

Abstract of the Disclosure

DIRECT VIEW DISPLAY DEVICE
WITH ARRAY OF TAPERED WAVEGUIDES

A direct view display comprising:

- (a) light generating means for generating light;
- (b) modulating means for modulating light from said light generating means to form an image; and
- (c) image display means for displaying said image from said modulating means positioned adjacent to the light output surface of said modulating means, said display means comprising an array of tapered optical waveguides on a planar substrate the tapered end of each of said waveguides extending outward from said substrate and having a light input surface adjacent said substrate and a light output surface distal from said light input surface, wherein:
 - (i) the area of the light input surface of each waveguide is greater than the area of its light output surface, and the center-to-center distance between the light input surfaces of adjacent waveguides in said array is equal to the center-to-center distance between the light output surfaces thereof, so that the angular distribution of light emerging from the output surfaces of the waveguides is larger than the angular distribution of light entering the waveguides; and
 - (ii) the waveguides in said array are separated by interstitial regions with a lower refractive index than the refractive index of said waveguides.

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