

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: P590618

Luminaire Tested: FSR-24-2-LD4-3STD-35-UNV-80-94-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590618  
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-LD4-3STD-35-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 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

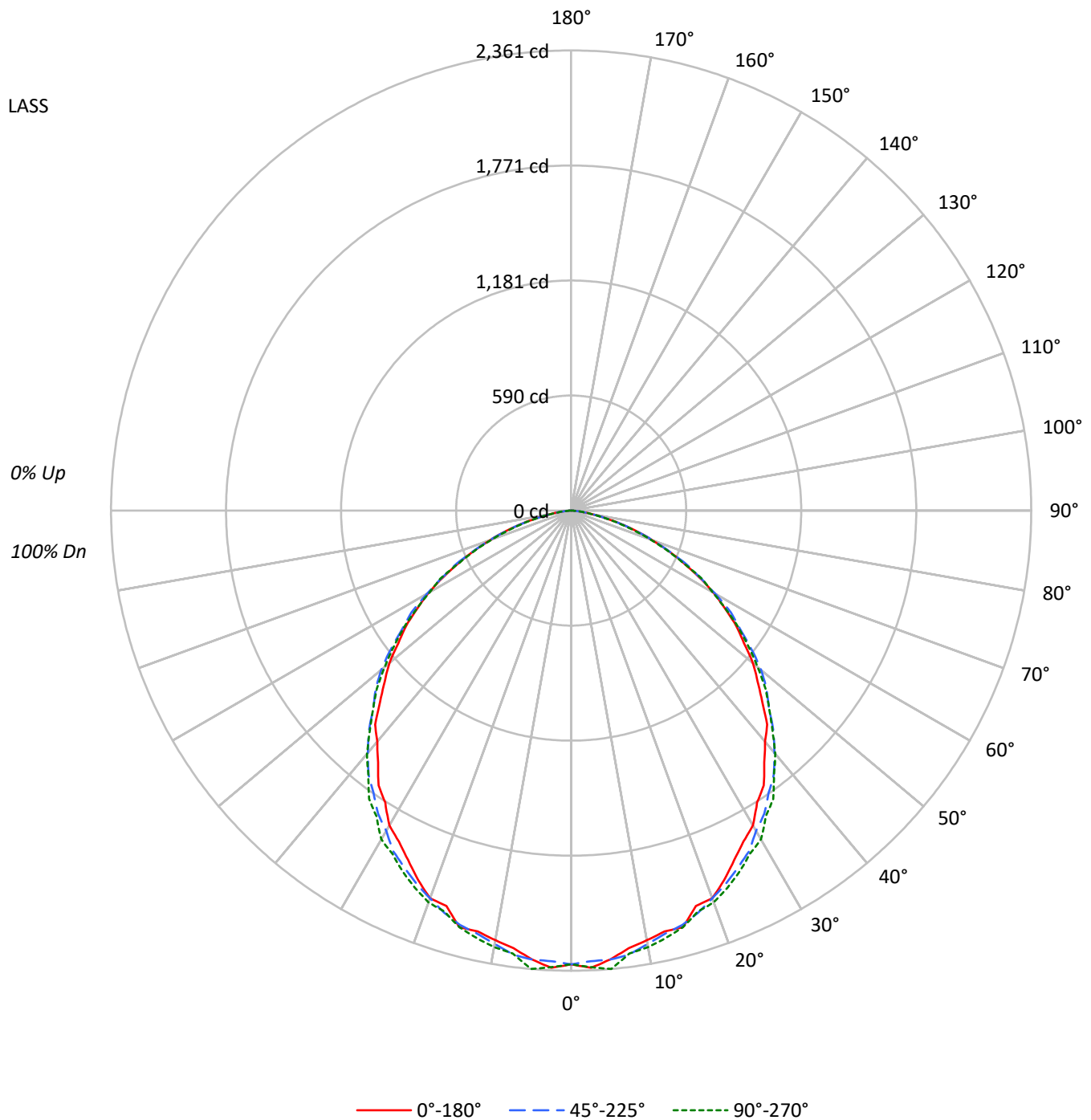
Lumens per Lamp: N/A  
Luminaire Lumens: 5867.0 lumens  
Efficiency: N/A  
Efficacy: 117.3 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 50  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	6264	6264	6264
5°	6243	6246	6377
10°	6117	6170	6214
15°	6165	6132	6166
20°	6061	6061	6126
25°	5875	6003	6069
30°	5794	5896	6053
35°	5658	5806	5936
40°	5437	5700	5725
45°	5273	5461	5469
50°	5100	5330	5228
55°	4859	4954	4919
60°	4544	4589	4507
65°	4052	4155	4023
70°	3476	3488	3391
75°	2753	2747	2641
80°	1844	1793	1723
85°	1003	994	929

