

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: P564152

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

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P564152  
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-LD4-4STD-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**

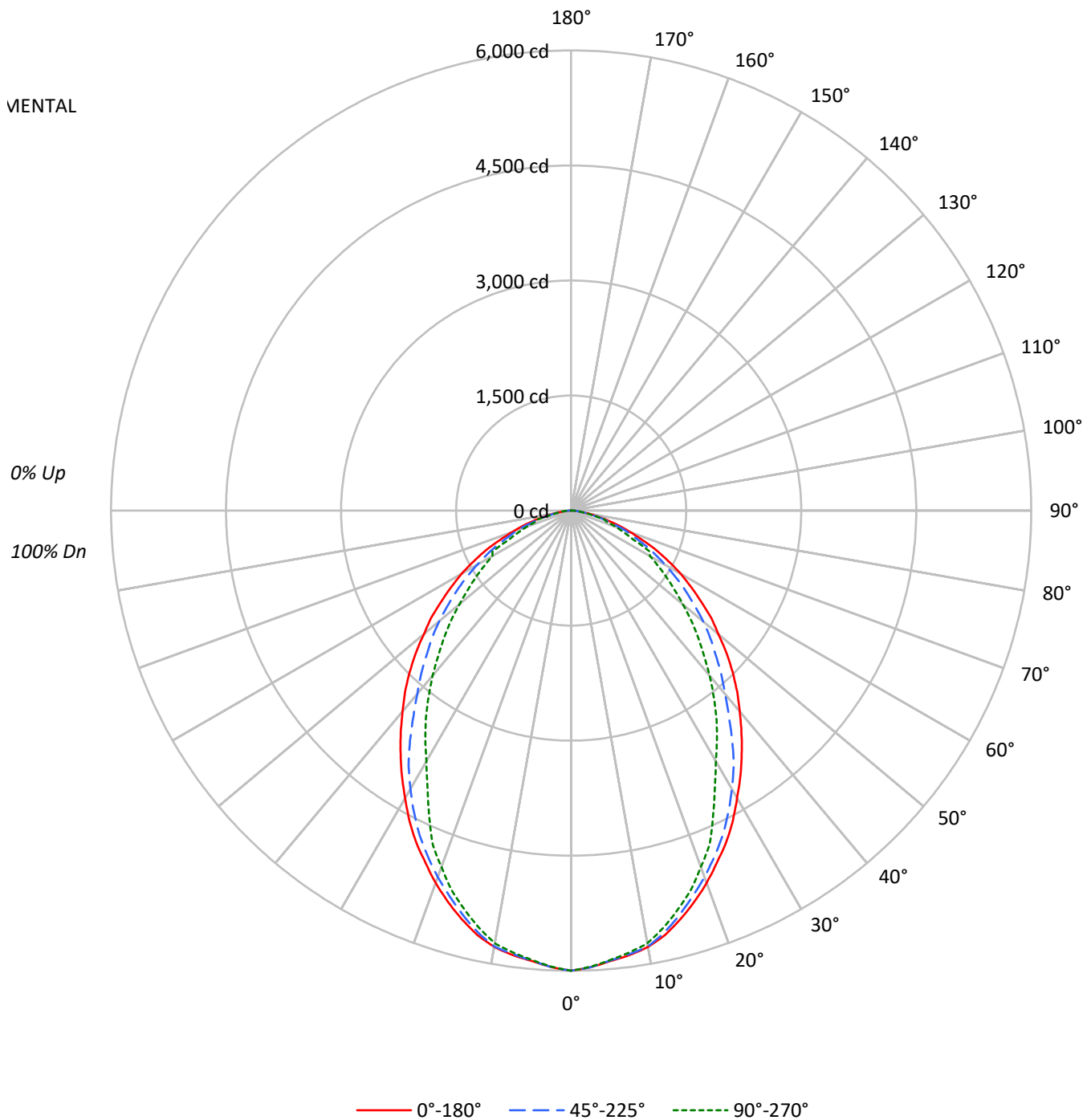
Lumens per Lamp: N/A  
Luminaire Lumens: 11778.0 lumens  
Efficiency: N/A  
Efficacy: 88.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 133.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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



