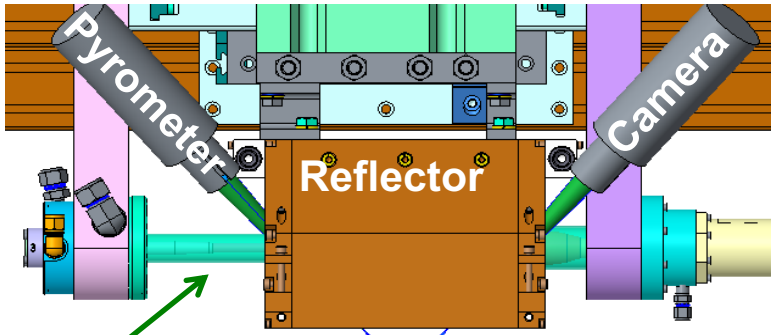
# ORNL Successfully Upgraded the High-Heat Flux Test Capability of the Plasma-Arc Lamp Facility

## Accomplishment and Path Forward

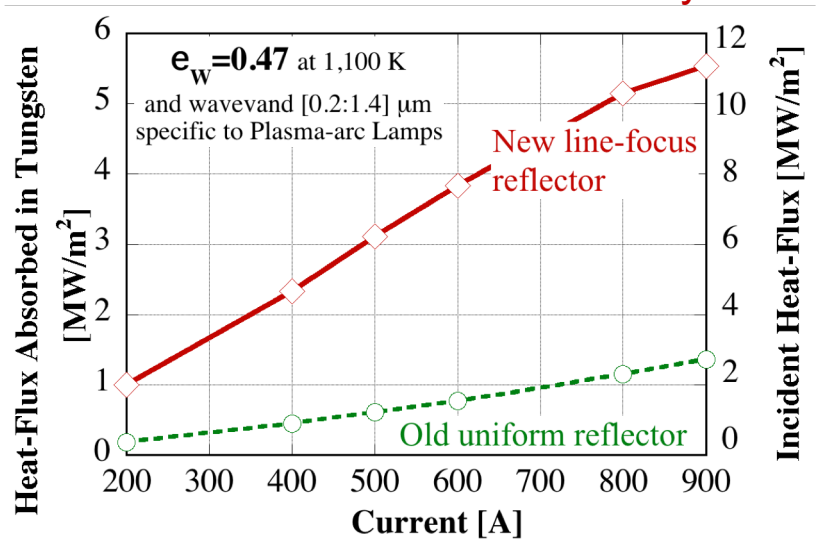
- A new reflector was designed and fabricated to increase the maximum *source* heat-flux from 2.4 to 11 MW/m$^2$
- The new reflector was fabricated with two ports for monitoring specimen condition during high heat-flux testing (HHFT).
- The *absorbed* heat-flux in W increased from 1.4 to 5.5 MW/m$^2$ (measured at 900 A for high-cycling tests)
- The heat-flux for HHFT in W can be increased to 6.1 MW/m$^2$ (low-cycling tests at 1,000 A)
- Testing of irradiated W materials will begin soon in the PHENIX program




Cathode

pyrometer field-of-view

Schematic showing key components of test system



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