

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: P590678

Luminaire Tested: FSR-24-2-LD4-3STD-50-UNV-80-85-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590678  
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-LD4-3STD-50-UNV-80-85-EDD  
Description: 2X2 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR PC ENVIRONM  
SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

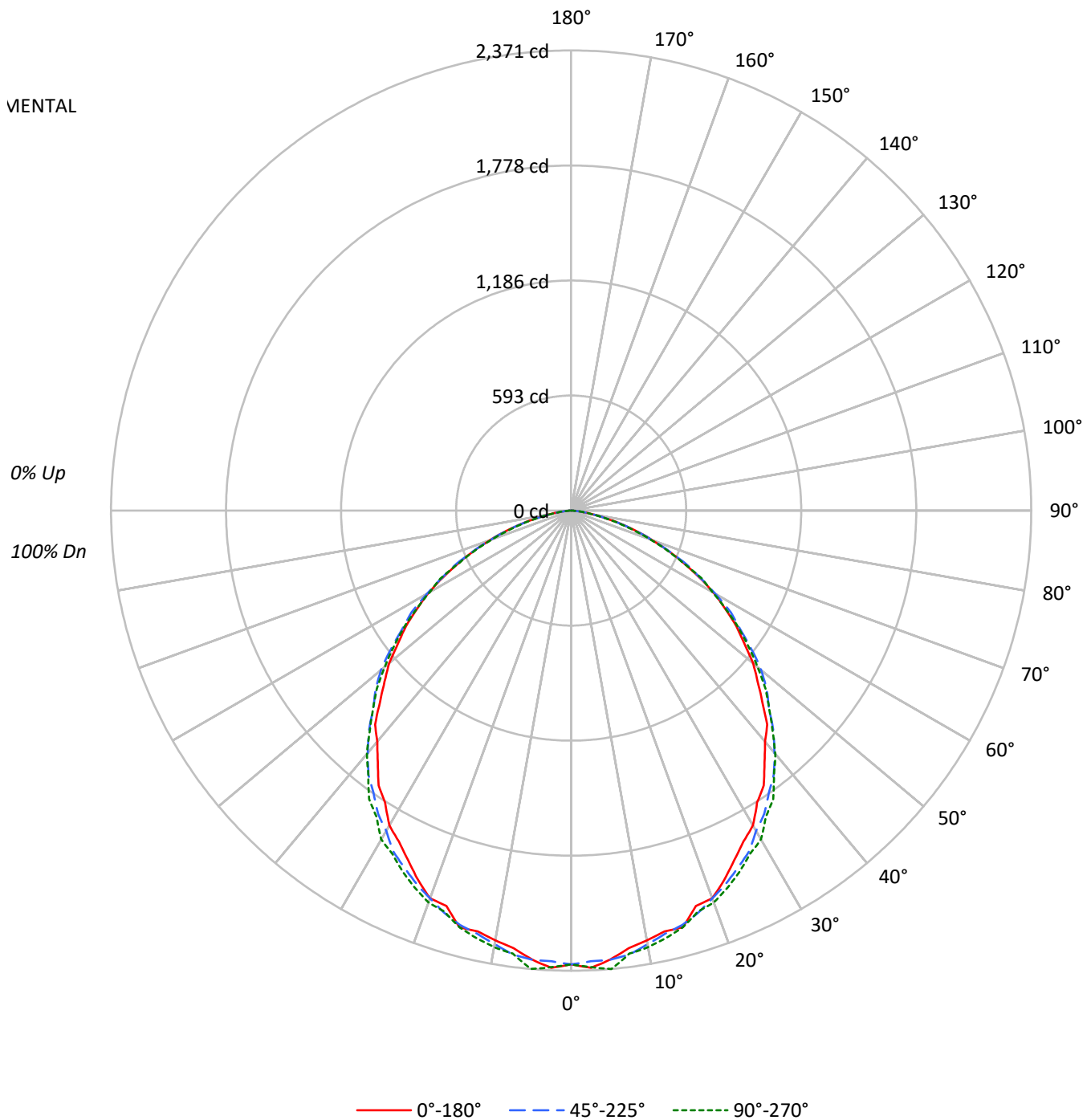
Lumens per Lamp: N/A  
Luminaire Lumens: 5893.0 lumens  
Efficiency: N/A  
Efficacy: 117.9 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 50  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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: P590678

