

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: P561841

Luminaire Tested: FSR-12-4-LD4-2STD-50-UNV-80-84-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561841  
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-12-4-LD4-2STD-50-UNV-80-84-EDD  
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .125 CLEAR PC ENVIRON  
SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

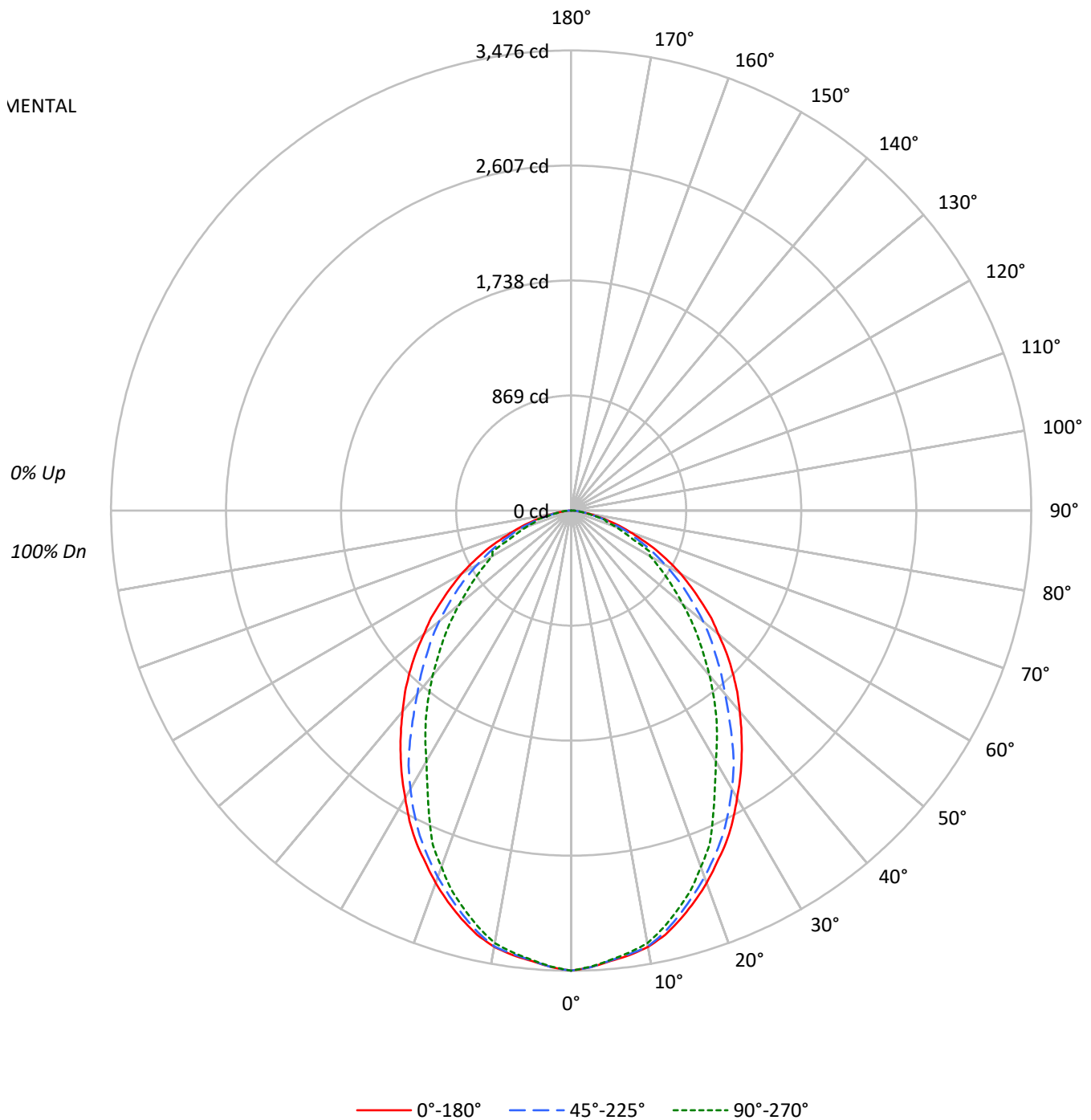
Lumens per Lamp: N/A  
Luminaire Lumens: 6823.0 lumens  
Efficiency: N/A  
Efficacy: 102.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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: P561841

