Offices, Manufacturing sites & Partners

NALUX

HQ, Yamkazaki Plant, Osaka

Yasu Operation, Shiga

Tokyo Sales Office, Tokyo

Sendai R&D, Miyagi

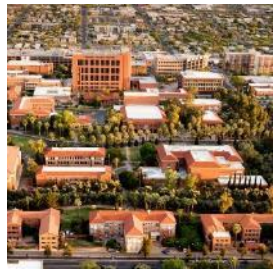
Nalux Precision Glass Co., Ltd. Kyoto

NALUX NANO OPTICAL, Inc. Columbus, US

FISBA Switzerland

Nalux Tradings (Thailand) Co., Ltd. Ayutthaya, Thailand

Changzhou Nalux Optics Co., Ltd. Chagnzhou, China



THE UNIVERSITY OF ARIZONA

Major products over various Wavelength range

NALUX

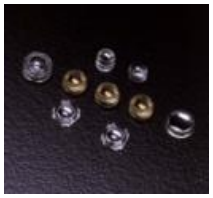
UV — Visible

UV lens

LED Illumination

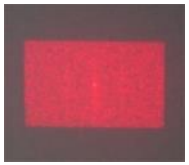
Imaging Lens Unit

Prism



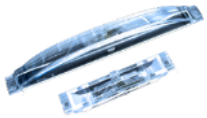
Optical Pickup Lens

Endoscope Optics



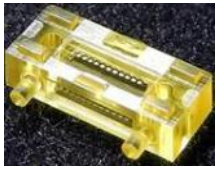
CGH

NIR — FIR



Fθ lens

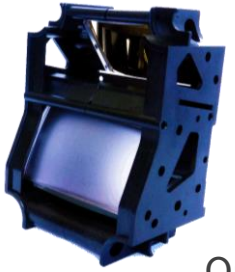
NIR optics 3D camera



Optical Communication Lens

Sensor Lens

Optical elements for high power laser

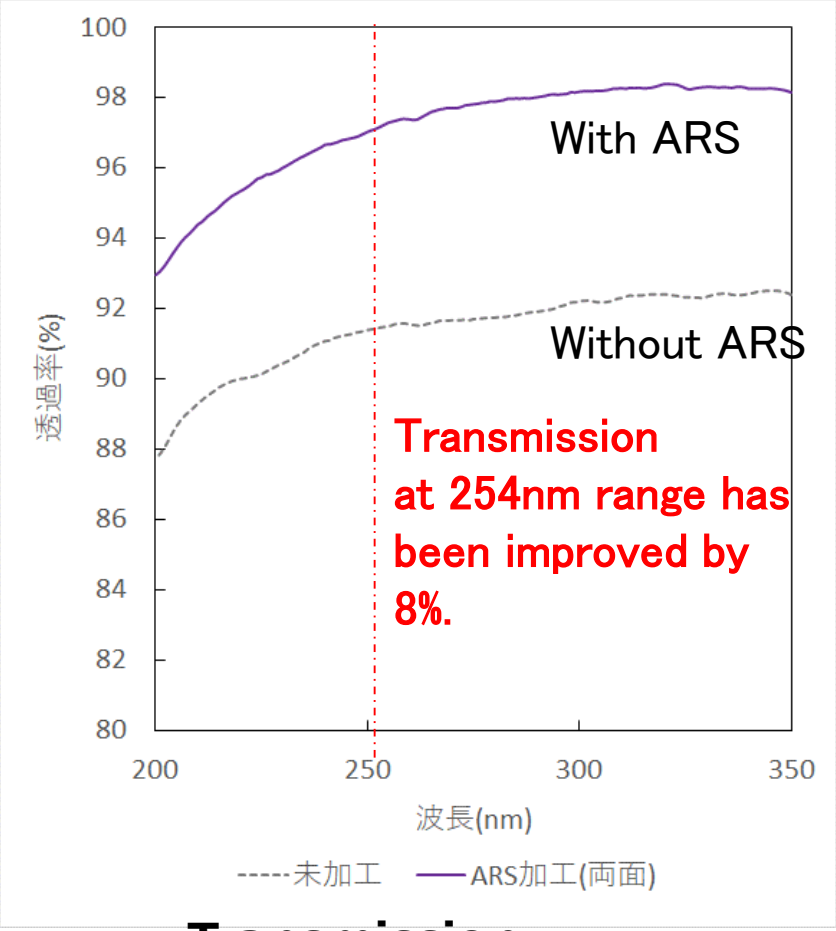


Optical unit and element for FIR camera

