STATEMENT OF WORK

1. **Objective/Requirements**
   This project has the goal of building a lidar prototype that operates at 780 nm. The prototype requires a single-frequency laser source and several stages of amplification using tapered semiconductor amplifiers.

2. **Characteristics, Scope, and Specs**
   The contractor shall provide the following items:

   Diode Laser:
   Wavelength: 780.2 nm
   Laser Type: DFB
   Laser Linewidth: <1 MHz
   Output power: 20 mW
   CW operation
   Packaging: 14-pin butterfly housing with hermetic seal
   Features: Monitor Diode, thermoelectric cooler, fiber-coupled output (polarization maintaining fiber)
   Qty needed: 2

   Tapered Semiconductor Amplifier:
   Wavelength: 780.2 nm
   Laser Linewidth: <1 MHz
   Output power: 3 W
   Required operating duty cycle: 35%
   Packaging: 14-pin butterfly housing with hermetic seal
   Features: Monitor Diode, thermoelectric cooler
   Beam diameter output: 1 mm ($1/e^2$)
   Beam divergence output: 3 mrad ($1/e^2$)
   Qty needed: 4

3. **Deliver to:**

Daniel Cremons
NASA GSFC, Code 698
Building 33, Room D426
8800 Greenbelt Dr.
Greenbelt, MD 20771