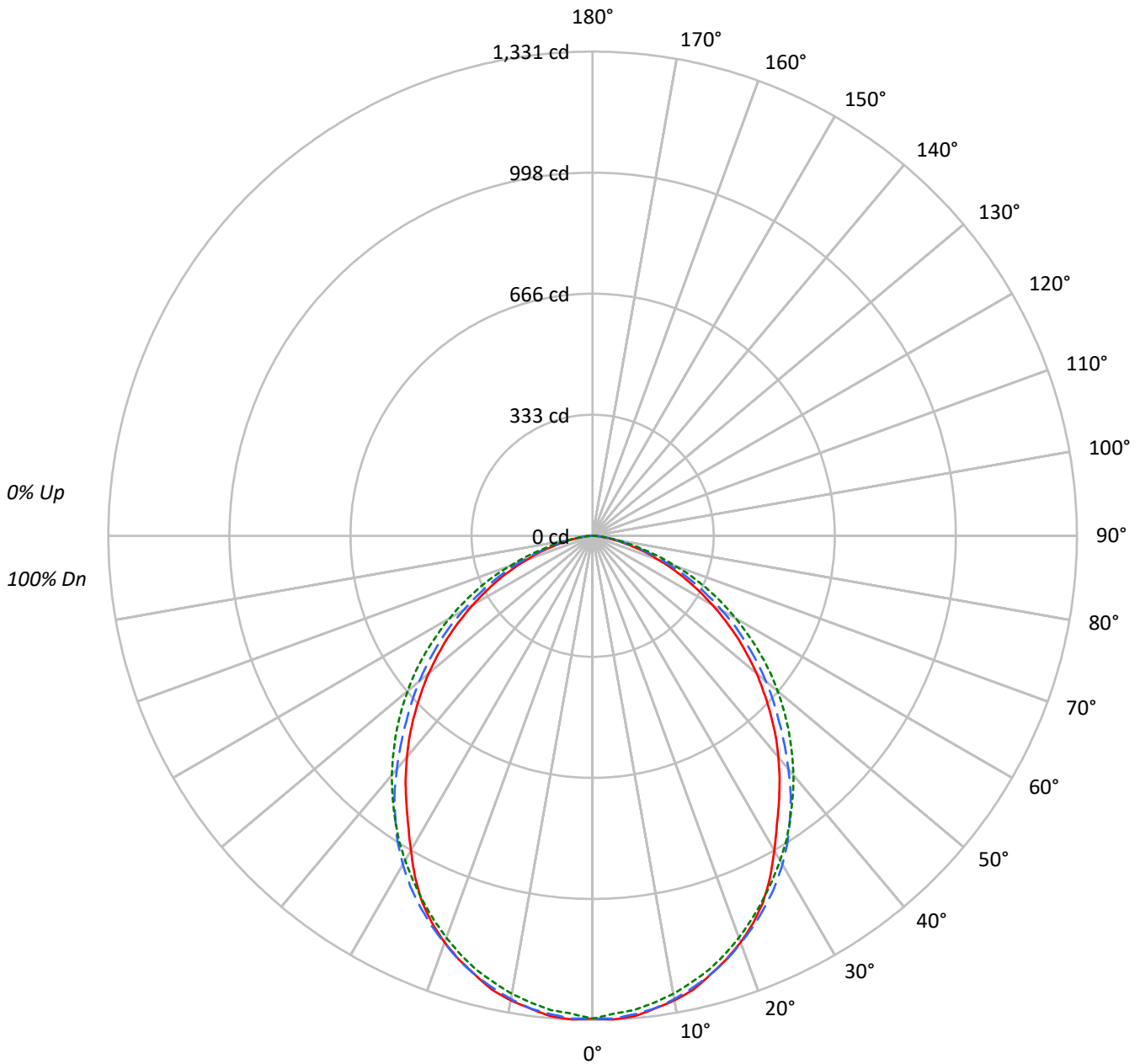
Lumens per Lamp: N/A  
Luminaire Lumens: 3069.0 lumens  
Efficiency: N/A  
Efficacy: 92.2 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

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°	3572	3572	3572
5°	3581	3566	3536
10°	3543	3533	3493
15°	3480	3480	3441
20°	3407	3411	3367
25°	3294	3335	3282
30°	3102	3242	3202
35°	2931	3107	3112
40°	2789	2939	3016
45°	2629	2761	2903
50°	2461	2602	2779
55°	2270	2421	2629
60°	2045	2209	2445
65°	1805	1964	2224
70°	1504	1673	1890
75°	1182	1336	1480
80°	846	941	1043
85°	550	550	519



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	125.0	4.1
10°-20°	351.1	11.4
20°-30°	513.0	16.7
30°-40°	582.3	19.0
40°-50°	562.1	18.3
50°-60°	463.7	15.1
60°-70°	308.8	10.1
70°-80°	138.2	4.5
80°-90°	24.7	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°	989.0	32.2
0°-40°	1571.4	51.2
0°-60°	2597.3	84.6
0°-90°	3069.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3069.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1327	1327	1327	1327	1327	
5°	1326	1325	1320	1313	1309	125
15°	1249	1252	1249	1244	1235	352
25°	1110	1118	1123	1115	1106	508
35°	892	905	946	951	947	559
45°	691	703	726	759	763	533
55°	484	492	516	545	560	432
65°	284	291	308	330	349	281
75°	114	120	128	135	142	124
85°	18	18	18	17	17	24
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1327.3	1327.3	1327.3	1327.3	1327.3
