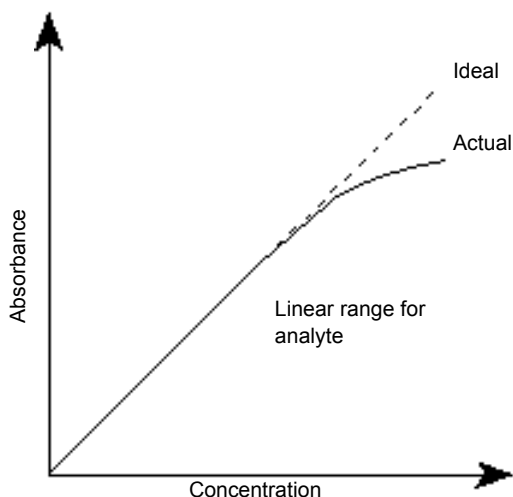


Figure 1–2: Absorbance as a function of concentration



1.2 Flow cell operating principles

The Waters® TaperSlit™ flow cell used in the PDA detector renders the detector baseline essentially insensitive to changes in mobile phase refractive index (RI). RI changes occur during gradient separations or result from temperature or pump-induced pressure fluctuations.

To achieve RI immunity, a combination of a spherical mirror, a lens at the entrance of the flow cell, and a taper to the internal bore of the flow cell prevents light rays from striking the internal walls of the flow cell. The Waters TaperSlit flow cell, so-called because of the shape of the flow cell exit face, matches the shape of the spectrograph slit. Compared to a conventional flow cell with a cylindrical shape, the PDA detector achieves higher light throughput for a given spectral resolution with the TaperSlit cell design.

Figure 1–3: Comparison of flow cell characteristics:

