

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: P563772

Luminaire Tested: FSR-24-4-LD4-4HI-50-UNV-80-96-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563772  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/20/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: FAIL-SAFE  
Catalog Number: FSR-24-4-LD4-4HI-50-UNV-80-96-EDD-90  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

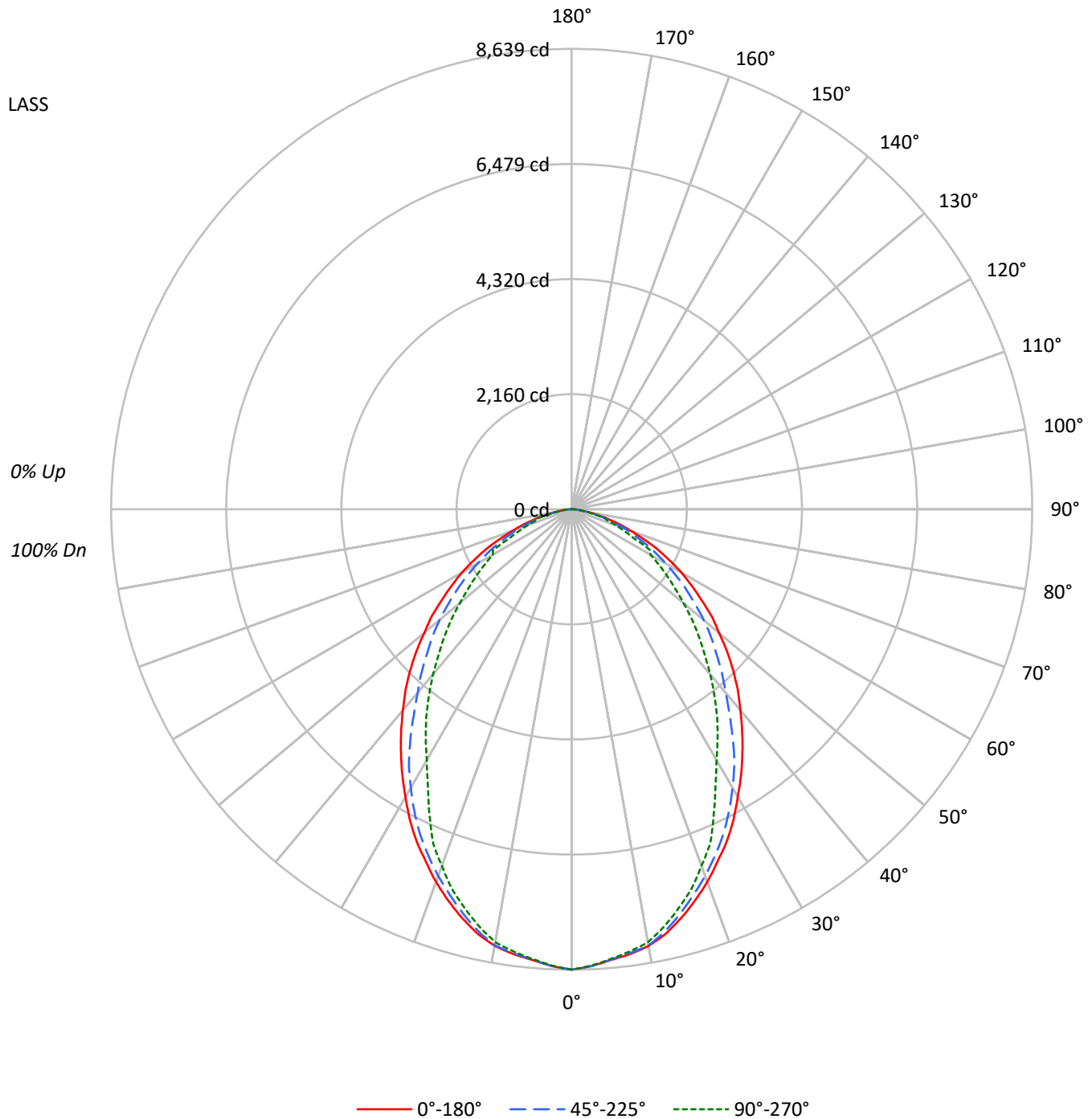
Lumens per Lamp: N/A  
Luminaire Lumens: 16959.0 lumens  
Efficiency: N/A  
Efficacy: 98.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 172.8  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87					87			
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75					75			
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65					65			
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56					56			
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50					50			
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44					44			
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40					40			
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36					36			
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33					33			
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30					30			

