

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: P563250

Luminaire Tested: FSR-24-4-LD4-3LO-35-UNV-80-85-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563250  
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-LD4-3LO-35-UNV-80-85-EDD-90  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR PC ENVIRONM  
SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

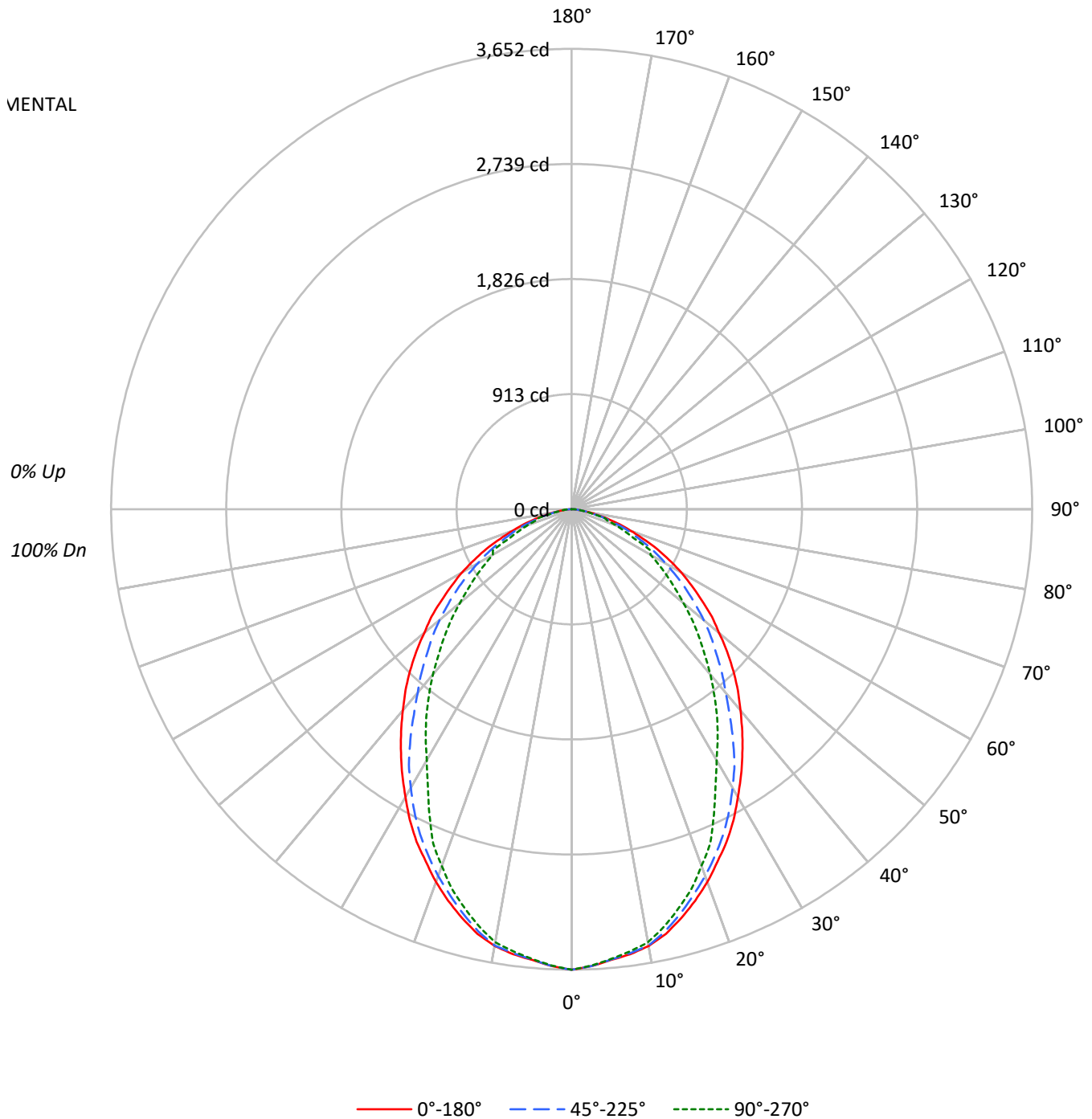
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7170.0 lumens  
Efficiency: N/A  
Efficacy: 102.1 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): 70.2  
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°	4914	4914	4914
5°	4847	4842	4836
10°	4805	4800	4765
15°	4676	4629	4564
20°	4504	4432	4311
25°	4319	4225	3962
30°	4093	3962	3569
35°	3877	3662	3301
40°	3656	3337	3003
45°	3447	3085	2715
50°	3191	2864	2422
55°	2951	2595	2169
60°	2704	2318	1943
65°	2379	2030	1721
70°	1960	1777	1462
75°	1559	1361	1427
80°	1047	982	916
85°	651	783	912