CATALOG NUMBER: FSR-12-4-LD4-2STD-50-UNV-80-84-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P561841

CATALOG NUMBER: FSR-12-4-LD4-2STD-50-UNV-80-84-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	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°	9352	9352	9352
5°	9226	9215	9204
10°	9146	9135	9069
15°	8899	8809	8686
20°	8572	8434	8204
25°	8220	8041	7540
30°	7791	7541	6792
35°	7378	6969	6283
40°	6959	6352	5716
45°	6560	5872	5168
50°	6072	5450	4609
55°	5618	4939	4128
60°	5147	4412	3698
65°	4528	3863	3275
70°	3730	3382	2782
75°	2966	2590	2716
80°	1993	1867	1743
85°	1241	1488	1738

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6560 cd/sqm



TEST NUMBER: P561841

CATALOG NUMBER: FSR-12-4-LD4-2STD-50-UNV-80-84-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	323.5	4.7
10°-20°	887.9	13.0
20°-30°	1229.2	18.0
30°-40°	1310.7	19.2
40°-50°	1195.8	17.5
50°-60°	936.8	13.7
60°-70°	610.5	8.9
70°-80°	270.5	4.0
80°-90°	58.1	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°	2440.6	35.8
0°-40°	3751.4	55.0
0°-60°	5883.9	86.2
0°-90°	6823.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6823.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3476	3476	3476	3476	3476	
5°	3415	3411	3411	3407	3407	324
15°	3194	3194	3162	3130	3118	898
25°	2768	2752	2708	2612	2539	1271
35°	2246	2230	2122	1961	1913	1404
45°	1724	1688	1543	1414	1358	1328
55°	1197	1161	1053	928	880	1074
65°	711	671	607	619	514	701
75°	285	265	249	237	261	306
85°	40	44	48	52	56	56
90°	0	0	0	0	0	

TEST NUMBER: P561841

CATALOG NUMBER: FSR-12-4-LD4-2STD-50-UNV-80-84-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3475.5	3475.5	3475.5	3475.5	3475.5
2.5°	3451.4	3451.4	3451.4	3447.4	3447.4
5°	3415.3	3411.3	3411.3	3407.2	3407.2
7.5°	3387.1	3383.1	3379.1	3375.1	3367.1
10°	3347.0	3347.0	3343.0	3322.9	3318.8
12.5°	3282.7	3278.7	3262.6	3234.5	3226.4
15°	3194.3	3194.3	3162.1	3130.0	3117.9
17.5°	3097.9	3093.8	3053.7	3021.5	3005.4
20°	2993.4	2985.4	2945.2	2892.9	2864.8
22.5°	2876.9	2876.9	2828.7	2760.3	2732.2
25°	2768.4	2752.3	2708.1	2611.7	2539.4
27.5°	2643.8	2619.7	2571.5	2434.9	2350.5
30°	2507.2	2495.2	2426.9	2250.1	2185.8
32.5°	2378.6	2358.5	2286.2	2101.4	2049.2
35°	2246.0	2230.0	2121.5	1960.8	1912.6
37.5°	2113.5	2093.4	1956.8	1828.2	1767.9
40°	1980.9	1956.8	1808.1	1691.6	1627.3
42.5°	1856.3	1824.2	1679.5	1555.0	1482.6
45°	1723.7	1687.5	1542.9	1414.3	1358.1
47.5°	1591.1	1559.0	1426.4	1293.8	1229.5
50°	1450.5	1422.4	1301.8	1169.2	1100.9
52.5°	1334.0	1289.8	1173.2	1040.7	984.4
55°	1197.4	1161.2	1052.7	928.2	879.9
57.5°	1072.8	1036.6	936.2	819.7	779.5
60°	956.3	904.0	819.7	719.2	687.1
62.5°	827.7	787.5	715.2	630.8	671.0
65°	711.2	671.0	606.7	618.8	514.3
67.5°	582.6	562.5	506.3	450.0	433.9
70°	474.1	450.0	429.9	369.7	353.6
72.5°	377.7	353.6	325.5	293.3	281.3
75°	285.3	265.2	249.1	237.1	261.2
77.5°	196.9	188.8	176.8	164.7	160.7
80°	128.6	124.6	120.5	116.5	112.5
82.5°	76.3	76.3	76.3	76.3	76.3
85°	40.2	44.2	48.2	52.2	56.3
87.5°	24.1	24.1	28.1	32.1	36.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)