

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: P590586

Luminaire Tested: FSR-24-2-LD4-3LO-50-UNV-80-94-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590586  
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-LD4-3LO-50-UNV-80-94-EDD  
Description: 2X2 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

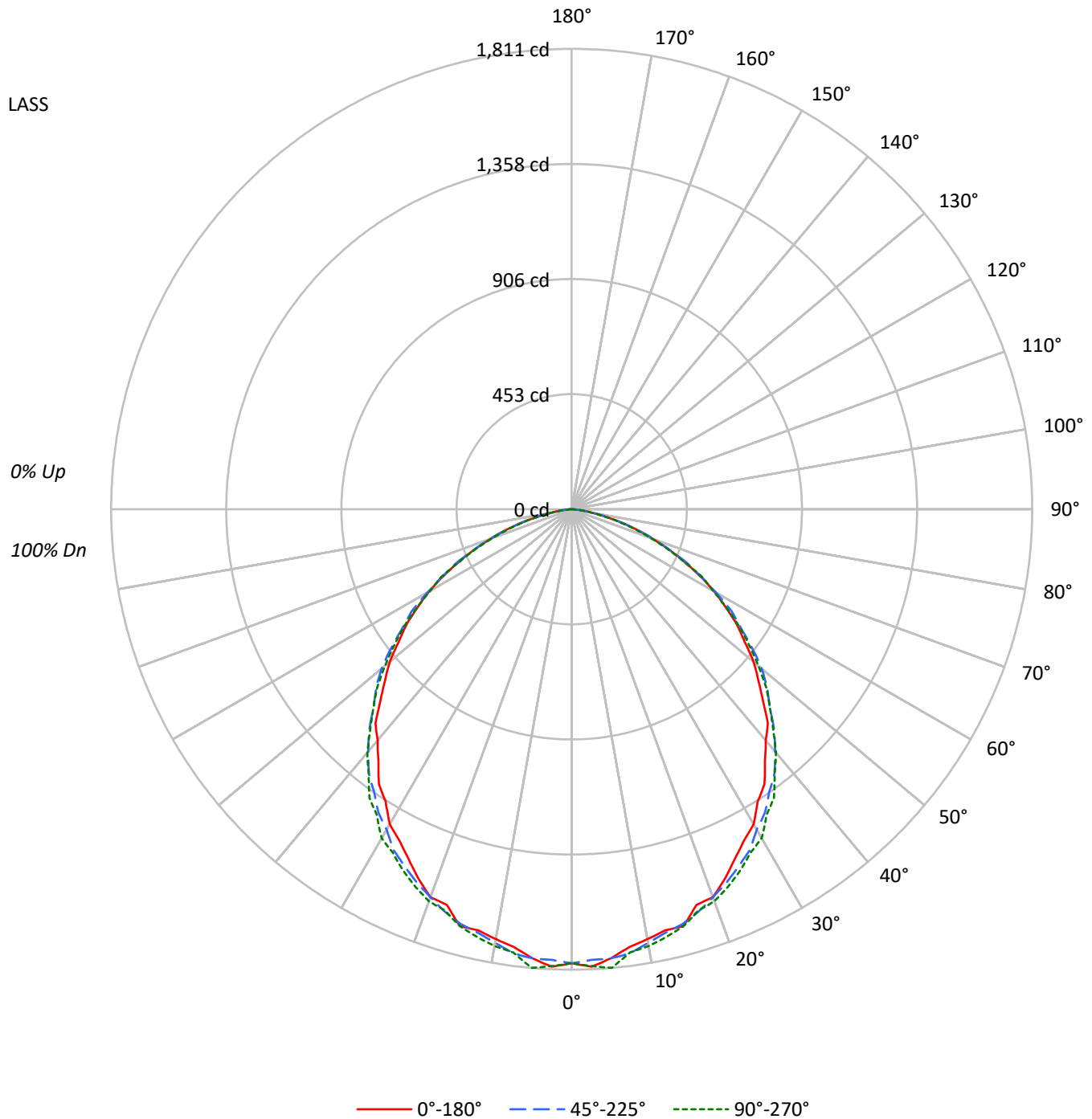
Lumens per Lamp: N/A  
Luminaire Lumens: 4500.0 lumens  
Efficiency: N/A  
Efficacy: 128.2 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 35.1  
Input Voltage (V):  
Input Current (Ain): NR  
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	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	110	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86					86			
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73					73			
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62					62			
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53					53			
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46					46			
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41					41			
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36					36			
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32					32			
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29					29			
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26					26			

