

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: P562931

Luminaire Tested: FSR-24-4-LD4-2STD-40-UNV-80-85-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562931  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/20/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: FAIL-SAFE  
Catalog Number: FSR-24-4-LD4-2STD-40-UNV-80-85-EDD  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR PC ENVIRONM  
SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

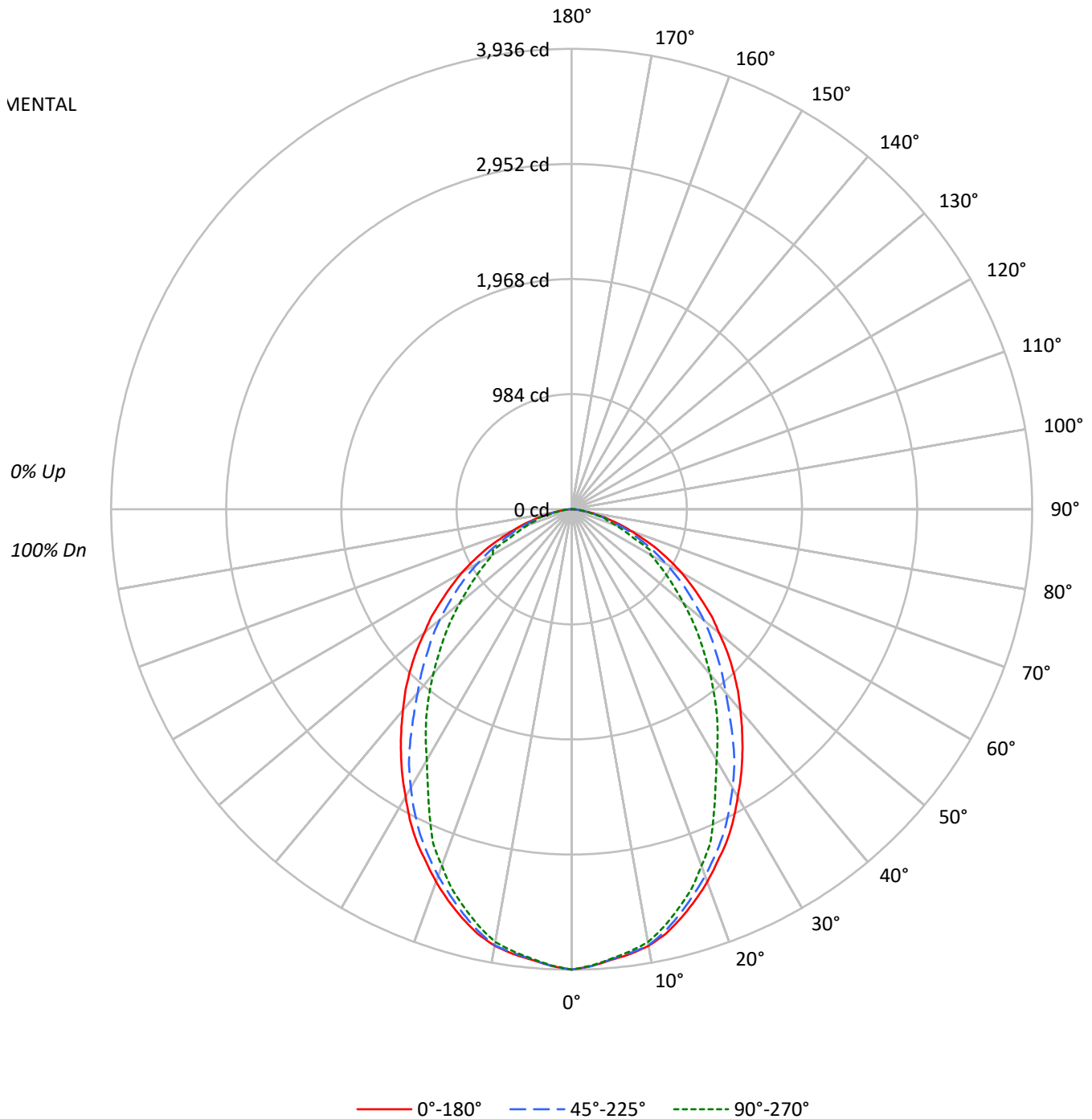
Lumens per Lamp: N/A  
Luminaire Lumens: 7726.0 lumens  
Efficiency: N/A  
Efficacy: 116.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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: P562931

CATALOG NUMBER: FSR-24-4-LD4-2STD-40-UNV-80-85-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P562931

