

Technical specifications for the ARGOS wavefront sensor Shack-Hartmann lenslet array

This document resumes the manufacturing specifications of the Shack-Hartmann lenslet array needed for the ARGOS wavefront sensor. ARGOS is the Laser Guide Star (LGS) facility for the Ground Layer Adaptive Optics (GLAO) system of the Large Binocular Telescope (LBT).

1) Manufacturing requirements

The main characteristics of the ARGOS SH lenslet array are summarized in Table 1. Figure 1 shows the footprints of the 3 optical beams on the lenslet array. The lenslet array must be provided with a mount structure.

Req. #	Requirement	Specification
R1	Material	Fused Silica
R2	Lens geometry	Square
R3	Lens pitch	$(384.00 \pm 0.05) \mu\text{m}$
R4	Gap between lenses	$< 10 \mu\text{m}$
R5	Lens radius of curvature	$6.15\text{mm} \pm 10\%$
R6	Number of lenses in the array	62x62
R7	Array external diameter	$(24.00 \pm 0.05)\text{mm}$
R8	Array clear aperture diameter	$(21.50 \pm 0.10)\text{mm}$
R9	Surface quality	5/5 x 0.04
R10	Wafer thickness	$(1.20 \pm 0.05)\text{mm}$
R11	Coating	AR, double sided, $T > 99.8\%$ @ 532nm

Table 1: manufacturing specifications for the ARGOS SH lenslet array.

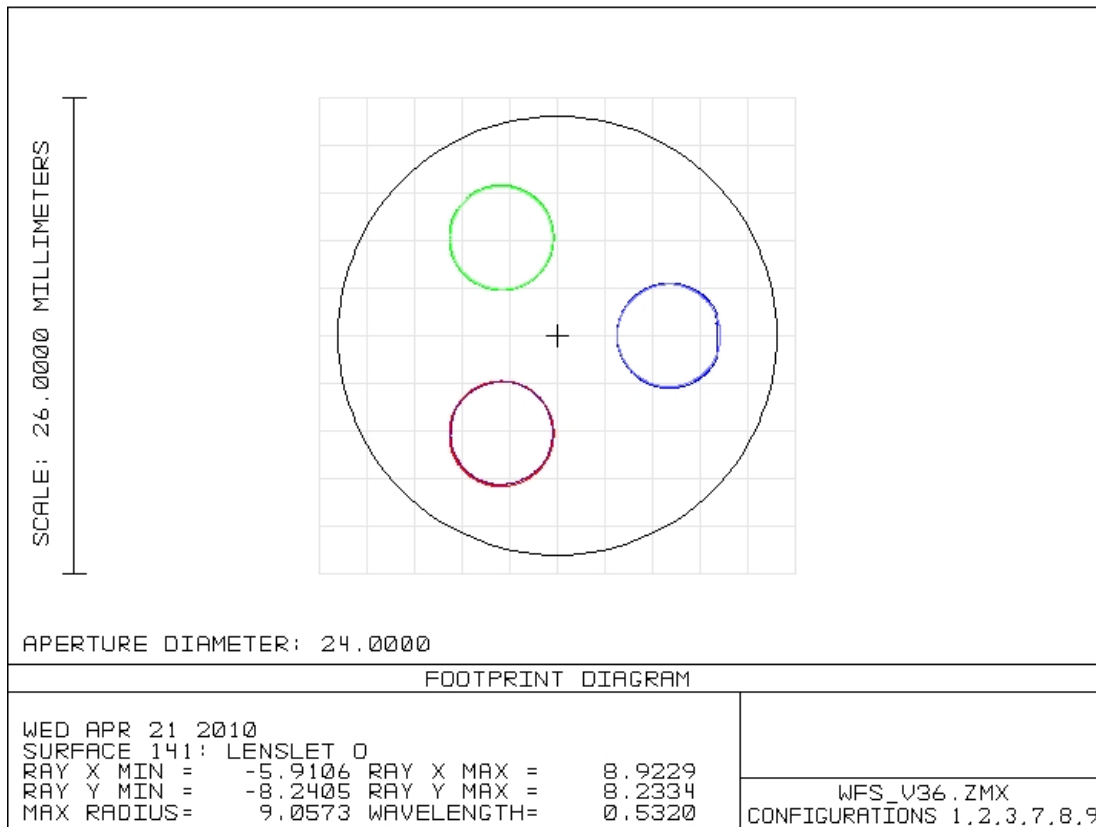


Figure 1: arrangement of the 3 beams on the back surface of the lenslet array.

2) General requirements

Req. #	Requirement description	Specification
R1	# units to be produced	4 units
R2	Storage temperature range	-30 to 80°C
R3	Working temperature range	-20 to 25°C
R4	Humidity	up to 95%
R5	Packing and shipping	quote including packing and shipping to: Osservatorio Astrofisico di Arcetri, L.go E. Fermi 5, 50125 Firenze, Italy

Table 2: general requirements summary.

3) Payment plan

- 20% at order.
- Balance after check of agreed specifications within 30 days (from receiving of goods).
- All payments by bank transfer within 30 days (from receiving of goods).

Please, send a copy of the offer to:

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Largo E. Fermi 5
50125 Firenze
Tel: +39.055.27.52.305
Fax: +39.055.27.52.292
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