

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: P556820

Luminaire Tested: **FUSL-12-4-LD4-1STD-40-UNV-82-86-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: P556820  
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-82-86-EDD-90  
Description: 4FT FUSL SURFACE MOUNT WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

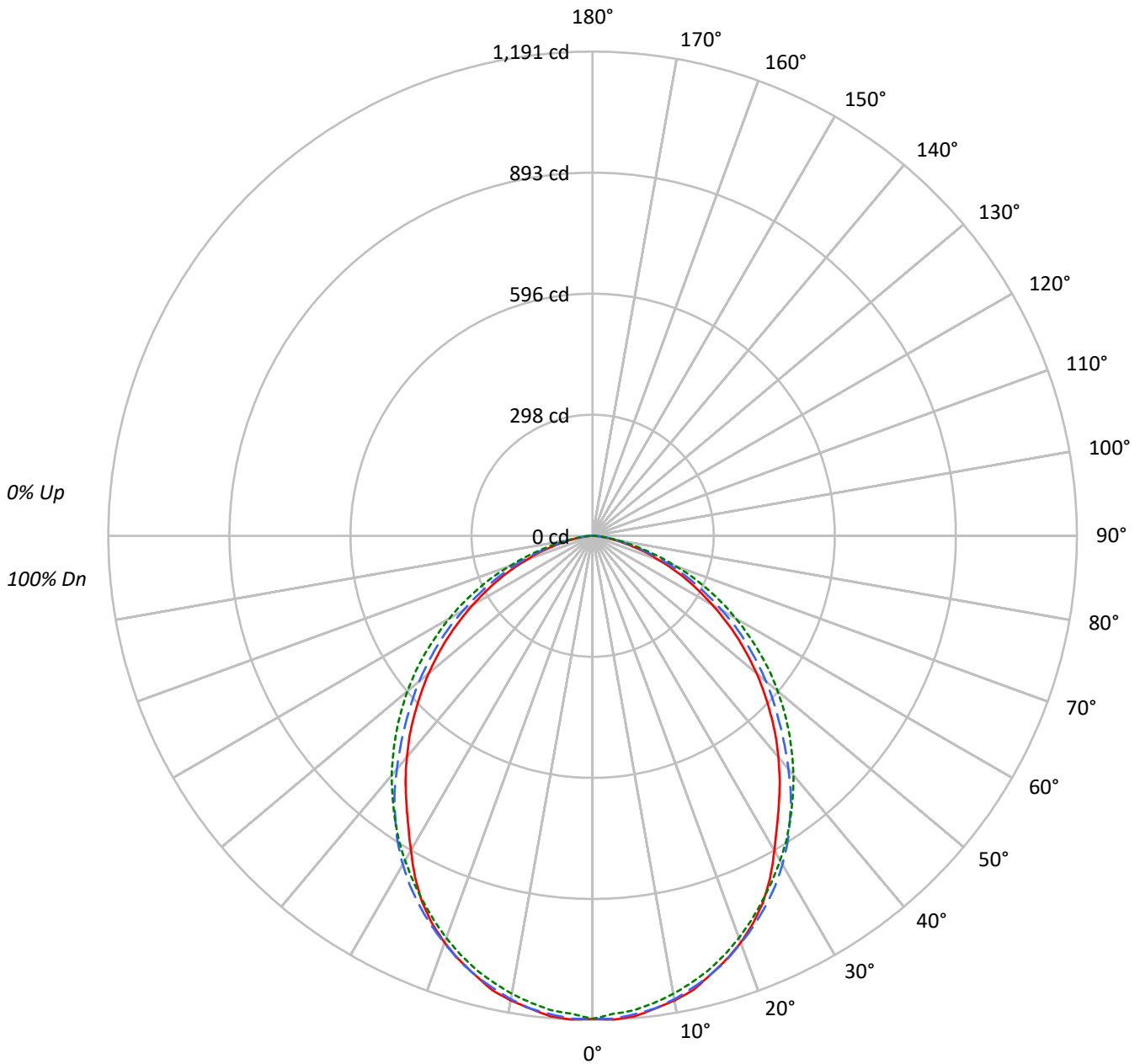
Lumens per Lamp: N/A  
Luminaire Lumens: 2747.0 lumens  
Efficiency: N/A  
Efficacy: 82.5 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

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

TEST NUMBER: P556820

CATALOG NUMBER: FUSL-12-4-LD4-1STD-40-UNV-82-86-EDD-90

### Luminous Intensity Polar Plot





TEST NUMBER: P556820

CATALOG NUMBER: FUSL-12-4-LD4-1STD-40-UNV-82-86-EDD-90

**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°	3197	3197	3197
5°	3205	3192	3165
10°	3171	3163	3127
15°	3115	3115	3080
20°	3049	3053	3014
25°	2949	2985	2938
30°	2777	2902	2866
35°	2624	2781	2786
40°	2496	2631	2700
45°	2353	2472	2598
50°	2203	2329	2488
55°	2032	2167	2353
60°	1830	1977	2189
65°	1616	1758	1990
70°	1346	1497	1692
75°	1058	1196	1324
80°	756	841	933
85°	494	494	466



