Optimizing DIAMOND Insertion Device Brightness, J.A. CLARKE, M.W. POOLE and X. QUERALT, CLRC Daresbury Laboratory, Warrington, WA4 4AD, UK - The allocation of the insertion devices (undulators and multipole wigglers) in the hybrid DIAMOND lattice has been studied. In order to decide the optimum sites in the storage ring the brightness has been calculated for the different straight sections (high and low horizontal beta values). In all the cases the central cone brightness has been computed for the first seven harmonics. Study of the influence of the undulator and the multipole wigglers on the machine optics, both the linear and the non-linear effects, has been carried out by means of the RACETRACK code. From these results it is possible to formulate rules for the allocation of the undulators and multipole wigglers using the storage ring and insertion device specifications, although the optimum position depends on the photon energy range assumed .