

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: P562510

Luminaire Tested: FSR-24-4-LD4-2HI-35-UNV-81-97-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562510  
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-LD4-2HI-35-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 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

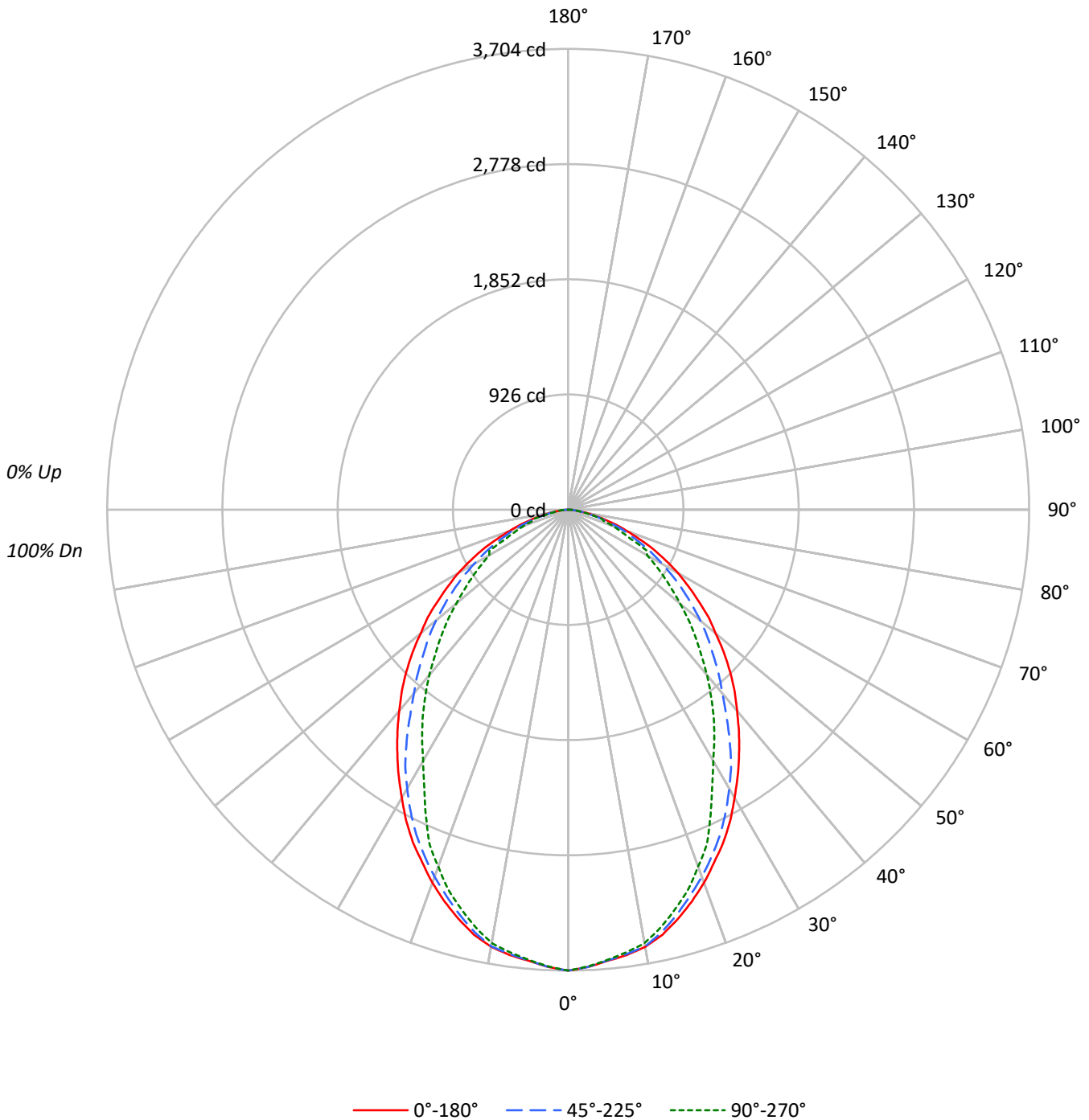
Lumens per Lamp: N/A  
Luminaire Lumens: 7272.0 lumens  
Efficiency: N/A  
Efficacy: 84.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 86.4  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	4984	4984	4984
5°	4916	4910	4905
10°	4874	4868	4833
15°	4742	4695	4629
20°	4568	4495	4372
25°	4380	4285	4018
30°	4152	4019	3619
35°	3932	3714	3348
40°	3708	3385	3046
45°	3496	3129	2754
50°	3236	2904	2456
55°	2993	2632	2200
60°	2743	2351	1971
65°	2413	2059	1745
70°	1988	1803	1482
75°	1580	1380	1447
80°	1062	996	929
85°	661	794	926