CATALOG NUMBER: FSR-24-4-LD4-2STD-40-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	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												100																
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87												87																
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75												75																
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65												65																
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56												56																
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50												50																
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44												44																
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40												40																
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36												36																
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33												33																
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30												30																

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	5295	5295	5295
5°	5223	5217	5211
10°	5178	5172	5134
15°	5038	4988	4918
20°	4853	4775	4645
25°	4654	4552	4269
30°	4411	4269	3845
35°	4177	3946	3557
40°	3940	3596	3236
45°	3714	3324	2926
50°	3438	3086	2609
55°	3180	2796	2337
60°	2914	2497	2094
65°	2564	2187	1854
70°	2112	1915	1575
75°	1679	1467	1537
80°	1128	1058	987
85°	702	843	983

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3714 cd/sqm



TEST NUMBER: P562931

CATALOG NUMBER: FSR-24-4-LD4-2STD-40-UNV-80-85-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	366.3	4.7
10°-20°	1005.4	13.0
20°-30°	1391.9	18.0
30°-40°	1484.2	19.2
40°-50°	1354.0	17.5
50°-60°	1060.8	13.7
60°-70°	691.4	8.9
70°-80°	306.3	4.0
80°-90°	65.7	0.9
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°	2763.6	35.8
0°-40°	4247.8	55.0
0°-60°	6662.6	86.2
0°-90°	7726.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7726.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3936	3936	3936	3936	3936	
5°	3867	3863	3863	3858	3858	367
15°	3617	3617	3581	3544	3531	1017
25°	3135	3117	3066	2957	2875	1439
35°	2543	2525	2402	2220	2166	1590
45°	1952	1911	1747	1602	1538	1503
55°	1356	1315	1192	1051	996	1216
65°	805	760	687	701	582	794
75°	323	300	282	268	296	346
85°	46	50	55	59	64	63
90°	0	0	0	0	0	



TEST NUMBER: P562931

CATALOG NUMBER: FSR-24-4-LD4-2STD-40-UNV-80-85-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3935.5	3935.5	3935.5	3935.5	3935.5
2.5°	3908.2	3908.2	3908.2	3903.7	3903.7
5°	3867.3	3862.7	3862.7	3858.2	3858.2
7.5°	3835.4	3830.9	3826.3	3821.8	3812.7
10°	3789.9	3789.9	3785.4	3762.6	3758.1
12.5°	3717.1	3712.6	3694.4	3662.5	3653.4
15°	3617.0	3617.0	3580.6	3544.2	3530.6
17.5°	3507.8	3503.3	3457.8	3421.4	3403.2
20°	3389.6	3380.5	3335.0	3275.8	3244.0
22.5°	3257.6	3257.6	3203.0	3125.7	3093.8
25°	3134.8	3116.6	3066.5	2957.3	2875.4
27.5°	2993.7	2966.4	2911.8	2757.1	2661.6
30°	2839.0	2825.4	2748.0	2547.9	2475.1
32.5°	2693.4	2670.7	2588.8	2379.5	2320.4
35°	2543.3	2525.1	2402.3	2220.3	2165.7
37.5°	2393.2	2370.4	2215.7	2070.1	2001.9
40°	2243.0	2215.7	2047.4	1915.4	1842.6
42.5°	2102.0	2065.6	1901.8	1760.7	1678.9
45°	1951.8	1910.9	1747.1	1601.5	1537.8
47.5°	1801.7	1765.3	1615.2	1465.0	1392.2
50°	1642.5	1610.6	1474.1	1324.0	1246.6
52.5°	1510.5	1460.5	1328.5	1178.4	1114.7
55°	1355.8	1314.9	1192.0	1051.0	996.4
57.5°	1214.8	1173.8	1060.1	928.1	882.6
60°	1082.8	1023.7	928.1	814.4	778.0
62.5°	937.2	891.7	809.9	714.3	759.8
65°	805.3	759.8	687.0	700.7	582.4
67.5°	659.7	637.0	573.3	509.6	491.4
70°	536.9	509.6	486.8	418.6	400.4
72.5°	427.7	400.4	368.5	332.1	318.5
75°	323.0	300.3	282.1	268.4	295.7
77.5°	222.9	213.8	200.2	186.5	182.0
80°	145.6	141.0	136.5	131.9	127.4
82.5°	86.4	86.4	86.4	86.4	86.4
85°	45.5	50.0	54.6	59.1	63.7
87.5°	27.3	27.3	31.8	36.4	40.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)