

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: P556802

Luminaire Tested: **FUSL-12-4-LD4-1STD-40-UNV-81-85-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: P556802  
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-81-85-EDD-90  
Description: 4FT FUSL SURFACE MOUNT WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

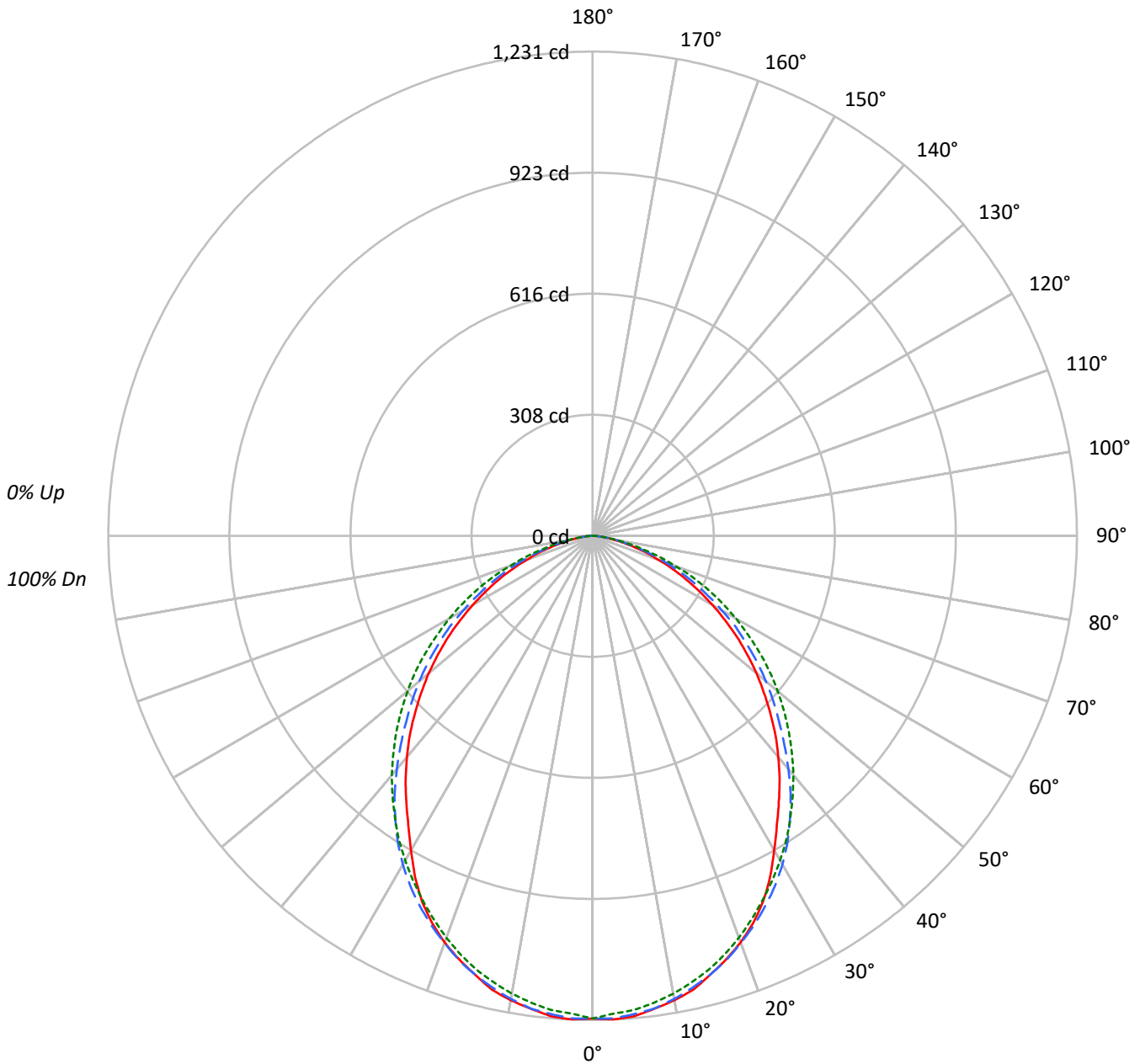
Lumens per Lamp: N/A  
Luminaire Lumens: 2838.0 lumens  
Efficiency: N/A  
Efficacy: 85.2 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 33.3  
Input Voltage (V): NR  
Input Current (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°	3303	3303	3303
5°	3311	3298	3270
10°	3277	3268	3230
15°	3218	3218	3182
20°	3150	3154	3114
25°	3046	3084	3035
30°	2869	2998	2961
35°	2711	2873	2878
40°	2579	2718	2789
45°	2431	2554	2684
50°	2276	2406	2570
55°	2099	2239	2431
60°	1891	2043	2261
65°	1670	1817	2057
70°	1391	1547	1747
75°	1093	1235	1368
80°	783	869	964
85°	509	509	482



