

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: P590748

Luminaire Tested: FSR-24-2-LD4-4HI-40-UNV-80-97-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590748  
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-LD4-4HI-40-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 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

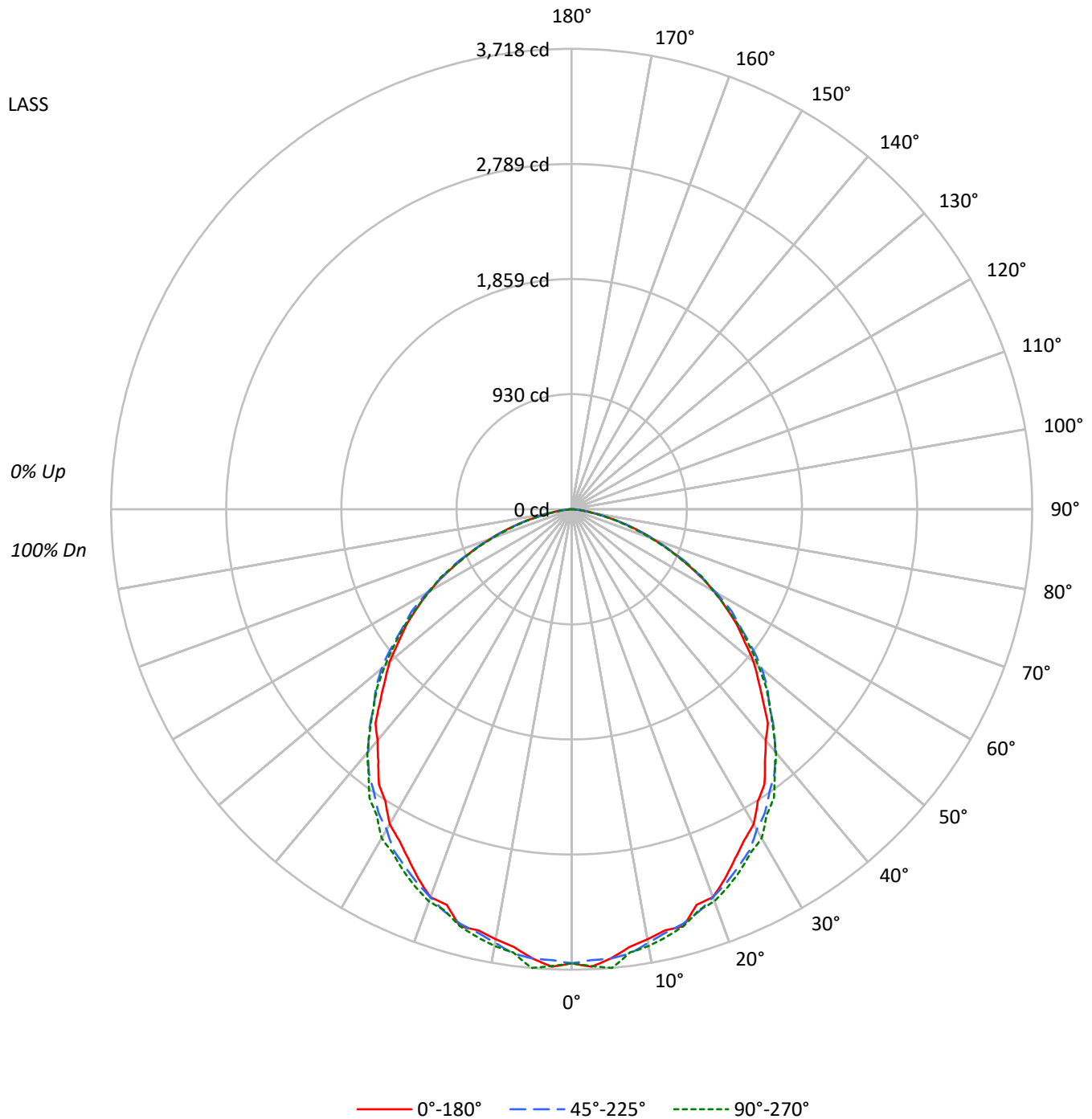
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9240.0 lumens  
Efficiency: N/A  
Efficacy: 106.9 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): 86.4  
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				
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°	9866	9866	9866
5°	9833	9837	10044
10°	9634	9718	9786
15°	9710	9657	9711
20°	9546	9546	9647
25°	9253	9455	9559
30°	9125	9285	9533
35°	8910	9144	9349
40°	8564	8976	9016
45°	8305	8600	8612
50°	8032	8395	8234
55°	7653	7802	7746
60°	7156	7227	7098
65°	6381	6544	6336
70°	5474	5493	5341
75°	4336	4326	4159
80°	2906	2824	2713
85°	1578	1562	1460

