

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: P563770

Luminaire Tested: FSR-24-4-LD4-4HI-50-UNV-80-94-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563770  
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-50-UNV-80-94-EDD-90  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

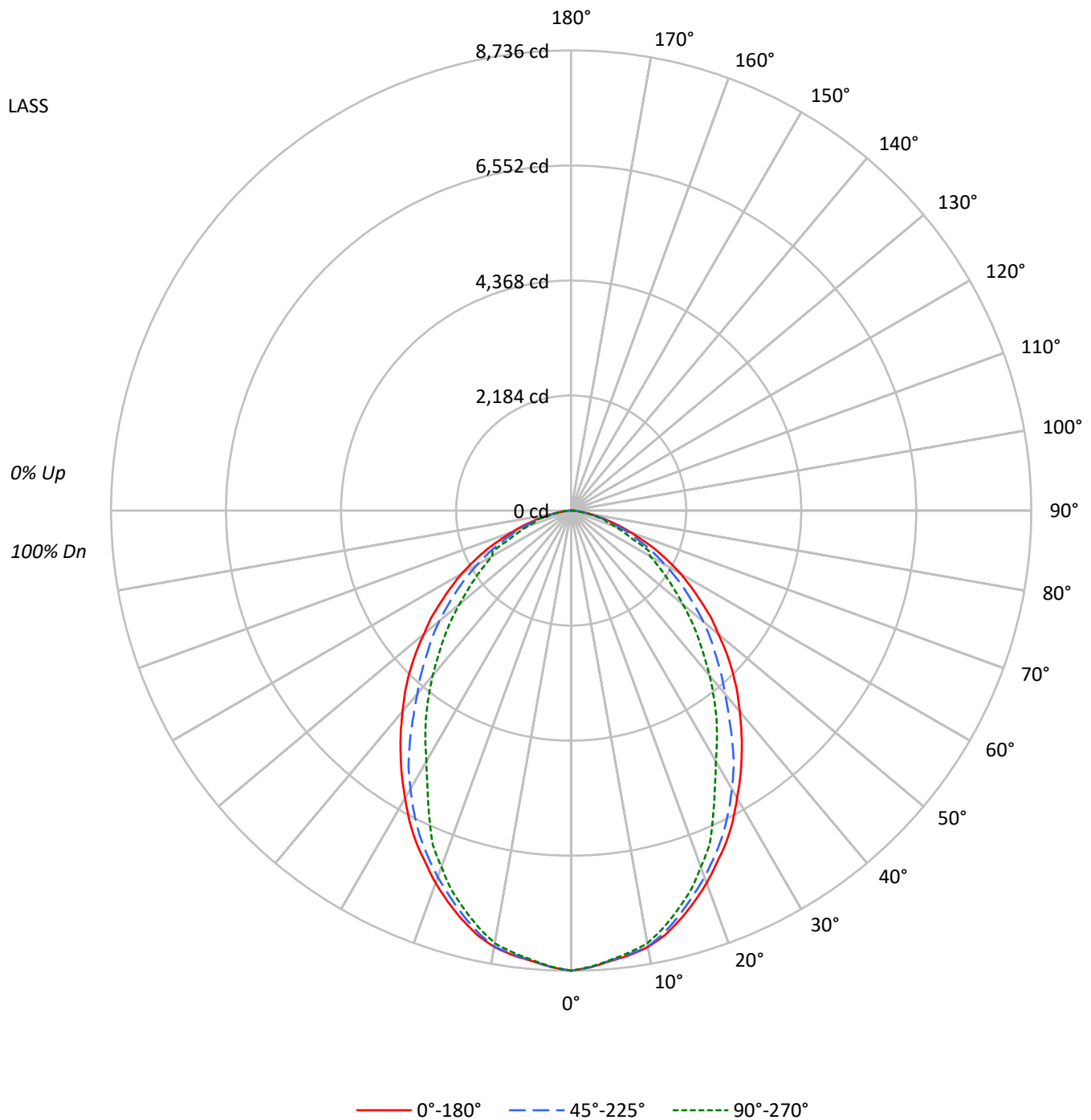
Lumens per Lamp: N/A  
Luminaire Lumens: 17149.0 lumens  
Efficiency: N/A  
Efficacy: 99.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 172.8  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	11754	11754	11754
5°	11594	11580	11567
10°	11493	11479	11397
15°	11183	11071	10916
20°	10773	10599	10310
25°	10330	10105	9475
30°	9791	9477	8535
35°	9272	8758	7896
40°	8745	7982	7184
45°	8244	7379	6495
50°	7631	6849	5792
55°	7059	6207	5188
60°	6468	5544	4647
65°	5691	4855	4115
70°	4688	4251	3496
75°	3727	3255	3412
80°	2504	2348	2191
85°	1559	1871	2183

