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THE ACCURACY OF THE AREA REPRODUCTION  
OF SQUARE DOTS IN THE DISCRETE FORMATION

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**Research methodology.** To determine the fidelity square raster element formed by a sequence of lines of different lengths in a raster cell, there have been made the following assumptions: the print raster conversion is a two-dimensional spatial sampling carrier tone in a raster image, a square raster element forming scanning unit is a sequence of continuous lines (stripes) of different lengths, there is a regular symmetrical arrangement sequence of lines on two coordinates, a raster cell contains an integer strips.

**Results.** The fidelity square raster element with the discrete formation depends on the area of screen elements. The largest absolute error in size screen elements are in the shadows and is 4., and the smallest in the range light is 1. The largest relative error is on light and the tone reproduction range is 25%, which in turn does not meet the regulatory requirements for the book and magazine quality production. Therefore, the value of the given error differs from 6.25% in the shadows, to 25% in light range.

**Novelty.** This article has first calculated the absolute and relative error resulted in a discrete area of screen elements forming the square on a light, medium range tone reproduction and shadows

**The practical significance.** The problem of determining of the accuracy of the circular dots area reproduction, formed by different line lengths in sequence has been explored.