

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: P590490

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

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590490  
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-LD4-3HI-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**

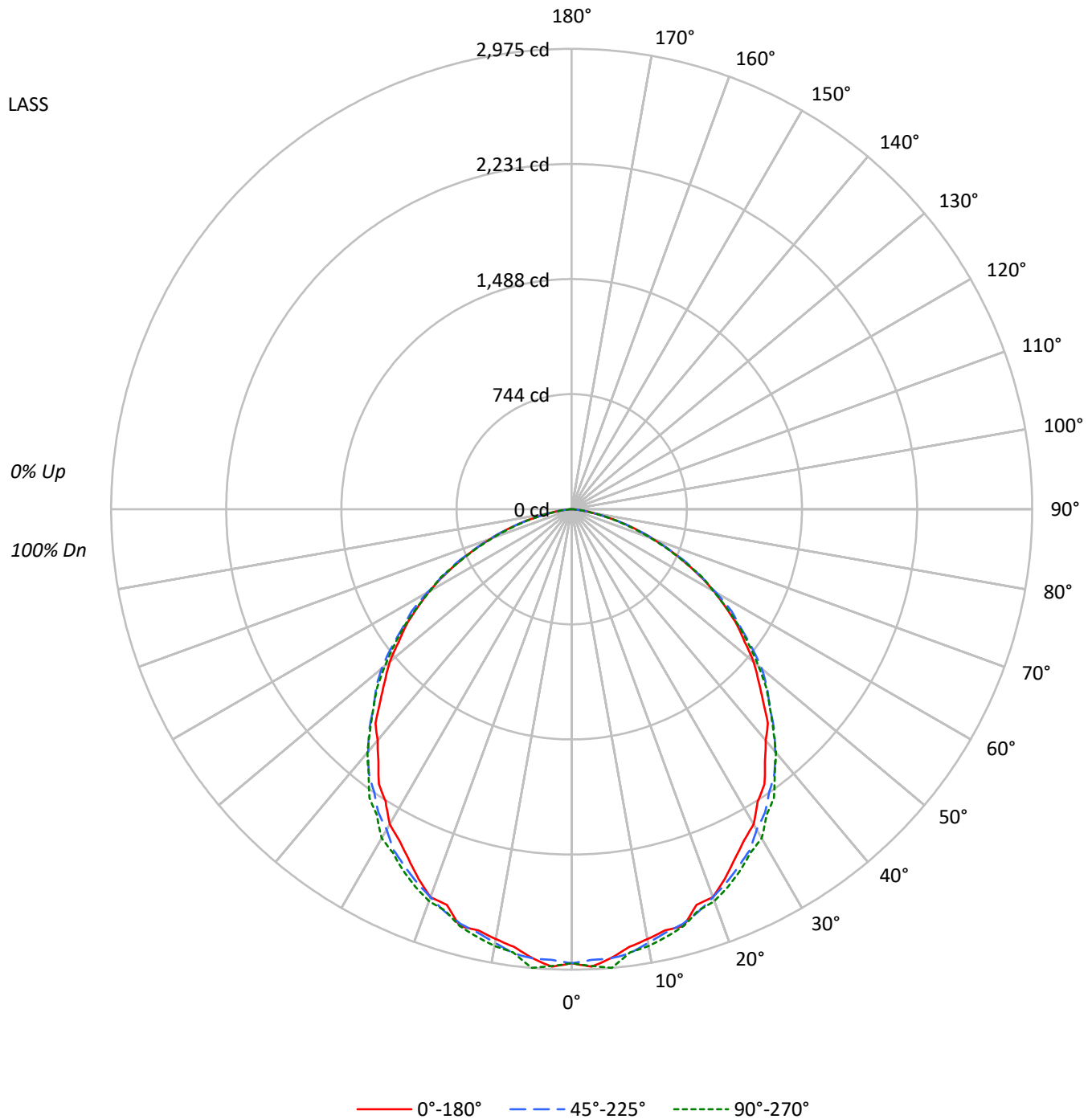
Lumens per Lamp: N/A  
Luminaire Lumens: 7392.0 lumens  
Efficiency: N/A  
Efficacy: 114.1 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 64.8  
Input Voltage (V):  
Input Current (Ain): NR  
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°	7893	7893	7893
5°	7866	7870	8035
10°	7707	7774	7829
15°	7768	7726	7769
20°	7637	7637	7718
25°	7402	7564	7647
30°	7300	7429	7626
35°	7128	7315	7479
40°	6851	7181	7213
45°	6644	6880	6890
50°	6425	6715	6587
55°	6123	6241	6197
60°	5725	5782	5678
65°	5105	5235	5068
70°	4380	4395	4272
75°	3468	3461	3327
80°	2325	2259	2171
85°	1263	1250	1170