TEST NUMBER: P564152

CATALOG NUMBER: FSR-24-4-LD4-4STD-50-UNV-80-88-EDD-90

### Luminous Intensity Polar Plot





TEST NUMBER: P564152

CATALOG NUMBER: FSR-24-4-LD4-4STD-50-UNV-80-88-EDD-90

**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°	8072	8072	8072
5°	7963	7953	7944
10°	7894	7884	7827
15°	7681	7604	7497
20°	7399	7279	7081
25°	7095	6940	6508
30°	6724	6509	5862
35°	6368	6015	5423
40°	6006	5482	4934
45°	5662	5068	4461
50°	5241	4704	3978
55°	4849	4263	3563
60°	4442	3807	3192
65°	3909	3334	2826
70°	3220	2919	2401
75°	2560	2235	2344
80°	1719	1612	1505
85°	1071	1284	1499

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5662 cd/sqm



TEST NUMBER: P564152

CATALOG NUMBER: FSR-24-4-LD4-4STD-50-UNV-80-88-EDD-90

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	558.5	4.7
10°-20°	1532.7	13.0
20°-30°	2121.9	18.0
30°-40°	2262.6	19.2
40°-50°	2064.1	17.5
50°-60°	1617.1	13.7
60°-70°	1053.9	8.9
70°-80°	466.9	4.0
80°-90°	100.3	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°	4213.1	35.8
0°-40°	6475.7	55.0
0°-60°	10156.9	86.2
0°-90°	11778.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11778.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	6000	6000	6000	6000	6000	
5°	5896	5889	5889	5882	5882	560
15°	5514	5514	5459	5403	5382	1550
25°	4779	4751	4675	4508	4384	2194
35°	3877	3849	3662	3385	3302	2424
45°	2976	2913	2663	2441	2344	2292
55°	2067	2004	1817	1602	1519	1854
65°	1228	1158	1047	1068	888	1210
75°	492	458	430	409	451	528
85°	69	76	83	90	97	96
90°	0	0	0	0	0	



TEST NUMBER: P564152

CATALOG NUMBER: FSR-24-4-LD4-4STD-50-UNV-80-88-EDD-90

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5999.6	5999.6	5999.6	5999.6	5999.6
2.5°	5957.9	5957.9	5957.9	5951.0	5951.0
5°	5895.5	5888.6	5888.6	5881.6	5881.6
7.5°	5847.0	5840.0	5833.1	5826.2	5812.3
10°	5777.6	5777.6	5770.7	5736.0	5729.1
12.5°	5666.6	5659.7	5632.0	5583.4	5569.5
15°	5514.0	5514.0	5458.6	5403.1	5382.3
17.5°	5347.6	5340.6	5271.3	5215.8	5188.1
20°	5167.2	5153.4	5084.0	4993.8	4945.3
22.5°	4966.1	4966.1	4882.9	4765.0	4716.4
25°	4778.8	4751.1	4674.8	4508.3	4383.5
27.5°	4563.8	4522.2	4439.0	4203.2	4057.5
30°	4328.0	4307.2	4189.3	3884.1	3773.1
32.5°	4106.1	4071.4	3946.5	3627.5	3537.3
35°	3877.2	3849.4	3662.2	3384.7	3301.5
37.5°	3648.3	3613.6	3377.8	3155.8	3051.8
40°	3419.4	3377.8	3121.2	2920.0	2809.0
42.5°	3204.4	3148.9	2899.2	2684.2	2559.3
45°	2975.5	2913.1	2663.4	2441.4	2344.3
47.5°	2746.6	2691.1	2462.2	2233.4	2122.4
50°	2503.9	2455.3	2247.2	2018.3	1900.4
52.5°	2302.7	2226.4	2025.3	1796.4	1699.3
55°	2066.9	2004.5	1817.2	1602.2	1519.0
57.5°	1851.9	1789.5	1616.1	1414.9	1345.6
60°	1650.7	1560.6	1414.9	1241.5	1186.0
62.5°	1428.8	1359.4	1234.6	1088.9	1158.3
65°	1227.7	1158.3	1047.3	1068.1	887.8
67.5°	1005.7	971.0	873.9	776.8	749.1
70°	818.4	776.8	742.1	638.1	610.4
72.5°	652.0	610.4	561.8	506.3	485.5
75°	492.4	457.8	430.0	409.2	450.8
77.5°	339.9	326.0	305.2	284.4	277.4
80°	221.9	215.0	208.1	201.1	194.2
82.5°	131.8	131.8	131.8	131.8	131.8
85°	69.4	76.3	83.2	90.2	97.1
87.5°	41.6	41.6	48.6	55.5	62.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)