

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: P563643

Luminaire Tested: FSR-24-4-LD4-4HI-35-UNV-80-94-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563643  
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-LD4-4HI-35-UNV-80-94-EDD  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

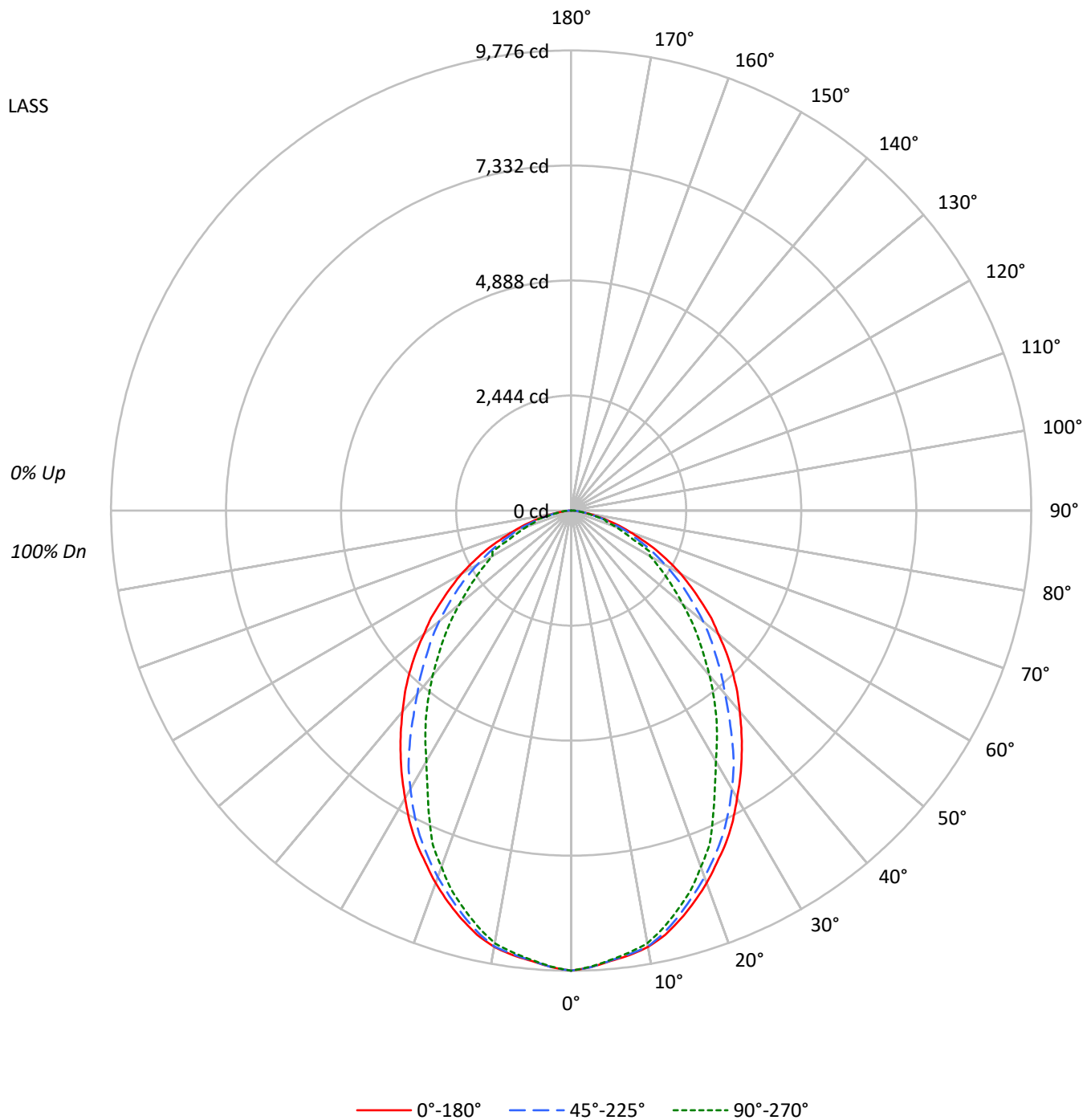
Lumens per Lamp: N/A  
Luminaire Lumens: 19191.0 lumens  
Efficiency: N/A  
Efficacy: 111.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 172.8  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	13153	13153	13153
5°	12974	12959	12944
10°	12862	12846	12754
15°	12515	12389	12216
20°	12055	11861	11537
25°	11560	11308	10603
30°	10956	10605	9552
35°	10377	9801	8836
40°	9786	8932	8039
45°	9225	8258	7268
50°	8540	7664	6482
55°	7900	6946	5806
60°	7238	6204	5200
65°	6368	5433	4606
70°	5246	4757	3912
75°	4171	3643	3819
80°	2802	2627	2452
85°	1744	2093	2442

