

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: P556998

Luminaire Tested: **FUSL-12-4-LD4-2HI-35-UNV-81-87-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: P556998  
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-LD4-2HI-35-UNV-81-87-EDD-90  
Description: 4FT FUSL SURFACE MOUNT WITH .156 CLEAR PC FIXTURE SIDE AND .375  
CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

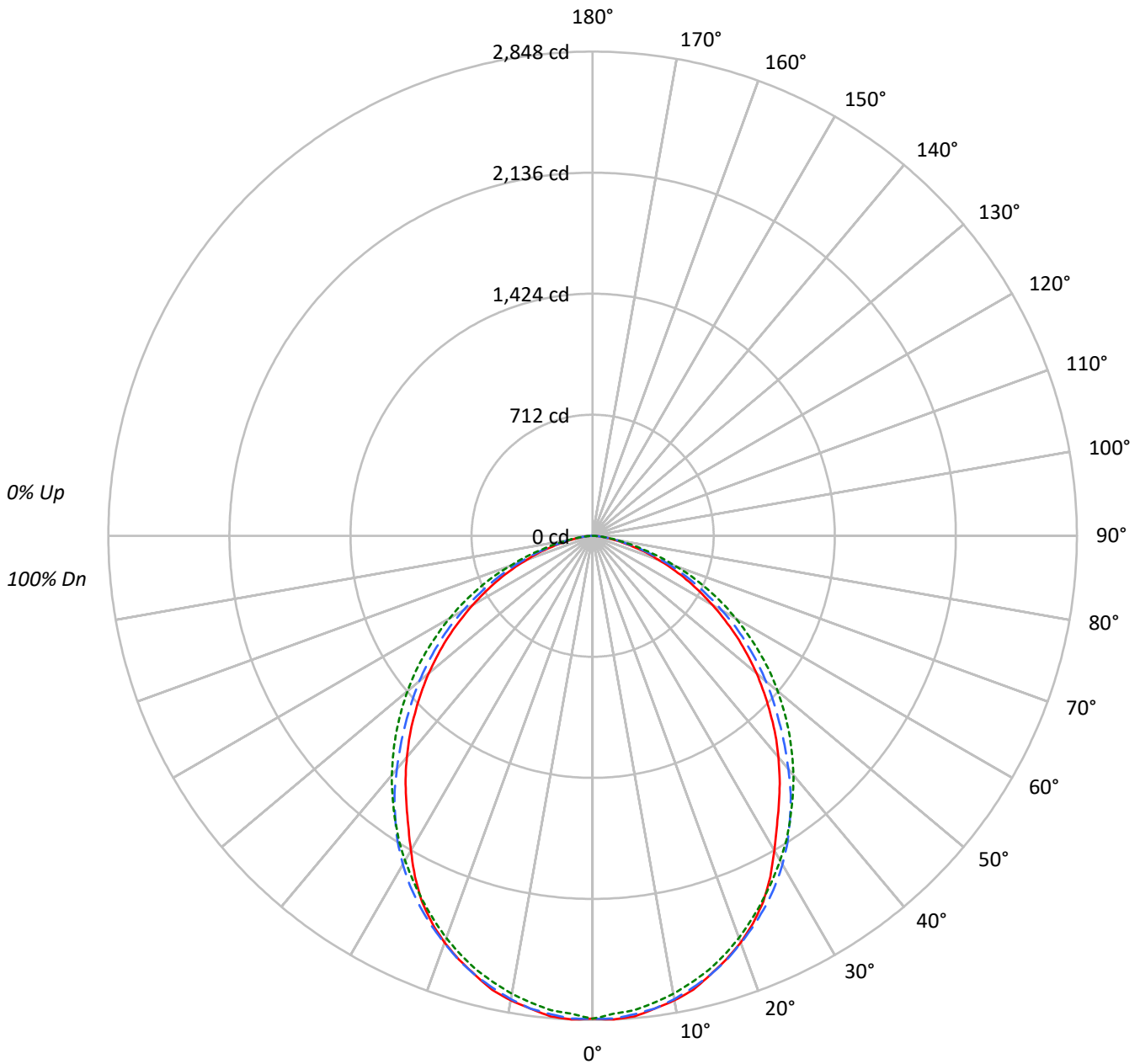
Lumens per Lamp: N/A  
Luminaire Lumens: 6568.0 lumens  
Efficiency: N/A  
Efficacy: 76.0 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 86.4  
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°	7644	7644	7644
5°	7664	7632	7567
10°	7583	7562	7475
15°	7448	7448	7363
20°	7291	7300	7206
25°	7050	7138	7024
30°	6639	6938	6853
35°	6274	6650	6660
40°	5969	6290	6455
45°	5627	5909	6213
50°	5267	5569	5948
55°	4859	5181	5627
60°	4376	4728	5233
65°	3863	4204	4760
70°	3220	3580	4044
75°	2530	2859	3166
80°	1810	2013	2232
85°	1179	1179	1112



