

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: P561662

Luminaire Tested: FSR-12-4-LD4-2LO-50-UNV-80-97-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561662  
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-LD4-2LO-50-UNV-80-97-EDD-90  
Description: 1X4 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: -

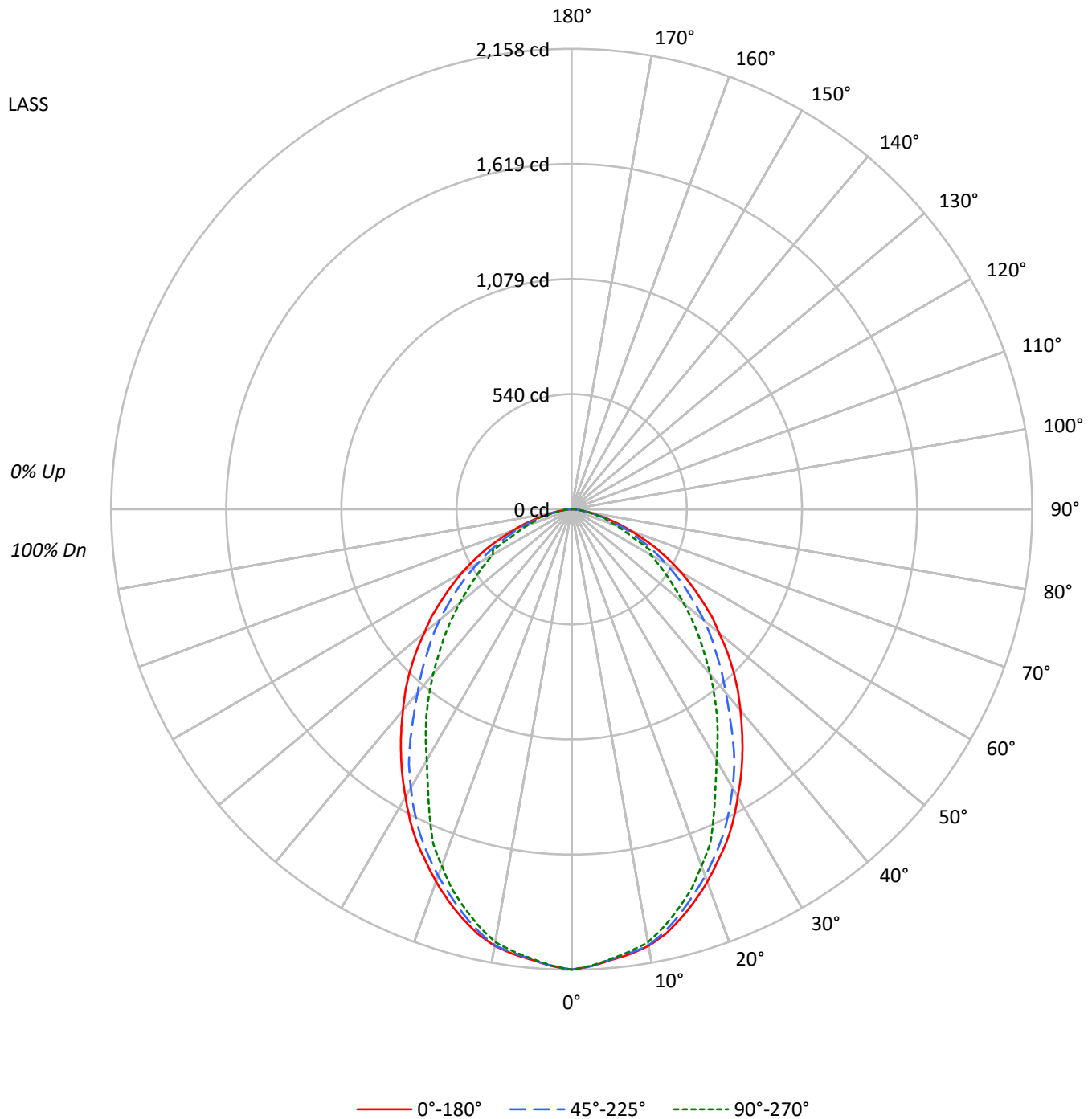
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4236.0 lumens  
Efficiency: N/A  
Efficacy: 90.5 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): 46.8  
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°	5807	5807	5807
5°	5727	5721	5714
10°	5678	5671	5630
15°	5525	5469	5393
20°	5322	5236	5093
25°	5103	4992	4681
30°	4837	4682	4217
35°	4581	4327	3901
40°	4320	3943	3549
45°	4073	3645	3209
50°	3770	3383	2861
55°	3488	3066	2563
60°	3195	2739	2296
65°	2811	2399	2033
70°	2316	2100	1727
75°	1841	1608	1685
80°	1237	1159	1082
85°	769	923	1078

