

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: P563576

Luminaire Tested: FSR-24-4-LD4-3STD-50-UNV-80-88-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563576  
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-LD4-3STD-50-UNV-80-88-EDD-90  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .500 CLEAR PC ENVIRON  
SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

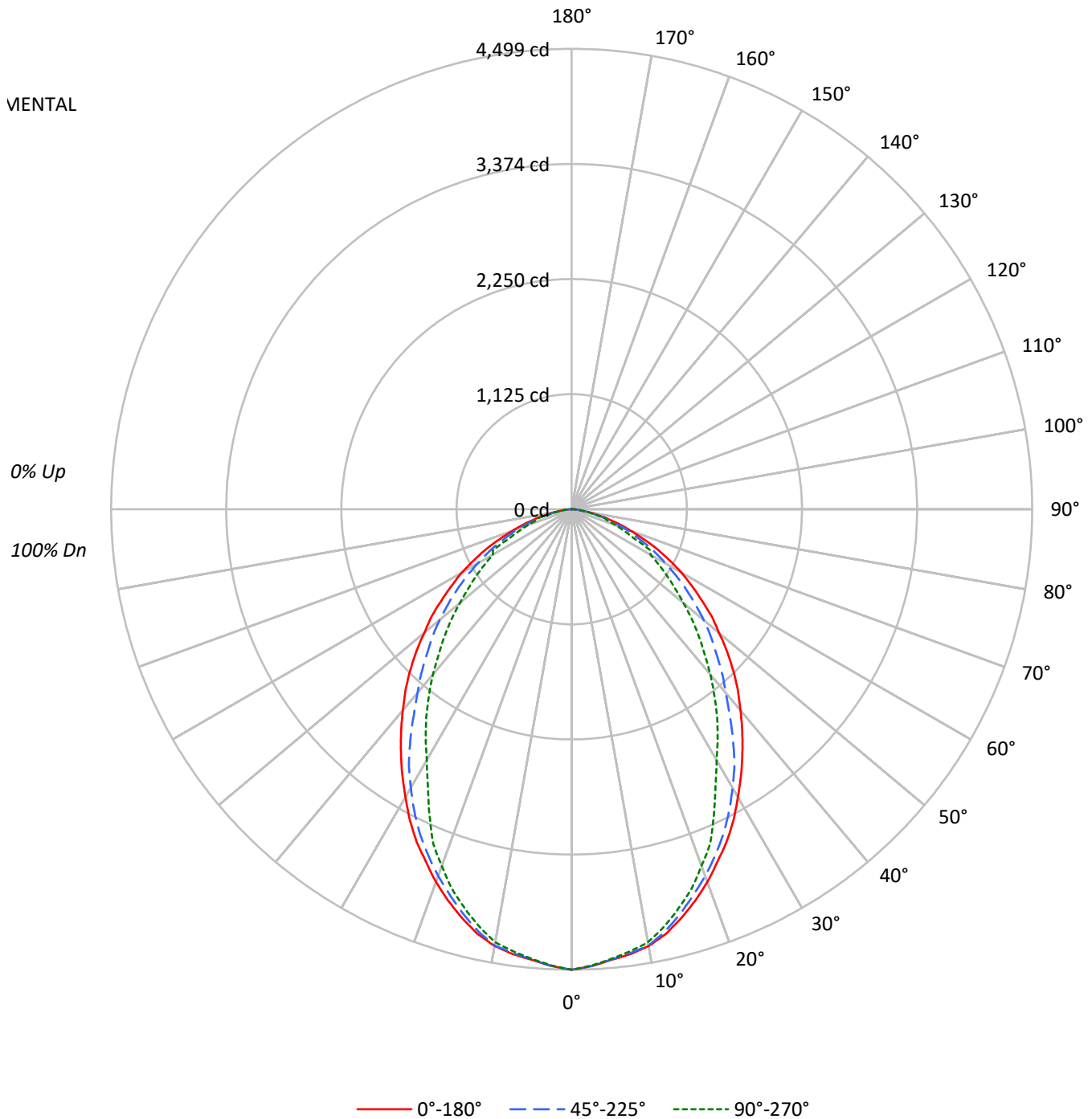
Lumens per Lamp: N/A  
Luminaire Lumens: 8833.0 lumens  
Efficiency: N/A  
Efficacy: 88.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 99.9  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	6054	6054	6054
5°	5972	5965	5958
10°	5920	5913	5870
15°	5760	5702	5623
20°	5549	5459	5310
25°	5321	5205	4880
30°	5043	4881	4396
35°	4776	4511	4067
40°	4504	4111	3700
45°	4246	3801	3346
50°	3931	3528	2983
55°	3636	3197	2672
60°	3331	2855	2394
65°	2931	2500	2120
70°	2415	2190	1801
75°	1920	1677	1758
80°	1290	1209	1128
85°	803	963	1124

