

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: P562238

Luminaire Tested: FSR-24-4-LD4-1LO-50-UNV-80-97-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562238  
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-24-4-LD4-1LO-50-UNV-80-97-EDD-90  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

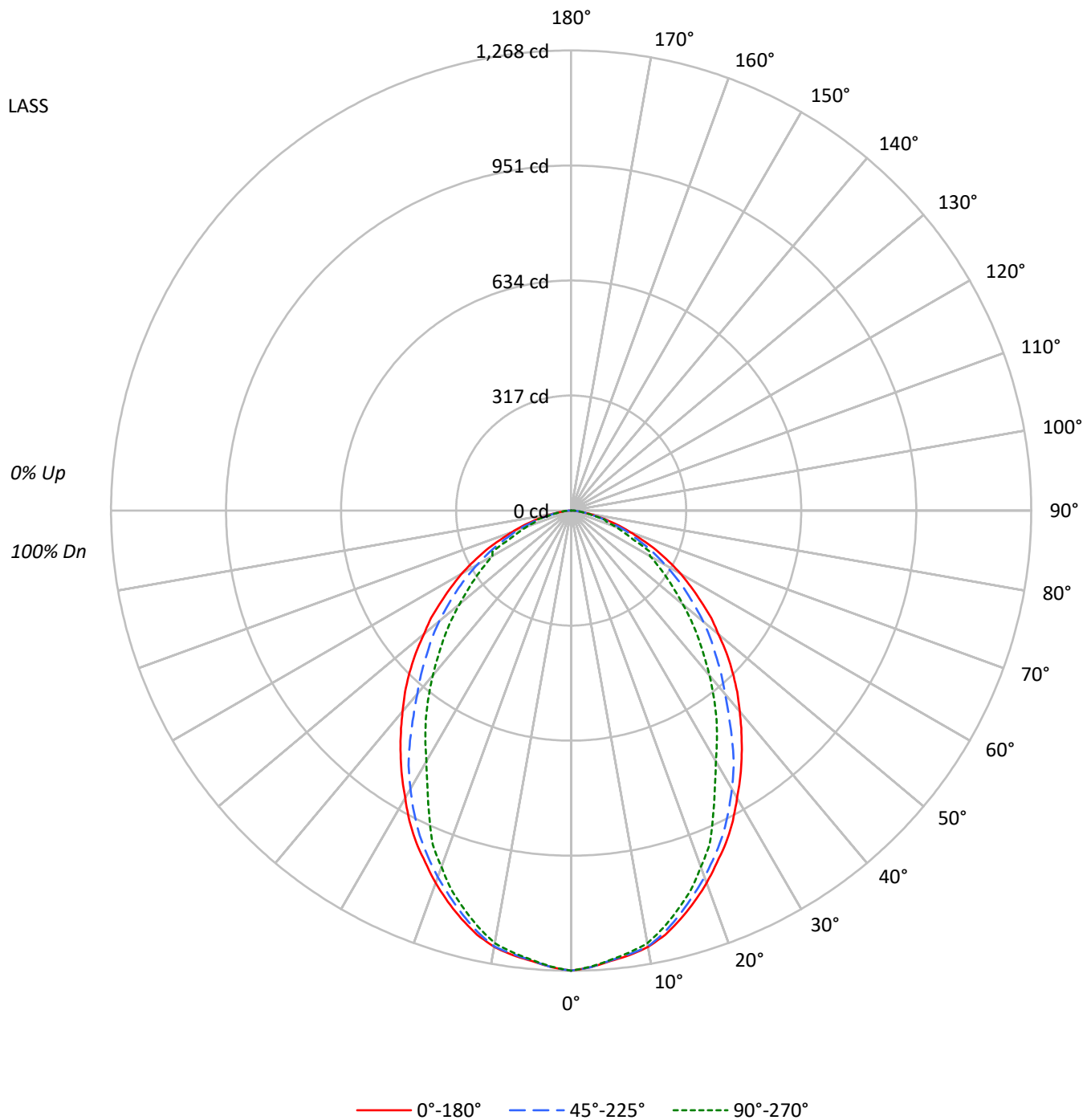
Lumens per Lamp: N/A  
Luminaire Lumens: 2489.0 lumens  
Efficiency: N/A  
Efficacy: 106.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 23.4  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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



