

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: P563990

Luminaire Tested: FSR-24-4-LD4-4LO-50-UNV-82-87-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563990  
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-LD4-4LO-50-UNV-82-87-EDD-90  
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

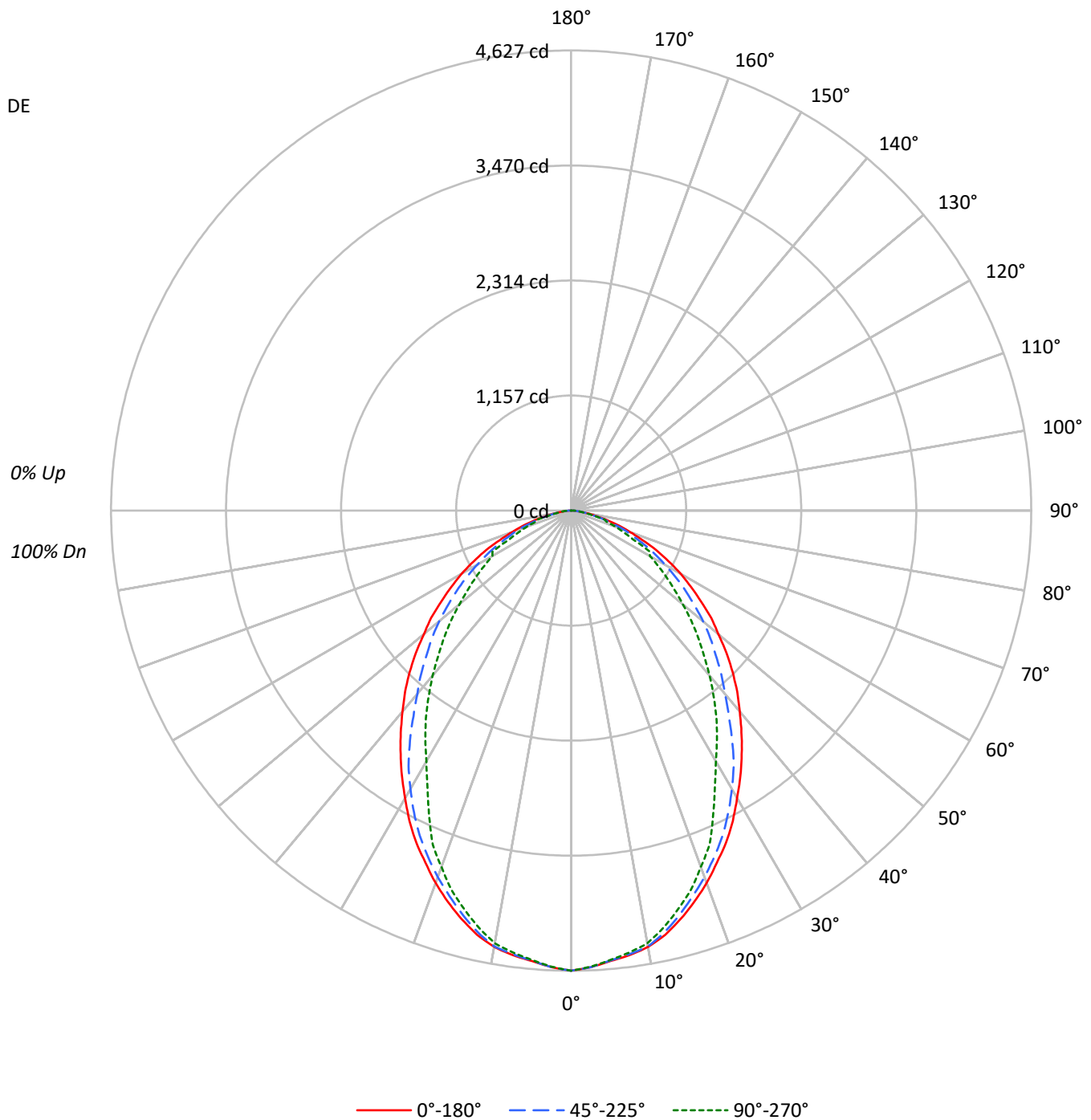
Lumens per Lamp: N/A  
Luminaire Lumens: 9083.0 lumens  
Efficiency: N/A  
Efficacy: 97.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 93.6  
Input Voltage (V):  
Input Current (A<sub>in</sub>): 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°	6225	6225	6225
5°	6141	6133	6126
10°	6087	6080	6036
15°	5923	5864	5782
20°	5706	5614	5461
25°	5471	5352	5019
30°	5186	5019	4521
35°	4911	4639	4182
40°	4632	4228	3805
45°	4366	3908	3440
50°	4042	3628	3068
55°	3739	3287	2748
60°	3426	2936	2461
65°	3014	2571	2180
70°	2483	2251	1852
75°	1974	1724	1808
80°	1327	1244	1161
85°	826	991	1156

