

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: P557337

Luminaire Tested: **FUSL-12-4-LD4-2LO-40-UNV-82-88-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: P557337  
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-82-88-EDD  
Description: 4FT FUSL SURFACE MOUNT WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

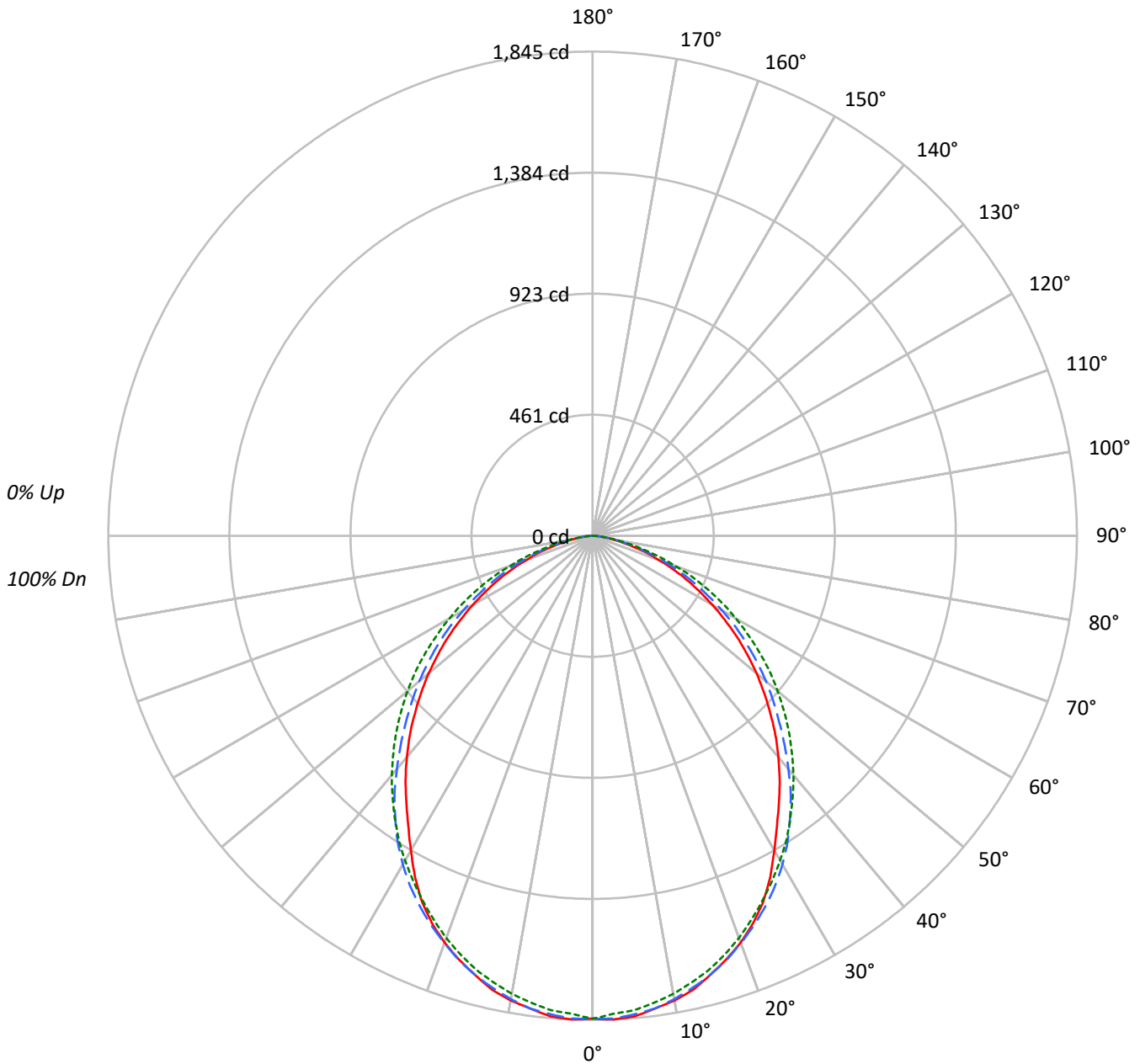
Lumens per Lamp: N/A  
Luminaire Lumens: 4255.0 lumens  
Efficiency: N/A  
Efficacy: 90.9 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 46.8  
Input Voltage (V): NR  
Input Current (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°	4952	4952	4952
5°	4965	4944	4902
10°	4912	4899	4843
15°	4825	4825	4770
20°	4723	4729	4668
25°	4567	4624	4551
30°	4301	4494	4439
35°	4064	4308	4315
40°	3867	4075	4182
45°	3645	3828	4025
50°	3412	3608	3853
55°	3148	3356	3645
60°	2835	3063	3390
65°	2503	2723	3084
70°	2086	2319	2620
75°	1639	1853	2050
80°	1172	1303	1446
85°	763	763	719



