

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: P562933

Luminaire Tested: FSR-24-4-LD4-2STD-40-UNV-80-86-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562933  
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-80-86-EDD  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR PC ENVIRON  
SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

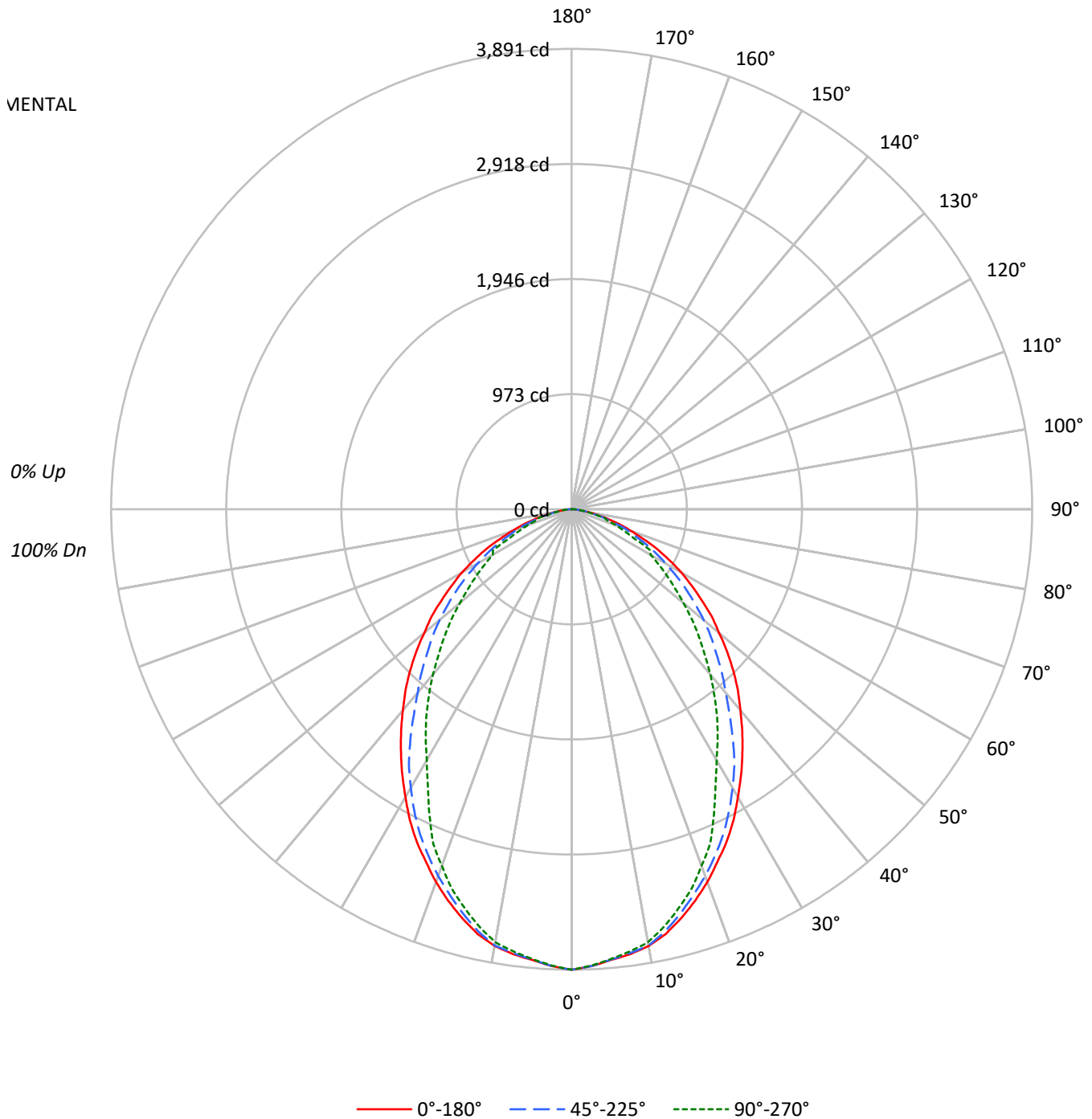
Lumens per Lamp: N/A  
Luminaire Lumens: 7639.0 lumens  
Efficiency: N/A  
Efficacy: 114.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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



