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Application of a Novel Multi-Pixel Solid State Photon Detector to the T2K P0D DANIEL RUTERBORIES, BRUCE BERGER, DAVID WARNER, ROBERT WILSON, Colorado State University — The Pi-Zero subdetector (P0D) of the T2K off-axis near detector (ND280) will utilize novel silicon-based photosensors. The MPPCs (Multi-Pixel Photon Counters) are a custom design manufactured for T2K by Hamamatsu Photonics. The P0D is designed to measure muon neutrino interactions on a water target. It is a highly-segmented detector with 10,400 photosensors instrumenting the fiber readout of 80 layers of plastic scintillator. In this presentation, we describe the photosensor performance requirements of the P0D, and we report on the results of an extensive electro-optical quality assurance procedure carried out on 11,000 devices at Colorado State University.

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