

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: P561276

Luminaire Tested: FSR-12-4-LD4-1STD-50-UNV-80-96-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561276  
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-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 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

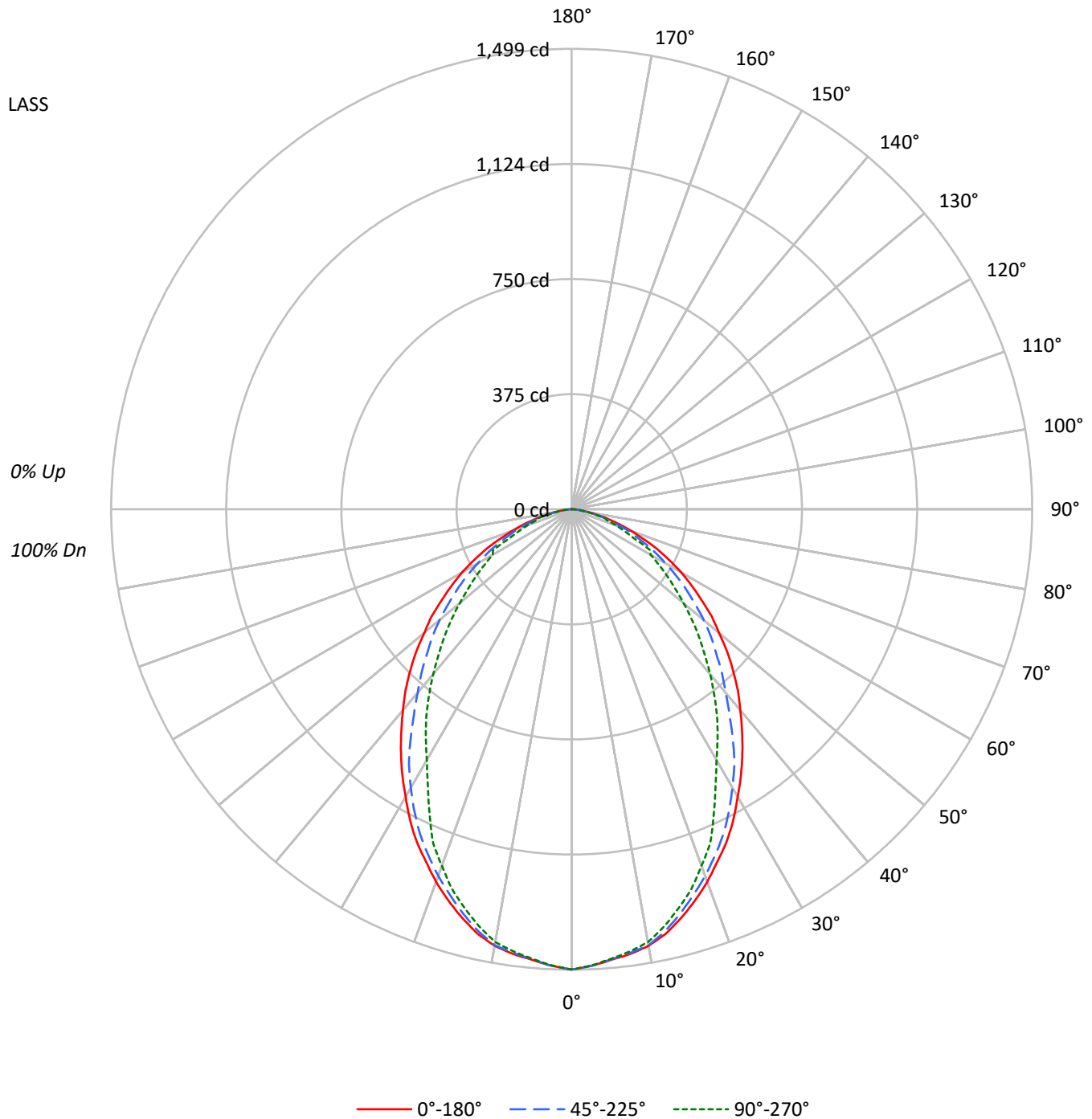
Lumens per Lamp: N/A  
Luminaire Lumens: 2942.0 lumens  
Efficiency: N/A  
Efficacy: 88.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	4033	4033	4033
5°	3978	3973	3969
10°	3944	3939	3910
15°	3837	3799	3745
20°	3696	3637	3538
25°	3544	3467	3251
30°	3359	3251	2929
35°	3182	3005	2709
40°	3000	2739	2465
45°	2828	2532	2229
50°	2618	2350	1987
55°	2422	2130	1780
60°	2219	1902	1595
65°	1953	1666	1412
70°	1608	1459	1200
75°	1279	1117	1171
80°	859	806	752
85°	534	642	750

