

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: P563595

Luminaire Tested: FSR-24-4-LD4-3STD-50-UNV-81-94-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563595  
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-81-94-EDD  
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

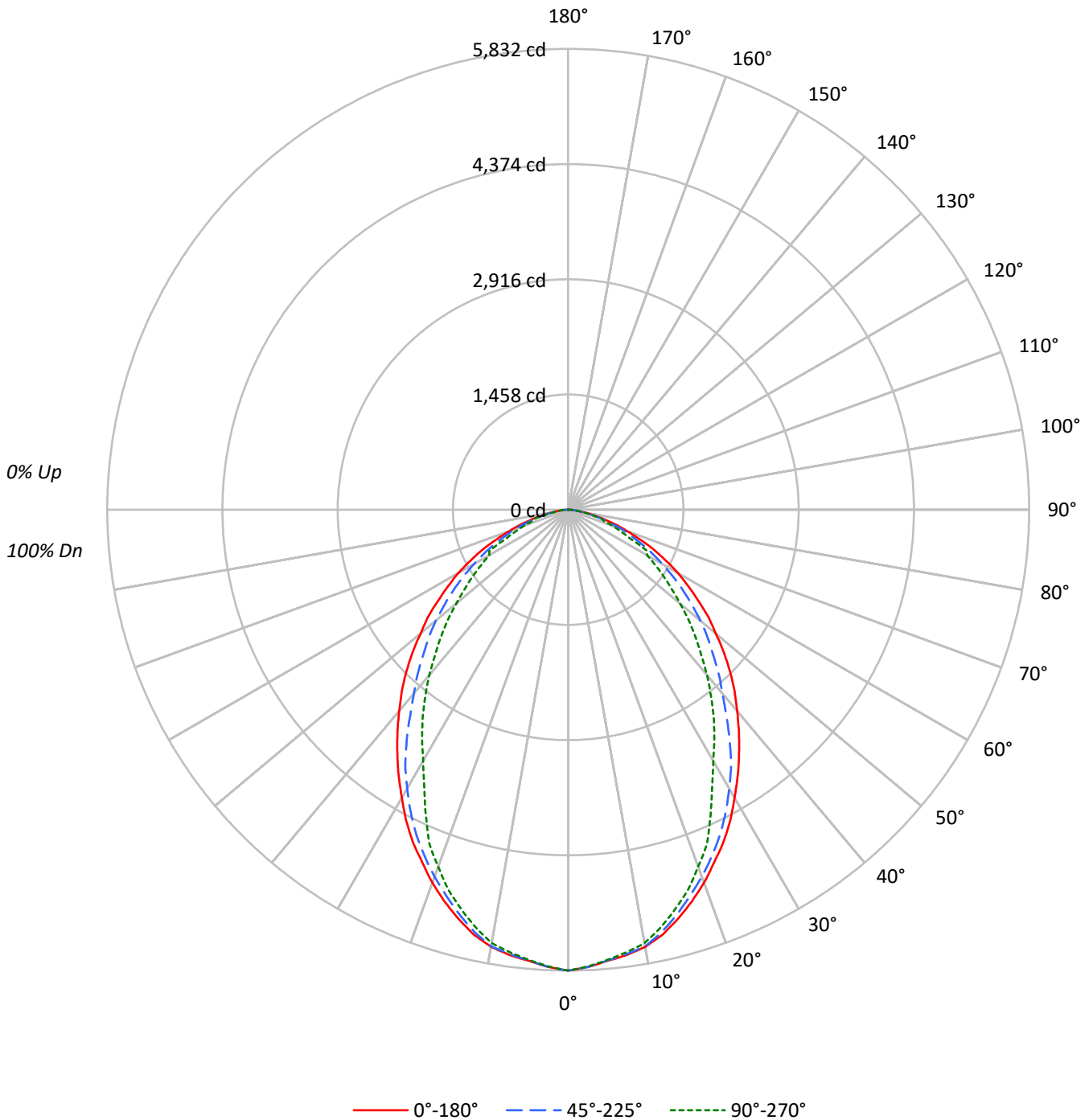
Lumens per Lamp: N/A  
Luminaire Lumens: 11450.0 lumens  
Efficiency: N/A  
Efficacy: 114.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 99.9  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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																		
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°	7848	7848	7848
5°	7741	7732	7723
10°	7674	7665	7609
15°	7467	7392	7288
20°	7193	7077	6884
25°	6897	6747	6326
30°	6537	6327	5699
35°	6191	5848	5272
40°	5839	5329	4796
45°	5504	4927	4337
50°	5095	4573	3867
55°	4713	4144	3464
60°	4318	3701	3103
65°	3800	3242	2748
70°	3130	2838	2334
75°	2489	2174	2279
80°	1672	1567	1463
85°	1041	1249	1457

