

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: P564030

Luminaire Tested: FSR-24-4-LD4-4STD-35-UNV-80-97-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P564030  
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-80-97-EDD-90  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

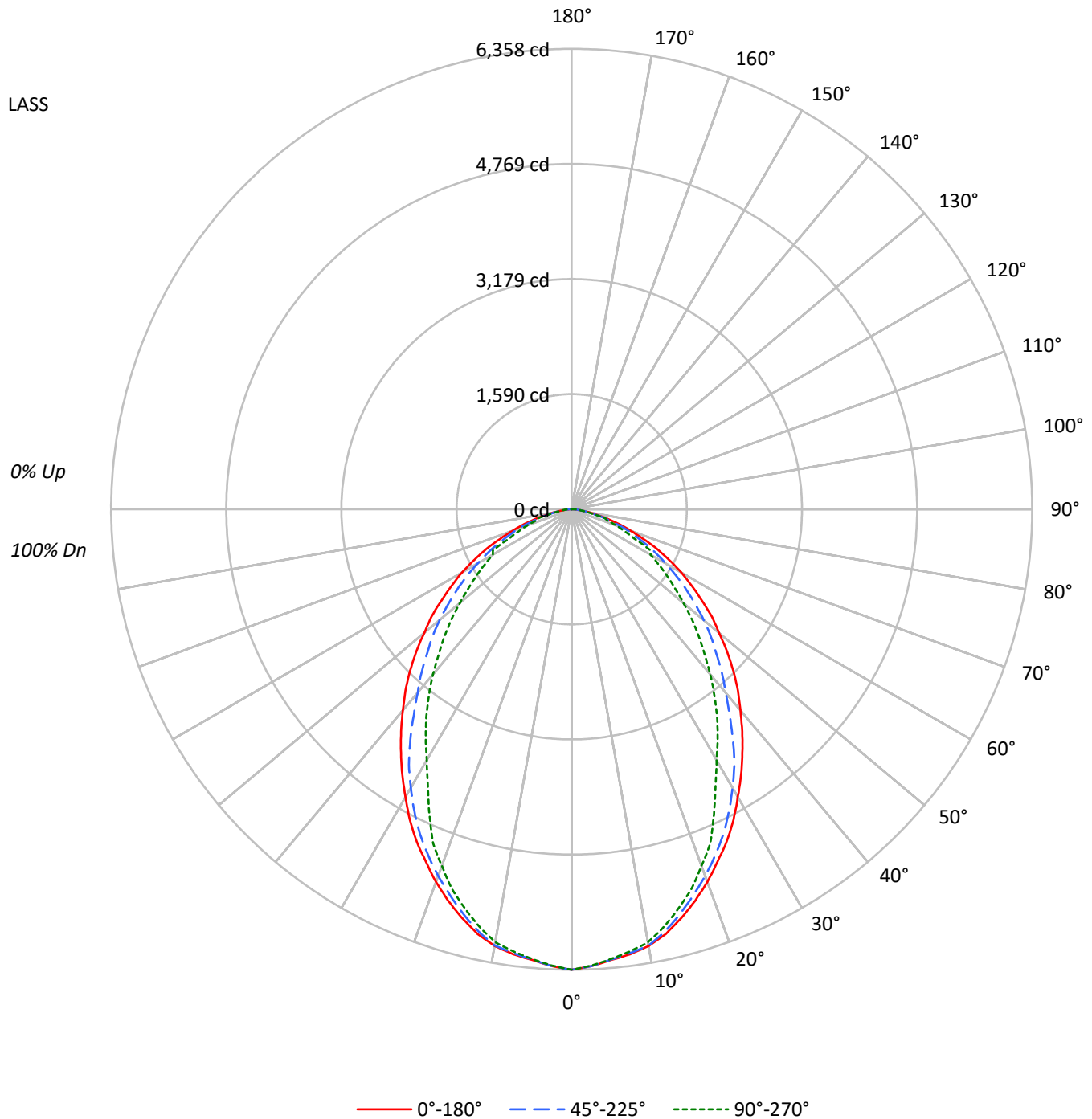
Lumens per Lamp: N/A  
Luminaire Lumens: 12482.0 lumens  
Efficiency: N/A  
Efficacy: 93.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 133.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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