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 7057 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	275.9	3.7
10°-20°	781.9	10.6
20°-30°	1171.5	15.8
30°-40°	1388.4	18.8
40°-50°	1391.0	18.8
50°-60°	1180.7	16.0
60°-70°	796.0	10.8
70°-80°	349.8	4.7
80°-90°	56.8	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°	2229.2	30.2
0°-40°	3617.7	48.9
0°-60°	6189.4	83.7
0°-90°	7392.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7392.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2933	2933	2933	2933	2933	
5°	2912	2905	2913	2905	2975	275
15°	2788	2756	2773	2788	2789	777
25°	2493	2507	2548	2581	2576	1152
35°	2170	2176	2227	2278	2277	1347
45°	1746	1778	1808	1854	1810	1350
55°	1305	1296	1330	1321	1321	1161
65°	802	791	822	791	796	797
75°	334	327	333	309	320	358
85°	41	40	40	39	38	59
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2933.0	2933.0	2933.0	2933.0	2933.0
2.5°	2958.3	2936.0	2915.2	2939.4	2954.2
5°	2912.1	2905.3	2913.3	2904.6	2974.6
7.5°	2852.3	2878.4	2893.6	2884.1	2888.3
10°	2820.5	2811.4	2845.1	2868.6	2865.2
12.5°	2786.4	2800.0	2801.9	2827.3	2829.6
15°	2788.3	2756.1	2773.2	2787.5	2788.7
17.5°	2680.0	2714.8	2726.6	2759.5	2718.6
20°	2666.7	2641.4	2666.7	2700.4	2695.1
22.5°	2585.3	2556.9	2611.5	2641.4	2639.5
25°	2492.9	2506.6	2547.5	2580.8	2575.5
27.5°	2411.9	2427.8	2486.1	2531.9	2502.4
30°	2349.4	2341.4	2390.7	2431.6	2454.3
32.5°	2237.7	2266.5	2324.0	2364.5	2343.0
35°	2169.9	2176.3	2226.7	2278.2	2276.7
37.5°	2051.4	2081.3	2152.1	2166.5	2153.2
40°	1950.3	1980.2	2044.2	2059.7	2053.3
42.5°	1875.7	1881.0	1935.9	1953.7	1925.3
45°	1745.8	1778.3	1807.9	1854.4	1810.5
47.5°	1635.2	1650.3	1714.0	1726.5	1703.4
50°	1534.8	1540.1	1604.1	1588.6	1573.5
52.5°	1408.7	1431.1	1467.0	1464.0	1446.2
55°	1305.0	1296.3	1330.3	1321.3	1320.9
57.5°	1180.4	1195.5	1223.5	1209.2	1186.1
60°	1063.7	1064.1	1074.3	1058.1	1055.0
62.5°	933.9	938.4	940.7	920.6	953.2
65°	801.7	791.1	822.1	790.7	796.0
67.5°	680.1	685.4	682.4	662.7	670.3
70°	556.7	563.5	558.6	536.2	543.0
72.5°	443.8	435.5	440.8	412.8	425.6
75°	333.6	326.8	332.9	309.4	320.0
77.5°	227.2	232.5	228.7	216.2	223.4
80°	150.0	145.8	145.8	138.6	140.1
82.5°	87.5	83.3	82.2	79.9	83.3
85°	40.9	39.8	40.5	39.4	37.9
87.5°	14.8	15.1	15.1	14.4	13.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)