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	267.4	4.1
10°-20°	751.3	11.4
20°-30°	1097.9	16.7
30°-40°	1246.3	19.0
40°-50°	1203.1	18.3
50°-60°	992.4	15.1
60°-70°	660.9	10.1
70°-80°	295.7	4.5
80°-90°	52.9	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°	2116.7	32.2
0°-40°	3362.9	51.2
0°-60°	5558.5	84.6
0°-90°	6568.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6568.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2840	2840	2840	2840	2840	
5°	2837	2836	2825	2810	2801	269
15°	2674	2680	2674	2662	2643	754
25°	2374	2393	2404	2386	2366	1087
35°	1910	1936	2024	2035	2028	1197
45°	1479	1504	1553	1624	1632	1141
55°	1036	1053	1104	1165	1199	924
65°	607	623	660	707	748	602
75°	243	256	275	288	304	266
85°	38	38	38	36	36	51
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2840.5	2840.5	2840.5	2840.5	2840.5
2.5°	2848.1	2849.2	2842.7	2825.2	2814.3
5°	2837.2	2836.1	2825.2	2809.9	2801.2
7.5°	2805.6	2807.8	2804.5	2782.7	2770.7
10°	2775.0	2776.1	2767.4	2749.9	2735.7
12.5°	2735.7	2734.6	2722.6	2713.9	2691.0
15°	2673.5	2680.1	2673.5	2661.5	2643.0
17.5°	2613.5	2613.5	2617.9	2597.1	2583.0
20°	2545.9	2549.1	2549.1	2532.8	2516.4
22.5°	2467.3	2477.1	2480.4	2462.9	2443.3
25°	2374.5	2393.1	2404.0	2386.5	2365.8
27.5°	2262.1	2290.5	2323.2	2310.1	2287.2
30°	2136.6	2178.1	2232.7	2221.8	2205.4
32.5°	2017.7	2059.2	2134.5	2130.1	2121.4
35°	1909.7	1935.9	2024.2	2035.2	2027.5
37.5°	1807.1	1831.1	1914.0	1939.1	1932.6
40°	1699.1	1725.2	1790.7	1835.5	1837.6
42.5°	1592.1	1617.2	1670.7	1735.1	1735.1
45°	1478.6	1503.7	1552.8	1623.8	1632.5
47.5°	1367.3	1393.5	1441.5	1512.5	1526.6
50°	1258.2	1282.2	1330.2	1399.0	1420.8
52.5°	1144.7	1170.9	1217.8	1281.1	1312.8
55°	1035.6	1053.0	1104.3	1165.4	1199.3
57.5°	922.1	938.5	996.3	1048.7	1083.6
60°	813.0	833.7	878.4	931.9	972.3
62.5°	708.2	730.0	768.2	815.2	861.0
65°	606.7	623.1	660.2	707.1	747.5
67.5°	508.5	522.7	559.8	592.5	635.1
70°	409.2	427.8	455.0	486.7	514.0
72.5°	329.6	337.2	360.1	383.0	411.4
75°	243.3	256.4	275.0	288.1	304.5
77.5°	174.6	182.2	193.1	204.1	219.3
80°	116.8	120.0	129.9	132.0	144.0
82.5°	70.9	73.1	75.3	76.4	80.8
85°	38.2	38.2	38.2	36.0	36.0
87.5°	21.8	21.8	18.6	15.3	10.9
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)