VENUSLAB
OPTOELECTRONICS

Precision Meets Simplicity

Optical Mirrors

High-Performance Laser Line Mirrors

It is a critical-path solution designed specifically for high-power laser systems

- Extreme Reflectivity (R > 99.9%)
- Market-Leading LIDT
- Universal Angle Acceptance (0-45° AOI)
- Thermal Wavefront Stability
- Ultra-Low Scatter (10-5 S-D)

One Platform Many Possibilities

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High-Performance Laser Line Mirrors

2025 Ver1

Overview

VenusLab VLLM Series: Precision for Every Photon

The **VenusLab VLLM Series** represents the pinnacle of laser beam steering technology. Designed for high-performance applications, these laser line mirrors are optimized for the most demanding scientific and industrial wavelengths, from Deep-UV (266nm) to Near-Infrared (1550nm).

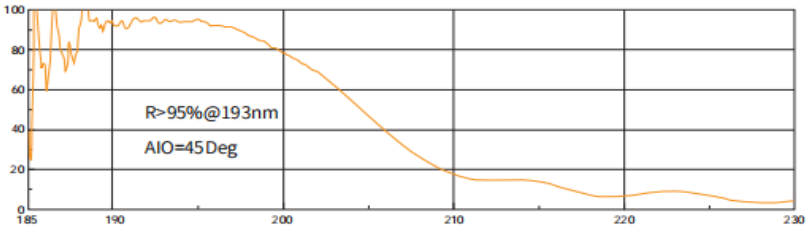
Unlike general-purpose mirrors, our VLLM series features advanced **Ion-Beam Sputtered (IBS)** or **Electron-beam (E-beam)** dielectric coatings. This ensures a remarkably high reflectivity (>99.9%) and an industry-leading Laser Induced Damage Threshold (LIDT). Whether you are operating a high-power Fiber laser for material processing or a precision DPSS laser for quantum research, the VLLM series provides the reliability you need.

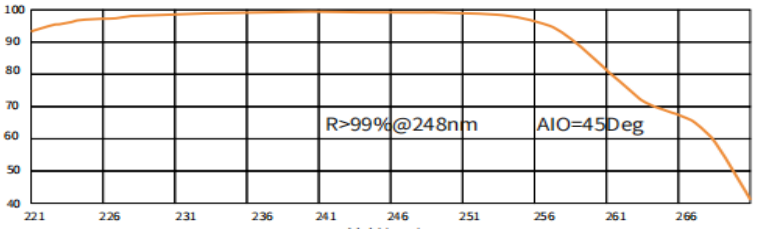
Why Choose VenusLab VLLM?

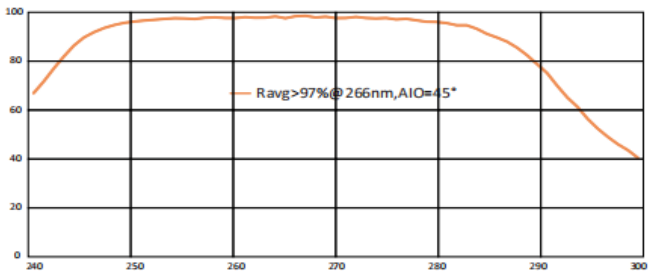
- Versatile Design: Optimized for 0° to 45° Angle of Incidence (AOI), making it the most flexible mirror in your lab.
- Durability: Hard-coated surfaces resistant to environmental humidity and temperature fluctuations.
- Clarity: λ/10 surface flatness to ensure zero beam distortion after reflection.

