

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: P562245

Luminaire Tested: FSR-24-4-LD4-1LO-50-UNV-81-86-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562245  
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-81-86-EDD  
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

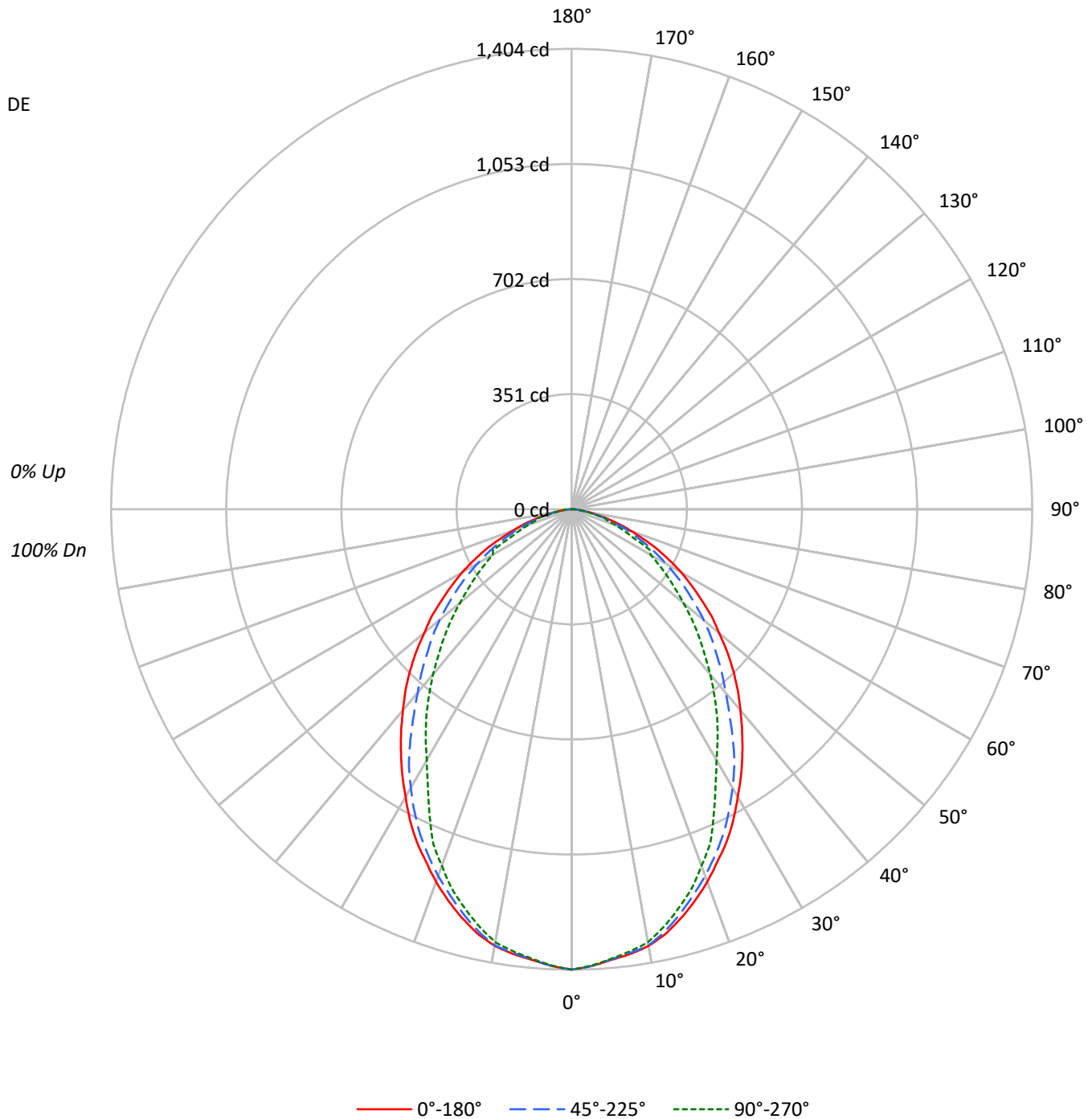
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2756.0 lumens  
Efficiency: N/A  
Efficacy: 117.8 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: P562245  
CATALOG NUMBER: FSR-24-4-LD4-1LO-50-UNV-81-86-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P562245

