Spectra of C\(_2\)H\(_2\) have been recorded at room temperature in the range from 1140 to 1490 cm\(^{-1}\) using a Bruker IFS 120HR spectrometer. The interferograms were collected with a maximum optical path difference of 300 cm. Sample pressure/absorption path length products ranging from 1.3 to 330 hPa*cm were used. Absolute line intensities have been measured using direct non-linear least squares fitting of Voigt profiles — convoluted with an instrument line shape function — to the observed spectral data. Measurements have been performed in the \(\nu_4 + \nu_5\) cold band and in hot bands originating from levels involving the bending modes \(\nu_4\) and \(\nu_5\). The results and analysis of the measurements will be presented and discussed.