

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: P556296

Luminaire Tested: **FUSL-12-4-LD4-1HI-40-UNV-81-88-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: P556296  
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-LD4-1HI-40-UNV-81-88-EDD-90  
Description: 4FT FUSL SURFACE MOUNT WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

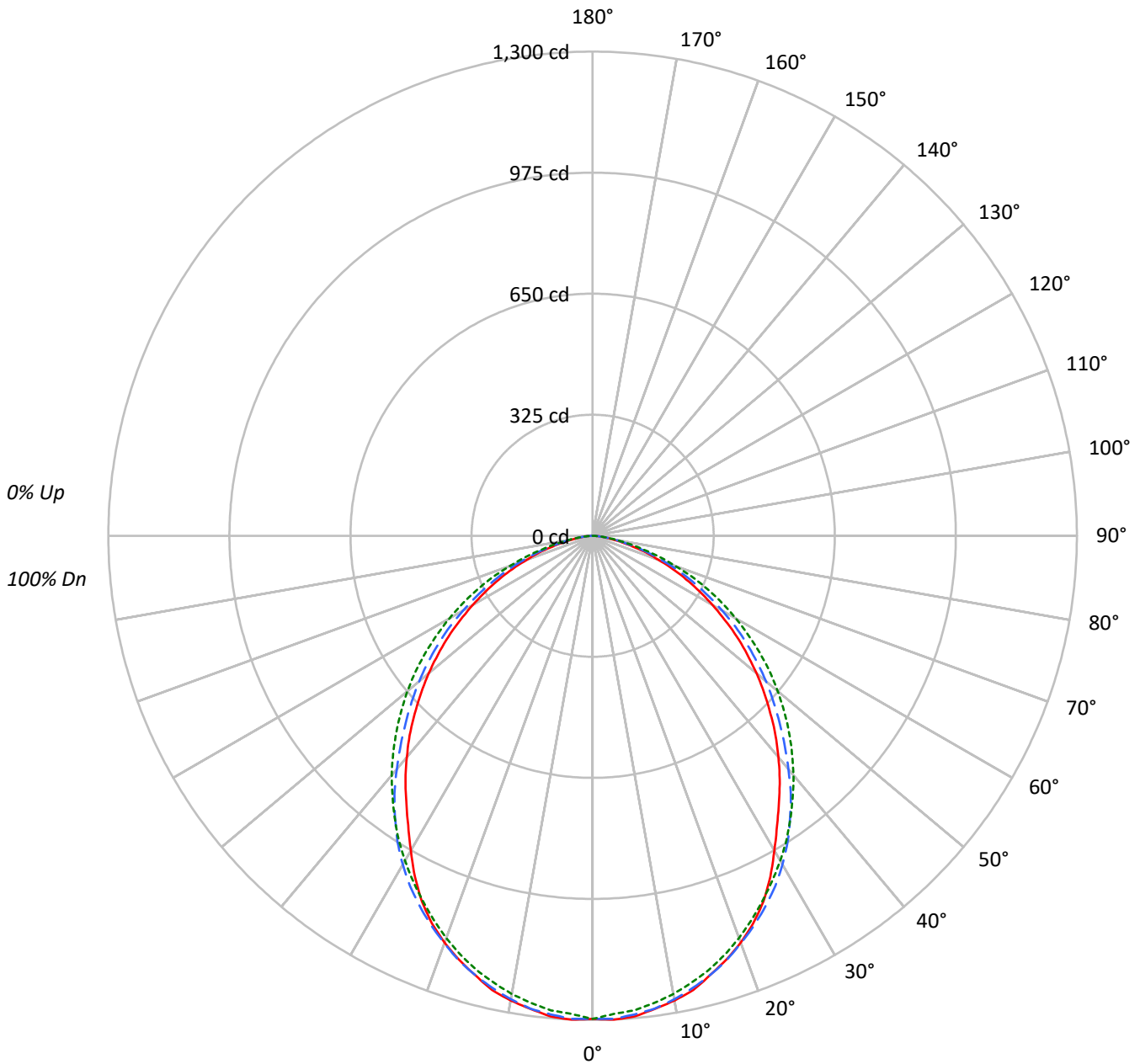
Lumens per Lamp: N/A  
Luminaire Lumens: 2999.0 lumens  
Efficiency: N/A  
Efficacy: 69.4 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 43.2  
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°	3490	3490	3490
5°	3499	3485	3455
10°	3462	3453	3413
15°	3401	3401	3362
20°	3329	3333	3290
25°	3219	3259	3207
30°	3031	3168	3129
35°	2865	3036	3041
40°	2725	2872	2948
45°	2570	2698	2837
50°	2405	2543	2716
55°	2219	2365	2569
60°	1998	2159	2390
65°	1764	1920	2173
70°	1471	1635	1847
75°	1155	1306	1445
80°	826	919	1020
85°	537	537	506



