

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: P557413

Luminaire Tested: **FUSL-12-4-LD4-2LO-50-UNV-93-86-EDD**

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: P557413  
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-LD4-2LO-50-UNV-93-86-EDD  
Description: 4FT FUSL SURFACE MOUNT WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

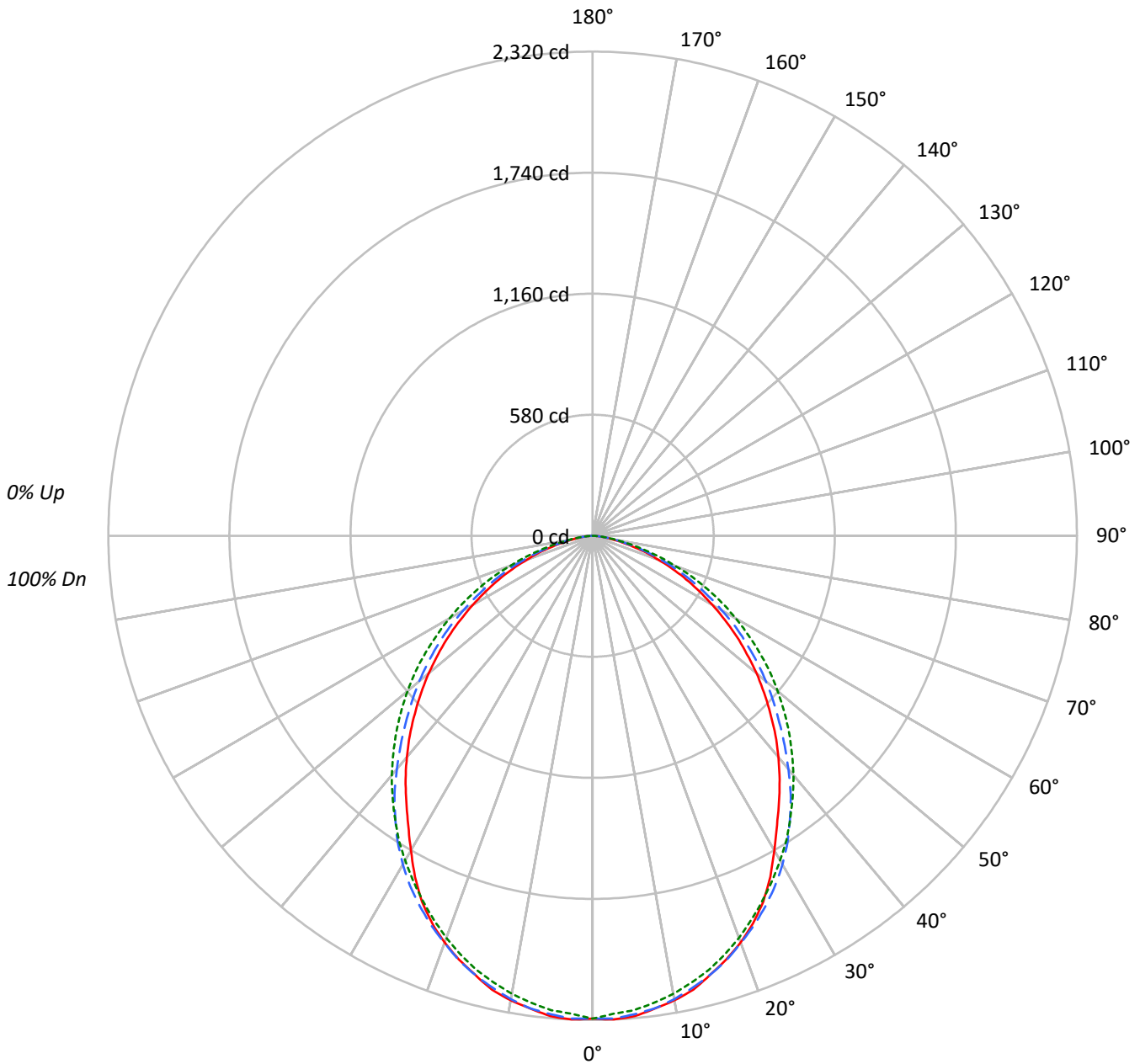
Lumens per Lamp: N/A  
Luminaire Lumens: 5350.0 lumens  
Efficiency: N/A  
Efficacy: 114.3 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 46.8  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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°	6226	6226	6226
5°	6243	6216	6163
10°	6177	6160	6089
15°	6067	6067	5998
20°	5938	5946	5870
25°	5743	5814	5722
30°	5408	5651	5582
35°	5110	5417	5425
40°	4862	5124	5258
45°	4583	4814	5061
50°	4291	4536	4845
55°	3957	4220	4583
60°	3564	3851	4263
65°	3147	3424	3877
70°	2622	2917	3294
75°	2061	2329	2578
80°	1474	1640	1818
85°	960	960	905



