

Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: FAIL-SAFE

Report Number: P562369

Luminaire Tested: FSR-24-4-LD4-1STD-40-UNV-81-84-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562369  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/20/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: FAIL-SAFE  
Catalog Number: FSR-24-4-LD4-1STD-40-UNV-81-84-EDD  
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

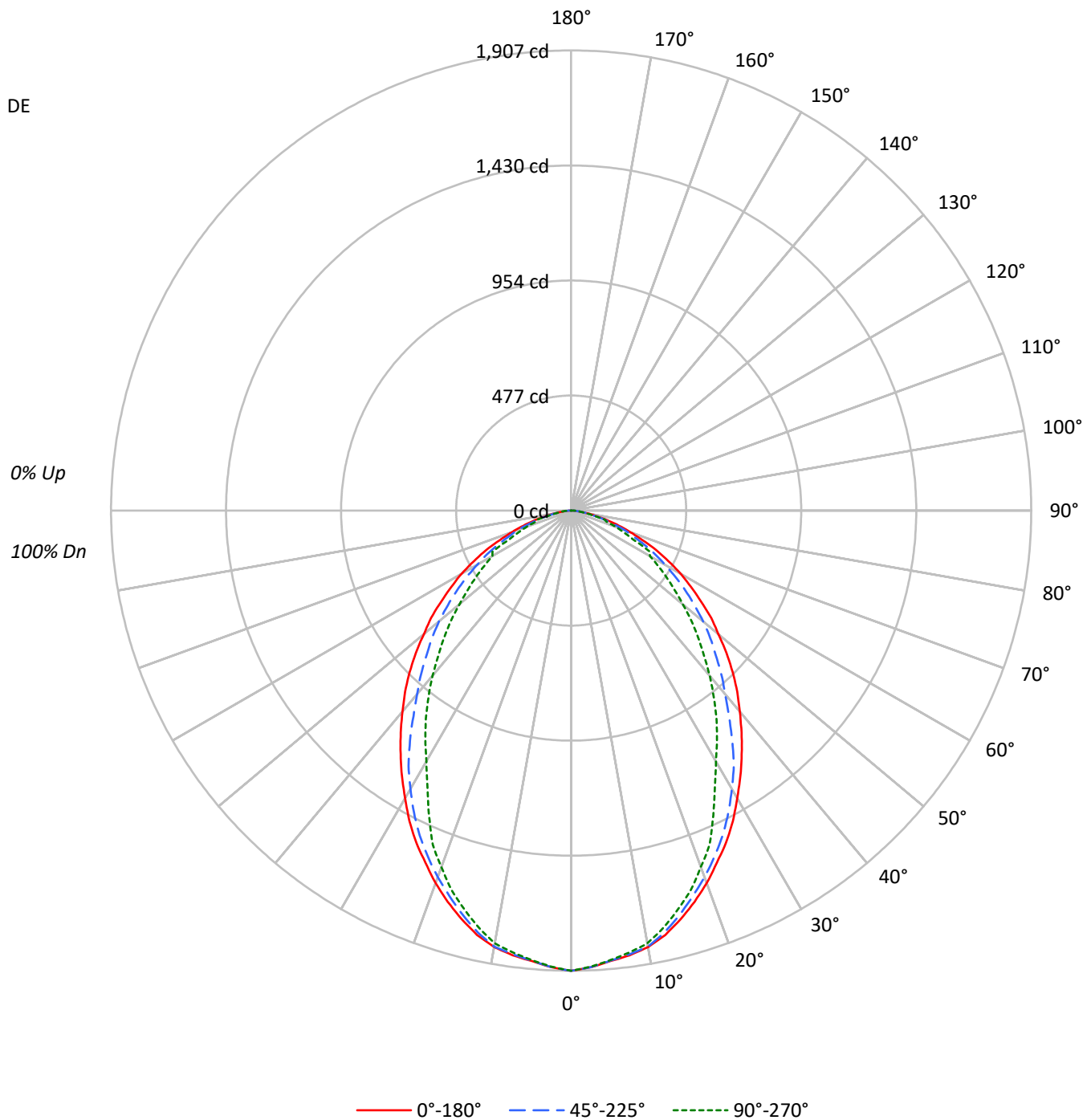
Lumens per Lamp: N/A  
Luminaire Lumens: 3744.0 lumens  
Efficiency: N/A  
Efficacy: 112.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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: 24 FT



