

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: P562964

Luminaire Tested: FSR-24-4-LD4-2STD-40-UNV-82-86-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562964  
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-82-86-EDD-90  
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

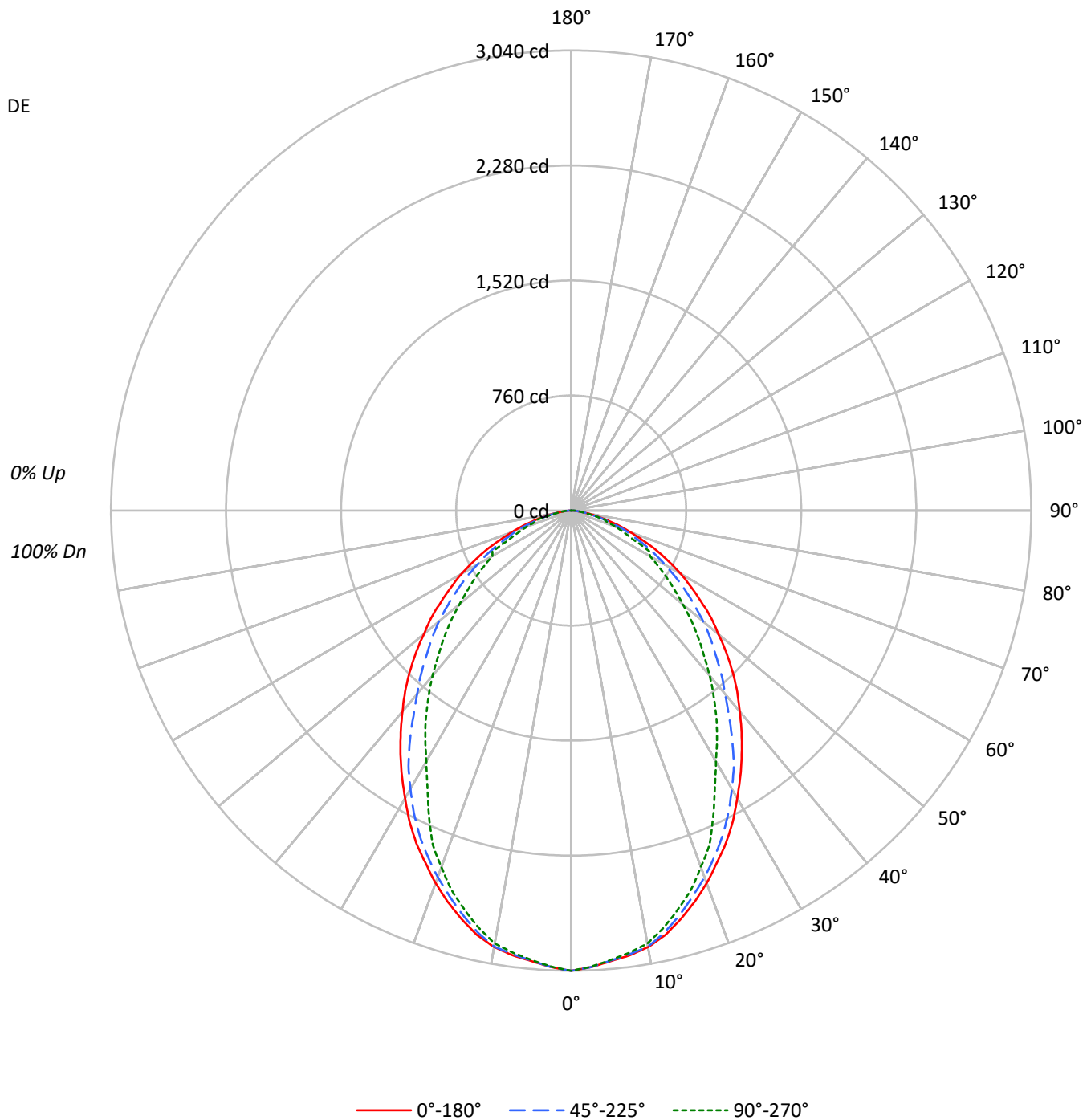
Lumens per Lamp: N/A  
Luminaire Lumens: 5969.0 lumens  
Efficiency: N/A  
Efficacy: 89.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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: P562964

