

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: P564029

Luminaire Tested: FSR-24-4-LD4-4STD-35-UNV-80-96-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P564029  
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-LD4-4STD-35-UNV-80-96-EDD  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

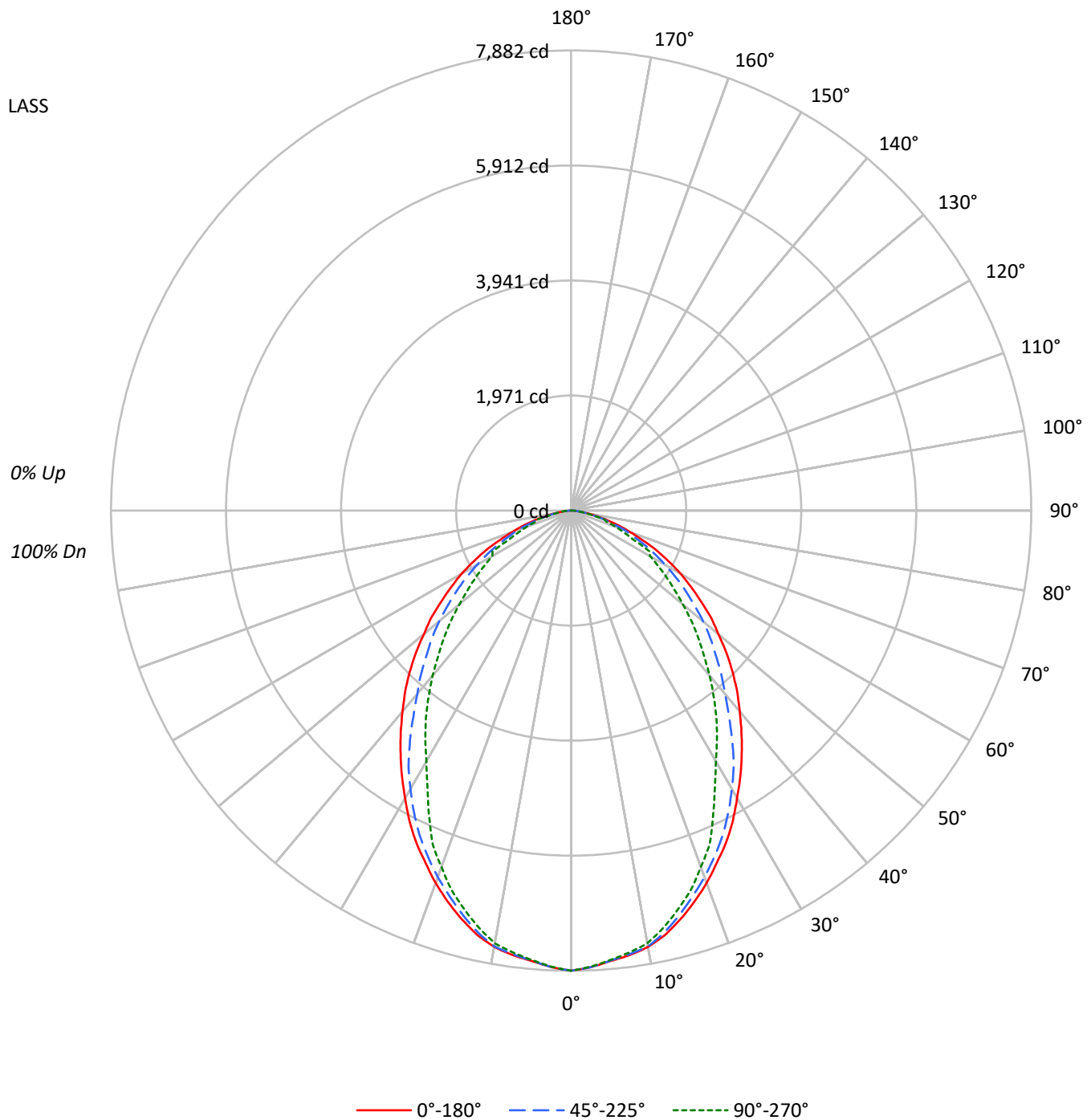
Lumens per Lamp: N/A  
Luminaire Lumens: 15473.0 lumens  
Efficiency: N/A  
Efficacy: 116.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 133.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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: P564029

CATALOG NUMBER: FSR-24-4-LD4-4STD-35-UNV-80-96-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P564029