TEST NUMBER: P562369

CATALOG NUMBER: FSR-24-4-LD4-1STD-40-UNV-81-84-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P562369

CATALOG NUMBER: FSR-24-4-LD4-1STD-40-UNV-81-84-EDD

**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20				20				20	
RC	80				70				50				30				10	0
RW	70	50	30	10	70	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	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	2566	2566	2566
5°	2531	2528	2525
10°	2509	2506	2488
15°	2442	2417	2383
20°	2352	2314	2251
25°	2255	2206	2069
30°	2137	2069	1863
35°	2024	1912	1724
40°	1909	1743	1568
45°	1800	1611	1418
50°	1666	1495	1265
55°	1541	1355	1133
60°	1412	1210	1014
65°	1242	1060	898
70°	1024	928	763
75°	814	711	745
80°	547	512	478
85°	340	409	477

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1800 cd/sqm



TEST NUMBER: P562369

CATALOG NUMBER: FSR-24-4-LD4-1STD-40-UNV-81-84-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	177.5	4.7
10°-20°	487.2	13.0
20°-30°	674.5	18.0
30°-40°	719.2	19.2
40°-50°	656.2	17.5
50°-60°	514.0	13.7
60°-70°	335.0	8.9
70°-80°	148.4	4.0
80°-90°	31.9	0.9
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°	1339.3	35.8
0°-40°	2058.5	55.0
0°-60°	3228.7	86.2
0°-90°	3744.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3744.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1907	1907	1907	1907	1907	
5°	1874	1872	1872	1870	1870	178
15°	1753	1753	1735	1718	1711	493
25°	1519	1510	1486	1433	1393	697
35°	1232	1224	1164	1076	1050	771
45°	946	926	847	776	745	729
55°	657	637	578	509	483	589
65°	390	368	333	340	282	385
75°	156	146	137	130	143	168
85°	22	24	26	29	31	31
90°	0	0	0	0	0	



TEST NUMBER: P562369

CATALOG NUMBER: FSR-24-4-LD4-1STD-40-UNV-81-84-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1907.1	1907.1	1907.1	1907.1	1907.1
2.5°	1893.9	1893.9	1893.9	1891.7	1891.7
5°	1874.1	1871.9	1871.9	1869.7	1869.7
7.5°	1858.6	1856.4	1854.2	1852.0	1847.6
10°	1836.6	1836.6	1834.4	1823.4	1821.2
12.5°	1801.3	1799.1	1790.3	1774.9	1770.4
15°	1752.8	1752.8	1735.2	1717.5	1710.9
17.5°	1699.9	1697.7	1675.6	1658.0	1649.2
20°	1642.6	1638.2	1616.1	1587.4	1572.0
22.5°	1578.6	1578.6	1552.2	1514.7	1499.3
25°	1519.1	1510.3	1486.0	1433.1	1393.4
27.5°	1450.8	1437.5	1411.1	1336.1	1289.8
30°	1375.8	1369.2	1331.7	1234.7	1199.4
32.5°	1305.2	1294.2	1254.5	1153.1	1124.4
35°	1232.5	1223.7	1164.1	1075.9	1049.5
37.5°	1159.7	1148.7	1073.7	1003.2	970.1
40°	1087.0	1073.7	992.2	928.2	892.9
42.5°	1018.6	1001.0	921.6	853.3	813.6
45°	945.9	926.0	846.6	776.1	745.2
47.5°	873.1	855.5	782.7	709.9	674.7
50°	795.9	780.5	714.4	641.6	604.1
52.5°	732.0	707.7	643.8	571.0	540.2
55°	657.0	637.2	577.7	509.3	482.8
57.5°	588.7	568.8	513.7	449.8	427.7
60°	524.7	496.1	449.8	394.7	377.0
62.5°	454.2	432.1	392.5	346.2	368.2
65°	390.2	368.2	332.9	339.5	282.2
67.5°	319.7	308.7	277.8	246.9	238.1
70°	260.2	246.9	235.9	202.8	194.0
72.5°	207.3	194.0	178.6	160.9	154.3
75°	156.5	145.5	136.7	130.1	143.3
77.5°	108.0	103.6	97.0	90.4	88.2
80°	70.6	68.3	66.1	63.9	61.7
82.5°	41.9	41.9	41.9	41.9	41.9
85°	22.0	24.3	26.5	28.7	30.9
87.5°	13.2	13.2	15.4	17.6	19.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)