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4073 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	200.9	4.7
10°-20°	551.2	13.0
20°-30°	763.1	18.0
30°-40°	813.7	19.2
40°-50°	742.4	17.5
50°-60°	581.6	13.7
60°-70°	379.1	8.9
70°-80°	167.9	4.0
80°-90°	36.1	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°	1515.2	35.8
0°-40°	2329.0	55.0
0°-60°	3652.9	86.2
0°-90°	4236.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4236.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2158	2158	2158	2158	2158	
5°	2120	2118	2118	2115	2115	201
15°	1983	1983	1963	1943	1936	558
25°	1719	1709	1681	1621	1576	789
35°	1394	1384	1317	1217	1187	872
45°	1070	1048	958	878	843	824
55°	743	721	654	576	546	667
65°	442	417	377	384	319	435
75°	177	165	155	147	162	190
85°	25	27	30	32	35	35
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2157.8	2157.8	2157.8	2157.8	2157.8
2.5°	2142.8	2142.8	2142.8	2140.3	2140.3
5°	2120.3	2117.8	2117.8	2115.4	2115.4
7.5°	2102.9	2100.4	2097.9	2095.4	2090.4
10°	2077.9	2077.9	2075.4	2063.0	2060.5
12.5°	2038.0	2035.5	2025.6	2008.1	2003.1
15°	1983.1	1983.1	1963.2	1943.2	1935.7
17.5°	1923.3	1920.8	1895.8	1875.9	1865.9
20°	1858.4	1853.4	1828.5	1796.1	1778.6
22.5°	1786.1	1786.1	1756.1	1713.7	1696.3
25°	1718.7	1708.7	1681.3	1621.4	1576.5
27.5°	1641.4	1626.4	1596.5	1511.7	1459.3
30°	1556.6	1549.1	1506.7	1396.9	1357.0
32.5°	1476.8	1464.3	1419.4	1304.6	1272.2
35°	1394.4	1384.5	1317.1	1217.3	1187.4
37.5°	1312.1	1299.6	1214.8	1135.0	1097.6
40°	1229.8	1214.8	1122.5	1050.2	1010.3
42.5°	1152.5	1132.5	1042.7	965.4	920.5
45°	1070.2	1047.7	957.9	878.1	843.1
47.5°	987.8	967.9	885.6	803.2	763.3
50°	900.5	883.1	808.2	725.9	683.5
52.5°	828.2	800.7	728.4	646.1	611.2
55°	743.4	720.9	653.6	576.2	546.3
57.5°	666.0	643.6	581.2	508.9	483.9
60°	593.7	561.3	508.9	446.5	426.6
62.5°	513.9	488.9	444.0	391.6	416.6
65°	441.5	416.6	376.7	384.2	319.3
67.5°	361.7	349.2	314.3	279.4	269.4
70°	294.4	279.4	266.9	229.5	219.5
72.5°	234.5	219.5	202.1	182.1	174.6
75°	177.1	164.6	154.7	147.2	162.1
77.5°	122.2	117.2	109.8	102.3	99.8
80°	79.8	77.3	74.8	72.3	69.8
82.5°	47.4	47.4	47.4	47.4	47.4
85°	24.9	27.4	29.9	32.4	34.9
87.5°	15.0	15.0	17.5	20.0	22.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)