

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: P589866

Luminaire Tested: FSR-24-2-LD4-1HI-35-UNV-82-94-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P589866  
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-LD4-1HI-35-UNV-82-94-EDD  
Description: 2X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

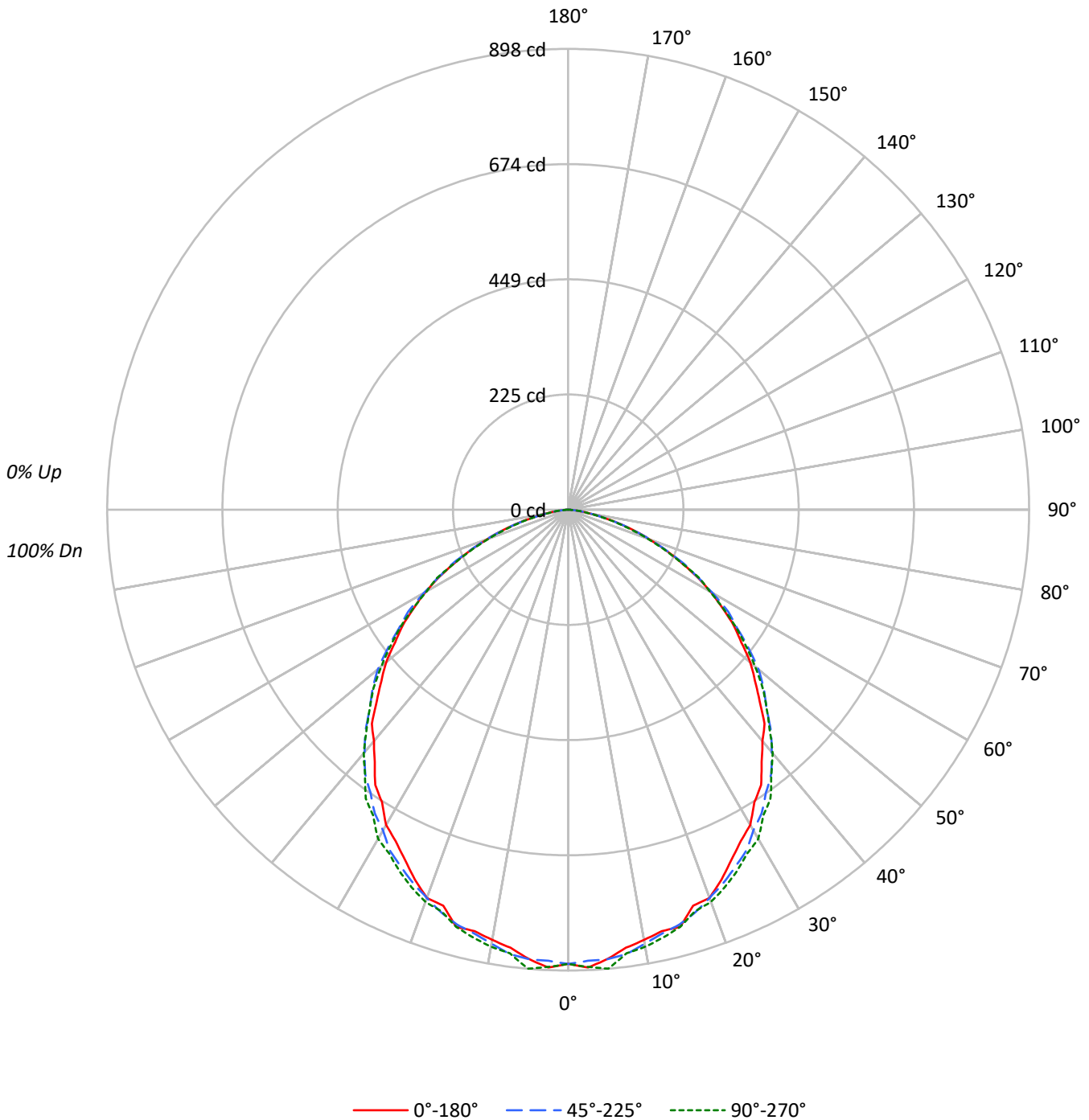
Lumens per Lamp: N/A  
Luminaire Lumens: 2231.0 lumens  
Efficiency: N/A  
Efficacy: 103.3 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 21.6  
Input Voltage (V):  
Input Current (Ain): NR  
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°	2382	2382	2382
5°	2374	2375	2425
10°	2326	2346	2363
15°	2344	2332	2345
20°	2305	2305	2329
25°	2234	2283	2308
30°	2203	2242	2302
35°	2151	2208	2257
40°	2068	2167	2177
45°	2005	2076	2079
50°	1939	2027	1988
55°	1848	1884	1871
60°	1728	1745	1714
65°	1541	1580	1529
70°	1322	1327	1290
75°	1047	1045	1004
80°	702	682	656
85°	380	377	352

