

ABSTRACT

An apparatus (10) for assessment, evaluation and grading of gemstones has a stage (11) upon which a gemstone may be supported. The stage is enclosed in a housing (15) that is impervious to light. There is at least one light source (14) located in the housing which is adapted to project incident light onto the gemstone. Means for rotating and tilting the stage so as to vary the orientation of the gemstone to the incident light are also present. A digital camera (16) is located in the housing adjacent the or each light source and is adapted to take images of the gemstone based on reflection and/or refraction of the incident light. The apparatus also includes information processing means for calibrating and analyzing the images. The information processing means is programmed with instruction sets for assessing one or more of colour, cut, clarity, scintillation, brilliance, luster, dispersion and sheen. The gemstone is supported upon the stage by securing means (17) engaging the gemstone at its bottom surface.