FAB Business

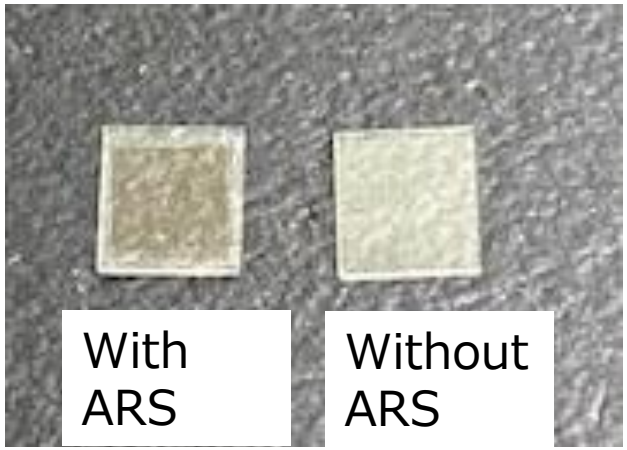
Aplication to Deep UV

Verified applicability to short wave range by optimizing processing conditions.

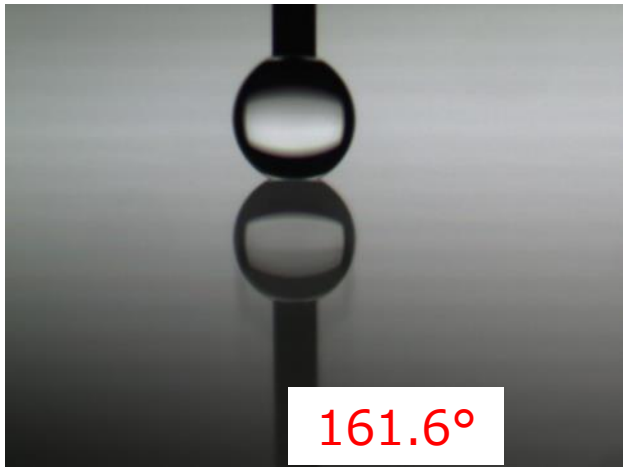


Transmission

JP6901189



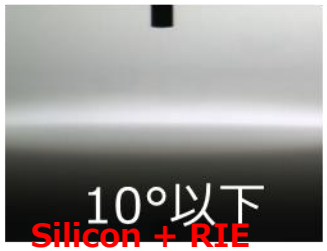
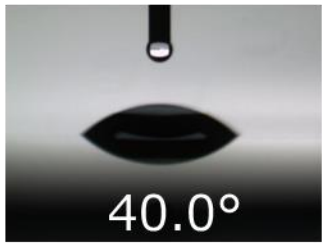
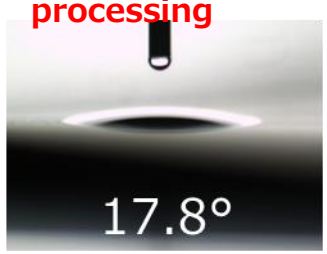
Appearance of fused silica substrate



Hyderphobicity

ARS, Hydrophobic structure

ARS + Hydorphobicity on fused silica completed. Now diverted to Si for IR range.

	silicon	Siliconに撥水処理	siliconにRIE加工	siliconにRIE加工＋撥水処理
純水 Purified water				
グリセリン Glycerin				

Silicon

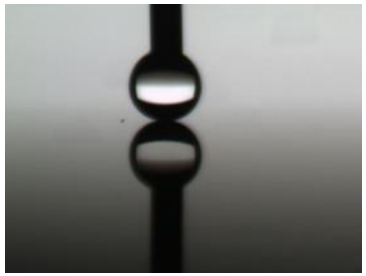
Silicon + water-repellent treatment

Silicon + RIE processing

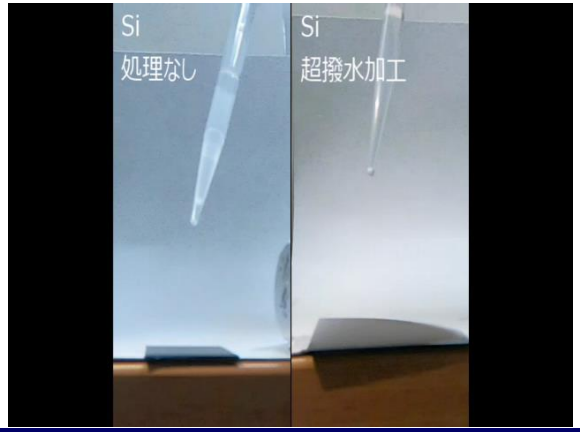
Silicon + RIE+ water-repellent

※When hydrophobic process is applied after RIE processing on silicon, ultra-hydrophobicity is achieved. If only RIE Process is applied to SI, it becomes hydrophilic.

