

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: P590812

Luminaire Tested: FSR-24-2-LD4-4LO-35-UNV-80-97-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590812  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/8/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: FAIL-SAFE  
Catalog Number: FSR-24-2-LD4-4LO-35-UNV-80-97-EDD  
Description: 2X2 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

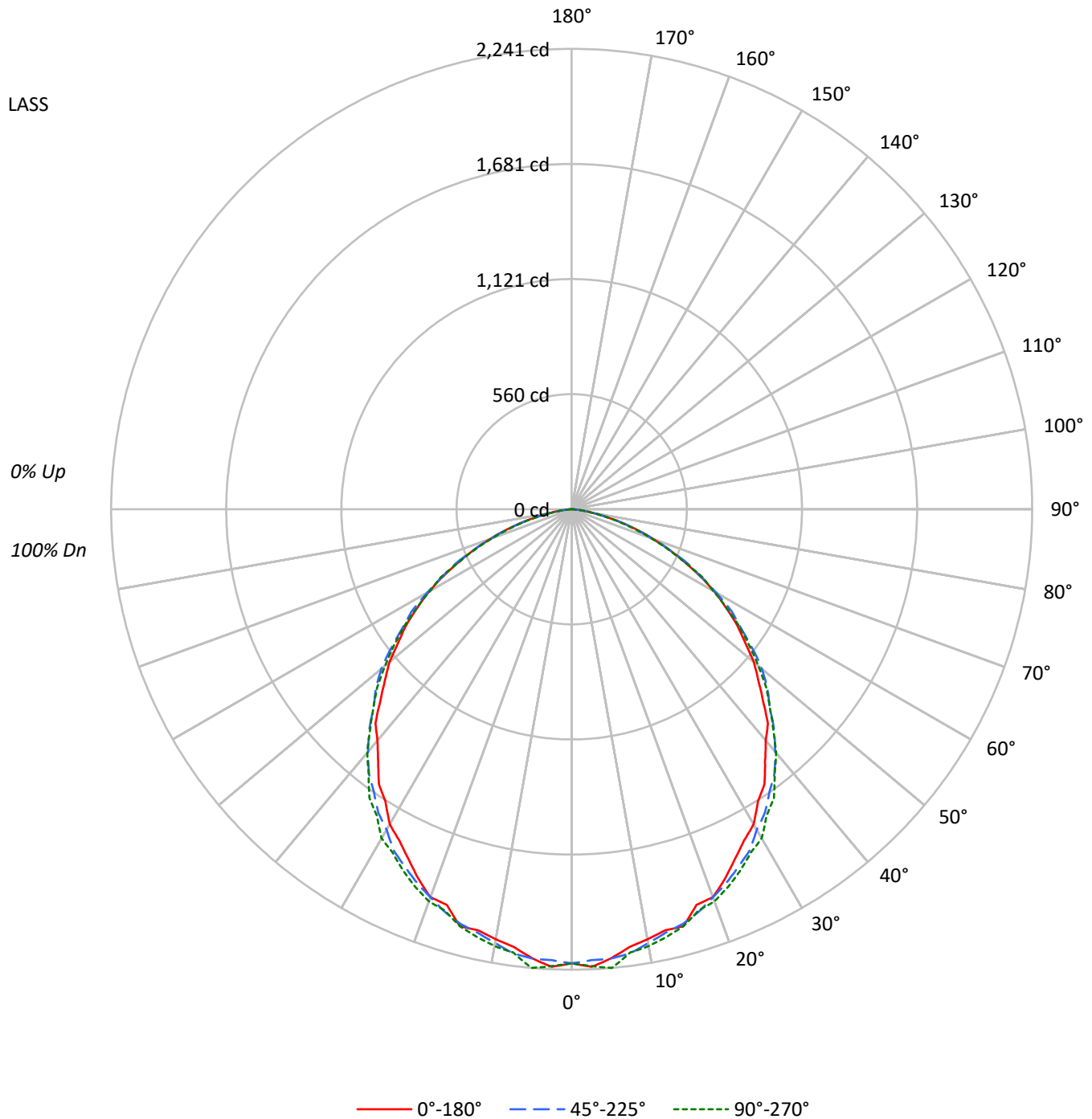
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5570.0 lumens  
Efficiency: N/A  
Efficacy: 119.0 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' 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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	5947	5947	5947
5°	5927	5930	6055
10°	5807	5858	5899
15°	5853	5821	5854
20°	5754	5754	5816
25°	5578	5699	5762
30°	5501	5597	5747
35°	5371	5512	5636
40°	5162	5411	5435
45°	5006	5184	5192
50°	4842	5060	4963
55°	4613	4703	4670
60°	4314	4357	4279
65°	3847	3945	3819
70°	3301	3312	3220
75°	2614	2608	2507
80°	1751	1703	1636
85°	951	942	880

