

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: P562910

Luminaire Tested: FSR-24-4-LD4-2STD-35-UNV-82-97-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562910  
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-35-UNV-82-97-EDD-90  
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

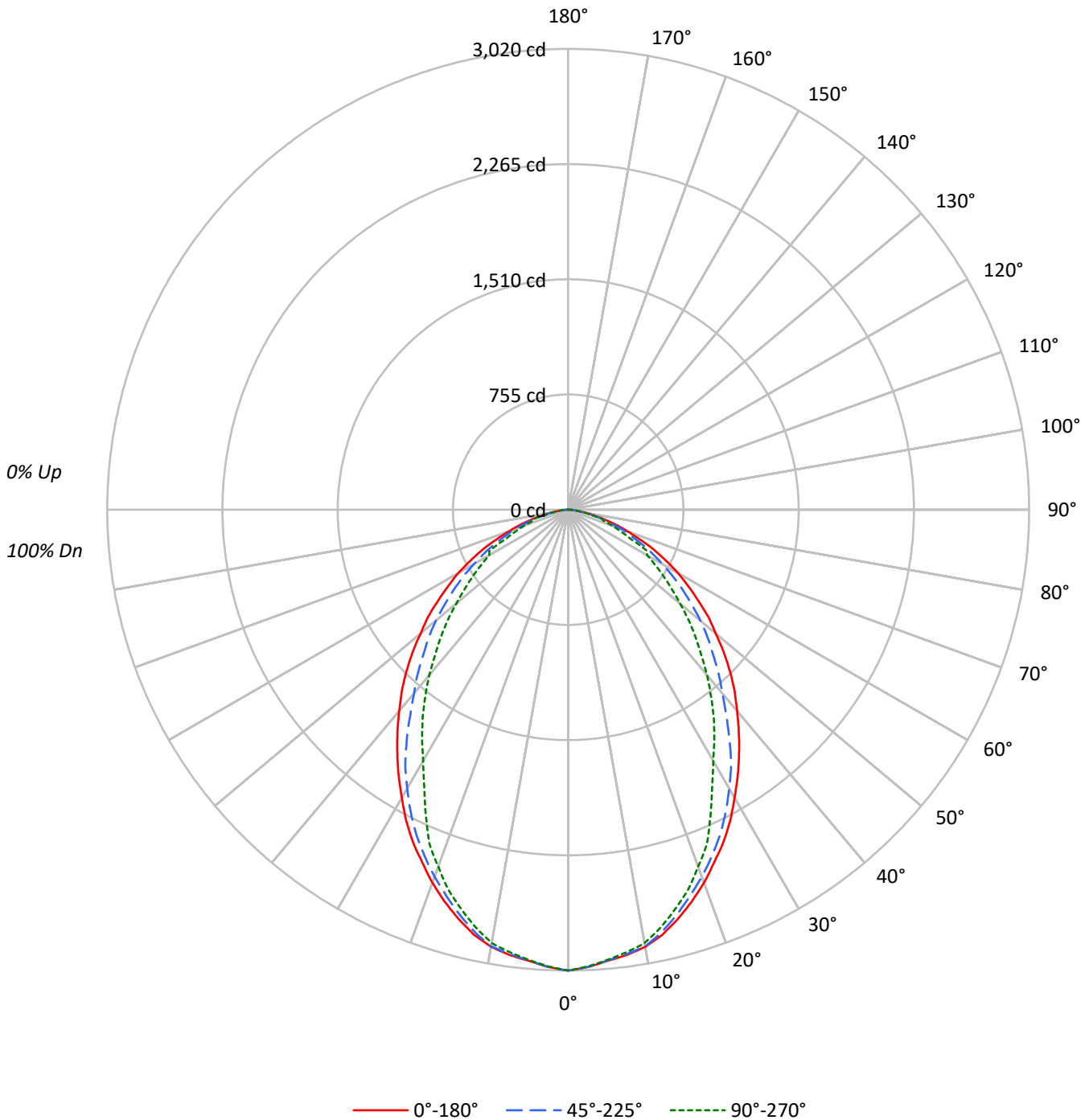
Lumens per Lamp: N/A  
Luminaire Lumens: 5929.0 lumens  
Efficiency: N/A  
Efficacy: 89.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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



