

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: P561206

Luminaire Tested: FSR-12-4-LD4-1STD-40-UNV-80-87-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561206  
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-LD4-1STD-40-UNV-80-87-EDD-90  
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR PC ENVIRON  
SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

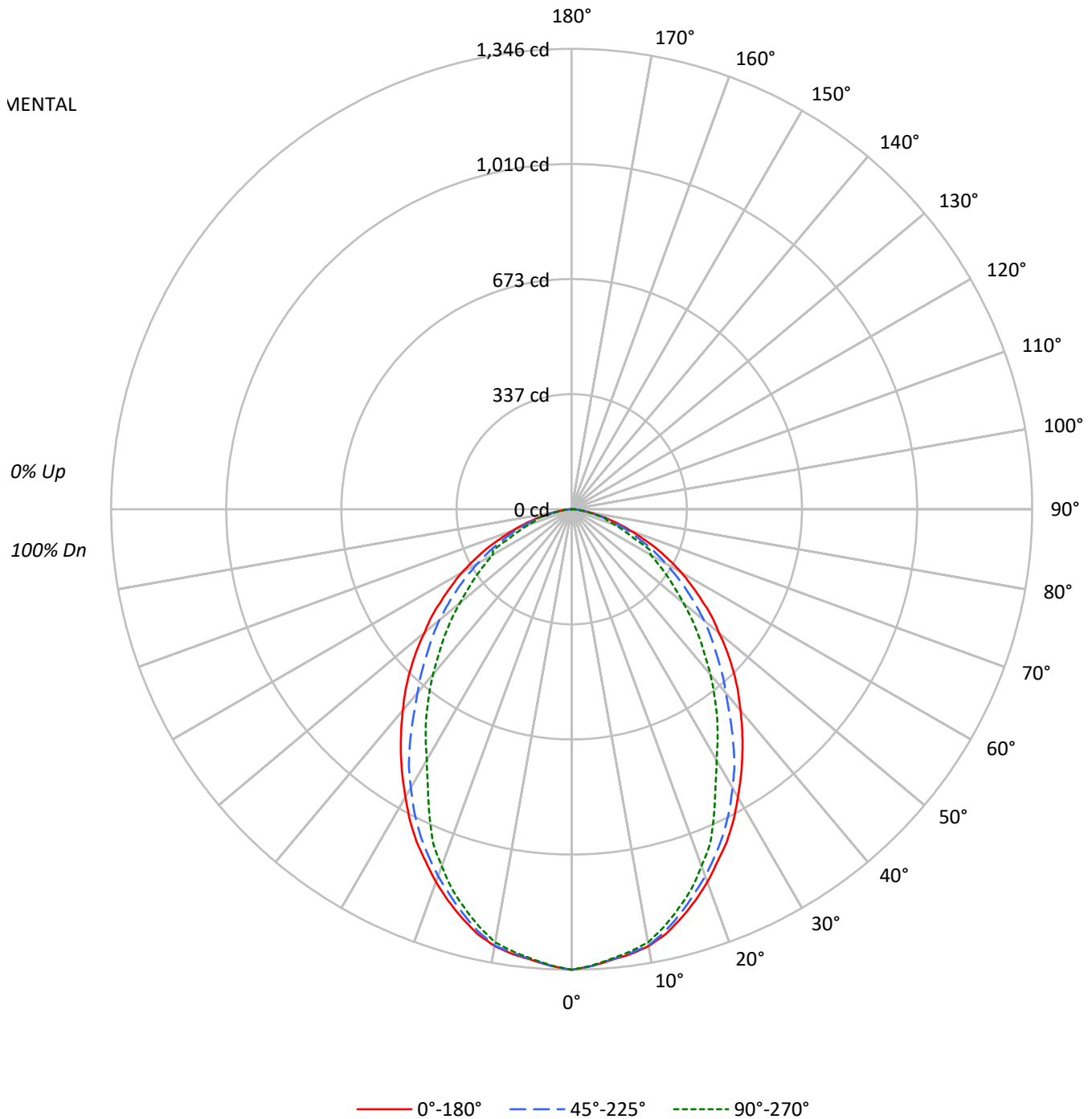
Lumens per Lamp: N/A  
Luminaire Lumens: 2643.0 lumens  
Efficiency: N/A  
Efficacy: 79.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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