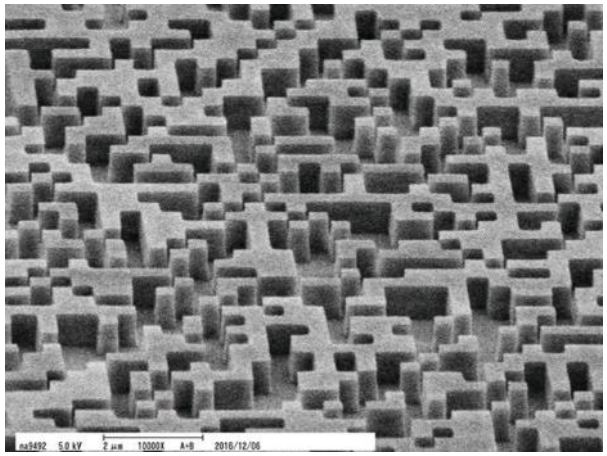
Even after 105℃, 100h heat endurance test, confirmed that Ultra-hydrophobicity has not been lost.



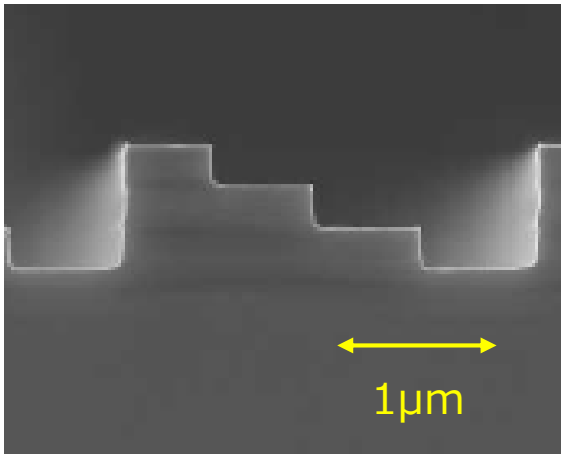
跳ねる水滴（動画）



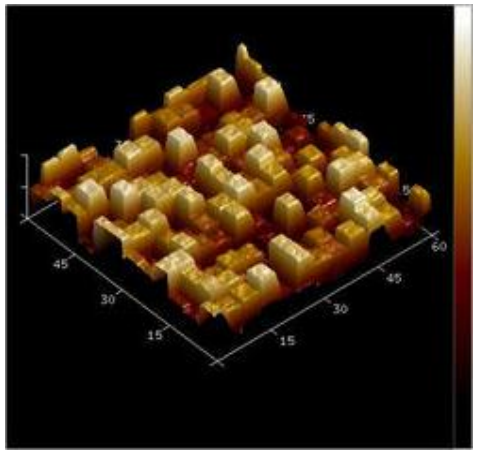
Example of prototyping diffractive grating