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### Luminous Intensity Polar Plot





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**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°	8555	8555	8555
5°	8439	8429	8419
10°	8365	8355	8295
15°	8140	8058	7945
20°	7841	7715	7504
25°	7519	7355	6897
30°	7126	6898	6213
35°	6749	6375	5747
40°	6365	5810	5229
45°	6000	5371	4728
50°	5554	4985	4216
55°	5138	4518	3776
60°	4708	4035	3382
65°	4142	3534	2996
70°	3412	3094	2544
75°	2713	2369	2484
80°	1822	1709	1595
85°	1135	1362	1589

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6000 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	591.9	4.7
10°-20°	1624.3	13.0
20°-30°	2248.7	18.0
30°-40°	2397.8	19.2
40°-50°	2187.5	17.5
50°-60°	1713.7	13.7
60°-70°	1116.9	8.9
70°-80°	494.8	4.0
80°-90°	106.3	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°	4464.9	35.8
0°-40°	6862.7	55.0
0°-60°	10764.0	86.2
0°-90°	12482.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12482.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	6358	6358	6358	6358	6358	
5°	6248	6241	6241	6233	6233	593
15°	5844	5844	5785	5726	5704	1643
25°	5064	5035	4954	4778	4646	2325
35°	4109	4080	3881	3587	3499	2569
45°	3153	3087	2823	2587	2484	2429
55°	2190	2124	1926	1698	1610	1965
65°	1301	1228	1110	1132	941	1282
75°	522	485	456	434	478	559
85°	74	81	88	96	103	102
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	6358.2	6358.2	6358.2	6358.2	6358.2
2.5°	6314.1	6314.1	6314.1	6306.7	6306.7
5°	6247.9	6240.6	6240.6	6233.2	6233.2
7.5°	6196.5	6189.1	6181.8	6174.4	6159.7
10°	6122.9	6122.9	6115.6	6078.8	6071.5
12.5°	6005.3	5998.0	5968.6	5917.1	5902.4
15°	5843.6	5843.6	5784.8	5726.0	5704.0
17.5°	5667.2	5659.9	5586.4	5527.6	5498.2
20°	5476.1	5461.4	5387.9	5292.3	5240.9
22.5°	5262.9	5262.9	5174.7	5049.8	4998.3
25°	5064.5	5035.1	4954.2	4777.8	4645.5
27.5°	4836.6	4792.5	4704.3	4454.4	4300.0
30°	4586.7	4564.6	4439.7	4116.3	3998.7
32.5°	4351.5	4314.7	4182.4	3844.3	3748.7
35°	4108.9	4079.5	3881.1	3587.0	3498.8
37.5°	3866.4	3829.6	3579.7	3344.5	3234.2
40°	3623.8	3579.7	3307.7	3094.6	2976.9
42.5°	3395.9	3337.1	3072.5	2844.6	2712.3
45°	3153.4	3087.2	2822.6	2587.4	2484.5
47.5°	2910.8	2852.0	2609.4	2366.9	2249.2
50°	2653.5	2602.1	2381.6	2139.0	2014.0
52.5°	2440.4	2359.5	2146.3	1903.8	1800.9
55°	2190.4	2124.3	1925.8	1698.0	1609.8
57.5°	1962.6	1896.4	1712.7	1499.5	1426.0
60°	1749.4	1653.9	1499.5	1315.7	1256.9
62.5°	1514.2	1440.7	1308.4	1154.0	1227.5
65°	1301.0	1227.5	1109.9	1132.0	940.9
67.5°	1065.8	1029.1	926.2	823.3	793.9
70°	867.4	823.3	786.5	676.2	646.8
72.5°	690.9	646.8	595.4	536.6	514.5
75°	521.9	485.1	455.7	433.7	477.8
77.5°	360.2	345.5	323.4	301.4	294.0
80°	235.2	227.9	220.5	213.2	205.8
82.5°	139.7	139.7	139.7	139.7	139.7
85°	73.5	80.9	88.2	95.6	102.9
87.5°	44.1	44.1	51.5	58.8	66.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)