We present solar full-disk observations, which were recorded at the Einstein Tower during the years from 1943 to 1990 (solar cycles 18-22). High-school students from Potsdam and Berlin digitized more than 3000 full-disk images during two- to three-week internships at AIP. The digital images cover a 15 cm × 15 cm region on photographic plates, which were scanned at a resolution of 7086 × 7086 pixels. The raw data are monochromatic 8-bit images in the Tagged Image File Format (TIFF). We calibrated these images and saved them with improved photometry as 16-bit images with 2048 × 2048 pixels in the Flexible Image Transport System (FITS) format, which contains extensive headers describing the full-disk images and the observations. The various calibration steps include, for example, accurate measurements of the solar radius, determination of the limb-darkening function, and establishing an accurate coordinate system (correction of the solar P-angle and the coelostat azimuth). The contrast-enhanced and limb-darkening corrected images will become publicly available to students and researchers. The data will be described and published within a dedicated data release of the Archives of Photographic PLates for Astronomical USE (APPLAUSE, https://www.plate-archive.org/applause/) project.