

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: P590263

Luminaire Tested: FSR-24-2-LD4-2LO-40-UNV-80-86-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590263  
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-40-UNV-80-86-EDD  
Description: 2X2 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR PC ENVIRON  
SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

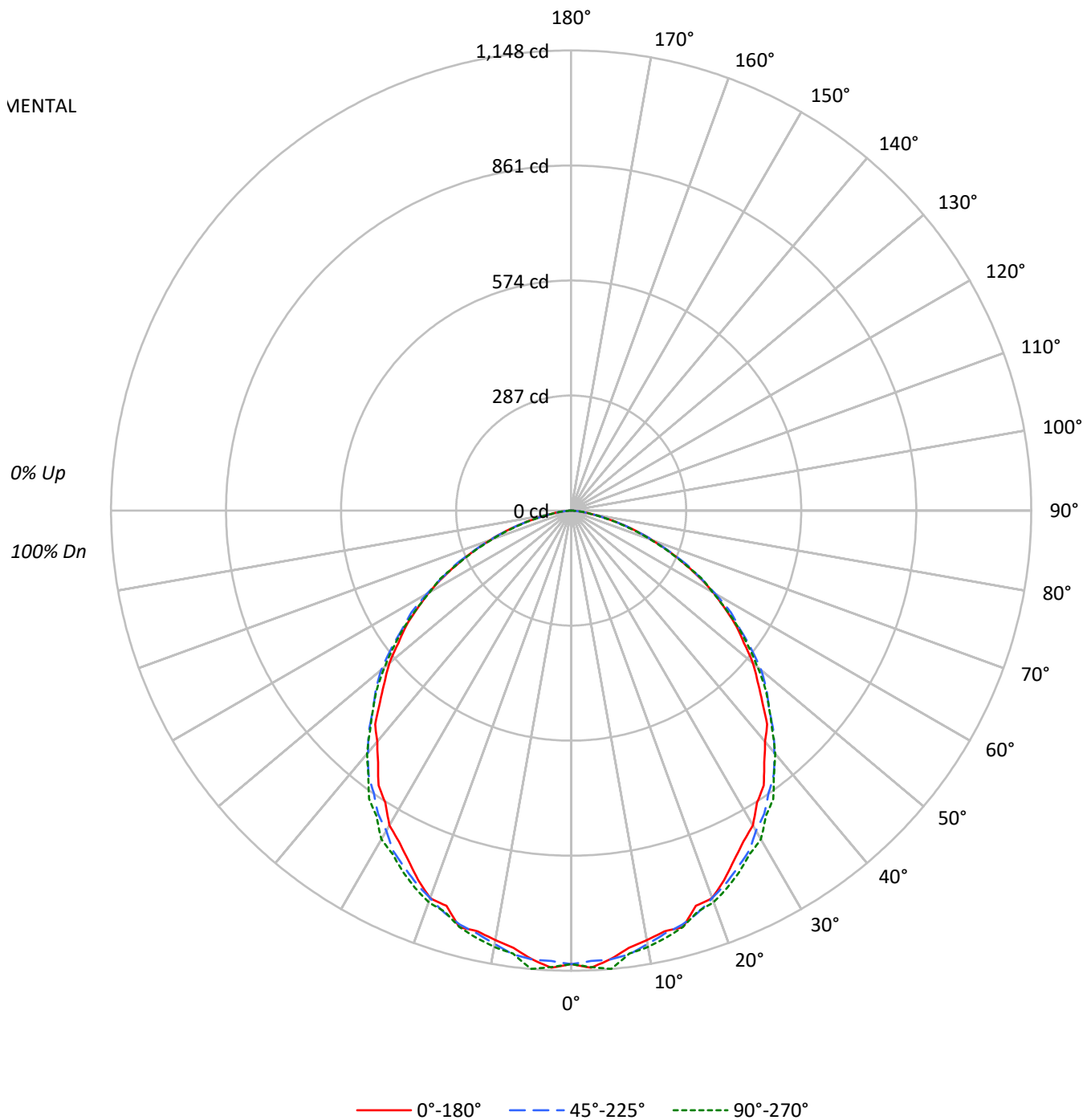
Lumens per Lamp: N/A  
Luminaire Lumens: 2852.0 lumens  
Efficiency: N/A  
Efficacy: 121.9 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 23.4  
Input Voltage (V):  
Input Current (Ain): NR  
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