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 9225 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	910.0	4.7
10°-20°	2497.4	13.0
20°-30°	3457.4	18.0
30°-40°	3686.6	19.2
40°-50°	3363.3	17.5
50°-60°	2634.9	13.7
60°-70°	1717.3	8.9
70°-80°	760.8	4.0
80°-90°	163.3	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°	6864.8	35.8
0°-40°	10551.4	55.0
0°-60°	16549.5	86.2
0°-90°	19191.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	19191.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	9776	9776	9776	9776	9776	
5°	9606	9595	9595	9584	9584	912
15°	8984	8984	8894	8804	8770	2526
25°	7787	7741	7617	7346	7142	3575
35°	6317	6272	5967	5515	5379	3950
45°	4848	4747	4340	3978	3820	3735
55°	3368	3266	2961	2611	2475	3021
65°	2000	1887	1706	1740	1447	1971
75°	802	746	701	667	735	860
85°	113	124	136	147	158	157
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	9775.6	9775.6	9775.6	9775.6	9775.6
2.5°	9707.8	9707.8	9707.8	9696.5	9696.5
5°	9606.1	9594.8	9594.8	9583.5	9583.5
7.5°	9527.0	9515.7	9504.4	9493.1	9470.5
10°	9414.0	9414.0	9402.7	9346.2	9334.9
12.5°	9233.2	9221.9	9176.7	9097.6	9075.0
15°	8984.5	8984.5	8894.1	8803.7	8769.8
17.5°	8713.3	8702.0	8589.0	8498.6	8453.4
20°	8419.5	8396.9	8283.9	8136.9	8057.8
22.5°	8091.7	8091.7	7956.1	7764.0	7684.9
25°	7786.6	7741.4	7617.1	7345.9	7142.4
27.5°	7436.3	7368.5	7232.8	6848.6	6611.3
30°	7052.0	7018.1	6826.0	6328.7	6147.9
32.5°	6690.4	6633.9	6430.4	5910.6	5763.7
35°	6317.4	6272.2	5967.1	5515.0	5379.4
37.5°	5944.5	5888.0	5503.7	5142.1	4972.6
40°	5571.5	5503.7	5085.6	4757.9	4577.0
42.5°	5221.2	5130.8	4724.0	4373.6	4170.2
45°	4848.3	4746.6	4339.7	3978.1	3819.8
47.5°	4475.3	4384.9	4012.0	3639.0	3458.2
50°	4079.8	4000.7	3661.6	3288.7	3096.6
52.5°	3752.0	3627.7	3300.0	2927.0	2768.8
55°	3367.8	3266.1	2960.9	2610.6	2475.0
57.5°	3017.5	2915.7	2633.2	2305.5	2192.5
60°	2689.7	2542.8	2305.5	2022.9	1932.5
62.5°	2328.1	2215.1	2011.6	1774.3	1887.3
65°	2000.3	1887.3	1706.5	1740.4	1446.6
67.5°	1638.7	1582.2	1424.0	1265.7	1220.5
70°	1333.6	1265.7	1209.2	1039.7	994.5
72.5°	1062.3	994.5	915.4	825.0	791.1
75°	802.4	745.9	700.7	666.8	734.6
77.5°	553.8	531.2	497.3	463.4	452.1
80°	361.6	350.3	339.0	327.7	316.4
82.5°	214.7	214.7	214.7	214.7	214.7
85°	113.0	124.3	135.6	146.9	158.2
87.5°	67.8	67.8	79.1	90.4	101.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)