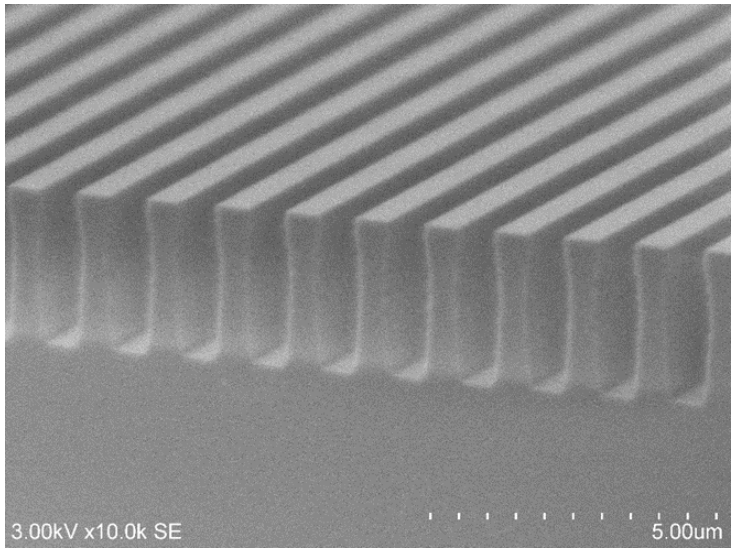
2 level diffractive grating

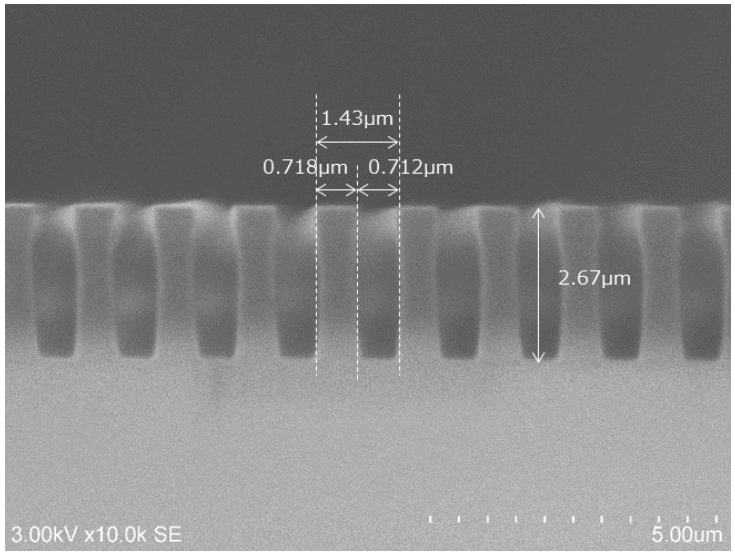


4 loevel diffractive grating



32 level diffractive grating

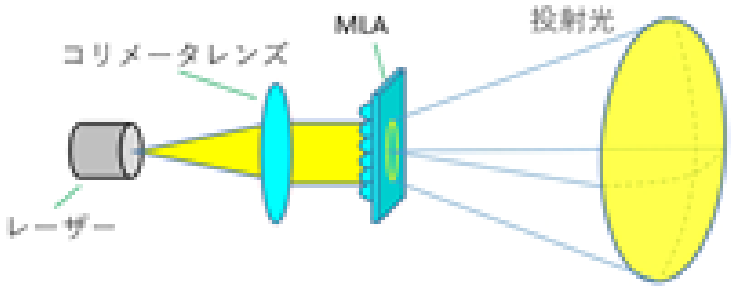


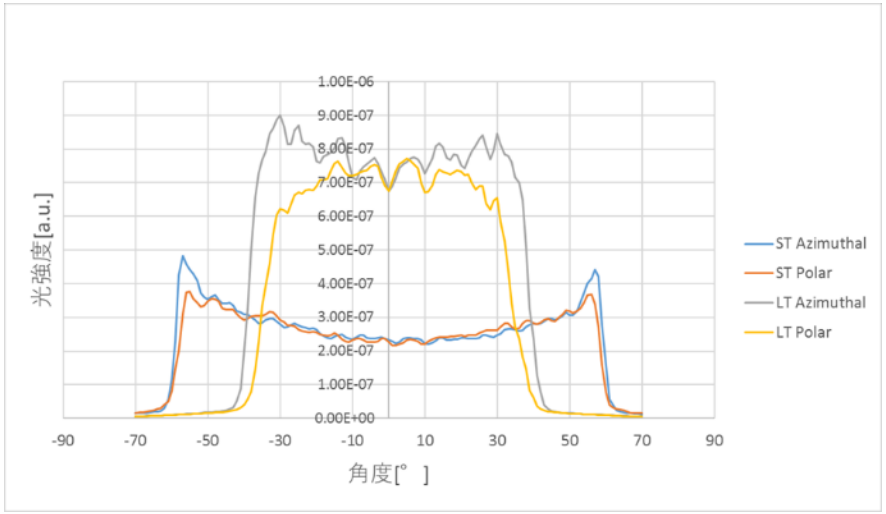


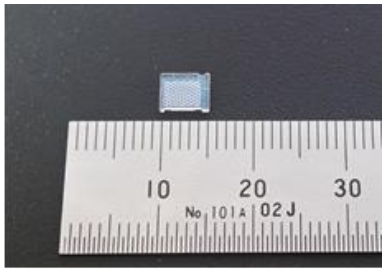
Diffractive grating for spectrometer

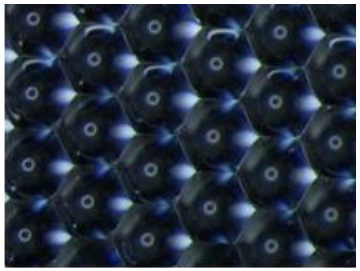
Micro Lens Array（MLA）

PAT. US 62/003,190
JP6664621/JP5156990