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

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

	0°	45°	90°
0°	10605	10605	10605
5°	10461	10448	10436
10°	10370	10358	10283
15°	10090	9989	9849
20°	9720	9563	9302
25°	9320	9117	8549
30°	8834	8550	7701
35°	8366	7902	7124
40°	7890	7202	6482
45°	7438	6658	5860
50°	6885	6180	5226
55°	6370	5600	4681
60°	5836	5002	4193
65°	5135	4380	3713
70°	4230	3836	3154
75°	3363	2937	3079
80°	2259	2118	1977
85°	1406	1687	1970

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 7438 cd/sqm



TEST NUMBER: P564029

CATALOG NUMBER: FSR-24-4-LD4-4STD-35-UNV-80-96-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	733.7	4.7
10°-20°	2013.5	13.0
20°-30°	2787.6	18.0
30°-40°	2972.4	19.2
40°-50°	2711.7	17.5
50°-60°	2124.4	13.7
60°-70°	1384.6	8.9
70°-80°	613.4	4.0
80°-90°	131.7	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°	5534.8	35.8
0°-40°	8507.2	55.0
0°-60°	13343.3	86.2
0°-90°	15473.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	15473.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	7882	7882	7882	7882	7882	
5°	7745	7736	7736	7727	7727	735
15°	7244	7244	7171	7098	7071	2036
25°	6278	6242	6141	5923	5759	2882
35°	5094	5057	4811	4447	4337	3184
45°	3909	3827	3499	3207	3080	3011
55°	2715	2633	2387	2105	1996	2435
65°	1613	1522	1376	1403	1166	1589
75°	647	601	565	538	592	693
85°	91	100	109	118	128	126
90°	0	0	0	0	0	



TEST NUMBER: P564029

CATALOG NUMBER: FSR-24-4-LD4-4STD-35-UNV-80-96-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	7881.7	7881.7	7881.7	7881.7	7881.7
2.5°	7827.1	7827.1	7827.1	7818.0	7818.0
5°	7745.1	7736.0	7736.0	7726.8	7726.8
7.5°	7681.3	7672.2	7663.1	7653.9	7635.7
10°	7590.2	7590.2	7581.0	7535.5	7526.4
12.5°	7444.4	7435.3	7398.8	7335.0	7316.8
15°	7243.9	7243.9	7171.0	7098.1	7070.8
17.5°	7025.2	7016.1	6925.0	6852.1	6815.7
20°	6788.3	6770.1	6679.0	6560.5	6496.7
22.5°	6524.1	6524.1	6414.7	6259.8	6196.0
25°	6278.1	6241.6	6141.4	5922.7	5758.7
27.5°	5995.6	5940.9	5831.6	5521.8	5330.4
30°	5685.8	5658.5	5503.5	5102.6	4956.8
32.5°	5394.2	5348.6	5184.6	4765.5	4647.0
35°	5093.5	5057.1	4811.1	4446.6	4337.2
37.5°	4792.8	4747.3	4437.5	4145.9	4009.2
40°	4492.1	4437.5	4100.3	3836.1	3690.3
42.5°	4209.7	4136.8	3808.7	3526.3	3362.3
45°	3909.0	3827.0	3498.9	3207.4	3079.8
47.5°	3608.3	3535.4	3234.7	2934.0	2788.2
50°	3289.4	3225.6	2952.2	2651.5	2496.6
52.5°	3025.1	2924.9	2660.7	2360.0	2232.4
55°	2715.3	2633.3	2387.3	2104.8	1995.5
57.5°	2432.9	2350.9	2123.1	1858.8	1767.7
60°	2168.6	2050.2	1858.8	1631.0	1558.1
62.5°	1877.0	1785.9	1621.9	1430.6	1521.7
65°	1612.8	1521.7	1375.9	1403.2	1166.3
67.5°	1321.2	1275.7	1148.1	1020.5	984.1
70°	1075.2	1020.5	975.0	838.3	801.8
72.5°	856.5	801.8	738.1	665.2	637.8
75°	646.9	601.4	564.9	537.6	592.3
77.5°	446.5	428.3	400.9	373.6	364.5
80°	291.6	282.5	273.4	264.2	255.1
82.5°	173.1	173.1	173.1	173.1	173.1
85°	91.1	100.2	109.3	118.5	127.6
87.5°	54.7	54.7	63.8	72.9	82.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)