

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: P556818

Luminaire Tested: **FUSL-12-4-LD4-1STD-40-UNV-82-85-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: P556818  
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-82-85-EDD-90  
Description: 4FT FUSL SURFACE MOUNT WITH .187 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**

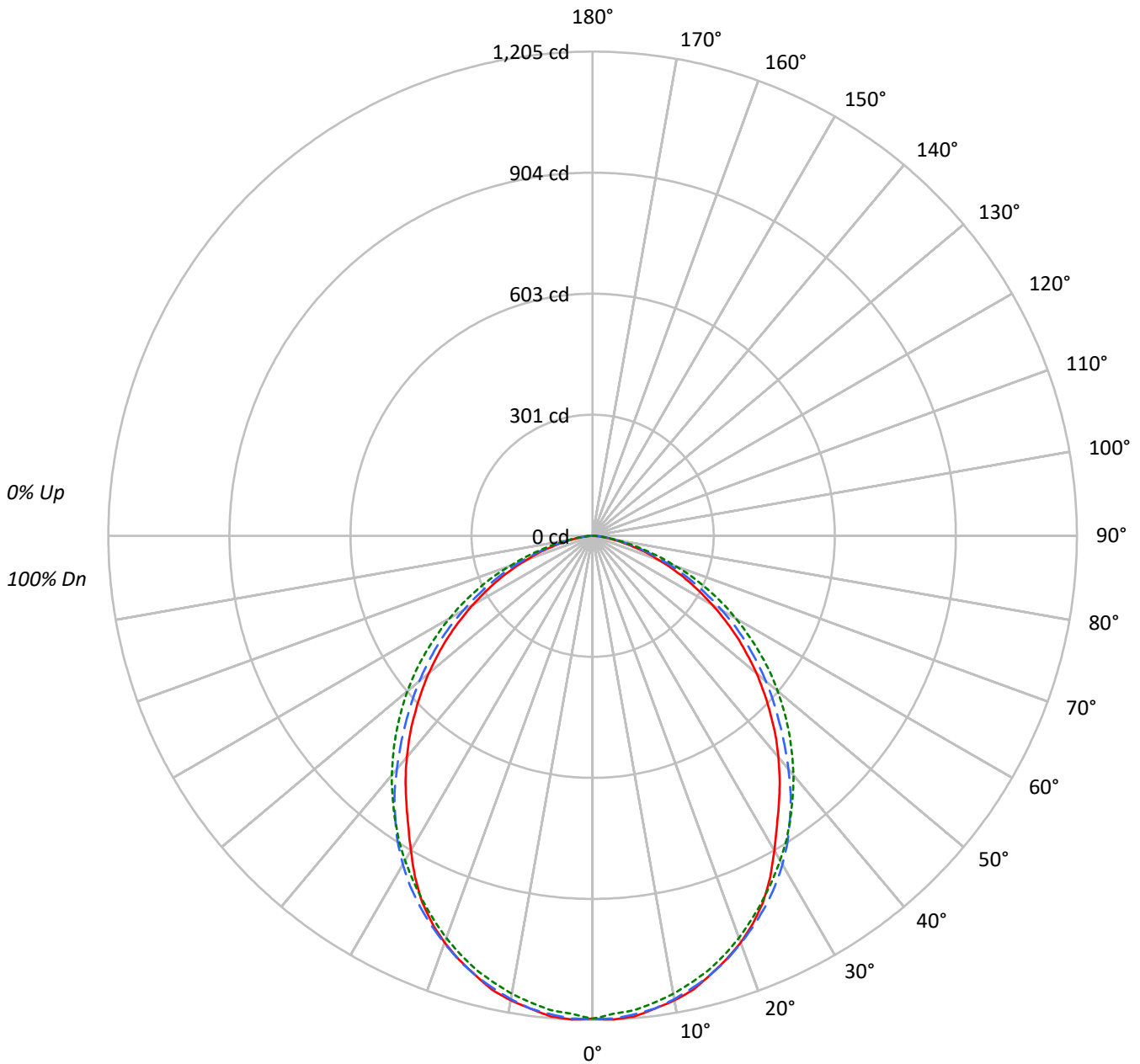
Lumens per Lamp: N/A  
Luminaire Lumens: 2779.0 lumens  
Efficiency: N/A  
Efficacy: 83.5 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