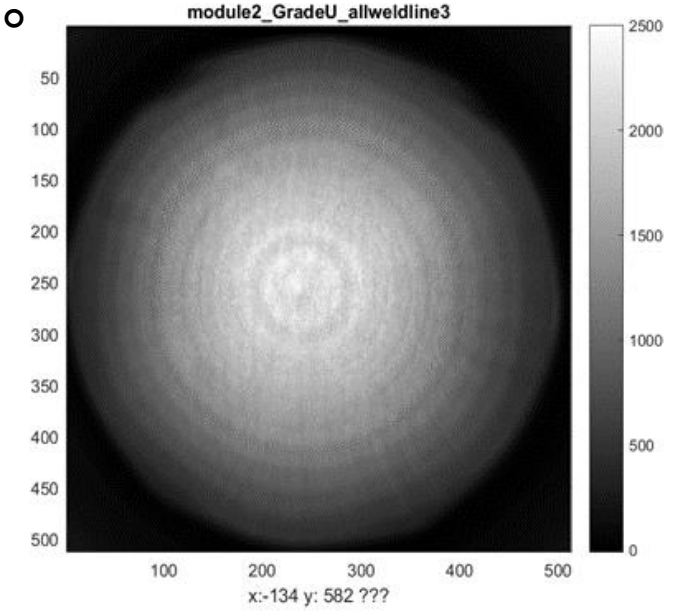




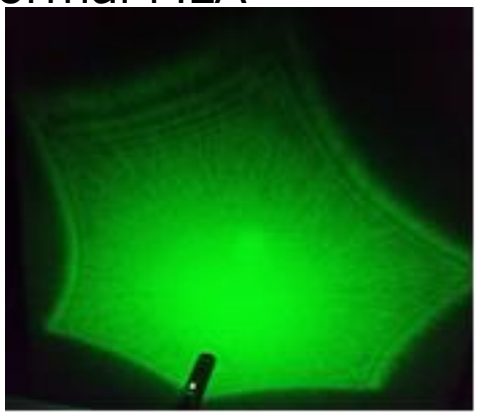




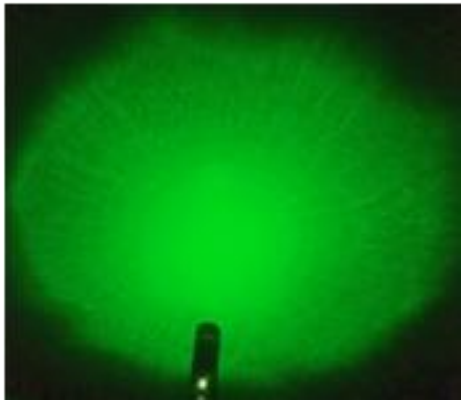
FOV 90°/120°



Light distribution of normal MLA

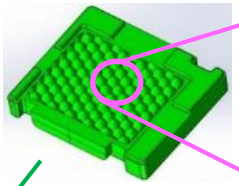


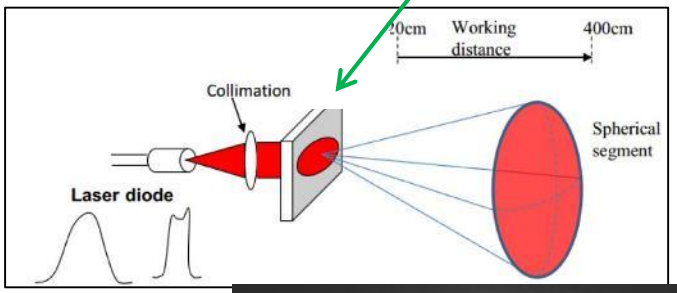
Light distribution of random MLA

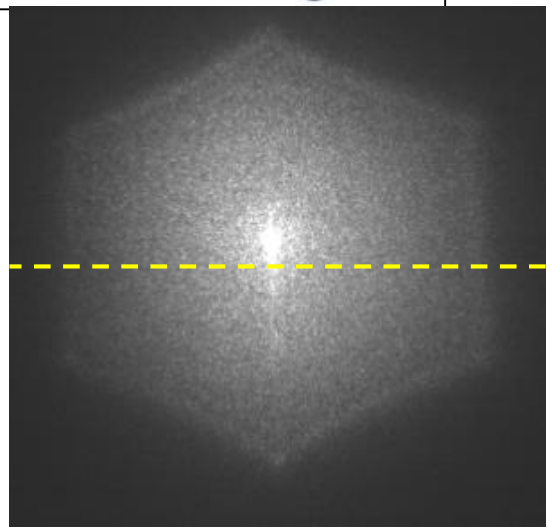


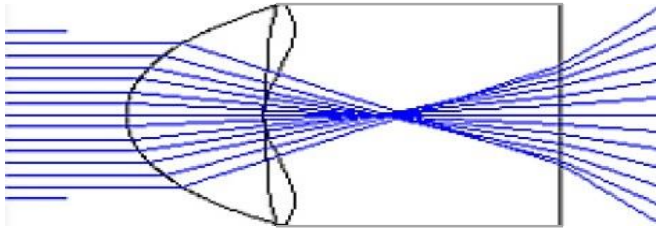
Micro Lens Array (MLA)

Function required:Wide angle, uniform projection (distance measurement)