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2828 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	139.5	4.7
10°-20°	382.8	13.0
20°-30°	530.0	18.0
30°-40°	565.2	19.2
40°-50°	515.6	17.5
50°-60°	403.9	13.7
60°-70°	263.3	8.9
70°-80°	116.6	4.0
80°-90°	25.0	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°	1052.4	35.8
0°-40°	1617.5	55.0
0°-60°	2537.1	86.2
0°-90°	2942.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2942.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1499	1499	1499	1499	1499	
5°	1473	1471	1471	1469	1469	140
15°	1377	1377	1364	1350	1344	387
25°	1194	1187	1168	1126	1095	548
35°	968	962	915	846	825	605
45°	743	728	665	610	586	573
55°	516	501	454	400	379	463
65°	307	289	262	267	222	302
75°	123	114	107	102	113	132
85°	17	19	21	22	24	24
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1498.6	1498.6	1498.6	1498.6	1498.6
2.5°	1488.2	1488.2	1488.2	1486.5	1486.5
5°	1472.6	1470.9	1470.9	1469.2	1469.2
7.5°	1460.5	1458.8	1457.0	1455.3	1451.8
10°	1443.2	1443.2	1441.4	1432.8	1431.0
12.5°	1415.5	1413.7	1406.8	1394.7	1391.2
15°	1377.3	1377.3	1363.5	1349.6	1344.4
17.5°	1335.8	1334.0	1316.7	1302.8	1295.9
20°	1290.7	1287.3	1269.9	1247.4	1235.3
22.5°	1240.5	1240.5	1219.7	1190.2	1178.1
25°	1193.7	1186.8	1167.7	1126.1	1094.9
27.5°	1140.0	1129.6	1108.8	1049.9	1013.5
30°	1081.1	1075.9	1046.4	970.2	942.5
32.5°	1025.6	1017.0	985.8	906.1	883.6
35°	968.5	961.5	914.8	845.5	824.7
37.5°	911.3	902.6	843.7	788.3	762.3
40°	854.1	843.7	779.6	729.4	701.7
42.5°	800.4	786.6	724.2	670.5	639.3
45°	743.2	727.7	665.3	609.8	585.6
47.5°	686.1	672.2	615.0	557.9	530.1
50°	625.4	613.3	561.3	504.2	474.7
52.5°	575.2	556.1	505.9	448.7	424.5
55°	516.3	500.7	453.9	400.2	379.4
57.5°	462.6	447.0	403.7	353.4	336.1
60°	412.3	389.8	353.4	310.1	296.3
62.5°	356.9	339.6	308.4	272.0	289.3
65°	306.7	289.3	261.6	266.8	221.8
67.5°	251.2	242.6	218.3	194.0	187.1
70°	204.4	194.0	185.4	159.4	152.5
72.5°	162.9	152.5	140.3	126.5	121.3
75°	123.0	114.3	107.4	102.2	112.6
77.5°	84.9	81.4	76.2	71.0	69.3
80°	55.4	53.7	52.0	50.2	48.5
82.5°	32.9	32.9	32.9	32.9	32.9
85°	17.3	19.1	20.8	22.5	24.3
87.5°	10.4	10.4	12.1	13.9	15.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)