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	173.3	4.1
10°-20°	486.7	11.4
20°-30°	711.3	16.7
30°-40°	807.4	19.0
40°-50°	779.4	18.3
50°-60°	643.0	15.1
60°-70°	428.2	10.1
70°-80°	191.6	4.5
80°-90°	34.3	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°	1371.3	32.2
0°-40°	2178.6	51.2
0°-60°	3601.0	84.6
0°-90°	4255.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4255.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1840	1840	1840	1840	1840	
5°	1838	1837	1830	1820	1815	174
15°	1732	1736	1732	1724	1712	488
25°	1538	1550	1557	1546	1533	704
35°	1237	1254	1311	1318	1314	775
45°	958	974	1006	1052	1058	739
55°	671	682	715	755	777	599
65°	393	404	428	458	484	390
75°	158	166	178	187	197	172
85°	25	25	25	23	23	33
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1840.2	1840.2	1840.2	1840.2	1840.2
2.5°	1845.1	1845.8	1841.6	1830.3	1823.2
5°	1838.1	1837.3	1830.3	1820.4	1814.7
7.5°	1817.6	1819.0	1816.8	1802.7	1794.9
10°	1797.8	1798.5	1792.8	1781.5	1772.3
12.5°	1772.3	1771.6	1763.8	1758.2	1743.3
15°	1732.0	1736.3	1732.0	1724.2	1712.2
17.5°	1693.1	1693.1	1696.0	1682.5	1673.3
20°	1649.3	1651.4	1651.4	1640.8	1630.2
22.5°	1598.4	1604.8	1606.9	1595.6	1582.8
25°	1538.3	1550.3	1557.4	1546.1	1532.7
27.5°	1465.5	1483.9	1505.1	1496.6	1481.8
30°	1384.2	1411.1	1446.4	1439.3	1428.7
32.5°	1307.1	1334.0	1382.8	1380.0	1374.3
35°	1237.2	1254.1	1311.4	1318.5	1313.5
37.5°	1170.7	1186.3	1240.0	1256.2	1252.0
40°	1100.7	1117.7	1160.1	1189.1	1190.5
42.5°	1031.4	1047.7	1082.3	1124.0	1124.0
45°	957.9	974.2	1006.0	1051.9	1057.6
47.5°	885.8	902.8	933.9	979.8	989.0
50°	815.1	830.7	861.8	906.3	920.4
52.5°	741.6	758.6	789.0	830.0	850.5
55°	670.9	682.2	715.4	755.0	776.9
57.5°	597.4	608.0	645.4	679.4	702.0
60°	526.7	540.1	569.1	603.7	629.9
62.5°	458.8	472.9	497.7	528.1	557.8
65°	393.1	403.7	427.7	458.1	484.3
67.5°	329.4	338.6	362.7	383.9	411.4
70°	265.1	277.1	294.8	315.3	333.0
72.5°	213.5	218.4	233.3	248.1	266.5
75°	157.6	166.1	178.2	186.6	197.2
77.5°	113.1	118.1	125.1	132.2	142.1
80°	75.6	77.8	84.1	85.5	93.3
82.5°	46.0	47.4	48.8	49.5	52.3
85°	24.7	24.7	24.7	23.3	23.3
87.5°	14.1	14.1	12.0	9.9	7.1
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)