

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: P563956

Luminaire Tested: FSR-24-4-LD4-4LO-50-UNV-80-86-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563956  
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-LD4-4LO-50-UNV-80-86-EDD-90  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR PC ENVIRON  
SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

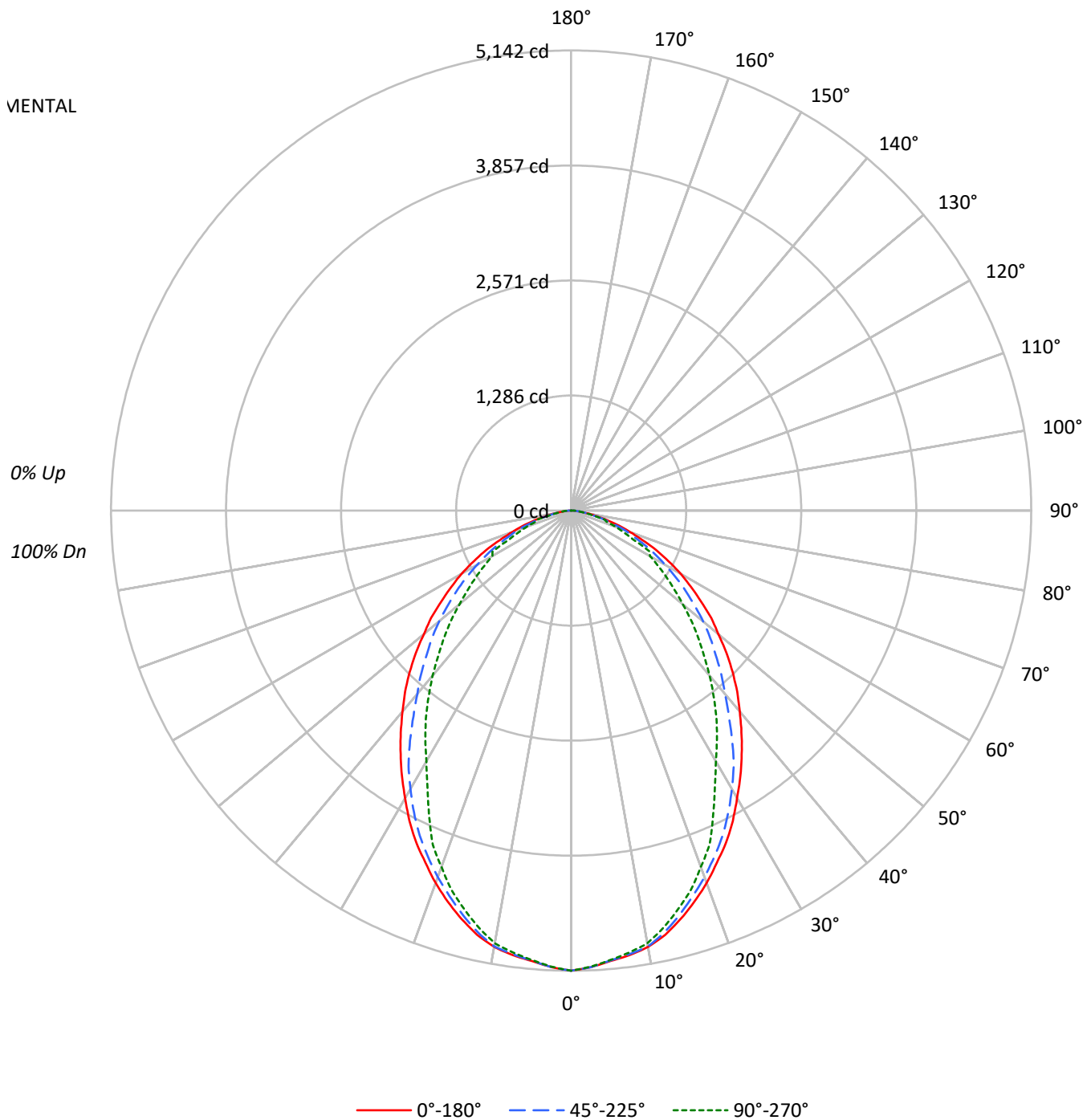
Lumens per Lamp: N/A  
Luminaire Lumens: 10094.0 lumens  
Efficiency: N/A  
Efficacy: 107.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 93.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	6918	6918	6918
5°	6824	6816	6808
10°	6765	6757	6708
15°	6583	6516	6425
20°	6341	6239	6068
25°	6080	5948	5577
30°	5763	5578	5024
35°	5458	5155	4647
40°	5147	4698	4228
45°	4852	4343	3823
50°	4492	4031	3409
55°	4155	3653	3054
60°	3807	3263	2735
65°	3350	2858	2422
70°	2759	2502	2058
75°	2194	1916	2009
80°	1474	1382	1289
85°	917	1101	1284

