

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: P561897

Luminaire Tested: FSR-12-4-LD4-2STD-50-UNV-93-88-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561897  
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-12-4-LD4-2STD-50-UNV-93-88-EDD  
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

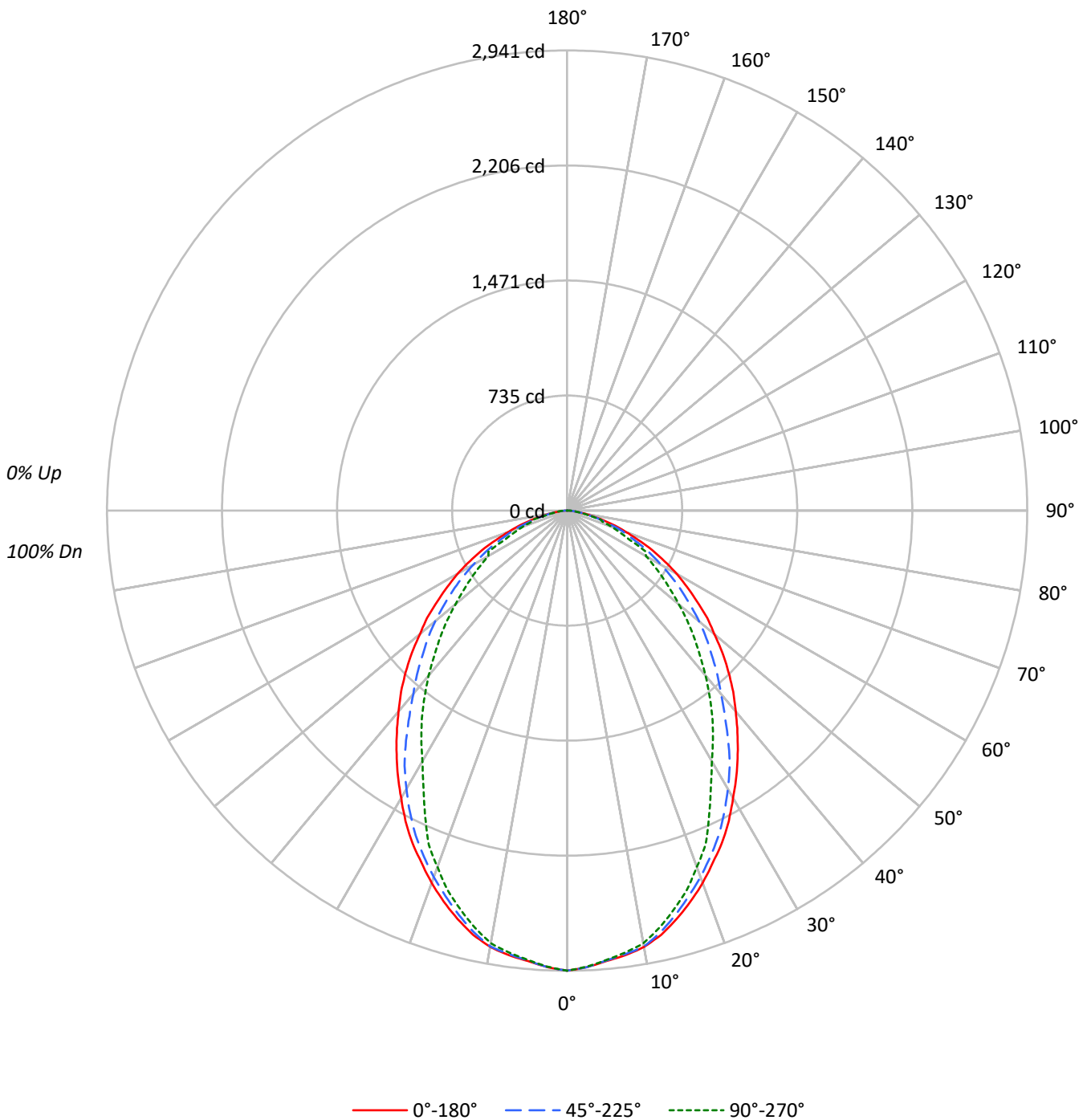
Lumens per Lamp: N/A  
Luminaire Lumens: 5773.0 lumens  
Efficiency: N/A  
Efficacy: 86.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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