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3447 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	340.0	4.7
10°-20°	933.0	13.0
20°-30°	1291.7	18.0
30°-40°	1377.4	19.2
40°-50°	1256.6	17.5
50°-60°	984.4	13.7
60°-70°	641.6	8.9
70°-80°	284.3	4.0
80°-90°	61.0	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°	2564.8	35.8
0°-40°	3942.1	55.0
0°-60°	6183.1	86.2
0°-90°	7170.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7170.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3652	3652	3652	3652	3652	
5°	3589	3585	3585	3580	3580	341
15°	3357	3357	3323	3289	3276	944
25°	2909	2892	2846	2744	2668	1336
35°	2360	2343	2229	2060	2010	1476
45°	1811	1773	1621	1486	1427	1395
55°	1258	1220	1106	975	925	1129
65°	747	705	638	650	540	736
75°	300	279	262	249	274	321
85°	42	46	51	55	59	59
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3652.3	3652.3	3652.3	3652.3	3652.3
2.5°	3627.0	3627.0	3627.0	3622.7	3622.7
5°	3589.0	3584.7	3584.7	3580.5	3580.5
7.5°	3559.4	3555.2	3551.0	3546.7	3538.3
10°	3517.2	3517.2	3513.0	3491.9	3487.6
12.5°	3449.6	3445.4	3428.5	3399.0	3390.5
15°	3356.7	3356.7	3323.0	3289.2	3276.5
17.5°	3255.4	3251.2	3209.0	3175.2	3158.3
20°	3145.6	3137.2	3095.0	3040.1	3010.5
22.5°	3023.2	3023.2	2972.5	2900.7	2871.2
25°	2909.2	2892.3	2845.8	2744.5	2668.5
27.5°	2778.3	2752.9	2702.3	2558.7	2470.1
30°	2634.7	2622.1	2550.3	2364.5	2296.9
32.5°	2499.6	2478.5	2402.5	2208.3	2153.4
35°	2360.3	2343.4	2229.4	2060.5	2009.8
37.5°	2220.9	2199.8	2056.3	1921.2	1857.8
40°	2081.6	2056.3	1900.0	1777.6	1710.0
42.5°	1950.7	1916.9	1764.9	1634.0	1558.0
45°	1811.4	1773.4	1621.4	1486.3	1427.1
47.5°	1672.0	1638.3	1498.9	1359.6	1292.0
50°	1524.3	1494.7	1368.0	1228.7	1156.9
52.5°	1401.8	1355.4	1232.9	1093.6	1034.5
55°	1258.2	1220.2	1106.2	975.4	924.7
57.5°	1127.4	1089.4	983.8	861.4	819.1
60°	1004.9	950.0	861.4	755.8	722.0
62.5°	869.8	827.6	751.6	662.9	705.1
65°	747.3	705.1	637.6	650.2	540.5
67.5°	612.2	591.1	532.0	472.9	456.0
70°	498.2	472.9	451.8	388.5	371.6
72.5°	396.9	371.6	342.0	308.2	295.6
75°	299.8	278.7	261.8	249.1	274.5
77.5°	206.9	198.4	185.8	173.1	168.9
80°	135.1	130.9	126.7	122.4	118.2
82.5°	80.2	80.2	80.2	80.2	80.2
85°	42.2	46.4	50.7	54.9	59.1
87.5°	25.3	25.3	29.6	33.8	38.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)