

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: P561300

Luminaire Tested: FSR-12-4-LD4-1STD-50-UNV-82-86-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561300  
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-50-UNV-82-86-EDD-90  
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

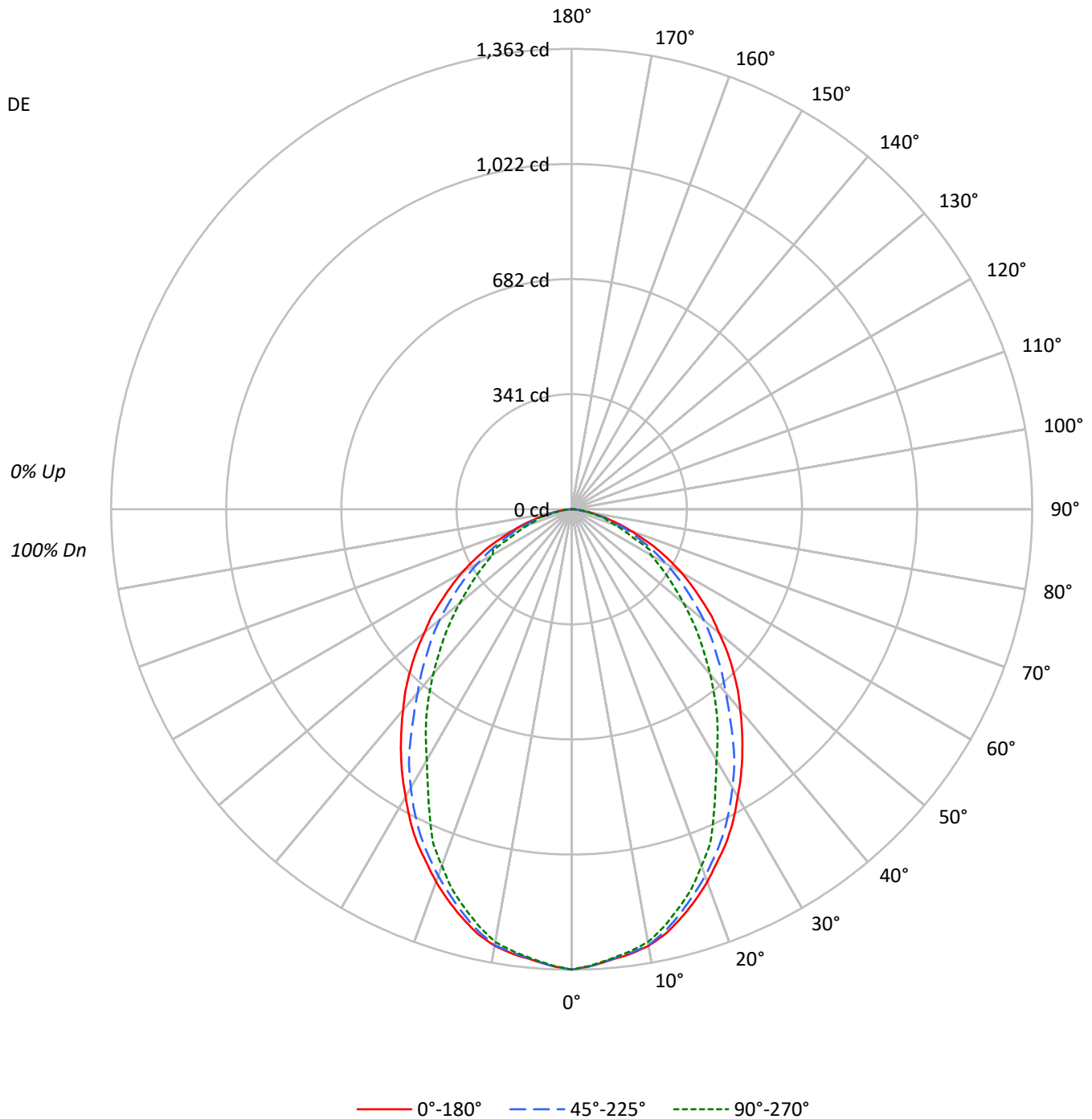
Lumens per Lamp: N/A  
Luminaire Lumens: 2675.0 lumens  
Efficiency: N/A  
Efficacy: 80.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	0																			
RCR																																														
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	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°	3667	3667	3667
5°	3617	3613	3608
10°	3586	3581	3556
15°	3489	3454	3405
20°	3361	3307	3216
25°	3223	3152	2956
30°	3054	2957	2663
35°	2893	2732	2463
40°	2728	2490	2241
45°	2572	2302	2026
50°	2381	2137	1807
55°	2202	1936	1619
60°	2018	1730	1450
65°	1775	1515	1284
70°	1463	1327	1090
75°	1162	1016	1065
80°	781	733	683
85°	488	584	682

