

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: P589926

Luminaire Tested: FSR-24-2-LD4-1HI-50-UNV-82-85-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P589926  
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-50-UNV-82-85-EDD  
Description: 2X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

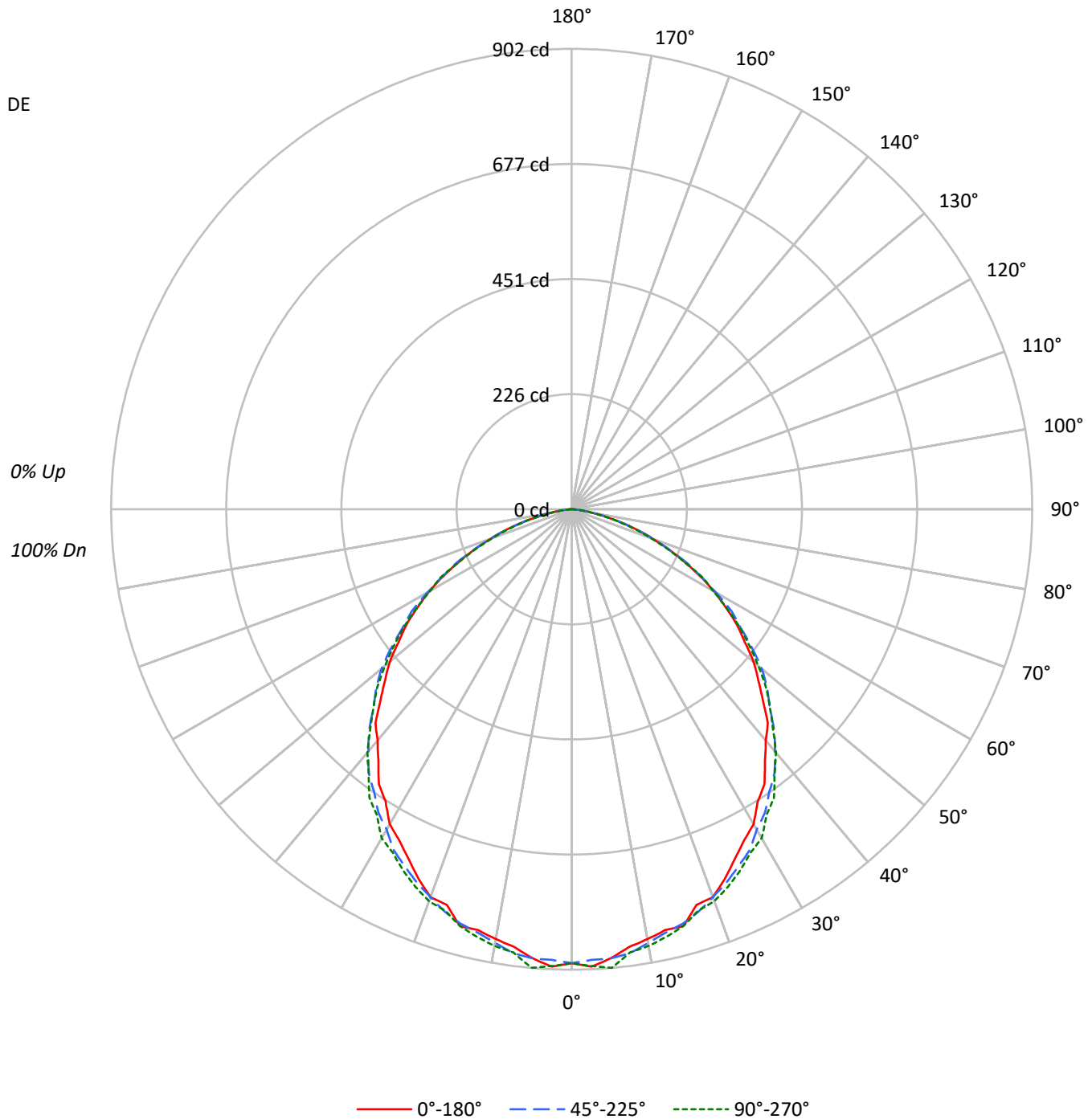
Lumens per Lamp: N/A  
Luminaire Lumens: 2241.0 lumens  
Efficiency: N/A  
Efficacy: 103.7 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 21.6  
Input Voltage (V):  
Input Current (Ain): NR  
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



