Freeform Augmented Reality (AR) lens mold

**Goal:**
Demonstrate the surface finish achievable when manufacturing a Freeform Augmented Reality Lens Mold by Slow Tool Servo (STS) on a Freeform® L.

**Process:**
Freeform XZC diamond turning

**Part Details:**
- Material: Nickel plated steel
- Part dimensions: 26.68 mm x 26.88 mm

**Process Details:**
- Tool: Single point diamond tool
- Tool Radius: 0.76 mm
- Spindle speed: 70 rpm
- Feed rate: 5 µm/rev
- Finish pass depth of cut: 2 µm
- Coolant: Odorless mineral spirits (OMS)

**Results:**
- Surface finish near center: 1.35 nm Ra
- Surface finish near edge: 0.872 nm Ra