AN EYE TESTING DEVICE FOR MEASURING VISUAL ACUITY AND METHODS OF USING THE SAME

TECHNICAL FIELD

The present disclosure generally relates to an eye testing device and methods of using the same. In particular, the eye testing device is used to measure the refractive errors, visual acuity and combination thereof.

BACKGROUND

Refraction and visual acuity tests are the most common and universal tests to determine the corrective power needed for an eye and the visual function of the eye, respectively. It is also acknowledged that these tests are resource consuming as they require skilled labor, for example an optometrist and a considerable amount of space in a clinic or hospital. Large amounts of space and lenses are usually needed to conduct a refraction or visual acuity test in tertiary settings such as hospitals. For acuity test, a distance of 6 meters from Snellen chart is usually required. That space could be better used to reduce long waiting times a patient may experience to see a doctor. This can be in the form of converting the room into multiple consultation rooms for more doctors to see patients or for conducting tests that have been bottlenecks in the whole patient journey.

In view of the above challenges, therefore there is a need to provide an eye testing device that allows the refraction or visual acuity test to be conducted in a smaller amount of space.

SUMMARY

There is provided an eye testing device to measure refractive errors or visual acuity, said device comprising a screen to display one or more characters, symbols or predefined patterns, the screen being tilted at a predefined angle, an optical module for demagnifying the displayed one or more characters or symbols and for defining an optical path, said module comprising a first mirror positioned in substantially vertical position to reflect the demagnified one or more characters or symbols, a second mirror to receive the reflected one or more characters, symbols or predefined patterns from the first mirror and to reflect further demagnified one or more characters or symbols to an eye of a subject through a first lens, said first lens being positioned between the second mirror and the eye of the subject. According to some embodiments of the present disclosure, the predefined angle is in a range between 10^{o} to 45^{o}.