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	217.8	4.1
10°-20°	612.0	11.4
20°-30°	894.3	16.7
30°-40°	1015.1	19.0
40°-50°	980.0	18.3
50°-60°	808.4	15.1
60°-70°	538.3	10.1
70°-80°	240.9	4.5
80°-90°	43.1	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°	1724.1	32.2
0°-40°	2739.3	51.2
0°-60°	4527.7	84.6
0°-90°	5350.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5350.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2314	2314	2314	2314	2314	
5°	2311	2310	2301	2289	2282	219
15°	2178	2183	2178	2168	2153	614
25°	1934	1949	1958	1944	1927	886
35°	1556	1577	1649	1658	1652	975
45°	1204	1225	1265	1323	1330	929
55°	844	858	900	949	977	753
65°	494	508	538	576	609	490
75°	198	209	224	235	248	217
85°	31	31	31	29	29	42
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2313.7	2313.7	2313.7	2313.7	2313.7
2.5°	2320.0	2320.8	2315.5	2301.3	2292.4
5°	2311.1	2310.2	2301.3	2288.8	2281.7
7.5°	2285.3	2287.1	2284.4	2266.6	2256.8
10°	2260.4	2261.3	2254.2	2240.0	2228.4
12.5°	2228.4	2227.5	2217.7	2210.6	2192.0
15°	2177.7	2183.1	2177.7	2168.0	2152.9
17.5°	2128.9	2128.9	2132.4	2115.5	2104.0
20°	2073.7	2076.4	2076.4	2063.1	2049.7
22.5°	2009.7	2017.7	2020.4	2006.2	1990.2
25°	1934.2	1949.3	1958.2	1944.0	1927.1
27.5°	1842.6	1865.7	1892.4	1881.7	1863.1
30°	1740.4	1774.2	1818.6	1809.7	1796.4
32.5°	1643.5	1677.3	1738.6	1735.1	1728.0
35°	1555.5	1576.9	1648.9	1657.7	1651.5
37.5°	1472.0	1491.5	1559.1	1579.5	1574.2
40°	1384.0	1405.3	1458.6	1495.1	1496.9
42.5°	1296.9	1317.3	1360.9	1413.3	1413.3
45°	1204.4	1224.9	1264.9	1322.6	1329.8
47.5°	1113.8	1135.1	1174.2	1232.0	1243.5
50°	1024.9	1044.4	1083.5	1139.5	1157.3
52.5°	932.4	953.8	992.0	1043.5	1069.3
55°	843.5	857.8	899.5	949.3	976.9
57.5°	751.1	764.4	811.5	854.2	882.7
60°	662.2	679.1	715.5	759.1	792.0
62.5°	576.9	594.7	625.8	664.0	701.3
65°	494.2	507.5	537.8	576.0	608.9
67.5°	414.2	425.8	456.0	482.7	517.3
70°	333.3	348.4	370.7	396.4	418.7
72.5°	268.4	274.7	293.3	312.0	335.1
75°	198.2	208.9	224.0	234.7	248.0
77.5°	142.2	148.4	157.3	166.2	178.7
80°	95.1	97.8	105.8	107.6	117.3
82.5°	57.8	59.6	61.3	62.2	65.8
85°	31.1	31.1	31.1	29.3	29.3
87.5°	17.8	17.8	15.1	12.4	8.9
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)