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4852 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	478.6	4.7
10°-20°	1313.6	13.0
20°-30°	1818.5	18.0
30°-40°	1939.1	19.2
40°-50°	1769.0	17.5
50°-60°	1385.9	13.7
60°-70°	903.3	8.9
70°-80°	400.2	4.0
80°-90°	85.9	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°	3610.7	35.8
0°-40°	5549.8	55.0
0°-60°	8704.7	86.2
0°-90°	10094.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10094.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5142	5142	5142	5142	5142	
5°	5053	5047	5047	5041	5041	480
15°	4726	4726	4678	4630	4613	1329
25°	4096	4072	4006	3864	3757	1880
35°	3323	3299	3138	2901	2829	2077
45°	2550	2497	2283	2092	2009	1964
55°	1771	1718	1557	1373	1302	1589
65°	1052	993	898	915	761	1037
75°	422	392	368	351	386	452
85°	59	65	71	77	83	82
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5141.7	5141.7	5141.7	5141.7	5141.7
2.5°	5106.1	5106.1	5106.1	5100.1	5100.1
5°	5052.6	5046.6	5046.6	5040.7	5040.7
7.5°	5011.0	5005.0	4999.1	4993.1	4981.3
10°	4951.5	4951.5	4945.6	4915.9	4909.9
12.5°	4856.4	4850.5	4826.7	4785.1	4773.2
15°	4725.7	4725.7	4678.1	4630.5	4612.7
17.5°	4583.0	4577.0	4517.6	4470.1	4446.3
20°	4428.4	4416.6	4357.1	4279.8	4238.2
22.5°	4256.1	4256.1	4184.7	4083.7	4042.1
25°	4095.6	4071.8	4006.4	3863.7	3756.7
27.5°	3911.3	3875.6	3804.3	3602.2	3477.4
30°	3709.2	3691.4	3590.3	3328.8	3233.7
32.5°	3519.0	3489.3	3382.3	3108.8	3031.6
35°	3322.8	3299.0	3138.5	2900.8	2829.4
37.5°	3126.7	3096.9	2894.8	2704.6	2615.5
40°	2930.5	2894.8	2674.9	2502.5	2407.4
42.5°	2746.2	2698.7	2484.7	2300.4	2193.4
45°	2550.1	2496.6	2282.6	2092.4	2009.1
47.5°	2353.9	2306.4	2110.2	1914.0	1818.9
50°	2145.9	2104.3	1925.9	1729.8	1628.7
52.5°	1973.5	1908.1	1735.7	1539.6	1456.3
55°	1771.4	1717.9	1557.4	1373.1	1301.8
57.5°	1587.1	1533.6	1385.0	1212.6	1153.2
60°	1414.7	1337.4	1212.6	1064.0	1016.5
62.5°	1224.5	1165.1	1058.1	933.2	992.7
65°	1052.1	992.7	897.6	915.4	760.9
67.5°	861.9	832.2	749.0	665.8	642.0
70°	701.4	665.8	636.0	546.9	523.1
72.5°	558.8	523.1	481.5	433.9	416.1
75°	422.0	392.3	368.5	350.7	386.4
77.5°	291.3	279.4	261.5	243.7	237.8
80°	190.2	184.3	178.3	172.4	166.4
82.5°	112.9	112.9	112.9	112.9	112.9
85°	59.4	65.4	71.3	77.3	83.2
87.5°	35.7	35.7	41.6	47.6	53.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)