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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	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°	4064	4064	4064
5°	4008	4004	3999
10°	3974	3969	3940
15°	3866	3828	3774
20°	3725	3665	3564
25°	3571	3494	3276
30°	3385	3276	2951
35°	3206	3028	2730
40°	3023	2760	2484
45°	2850	2551	2246
50°	2638	2368	2003
55°	2441	2146	1794
60°	2236	1917	1607
65°	1968	1678	1423
70°	1621	1470	1209
75°	1289	1125	1180
80°	865	811	758
85°	539	647	755

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2850 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	281.1	4.7
10°-20°	771.6	13.0
20°-30°	1068.2	18.0
30°-40°	1139.0	19.2
40°-50°	1039.1	17.5
50°-60°	814.0	13.7
60°-70°	530.5	8.9
70°-80°	235.1	4.0
80°-90°	50.4	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°	2120.9	35.8
0°-40°	3259.8	55.0
0°-60°	5112.9	86.2
0°-90°	5929.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5929.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3020	3020	3020	3020	3020	
5°	2968	2964	2964	2961	2961	282
15°	2776	2776	2748	2720	2709	780
25°	2406	2392	2353	2270	2207	1104
35°	1952	1938	1844	1704	1662	1220
45°	1498	1466	1341	1229	1180	1154
55°	1040	1009	915	806	765	933
65°	618	583	527	538	447	609
75°	248	230	216	206	227	266
85°	35	38	42	45	49	48
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3020.2	3020.2	3020.2	3020.2	3020.2
2.5°	2999.2	2999.2	2999.2	2995.7	2995.7
5°	2967.8	2964.3	2964.3	2960.8	2960.8
7.5°	2943.3	2939.8	2936.4	2932.9	2925.9
10°	2908.4	2908.4	2904.9	2887.5	2884.0
12.5°	2852.6	2849.1	2835.1	2810.7	2803.7
15°	2775.7	2775.7	2747.8	2719.9	2709.4
17.5°	2692.0	2688.5	2653.5	2625.6	2611.6
20°	2601.2	2594.2	2559.3	2513.9	2489.4
22.5°	2499.9	2499.9	2458.0	2398.7	2374.2
25°	2405.6	2391.7	2353.3	2269.5	2206.6
27.5°	2297.4	2276.5	2234.6	2115.9	2042.5
30°	2178.7	2168.2	2108.9	1955.2	1899.4
32.5°	2067.0	2049.5	1986.7	1826.1	1780.7
35°	1951.8	1937.8	1843.5	1703.9	1662.0
37.5°	1836.5	1819.1	1700.4	1588.6	1536.3
40°	1721.3	1700.4	1571.2	1469.9	1414.1
42.5°	1613.1	1585.1	1459.4	1351.2	1288.4
45°	1497.9	1466.4	1340.7	1229.0	1180.1
47.5°	1382.6	1354.7	1239.5	1124.3	1068.4
50°	1260.4	1236.0	1131.2	1016.0	956.7
52.5°	1159.2	1120.8	1019.5	904.3	855.4
55°	1040.5	1009.0	914.8	806.5	764.6
57.5°	932.2	900.8	813.5	712.3	677.4
60°	831.0	785.6	712.3	625.0	597.0
62.5°	719.3	684.3	621.5	548.2	583.1
65°	618.0	583.1	527.2	537.7	446.9
67.5°	506.3	488.8	439.9	391.0	377.1
70°	412.0	391.0	373.6	321.2	307.3
72.5°	328.2	307.3	282.8	254.9	244.4
75°	247.9	230.4	216.5	206.0	226.9
77.5°	171.1	164.1	153.6	143.2	139.7
80°	111.7	108.2	104.7	101.3	97.8
82.5°	66.3	66.3	66.3	66.3	66.3
85°	34.9	38.4	41.9	45.4	48.9
87.5°	20.9	20.9	24.4	27.9	31.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)