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Photon Detector Prototyping and Testing for LBNE MATTHEW JUDAH, NORM BUCHANAN, RYAN WASSERMAN, Colorado State University — The Long Baseline Neutrino Experiment (LBNE) is an experiment currently proposed for construction, which is designed to investigate neutrino oscillations, over a wide range of neutrino energies. The Far Detector, located in the Homestake mine in South Dakota, will consist of both a Time Projection Chamber and a photon detector. The main challenge with photon detection in the LBNE far detector is that the detection medium is liquid argon, which emits 128 nm scintillation photons. To be detected these photons need to be converted to optical wavelengths ($\sim$ 400 nm) while maintaining a detection efficiency sufficient to meet the experimental design goals. I will describe the R&D effort currently underway to address this challenge.

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