

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: P563612

Luminaire Tested: FSR-24-4-LD4-3STD-50-UNV-82-96-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563612  
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-82-96-EDD-90  
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

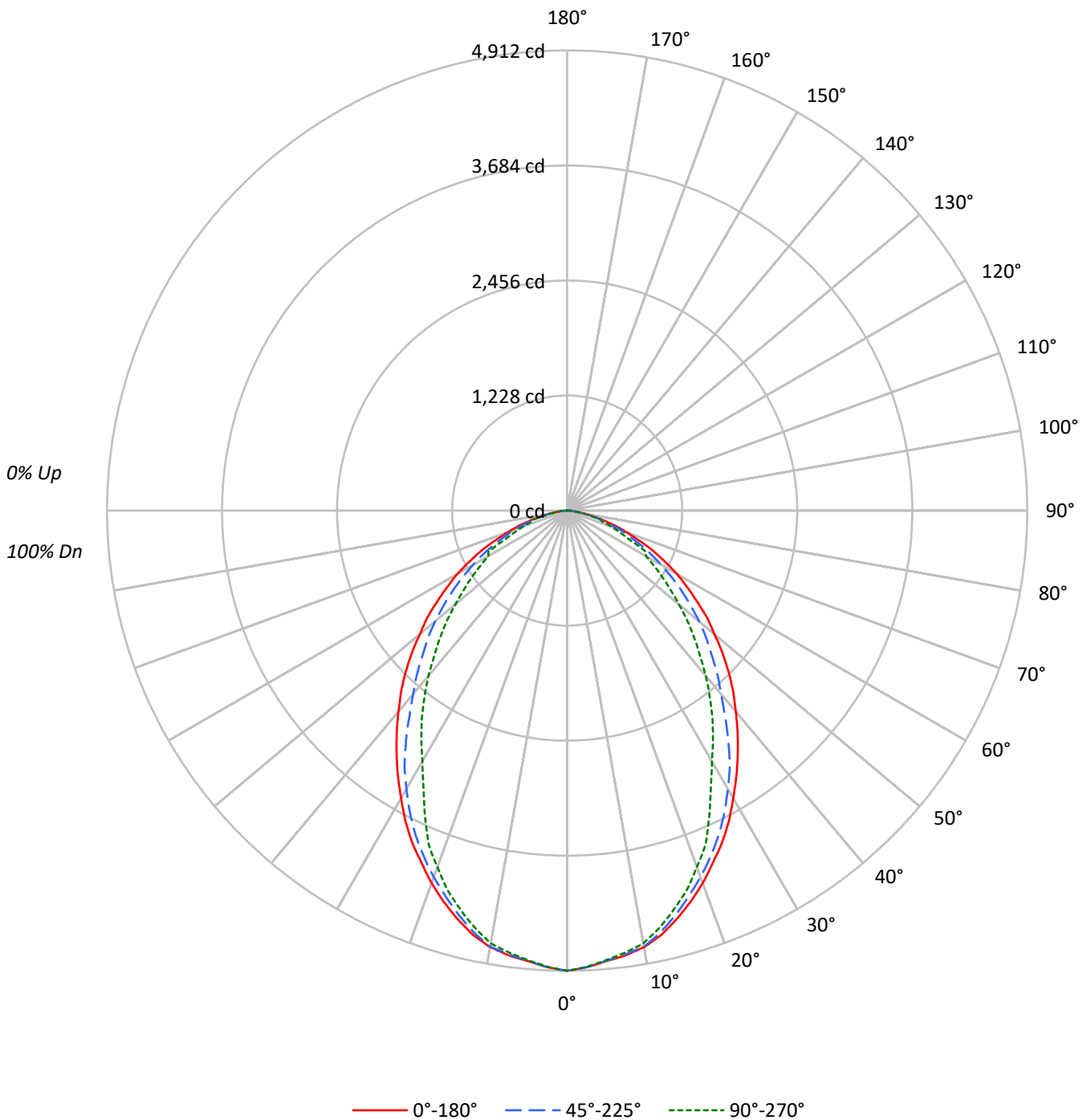
Lumens per Lamp: N/A  
Luminaire Lumens: 9644.0 lumens  
Efficiency: N/A  
Efficacy: 96.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 99.9  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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									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°	6610	6610	6610
5°	6520	6512	6505
10°	6463	6456	6409
15°	6289	6226	6139
20°	6058	5961	5798
25°	5809	5683	5329
30°	5506	5329	4800
35°	5215	4925	4440
40°	4918	4489	4040
45°	4636	4150	3653
50°	4291	3852	3257
55°	3970	3491	2917
60°	3637	3118	2613
65°	3200	2730	2314
70°	2636	2391	1966
75°	2096	1830	1919
80°	1408	1320	1232
85°	877	1053	1227

