

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: P563248

Luminaire Tested: FSR-24-4-LD4-3LO-35-UNV-80-84-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563248  
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-80-84-EDD-90  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .125 CLEAR PC ENVIRONM  
SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

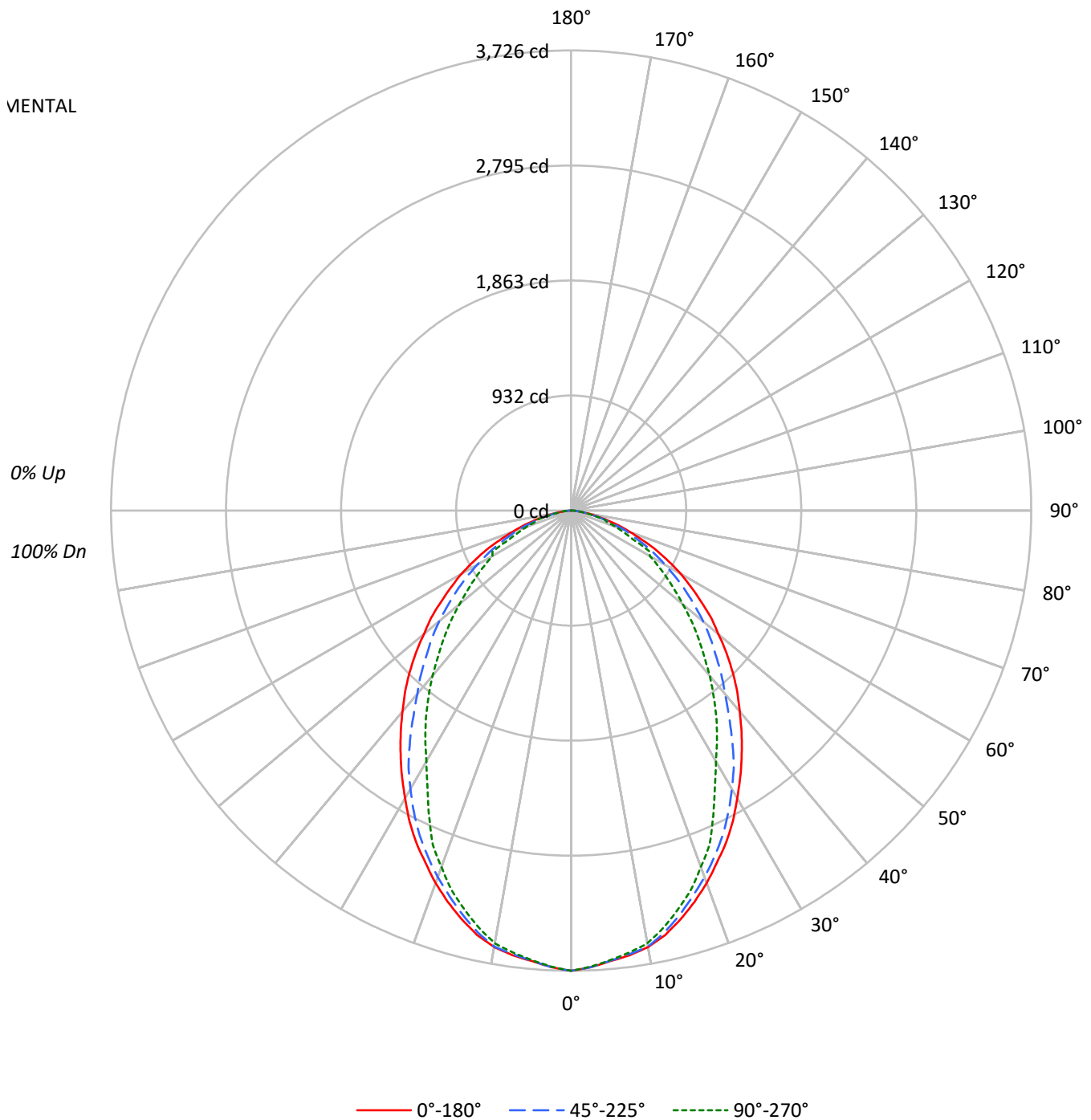
Lumens per Lamp: N/A  
Luminaire Lumens: 7315.0 lumens  
Efficiency: N/A  
Efficacy: 104.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 70.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	5014	5014	5014
5°	4945	4940	4934
10°	4902	4897	4861
15°	4770	4722	4656
20°	4595	4521	4398
25°	4406	4310	4042
30°	4176	4042	3641
35°	3955	3736	3368
40°	3730	3405	3064
45°	3516	3148	2770
50°	3255	2921	2471
55°	3011	2647	2213
60°	2759	2365	1982
65°	2428	2071	1755
70°	2000	1813	1491
75°	1590	1389	1456
80°	1068	1001	934
85°	665	798	931