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

	0°	45°	90°
0°	11623	11623	11623
5°	11465	11452	11438
10°	11366	11352	11270
15°	11059	10948	10795
20°	10653	10482	10196
25°	10215	9993	9370
30°	9682	9372	8441
35°	9170	8661	7808
40°	8648	7893	7104
45°	8152	7297	6423
50°	7547	6773	5728
55°	6981	6138	5130
60°	6396	5482	4596
65°	5628	4801	4070
70°	4636	4204	3457
75°	3686	3219	3374
80°	2476	2321	2166
85°	1542	1849	2158

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 8152 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	804.1	4.7
10°-20°	2206.9	13.0
20°-30°	3055.3	18.0
30°-40°	3257.9	19.2
40°-50°	2972.1	17.5
50°-60°	2328.4	13.7
60°-70°	1517.5	8.9
70°-80°	672.3	4.0
80°-90°	144.4	0.9
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°	6066.4	35.8
0°-40°	9324.2	55.0
0°-60°	14624.8	86.2
0°-90°	16959.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	16959.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	8639	8639	8639	8639	8639	
5°	8489	8479	8479	8469	8469	806
15°	7940	7940	7860	7780	7750	2232
25°	6881	6841	6731	6492	6312	3159
35°	5583	5543	5273	4874	4754	3490
45°	4284	4194	3835	3515	3376	3300
55°	2976	2886	2617	2307	2187	2669
65°	1768	1668	1508	1538	1278	1742
75°	709	659	619	589	649	760
85°	100	110	120	130	140	139
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	8638.7	8638.7	8638.7	8638.7	8638.7
2.5°	8578.8	8578.8	8578.8	8568.8	8568.8
5°	8488.9	8478.9	8478.9	8468.9	8468.9
7.5°	8419.0	8409.0	8399.0	8389.0	8369.0
10°	8319.1	8319.1	8309.1	8259.2	8249.2
12.5°	8159.3	8149.3	8109.4	8039.5	8019.5
15°	7939.6	7939.6	7859.7	7779.8	7749.9
17.5°	7699.9	7689.9	7590.1	7510.2	7470.2
20°	7440.3	7420.3	7320.4	7190.6	7120.7
22.5°	7150.6	7150.6	7030.8	6861.0	6791.1
25°	6881.0	6841.0	6731.2	6491.5	6311.7
27.5°	6571.4	6511.5	6391.6	6052.1	5842.3
30°	6231.8	6201.9	6032.1	5592.7	5432.9
32.5°	5912.3	5862.3	5682.6	5223.2	5093.3
35°	5582.7	5542.7	5273.1	4873.6	4753.8
37.5°	5253.1	5203.2	4863.6	4544.0	4394.2
40°	4923.6	4863.6	4494.1	4204.5	4044.7
42.5°	4614.0	4534.1	4174.5	3864.9	3685.2
45°	4284.4	4194.5	3835.0	3515.4	3375.6
47.5°	3954.8	3874.9	3545.4	3215.8	3056.0
50°	3605.3	3535.4	3235.8	2906.2	2736.4
52.5°	3315.7	3205.8	2916.2	2586.6	2446.8
55°	2976.1	2886.2	2616.6	2307.0	2187.1
57.5°	2666.5	2576.6	2327.0	2037.3	1937.5
60°	2376.9	2247.1	2037.3	1787.7	1707.8
62.5°	2057.3	1957.4	1777.7	1567.9	1667.8
65°	1767.7	1667.8	1508.0	1538.0	1278.3
67.5°	1448.1	1398.2	1258.4	1118.5	1078.6
70°	1178.5	1118.5	1068.6	918.8	878.8
72.5°	938.8	878.8	808.9	729.0	699.1
75°	709.1	659.1	619.2	589.2	649.1
77.5°	489.4	469.4	439.4	409.5	399.5
80°	319.6	309.6	299.6	289.6	279.6
82.5°	189.8	189.8	189.8	189.8	189.8
85°	99.9	109.9	119.8	129.8	139.8
87.5°	59.9	59.9	69.9	79.9	89.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)