TEST NUMBER: P590263

CATALOG NUMBER: FSR-24-2-LD4-2LO-40-UNV-80-86-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P590263

CATALOG NUMBER: FSR-24-2-LD4-2LO-40-UNV-80-86-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°	3045	3045	3045
5°	3035	3036	3100
10°	2973	2999	3020
15°	2997	2981	2997
20°	2946	2946	2978
25°	2856	2918	2950
30°	2817	2866	2942
35°	2750	2822	2886
40°	2643	2771	2783
45°	2563	2654	2658
50°	2479	2591	2542
55°	2362	2408	2391
60°	2209	2231	2191
65°	1969	2020	1955
70°	1690	1696	1648
75°	1338	1335	1284
80°	897	872	838
85°	488	482	451

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 2723 cd/sqm



TEST NUMBER: P590263

CATALOG NUMBER: FSR-24-2-LD4-2LO-40-UNV-80-86-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	106.4	3.7
10°-20°	301.7	10.6
20°-30°	452.0	15.8
30°-40°	535.7	18.8
40°-50°	536.7	18.8
50°-60°	455.5	16.0
60°-70°	307.1	10.8
70°-80°	135.0	4.7
80°-90°	21.9	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°	860.1	30.2
0°-40°	1395.8	48.9
0°-60°	2388.0	83.7
0°-90°	2852.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2852.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1132	1132	1132	1132	1132	
5°	1124	1121	1124	1121	1148	106
15°	1076	1063	1070	1076	1076	300
25°	962	967	983	996	994	445
35°	837	840	859	879	878	520
45°	674	686	698	716	698	521
55°	504	500	513	510	510	448
65°	309	305	317	305	307	308
75°	129	126	128	119	124	138
85°	16	15	16	15	15	23
90°	0	0	0	0	0	



TEST NUMBER: P590263

CATALOG NUMBER: FSR-24-2-LD4-2LO-40-UNV-80-86-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1131.6	1131.6	1131.6	1131.6	1131.6
2.5°	1141.4	1132.8	1124.7	1134.1	1139.8
5°	1123.6	1120.9	1124.0	1120.6	1147.7
7.5°	1100.5	1110.6	1116.4	1112.8	1114.4
10°	1088.2	1084.7	1097.7	1106.8	1105.4
12.5°	1075.1	1080.3	1081.0	1090.8	1091.7
15°	1075.8	1063.4	1069.9	1075.5	1075.9
17.5°	1034.0	1047.4	1052.0	1064.7	1048.9
20°	1028.9	1019.1	1028.9	1041.9	1039.8
22.5°	997.5	986.5	1007.6	1019.1	1018.4
25°	961.8	967.1	982.9	995.7	993.7
27.5°	930.6	936.7	959.2	976.9	965.5
30°	906.5	903.4	922.4	938.2	946.9
32.5°	863.3	874.5	896.7	912.3	904.0
35°	837.2	839.7	859.1	879.0	878.4
37.5°	791.5	803.0	830.3	835.9	830.8
40°	752.5	764.0	788.7	794.7	792.2
42.5°	723.7	725.7	746.9	753.8	742.8
45°	673.6	686.1	697.5	715.5	698.5
47.5°	630.9	636.7	661.3	666.1	657.2
50°	592.2	594.2	618.9	612.9	607.1
52.5°	543.5	552.1	566.0	564.9	558.0
55°	503.5	500.1	513.3	509.8	509.6
57.5°	455.4	461.3	472.1	466.5	457.6
60°	410.4	410.6	414.5	408.2	407.1
62.5°	360.3	362.1	362.9	355.2	367.8
65°	309.3	305.2	317.2	305.1	307.1
67.5°	262.4	264.5	263.3	255.7	258.6
70°	214.8	217.4	215.5	206.9	209.5
72.5°	171.2	168.0	170.1	159.3	164.2
75°	128.7	126.1	128.4	119.4	123.5
77.5°	87.7	89.7	88.2	83.4	86.2
80°	57.9	56.3	56.3	53.5	54.1
82.5°	33.8	32.1	31.7	30.8	32.1
85°	15.8	15.3	15.6	15.2	14.6
87.5°	5.7	5.8	5.8	5.6	5.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)