Prisma Display Geometry

Distance from back of the bore to screen: 32.4 cm

Length of the bore: 212 cm

Front of the bore to isocenter: 106.2 cm

Distance from screen to mirror: 73.5 cm

Distance of eyes to mirror: ~10 cm (this will vary depending on the subject)

Total path length from eyes to screen: 83.5 cm

Height of screen: 36.2 cm

To measure the screen size in visual angles, we projected the following image to the screen (the image extends the full screen):

Basically, everything within the inner black square is visible to the subject. A small part between the inner and the outer squares along the bottom is blocked by the eye tracker, and the corners of the outer square are blocked by the edge of the bore.

The radius of the inner square: 10.1 degrees

The radius of the outer square: 12.2 degrees
Cross-section of bore at 73.5 cm from isocenter
(position of screen)

Visual angle (radius):
\[
\text{atan}((36.2/2)/83.5) \times 180/\pi = 12.2^\circ
\]

Distance from eye to screen \(\sim 83.5 \text{ cm (10 + 73.5)}\)
Distance from screen to rear of bore: 32.5 cm

For additional information for calibration see Displays