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 5601 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	219.0	3.7
10°-20°	620.6	10.6
20°-30°	929.8	15.8
30°-40°	1102.0	18.8
40°-50°	1104.0	18.8
50°-60°	937.1	16.0
60°-70°	631.8	10.8
70°-80°	277.6	4.7
80°-90°	45.1	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°	1769.3	30.2
0°-40°	2871.3	48.9
0°-60°	4912.5	83.7
0°-90°	5867.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5867.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2328	2328	2328	2328	2328	
5°	2311	2306	2312	2305	2361	218
15°	2213	2188	2201	2212	2213	617
25°	1979	1989	2022	2048	2044	915
35°	1722	1727	1767	1808	1807	1069
45°	1386	1412	1435	1472	1437	1072
55°	1036	1029	1056	1049	1048	921
65°	636	628	652	628	632	633
75°	265	259	264	246	254	284
85°	32	32	32	31	30	47
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2327.9	2327.9	2327.9	2327.9	2327.9
2.5°	2348.0	2330.3	2313.8	2333.0	2344.7
5°	2311.3	2305.9	2312.2	2305.3	2360.9
7.5°	2263.9	2284.6	2296.6	2289.1	2292.4
10°	2238.6	2231.4	2258.1	2276.8	2274.1
12.5°	2211.6	2222.4	2223.9	2244.0	2245.8
15°	2213.1	2187.5	2201.0	2212.5	2213.4
17.5°	2127.1	2154.8	2164.1	2190.2	2157.8
20°	2116.6	2096.4	2116.6	2143.3	2139.1
22.5°	2052.0	2029.4	2072.7	2096.4	2094.9
25°	1978.6	1989.4	2021.9	2048.4	2044.1
27.5°	1914.3	1926.9	1973.2	2009.6	1986.1
30°	1864.7	1858.4	1897.5	1929.9	1948.0
32.5°	1776.0	1798.9	1844.6	1876.7	1859.6
35°	1722.2	1727.3	1767.3	1808.2	1807.0
37.5°	1628.2	1651.9	1708.1	1719.5	1709.0
40°	1547.9	1571.7	1622.5	1634.8	1629.7
42.5°	1488.7	1492.9	1536.5	1550.6	1528.1
45°	1385.6	1411.5	1434.9	1471.9	1437.0
47.5°	1297.8	1309.9	1360.4	1370.3	1351.9
50°	1218.2	1222.4	1273.2	1260.9	1248.8
52.5°	1118.1	1135.8	1164.4	1162.0	1147.9
55°	1035.7	1028.8	1055.9	1048.7	1048.4
57.5°	936.9	948.9	971.1	959.7	941.4
60°	844.3	844.6	852.7	839.8	837.4
62.5°	741.2	744.8	746.6	730.7	756.5
65°	636.3	627.9	652.5	627.6	631.8
67.5°	539.8	544.0	541.6	526.0	532.0
70°	441.8	447.2	443.3	425.6	431.0
72.5°	352.3	345.6	349.9	327.6	337.8
75°	264.8	259.4	264.2	245.6	254.0
77.5°	180.3	184.5	181.5	171.6	177.3
80°	119.0	115.7	115.7	110.0	111.2
82.5°	69.4	66.1	65.2	63.4	66.1
85°	32.5	31.6	32.2	31.3	30.1
87.5°	11.7	12.0	12.0	11.4	10.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)