

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: P556645

Luminaire Tested: **FUSL-12-4-LD4-1LO-50-UNV-93-86-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: P556645  
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-LD4-1LO-50-UNV-93-86-EDD  
Description: 4FT FUSL SURFACE MOUNT WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

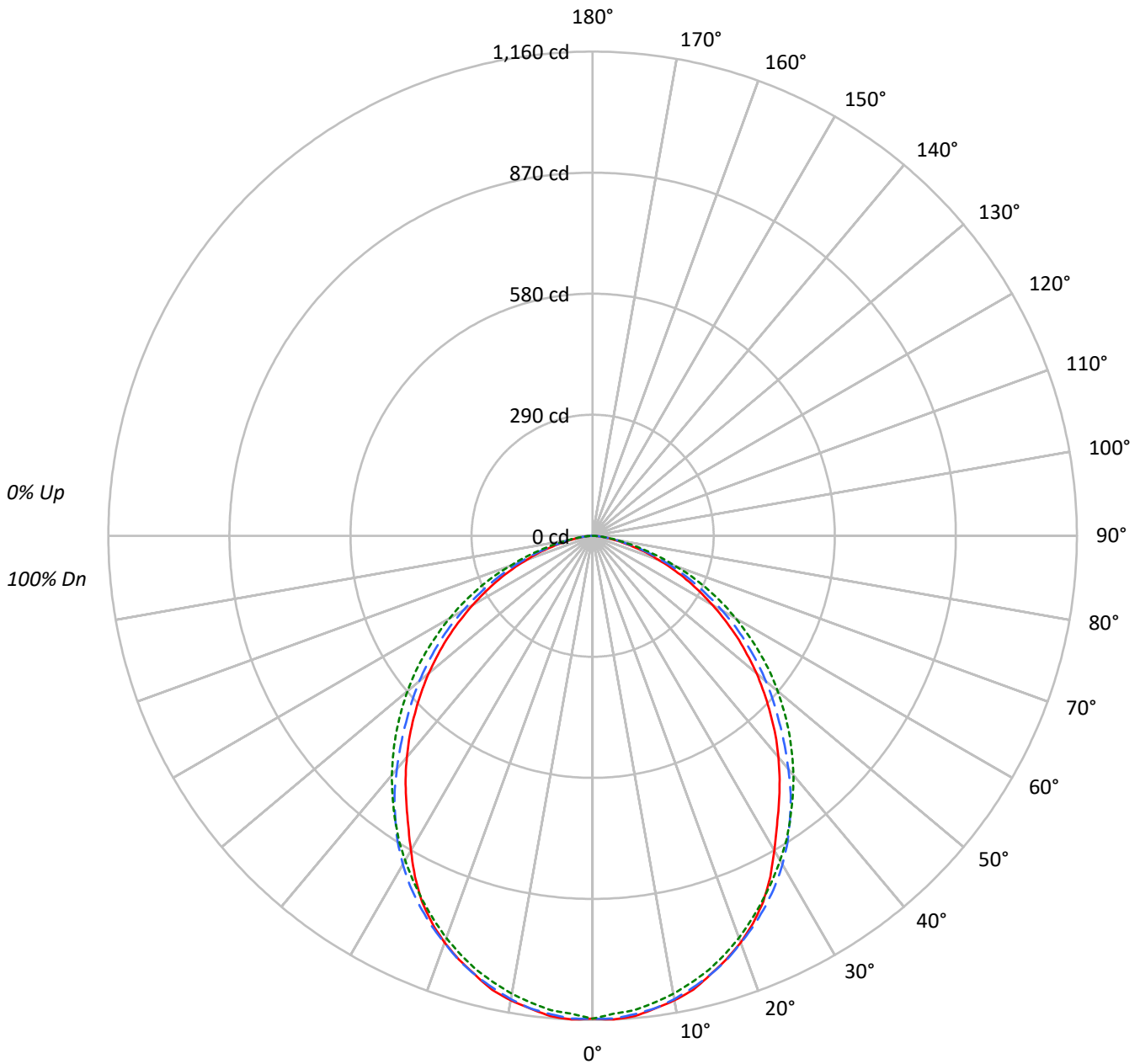
Lumens per Lamp: N/A  
Luminaire Lumens: 2675.0 lumens  
Efficiency: N/A  
Efficacy: 114.3 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 23.4  
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°	3113	3113	3113
5°	3121	3108	3082
10°	3088	3080	3045
15°	3034	3034	2999
20°	2969	2973	2935
25°	2871	2907	2861
30°	2704	2825	2791
35°	2555	2708	2713
40°	2431	2562	2629
45°	2292	2407	2530
50°	2145	2268	2423
55°	1979	2110	2291
60°	1782	1926	2131
65°	1573	1712	1938
70°	1312	1458	1647
75°	1030	1164	1289
80°	738	820	910
85°	482	482	454



