

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: P556321

Luminaire Tested: **FUSL-12-4-LD4-1HI-40-UNV-93-84-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: P556321  
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-LD4-1HI-40-UNV-93-84-EDD  
Description: 4FT FUSL SURFACE MOUNT WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

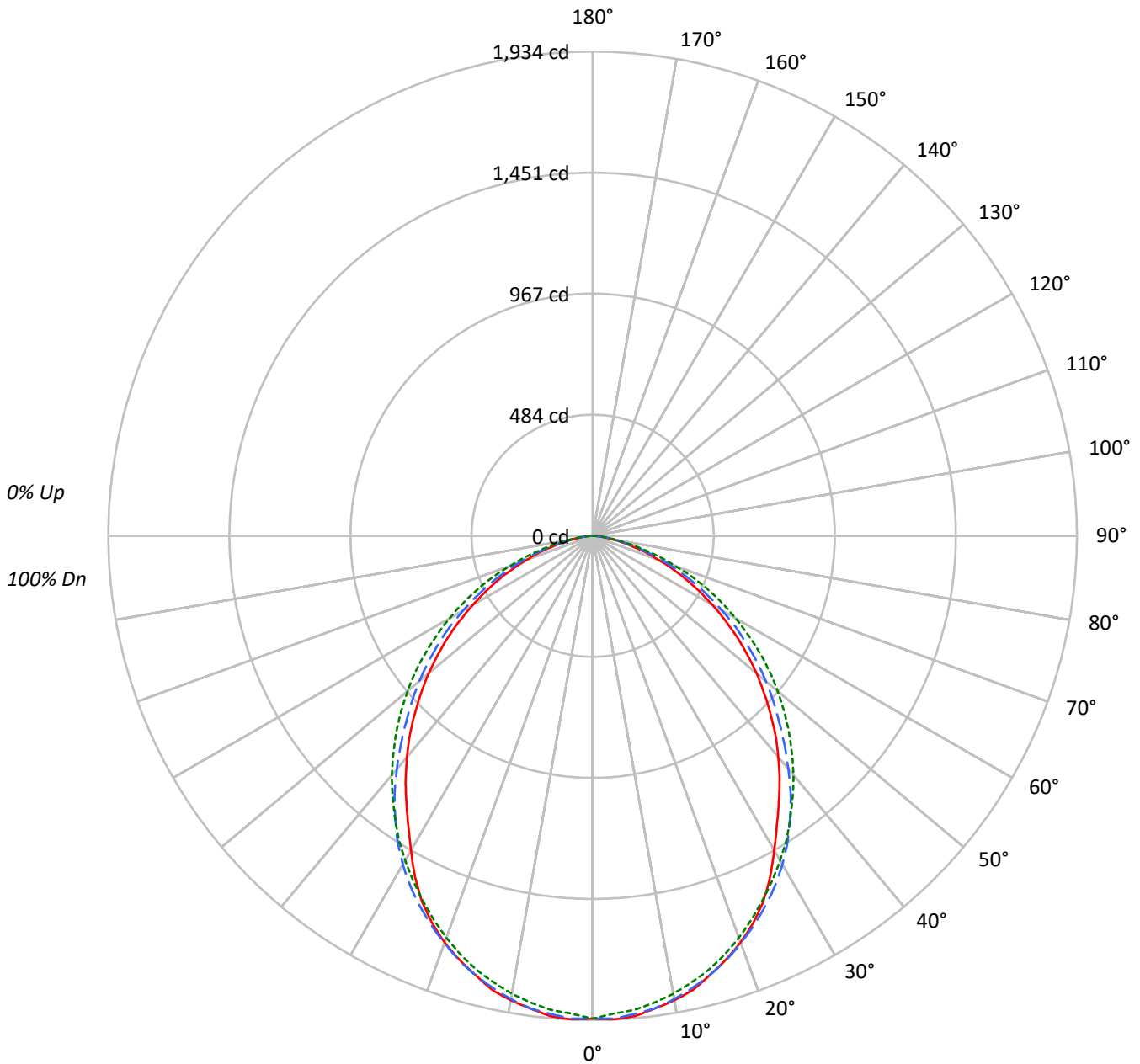
Lumens per Lamp: N/A  
Luminaire Lumens: 4459.0 lumens  
Efficiency: N/A  
Efficacy: 103.2 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 43.2  
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: P556321

