



# OMIS

# OMIS High Gain Optical Microcrystalline Cinema Projection Screen

## White Screen for Reduced RGB Speckling

### Key Features



#### Ultra-Low Speckle

3.5% ultra-low speckle contrast maximizes the brightness, contrast, and image uniformity of RGB lasers, ensuring accurate color reproduction



#### Wide Viewing Angle

Supports 160-degree viewing and wide-angle projection



#### Cleanable Surface

Anti-oil and Anti-stain: Resists permanent markers with an easy-to-clean finish. Resistant to common spills and fruit juice



#### No Solar Effect

Eliminates harsh specular reflections and dead zones to ensure highly uniform light distribution



#### High Screen Gain

2.2 gain optical-grade white screen



#### Anti-Ambient Light Interference

Ambient occlusion rate of 55%, effectively minimizing stray light interference



#### Stable Performance

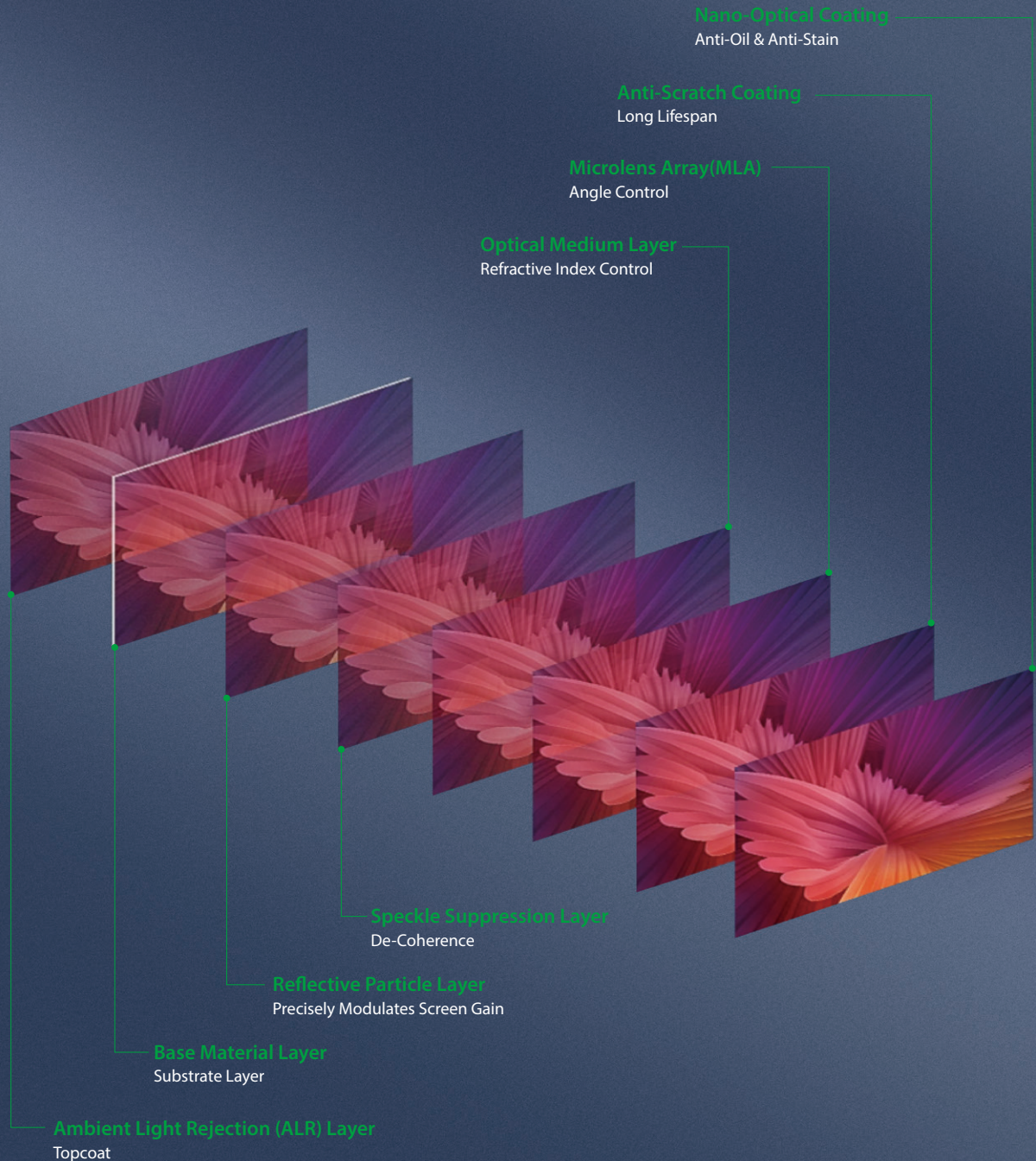
Exceptionally long service life with zero yellowing over time

# Technical Principles



Utilizing Stacked Multi-layer Microlens Array (MLA) technology and multi-stage particle reflection pathways, the screen effectively destabilizes laser coherence to suppress speckle at its source.

It achieves a precision-engineered synergy between high gain, speckle mitigation, luminance uniformity, and color fidelity.