CATALOG NUMBER: FSR-24-2-LD4-3STD-50-UNV-80-85-EDD

### Luminous Intensity Polar Plot



TEST NUMBER: P590678

CATALOG NUMBER: FSR-24-2-LD4-3STD-50-UNV-80-85-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	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°	6292	6292	6292
5°	6271	6274	6406
10°	6144	6198	6242
15°	6193	6159	6194
20°	6088	6088	6153
25°	5901	6030	6096
30°	5820	5922	6080
35°	5683	5832	5962
40°	5462	5724	5750
45°	5296	5485	5493
50°	5123	5354	5251
55°	4881	4976	4940
60°	4564	4610	4527
65°	4069	4173	4041
70°	3492	3504	3406
75°	2766	2759	2652
80°	1853	1801	1731
85°	1007	997	932

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 5626 cd/sqm



TEST NUMBER: P590678

CATALOG NUMBER: FSR-24-2-LD4-3STD-50-UNV-80-85-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	219.9	3.7
10°-20°	623.3	10.6
20°-30°	933.9	15.8
30°-40°	1106.9	18.8
40°-50°	1108.9	18.8
50°-60°	941.3	16.0
60°-70°	634.6	10.8
70°-80°	278.8	4.7
80°-90°	45.3	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°	1777.2	30.2
0°-40°	2884.0	48.9
0°-60°	4934.2	83.7
0°-90°	5893.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5893.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2338	2338	2338	2338	2338	
5°	2322	2316	2322	2316	2371	219
15°	2223	2197	2211	2222	2223	619
25°	1987	1998	2031	2057	2053	919
35°	1730	1735	1775	1816	1815	1074
45°	1392	1418	1441	1478	1443	1077
55°	1040	1033	1061	1053	1053	925
65°	639	631	655	630	635	636
75°	266	260	265	247	255	285
85°	33	32	32	31	30	47
90°	0	0	0	0	0	

TEST NUMBER: P590678

CATALOG NUMBER: FSR-24-2-LD4-3STD-50-UNV-80-85-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2338.2	2338.2	2338.2	2338.2	2338.2
2.5°	2358.4	2340.6	2324.0	2343.3	2355.1
5°	2321.6	2316.2	2322.5	2315.6	2371.4
7.5°	2273.9	2294.7	2306.8	2299.2	2302.6
10°	2248.5	2241.3	2268.2	2286.9	2284.2
12.5°	2221.4	2232.2	2233.7	2254.0	2255.8
15°	2222.9	2197.2	2210.8	2222.3	2223.2
17.5°	2136.5	2164.3	2173.7	2199.9	2167.3
20°	2126.0	2105.7	2126.0	2152.8	2148.6
22.5°	2061.1	2038.4	2081.9	2105.7	2104.2
25°	1987.4	1998.3	2030.9	2057.4	2053.2
27.5°	1922.8	1935.5	1982.0	2018.5	1994.9
30°	1873.0	1866.6	1905.9	1938.5	1956.6
32.5°	1783.9	1806.9	1852.7	1885.0	1867.8
35°	1729.9	1735.0	1775.2	1816.2	1815.0
37.5°	1635.4	1659.2	1715.7	1727.2	1716.6
40°	1554.8	1578.6	1629.6	1642.0	1636.9
42.5°	1495.3	1499.5	1543.3	1557.5	1534.8
45°	1391.7	1417.7	1441.3	1478.4	1443.4
47.5°	1303.6	1315.7	1366.4	1376.3	1357.9
50°	1223.6	1227.8	1278.8	1266.5	1254.4
52.5°	1123.1	1140.9	1169.5	1167.1	1152.9
55°	1040.3	1033.4	1060.6	1053.3	1053.0
57.5°	941.0	953.1	975.4	964.0	945.5
60°	848.0	848.3	856.5	843.5	841.1
62.5°	744.5	748.1	749.9	733.9	759.9
65°	639.1	630.7	655.4	630.4	634.6
67.5°	542.2	546.4	544.0	528.3	534.4
70°	443.8	449.2	445.3	427.5	432.9
72.5°	353.8	347.2	351.4	329.1	339.3
75°	266.0	260.5	265.4	246.6	255.1
77.5°	181.1	185.4	182.3	172.4	178.1
80°	119.6	116.2	116.2	110.5	111.7
82.5°	69.7	66.4	65.5	63.7	66.4
85°	32.6	31.7	32.3	31.4	30.2
87.5°	11.8	12.1	12.1	11.5	10.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)