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	115.6	4.1
10°-20°	324.6	11.4
20°-30°	474.4	16.7
30°-40°	538.5	19.0
40°-50°	519.8	18.3
50°-60°	428.8	15.1
60°-70°	285.6	10.1
70°-80°	127.8	4.5
80°-90°	22.9	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°	914.6	32.2
0°-40°	1453.1	51.2
0°-60°	2401.8	84.6
0°-90°	2838.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2838.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1227	1227	1227	1227	1227	
5°	1226	1226	1221	1214	1210	116
15°	1155	1158	1155	1150	1142	326
25°	1026	1034	1039	1031	1022	470
35°	825	836	875	879	876	517
45°	639	650	671	702	705	493
55°	448	455	477	504	518	399
65°	262	269	285	306	323	260
75°	105	111	119	124	132	115
85°	16	16	16	16	16	22
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1227.4	1227.4	1227.4	1227.4	1227.4
2.5°	1230.7	1231.1	1228.3	1220.8	1216.0
5°	1225.9	1225.5	1220.8	1214.2	1210.4
7.5°	1212.3	1213.2	1211.8	1202.4	1197.2
10°	1199.1	1199.5	1195.8	1188.2	1182.1
12.5°	1182.1	1181.6	1176.4	1172.7	1162.8
15°	1155.2	1158.0	1155.2	1150.0	1142.0
17.5°	1129.3	1129.3	1131.2	1122.2	1116.1
20°	1100.1	1101.5	1101.5	1094.4	1087.3
22.5°	1066.1	1070.3	1071.8	1064.2	1055.7
25°	1026.0	1034.0	1038.8	1031.2	1022.3
27.5°	977.5	989.7	1003.9	998.2	988.3
30°	923.2	941.2	964.7	960.0	952.9
32.5°	871.8	889.8	922.3	920.4	916.6
35°	825.2	836.5	874.7	879.4	876.1
37.5°	780.8	791.2	827.0	837.9	835.1
40°	734.2	745.5	773.8	793.1	794.0
42.5°	687.9	698.8	721.9	749.7	749.7
45°	638.9	649.8	671.0	701.6	705.4
47.5°	590.8	602.1	622.9	653.5	659.7
50°	543.7	554.0	574.8	604.5	613.9
52.5°	494.6	505.9	526.2	553.6	567.2
55°	447.5	455.0	477.2	503.6	518.2
57.5°	398.4	405.5	430.5	453.1	468.2
60°	351.3	360.2	379.6	402.7	420.1
62.5°	306.0	315.4	331.9	352.2	372.0
65°	262.2	269.2	285.3	305.5	323.0
67.5°	219.7	225.9	241.9	256.0	274.4
70°	176.8	184.8	196.6	210.3	222.1
72.5°	142.4	145.7	155.6	165.5	177.8
75°	105.1	110.8	118.8	124.5	131.6
77.5°	75.4	78.7	83.5	88.2	94.8
80°	50.5	51.9	56.1	57.1	62.2
82.5°	30.6	31.6	32.5	33.0	34.9
85°	16.5	16.5	16.5	15.6	15.6
87.5°	9.4	9.4	8.0	6.6	4.7
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)