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3496 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	344.8	4.7
10°-20°	946.3	13.0
20°-30°	1310.1	18.0
30°-40°	1397.0	19.2
40°-50°	1274.4	17.5
50°-60°	998.4	13.7
60°-70°	650.7	8.9
70°-80°	288.3	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°	2601.2	35.8
0°-40°	3998.2	55.0
0°-60°	6271.1	86.2
0°-90°	7272.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7272.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3704	3704	3704	3704	3704	
5°	3640	3636	3636	3632	3632	346
15°	3404	3404	3370	3336	3323	957
25°	2951	2933	2886	2784	2706	1355
35°	2394	2377	2261	2090	2038	1497
45°	1837	1799	1644	1507	1447	1415
55°	1276	1238	1122	989	938	1145
65°	758	715	647	660	548	747
75°	304	283	266	253	278	326
85°	43	47	51	56	60	59
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3704.3	3704.3	3704.3	3704.3	3704.3
2.5°	3678.6	3678.6	3678.6	3674.3	3674.3
5°	3640.0	3635.7	3635.7	3631.5	3631.5
7.5°	3610.0	3605.8	3601.5	3597.2	3588.6
10°	3567.2	3567.2	3562.9	3541.5	3537.2
12.5°	3498.7	3494.4	3477.3	3447.3	3438.8
15°	3404.5	3404.5	3370.2	3336.0	3323.1
17.5°	3301.7	3297.4	3254.6	3220.4	3203.2
20°	3190.4	3181.8	3139.0	3083.3	3053.3
22.5°	3066.2	3066.2	3014.8	2942.0	2912.0
25°	2950.6	2933.4	2886.3	2783.5	2706.5
27.5°	2817.8	2792.1	2740.7	2595.1	2505.2
30°	2672.2	2659.4	2586.6	2398.1	2329.6
32.5°	2535.2	2513.8	2436.7	2239.7	2184.0
35°	2393.9	2376.7	2261.1	2089.8	2038.4
37.5°	2252.5	2231.1	2085.5	1948.5	1884.2
40°	2111.2	2085.5	1927.1	1802.9	1734.4
42.5°	1978.5	1944.2	1790.0	1657.3	1580.2
45°	1837.1	1798.6	1644.4	1507.4	1447.4
47.5°	1695.8	1661.6	1520.2	1378.9	1310.4
50°	1545.9	1516.0	1387.5	1246.2	1173.4
52.5°	1421.8	1374.6	1250.5	1109.1	1049.2
55°	1276.1	1237.6	1122.0	989.2	937.8
57.5°	1143.4	1104.9	997.8	873.6	830.8
60°	1019.2	963.5	873.6	766.5	732.3
62.5°	882.2	839.3	762.3	672.3	715.2
65°	758.0	715.2	646.6	659.5	548.1
67.5°	620.9	599.5	539.6	479.6	462.5
70°	505.3	479.6	458.2	394.0	376.8
72.5°	402.5	376.8	346.9	312.6	299.8
75°	304.0	282.6	265.5	252.7	278.4
77.5°	209.8	201.3	188.4	175.6	171.3
80°	137.0	132.8	128.5	124.2	119.9
82.5°	81.4	81.4	81.4	81.4	81.4
85°	42.8	47.1	51.4	55.7	60.0
87.5°	25.7	25.7	30.0	34.3	38.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)