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	108.9	4.1
10°-20°	306.0	11.4
20°-30°	447.2	16.7
30°-40°	507.6	19.0
40°-50°	490.0	18.3
50°-60°	404.2	15.1
60°-70°	269.2	10.1
70°-80°	120.4	4.5
80°-90°	21.6	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°	862.1	32.2
0°-40°	1369.7	51.2
0°-60°	2263.8	84.6
0°-90°	2675.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2675.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1157	1157	1157	1157	1157	
5°	1156	1155	1151	1144	1141	109
15°	1089	1092	1089	1084	1076	307
25°	967	975	979	972	964	443
35°	778	788	824	829	826	487
45°	602	612	632	661	665	465
55°	422	429	450	475	488	376
65°	247	254	269	288	304	245
75°	99	104	112	117	124	108
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°	1156.9	1156.9	1156.9	1156.9	1156.9
2.5°	1160.0	1160.4	1157.8	1150.6	1146.2
5°	1155.5	1155.1	1150.6	1144.4	1140.9
7.5°	1142.6	1143.5	1142.2	1133.3	1128.4
10°	1130.2	1130.6	1127.1	1120.0	1114.2
12.5°	1114.2	1113.8	1108.9	1105.3	1096.0
15°	1088.9	1091.5	1088.9	1084.0	1076.4
17.5°	1064.4	1064.4	1066.2	1057.8	1052.0
20°	1036.9	1038.2	1038.2	1031.5	1024.9
22.5°	1004.9	1008.9	1010.2	1003.1	995.1
25°	967.1	974.6	979.1	972.0	963.5
27.5°	921.3	932.9	946.2	940.9	931.5
30°	870.2	887.1	909.3	904.9	898.2
32.5°	821.8	838.7	869.3	867.5	864.0
35°	777.8	788.4	824.4	828.9	825.8
37.5°	736.0	745.8	779.5	789.8	787.1
40°	692.0	702.7	729.3	747.5	748.4
42.5°	648.4	658.7	680.4	706.7	706.7
45°	602.2	612.4	632.4	661.3	664.9
47.5°	556.9	567.5	587.1	616.0	621.8
50°	512.4	522.2	541.8	569.8	578.7
52.5°	466.2	476.9	496.0	521.8	534.7
55°	421.8	428.9	449.8	474.7	488.4
57.5°	375.5	382.2	405.8	427.1	441.3
60°	331.1	339.5	357.8	379.5	396.0
62.5°	288.4	297.3	312.9	332.0	350.7
65°	247.1	253.8	268.9	288.0	304.4
67.5°	207.1	212.9	228.0	241.3	258.7
70°	166.7	174.2	185.3	198.2	209.3
72.5°	134.2	137.3	146.7	156.0	167.6
75°	99.1	104.4	112.0	117.3	124.0
77.5°	71.1	74.2	78.7	83.1	89.3
80°	47.6	48.9	52.9	53.8	58.7
82.5°	28.9	29.8	30.7	31.1	32.9
85°	15.6	15.6	15.6	14.7	14.7
87.5°	8.9	8.9	7.6	6.2	4.4
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)