

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: P562101

Luminaire Tested: FSR-24-4-LD4-1HI-50-UNV-80-86-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562101  
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-LD4-1HI-50-UNV-80-86-EDD  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR PC ENVIRON  
SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

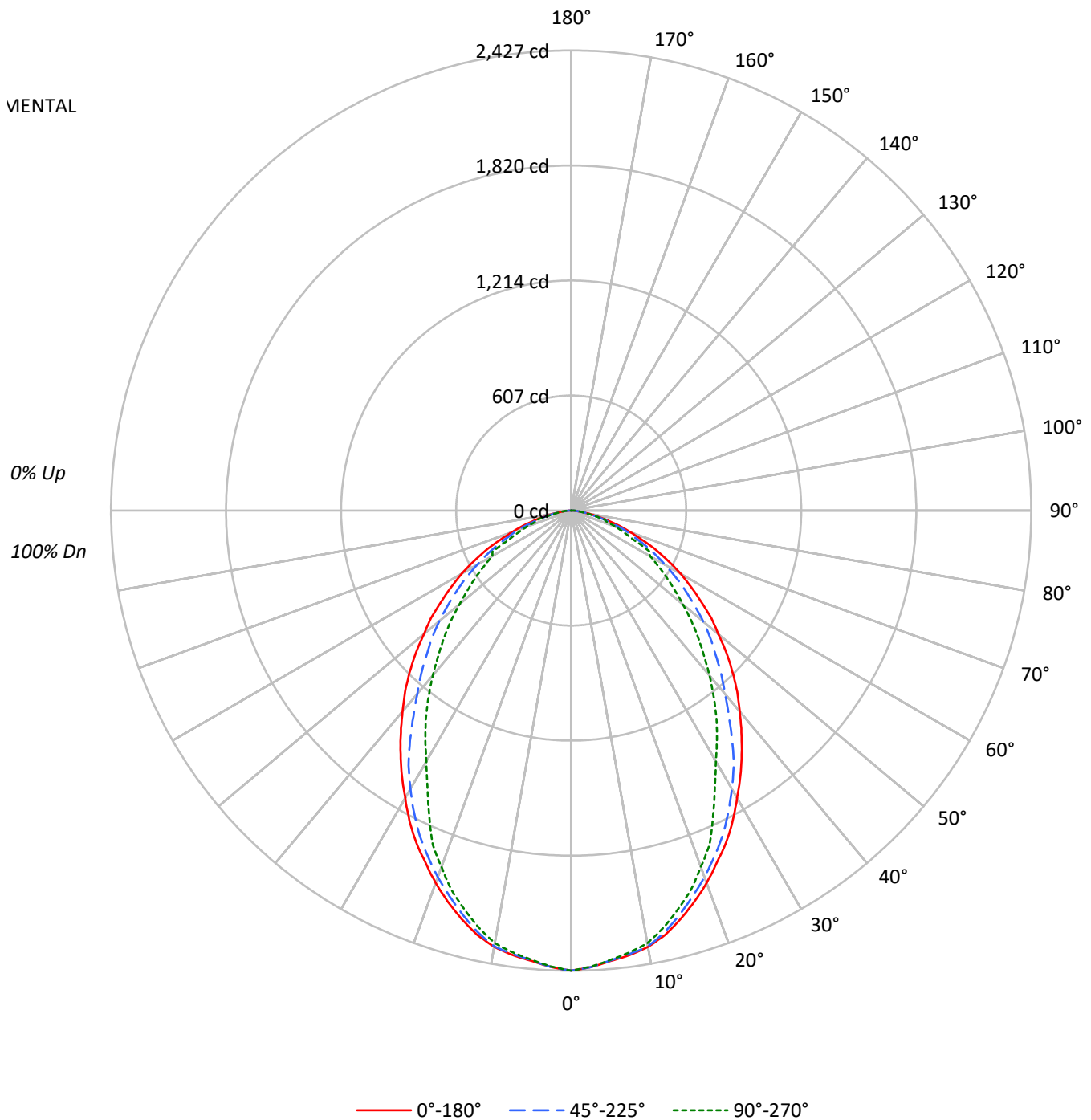
Lumens per Lamp: N/A  
Luminaire Lumens: 4764.0 lumens  
Efficiency: N/A  
Efficacy: 110.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 43.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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: P562101

CATALOG NUMBER: FSR-24-4-LD4-1HI-50-UNV-80-86-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P562101

