

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: P563282

Luminaire Tested: FSR-24-4-LD4-3LO-35-UNV-82-85-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563282  
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-LD4-3LO-35-UNV-82-85-EDD-90  
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

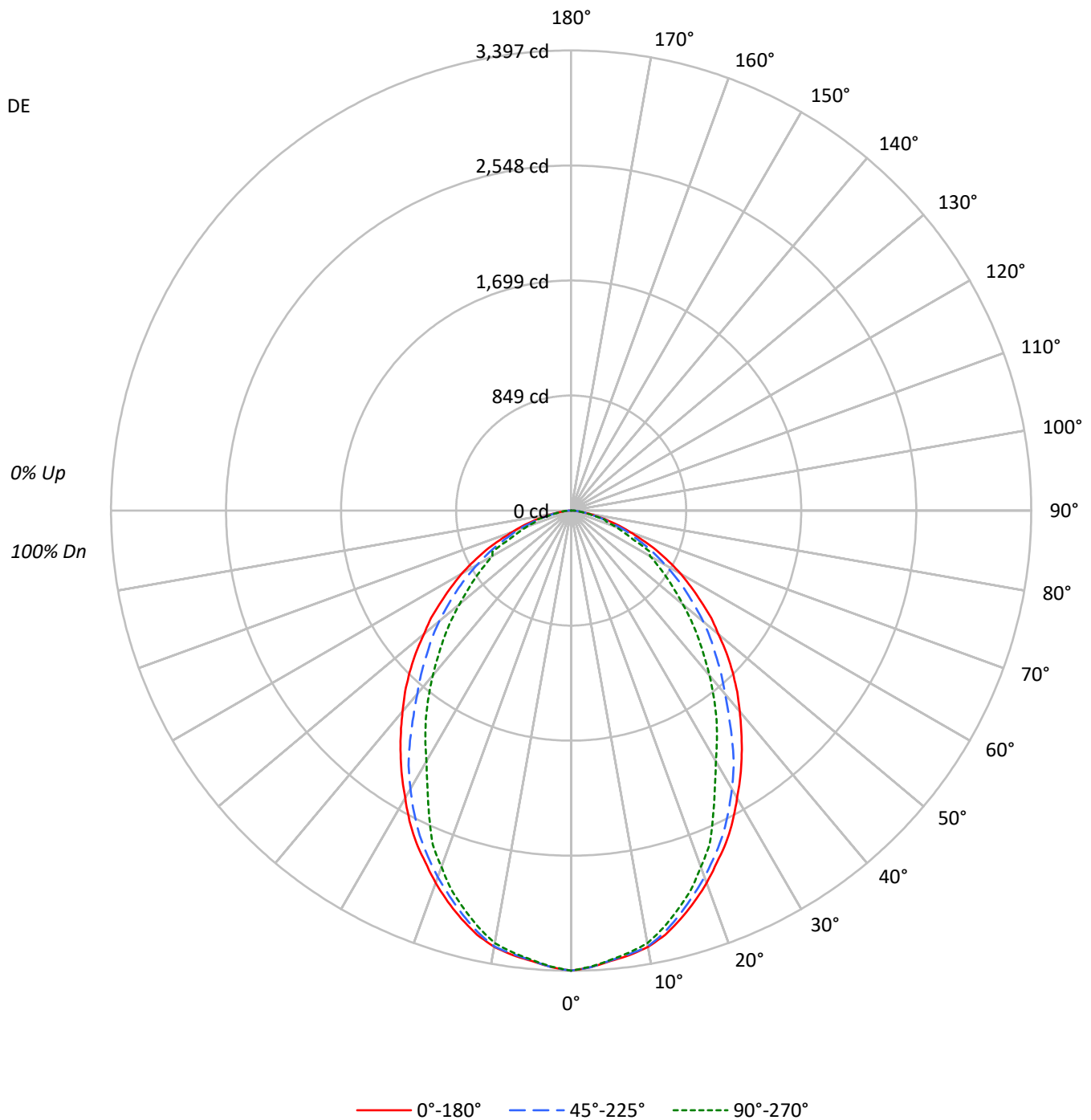
Lumens per Lamp: N/A  
Luminaire Lumens: 6668.0 lumens  
Efficiency: N/A  
Efficacy: 95.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 70.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	4570	4570	4570
5°	4508	4503	4497
10°	4469	4464	4431
15°	4348	4305	4244
20°	4189	4121	4009
25°	4017	3929	3684
30°	3807	3685	3319
35°	3605	3405	3070
40°	3400	3104	2793
45°	3205	2869	2525
50°	2967	2663	2252
55°	2745	2413	2017
60°	2515	2155	1807
65°	2213	1888	1600
70°	1823	1653	1359
75°	1449	1266	1327
80°	974	913	852
85°	607	727	849