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 2130 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	83.3	3.7
10°-20°	236.0	10.6
20°-30°	353.6	15.8
30°-40°	419.0	18.8
40°-50°	419.8	18.8
50°-60°	356.4	16.0
60°-70°	240.3	10.8
70°-80°	105.6	4.7
80°-90°	17.1	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°	672.8	30.2
0°-40°	1091.8	48.9
0°-60°	1868.0	83.7
0°-90°	2231.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2231.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	885	885	885	885	885	
5°	879	877	879	877	898	83
15°	842	832	837	841	842	234
25°	752	756	769	779	777	348
35°	655	657	672	688	687	407
45°	527	537	546	560	546	408
55°	394	391	402	399	399	350
65°	242	239	248	239	240	241
75°	101	99	100	93	97	108
85°	12	12	12	12	11	18
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	885.2	885.2	885.2	885.2	885.2
2.5°	892.9	886.1	879.8	887.1	891.6
5°	878.9	876.9	879.3	876.6	897.8
7.5°	860.9	868.7	873.3	870.5	871.7
10°	851.3	848.5	858.7	865.8	864.7
12.5°	841.0	845.1	845.7	853.3	854.0
15°	841.5	831.8	837.0	841.3	841.7
17.5°	808.9	819.4	822.9	832.9	820.5
20°	804.9	797.2	804.9	815.0	813.4
22.5°	780.3	771.7	788.2	797.2	796.6
25°	752.4	756.5	768.9	778.9	777.3
27.5°	727.9	732.7	750.3	764.2	755.3
30°	709.1	706.7	721.5	733.9	740.7
32.5°	675.4	684.0	701.4	713.6	707.1
35°	654.9	656.8	672.0	687.6	687.1
37.5°	619.1	628.2	649.5	653.9	649.9
40°	588.6	597.6	617.0	621.6	619.7
42.5°	566.1	567.7	584.3	589.6	581.1
45°	526.9	536.7	545.6	559.7	546.4
47.5°	493.5	498.1	517.3	521.1	514.1
50°	463.2	464.8	484.1	479.5	474.9
52.5°	425.2	431.9	442.8	441.9	436.5
55°	393.9	391.2	401.5	398.8	398.7
57.5°	356.3	360.8	369.3	364.9	358.0
60°	321.1	321.2	324.3	319.3	318.4
62.5°	281.8	283.2	283.9	277.8	287.7
65°	242.0	238.8	248.1	238.6	240.2
67.5°	205.3	206.9	206.0	200.0	202.3
70°	168.0	170.1	168.6	161.8	163.9
72.5°	134.0	131.4	133.0	124.6	128.5
75°	100.7	98.6	100.5	93.4	96.6
77.5°	68.6	70.2	69.0	65.3	67.4
80°	45.3	44.0	44.0	41.8	42.3
82.5°	26.4	25.1	24.8	24.1	25.1
85°	12.3	12.0	12.2	11.9	11.4
87.5°	4.5	4.6	4.6	4.3	4.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)