CATALOG NUMBER: FUSL-12-4-LD4-1HI-40-UNV-93-84-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P556321

CATALOG NUMBER: FUSL-12-4-LD4-1HI-40-UNV-93-84-EDD

**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°	5189	5189	5189
5°	5203	5181	5137
10°	5148	5134	5075
15°	5057	5057	4999
20°	4950	4956	4892
25°	4787	4846	4769
30°	4507	4710	4652
35°	4259	4515	4522
40°	4052	4271	4383
45°	3820	4012	4218
50°	3576	3781	4038
55°	3299	3517	3820
60°	2970	3210	3553
65°	2623	2854	3231
70°	2186	2430	2745
75°	1718	1941	2149
80°	1229	1367	1516
85°	800	800	753



TEST NUMBER: P556321

CATALOG NUMBER: FUSL-12-4-LD4-1HI-40-UNV-93-84-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	181.6	4.1
10°-20°	510.1	11.4
20°-30°	745.4	16.7
30°-40°	846.1	19.0
40°-50°	816.8	18.3
50°-60°	673.8	15.1
60°-70°	448.7	10.1
70°-80°	200.8	4.5
80°-90°	35.9	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°	1437.0	32.2
0°-40°	2283.1	51.2
0°-60°	3773.6	84.6
0°-90°	4459.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4459.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1928	1928	1928	1928	1928	
5°	1926	1925	1918	1908	1902	182
15°	1815	1820	1815	1807	1794	512
25°	1612	1625	1632	1620	1606	738
35°	1296	1314	1374	1382	1376	812
45°	1004	1021	1054	1102	1108	775
55°	703	715	750	791	814	627
65°	412	423	448	480	508	408
75°	165	174	187	196	207	181
85°	26	26	26	24	24	35
90°	0	0	0	0	0	



TEST NUMBER: P556321

CATALOG NUMBER: FUSL-12-4-LD4-1HI-40-UNV-93-84-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1928.4	1928.4	1928.4	1928.4	1928.4
2.5°	1933.6	1934.3	1929.9	1918.0	1910.6
5°	1926.2	1925.4	1918.0	1907.7	1901.7
7.5°	1904.7	1906.2	1904.0	1889.1	1881.0
10°	1884.0	1884.7	1878.8	1866.9	1857.3
12.5°	1857.3	1856.5	1848.4	1842.5	1826.9
15°	1815.1	1819.5	1815.1	1806.9	1794.3
17.5°	1774.3	1774.3	1777.3	1763.2	1753.6
20°	1728.4	1730.6	1730.6	1719.5	1708.4
22.5°	1675.0	1681.7	1683.9	1672.1	1658.7
25°	1612.1	1624.7	1632.1	1620.2	1606.1
27.5°	1535.8	1555.0	1577.2	1568.4	1552.8
30°	1450.6	1478.7	1515.8	1508.3	1497.2
32.5°	1369.8	1398.0	1449.1	1446.1	1440.2
35°	1296.5	1314.2	1374.3	1381.7	1376.5
37.5°	1226.8	1243.1	1299.4	1316.5	1312.0
40°	1153.5	1171.3	1215.7	1246.1	1247.6
42.5°	1080.9	1097.9	1134.2	1177.9	1177.9
45°	1003.8	1020.9	1054.2	1102.4	1108.3
47.5°	928.3	946.1	978.6	1026.8	1036.4
50°	854.2	870.5	903.1	949.8	964.6
52.5°	777.1	794.9	826.8	869.7	891.2
55°	703.1	714.9	749.7	791.2	814.2
57.5°	626.0	637.1	676.4	711.9	735.7
60°	551.9	566.0	596.4	632.7	660.1
62.5°	480.8	495.6	521.6	553.4	584.5
65°	411.9	423.0	448.2	480.1	507.5
67.5°	345.2	354.9	380.1	402.3	431.2
70°	277.8	290.4	308.9	330.4	348.9
72.5°	223.7	228.9	244.5	260.0	279.3
75°	165.2	174.1	186.7	195.6	206.7
77.5°	118.5	123.7	131.1	138.5	148.9
80°	79.3	81.5	88.2	89.6	97.8
82.5°	48.2	49.6	51.1	51.9	54.8
85°	25.9	25.9	25.9	24.4	24.4
87.5°	14.8	14.8	12.6	10.4	7.4
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)