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### Luminous Intensity Polar Plot





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**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°	3623	3623	3623
5°	3574	3569	3565
10°	3543	3538	3513
15°	3447	3412	3365
20°	3320	3267	3178
25°	3184	3115	2921
30°	3018	2921	2631
35°	2858	2700	2434
40°	2695	2460	2214
45°	2541	2275	2002
50°	2352	2111	1786
55°	2176	1913	1599
60°	1993	1709	1432
65°	1754	1496	1268
70°	1445	1310	1078
75°	1149	1003	1052
80°	772	724	676
85°	482	577	673

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2541 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	125.3	4.7
10°-20°	343.9	13.0
20°-30°	476.2	18.0
30°-40°	507.7	19.2
40°-50°	463.2	17.5
50°-60°	362.9	13.7
60°-70°	236.5	8.9
70°-80°	104.8	4.0
80°-90°	22.5	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°	945.4	35.8
0°-40°	1453.1	55.0
0°-60°	2279.2	86.2
0°-90°	2643.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2643.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1346	1346	1346	1346	1346	
5°	1323	1321	1321	1320	1320	126
15°	1237	1237	1225	1212	1208	348
25°	1072	1066	1049	1012	984	492
35°	870	864	822	760	741	544
45°	668	654	598	548	526	514
55°	464	450	408	360	341	416
65°	276	260	235	240	199	271
75°	110	103	96	92	101	118
85°	16	17	19	20	22	22
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1346.3	1346.3	1346.3	1346.3	1346.3
2.5°	1337.0	1337.0	1337.0	1335.4	1335.4
5°	1323.0	1321.4	1321.4	1319.8	1319.8
7.5°	1312.1	1310.5	1309.0	1307.4	1304.3
10°	1296.5	1296.5	1294.9	1287.2	1285.6
12.5°	1271.6	1270.0	1263.8	1252.9	1249.8
15°	1237.4	1237.4	1224.9	1212.5	1207.8
17.5°	1200.0	1198.4	1182.9	1170.4	1164.2
20°	1159.5	1156.4	1140.9	1120.6	1109.7
22.5°	1114.4	1114.4	1095.7	1069.3	1058.4
25°	1072.4	1066.2	1049.0	1011.7	983.7
27.5°	1024.1	1014.8	996.1	943.2	910.5
30°	971.2	966.5	940.1	871.6	846.7
32.5°	921.4	913.6	885.6	814.0	793.8
35°	870.0	863.8	821.8	759.5	740.9
37.5°	818.7	810.9	758.0	708.2	684.8
40°	767.3	758.0	700.4	655.3	630.4
42.5°	719.1	706.6	650.6	602.3	574.3
45°	667.7	653.7	597.7	547.9	526.1
47.5°	616.3	603.9	552.5	501.2	476.3
50°	561.9	551.0	504.3	452.9	426.5
52.5°	516.7	499.6	454.5	403.1	381.3
55°	463.8	449.8	407.8	359.5	340.9
57.5°	415.6	401.6	362.6	317.5	301.9
60°	370.4	350.2	317.5	278.6	266.1
62.5°	320.6	305.1	277.0	244.4	259.9
65°	275.5	259.9	235.0	239.7	199.2
67.5°	225.7	217.9	196.1	174.3	168.1
70°	183.7	174.3	166.5	143.2	137.0
72.5°	146.3	137.0	126.1	113.6	108.9
75°	110.5	102.7	96.5	91.8	101.2
77.5°	76.3	73.2	68.5	63.8	62.3
80°	49.8	48.2	46.7	45.1	43.6
82.5°	29.6	29.6	29.6	29.6	29.6
85°	15.6	17.1	18.7	20.2	21.8
87.5°	9.3	9.3	10.9	12.5	14.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)