

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: P561148

Luminaire Tested: FSR-12-4-LD4-1STD-35-UNV-80-96-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561148  
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-35-UNV-80-96-EDD-90  
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

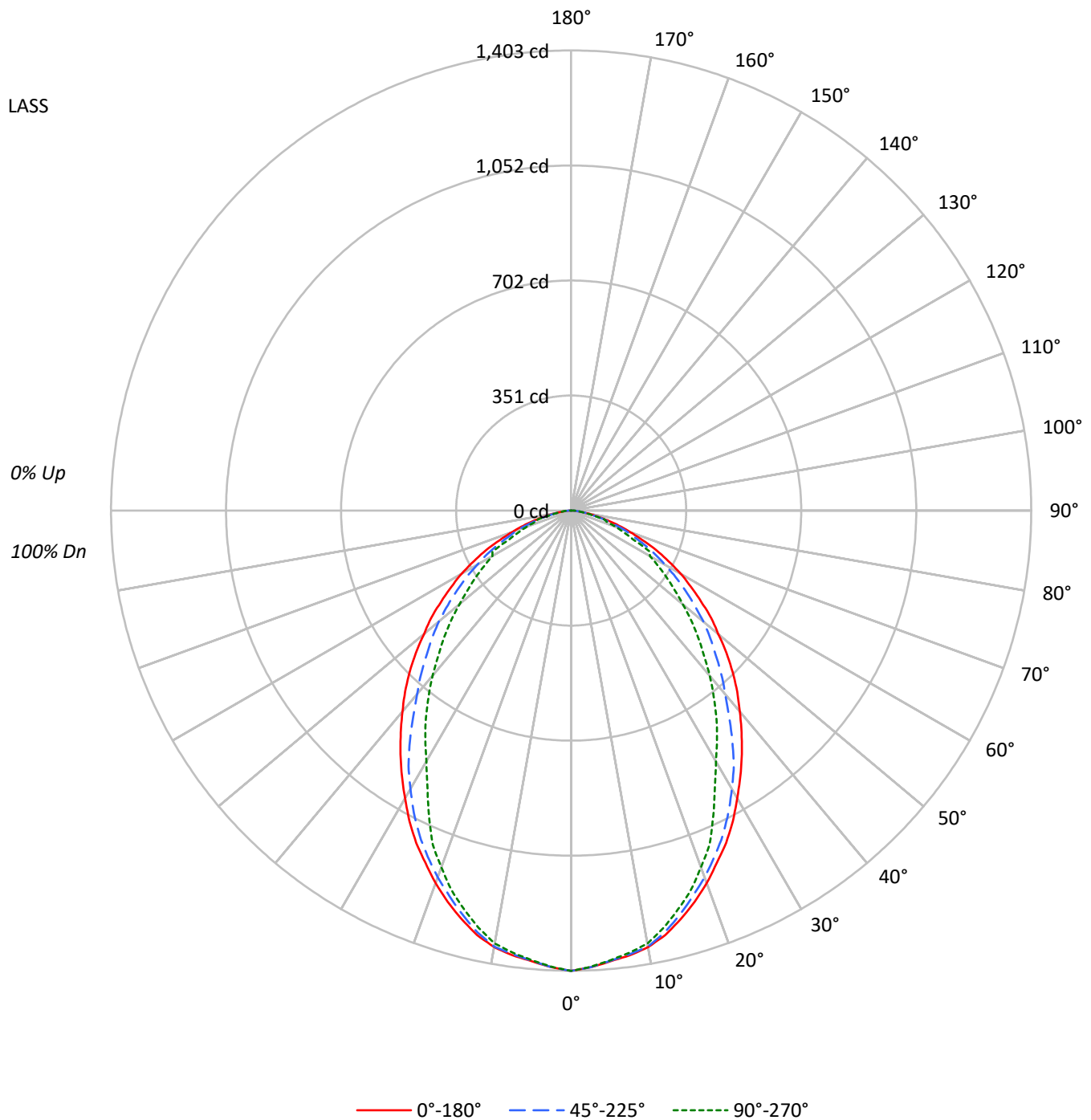
Lumens per Lamp: N/A  
Luminaire Lumens: 2755.0 lumens  
Efficiency: N/A  
Efficacy: 82.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	3777	3777	3777
5°	3725	3721	3716
10°	3693	3688	3662
15°	3593	3557	3507
20°	3461	3405	3313
25°	3319	3247	3044
30°	3146	3045	2742
35°	2979	2814	2537
40°	2810	2565	2308
45°	2649	2371	2087
50°	2452	2201	1861
55°	2268	1994	1667
60°	2078	1781	1493
65°	1829	1560	1323
70°	1506	1366	1124
75°	1198	1046	1097
80°	804	755	704
85°	500	602	701

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2649 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	130.6	4.7
10°-20°	358.5	13.0
20°-30°	496.3	18.0
30°-40°	529.2	19.2
40°-50°	482.8	17.5
50°-60°	378.3	13.7
60°-70°	246.5	8.9
70°-80°	109.2	4.0
80°-90°	23.4	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°	985.5	35.8
0°-40°	1514.7	55.0
0°-60°	2375.8	86.2
0°-90°	2755.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2755.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1403	1403	1403	1403	1403	
5°	1379	1377	1377	1376	1376	131
15°	1290	1290	1277	1264	1259	363
25°	1118	1111	1094	1054	1025	513
35°	907	900	857	792	772	567
45°	696	681	623	571	548	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	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1403.4	1403.4	1403.4	1403.4	1403.4
2.5°	1393.6	1393.6	1393.6	1392.0	1392.0
5°	1379.0	1377.4	1377.4	1375.8	1375.8
7.5°	1367.7	1366.0	1364.4	1362.8	1359.6
10°	1351.4	1351.4	1349.8	1341.7	1340.1
12.5°	1325.5	1323.9	1317.4	1306.0	1302.8
15°	1289.8	1289.8	1276.8	1263.8	1259.0
17.5°	1250.9	1249.2	1233.0	1220.0	1213.5
20°	1208.7	1205.4	1189.2	1168.1	1156.8
22.5°	1161.6	1161.6	1142.2	1114.6	1103.2
25°	1117.8	1111.3	1093.5	1054.5	1025.3
27.5°	1067.5	1057.8	1038.3	983.2	949.1
30°	1012.4	1007.5	979.9	908.5	882.6
32.5°	960.4	952.3	923.1	848.5	827.4
35°	906.9	900.4	856.6	791.7	772.3
37.5°	853.4	845.3	790.1	738.2	713.8
40°	799.8	790.1	730.1	683.0	657.1
42.5°	749.5	736.6	678.2	627.9	598.7
45°	696.0	681.4	623.0	571.1	548.4
47.5°	642.5	629.5	575.9	522.4	496.4
50°	585.7	574.3	525.7	472.1	444.5
52.5°	538.6	520.8	473.7	420.2	397.5
55°	483.5	468.9	425.1	374.8	355.3
57.5°	433.2	418.6	378.0	331.0	314.7
60°	386.1	365.0	331.0	290.4	277.4
62.5°	334.2	318.0	288.8	254.7	270.9
65°	287.2	270.9	245.0	249.8	207.7
67.5°	235.2	227.1	204.4	181.7	175.2
70°	191.4	181.7	173.6	149.3	142.8
72.5°	152.5	142.8	131.4	118.4	113.6
75°	115.2	107.1	100.6	95.7	105.5
77.5°	79.5	76.3	71.4	66.5	64.9
80°	51.9	50.3	48.7	47.0	45.4
82.5°	30.8	30.8	30.8	30.8	30.8
85°	16.2	17.8	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)