

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: P557317

Luminaire Tested: **FUSL-12-4-LD4-2LO-40-UNV-81-86-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: P557317  
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-40-UNV-81-86-EDD  
Description: 4FT FUSL SURFACE MOUNT WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

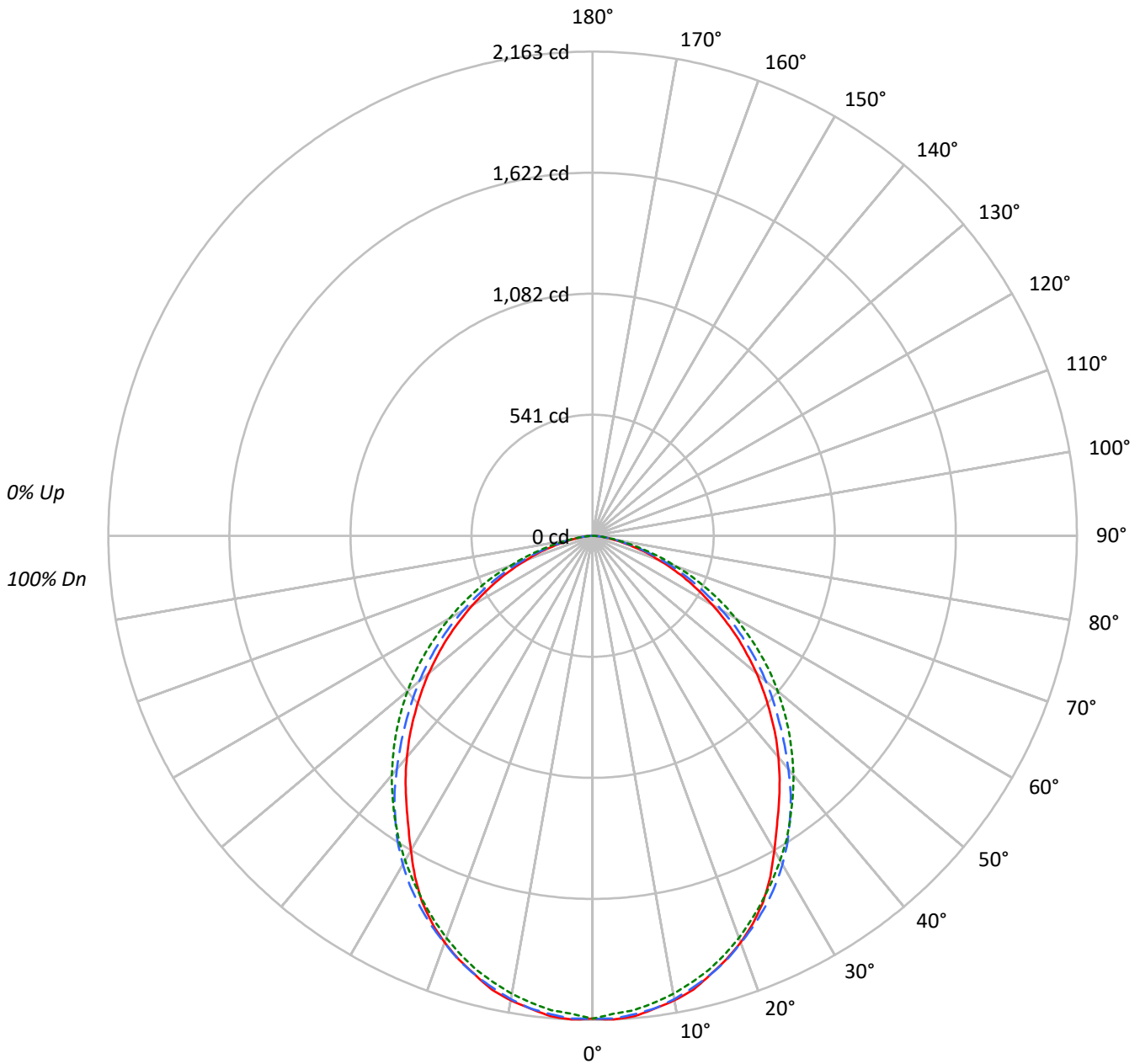
Lumens per Lamp: N/A  
Luminaire Lumens: 4988.0 lumens  
Efficiency: N/A  
Efficacy: 106.6 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

