

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: P562973

Luminaire Tested: FSR-24-4-LD4-2STD-40-UNV-82-96-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562973  
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-LD4-2STD-40-UNV-82-96-EDD  
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

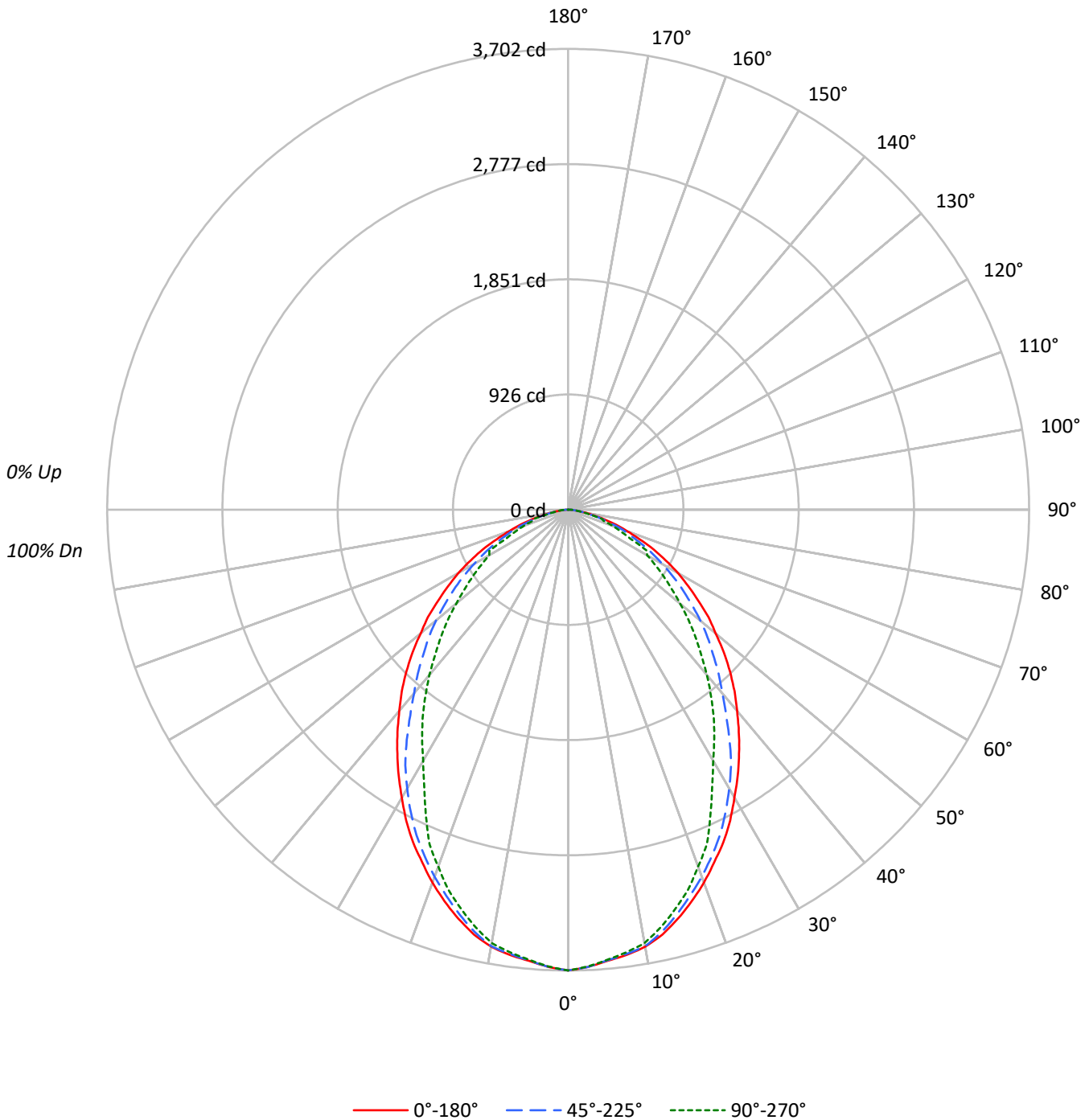
Lumens per Lamp: N/A  
Luminaire Lumens: 7267.0 lumens  
Efficiency: N/A  
Efficacy: 109.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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



TEST NUMBER: P562973

CATALOG NUMBER: FSR-24-4-LD4-2STD-40-UNV-82-96-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P562973