CATALOG NUMBER: FSR-24-4-LD4-1LO-50-UNV-81-86-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°	1889	1889	1889
5°	1863	1861	1859
10°	1847	1845	1832
15°	1797	1779	1754
20°	1731	1703	1657
25°	1660	1624	1523
30°	1573	1523	1372
35°	1490	1407	1269
40°	1405	1283	1154
45°	1325	1186	1044
50°	1226	1101	931
55°	1134	997	834
60°	1040	891	747
65°	915	780	661
70°	753	683	562
75°	599	523	548
80°	402	377	352
85°	250	301	350

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1325 cd/sqm



TEST NUMBER: P562245

CATALOG NUMBER: FSR-24-4-LD4-1LO-50-UNV-81-86-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	130.7	4.7
10°-20°	358.6	13.0
20°-30°	496.5	18.0
30°-40°	529.4	19.2
40°-50°	483.0	17.5
50°-60°	378.4	13.7
60°-70°	246.6	8.9
70°-80°	109.3	4.0
80°-90°	23.5	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°	985.8	35.8
0°-40°	1515.3	55.0
0°-60°	2376.7	86.2
0°-90°	2756.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2756.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1404	1404	1404	1404	1404	
5°	1380	1378	1378	1376	1376	131
15°	1290	1290	1277	1264	1259	363
25°	1118	1112	1094	1055	1026	513
35°	907	901	857	792	772	567
45°	696	682	623	571	549	536
55°	484	469	425	375	355	434
65°	287	271	245	250	208	283
75°	115	107	101	96	106	123
85°	16	18	20	21	23	22
90°	0	0	0	0	0	



TEST NUMBER: P562245

CATALOG NUMBER: FSR-24-4-LD4-1LO-50-UNV-81-86-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1403.9	1403.9	1403.9	1403.9	1403.9
2.5°	1394.1	1394.1	1394.1	1392.5	1392.5
5°	1379.5	1377.9	1377.9	1376.3	1376.3
7.5°	1368.2	1366.5	1364.9	1363.3	1360.0
10°	1351.9	1351.9	1350.3	1342.2	1340.6
12.5°	1326.0	1324.3	1317.9	1306.5	1303.2
15°	1290.3	1290.3	1277.3	1264.3	1259.4
17.5°	1251.3	1249.7	1233.5	1220.5	1214.0
20°	1209.1	1205.9	1189.6	1168.5	1157.2
22.5°	1162.0	1162.0	1142.6	1115.0	1103.6
25°	1118.2	1111.7	1093.9	1054.9	1025.7
27.5°	1067.9	1058.2	1038.7	983.5	949.4
30°	1012.7	1007.9	980.3	908.9	882.9
32.5°	960.8	952.7	923.5	848.8	827.7
35°	907.2	900.7	856.9	792.0	772.5
37.5°	853.7	845.6	790.4	738.5	714.1
40°	800.1	790.4	730.3	683.3	657.3
42.5°	749.8	736.8	678.4	628.1	598.9
45°	696.3	681.6	623.2	571.3	548.6
47.5°	642.7	629.7	576.2	522.6	496.6
50°	585.9	574.5	525.8	472.3	444.7
52.5°	538.8	521.0	473.9	420.3	397.6
55°	483.6	469.0	425.2	374.9	355.4
57.5°	433.3	418.7	378.2	331.1	314.9
60°	386.3	365.2	331.1	290.5	277.5
62.5°	334.3	318.1	288.9	254.8	271.0
65°	287.3	271.0	245.1	249.9	207.7
67.5°	235.3	227.2	204.5	181.8	175.3
70°	191.5	181.8	173.7	149.3	142.8
72.5°	152.6	142.8	131.5	118.5	113.6
75°	115.2	107.1	100.6	95.8	105.5
77.5°	79.5	76.3	71.4	66.5	64.9
80°	51.9	50.3	48.7	47.1	45.4
82.5°	30.8	30.8	30.8	30.8	30.8
85°	16.2	17.9	19.5	21.1	22.7
87.5°	9.7	9.7	11.4	13.0	14.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)