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3516 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	346.9	4.7
10°-20°	951.9	13.0
20°-30°	1317.9	18.0
30°-40°	1405.2	19.2
40°-50°	1282.0	17.5
50°-60°	1004.3	13.7
60°-70°	654.6	8.9
70°-80°	290.0	4.0
80°-90°	62.3	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°	2616.6	35.8
0°-40°	4021.9	55.0
0°-60°	6308.2	86.2
0°-90°	7315.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7315.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3726	3726	3726	3726	3726	
5°	3662	3657	3657	3653	3653	348
15°	3425	3425	3390	3356	3343	963
25°	2968	2951	2903	2800	2722	1363
35°	2408	2391	2274	2102	2050	1505
45°	1848	1809	1654	1516	1456	1424
55°	1284	1245	1129	995	943	1151
65°	762	719	650	663	551	751
75°	306	284	267	254	280	328
85°	43	47	52	56	60	60
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3726.2	3726.2	3726.2	3726.2	3726.2
2.5°	3700.3	3700.3	3700.3	3696.0	3696.0
5°	3661.5	3657.2	3657.2	3652.9	3652.9
7.5°	3631.4	3627.1	3622.8	3618.5	3609.9
10°	3588.3	3588.3	3584.0	3562.5	3558.2
12.5°	3519.4	3515.1	3497.9	3467.7	3459.1
15°	3424.6	3424.6	3390.2	3355.7	3342.8
17.5°	3321.2	3316.9	3273.9	3239.4	3222.2
20°	3209.2	3200.6	3157.5	3101.5	3071.4
22.5°	3084.3	3084.3	3032.6	2959.4	2929.2
25°	2968.0	2950.8	2903.4	2800.0	2722.5
27.5°	2834.5	2808.6	2756.9	2610.5	2520.0
30°	2688.0	2675.1	2601.9	2412.3	2343.4
32.5°	2550.2	2528.6	2451.1	2252.9	2196.9
35°	2408.0	2390.8	2274.5	2102.2	2050.5
37.5°	2265.9	2244.3	2097.9	1960.0	1895.4
40°	2123.7	2097.9	1938.5	1813.5	1744.6
42.5°	1990.2	1955.7	1800.6	1667.1	1589.5
45°	1848.0	1809.2	1654.2	1516.3	1456.0
47.5°	1705.9	1671.4	1529.2	1387.1	1318.2
50°	1555.1	1524.9	1395.7	1253.5	1180.3
52.5°	1430.2	1382.8	1257.8	1115.7	1055.4
55°	1283.7	1244.9	1128.6	995.1	943.4
57.5°	1150.2	1111.4	1003.7	878.8	835.7
60°	1025.2	969.2	878.8	771.1	736.6
62.5°	887.4	844.3	766.8	676.3	719.4
65°	762.5	719.4	650.5	663.4	551.4
67.5°	624.6	603.1	542.8	482.5	465.2
70°	508.3	482.5	460.9	396.3	379.1
72.5°	404.9	379.1	348.9	314.5	301.5
75°	305.8	284.3	267.1	254.2	280.0
77.5°	211.1	202.5	189.5	176.6	172.3
80°	137.8	133.5	129.2	124.9	120.6
82.5°	81.8	81.8	81.8	81.8	81.8
85°	43.1	47.4	51.7	56.0	60.3
87.5°	25.8	25.8	30.2	34.5	38.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)