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5504 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	542.9	4.7
10°-20°	1490.0	13.0
20°-30°	2062.8	18.0
30°-40°	2199.6	19.2
40°-50°	2006.6	17.5
50°-60°	1572.1	13.7
60°-70°	1024.6	8.9
70°-80°	453.9	4.0
80°-90°	97.5	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°	4095.8	35.8
0°-40°	6295.3	55.0
0°-60°	9874.0	86.2
0°-90°	11450.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11450.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5832	5832	5832	5832	5832	
5°	5731	5725	5725	5718	5718	544
15°	5360	5360	5306	5253	5232	1507
25°	4646	4619	4545	4383	4261	2133
35°	3769	3742	3560	3290	3210	2356
45°	2893	2832	2589	2373	2279	2228
55°	2009	1949	1767	1558	1477	1802
65°	1194	1126	1018	1038	863	1176
75°	479	445	418	398	438	513
85°	67	74	81	88	94	94
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5832.5	5832.5	5832.5	5832.5	5832.5
2.5°	5792.0	5792.0	5792.0	5785.3	5785.3
5°	5731.3	5724.6	5724.6	5717.9	5717.9
7.5°	5684.1	5677.4	5670.7	5663.9	5650.4
10°	5616.7	5616.7	5610.0	5576.3	5569.5
12.5°	5508.8	5502.1	5475.1	5427.9	5414.4
15°	5360.5	5360.5	5306.5	5252.6	5232.4
17.5°	5198.7	5191.9	5124.5	5070.5	5043.6
20°	5023.3	5009.9	4942.4	4854.8	4807.6
22.5°	4827.8	4827.8	4746.9	4632.3	4585.1
25°	4645.8	4618.8	4544.6	4382.8	4261.4
27.5°	4436.7	4396.3	4315.4	4086.1	3944.5
30°	4207.5	4187.2	4072.6	3775.9	3668.1
32.5°	3991.7	3958.0	3836.6	3526.5	3438.8
35°	3769.2	3742.2	3560.2	3290.5	3209.5
37.5°	3546.7	3513.0	3283.7	3068.0	2966.8
40°	3324.2	3283.7	3034.2	2838.7	2730.8
42.5°	3115.1	3061.2	2818.5	2609.4	2488.1
45°	2892.6	2832.0	2589.2	2373.4	2279.0
47.5°	2670.1	2616.2	2393.7	2171.2	2063.3
50°	2434.1	2386.9	2184.7	1962.1	1847.5
52.5°	2238.6	2164.4	1968.9	1746.4	1652.0
55°	2009.3	1948.7	1766.6	1557.6	1476.7
57.5°	1800.3	1739.6	1571.1	1375.5	1308.1
60°	1604.8	1517.1	1375.5	1207.0	1153.0
62.5°	1389.0	1321.6	1200.2	1058.6	1126.0
65°	1193.5	1126.0	1018.2	1038.4	863.1
67.5°	977.7	944.0	849.6	755.2	728.2
70°	795.6	755.2	721.5	620.3	593.4
72.5°	633.8	593.4	546.2	492.2	472.0
75°	478.7	445.0	418.1	397.8	438.3
77.5°	330.4	316.9	296.7	276.5	269.7
80°	215.8	209.0	202.3	195.5	188.8
82.5°	128.1	128.1	128.1	128.1	128.1
85°	67.4	74.2	80.9	87.7	94.4
87.5°	40.5	40.5	47.2	53.9	60.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)