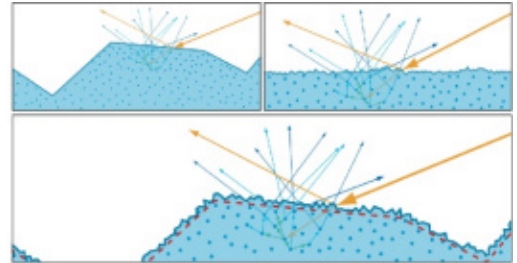
**OMIS Core Patent Technology**

# Optical Micro-Mirror Array: Core Technology

01

## Professional Optical Design:

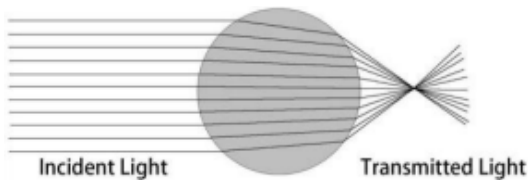
Features micrometer-scale optical micro-mirror structures, engineered with precision optical modeling and ray-tracing simulations to accurately control beam shape and propagation paths. Widely applied in imaging and beam-shaping applications.



02

## Precise Light-Field Control:

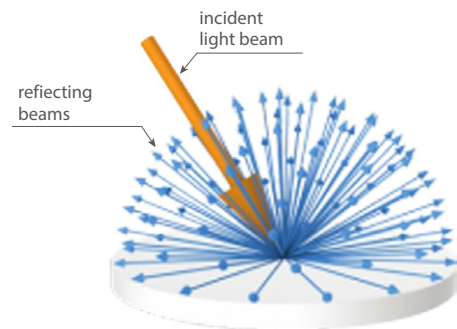
Utilizes a microlens array randomly distributed across a spherical reflective structure to enable controlled, continuous, uniform, and high-gain diffuse reflection, optimizing image quality and brightness consistency.



03

## Complex Light-Field Manipulation:

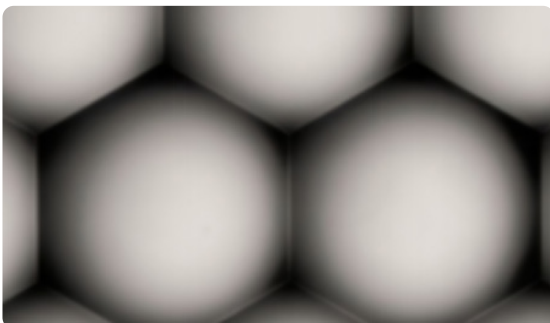
Employs parallel micro-optical modulation to homogenize light beams for improved illumination uniformity and simultaneously enhances imaging performance through extended depth of field and higher resolution.



04

## Mass-Scale Micro-Mirror Industrialization:

Mastered the design and mass production of large-format optical films embedded with ultra-high-density microlens arrays. A proprietary manufacturing ecosystem, supported by in-house developed equipment, ensures a closed-loop, end-to-end production capability.



# OMIS Optical White Screen Specifications



No.	Specification	Parameter	Description
1	Brightness Uniformity	≥ 95%	Optimized viewing-angle compensation design, delivering an optimal viewing experience from every seat in the auditorium
2	System Speckle Contrast(%)	<3.5%	Compatible with RGB laser projection, with no visible speckle to the naked eye
3	Ambient Light Rejection Rate (30°)	26.9%	Suitable for viewing in moderately low-light environments
4	Resolution (Sharpness)	≥ 145 line pairs	Supports 8K ultra-high-definition display
5	Water Contact Angle	>90°	Anti-oil and Anti-stain: Resists permanent markers with an easy-to-clean finish. Resistant to common spills and fruit juice
6	Temperature Resistance	-70°C~120°C	Engineered to perform reliably in even the most demanding environments
7	Surface Hardness	4H	Resistant to daily wear and nail scratches
8	Surface Adhesion	4B	Withstands over 100 cleaning cycles
9	Acoustic Perforation Diameter	0.18mm	Complies with GB/T 13982-2011 "Reflective and Transmissive Projection Screens" electroacoustic requirements
10	Environmental Performance	Odorless	Non-toxic and eco-friendly; ready for immediate operation post-installation without off-gassing

## Technical Specifications Comparison

Parameter	OMIS Optical White Screen	Conventional White Screen	Metallic Silver Screen
Material	Multi-Layer PET Polymer	PVC	PVC
Core Technology	Stacked Microlens Array (MLA) & Laser Speckle Mitigation Technology	Spray-Coating	Spray-Coating
Gain(dB)	2.2 <sup>^</sup>	0.8-1.2	2.4-3.0
Horizontal Viewing Angle	Wide Viewing Angle	Wide Viewing Angle	35°-40°
Color Temperature Deviation	<50K	<100K	<200K
Oil Resistance	Anti-Oil & Anti-Stain, Cleanable	Non-Cleanable	Non-Cleanable
RGB Speckle Performance	Speckle-Free (3.5%)	Speckle-Free	Severe Speckle (>16%)
Optical Stability	Zero Decay	Linear Decay	Fast Decay
Service Life	>10 Years	5 Years	5 Years

<sup>^</sup> DYT 4-2020 "Technical Requirements and Measurement Methods for Giant Metal Screens"