

ABSTRACT

An optical system (10) and a display device. The optical system (10) comprises a lens (100), a polarization transfective film (500), a phase retardation film (600), and a transfective film (700). The lens (100) comprises a flat surface (110) and an aspheric surface (120), the aspheric surface (120) being a convex surface. The phase retardation film (600) and the transfective film (700) are disposed on the side of the flat surface (110) of the lens (100) away from the aspheric surface (120); and the transfective film (700) is disposed on the side of the aspheric surface (120) of the lens (100) away from the flat surface (110). The lens (100) is a one-piece lens, the flat surface (110) and the aspheric surface (120) are located on the opposite sides of the one-piece lens (100), the optical system (10) has a focal length of 26 to 28 millimeters, the lens (100) has an effective aperture of 50 to 52 millimeters, and the aspheric surface (120) has a radius of curvature of -93 to -97 millimeters. In the optical system (10) using a folding optical path, the lens (100) is configured to be the one-piece lens (100) comprising the aspheric surface (120); and the focal length of the optical system (10), the effective aperture of the one-piece lens (100), the radius of curvature of the aspheric surface (120), and other parameters are optimized, such that the optical system (10) has a large eye relief while achieving displaying at a large field of view, thereby improving the use experience of users.