

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: P563035

Luminaire Tested: FSR-24-4-LD4-2STD-50-UNV-82-94-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563035  
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-50-UNV-82-94-EDD  
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

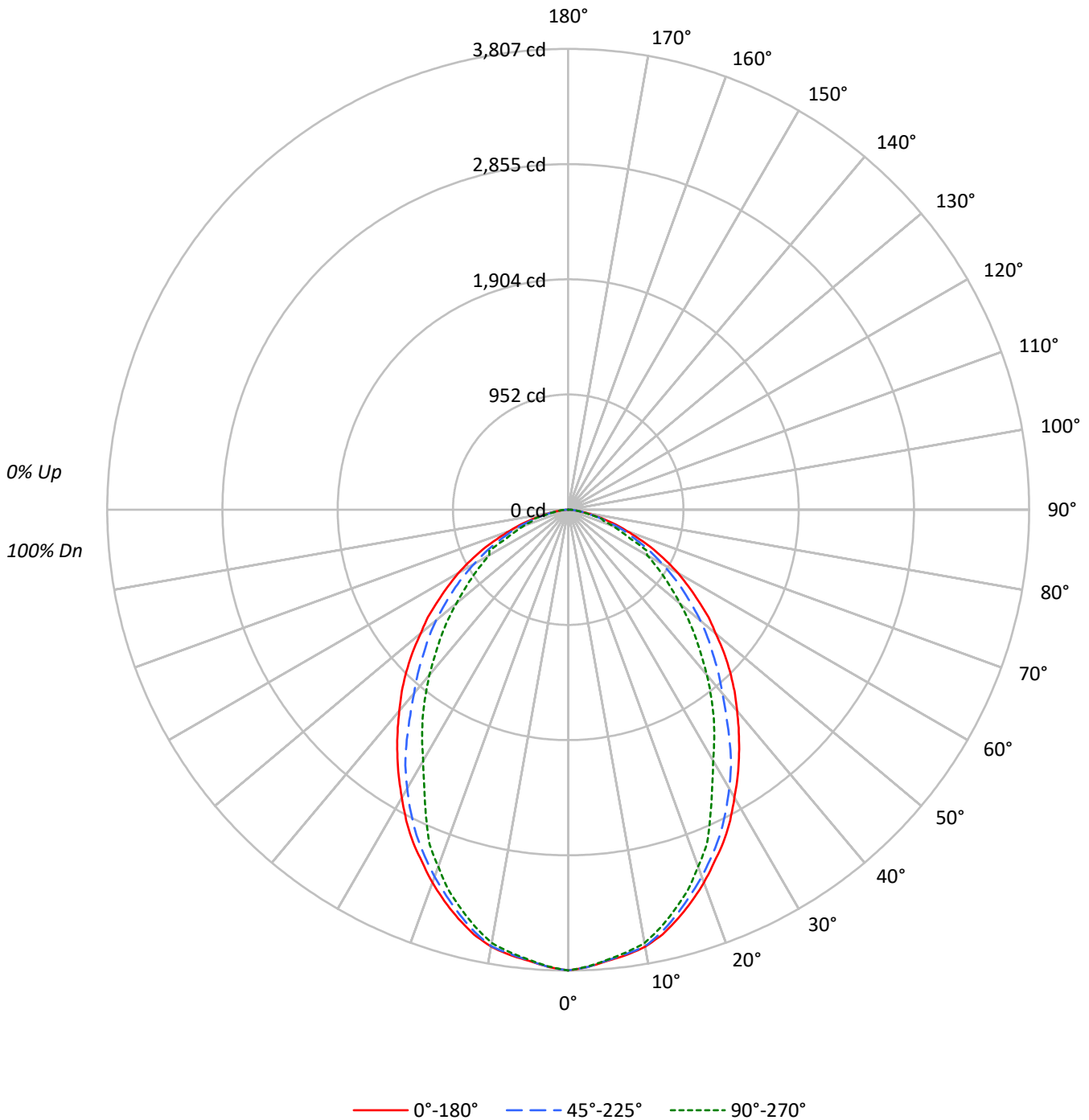
Lumens per Lamp: N/A  
Luminaire Lumens: 7473.0 lumens  
Efficiency: N/A  
Efficacy: 112.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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: P563035

CATALOG NUMBER: FSR-24-4-LD4-2STD-50-UNV-82-94-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P563035

