

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: P563982

Luminaire Tested: FSR-24-4-LD4-4LO-50-UNV-81-97-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563982  
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-LD4-4LO-50-UNV-81-97-EDD-90  
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

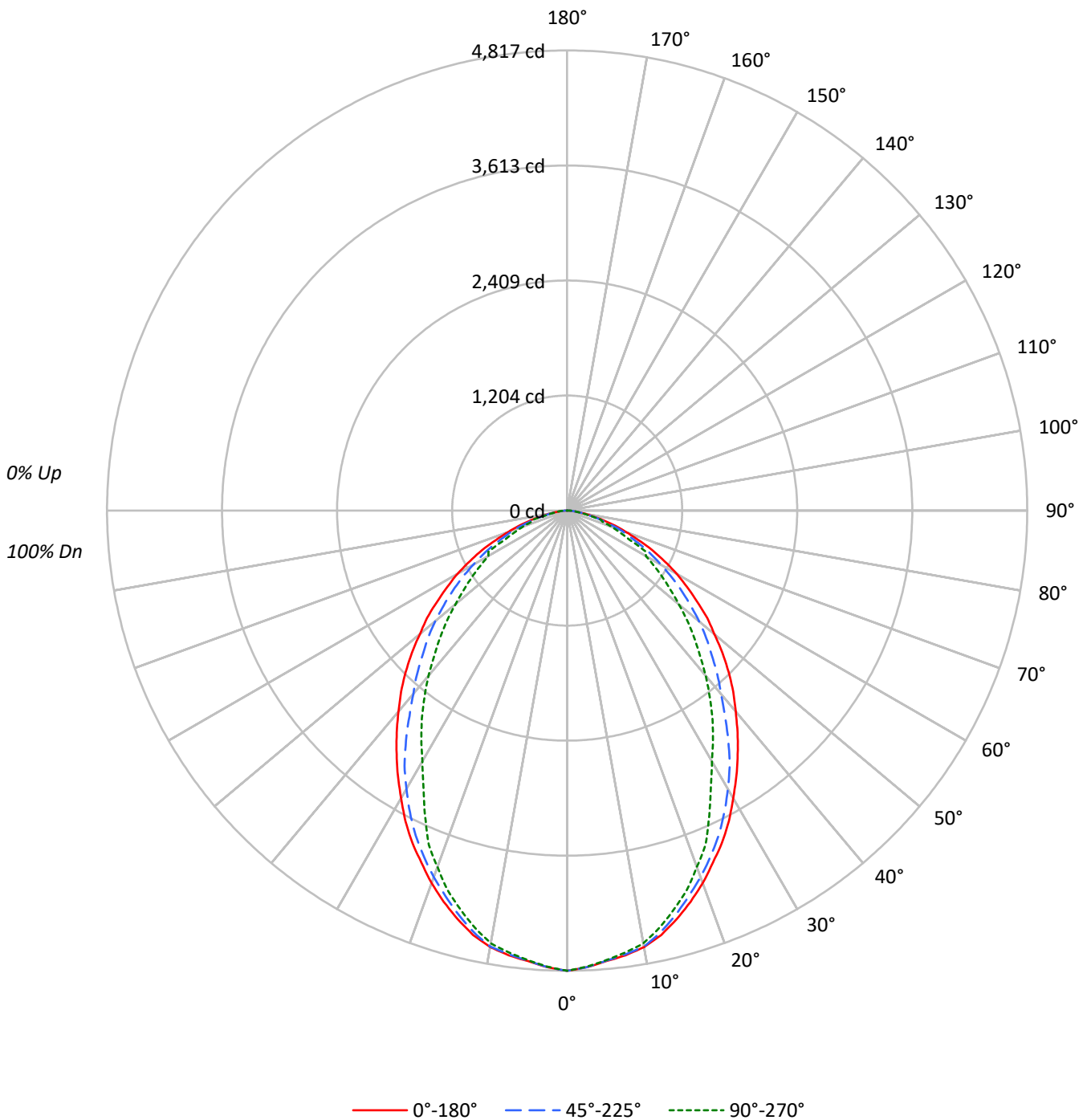
Lumens per Lamp: N/A  
Luminaire Lumens: 9457.0 lumens  
Efficiency: N/A  
Efficacy: 101.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 93.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	6482	6482	6482
5°	6393	6386	6378
10°	6338	6330	6285
15°	6167	6105	6020
20°	5941	5845	5686
25°	5696	5573	5225
30°	5399	5226	4707
35°	5113	4830	4354
40°	4822	4402	3962
45°	4546	4069	3582
50°	4208	3777	3194
55°	3893	3423	2861
60°	3567	3057	2563
65°	3138	2677	2269
70°	2585	2344	1928
75°	2056	1795	1882
80°	1381	1295	1208
85°	860	1031	1204

