

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: P561075

Luminaire Tested: FSR-12-4-LD4-1LO-50-UNV-80-85-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561075  
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-LD4-1LO-50-UNV-80-85-EDD  
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR PC ENVIRON  
SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

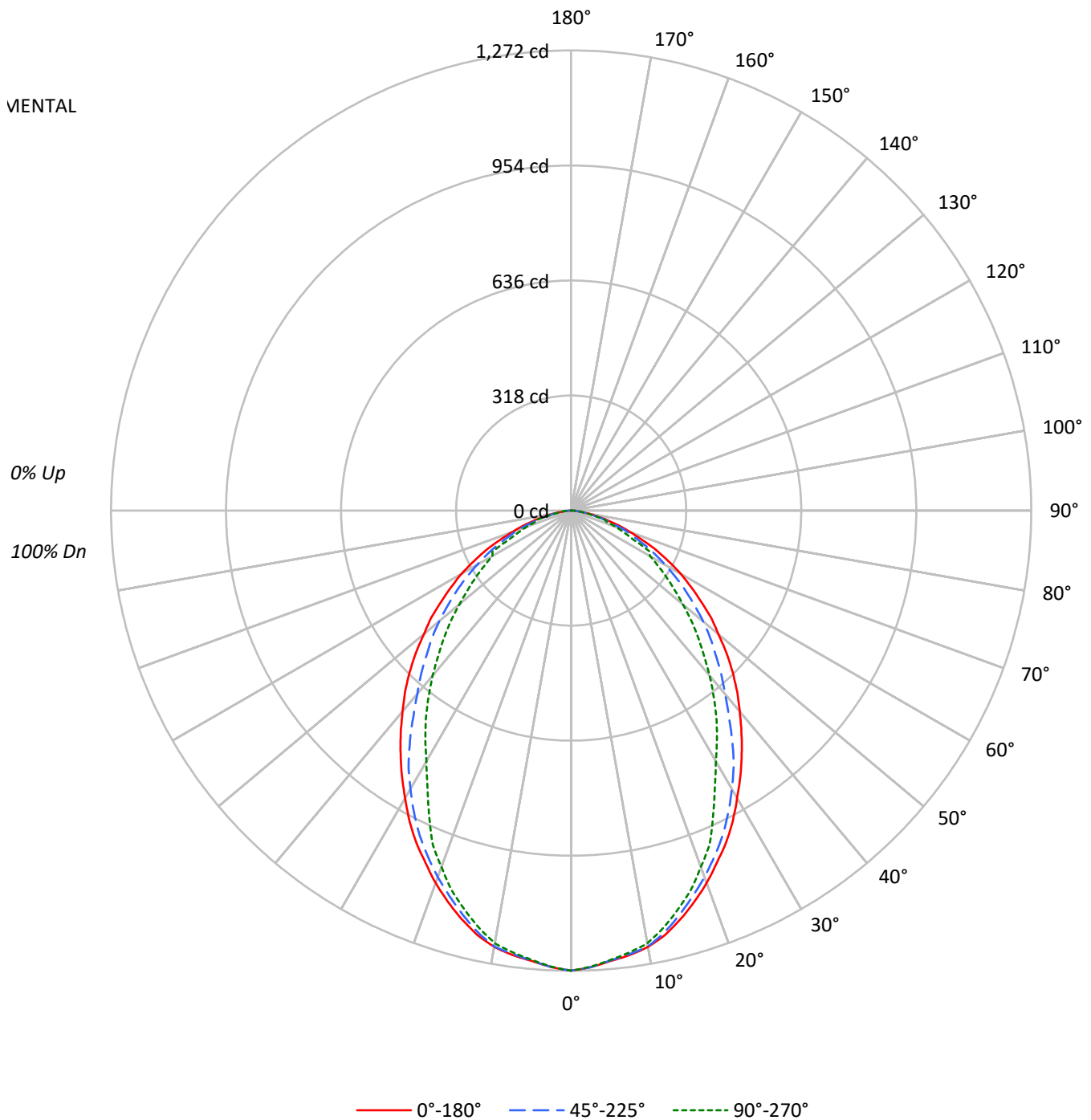
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2497.0 lumens  
Efficiency: N/A  
Efficacy: 106.7 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): 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: P561075  
CATALOG NUMBER: FSR-12-4-LD4-1LO-50-UNV-80-85-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P561075