TEST NUMBER: P556820

CATALOG NUMBER: FUSL-12-4-LD4-1STD-40-UNV-82-86-EDD-90

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	111.9	4.1
10°-20°	314.2	11.4
20°-30°	459.2	16.7
30°-40°	521.2	19.0
40°-50°	503.2	18.3
50°-60°	415.1	15.1
60°-70°	276.4	10.1
70°-80°	123.7	4.5
80°-90°	22.1	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°	885.3	32.2
0°-40°	1406.5	51.2
0°-60°	2324.8	84.6
0°-90°	2747.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2747.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1188	1188	1188	1188	1188	
5°	1187	1186	1182	1175	1172	112
15°	1118	1121	1118	1113	1105	315
25°	993	1001	1005	998	990	455
35°	799	810	847	851	848	500
45°	618	629	650	679	683	477
55°	433	440	462	487	502	387
65°	254	261	276	296	313	252
75°	102	107	115	120	127	111
85°	16	16	16	15	15	22
90°	0	0	0	0	0	



TEST NUMBER: P556820

CATALOG NUMBER: FUSL-12-4-LD4-1STD-40-UNV-82-86-EDD-90

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1188.0	<i>1188.0</i>	1188.0	1188.0	1188.0
2.5°	<i>1191.2</i>	<i>1191.7</i>	<i>1188.9</i>	<i>1181.6</i>	<i>1177.1</i>
5°	1186.6	<i>1186.2</i>	1181.6	1175.2	1171.6
7.5°	1173.4	<i>1174.3</i>	1172.9	1163.8	1158.8
10°	1160.6	<i>1161.1</i>	1157.4	1150.1	1144.2
12.5°	1144.2	<i>1143.7</i>	1138.7	1135.1	1125.5
15°	1118.2	<i>1120.9</i>	1118.2	1113.2	1105.4
17.5°	1093.1	<i>1093.1</i>	1094.9	1086.2	1080.3
20°	1064.8	<i>1066.1</i>	1066.1	1059.3	1052.5
22.5°	1031.9	<i>1036.0</i>	1037.4	1030.1	1021.9
25°	993.1	<i>1000.9</i>	1005.4	998.1	989.5
27.5°	946.1	<i>958.0</i>	971.7	966.2	956.6
30°	893.6	<i>911.0</i>	933.8	929.2	922.4
32.5°	843.9	<i>861.2</i>	892.7	890.9	887.2
35°	798.7	<i>809.7</i>	846.6	851.2	848.0
37.5°	755.8	<i>765.8</i>	800.5	811.0	808.3
40°	710.6	<i>721.6</i>	749.0	767.7	768.6
42.5°	665.9	<i>676.4</i>	698.7	725.7	725.7
45°	618.4	<i>628.9</i>	649.5	679.1	682.8
47.5°	571.9	<i>582.8</i>	602.9	632.6	638.5
50°	526.2	<i>536.3</i>	556.4	585.1	594.2
52.5°	478.8	<i>489.7</i>	509.3	535.8	549.0
55°	433.1	<i>440.4</i>	461.9	487.4	501.6
57.5°	385.7	<i>392.5</i>	416.7	438.6	453.2
60°	340.0	<i>348.7</i>	367.4	389.8	406.7
62.5°	296.2	<i>305.3</i>	321.3	340.9	360.1
65°	253.8	<i>260.6</i>	276.1	295.7	312.6
67.5°	212.7	<i>218.6</i>	234.1	247.8	265.6
70°	171.1	<i>178.9</i>	190.3	203.6	215.0
72.5°	137.8	<i>141.0</i>	150.6	160.2	172.1
75°	101.8	<i>107.3</i>	115.0	120.5	127.3
77.5°	73.0	<i>76.2</i>	80.8	85.3	91.7
80°	48.8	<i>50.2</i>	54.3	55.2	60.2
82.5°	29.7	<i>30.6</i>	31.5	31.9	33.8
85°	16.0	<i>16.0</i>	16.0	15.1	15.1
87.5°	9.1	<i>9.1</i>	7.8	6.4	4.6
90°	0.0	<i>0.0</i>	0.0	0.0	0.0



Report Generated By 670246072 / DESKTOP-MV3F9LC







— 0°-180°    - - 45°-225°    - - - - 90°-270°







(END OF REPORT)