

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: P563102

Luminaire Tested: FSR-24-4-LD4-3HI-35-UNV-82-97-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563102  
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-LD4-3HI-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**

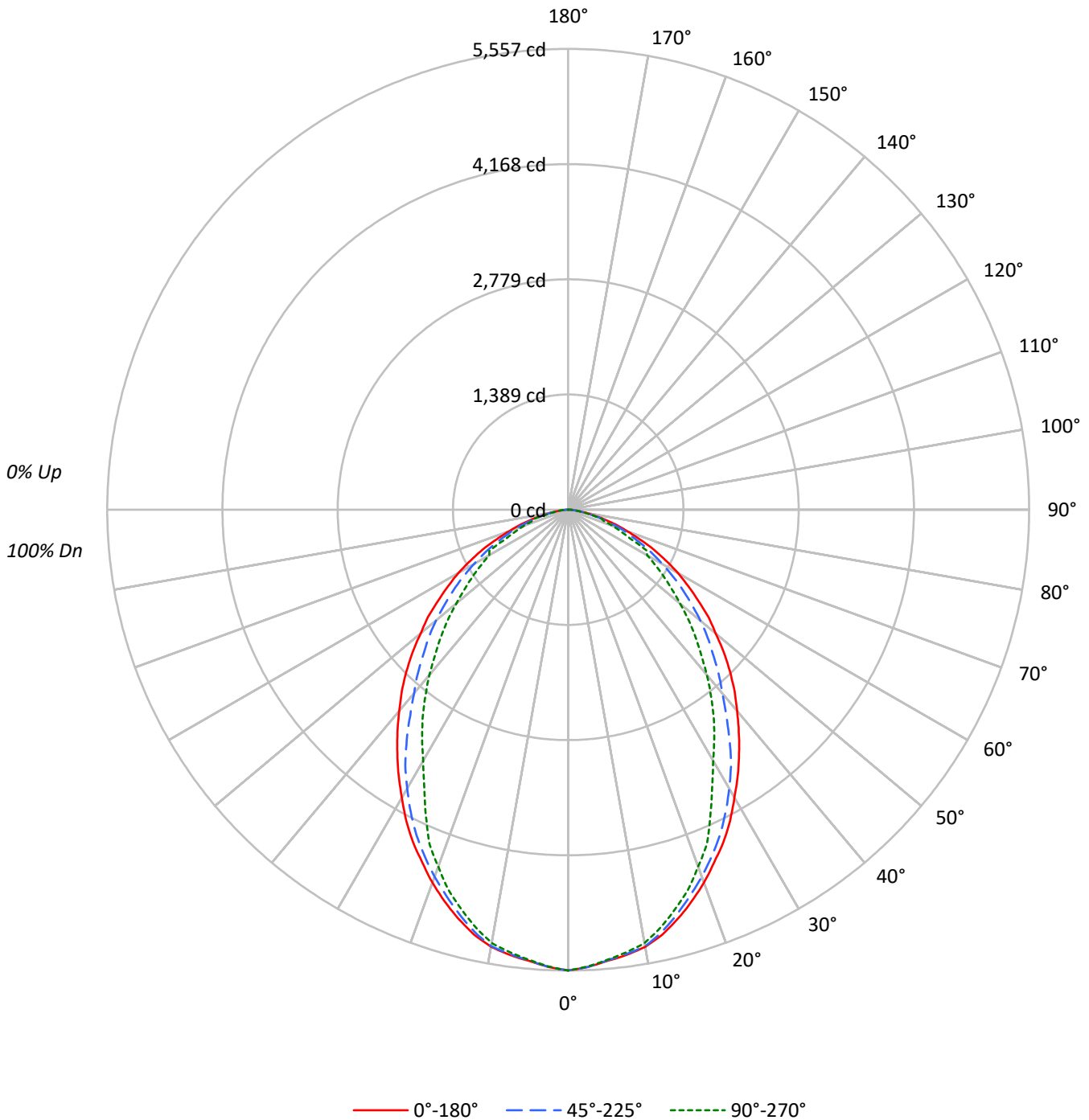
Lumens per Lamp: N/A  
Luminaire Lumens: 10909.0 lumens  
Efficiency: N/A  
Efficacy: 84.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 129.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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			
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°	7477	7477	7477
5°	7375	7366	7358
10°	7311	7302	7250
15°	7114	7042	6944
20°	6853	6742	6558
25°	6571	6428	6028
30°	6228	6028	5429
35°	5899	5571	5023
40°	5563	5078	4570
45°	5244	4694	4132
50°	4854	4357	3684
55°	4491	3948	3300
60°	4115	3527	2956
65°	3620	3088	2618
70°	2982	2704	2224
75°	2371	2071	2171
80°	1593	1493	1394
85°	991	1190	1388