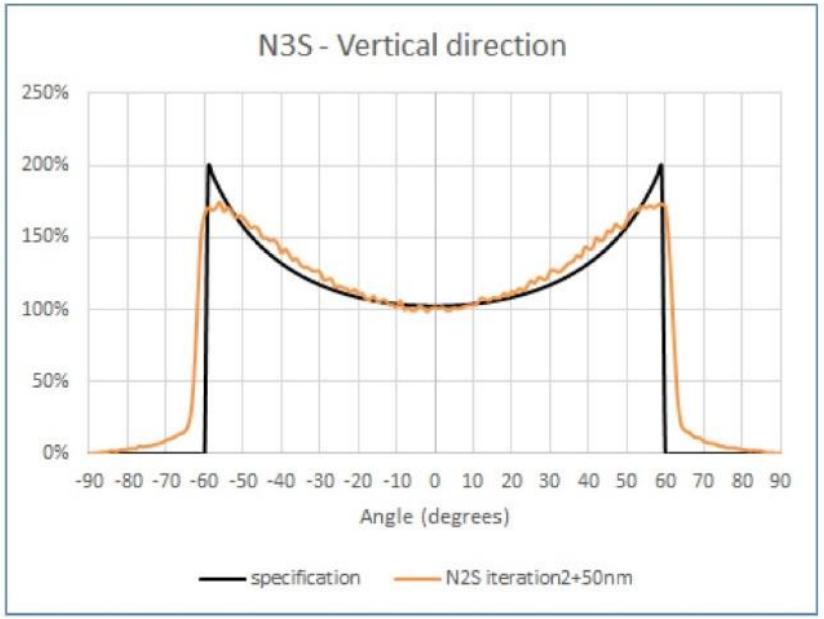








MLA ray path



Projected image and sectional light distribution

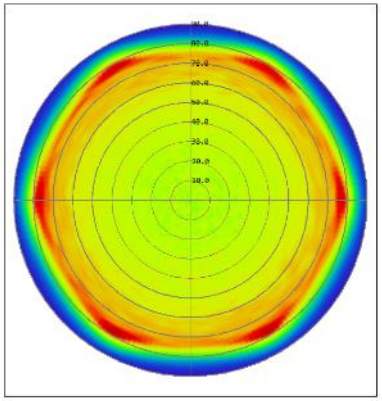
Micro Lens Array (MLA)

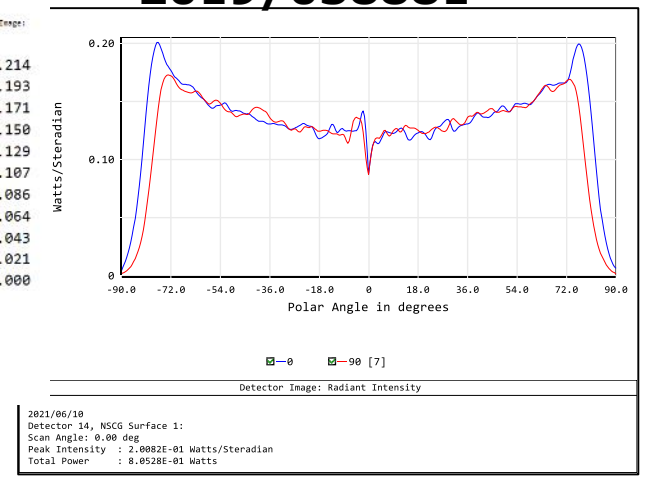
MLA having higher intensity at larger angle compensating relative intensity

Patent pending

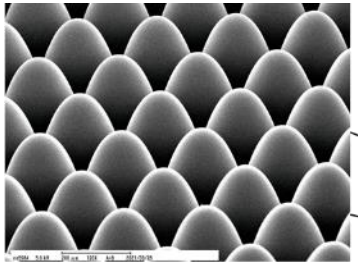
2019/038881

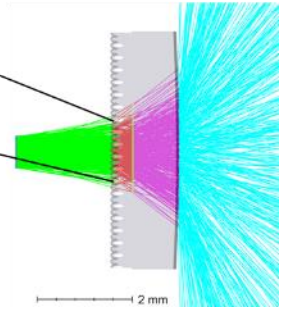
項目 Item	設計値 Nominal value
配光角：中心50% Light distribution angle: 50% of the center	171 deg.
配光角：ピーク Light distribution angle: Peak	156 deg.
強度比：170deg. Intensity ratio	55%
透過率 Transmission rate	78.6%
光源配光 Light distribution	22deg.：1/e²幅 width
光源波長 Light wavelength	940 nm
材料 Material	高屈折率PC High refractive index PC