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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	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100	100	100	100	100		
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87	87	87	87	87	87	87		
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75	75	75	75	75	75	75		
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65	65	65	65	65	65	65		
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56	56	56	56	56	56	56		
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50	50	50	50	50	50	50		
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44	44	44	44	44	44	44		
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40	40	40	40	40	40	40		
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36	36	36	36	36	36	36		
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33	33	33	33	33	33	33		
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30	30	30	30	30	30	30		

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

	0°	45°	90°
0°	7913	7913	7913
5°	7806	7797	7787
10°	7738	7729	7673
15°	7529	7454	7349
20°	7253	7136	6941
25°	6955	6804	6380
30°	6592	6380	5747
35°	6243	5897	5316
40°	5887	5374	4837
45°	5550	4968	4373
50°	5138	4611	3900
55°	4753	4179	3493
60°	4355	3732	3129
65°	3831	3268	2771
70°	3157	2862	2354
75°	2510	2192	2298
80°	1686	1581	1475
85°	1050	1260	1470

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5550 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	273.7	4.7
10°-20°	751.2	13.0
20°-30°	1040.1	18.0
30°-40°	1109.0	19.2
40°-50°	1011.7	17.5
50°-60°	792.6	13.7
60°-70°	516.6	8.9
70°-80°	228.9	4.0
80°-90°	49.1	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°	2065.0	35.8
0°-40°	3174.0	55.0
0°-60°	4978.4	86.2
0°-90°	5773.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5773.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2941	2941	2941	2941	2941	
5°	2890	2886	2886	2883	2883	274
15°	2703	2703	2676	2648	2638	760
25°	2342	2329	2291	2210	2149	1075
35°	1900	1887	1795	1659	1618	1188
45°	1458	1428	1306	1197	1149	1123
55°	1013	982	891	785	744	909
65°	602	568	513	524	435	593
75°	241	224	211	201	221	259
85°	34	37	41	44	48	47
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2940.7	2940.7	2940.7	2940.7	2940.7
2.5°	2920.3	2920.3	2920.3	2916.9	2916.9
5°	2889.7	2886.3	2886.3	2882.9	2882.9
7.5°	2865.9	2862.5	2859.1	2855.7	2848.9
10°	2831.9	2831.9	2828.5	2811.5	2808.1
12.5°	2777.5	2774.1	2760.5	2736.7	2729.9
15°	2702.7	2702.7	2675.5	2648.3	2638.1
17.5°	2621.1	2617.7	2583.7	2556.5	2542.9
20°	2532.7	2525.9	2491.9	2447.7	2423.9
22.5°	2434.1	2434.1	2393.3	2335.6	2311.8
25°	2342.4	2328.8	2291.4	2209.8	2148.6
27.5°	2237.0	2216.6	2175.8	2060.2	1988.8
30°	2121.4	2111.2	2053.4	1903.8	1849.4
32.5°	2012.6	1995.6	1934.4	1778.0	1733.8
35°	1900.4	1886.8	1795.0	1659.0	1618.2
37.5°	1788.2	1771.2	1655.6	1546.8	1495.8
40°	1676.0	1655.6	1529.8	1431.2	1376.9
42.5°	1570.6	1543.4	1421.0	1315.7	1254.5
45°	1458.4	1427.8	1305.5	1196.7	1149.1
47.5°	1346.3	1319.1	1206.9	1094.7	1040.3
50°	1227.3	1203.5	1101.5	989.3	931.5
52.5°	1128.7	1091.3	992.7	880.5	832.9
55°	1013.1	982.5	890.7	785.3	744.5
57.5°	907.7	877.1	792.1	693.5	659.5
60°	809.1	764.9	693.5	608.5	581.3
62.5°	700.3	666.3	605.1	533.7	567.7
65°	601.7	567.7	513.3	523.5	435.2
67.5°	492.9	475.9	428.4	380.8	367.2
70°	401.2	380.8	363.8	312.8	299.2
72.5°	319.6	299.2	275.4	248.2	238.0
75°	241.4	224.4	210.8	200.6	221.0
77.5°	166.6	159.8	149.6	139.4	136.0
80°	108.8	105.4	102.0	98.6	95.2
82.5°	64.6	64.6	64.6	64.6	64.6
85°	34.0	37.4	40.8	44.2	47.6
87.5°	20.4	20.4	23.8	27.2	30.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)