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 8822 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	344.9	3.7
10°-20°	977.4	10.6
20°-30°	1464.3	15.8
30°-40°	1735.5	18.8
40°-50°	1738.7	18.8
50°-60°	1475.9	16.0
60°-70°	995.1	10.8
70°-80°	437.2	4.7
80°-90°	71.0	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°	2786.6	30.2
0°-40°	4522.1	48.9
0°-60°	7736.7	83.7
0°-90°	9240.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9240.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3666	3666	3666	3666	3666	
5°	3640	3632	3642	3631	3718	343
15°	3485	3445	3466	3484	3486	971
25°	3116	3133	3184	3226	3219	1441
35°	2712	2720	2783	2848	2846	1684
45°	2182	2223	2260	2318	2263	1688
55°	1631	1620	1663	1652	1651	1451
65°	1002	989	1028	988	995	997
75°	417	408	416	387	400	447
85°	51	50	51	49	47	74
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3666.2	3666.2	3666.2	3666.2	3666.2
2.5°	3697.9	3670.0	3644.0	3674.2	3692.7
5°	3640.2	3631.6	3641.6	3630.7	3718.3
7.5°	3565.4	3598.0	3617.0	3605.1	3610.3
10°	3525.6	3514.2	3556.4	3585.7	3581.5
12.5°	3483.0	3500.0	3502.4	3534.1	3537.0
15°	3485.4	3445.1	3466.4	3484.4	3485.8
17.5°	3350.0	3393.5	3408.2	3449.4	3398.3
20°	3333.4	3301.7	3333.4	3375.6	3368.9
22.5°	3231.7	3196.1	3264.3	3301.7	3299.3
25°	3116.2	3133.2	3184.3	3226.0	3219.3
27.5°	3014.9	3034.7	3107.6	3164.9	3128.0
30°	2936.7	2926.8	2988.3	3039.5	3067.9
32.5°	2797.1	2833.1	2905.0	2955.7	2928.7
35°	2712.4	2720.4	2783.4	2847.8	2845.9
37.5°	2564.2	2601.6	2690.1	2708.1	2691.5
40°	2437.8	2475.2	2555.2	2574.6	2566.6
42.5°	2344.6	2351.2	2419.8	2442.1	2406.6
45°	2182.2	2222.9	2259.8	2318.1	2263.1
47.5°	2044.0	2062.9	2142.4	2158.1	2129.2
50°	1918.5	1925.2	2005.2	1985.8	1966.8
52.5°	1760.9	1788.8	1833.8	1830.0	1807.8
55°	1631.2	1620.3	1662.9	1651.6	1651.1
57.5°	1475.5	1494.4	1529.4	1511.4	1482.6
60°	1329.7	1330.2	1342.9	1322.6	1318.8
62.5°	1167.3	1173.0	1175.8	1150.7	1191.5
65°	1002.1	988.9	1027.7	988.4	995.0
67.5°	850.2	856.8	853.0	828.4	837.9
70°	695.8	704.4	698.2	670.3	678.8
72.5°	554.8	544.4	551.0	516.0	532.1
75°	417.0	408.5	416.1	386.7	400.0
77.5°	284.0	290.6	285.9	270.3	279.3
80°	187.5	182.2	182.2	173.3	175.1
82.5°	109.3	104.1	102.7	99.9	104.1
85°	51.1	49.7	50.6	49.2	47.3
87.5°	18.5	18.9	18.9	18.0	17.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)