2.5°	1330.8	1331.3	1328.3	1320.1	1315.0
5°	1325.7	1325.2	1320.1	1313.0	1308.9
7.5°	1310.9	1312.0	1310.4	1300.2	1294.6
10°	1296.7	1297.2	1293.1	1284.9	1278.3
12.5°	1278.3	1277.8	1272.2	1268.1	1257.4
15°	1249.2	1252.3	1249.2	1243.6	1235.0
17.5°	1221.2	1221.2	1223.2	1213.6	1206.9
20°	1189.6	1191.1	1191.1	1183.5	1175.8
22.5°	1152.9	1157.5	1159.0	1150.8	1141.7
25°	1109.5	1118.2	1123.3	1115.1	1105.5
27.5°	1057.0	1070.3	1085.6	1079.5	1068.7
30°	998.4	1017.8	1043.3	1038.2	1030.5
32.5°	942.8	962.2	997.4	995.3	991.2
35°	892.3	904.6	945.9	951.0	947.4
37.5°	844.4	855.6	894.4	906.1	903.0
40°	793.9	806.1	836.7	857.6	858.7
42.5°	743.9	755.7	780.7	810.7	810.7
45°	690.9	702.6	725.6	758.7	762.8
47.5°	638.9	651.1	673.6	706.7	713.3
50°	587.9	599.1	621.6	653.7	663.9
52.5°	534.9	547.1	569.0	598.6	613.4
55°	483.9	492.1	516.0	544.6	560.4
57.5°	430.9	438.5	465.5	490.0	506.3
60°	379.9	389.6	410.5	435.5	454.3
62.5°	330.9	341.1	359.0	380.9	402.3
65°	283.5	291.2	308.5	330.4	349.3
67.5°	237.6	244.2	261.6	276.9	296.8
70°	191.2	199.9	212.6	227.4	240.2
72.5°	154.0	157.6	168.3	179.0	192.2
75°	113.7	119.8	128.5	134.6	142.3
77.5°	81.6	85.2	90.3	95.4	102.5
80°	54.6	56.1	60.7	61.7	67.3
82.5°	33.1	34.2	35.2	35.7	37.7
85°	17.8	17.8	17.8	16.8	16.8
87.5°	10.2	10.2	8.7	7.1	5.1
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)