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°	3234	3234	3234
5°	3243	3229	3202
10°	3208	3199	3163
15°	3151	3151	3115
20°	3085	3089	3049
25°	2983	3020	2972
30°	2809	2935	2899
35°	2654	2814	2818
40°	2525	2662	2731
45°	2381	2500	2629
50°	2229	2356	2517
55°	2056	2192	2381
60°	1851	2000	2214
65°	1635	1778	2014
70°	1362	1515	1711
75°	1071	1210	1339
80°	766	851	944
85°	500	500	469



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	113.2	4.1
10°-20°	317.9	11.4
20°-30°	464.5	16.7
30°-40°	527.3	19.0
40°-50°	509.0	18.3
50°-60°	419.9	15.1
60°-70°	279.6	10.1
70°-80°	125.1	4.5
80°-90°	22.4	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°	895.6	32.2
0°-40°	1422.9	51.2
0°-60°	2351.9	84.6
0°-90°	2779.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2779.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1202	1202	1202	1202	1202	
5°	1200	1200	1195	1189	1185	114
15°	1131	1134	1131	1126	1118	319
25°	1005	1012	1017	1010	1001	460
35°	808	819	856	861	858	506
45°	626	636	657	687	691	483
55°	438	446	467	493	507	391
65°	257	264	279	299	316	255
75°	103	108	116	122	129	113
85°	16	16	16	15	15	22
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1201.8	1201.8	1201.8	1201.8	1201.8
2.5°	1205.1	1205.5	1202.8	1195.4	1190.8
5°	1200.5	1200.0	1195.4	1188.9	1185.2
7.5°	1187.1	1188.0	1186.6	1177.4	1172.3
10°	1174.1	1174.6	1170.9	1163.5	1157.5
12.5°	1157.5	1157.1	1152.0	1148.3	1138.6
15°	1131.2	1134.0	1131.2	1126.1	1118.3
17.5°	1105.8	1105.8	1107.7	1098.9	1092.9
20°	1077.2	1078.6	1078.6	1071.6	1064.7
22.5°	1043.9	1048.1	1049.5	1042.1	1033.8
25°	1004.7	1012.5	1017.2	1009.8	1001.0
27.5°	957.1	969.1	983.0	977.5	967.8
30°	904.0	921.6	944.7	940.1	933.1
32.5°	853.7	871.3	903.1	901.3	897.6
35°	808.0	819.1	856.5	861.1	857.9
37.5°	764.6	774.8	809.8	820.5	817.7
40°	718.9	730.0	757.7	776.6	777.5
42.5°	673.6	684.3	706.9	734.1	734.1
45°	625.6	636.2	657.0	687.0	690.7
47.5°	578.5	589.6	609.9	639.9	645.9
50°	532.4	542.5	562.8	591.9	601.2
52.5°	484.3	495.4	515.3	542.1	555.4
55°	438.2	445.6	467.3	493.1	507.4
57.5°	390.1	397.1	421.5	443.7	458.5
60°	344.0	352.8	371.7	394.3	411.4
62.5°	299.7	308.9	325.0	344.9	364.3
65°	256.7	263.6	279.3	299.2	316.3
67.5°	215.2	221.2	236.9	250.7	268.7
70°	173.1	181.0	192.5	205.9	217.5
72.5°	139.4	142.7	152.4	162.1	174.1
75°	103.0	108.5	116.4	121.9	128.8
77.5°	73.9	77.1	81.7	86.3	92.8
80°	49.4	50.8	54.9	55.9	60.9
82.5°	30.0	30.9	31.9	32.3	34.2
85°	16.2	16.2	16.2	15.2	15.2
87.5°	9.2	9.2	7.8	6.5	4.6
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)