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4546 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	448.4	4.7
10°-20°	1230.7	13.0
20°-30°	1703.8	18.0
30°-40°	1816.7	19.2
40°-50°	1657.4	17.5
50°-60°	1298.4	13.7
60°-70°	846.2	8.9
70°-80°	374.9	4.0
80°-90°	80.5	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°	3382.8	35.8
0°-40°	5199.6	55.0
0°-60°	8155.3	86.2
0°-90°	9457.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9457.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4817	4817	4817	4817	4817	
5°	4734	4728	4728	4723	4723	449
15°	4427	4427	4383	4338	4322	1245
25°	3837	3815	3754	3620	3520	1762
35°	3113	3091	2940	2718	2651	1946
45°	2389	2339	2138	1960	1882	1840
55°	1660	1610	1459	1286	1220	1489
65°	986	930	841	858	713	971
75°	395	368	345	329	362	424
85°	56	61	67	72	78	77
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4817.3	4817.3	4817.3	4817.3	4817.3
2.5°	4783.9	4783.9	4783.9	4778.3	4778.3
5°	4733.7	4728.2	4728.2	4722.6	4722.6
7.5°	4694.7	4689.2	4683.6	4678.0	4666.9
10°	4639.1	4639.1	4633.5	4605.6	4600.1
12.5°	4550.0	4544.4	4522.1	4483.1	4472.0
15°	4427.4	4427.4	4382.9	4338.3	4321.6
17.5°	4293.8	4288.2	4232.5	4188.0	4165.7
20°	4149.0	4137.8	4082.1	4009.8	3970.8
22.5°	3987.5	3987.5	3920.6	3826.0	3787.0
25°	3837.1	3814.8	3753.6	3619.9	3519.7
27.5°	3664.5	3631.1	3564.2	3374.9	3257.9
30°	3475.1	3458.4	3363.7	3118.7	3029.6
32.5°	3296.9	3269.1	3168.8	2912.6	2840.2
35°	3113.1	3090.8	2940.5	2717.7	2650.9
37.5°	2929.3	2901.5	2712.2	2533.9	2450.4
40°	2745.6	2712.2	2506.1	2344.6	2255.5
42.5°	2572.9	2528.4	2327.9	2155.2	2055.0
45°	2389.1	2339.0	2138.5	1960.3	1882.4
47.5°	2205.4	2160.8	1977.0	1793.2	1704.1
50°	2010.4	1971.5	1804.4	1620.6	1525.9
52.5°	1848.9	1787.7	1626.2	1442.4	1364.4
55°	1659.6	1609.5	1459.1	1286.5	1219.6
57.5°	1486.9	1436.8	1297.6	1136.1	1080.4
60°	1325.4	1253.0	1136.1	996.9	952.3
62.5°	1147.2	1091.5	991.3	874.3	930.0
65°	985.7	930.0	840.9	857.6	712.8
67.5°	807.5	779.7	701.7	623.7	601.5
70°	657.2	623.7	595.9	512.4	490.1
72.5°	523.5	490.1	451.1	406.5	389.8
75°	395.4	367.6	345.3	328.6	362.0
77.5°	272.9	261.7	245.0	228.3	222.8
80°	178.2	172.6	167.1	161.5	155.9
82.5°	105.8	105.8	105.8	105.8	105.8
85°	55.7	61.3	66.8	72.4	78.0
87.5°	33.4	33.4	39.0	44.6	50.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)