CATALOG NUMBER: FSR-24-4-LD4-2STD-50-UNV-82-94-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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30

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

	0°	45°	90°
0°	5122	5122	5122
5°	5052	5046	5040
10°	5008	5002	4966
15°	4873	4824	4757
20°	4694	4619	4493
25°	4501	4403	4129
30°	4266	4130	3719
35°	4041	3817	3441
40°	3811	3478	3130
45°	3592	3216	2830
50°	3325	2984	2524
55°	3076	2705	2261
60°	2819	2416	2025
65°	2480	2116	1793
70°	2043	1852	1524
75°	1625	1418	1487
80°	1091	1023	955
85°	679	815	951

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3592 cd/sqm

TEST NUMBER: P563035

CATALOG NUMBER: FSR-24-4-LD4-2STD-50-UNV-82-94-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	354.3	4.7
10°-20°	972.5	13.0
20°-30°	1346.3	18.0
30°-40°	1435.6	19.2
40°-50°	1309.7	17.5
50°-60°	1026.0	13.7
60°-70°	668.7	8.9
70°-80°	296.3	4.0
80°-90°	63.6	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°	2673.2	35.8
0°-40°	4108.7	55.0
0°-60°	6444.4	86.2
0°-90°	7473.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7473.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3807	3807	3807	3807	3807	
5°	3741	3736	3736	3732	3732	355
15°	3499	3499	3463	3428	3415	984
25°	3032	3014	2966	2860	2781	1392
35°	2460	2442	2324	2148	2095	1538
45°	1888	1848	1690	1549	1488	1454
55°	1311	1272	1153	1017	964	1176
65°	779	735	664	678	563	768
75°	312	290	273	260	286	335
85°	44	48	53	57	62	61
90°	0	0	0	0	0	



TEST NUMBER: P563035

CATALOG NUMBER: FSR-24-4-LD4-2STD-50-UNV-82-94-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3806.6	3806.6	3806.6	3806.6	3806.6
2.5°	3780.2	3780.2	3780.2	3775.8	3775.8
5°	3740.6	3736.2	3736.2	3731.8	3731.8
7.5°	3709.8	3705.4	3701.0	3696.6	3687.8
10°	3665.8	3665.8	3661.4	3639.4	3635.0
12.5°	3595.4	3591.0	3573.4	3542.6	3533.8
15°	3498.6	3498.6	3463.4	3428.2	3415.0
17.5°	3393.0	3388.6	3344.6	3309.4	3291.8
20°	3278.6	3269.8	3225.7	3168.5	3137.7
22.5°	3150.9	3150.9	3098.1	3023.3	2992.5
25°	3032.1	3014.5	2966.1	2860.5	2781.3
27.5°	2895.7	2869.3	2816.5	2666.9	2574.4
30°	2746.1	2732.9	2658.1	2464.4	2394.0
32.5°	2605.2	2583.2	2504.0	2301.6	2244.4
35°	2460.0	2442.4	2323.6	2147.6	2094.8
37.5°	2314.8	2292.8	2143.2	2002.3	1936.3
40°	2169.6	2143.2	1980.3	1852.7	1782.3
42.5°	2033.1	1997.9	1839.5	1703.1	1623.9
45°	1887.9	1848.3	1689.9	1549.1	1487.5
47.5°	1742.7	1707.5	1562.3	1417.0	1346.6
50°	1588.7	1557.9	1425.8	1280.6	1205.8
52.5°	1461.0	1412.6	1285.0	1139.8	1078.2
55°	1311.4	1271.8	1153.0	1016.6	963.8
57.5°	1175.0	1135.4	1025.4	897.8	853.7
60°	1047.4	990.2	897.8	787.7	752.5
62.5°	906.6	862.5	783.3	690.9	734.9
65°	778.9	734.9	664.5	677.7	563.3
67.5°	638.1	616.1	554.5	492.9	475.3
70°	519.3	492.9	470.9	404.9	387.3
72.5°	413.7	387.3	356.5	321.3	308.1
75°	312.5	290.4	272.8	259.6	286.0
77.5°	215.6	206.8	193.6	180.4	176.0
80°	140.8	136.4	132.0	127.6	123.2
82.5°	83.6	83.6	83.6	83.6	83.6
85°	44.0	48.4	52.8	57.2	61.6
87.5°	26.4	26.4	30.8	35.2	39.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)