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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°	5236	5236	5236
5°	5164	5158	5152
10°	5120	5114	5077
15°	4982	4931	4863
20°	4799	4721	4592
25°	4601	4501	4221
30°	4361	4221	3802
35°	4130	3901	3517
40°	3895	3556	3200
45°	3672	3287	2893
50°	3399	3051	2580
55°	3145	2765	2311
60°	2881	2470	2070
65°	2535	2163	1833
70°	2088	1893	1557
75°	1660	1450	1520
80°	1116	1046	976
85°	695	834	973

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3672 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	362.2	4.7
10°-20°	994.1	13.0
20°-30°	1376.2	18.0
30°-40°	1467.5	19.2
40°-50°	1338.8	17.5
50°-60°	1048.8	13.7
60°-70°	683.6	8.9
70°-80°	302.8	4.0
80°-90°	65.0	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°	2732.5	35.8
0°-40°	4200.0	55.0
0°-60°	6587.6	86.2
0°-90°	7639.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7639.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3891	3891	3891	3891	3891	
5°	3824	3819	3819	3815	3815	363
15°	3576	3576	3540	3504	3491	1005
25°	3100	3082	3032	2924	2843	1423
35°	2515	2497	2375	2195	2141	1572
45°	1930	1889	1727	1584	1520	1487
55°	1341	1300	1179	1039	985	1202
65°	796	751	679	693	576	785
75°	319	297	279	265	292	342
85°	45	50	54	58	63	62
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3891.2	3891.2	3891.2	3891.2	3891.2
2.5°	3864.2	3864.2	3864.2	3859.7	3859.7
5°	3823.7	3819.2	3819.2	3814.7	3814.7
7.5°	3792.2	3787.7	3783.2	3778.7	3769.7
10°	3747.3	3747.3	3742.8	3720.3	3715.8
12.5°	3675.3	3670.8	3652.8	3621.3	3612.3
15°	3576.3	3576.3	3540.3	3504.3	3490.8
17.5°	3468.3	3463.8	3418.9	3382.9	3364.9
20°	3351.4	3342.4	3297.4	3238.9	3207.4
22.5°	3220.9	3220.9	3166.9	3090.5	3059.0
25°	3099.5	3081.5	3032.0	2924.0	2843.1
27.5°	2960.0	2933.0	2879.0	2726.1	2631.6
30°	2807.1	2793.6	2717.1	2519.2	2447.2
32.5°	2663.1	2640.6	2559.6	2352.7	2294.2
35°	2514.7	2496.7	2375.2	2195.3	2141.3
37.5°	2366.2	2343.7	2190.8	2046.8	1979.3
40°	2217.8	2190.8	2024.3	1893.9	1821.9
42.5°	2078.3	2042.3	1880.4	1740.9	1659.9
45°	1929.9	1889.4	1727.4	1583.5	1520.5
47.5°	1781.4	1745.4	1597.0	1448.5	1376.5
50°	1624.0	1592.5	1457.5	1309.1	1232.6
52.5°	1493.5	1444.0	1313.6	1165.1	1102.1
55°	1340.6	1300.1	1178.6	1039.2	985.2
57.5°	1201.1	1160.6	1048.2	917.7	872.7
60°	1070.6	1012.2	917.7	805.2	769.2
62.5°	926.7	881.7	800.7	706.3	751.2
65°	796.2	751.2	679.3	692.8	575.8
67.5°	652.3	629.8	566.8	503.8	485.8
70°	530.8	503.8	481.3	413.9	395.9
72.5°	422.9	395.9	364.4	328.4	314.9
75°	319.4	296.9	278.9	265.4	292.4
77.5°	220.4	211.4	197.9	184.4	179.9
80°	144.0	139.5	135.0	130.5	126.0
82.5°	85.5	85.5	85.5	85.5	85.5
85°	45.0	49.5	54.0	58.5	63.0
87.5°	27.0	27.0	31.5	36.0	40.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)