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 8244 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	813.2	4.7
10°-20°	2231.6	13.0
20°-30°	3089.5	18.0
30°-40°	3294.4	19.2
40°-50°	3005.4	17.5
50°-60°	2354.5	13.7
60°-70°	1534.6	8.9
70°-80°	679.9	4.0
80°-90°	146.0	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°	6134.3	35.8
0°-40°	9428.7	55.0
0°-60°	14788.6	86.2
0°-90°	17149.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	17149.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	8736	8736	8736	8736	8736	
5°	8584	8574	8574	8564	8564	815
15°	8029	8029	7948	7867	7837	2257
25°	6958	6918	6807	6564	6382	3194
35°	5645	5605	5332	4928	4807	3529
45°	4332	4242	3878	3555	3413	3337
55°	3009	2919	2646	2333	2212	2699
65°	1788	1686	1525	1555	1293	1762
75°	717	666	626	596	656	768
85°	101	111	121	131	141	140
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	8735.5	8735.5	8735.5	8735.5	8735.5
2.5°	8674.9	8674.9	8674.9	8664.8	8664.8
5°	8584.0	8573.9	8573.9	8563.8	8563.8
7.5°	8513.3	8503.2	8493.1	8483.0	8462.8
10°	8412.3	8412.3	8402.2	8351.7	8341.6
12.5°	8250.7	8240.6	8200.2	8129.5	8109.3
15°	8028.6	8028.6	7947.8	7867.0	7836.7
17.5°	7786.2	7776.1	7675.1	7594.3	7553.9
20°	7523.6	7503.4	7402.4	7271.1	7200.5
22.5°	7230.7	7230.7	7109.6	6937.9	6867.2
25°	6958.1	6917.7	6806.6	6564.2	6382.4
27.5°	6645.0	6584.4	6463.2	6119.9	5907.8
30°	6301.7	6271.4	6099.7	5655.3	5493.8
32.5°	5978.5	5928.0	5746.2	5281.7	5150.4
35°	5645.2	5604.8	5332.2	4928.2	4807.0
37.5°	5312.0	5261.5	4918.1	4595.0	4443.5
40°	4978.7	4918.1	4544.5	4251.6	4090.0
42.5°	4665.7	4584.9	4221.3	3908.2	3726.5
45°	4332.4	4241.5	3877.9	3554.8	3413.4
47.5°	3999.1	3918.3	3585.1	3251.8	3090.2
50°	3645.7	3575.0	3272.0	2938.8	2767.1
52.5°	3352.8	3241.7	2948.9	2615.6	2474.2
55°	3009.4	2918.6	2645.9	2332.8	2211.6
57.5°	2696.4	2605.5	2353.0	2060.2	1959.2
60°	2403.5	2272.2	2060.2	1807.7	1726.9
62.5°	2080.4	1979.4	1797.6	1585.5	1686.5
65°	1787.5	1686.5	1524.9	1555.2	1292.6
67.5°	1464.3	1413.8	1272.5	1131.1	1090.7
70°	1191.7	1131.1	1080.6	929.1	888.7
72.5°	949.3	888.7	818.0	737.2	706.9
75°	717.0	666.5	626.1	595.8	656.4
77.5°	494.8	474.6	444.3	414.1	404.0
80°	323.2	313.1	303.0	292.9	282.8
82.5°	191.9	191.9	191.9	191.9	191.9
85°	101.0	111.1	121.2	131.3	141.4
87.5°	60.6	60.6	70.7	80.8	90.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)