

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: P590294

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

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590294  
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-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**

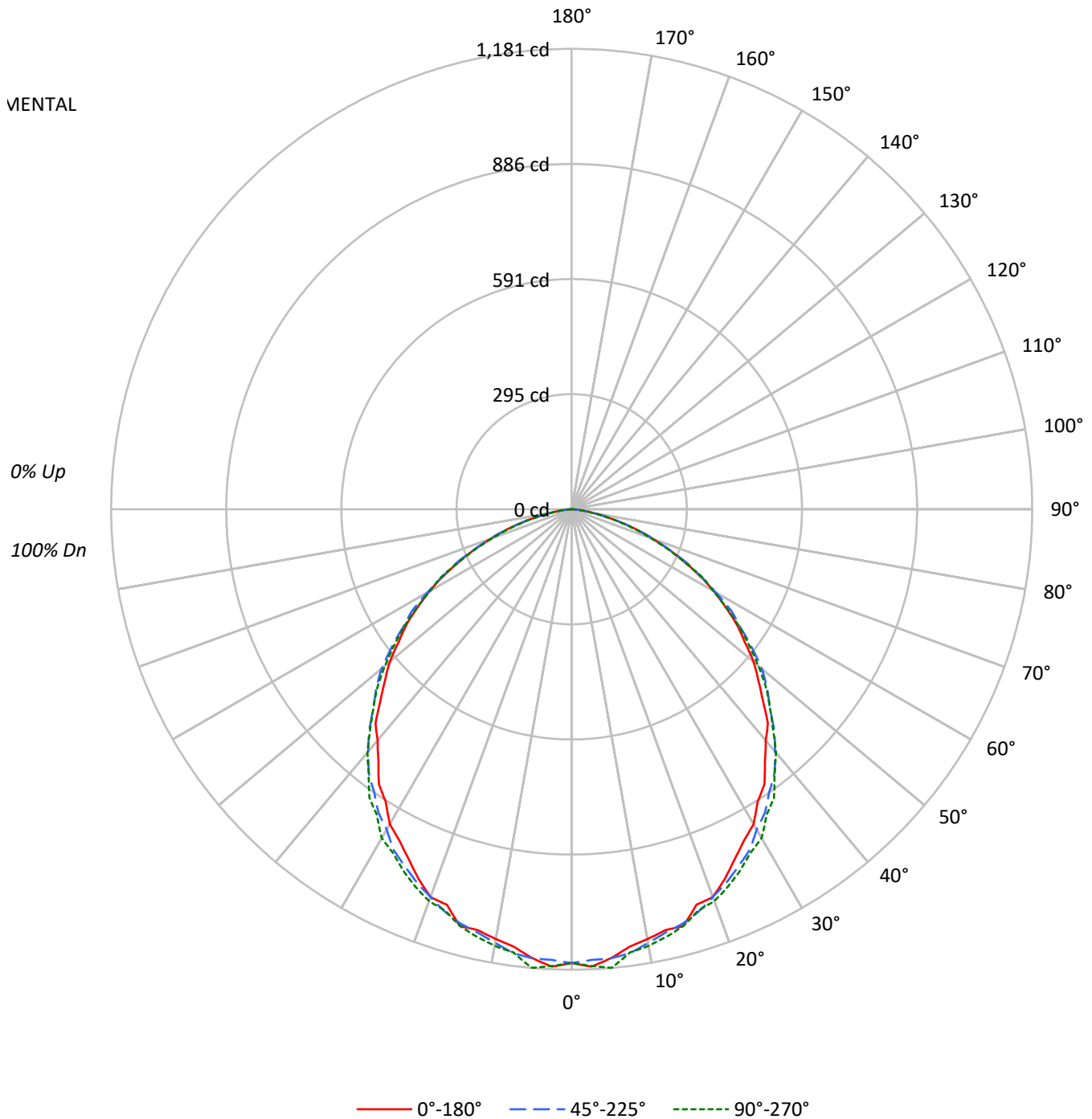
Lumens per Lamp: N/A  
Luminaire Lumens: 2934.0 lumens  
Efficiency: N/A  
Efficacy: 125.4 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 23.4  
Input Voltage (V):  
Input Current (Ain): NR  
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: P590294