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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°	1706	1706	1706
5°	1683	1681	1679
10°	1668	1666	1654
15°	1623	1607	1584
20°	1564	1538	1496
25°	1499	1467	1375
30°	1421	1375	1239
35°	1346	1271	1146
40°	1269	1159	1043
45°	1196	1071	943
50°	1108	994	841
55°	1025	901	753
60°	939	805	674
65°	826	705	597
70°	681	617	507
75°	541	473	495
80°	363	341	318
85°	227	272	316

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1196 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	118.0	4.7
10°-20°	323.9	13.0
20°-30°	448.4	18.0
30°-40°	478.1	19.2
40°-50°	436.2	17.5
50°-60°	341.7	13.7
60°-70°	222.7	8.9
70°-80°	98.7	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°	890.3	35.8
0°-40°	1368.5	55.0
0°-60°	2146.4	86.2
0°-90°	2489.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2489.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1268	1268	1268	1268	1268	
5°	1246	1244	1244	1243	1243	118
15°	1165	1165	1154	1142	1137	328
25°	1010	1004	988	953	926	464
35°	819	814	774	715	698	512
45°	629	616	563	516	495	484
55°	437	424	384	339	321	392
65°	259	245	221	226	188	256
75°	104	97	91	86	95	112
85°	15	16	18	19	20	20
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1267.9	1267.9	1267.9	1267.9	1267.9
2.5°	1259.1	1259.1	1259.1	1257.6	1257.6
5°	1245.9	1244.4	1244.4	1242.9	1242.9
7.5°	1235.6	1234.2	1232.7	1231.2	1228.3
10°	1221.0	1221.0	1219.5	1212.2	1210.7
12.5°	1197.5	1196.0	1190.2	1179.9	1177.0
15°	1165.3	1165.3	1153.5	1141.8	1137.4
17.5°	1130.1	1128.6	1114.0	1102.2	1096.4
20°	1092.0	1089.0	1074.4	1055.3	1045.1
22.5°	1049.5	1049.5	1031.9	1007.0	996.7
25°	1009.9	1004.0	987.9	952.7	926.3
27.5°	964.5	955.7	938.1	888.2	857.5
30°	914.6	910.2	885.3	820.8	797.4
32.5°	867.7	860.4	834.0	766.6	747.5
35°	819.3	813.5	773.9	715.3	697.7
37.5°	771.0	763.6	713.8	666.9	644.9
40°	722.6	713.8	659.6	617.1	593.6
42.5°	677.2	665.4	612.7	567.2	540.9
45°	628.8	615.6	562.8	515.9	495.4
47.5°	580.4	568.7	520.3	472.0	448.5
50°	529.1	518.9	474.9	426.5	401.6
52.5°	486.6	470.5	428.0	379.6	359.1
55°	436.8	423.6	384.0	338.6	321.0
57.5°	391.4	378.2	341.5	299.0	284.4
60°	348.8	329.8	299.0	262.4	250.6
62.5°	301.9	287.3	260.9	230.1	244.8
65°	259.4	244.8	221.3	225.7	187.6
67.5°	212.5	205.2	184.7	164.2	158.3
70°	173.0	164.2	156.8	134.8	129.0
72.5°	137.8	129.0	118.7	107.0	102.6
75°	104.1	96.7	90.9	86.5	95.3
77.5°	71.8	68.9	64.5	60.1	58.6
80°	46.9	45.4	44.0	42.5	41.0
82.5°	27.8	27.8	27.8	27.8	27.8
85°	14.7	16.1	17.6	19.1	20.5
87.5°	8.8	8.8	10.3	11.7	13.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)