TEST NUMBER: P589926

CATALOG NUMBER: FSR-24-2-LD4-1HI-50-UNV-82-85-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P589926

CATALOG NUMBER: FSR-24-2-LD4-1HI-50-UNV-82-85-EDD

**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																												
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°	2393	2393	2393
5°	2385	2386	2436
10°	2337	2357	2373
15°	2355	2342	2355
20°	2315	2315	2340
25°	2244	2293	2318
30°	2213	2252	2312
35°	2161	2218	2267
40°	2077	2177	2187
45°	2014	2086	2089
50°	1948	2036	1997
55°	1856	1892	1879
60°	1736	1753	1721
65°	1547	1587	1536
70°	1328	1332	1295
75°	1051	1049	1009
80°	705	685	659
85°	383	380	355

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 2140 cd/sqm



TEST NUMBER: P589926

CATALOG NUMBER: FSR-24-2-LD4-1HI-50-UNV-82-85-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	83.6	3.7
10°-20°	237.0	10.6
20°-30°	355.1	15.8
30°-40°	420.9	18.8
40°-50°	421.7	18.8
50°-60°	358.0	16.0
60°-70°	241.3	10.8
70°-80°	106.0	4.7
80°-90°	17.2	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°	675.8	30.2
0°-40°	1096.8	48.9
0°-60°	1876.4	83.7
0°-90°	2241.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2241.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	889	889	889	889	889	
5°	883	881	883	881	902	83
15°	845	836	841	845	845	236
25°	756	760	772	782	781	349
35°	658	660	675	691	690	408
45°	529	539	548	562	549	409
55°	396	393	403	401	400	352
65°	243	240	249	240	241	242
75°	101	99	101	94	97	108
85°	12	12	12	12	12	18
90°	0	0	0	0	0	



TEST NUMBER: P589926

CATALOG NUMBER: FSR-24-2-LD4-1HI-50-UNV-82-85-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	889.2	889.2	889.2	889.2	889.2
2.5°	896.9	890.1	883.8	891.1	895.6
5°	882.9	880.8	883.2	880.6	901.8
7.5°	864.7	872.6	877.2	874.4	875.6
10°	855.1	852.3	862.5	869.7	868.6
12.5°	844.7	848.9	849.4	857.1	857.8
15°	845.3	835.6	840.7	845.1	845.4
17.5°	812.5	823.0	826.6	836.6	824.2
20°	808.5	800.8	808.5	818.7	817.1
22.5°	783.8	775.2	791.7	800.8	800.2
25°	755.8	759.9	772.3	782.4	780.8
27.5°	731.2	736.0	753.7	767.6	758.6
30°	712.3	709.8	724.8	737.2	744.1
32.5°	678.4	687.1	704.6	716.8	710.3
35°	657.8	659.8	675.1	690.7	690.2
37.5°	621.9	631.0	652.4	656.8	652.8
40°	591.3	600.3	619.7	624.4	622.5
42.5°	568.6	570.2	586.9	592.3	583.7
45°	529.3	539.1	548.1	562.2	548.9
47.5°	495.7	500.3	519.6	523.4	516.4
50°	465.3	466.9	486.3	481.6	477.0
52.5°	427.1	433.9	444.8	443.8	438.4
55°	395.6	393.0	403.3	400.6	400.4
57.5°	357.9	362.4	370.9	366.6	359.6
60°	322.5	322.6	325.7	320.8	319.8
62.5°	283.1	284.5	285.2	279.1	289.0
65°	243.0	239.8	249.2	239.7	241.3
67.5°	206.2	207.8	206.9	200.9	203.2
70°	168.8	170.8	169.3	162.6	164.6
72.5°	134.6	132.0	133.6	125.1	129.0
75°	101.1	99.1	100.9	93.8	97.0
77.5°	68.9	70.5	69.3	65.6	67.7
80°	45.5	44.2	44.2	42.0	42.5
82.5°	26.5	25.3	24.9	24.2	25.3
85°	12.4	12.1	12.3	11.9	11.5
87.5°	4.5	4.6	4.6	4.4	4.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)