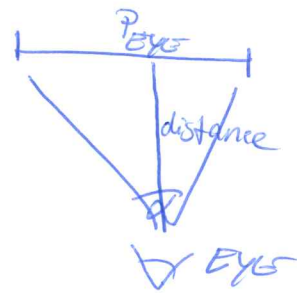


Ges: number of projectors that

$$P \hat{=} \text{Pixel}$$

$$P_{\text{SCREEN}} \leq P_{\text{EYE}}$$

Assumption: calculate with screen width for simplicity



$$1.) P_{\text{EYE}} = 2 \cdot (10\text{m} \cdot \tan(\frac{1}{120})) = 2,91 \frac{\text{mm}}{\text{px}}$$

$$P_{\text{SCREEN}} = \frac{5500\text{mm}}{x \cdot 1920\text{px}}$$

$$P_{\text{SCREEN}} \leq P_{\text{EYE}}$$

$$x \geq 0,98 \Rightarrow 1 \text{proj. is sufficient}$$

$$2.) \text{new-}P_{\text{EYE}} = 0,58 \frac{\text{mm}}{\text{px}}$$

$$P_{\text{SCREEN}} \leq \text{new-}P_{\text{EYE}}$$

$$x \geq 4,94 \Rightarrow 5 \text{proj.}$$

$$3.) \text{new-}P_{\text{SCREEN}} = \frac{10\,000}{x \cdot 1920\text{px}}$$

$$\text{new-}P_{\text{SCREEN}} \leq 2,91 \frac{\text{mm}}{\text{px}}$$

$$x \geq 1,79 \Rightarrow 2 \text{proj.}$$