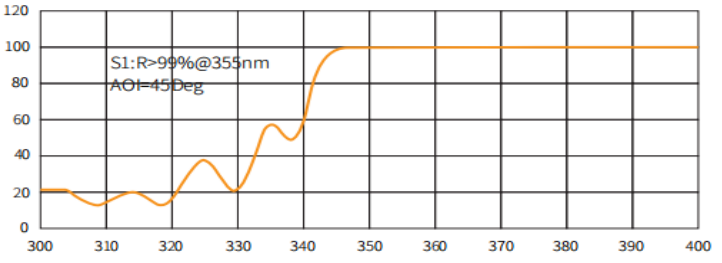
Reference Curve Diagram

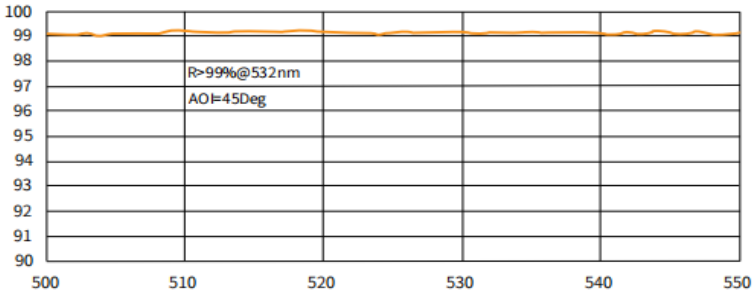
Reference Curve for High-Performance Laser Mirror at 45° AOI

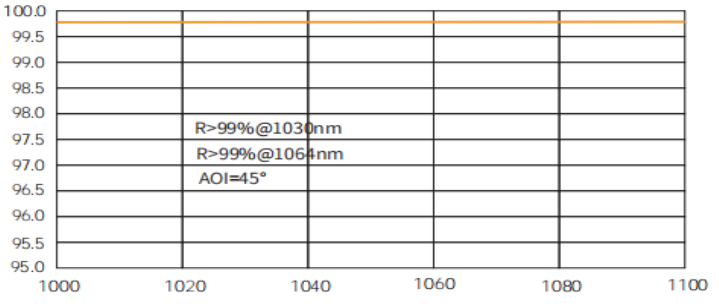












Selection Chart

High-Performance Laser Line Mirrors (VLLM Series)

Item No.	AOI (°)	Wavelength (nm)	Diameter (mm)	Thickness (mm)	Surface Flatness	Clear Aperture	Reflectivity (%)	LIDT (J/cm2)
VLLM20-193	45	193	20	4	λ/10	> 90%	95	> 2
VLLM25.4-193	45	193	25.4	6	λ/10	> 90%	95	> 2
VLLM50.8-193	45	193	50.8	9	λ/10	> 90%	95	> 2
VLLM20-248	45	248	20	4	λ/10	> 90%	99	> 5

VLLM25.4-248	45	248	25.4	5	λ/10	> 90%	99	> 5
VLLM30-248	45	248	30	5	λ/10	> 90%	99	> 5
VLLM50-248	45	248	50	5	λ/10	> 90%	99	> 5
VLLM20-266	45	266	20	4	λ/10	> 90%	97	> 5
VLLM25.4-266	45	266	25.4	5	λ/10	> 90%	97	> 5
VLLM30-266	45	266	30	5	λ/10	> 90%	97	> 5
VLLM50-266	45	266	50	5	λ/10	> 90%	97	> 5
VLLM25.4-283	45	283	25.4	5	λ/10	> 90%	99.5	> 5
VLLM50.8-283	45	283	50.8	5	λ/10	> 90%	99.5	> 5
VLLM20-308	45	308	20	4	λ/10	> 90%	99	> 5
VLLM25.4-308	45	308	25.4	5	λ/10	> 90%	99	> 5
VLLM30-308	45	308	30	5	λ/10	> 90%	99	> 5
VLLM50-308	45	308	50	5	λ/10	> 90%	99	> 5
VLLM20-355	45	355	20	4	λ/10	> 90%	99	> 5
VLLM25.4-355	45	355	25.4	5	λ/10	> 90%	99	> 5
VLLM30-355	45	355	30	5	λ/10	> 90%	99	> 5
VLLM50-355	45	355	50	5	λ/10	> 90%	99	> 5
VLLM100-355	45	355	100	10	λ/6	> 90%	95	> 5
VLLM20-355-Q	45	355	20	4	λ/10	> 90%	97	> 5
VLLM25.4-355-Q	45	355	25.4	5	λ/10	> 90%	97	> 5
VLLM50-355-Q	45	355	50	5	λ/10	> 90%	97	> 5
VLLM12.7-532	45	532	12.7	3	λ/10	> 90%	99	> 5
VLLM20-532	45	532	20	4	λ/10	> 90%	99	> 10
VLLM25.4-532	45	532	25.4	5	λ/10	> 90%	99	> 10
VLLM30-532	45	532	30	5	λ/10	> 90%	99	> 10
VLLM50-532	45	532	50	5	λ/10	> 90%	99	> 10
VLLM12.7-633	45	633	12.7	4	λ/10	> 90%	99	> 10
VLLM20-633	45	633	20	4	λ/10	> 90%	99	> 10
VLLM25.4-633	45	633	25.4	5	λ/10	> 90%	99	> 10
VLLM30-633	45	633	30	5	λ/10	> 90%	99	> 10
VLLM50-633	45	633	50	5	λ/10	> 90%	99	> 10
VLLM12.7-1064	45	1064	12.7	3	λ/10	> 90%	99	> 10
VLLM20-1064	45	1064	20	4	λ/10	> 90%	99	> 10
VLLM25.4-1064	45	1064	25.4	5	λ/10	> 90%	99	> 10
VLLM30-1064	45	1064	30	5	λ/10	> 90%	99	> 10
VLLM50-1064	45	1064	50	5	λ/10	> 90%	99	> 10
VLLM20-1550	45	1550	20	4	λ/10	> 90%	99	-
VLLM25.4-1550	45	1550	25.4	5	λ/10	> 90%	99	-
VLLM30-1550	45	1550	30	5	λ/10	> 90%	99	-
VLLM50-1550	45	1550	50	5	λ/10	> 90%	99	-