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 5318 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	207.9	3.7
10°-20°	589.2	10.6
20°-30°	882.7	15.8
30°-40°	1046.2	18.8
40°-50°	1048.1	18.8
50°-60°	889.7	16.0
60°-70°	599.8	10.8
70°-80°	263.6	4.7
80°-90°	42.8	0.8
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°	1679.8	30.2
0°-40°	2726.0	48.9
0°-60°	4663.8	83.7
0°-90°	5570.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5570.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2210	2210	2210	2210	2210	
5°	2194	2189	2195	2189	2241	207
15°	2101	2077	2090	2100	2101	585
25°	1878	1889	1920	1945	1941	868
35°	1635	1640	1678	1717	1716	1015
45°	1316	1340	1362	1397	1364	1018
55°	983	977	1002	996	995	875
65°	604	596	620	596	600	601
75°	251	246	251	233	241	269
85°	31	30	30	30	28	45
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2210.0	2210.0	2210.0	2210.0	2210.0
2.5°	2229.2	2212.3	2196.6	2214.9	2226.0
5°	2194.3	2189.2	2195.2	2188.6	2241.4
7.5°	2149.3	2168.9	2180.4	2173.2	2176.4
10°	2125.3	2118.4	2143.8	2161.5	2159.0
12.5°	2099.6	2109.9	2111.3	2130.4	2132.1
15°	2101.0	2076.8	2089.6	2100.5	2101.3
17.5°	2019.4	2045.7	2054.5	2079.3	2048.5
20°	2009.4	1990.3	2009.4	2034.8	2030.8
22.5°	1948.1	1926.7	1967.8	1990.3	1988.9
25°	1878.5	1888.7	1919.5	1944.7	1940.7
27.5°	1817.4	1829.4	1873.3	1907.8	1885.6
30°	1770.3	1764.3	1801.4	1832.2	1849.4
32.5°	1686.1	1707.8	1751.2	1781.7	1765.5
35°	1635.1	1639.9	1677.9	1716.7	1715.5
37.5°	1545.7	1568.3	1621.6	1632.5	1622.5
40°	1469.6	1492.1	1540.3	1552.0	1547.2
42.5°	1413.3	1417.3	1458.7	1472.1	1450.7
45°	1315.5	1340.0	1362.3	1397.4	1364.3
47.5°	1232.1	1243.6	1291.5	1300.9	1283.5
50°	1156.5	1160.5	1208.7	1197.0	1185.6
52.5°	1061.5	1078.3	1105.4	1103.2	1089.8
55°	983.3	976.8	1002.4	995.6	995.3
57.5°	889.4	900.8	922.0	911.1	893.7
60°	801.5	801.8	809.5	797.3	795.0
62.5°	703.7	707.1	708.8	693.7	718.2
65°	604.1	596.1	619.5	595.8	599.8
67.5°	512.5	516.5	514.2	499.4	505.1
70°	419.5	424.6	420.9	404.1	409.2
72.5°	334.4	328.2	332.1	311.0	320.7
75°	251.4	246.3	250.8	233.1	241.1
77.5°	171.2	175.2	172.4	162.9	168.4
80°	113.0	109.9	109.9	104.4	105.6
82.5°	65.9	62.8	61.9	60.2	62.8
85°	30.8	30.0	30.5	29.7	28.5
87.5°	11.1	11.4	11.4	10.8	10.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)