CATALOG NUMBER: FSR-12-4-LD4-1LO-50-UNV-80-85-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	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				
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°	3423	3423	3423
5°	3376	3372	3368
10°	3347	3343	3319
15°	3257	3224	3179
20°	3137	3086	3002
25°	3008	2943	2759
30°	2851	2760	2486
35°	2700	2551	2299
40°	2546	2324	2092
45°	2401	2149	1891
50°	2222	1994	1687
55°	2056	1808	1511
60°	1884	1615	1353
65°	1657	1414	1198
70°	1365	1238	1018
75°	1085	948	994
80°	730	683	638
85°	454	543	636

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2401 cd/sqm



TEST NUMBER: P561075

CATALOG NUMBER: FSR-12-4-LD4-1LO-50-UNV-80-85-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	118.4	4.7
10°-20°	324.9	13.0
20°-30°	449.9	18.0
30°-40°	479.7	19.2
40°-50°	437.6	17.5
50°-60°	342.8	13.7
60°-70°	223.4	8.9
70°-80°	99.0	4.0
80°-90°	21.2	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°	893.2	35.8
0°-40°	1372.9	55.0
0°-60°	2153.3	86.2
0°-90°	2497.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2497.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1272	1272	1272	1272	1272	
5°	1250	1248	1248	1247	1247	119
15°	1169	1169	1157	1146	1141	329
25°	1013	1007	991	956	929	465
35°	822	816	776	718	700	514
45°	631	618	565	518	497	486
55°	438	425	385	340	322	393
65°	260	246	222	226	188	256
75°	104	97	91	87	96	112
85°	15	16	18	19	21	20
90°	0	0	0	0	0	



TEST NUMBER: P561075

CATALOG NUMBER: FSR-12-4-LD4-1LO-50-UNV-80-85-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1271.9	1271.9	1271.9	1271.9	1271.9
2.5°	1263.1	1263.1	1263.1	1261.6	1261.6
5°	1249.9	1248.4	1248.4	1246.9	1246.9
7.5°	1239.6	1238.1	1236.6	1235.2	1232.2
10°	1224.9	1224.9	1223.4	1216.1	1214.6
12.5°	1201.4	1199.9	1194.0	1183.7	1180.8
15°	1169.0	1169.0	1157.2	1145.5	1141.1
17.5°	1133.7	1132.2	1117.5	1105.8	1099.9
20°	1095.5	1092.5	1077.8	1058.7	1048.4
22.5°	1052.8	1052.8	1035.2	1010.2	999.9
25°	1013.1	1007.3	991.1	955.8	929.3
27.5°	967.6	958.7	941.1	891.1	860.2
30°	917.6	913.1	888.2	823.5	799.9
32.5°	870.5	863.2	836.7	769.0	749.9
35°	822.0	816.1	776.4	717.6	699.9
37.5°	773.5	766.1	716.1	669.1	647.0
40°	724.9	716.1	661.7	619.1	595.5
42.5°	679.3	667.6	614.6	569.1	542.6
45°	630.8	617.6	564.7	517.6	497.0
47.5°	582.3	570.5	522.0	473.5	450.0
50°	530.8	520.5	476.4	427.9	402.9
52.5°	488.2	472.0	429.4	380.8	360.3
55°	438.2	425.0	385.3	339.7	322.0
57.5°	392.6	379.4	342.6	300.0	285.3
60°	350.0	330.9	300.0	263.2	251.4
62.5°	302.9	288.2	261.7	230.9	245.6
65°	260.3	245.6	222.0	226.4	188.2
67.5°	213.2	205.9	185.3	164.7	158.8
70°	173.5	164.7	157.3	135.3	129.4
72.5°	138.2	129.4	119.1	107.3	102.9
75°	104.4	97.0	91.2	86.8	95.6
77.5°	72.1	69.1	64.7	60.3	58.8
80°	47.1	45.6	44.1	42.6	41.2
82.5°	27.9	27.9	27.9	27.9	27.9
85°	14.7	16.2	17.6	19.1	20.6
87.5°	8.8	8.8	10.3	11.8	13.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)