

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: P562257

Luminaire Tested: FSR-24-4-LD4-1LO-50-UNV-82-84-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562257  
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-LD4-1LO-50-UNV-82-84-EDD  
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

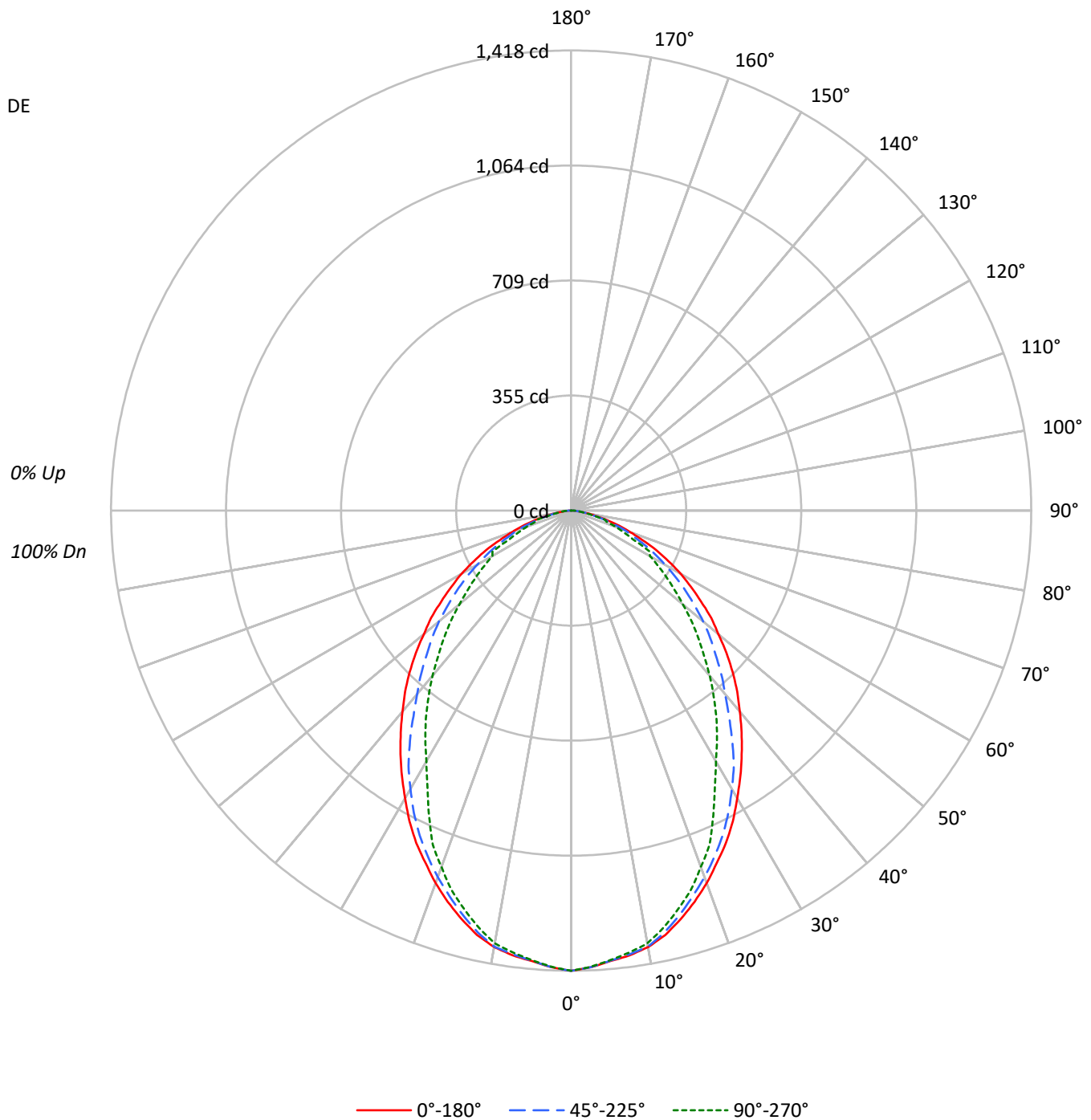
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2784.0 lumens  
Efficiency: N/A  
Efficacy: 119.0 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): 23.4  
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: P562257  
CATALOG NUMBER: FSR-24-4-LD4-1LO-50-UNV-82-84-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P562257

