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FRAUNHOFER INSTITUTE FOR APPLIED OPTICS AND PRECISION ENGINEERING IOF



1 Array projection optics shown with a 1 cent coin for comparison.

2 Complete projector with LED illumination and a projected image.

3 Wafer-level optics: microoptical projection units on a 4" glass wafer.

ULTRA SLIM PROJECTION OPTICS FOR STRUCTURED ILLUMINATION

Applications

- 3D reconstruction
- Profile measurement
- Visualization & mapping
- Structured illumination
- Advertisement & marketing

System specs

- System length **3 mm**
- LED illumination, flux 35 lumens
- Homogeneity of illuminance 92 %
- QVGA image resolution
- Monolithic form factor

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Array projection optics

- Patented technology
- Ultra slim design
- High flux
- No vignetting
- No speckle
- Static full color images
- For arbitrary light sources, just **„plug & project“**

Realization

- Object mask is lithographically structured onto a glass substrat
- Fabrication of molding tools
- UV molding of tandem lens arrays

Our Competences

- Design of array projection optics
- Client-specific system development
- Prototyping of compact LED projectors

nano replica
Nanopräziser Formeinsatzbau und Replikationstechniken