

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: P590305

Luminaire Tested: FSR-24-2-LD4-2LO-50-UNV-81-88-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590305  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/8/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: FAIL-SAFE  
Catalog Number: FSR-24-2-LD4-2LO-50-UNV-81-88-EDD  
Description: 2X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

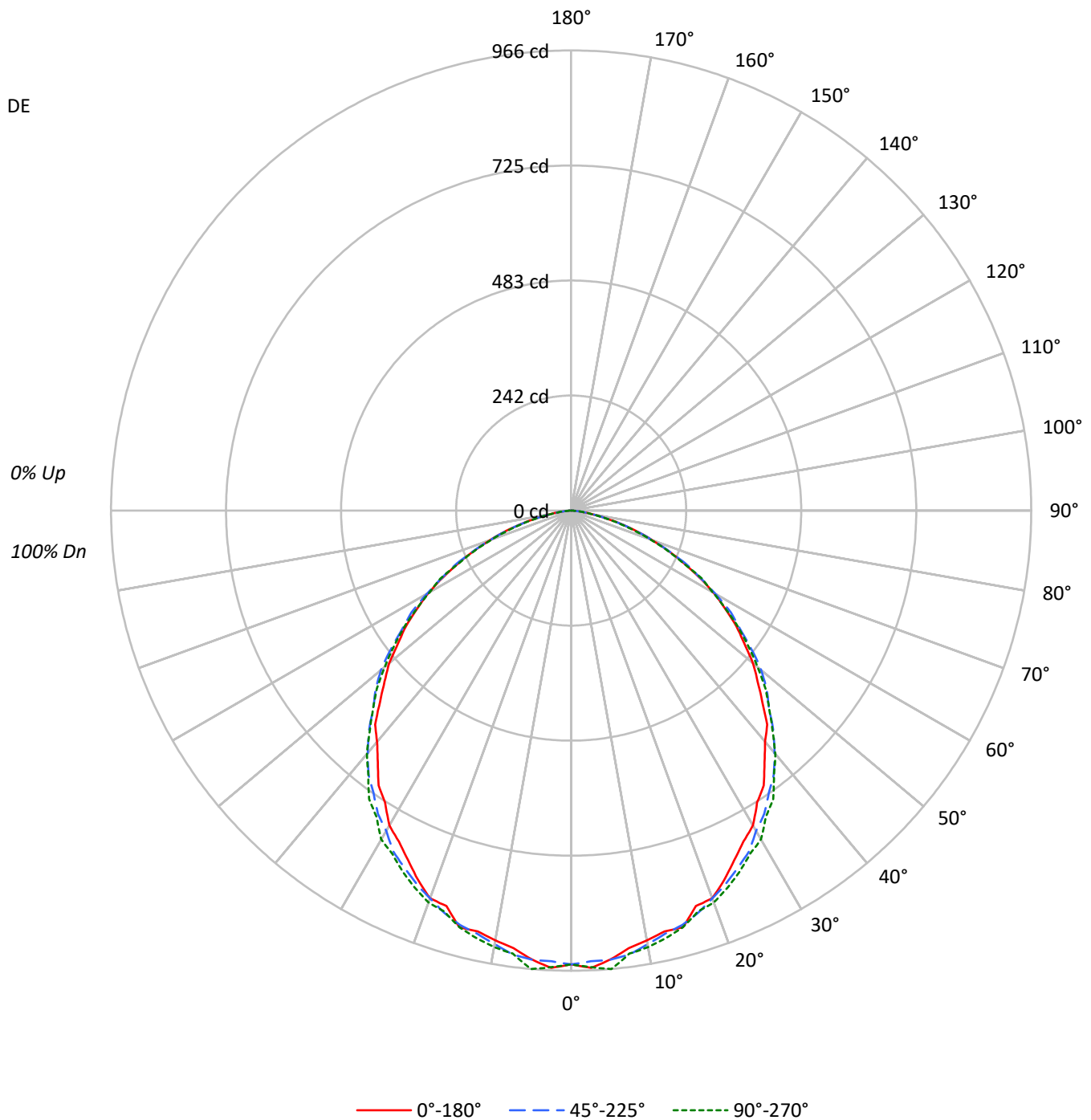
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2401.0 lumens  
Efficiency: N/A  
Efficacy: 102.6 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 23.4  
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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	2564	2564	2564
5°	2555	2556	2610
10°	2503	2525	2543
15°	2523	2509	2523
20°	2481	2481	2507
25°	2404	2457	2484
30°	2371	2413	2477
35°	2315	2376	2429
40°	2225	2333	2343
45°	2158	2235	2238
50°	2087	2181	2140
55°	1989	2027	2013
60°	1859	1878	1844
65°	1658	1700	1647
70°	1423	1427	1388
75°	1127	1124	1080
80°	755	735	705
85°	411	408	380

