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Performance of the Prototype Readout System for the CMS Endcap Hadron Calorimeter Upgrade NATHANIEL CHAVERIN, JAY R. DITTMANN, KENICHI HATAKEYAMA, NATHANIEL PASTIKA, Baylor University, COMPACT MUON SOLENOID COLLABORATION — The Compact Muon Solenoid (CMS) experiment at the CERN Large Hadron Collider (LHC) will upgrade the photodetectors and readout systems of its barrel and endcap hadron calorimeters (HCAL) through the second long shutdown of the LHC in 2019-20. A major milestone for the project was a highly successful testbeam run at CERN in August 2015. The testbeam run served as a full integration test of the electronics, allowing a study of the response of the preproduction electronics to the true detector light profile. It also provided an opportunity to test the light yield of various new plastic scintillator materials. The design of this new system and its performance in the testbeam are presented.

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