Neutron diffraction and scattering provide valuable tools for probing the structure of bulk materials. Neutron scattering facilities throughout the world generate neutrons either with nuclear reactor or with high energy particle accelerators through (p,n) spallation reactions. We introduce here a photonuclear-based neutron source, using electron linear accelerators, which may provide an inexpensive method to perform neutron scattering and diffraction experiments. We used the 20 MeV electron linear accelerator at the Idaho Accelerator Center to generate neutrons using lead and tungsten targets. We performed some calculations using Monte Carlo computer code (MCNPX) to optimize the neutron conversion targets and to study the properties of the obtained neutron source. Measurements and calculations for the neutron yield and the energy distributions of the neutrons are presented.