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2572 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	126.8	4.7
10°-20°	348.1	13.0
20°-30°	481.9	18.0
30°-40°	513.9	19.2
40°-50°	468.8	17.5
50°-60°	367.3	13.7
60°-70°	239.4	8.9
70°-80°	106.0	4.0
80°-90°	22.8	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°	956.9	35.8
0°-40°	1470.7	55.0
0°-60°	2306.8	86.2
0°-90°	2675.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2675.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1363	1363	1363	1363	1363	
5°	1339	1337	1337	1336	1336	127
15°	1252	1252	1240	1227	1222	352
25°	1085	1079	1062	1024	996	498
35°	881	874	832	769	750	551
45°	676	662	605	554	532	521
55°	469	455	413	364	345	421
65°	279	263	238	243	202	275
75°	112	104	98	93	102	120
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°	1362.6	1362.6	1362.6	1362.6	1362.6
2.5°	1353.2	1353.2	1353.2	1351.6	1351.6
5°	1339.0	1337.4	1337.4	1335.8	1335.8
7.5°	1328.0	1326.4	1324.8	1323.2	1320.1
10°	1312.2	1312.2	1310.6	1302.7	1301.2
12.5°	1287.0	1285.4	1279.1	1268.1	1264.9
15°	1252.3	1252.3	1239.7	1227.1	1222.4
17.5°	1214.5	1213.0	1197.2	1184.6	1178.3
20°	1173.6	1170.4	1154.7	1134.2	1123.2
22.5°	1127.9	1127.9	1109.0	1082.2	1071.2
25°	1085.4	1079.1	1061.7	1023.9	995.6
27.5°	1036.5	1027.1	1008.2	954.6	921.5
30°	983.0	978.2	951.5	882.2	856.9
32.5°	932.6	924.7	896.3	823.9	803.4
35°	880.6	874.3	831.7	768.7	749.8
37.5°	828.6	820.7	767.2	716.7	693.1
40°	776.6	767.2	708.9	663.2	638.0
42.5°	727.8	715.2	658.5	609.6	581.3
45°	675.8	661.6	604.9	554.5	532.4
47.5°	623.8	611.2	559.2	507.2	482.0
50°	568.7	557.6	510.4	458.4	431.6
52.5°	523.0	505.7	460.0	408.0	385.9
55°	469.4	455.3	412.7	363.9	345.0
57.5°	420.6	406.4	367.0	321.4	305.6
60°	374.9	354.4	321.4	282.0	269.4
62.5°	324.5	308.8	280.4	247.3	263.1
65°	278.8	263.1	237.9	242.6	201.6
67.5°	228.4	220.5	198.5	176.4	170.1
70°	185.9	176.4	168.6	144.9	138.6
72.5°	148.1	138.6	127.6	115.0	110.3
75°	111.8	104.0	97.7	92.9	102.4
77.5°	77.2	74.0	69.3	64.6	63.0
80°	50.4	48.8	47.3	45.7	44.1
82.5°	29.9	29.9	29.9	29.9	29.9
85°	15.8	17.3	18.9	20.5	22.1
87.5°	9.5	9.5	11.0	12.6	14.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)