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°	5805	5805	5805
5°	5820	5796	5746
10°	5759	5743	5677
15°	5657	5657	5592
20°	5537	5544	5472
25°	5354	5421	5335
30°	5042	5269	5204
35°	4764	5050	5058
40°	4533	4777	4902
45°	4273	4488	4718
50°	4000	4229	4517
55°	3690	3935	4273
60°	3323	3590	3974
65°	2934	3193	3615
70°	2445	2719	3071
75°	1921	2171	2404
80°	1375	1528	1695
85°	895	895	843



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	203.1	4.1
10°-20°	570.6	11.4
20°-30°	833.8	16.7
30°-40°	946.5	19.0
40°-50°	913.7	18.3
50°-60°	753.7	15.1
60°-70°	501.9	10.1
70°-80°	224.6	4.5
80°-90°	40.2	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°	1607.5	32.2
0°-40°	2554.0	51.2
0°-60°	4221.3	84.6
0°-90°	4988.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4988.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2157	2157	2157	2157	2157	
5°	2155	2154	2146	2134	2127	204
15°	2030	2035	2030	2021	2007	572
25°	1803	1817	1826	1812	1797	826
35°	1450	1470	1537	1546	1540	909
45°	1123	1142	1179	1233	1240	866
55°	786	800	839	885	911	702
65°	461	473	501	537	568	457
75°	185	195	209	219	231	202
85°	29	29	29	27	27	39
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2157.2	2157.2	2157.2	2157.2	2157.2
2.5°	2163.0	2163.8	2158.8	2145.6	2137.3
5°	2154.7	2153.9	2145.6	2134.0	2127.3
7.5°	2130.7	2132.3	2129.8	2113.3	2104.1
10°	2107.5	2108.3	2101.7	2088.4	2077.6
12.5°	2077.6	2076.8	2067.7	2061.0	2043.6
15°	2030.4	2035.4	2030.4	2021.3	2007.2
17.5°	1984.8	1984.8	1988.1	1972.4	1961.6
20°	1933.4	1935.9	1935.9	1923.5	1911.0
22.5°	1873.8	1881.2	1883.7	1870.4	1855.5
25°	1803.3	1817.4	1825.7	1812.4	1796.7
27.5°	1718.0	1739.5	1764.4	1754.4	1737.0
30°	1622.7	1654.1	1695.6	1687.3	1674.9
32.5°	1532.3	1563.8	1621.0	1617.7	1611.0
35°	1450.3	1470.2	1537.3	1545.6	1539.8
37.5°	1372.4	1390.6	1453.6	1472.7	1467.7
40°	1290.3	1310.2	1359.9	1393.9	1395.6
42.5°	1209.1	1228.2	1268.8	1317.7	1317.7
45°	1122.9	1142.0	1179.3	1233.1	1239.8
47.5°	1038.4	1058.3	1094.8	1148.6	1159.4
50°	955.5	973.8	1010.2	1062.4	1079.0
52.5°	869.3	889.2	924.9	972.9	997.0
55°	786.5	799.7	838.7	885.1	910.8
57.5°	700.3	712.7	756.6	796.4	822.9
60°	617.4	633.1	667.1	707.7	738.4
62.5°	537.8	554.4	583.4	619.1	653.9
65°	460.8	473.2	501.4	537.0	567.7
67.5°	386.2	397.0	425.1	450.0	482.3
70°	310.8	324.9	345.6	369.6	390.3
72.5°	250.3	256.1	273.5	290.9	312.4
75°	184.8	194.8	208.8	218.8	231.2
77.5°	132.6	138.4	146.7	155.0	166.6
80°	88.7	91.2	98.6	100.3	109.4
82.5°	53.9	55.5	57.2	58.0	61.3
85°	29.0	29.0	29.0	27.3	27.3
87.5°	16.6	16.6	14.1	11.6	8.3
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)