

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: P562610

Luminaire Tested: FSR-24-4-LD4-2HI-50-UNV-80-85-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562610  
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-LD4-2HI-50-UNV-80-85-EDD-90  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR PC ENVIRONM  
SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

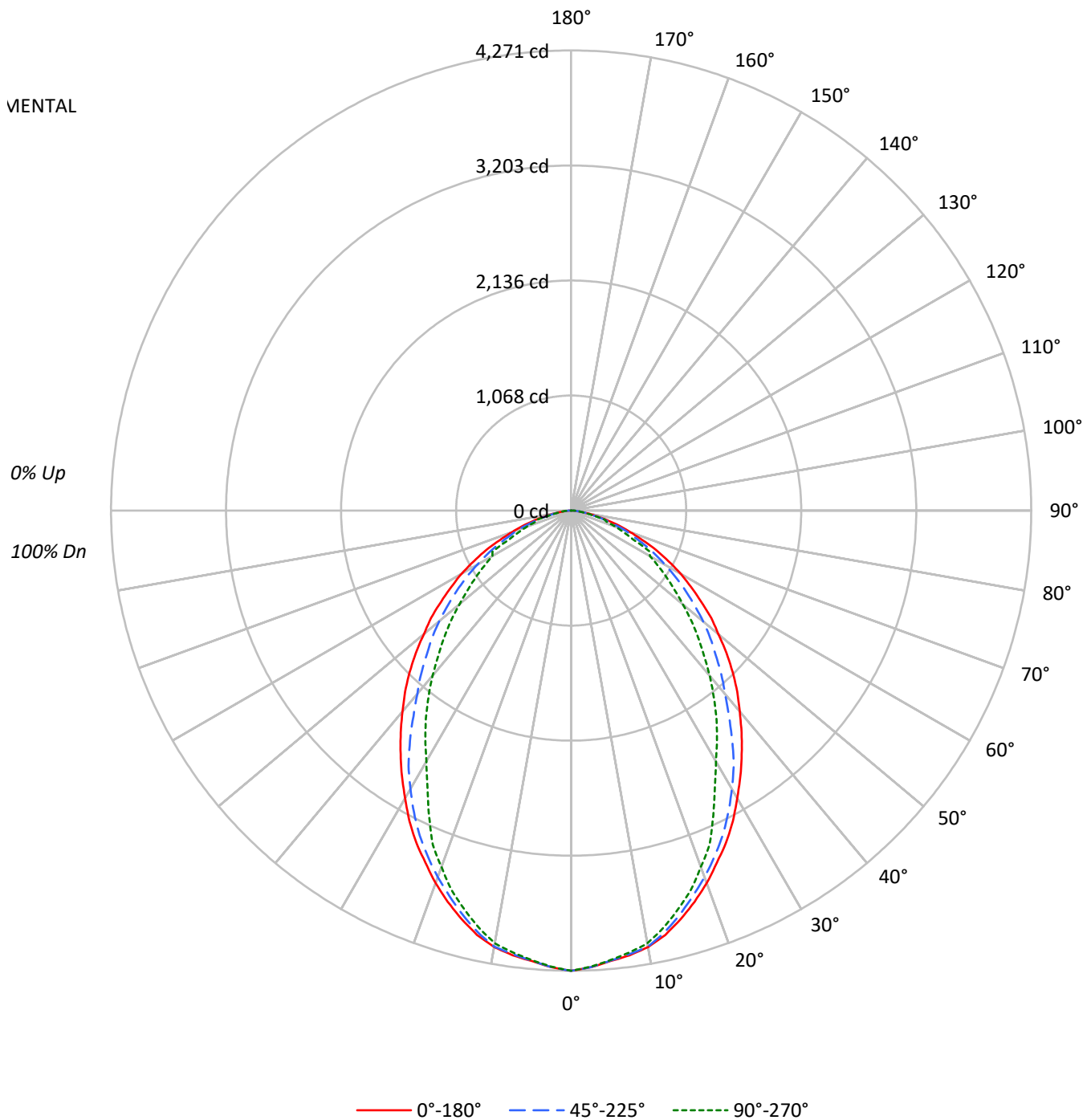
Lumens per Lamp: N/A  
Luminaire Lumens: 8385.0 lumens  
Efficiency: N/A  
Efficacy: 97.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 86.4  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	5747	5747	5747
5°	5669	5662	5655
10°	5620	5613	5572
15°	5468	5413	5337
20°	5267	5182	5041
25°	5051	4941	4633
30°	4787	4634	4173
35°	4534	4282	3861
40°	4276	3903	3512
45°	4031	3608	3176
50°	3731	3349	2832
55°	3452	3035	2537
60°	3162	2711	2272
65°	2783	2374	2012
70°	2292	2078	1709
75°	1823	1591	1669
80°	1224	1148	1072
85°	763	915	1067