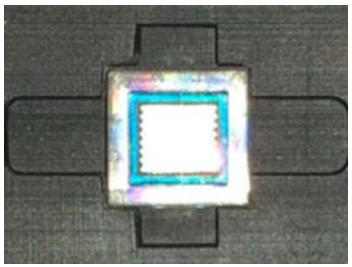


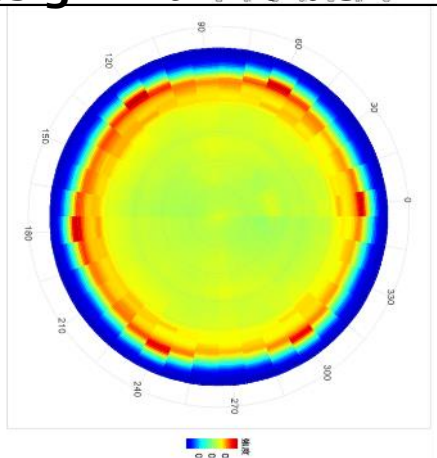


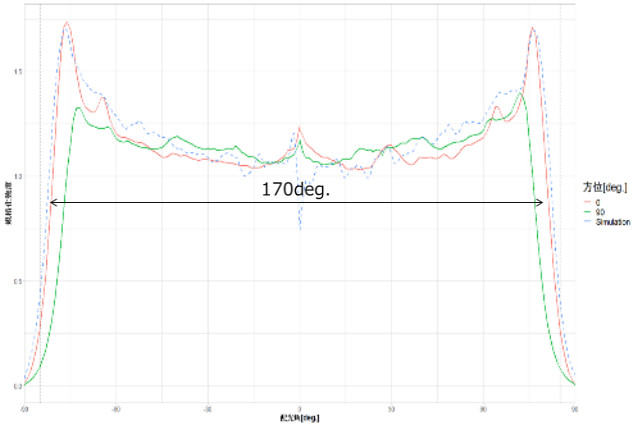
Design: Half value 171° Transmission 78.6%











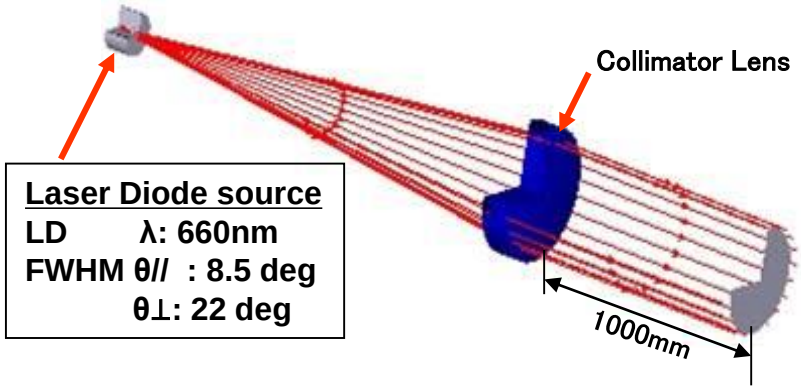
Actually measured value: Half value 170°
Transmission 80.5%

BEAM SHAPER APPLICATION

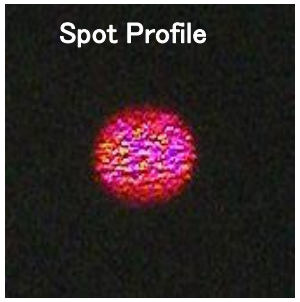
NALUX

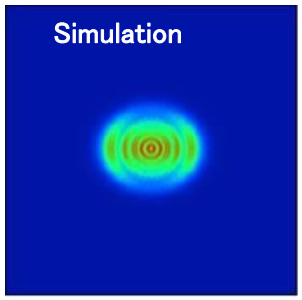
We specialize in the development of high precision optical elements

Without Beam shaper

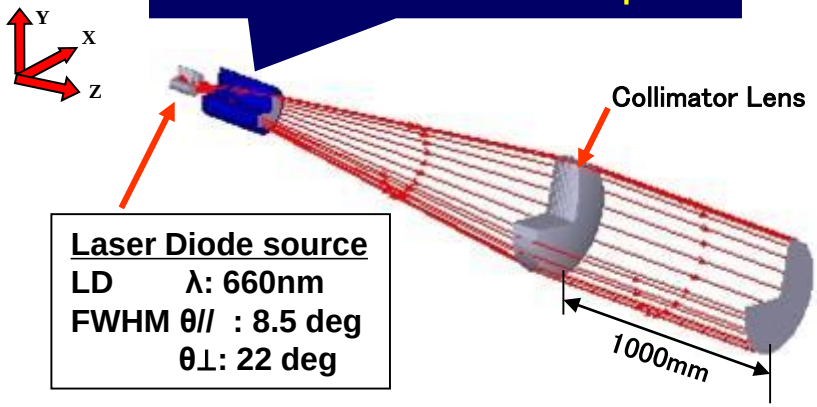


Laser Diode source
LD λ: 660nm
FWHM θ// : 8.5 deg
θ⊥: 22 deg

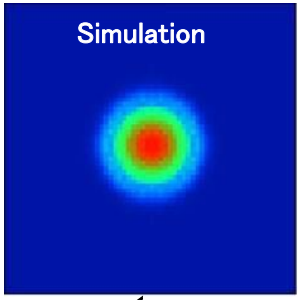




With Freeform Beam shaper



Laser Diode source
LD λ: 660nm
FWHM θ// : 8.5 deg
θ⊥: 22 deg



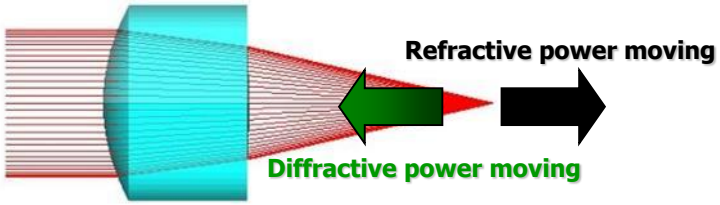
POWER EFFICIENCY RESULT	LD λ	FWHM		Output power result @45mA
		θ//	θ⊥	
Without Beam shaper	660nm	8.5deg	22deg	37.3μW
With Beam shaper				50.0μW

