Goal:
Demonstrate the capability and present key metrology results and process data for a non-axisymmetric D-Pocket used as a registering feature in lens molds, for more accurate indexing

Process Parameters:
- XZ High speed diamond turning for lens
- XZC Diamond turning for D-Pocket
- Single machine setup

Part Details:
- Material: 12.5 mm Electroless Nickel pin
- Lens diameter: 4 mm
- Pocket diameter: 5.431 ± 0.001 mm
  — Concentricity to lens: ± 0.001 mm
- D-Pocket parameters:
  — Flat offset: 2.55 mm (sag: 0.165 mm)
  — Corner radii: 0.5 mm
  — Depth: 0.6 mm ± 0.001 mm

Machining Details:
- Lens spindle speed: 3,000 RPM
- D-Pocket parameters:
  — Spindle speed: 85 RPM
  — Depth of cut: 10 µm
  — Feed per rev: 10 µm
  — Cycle time: 20 minutes
- Coolant: Odorless mineral spirits (OMS)

Tool Details:
- K&Y single point diamond tool with 20˚ clearance
- Radius: 53 µm