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

### Luminous Intensity Polar Plot





TEST NUMBER: P590294

CATALOG NUMBER: FSR-24-2-LD4-2LO-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°	3133	3133	3133
5°	3122	3123	3189
10°	3059	3086	3107
15°	3083	3066	3084
20°	3031	3031	3063
25°	2938	3002	3035
30°	2898	2948	3027
35°	2829	2903	2969
40°	2719	2850	2863
45°	2637	2731	2735
50°	2550	2665	2614
55°	2430	2477	2460
60°	2272	2295	2254
65°	2026	2078	2011
70°	1739	1744	1696
75°	1377	1373	1320
80°	922	897	862
85°	500	497	463

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 2801 cd/sqm



TEST NUMBER: P590294

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

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	109.5	3.7
10°-20°	310.3	10.6
20°-30°	465.0	15.8
30°-40°	551.1	18.8
40°-50°	552.1	18.8
50°-60°	468.6	16.0
60°-70°	316.0	10.8
70°-80°	138.8	4.7
80°-90°	22.6	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°	884.8	30.2
0°-40°	1435.9	48.9
0°-60°	2456.6	83.7
0°-90°	2934.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2934.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1164	1164	1164	1164	1164	
5°	1156	1153	1156	1153	1181	109
15°	1107	1094	1101	1106	1107	308
25°	990	995	1011	1024	1022	457
35°	861	864	884	904	904	535
45°	693	706	718	736	719	536
55°	518	514	528	524	524	461
65°	318	314	326	314	316	316
75°	132	130	132	123	127	142
85°	16	16	16	16	15	24
90°	0	0	0	0	0	



TEST NUMBER: P590294

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

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1164.1	1164.1	1164.1	1164.1	1164.1
2.5°	1174.2	1165.3	1157.1	1166.7	1172.6
5°	1155.9	1153.2	1156.3	1152.9	1180.7
7.5°	1132.1	1142.5	1148.5	1144.7	1146.4
10°	1119.5	1115.9	1129.3	1138.6	1137.2
12.5°	1106.0	1111.4	1112.1	1122.2	1123.1
15°	1106.7	1093.9	1100.7	1106.4	1106.9
17.5°	1063.7	1077.6	1082.2	1095.3	1079.1
20°	1058.5	1048.4	1058.5	1071.8	1069.7
22.5°	1026.2	1014.9	1036.5	1048.4	1047.6
25°	989.5	994.9	1011.1	1024.4	1022.2
27.5°	957.3	963.6	986.8	1005.0	993.2
30°	932.5	929.4	948.9	965.1	974.1
32.5°	888.2	899.6	922.4	938.5	930.0
35°	861.3	863.8	883.8	904.3	903.7
37.5°	814.2	826.1	854.2	859.9	854.7
40°	774.1	786.0	811.4	817.5	815.0
42.5°	744.5	746.6	768.4	775.4	764.2
45°	692.9	705.8	717.6	736.1	718.6
47.5°	649.0	655.0	680.3	685.3	676.1
50°	609.2	611.3	636.7	630.5	624.5
52.5°	559.1	568.0	582.3	581.1	574.0
55°	518.0	514.5	528.0	524.4	524.3
57.5°	468.5	474.5	485.6	479.9	470.8
60°	422.2	422.4	426.4	420.0	418.8
62.5°	370.7	372.5	373.4	365.4	378.3
65°	318.2	314.0	326.3	313.8	315.9
67.5°	270.0	272.1	270.9	263.0	266.0
70°	221.0	223.7	221.7	212.8	215.5
72.5°	176.2	172.9	175.0	163.8	168.9
75°	132.4	129.7	132.1	122.8	127.0
77.5°	90.2	92.3	90.8	85.8	88.7
80°	59.5	57.9	57.9	55.0	55.6
82.5°	34.7	33.1	32.6	31.7	33.1
85°	16.2	15.8	16.1	15.6	15.0
87.5°	5.9	6.0	6.0	5.7	5.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)