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4246 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	418.8	4.7
10°-20°	1149.5	13.0
20°-30°	1591.3	18.0
30°-40°	1696.8	19.2
40°-50°	1548.0	17.5
50°-60°	1212.7	13.7
60°-70°	790.4	8.9
70°-80°	350.2	4.0
80°-90°	75.2	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°	3159.6	35.8
0°-40°	4856.5	55.0
0°-60°	7617.2	86.2
0°-90°	8833.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8833.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4499	4499	4499	4499	4499	
5°	4421	4416	4416	4411	4411	420
15°	4135	4135	4094	4052	4036	1163
25°	3584	3563	3506	3381	3287	1645
35°	2908	2887	2746	2538	2476	1818
45°	2232	2185	1997	1831	1758	1719
55°	1550	1503	1363	1202	1139	1390
65°	921	869	785	801	666	907
75°	369	343	322	307	338	396
85°	52	57	62	68	73	72
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4499.4	4499.4	4499.4	4499.4	4499.4
2.5°	4468.2	4468.2	4468.2	4463.0	4463.0
5°	4421.4	4416.2	4416.2	4411.0	4411.0
7.5°	4385.0	4379.8	4374.6	4369.4	4359.0
10°	4333.0	4333.0	4327.8	4301.8	4296.5
12.5°	4249.7	4244.5	4223.7	4187.3	4176.9
15°	4135.3	4135.3	4093.7	4052.1	4036.5
17.5°	4010.5	4005.3	3953.2	3911.6	3890.8
20°	3875.2	3864.8	3812.8	3745.2	3708.8
22.5°	3724.4	3724.4	3661.9	3573.5	3537.1
25°	3583.9	3563.1	3505.9	3381.1	3287.4
27.5°	3422.7	3391.5	3329.0	3152.2	3043.0
30°	3245.8	3230.2	3141.8	2912.9	2829.7
32.5°	3079.4	3053.4	2959.7	2720.5	2652.8
35°	2907.7	2886.9	2746.5	2538.4	2476.0
37.5°	2736.1	2710.1	2533.2	2366.7	2288.7
40°	2564.4	2533.2	2340.7	2189.9	2106.7
42.5°	2403.2	2361.5	2174.3	2013.0	1919.4
45°	2231.5	2184.7	1997.4	1831.0	1758.2
47.5°	2059.8	2018.2	1846.6	1674.9	1591.7
50°	1877.8	1841.4	1685.3	1513.7	1425.2
52.5°	1726.9	1669.7	1518.9	1347.2	1274.4
55°	1550.1	1503.3	1362.8	1201.6	1139.2
57.5°	1388.8	1342.0	1212.0	1061.1	1009.1
60°	1238.0	1170.4	1061.1	931.1	889.5
62.5°	1071.5	1019.5	925.9	816.7	868.7
65°	920.7	868.7	785.4	801.1	665.8
67.5°	754.2	728.2	655.4	582.6	561.8
70°	613.8	582.6	556.6	478.6	457.7
72.5°	489.0	457.7	421.3	379.7	364.1
75°	369.3	343.3	322.5	306.9	338.1
77.5°	254.9	244.5	228.9	213.3	208.1
80°	166.5	161.3	156.0	150.8	145.6
82.5°	98.8	98.8	98.8	98.8	98.8
85°	52.0	57.2	62.4	67.6	72.8
87.5°	31.2	31.2	36.4	41.6	46.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)