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 2292 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	89.6	3.7
10°-20°	254.0	10.6
20°-30°	380.5	15.8
30°-40°	451.0	18.8
40°-50°	451.8	18.8
50°-60°	383.5	16.0
60°-70°	258.6	10.8
70°-80°	113.6	4.7
80°-90°	18.5	0.8
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°	724.1	30.2
0°-40°	1175.0	48.9
0°-60°	2010.3	83.7
0°-90°	2401.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2401.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	953	953	953	953	953	
5°	946	944	946	943	966	89
15°	906	895	901	905	906	252
25°	810	814	827	838	836	374
35°	705	707	723	740	740	438
45°	567	578	587	602	588	439
55°	424	421	432	429	429	377
65°	260	257	267	257	259	259
75°	108	106	108	100	104	116
85°	13	13	13	13	12	19
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	952.7	952.7	952.7	952.7	952.7
2.5°	960.9	953.6	946.9	954.7	959.5
5°	945.9	943.7	946.3	943.4	966.2
7.5°	926.5	934.9	939.9	936.8	938.1
10°	916.1	913.2	924.1	931.7	930.6
12.5°	905.1	909.5	910.1	918.3	919.1
15°	905.7	895.2	900.7	905.4	905.8
17.5°	870.5	881.8	885.6	896.3	883.0
20°	866.2	857.9	866.2	877.1	875.4
22.5°	839.7	830.5	848.2	857.9	857.3
25°	809.7	814.2	827.4	838.3	836.5
27.5°	783.4	788.6	807.5	822.4	812.8
30°	763.1	760.5	776.5	789.8	797.2
32.5°	726.8	736.2	754.9	768.0	761.0
35°	704.8	706.9	723.3	740.0	739.5
37.5°	666.3	676.0	699.0	703.7	699.4
40°	633.5	643.2	664.0	669.0	666.9
42.5°	609.2	611.0	628.8	634.6	625.3
45°	567.0	577.6	587.2	602.3	588.1
47.5°	531.1	536.0	556.7	560.8	553.3
50°	498.5	500.3	521.0	516.0	511.1
52.5°	457.6	464.8	476.5	475.5	469.7
55°	423.9	421.0	432.1	429.2	429.0
57.5°	383.4	388.3	397.4	392.7	385.2
60°	345.5	345.6	349.0	343.7	342.7
62.5°	303.3	304.8	305.5	299.0	309.6
65°	260.4	257.0	267.0	256.8	258.6
67.5°	220.9	222.6	221.7	215.3	217.7
70°	180.8	183.0	181.4	174.2	176.4
72.5°	144.2	141.5	143.2	134.1	138.3
75°	108.4	106.2	108.1	100.5	103.9
77.5°	73.8	75.5	74.3	70.2	72.6
80°	48.7	47.4	47.4	45.0	45.5
82.5°	28.4	27.1	26.7	26.0	27.1
85°	13.3	12.9	13.2	12.8	12.3
87.5°	4.8	4.9	4.9	4.7	4.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)