Serivce & Support

We are dedicated to delivering exceptional optoelectronic solutions to every client. From precision manufacturing and secure delivery to full-lifecycle technical support, we are here to ensure a seamless and reliable experience at every step.

1. Warranty Policy

Quality First, Worry-Free Operation

Warranty Period: We offer a **two-year** warranty service for all of our core optoelectronic products, effective from the date of shipment.

Coverage: We provide free repair or replacement services for malfunctions caused by material defects or workmanship errors under normal operating conditions.

Rapid Response: Upon receiving a warranty claim, we guarantee to initiate the assessment process within **24 hours** to minimize your equipment downtime.

2. Technical Support

Expert Team, Full-Process Guidance

Technical Consultation: Our team of senior optical engineers provides **24/7 online support** to assist with installation, commissioning, optical path alignment, and parameter optimization.

Scheduled Maintenance: We offer full-lifecycle maintenance recommendations, including firmware upgrades, optical component cleaning guidelines, and precision calibration services.

Training Services: We provide customized remote or on-site operational and safety training to ensure your team can operate the equipment efficiently and safely.

3. Logistics & Delivery

Precision Packaging, Global Reach

Professional Packaging: Given the fragile nature of optical instruments, we utilize industrial-grade shockproof, anti-static, and moisture-proof vacuum packaging to ensure zero damage during transit.

Logistics Partners: We partner with top-tier global logistics providers **(DHL / FedEx / UPS / SF Express)** to offer reliable shipping with real-time tracking.

Shipping Insurance: All shipments are fully insured to eliminate logistics risks.

4. Compliance & Certification

Strict Standards, Total Compliance

Quality Certification: Our manufacturing process is **ISO 9001 certified**, and our products comply with international standards such as **CE and RoHS.**

Export Compliance: "Committed to environmental responsibility, all our products comply with **RoHS 2.0 and REACH standards**, ensuring safety and global compliance."

Explore Series

Model	Reflectivity (%)	Diameter (mm)	Clear Aperture	Thickness (mm)	Wavelength (nm)	LIDT (J/cm²)
VLLM25.4-355	99	25.4	> 90%	5	355	> 5
VLLM25.4-532	99	25.4	> 90%	5	532	> 10
VLLM25.4-1064	99	25.4	> 90%	5	1064	> 10
VLLM25.4-266	97	25.4	> 90%	5	266	> 5

📩 Get in touch with our team to explore configurations,request a quote,or learn more about customized solutions tailored to your needs.

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