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

	0°	45°	90°
0°	4805	4805	4805
5°	4789	4791	4891
10°	4692	4733	4766
15°	4729	4703	4730
20°	4649	4649	4698
25°	4506	4605	4655
30°	4444	4522	4643
35°	4340	4453	4553
40°	4171	4371	4391
45°	4045	4188	4195
50°	3912	4088	4010
55°	3727	3800	3772
60°	3485	3520	3457
65°	3107	3187	3086
70°	2666	2675	2601
75°	2112	2106	2025
80°	1415	1376	1322
85°	769	763	713

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 4296 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	168.0	3.7
10°-20°	476.0	10.6
20°-30°	713.2	15.8
30°-40°	845.2	18.8
40°-50°	846.8	18.8
50°-60°	718.8	16.0
60°-70°	484.6	10.8
70°-80°	212.9	4.7
80°-90°	34.6	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°	1357.1	30.2
0°-40°	2202.3	48.9
0°-60°	3767.9	83.7
0°-90°	4500.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4500.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1786	1786	1786	1786	1786	
5°	1773	1769	1774	1768	1811	167
15°	1697	1678	1688	1697	1698	473
25°	1518	1526	1551	1571	1568	702
35°	1321	1325	1356	1387	1386	820
45°	1063	1083	1101	1129	1102	822
55°	794	789	810	804	804	707
65°	488	482	500	481	485	485
75°	203	199	203	188	195	218
85°	25	24	25	24	23	36
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1785.5	1785.5	1785.5	1785.5	1785.5
2.5°	1800.9	1787.3	1774.7	1789.4	1798.4
5°	1772.8	1768.7	1773.5	1768.2	1810.8
7.5°	1736.4	1752.3	1761.5	1755.7	1758.3
10°	1717.0	1711.5	1732.0	1746.3	1744.2
12.5°	1696.3	1704.6	1705.7	1721.2	1722.6
15°	1697.4	1677.8	1688.2	1697.0	1697.7
17.5°	1631.5	1652.7	1659.8	1679.9	1655.0
20°	1623.4	1608.0	1623.4	1643.9	1640.7
22.5°	1573.9	1556.6	1589.8	1608.0	1606.8
25°	1517.6	1525.9	1550.8	1571.1	1567.9
27.5°	1468.3	1478.0	1513.5	1541.4	1523.4
30°	1430.2	1425.4	1455.4	1480.3	1494.1
32.5°	1362.2	1379.7	1414.8	1439.5	1426.3
35°	1321.0	1324.9	1355.5	1386.9	1386.0
37.5°	1248.8	1267.0	1310.1	1318.9	1310.8
40°	1187.3	1205.5	1244.4	1253.9	1250.0
42.5°	1141.8	1145.1	1178.5	1189.3	1172.0
45°	1062.8	1082.6	1100.6	1128.9	1102.2
47.5°	995.4	1004.7	1043.4	1051.0	1036.9
50°	934.4	937.6	976.5	967.1	957.9
52.5°	857.6	871.2	893.1	891.2	880.4
55°	794.4	789.1	809.9	804.3	804.1
57.5°	718.6	727.8	744.9	736.1	722.0
60°	647.6	647.8	654.0	644.1	642.3
62.5°	568.5	571.3	572.6	560.4	580.3
65°	488.0	481.6	500.5	481.4	484.6
67.5°	414.0	417.3	415.4	403.4	408.0
70°	338.9	343.0	340.0	326.4	330.6
72.5°	270.2	265.1	268.3	251.3	259.1
75°	203.1	199.0	202.6	188.3	194.8
77.5°	138.3	141.5	139.2	131.6	136.0
80°	91.3	88.8	88.8	84.4	85.3
82.5°	53.3	50.7	50.0	48.6	50.7
85°	24.9	24.2	24.7	24.0	23.1
87.5°	9.0	9.2	9.2	8.8	8.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)