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4636 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	457.3	4.7
10°-20°	1255.0	13.0
20°-30°	1737.5	18.0
30°-40°	1852.6	19.2
40°-50°	1690.1	17.5
50°-60°	1324.1	13.7
60°-70°	863.0	8.9
70°-80°	382.3	4.0
80°-90°	82.1	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°	3449.7	35.8
0°-40°	5302.4	55.0
0°-60°	8316.6	86.2
0°-90°	9644.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9644.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4912	4912	4912	4912	4912	
5°	4827	4822	4822	4816	4816	458
15°	4515	4515	4470	4424	4407	1269
25°	3913	3890	3828	3692	3589	1796
35°	3175	3152	2999	2772	2703	1985
45°	2436	2385	2181	1999	1920	1877
55°	1692	1641	1488	1312	1244	1518
65°	1005	948	858	875	727	991
75°	403	375	352	335	369	432
85°	57	62	68	74	80	79
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4912.5	4912.5	4912.5	4912.5	4912.5
2.5°	4878.4	4878.4	4878.4	4872.8	4872.8
5°	4827.3	4821.7	4821.7	4816.0	4816.0
7.5°	4787.6	4781.9	4776.2	4770.5	4759.2
10°	4730.8	4730.8	4725.1	4696.7	4691.0
12.5°	4639.9	4634.2	4611.5	4571.8	4560.4
15°	4515.0	4515.0	4469.5	4424.1	4407.1
17.5°	4378.7	4373.0	4316.2	4270.8	4248.1
20°	4231.0	4219.7	4162.9	4089.0	4049.3
22.5°	4066.3	4066.3	3998.2	3901.6	3861.9
25°	3913.0	3890.3	3827.8	3691.5	3589.3
27.5°	3736.9	3702.9	3634.7	3441.6	3322.3
30°	3543.8	3526.8	3430.2	3180.4	3089.5
32.5°	3362.1	3333.7	3231.5	2970.2	2896.4
35°	3174.7	3152.0	2998.6	2771.5	2703.3
37.5°	2987.3	2958.9	2765.8	2584.0	2498.9
40°	2799.9	2765.8	2555.6	2391.0	2300.1
42.5°	2623.8	2578.4	2373.9	2197.9	2095.6
45°	2436.4	2385.3	2180.8	1999.1	1919.6
47.5°	2249.0	2203.5	2016.1	1828.7	1737.8
50°	2050.2	2010.4	1840.1	1652.7	1556.1
52.5°	1885.5	1823.0	1658.3	1470.9	1391.4
55°	1692.4	1641.3	1488.0	1311.9	1243.7
57.5°	1516.4	1465.2	1323.3	1158.6	1101.8
60°	1351.7	1277.8	1158.6	1016.6	971.1
62.5°	1169.9	1113.1	1010.9	891.6	948.4
65°	1005.2	948.4	857.6	874.6	726.9
67.5°	823.5	795.1	715.6	636.1	613.4
70°	670.1	636.1	607.7	522.5	499.8
72.5°	533.8	499.8	460.0	414.6	397.5
75°	403.2	374.8	352.1	335.1	369.1
77.5°	278.3	266.9	249.9	232.8	227.2
80°	181.7	176.1	170.4	164.7	159.0
82.5°	107.9	107.9	107.9	107.9	107.9
85°	56.8	62.5	68.2	73.8	79.5
87.5°	34.1	34.1	39.8	45.4	51.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)