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A Deep Study of Stanek's Window as Precursor Science for the WFIRST Microlensing Field of Regard

: I present preliminary results of a stellar population study using HST images in several passbands of a moderately extinct field that lies inside the currently planned Wide-Field Infrared Survey Telescope (WFIRST) microlensing field of view. Images were taken by WFC3/UVIS F555W/F814W and WFC3/IR F110W/F160W in 2010; additionally F814W images were taken approximately two years later in 2012 to allow for proper motion decontamination from non-bulge objects. A calibration to the OGLE-III system was then applied, as well as corrections for extinction and reddening. Further, deep bulge luminosity functions were created with corrections for photometric completeness. The residual contamination from both foreground and background disk objects is of order 2%, leading to very clean LF's. Similar processing will be performed for the deeper IR channels. Continuing from this analysis, we will be able to better constrain the microlensing event rate estimates and planet detection efficiencies in this region of the proposed WFIRST field of regard.