Viewing Experience Tutorial Exercise

Exercise

Consider a horizontal bar pattern on a TV screen with a vertical frequency of 100 cycles/picture-height. If the picture-height is 1 meter, and the viewer sits 3 meters away from the screen, what is the equivalent angular frequency in cycles/degree (cpd)? What would be the result if the viewer was sitting 1 meter or 5 meters away, respectively? Which is the optimal viewing distance with respect to the vertical variations?