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3205 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	316.2	4.7
10°-20°	867.7	13.0
20°-30°	1201.3	18.0
30°-40°	1280.9	19.2
40°-50°	1168.6	17.5
50°-60°	915.5	13.7
60°-70°	596.7	8.9
70°-80°	264.4	4.0
80°-90°	56.8	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°	2385.2	35.8
0°-40°	3666.1	55.0
0°-60°	5750.2	86.2
0°-90°	6668.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6668.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3397	3397	3397	3397	3397	
5°	3338	3334	3334	3330	3330	317
15°	3122	3122	3090	3059	3047	878
25°	2706	2690	2647	2552	2482	1242
35°	2195	2179	2073	1916	1869	1372
45°	1685	1649	1508	1382	1327	1298
55°	1170	1135	1029	907	860	1050
65°	695	656	593	605	503	685
75°	279	259	244	232	255	299
85°	39	43	47	51	55	54
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3396.6	3396.6	3396.6	3396.6	3396.6
2.5°	3373.0	3373.0	3373.0	3369.1	3369.1
5°	3337.7	3333.8	3333.8	3329.8	3329.8
7.5°	3310.2	3306.3	3302.3	3298.4	3290.6
10°	3270.9	3270.9	3267.0	3247.4	3243.4
12.5°	3208.1	3204.2	3188.5	3161.0	3153.1
15°	3121.7	3121.7	3090.3	3058.9	3047.1
17.5°	3027.5	3023.6	2984.3	2952.9	2937.2
20°	2925.4	2917.5	2878.3	2827.2	2799.7
22.5°	2811.5	2811.5	2764.4	2697.6	2670.2
25°	2705.5	2689.8	2646.6	2552.4	2481.7
27.5°	2583.8	2560.2	2513.1	2379.6	2297.1
30°	2450.3	2438.5	2371.7	2198.9	2136.1
32.5°	2324.6	2305.0	2234.3	2053.7	2002.6
35°	2195.0	2179.3	2073.3	1916.2	1869.1
37.5°	2065.4	2045.8	1912.3	1786.6	1727.7
40°	1935.9	1912.3	1767.0	1653.1	1590.3
42.5°	1814.1	1782.7	1641.4	1519.6	1449.0
45°	1684.6	1649.2	1507.9	1382.2	1327.2
47.5°	1555.0	1523.6	1394.0	1264.4	1201.6
50°	1417.5	1390.0	1272.2	1142.7	1075.9
52.5°	1303.7	1260.5	1146.6	1017.0	962.0
55°	1170.2	1134.8	1028.8	907.1	859.9
57.5°	1048.4	1013.1	914.9	801.0	761.8
60°	934.6	883.5	801.0	702.9	671.5
62.5°	808.9	769.6	699.0	616.5	655.8
65°	695.0	655.8	592.9	604.7	502.6
67.5°	569.4	549.7	494.8	439.8	424.1
70°	463.3	439.8	420.2	361.3	345.5
72.5°	369.1	345.5	318.1	286.6	274.9
75°	278.8	259.2	243.5	231.7	255.2
77.5°	192.4	184.6	172.8	161.0	157.1
80°	125.7	121.7	117.8	113.9	109.9
82.5°	74.6	74.6	74.6	74.6	74.6
85°	39.3	43.2	47.1	51.0	55.0
87.5°	23.6	23.6	27.5	31.4	35.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)