CATALOG NUMBER: FSR-24-4-LD4-1HI-50-UNV-80-86-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	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									100																			
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87									87																			
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75									75																			
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65									65																			
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56									56																			
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50									50																			
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44									44																			
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40									40																			
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36									36																			
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33									33																			
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30									30																			

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

	0°	45°	90°
0°	3265	3265	3265
5°	3221	3217	3213
10°	3193	3189	3166
15°	3107	3076	3032
20°	2993	2944	2864
25°	2870	2807	2632
30°	2720	2633	2371
35°	2576	2433	2193
40°	2429	2217	1996
45°	2290	2050	1804
50°	2120	1903	1609
55°	1961	1724	1441
60°	1797	1540	1291
65°	1581	1349	1143
70°	1302	1181	971
75°	1036	904	948
80°	696	652	609
85°	434	520	607

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2290 cd/sqm



TEST NUMBER: P562101

CATALOG NUMBER: FSR-24-4-LD4-1HI-50-UNV-80-86-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	225.9	4.7
10°-20°	619.9	13.0
20°-30°	858.3	18.0
30°-40°	915.2	19.2
40°-50°	834.9	17.5
50°-60°	654.1	13.7
60°-70°	426.3	8.9
70°-80°	188.9	4.0
80°-90°	40.6	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°	1704.1	35.8
0°-40°	2619.3	55.0
0°-60°	4108.3	86.2
0°-90°	4764.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4764.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2427	2427	2427	2427	2427	
5°	2385	2382	2382	2379	2379	226
15°	2230	2230	2208	2185	2177	627
25°	1933	1922	1891	1824	1773	887
35°	1568	1557	1481	1369	1335	980
45°	1204	1178	1077	988	948	927
55°	836	811	735	648	614	750
65°	497	468	424	432	359	489
75°	199	185	174	166	182	213
85°	28	31	34	36	39	39
90°	0	0	0	0	0	



TEST NUMBER: P562101

CATALOG NUMBER: FSR-24-4-LD4-1HI-50-UNV-80-86-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2426.7	2426.7	2426.7	2426.7	2426.7
2.5°	2409.9	2409.9	2409.9	2407.1	2407.1
5°	2384.6	2381.8	2381.8	2379.0	2379.0
7.5°	2365.0	2362.2	2359.4	2356.6	2351.0
10°	2336.9	2336.9	2334.1	2320.1	2317.3
12.5°	2292.1	2289.3	2278.0	2258.4	2252.8
15°	2230.3	2230.3	2207.9	2185.4	2177.0
17.5°	2163.0	2160.2	2132.1	2109.7	2098.5
20°	2090.1	2084.5	2056.4	2019.9	2000.3
22.5°	2008.7	2008.7	1975.0	1927.3	1907.7
25°	1933.0	1921.7	1890.9	1823.5	1773.0
27.5°	1846.0	1829.2	1795.5	1700.1	1641.2
30°	1750.6	1742.2	1694.5	1571.1	1526.2
32.5°	1660.8	1646.8	1596.3	1467.3	1430.8
35°	1568.2	1557.0	1481.3	1369.1	1335.4
37.5°	1475.7	1461.6	1366.3	1276.5	1234.4
40°	1383.1	1366.3	1262.5	1181.1	1136.2
42.5°	1296.1	1273.7	1172.7	1085.7	1035.2
45°	1203.5	1178.3	1077.3	987.5	948.2
47.5°	1111.0	1088.5	995.9	903.4	858.5
50°	1012.8	993.1	909.0	816.4	768.7
52.5°	931.4	900.6	819.2	726.6	687.3
55°	836.0	810.8	735.0	648.1	614.4
57.5°	749.1	723.8	653.7	572.3	544.3
60°	667.7	631.2	572.3	502.2	479.7
62.5°	577.9	549.9	499.4	440.5	468.5
65°	496.6	468.5	423.6	432.0	359.1
67.5°	406.8	392.8	353.5	314.2	303.0
70°	331.0	314.2	300.2	258.1	246.9
72.5°	263.7	246.9	227.2	204.8	196.4
75°	199.2	185.2	173.9	165.5	182.4
77.5°	137.5	131.9	123.4	115.0	112.2
80°	89.8	87.0	84.2	81.4	78.6
82.5°	53.3	53.3	53.3	53.3	53.3
85°	28.1	30.9	33.7	36.5	39.3
87.5°	16.8	16.8	19.6	22.4	25.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)