CATALOG NUMBER: FSR-24-4-LD4-1LO-50-UNV-82-84-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	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°	1908	1908	1908
5°	1882	1880	1878
10°	1866	1864	1850
15°	1816	1797	1772
20°	1749	1721	1674
25°	1677	1640	1538
30°	1589	1538	1386
35°	1505	1422	1282
40°	1420	1296	1166
45°	1338	1198	1054
50°	1239	1112	940
55°	1146	1008	842
60°	1050	900	754
65°	924	788	668
70°	761	690	568
75°	605	528	554
80°	407	381	356
85°	253	304	355

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1338 cd/sqm



TEST NUMBER: P562257

CATALOG NUMBER: FSR-24-4-LD4-1LO-50-UNV-82-84-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	132.0	4.7
10°-20°	362.3	13.0
20°-30°	501.6	18.0
30°-40°	534.8	19.2
40°-50°	487.9	17.5
50°-60°	382.2	13.7
60°-70°	249.1	8.9
70°-80°	110.4	4.0
80°-90°	23.7	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°	995.9	35.8
0°-40°	1530.7	55.0
0°-60°	2400.8	86.2
0°-90°	2784.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2784.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1418	1418	1418	1418	1418	
5°	1394	1392	1392	1390	1390	132
15°	1303	1303	1290	1277	1272	366
25°	1130	1123	1105	1066	1036	519
35°	916	910	866	800	780	573
45°	703	689	630	577	554	542
55°	489	474	430	379	359	438
65°	290	274	248	252	210	286
75°	116	108	102	97	107	125
85°	16	18	20	21	23	23
90°	0	0	0	0	0	



TEST NUMBER: P562257

CATALOG NUMBER: FSR-24-4-LD4-1LO-50-UNV-82-84-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1418.1	1418.1	1418.1	1418.1	1418.1
2.5°	1408.3	1408.3	1408.3	1406.7	1406.7
5°	1393.5	1391.9	1391.9	1390.3	1390.3
7.5°	1382.1	1380.4	1378.8	1377.1	1373.9
10°	1365.7	1365.7	1364.0	1355.8	1354.2
12.5°	1339.4	1337.8	1331.2	1319.8	1316.5
15°	1303.4	1303.4	1290.3	1277.1	1272.2
17.5°	1264.0	1262.4	1246.0	1232.9	1226.3
20°	1221.4	1218.1	1201.7	1180.4	1168.9
22.5°	1173.9	1173.9	1154.2	1126.3	1114.8
25°	1129.6	1123.0	1105.0	1065.6	1036.1
27.5°	1078.8	1068.9	1049.3	993.5	959.1
30°	1023.0	1018.1	990.2	918.1	891.9
32.5°	970.6	962.4	932.9	857.4	836.1
35°	916.5	909.9	865.6	800.1	780.4
37.5°	862.4	854.2	798.4	746.0	721.4
40°	808.3	798.4	737.8	690.2	664.0
42.5°	757.4	744.3	685.3	634.5	605.0
45°	703.3	688.6	629.6	577.1	554.1
47.5°	649.2	636.1	582.0	527.9	501.7
50°	591.8	580.4	531.2	477.1	449.2
52.5°	544.3	526.3	478.7	424.6	401.7
55°	488.6	473.8	429.5	378.7	359.0
57.5°	437.7	423.0	382.0	334.4	318.1
60°	390.2	368.9	334.4	293.5	280.3
62.5°	337.7	321.3	291.8	257.4	273.8
65°	290.2	273.8	247.6	252.5	209.9
67.5°	237.7	229.5	206.6	183.6	177.1
70°	193.5	183.6	175.4	150.8	144.3
72.5°	154.1	144.3	132.8	119.7	114.8
75°	116.4	108.2	101.6	96.7	106.6
77.5°	80.3	77.1	72.1	67.2	65.6
80°	52.5	50.8	49.2	47.5	45.9
82.5°	31.1	31.1	31.1	31.1	31.1
85°	16.4	18.0	19.7	21.3	23.0
87.5°	9.8	9.8	11.5	13.1	14.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)