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4366 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	430.7	4.7
10°-20°	1182.0	13.0
20°-30°	1636.4	18.0
30°-40°	1744.9	19.2
40°-50°	1591.8	17.5
50°-60°	1247.1	13.7
60°-70°	812.8	8.9
70°-80°	360.1	4.0
80°-90°	77.3	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°	3249.1	35.8
0°-40°	4993.9	55.0
0°-60°	7832.8	86.2
0°-90°	9083.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9083.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4627	4627	4627	4627	4627	
5°	4546	4541	4541	4536	4536	432
15°	4252	4252	4210	4167	4151	1195
25°	3685	3664	3605	3477	3380	1692
35°	2990	2969	2824	2610	2546	1869
45°	2295	2246	2054	1883	1808	1768
55°	1594	1546	1401	1236	1171	1430
65°	947	893	808	824	685	933
75°	380	353	332	316	348	407
85°	54	59	64	70	75	74
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4626.8	4626.8	4626.8	4626.8	4626.8
2.5°	4594.7	4594.7	4594.7	4589.3	4589.3
5°	4546.5	4541.2	4541.2	4535.8	4535.8
7.5°	4509.1	4503.7	4498.4	4493.0	4482.3
10°	4455.6	4455.6	4450.2	4423.5	4418.2
12.5°	4370.0	4364.7	4343.3	4305.8	4295.1
15°	4252.3	4252.3	4209.5	4166.8	4150.7
17.5°	4124.0	4118.6	4065.1	4022.3	4000.9
20°	3984.9	3974.2	3920.7	3851.2	3813.7
22.5°	3829.8	3829.8	3765.6	3674.7	3637.2
25°	3685.4	3664.0	3605.1	3476.8	3380.5
27.5°	3519.5	3487.5	3423.3	3241.4	3129.1
30°	3337.7	3321.6	3230.7	2995.4	2909.8
32.5°	3166.5	3139.8	3043.5	2797.5	2727.9
35°	2990.0	2968.6	2824.2	2610.2	2546.1
37.5°	2813.5	2786.8	2604.9	2433.7	2353.5
40°	2637.0	2604.9	2407.0	2251.9	2166.3
42.5°	2471.2	2428.4	2235.8	2070.0	1973.7
45°	2294.7	2246.5	2054.0	1882.8	1807.9
47.5°	2118.1	2075.4	1898.8	1722.3	1636.7
50°	1930.9	1893.5	1733.0	1556.5	1465.6
52.5°	1775.8	1717.0	1561.9	1385.4	1310.5
55°	1594.0	1545.8	1401.4	1235.6	1171.4
57.5°	1428.1	1380.0	1246.3	1091.2	1037.7
60°	1273.0	1203.5	1091.2	957.4	914.7
62.5°	1101.9	1048.4	952.1	839.8	893.3
65°	946.7	893.3	807.7	823.7	684.7
67.5°	775.6	748.8	674.0	599.1	577.7
70°	631.2	599.1	572.3	492.1	470.7
72.5°	502.8	470.7	433.3	390.5	374.4
75°	379.8	353.0	331.6	315.6	347.7
77.5°	262.1	251.4	235.3	219.3	214.0
80°	171.2	165.8	160.5	155.1	149.8
82.5°	101.6	101.6	101.6	101.6	101.6
85°	53.5	58.8	64.2	69.5	74.9
87.5°	32.1	32.1	37.4	42.8	48.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)