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	122.1	4.1
10°-20°	343.1	11.4
20°-30°	501.3	16.7
30°-40°	569.1	19.0
40°-50°	549.3	18.3
50°-60°	453.2	15.1
60°-70°	301.8	10.1
70°-80°	135.0	4.5
80°-90°	24.2	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°	966.5	32.2
0°-40°	1535.6	51.2
0°-60°	2538.0	84.6
0°-90°	2999.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2999.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1297	1297	1297	1297	1297	
5°	1296	1295	1290	1283	1279	123
15°	1221	1224	1221	1215	1207	344
25°	1084	1093	1098	1090	1080	497
35°	872	884	924	929	926	546
45°	675	687	709	741	745	521
55°	473	481	504	532	548	422
65°	277	284	302	323	341	275
75°	111	117	126	132	139	121
85°	17	17	17	16	16	24
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1297.0	1297.0	1297.0	1297.0	1297.0
2.5°	1300.5	1301.0	1298.0	1290.0	1285.0
5°	1295.5	1295.0	1290.0	1283.0	1279.1
7.5°	1281.0	1282.0	1280.5	1270.6	1265.1
10°	1267.1	1267.6	1263.6	1255.6	1249.2
12.5°	1249.2	1248.7	1243.2	1239.2	1228.7
15°	1220.8	1223.7	1220.8	1215.3	1206.8
17.5°	1193.4	1193.4	1195.3	1185.9	1179.4
20°	1162.5	1164.0	1164.0	1156.5	1149.0
22.5°	1126.6	1131.1	1132.6	1124.6	1115.6
25°	1084.2	1092.7	1097.7	1089.7	1080.2
27.5°	1032.9	1045.9	1060.8	1054.8	1044.4
30°	975.6	994.5	1019.5	1014.5	1007.0
32.5°	921.3	940.2	974.6	972.6	968.6
35°	872.0	883.9	924.3	929.3	925.8
37.5°	825.1	836.1	874.0	885.4	882.4
40°	775.8	787.8	817.7	838.1	839.1
42.5°	727.0	738.4	762.8	792.2	792.2
45°	675.2	686.6	709.0	741.4	745.4
47.5°	624.3	636.3	658.2	690.6	697.1
50°	574.5	585.5	607.4	638.8	648.7
52.5°	522.7	534.6	556.1	585.0	599.4
55°	472.9	480.8	504.2	532.1	547.6
57.5°	421.0	428.5	454.9	478.8	494.8
60°	371.2	380.7	401.1	425.5	444.0
62.5°	323.4	333.3	350.8	372.2	393.1
65°	277.0	284.5	301.5	322.9	341.3
67.5°	232.2	238.7	255.6	270.6	290.0
70°	186.9	195.3	207.8	222.2	234.7
72.5°	150.5	154.0	164.4	174.9	187.8
75°	111.1	117.1	125.6	131.5	139.0
77.5°	79.7	83.2	88.2	93.2	100.2
80°	53.3	54.8	59.3	60.3	65.8
82.5°	32.4	33.4	34.4	34.9	36.9
85°	17.4	17.4	17.4	16.4	16.4
87.5°	10.0	10.0	8.5	7.0	5.0
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)