195(5): Light Deflection due to Gravitation from the Crothers Metric.

This is easily calculated from the orbital equation as follows. The orbital equation is:

$$\left(\frac{d\theta}{dr}\right)^2 = \frac{BL^2}{mC(r)}\left(\frac{1}{A}\frac{E^2}{mc^2} - C^{1/2}(r)\left(mc^2 + \frac{1}{C(r)}\frac{L^2}{m}\right)\right)^{-1} \quad -(1)$$

so

$$\frac{d\theta}{dr} = \left(\frac{mC(r)}{BL^2}\right)^{1/2}\left(\frac{1}{A}\frac{E^2}{mc^2} - C^{1/2}(r)\left(mc^2 + \frac{1}{C(r)}\frac{L^2}{m}\right)\right)^{-1/2} \quad -(2)$$

The light deflection due to gravitation is therefore:

$$\Delta\theta = 2\int_0^{R_0}\left(\frac{mC(r)}{BL^2}\right)^{1/2}\left(\frac{1}{A}\frac{E^2}{mc^2} - C^{1/2}(r)\left(mc^2 + \frac{1}{C(r)}\frac{L^2}{m}\right)\right)^{-1/2} dr - \pi \quad -(3)$$

and depends on a knowledge of A, B, C(r), E and L. These must be found from five independent experiments.

There is no way that Einstein could have predicted light deflection due to gravitation.