A novel way of generating Cartesian wedge coordinates needed for commissioning treatment planning systems has been developed. An excel spreadsheet calculates the wedge coordinates needed for the treatment planning system. The spreadsheet calculates the coordinates using the scanned cross profiles (OCR) of the wedge taken at dmax using the largest wedge field size. The Off Center Ratio (OCR) at various distances away from the central axis (CAX) are entered into the computer. The other input parameters required in order to finish the calculations are the thickness of wedge at the central axis, the source to wedge distance and the linear attenuation coefficient of the wedge material. All of the required information should be readily available from the accelerator manual and commissioning data. No further measurements are required. The spreadsheet calculates the coordinates of the wedge following these distinct steps. First the program calculates the effective fanline thickness through the wedge (l_i) at a given angle θ_i. The fanline l_i is calculated using the formulae,

(Rdg @ distance x_i) / (Rdg @ CAX) = $e^{(-\mu l_i)} / e^{(-\mu l)}$

where

l = thickness of wedge at the central axis

μ = linear attenuation coefficient

The program then calculates the angle θ_i subtended by the fanline li relative to the normal at the CAX. The polar coordinates l_i and θ_i are then transformed into the Cartesian coordinates (x,y) using the geometric considerations of the set up. The calculated wedge coordinates using this approach were used to model the Philips universal motorized wedge in CMS Focus 1.5 3D RTP system. We obtained excellent agreement between the measured and calculated isodose profiles for the wedge.