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4031 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	397.6	4.7
10°-20°	1091.2	13.0
20°-30°	1510.6	18.0
30°-40°	1610.8	19.2
40°-50°	1469.5	17.5
50°-60°	1151.2	13.7
60°-70°	750.3	8.9
70°-80°	332.4	4.0
80°-90°	71.4	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°	2999.4	35.8
0°-40°	4610.2	55.0
0°-60°	7230.9	86.2
0°-90°	8385.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8385.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4271	4271	4271	4271	4271	
5°	4197	4192	4192	4187	4187	398
15°	3926	3926	3886	3847	3832	1104
25°	3402	3382	3328	3210	3121	1562
35°	2760	2740	2607	2410	2350	1726
45°	2118	2074	1896	1738	1669	1632
55°	1472	1427	1294	1141	1081	1320
65°	874	825	746	760	632	861
75°	351	326	306	291	321	376
85°	49	54	59	64	69	68
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4271.2	4271.2	4271.2	4271.2	4271.2
2.5°	4241.6	4241.6	4241.6	4236.6	4236.6
5°	4197.1	4192.2	4192.2	4187.3	4187.3
7.5°	4162.6	4157.6	4152.7	4147.8	4137.9
10°	4113.2	4113.2	4108.3	4083.6	4078.6
12.5°	4034.2	4029.3	4009.5	3974.9	3965.1
15°	3925.6	3925.6	3886.1	3846.6	3831.7
17.5°	3807.1	3802.1	3752.7	3713.2	3693.5
20°	3678.7	3668.8	3619.4	3555.2	3520.7
22.5°	3535.5	3535.5	3476.2	3392.3	3357.7
25°	3402.2	3382.4	3328.1	3209.6	3120.7
27.5°	3249.1	3219.5	3160.2	2992.3	2888.6
30°	3081.2	3066.4	2982.4	2765.2	2686.2
32.5°	2923.2	2898.5	2809.6	2582.5	2518.3
35°	2760.2	2740.5	2607.2	2409.7	2350.4
37.5°	2597.3	2572.6	2404.7	2246.7	2172.6
40°	2434.3	2404.7	2222.0	2078.8	1999.8
42.5°	2281.3	2241.8	2064.0	1910.9	1822.1
45°	2118.3	2073.9	1896.1	1738.1	1669.0
47.5°	1955.4	1915.9	1752.9	1590.0	1511.0
50°	1782.5	1748.0	1599.9	1436.9	1353.0
52.5°	1639.4	1585.0	1441.8	1278.9	1209.8
55°	1471.5	1427.0	1293.7	1140.6	1081.4
57.5°	1318.4	1274.0	1150.5	1007.3	957.9
60°	1175.2	1111.0	1007.3	883.9	844.4
62.5°	1017.2	967.8	878.9	775.2	824.6
65°	874.0	824.6	745.6	760.4	632.0
67.5°	716.0	691.3	622.2	553.0	533.3
70°	582.7	553.0	528.3	454.3	434.5
72.5°	464.2	434.5	400.0	360.5	345.6
75°	350.6	325.9	306.1	291.3	321.0
77.5°	242.0	232.1	217.3	202.5	197.5
80°	158.0	153.1	148.1	143.2	138.3
82.5°	93.8	93.8	93.8	93.8	93.8
85°	49.4	54.3	59.3	64.2	69.1
87.5°	29.6	29.6	34.6	39.5	44.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)