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5244 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	517.3	4.7
10°-20°	1419.6	13.0
20°-30°	1965.4	18.0
30°-40°	2095.6	19.2
40°-50°	1911.8	17.5
50°-60°	1497.8	13.7
60°-70°	976.2	8.9
70°-80°	432.5	4.0
80°-90°	92.9	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°	3902.2	35.8
0°-40°	5997.9	55.0
0°-60°	9407.5	86.2
0°-90°	10909.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10909.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5557	5557	5557	5557	5557	
5°	5460	5454	5454	5448	5448	518
15°	5107	5107	5056	5004	4985	1436
25°	4426	4400	4330	4176	4060	2032
35°	3591	3565	3392	3135	3058	2245
45°	2756	2698	2467	2261	2171	2123
55°	1914	1857	1683	1484	1407	1717
65°	1137	1073	970	989	822	1121
75°	456	424	398	379	418	489
85°	64	71	77	84	90	89
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5556.9	5556.9	5556.9	5556.9	5556.9
2.5°	5518.4	5518.4	5518.4	5511.9	5511.9
5°	5460.5	5454.1	5454.1	5447.7	5447.7
7.5°	5415.6	5409.1	5402.7	5396.3	5383.4
10°	5351.3	5351.3	5344.9	5312.8	5306.4
12.5°	5248.5	5242.1	5216.4	5171.4	5158.6
15°	5107.2	5107.2	5055.8	5004.4	4985.1
17.5°	4953.0	4946.6	4882.4	4831.0	4805.3
20°	4786.0	4773.2	4708.9	4625.4	4580.4
22.5°	4599.7	4599.7	4522.6	4413.4	4368.4
25°	4426.2	4400.5	4329.9	4175.7	4060.1
27.5°	4227.1	4188.6	4111.5	3893.0	3758.1
30°	4008.7	3989.4	3880.2	3597.5	3494.7
32.5°	3803.1	3771.0	3655.3	3359.8	3276.3
35°	3591.1	3565.4	3392.0	3135.0	3057.9
37.5°	3379.1	3347.0	3128.6	2923.0	2826.6
40°	3167.1	3128.6	2890.9	2704.6	2601.8
42.5°	2968.0	2916.6	2685.3	2486.2	2370.5
45°	2756.0	2698.1	2466.9	2261.3	2171.4
47.5°	2544.0	2492.6	2280.6	2068.6	1965.8
50°	2319.1	2274.2	2081.4	1869.4	1760.2
52.5°	2132.8	2062.2	1875.9	1663.9	1573.9
55°	1914.4	1856.6	1683.1	1484.0	1406.9
57.5°	1715.3	1657.4	1496.8	1310.5	1246.3
60°	1529.0	1445.4	1310.5	1149.9	1098.5
62.5°	1323.4	1259.1	1143.5	1008.6	1072.8
65°	1137.1	1072.8	970.0	989.3	822.3
67.5°	931.5	899.4	809.4	719.5	693.8
70°	758.1	719.5	687.4	591.0	565.3
72.5°	603.9	565.3	520.4	469.0	449.7
75°	456.1	424.0	398.3	379.0	417.6
77.5°	314.8	301.9	282.7	263.4	257.0
80°	205.6	199.1	192.7	186.3	179.9
82.5°	122.1	122.1	122.1	122.1	122.1
85°	64.2	70.7	77.1	83.5	89.9
87.5°	38.5	38.5	45.0	51.4	57.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)