CATALOG NUMBER: FSR-24-4-LD4-2STD-40-UNV-82-86-EDD-90

### Luminous Intensity Polar Plot





TEST NUMBER: P562964

CATALOG NUMBER: FSR-24-4-LD4-2STD-40-UNV-82-86-EDD-90

**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°	4091	4091	4091
5°	4035	4031	4026
10°	4000	3996	3967
15°	3893	3853	3800
20°	3750	3689	3588
25°	3596	3517	3298
30°	3408	3299	2971
35°	3227	3049	2748
40°	3044	2778	2500
45°	2869	2568	2261
50°	2656	2384	2016
55°	2457	2160	1806
60°	2251	1930	1618
65°	1981	1690	1432
70°	1632	1480	1217
75°	1298	1133	1188
80°	872	817	762
85°	543	651	760

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2869 cd/sqm



TEST NUMBER: P562964

CATALOG NUMBER: FSR-24-4-LD4-2STD-40-UNV-82-86-EDD-90

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	283.0	4.7
10°-20°	776.8	13.0
20°-30°	1075.4	18.0
30°-40°	1146.7	19.2
40°-50°	1046.1	17.5
50°-60°	819.5	13.7
60°-70°	534.1	8.9
70°-80°	236.6	4.0
80°-90°	50.8	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°	2135.2	35.8
0°-40°	3281.8	55.0
0°-60°	5147.4	86.2
0°-90°	5969.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5969.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3040	3040	3040	3040	3040	
5°	2988	2984	2984	2981	2981	284
15°	2794	2794	2766	2738	2728	786
25°	2422	2408	2369	2285	2222	1112
35°	1965	1951	1856	1715	1673	1228
45°	1508	1476	1350	1237	1188	1162
55°	1048	1016	921	812	770	940
65°	622	587	531	541	450	613
75°	250	232	218	207	228	267
85°	35	39	42	46	49	49
90°	0	0	0	0	0	



TEST NUMBER: P562964

CATALOG NUMBER: FSR-24-4-LD4-2STD-40-UNV-82-86-EDD-90

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3040.5	3040.5	3040.5	3040.5	3040.5
2.5°	3019.4	3019.4	3019.4	3015.9	3015.9
5°	2987.8	2984.3	2984.3	2980.8	2980.8
7.5°	2963.2	2959.7	2956.2	2952.7	2945.6
10°	2928.0	2928.0	2924.5	2907.0	2903.4
12.5°	2871.8	2868.3	2854.2	2829.6	2822.6
15°	2794.5	2794.5	2766.4	2738.2	2727.7
17.5°	2710.1	2706.6	2671.4	2643.3	2629.3
20°	2618.7	2611.7	2576.5	2530.8	2506.2
22.5°	2516.8	2516.8	2474.6	2414.8	2390.2
25°	2421.9	2407.8	2369.2	2284.8	2221.5
27.5°	2312.9	2291.8	2249.6	2130.1	2056.3
30°	2193.4	2182.9	2123.1	1968.4	1912.2
32.5°	2080.9	2063.3	2000.1	1838.4	1792.7
35°	1964.9	1950.9	1856.0	1715.4	1673.2
37.5°	1848.9	1831.3	1711.8	1599.4	1546.6
40°	1732.9	1711.8	1581.8	1479.8	1423.6
42.5°	1624.0	1595.8	1469.3	1360.3	1297.1
45°	1508.0	1476.3	1349.8	1237.3	1188.1
47.5°	1392.0	1363.8	1247.8	1131.9	1075.6
50°	1268.9	1244.3	1138.9	1022.9	963.1
52.5°	1167.0	1128.3	1026.4	910.4	861.2
55°	1047.5	1015.9	920.9	812.0	769.8
57.5°	938.5	906.9	819.0	717.1	681.9
60°	836.6	790.9	717.1	629.2	601.1
62.5°	724.1	689.0	625.7	551.9	587.0
65°	622.2	587.0	530.8	541.3	449.9
67.5°	509.7	492.1	442.9	393.7	379.6
70°	414.8	393.7	376.1	323.4	309.3
72.5°	330.4	309.3	284.7	256.6	246.1
75°	249.6	232.0	217.9	207.4	228.5
77.5°	172.2	165.2	154.7	144.1	140.6
80°	112.5	109.0	105.5	101.9	98.4
82.5°	66.8	66.8	66.8	66.8	66.8
85°	35.2	38.7	42.2	45.7	49.2
87.5°	21.1	21.1	24.6	28.1	31.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)