CATALOG NUMBER: FSR-24-4-LD4-2STD-40-UNV-82-96-EDD

**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	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°	4981	4981	4981
5°	4913	4907	4901
10°	4870	4865	4829
15°	4739	4691	4626
20°	4565	4491	4369
25°	4377	4282	4015
30°	4149	4016	3617
35°	3929	3711	3346
40°	3706	3382	3044
45°	3493	3127	2752
50°	3234	2902	2454
55°	2992	2630	2198
60°	2741	2349	1969
65°	2412	2057	1744
70°	1987	1801	1482
75°	1579	1379	1446
80°	1061	995	928
85°	661	794	925

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3493 cd/sqm



TEST NUMBER: P562973

CATALOG NUMBER: FSR-24-4-LD4-2STD-40-UNV-82-96-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	344.6	4.7
10°-20°	945.7	13.0
20°-30°	1309.2	18.0
30°-40°	1396.0	19.2
40°-50°	1273.6	17.5
50°-60°	997.7	13.7
60°-70°	650.3	8.9
70°-80°	288.1	4.0
80°-90°	61.9	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°	2599.5	35.8
0°-40°	3995.5	55.0
0°-60°	6266.8	86.2
0°-90°	7267.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7267.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3702	3702	3702	3702	3702	
5°	3638	3633	3633	3629	3629	345
15°	3402	3402	3368	3334	3321	956
25°	2948	2931	2884	2782	2705	1354
35°	2392	2375	2260	2088	2037	1496
45°	1836	1797	1643	1506	1446	1414
55°	1275	1237	1121	988	937	1144
65°	758	715	646	659	548	746
75°	304	282	265	252	278	326
85°	43	47	51	56	60	59
90°	0	0	0	0	0	



TEST NUMBER: P562973

CATALOG NUMBER: FSR-24-4-LD4-2STD-40-UNV-82-96-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3701.7	3701.7	3701.7	3701.7	3701.7
2.5°	3676.0	3676.0	3676.0	3671.8	3671.8
5°	3637.5	3633.2	3633.2	3629.0	3629.0
7.5°	3607.6	3603.3	3599.0	3594.7	3586.2
10°	3564.8	3564.8	3560.5	3539.1	3534.8
12.5°	3496.3	3492.0	3474.9	3444.9	3436.4
15°	3402.2	3402.2	3367.9	3333.7	3320.8
17.5°	3299.4	3295.2	3252.4	3218.1	3201.0
20°	3188.2	3179.6	3136.8	3081.2	3051.2
22.5°	3064.1	3064.1	3012.7	2940.0	2910.0
25°	2948.5	2931.4	2884.3	2781.6	2704.6
27.5°	2815.9	2790.2	2738.8	2593.3	2503.5
30°	2670.4	2657.5	2584.8	2396.5	2328.0
32.5°	2533.4	2512.0	2435.0	2238.1	2182.5
35°	2392.2	2375.1	2259.5	2088.4	2037.0
37.5°	2251.0	2229.6	2084.1	1947.1	1883.0
40°	2109.8	2084.1	1925.7	1801.6	1733.2
42.5°	1977.1	1942.9	1788.8	1656.1	1579.1
45°	1835.9	1797.4	1643.3	1506.4	1446.4
47.5°	1694.7	1660.4	1519.2	1378.0	1309.5
50°	1544.9	1514.9	1386.5	1245.3	1172.6
52.5°	1420.8	1373.7	1249.6	1108.4	1048.5
55°	1275.3	1236.8	1121.2	988.5	937.2
57.5°	1142.6	1104.1	997.1	873.0	830.2
60°	1018.5	962.9	873.0	766.0	731.8
62.5°	881.6	838.8	761.7	671.9	714.7
65°	757.5	714.7	646.2	659.0	547.8
67.5°	620.5	599.1	539.2	479.3	462.2
70°	505.0	479.3	457.9	393.7	376.6
72.5°	402.3	376.6	346.6	312.4	299.6
75°	303.8	282.4	265.3	252.5	278.2
77.5°	209.7	201.1	188.3	175.5	171.2
80°	136.9	132.7	128.4	124.1	119.8
82.5°	81.3	81.3	81.3	81.3	81.3
85°	42.8	47.1	51.4	55.6	59.9
87.5°	25.7	25.7	30.0	34.2	38.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)