1.34X

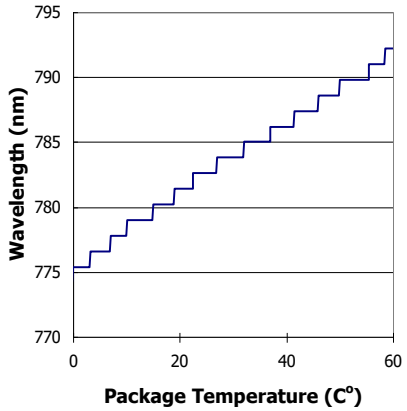
TEMPERATURE STABLE LENS

We challenge the limits of optics with nanotechnology

Nalux supplies customized optical elements with a diffraction grating that is thermally stable for a particular laser optical system.



Thermal characteristics of LD



Lens shape (include DOE)

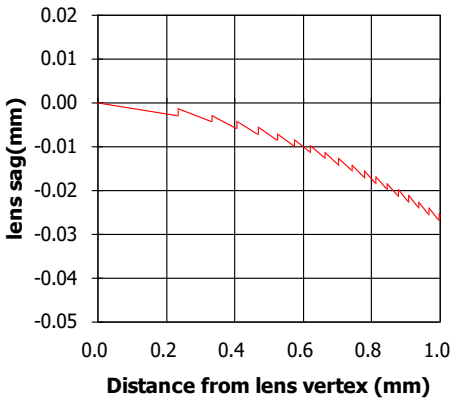
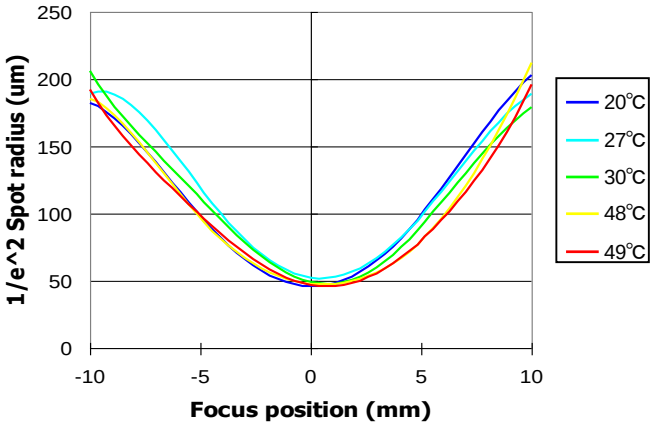
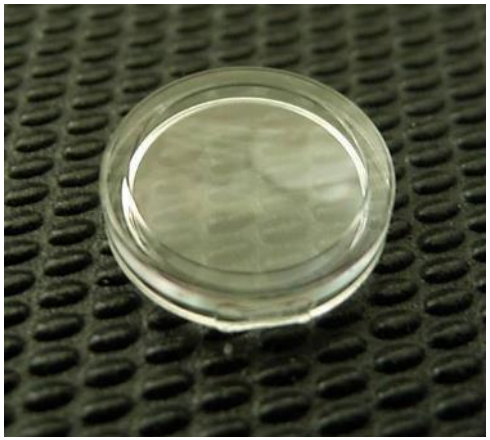
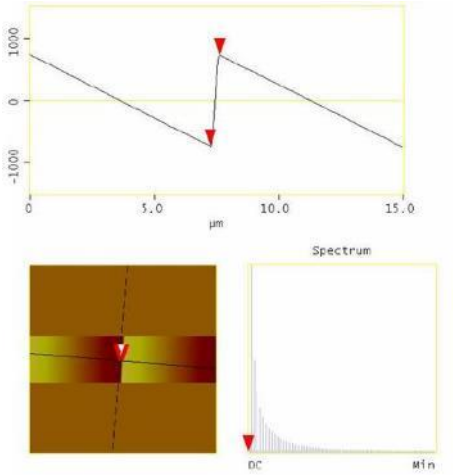


Image plane moving
(with 100 x magnification optical system)



Product externals & shape of blaze (AFM data)





Nalux Confidential

Management Philosophy & Vision

NALUX

Philosophy

3 hundreds years company

～ Trusted company ～

Lighting a path to the future with Nano-optics

Jointly establish bright future
together with
～employee, customer, society～

Nalux Groupd is determined to establish a bright future together with employee, customer and society by deepening our vision and by creation of innovative technologies. And, we are to realize a trusted 300 years company based upon data and growth as well as affluence.