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The Characterization and Performance of the Luminosity Monitors for the Qweak Experiment at Jefferson Lab JOHN LEACOCK, QWEAK COLLABORATION — The Q_{weak} experiment at Jefferson Lab is a precision measurement of the weak charge of the proton using parity-violating electron scattering. To make this measurement the experiment uses diagnostic detectors with small counting statistical errors that provide information about beam and target properties. The Q_{weak} luminosity monitors were designed to provide this information. The luminosity monitors are arrays of quartz Čerenkov detectors coupled with air lightguides to photomultiplier tubes operating in unity gain mode and read out in current mode. There are two sets of luminosity monitors, a "downstream" array at a mean laboratory scattering angle of 0.5 degrees that detects an equal mixture of elastic e-p and Møller scattered electrons and an "upstream" array at a mean scattering angle of 5 degrees that primarily detects low energy Møller scattered electrons. The monitors can also be equipped with high gain bases to operate in pulse counting mode for use as beam monitors in special low beam current diagnostic runs. The characterization and performance of the luminosity monitors will be presented.

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