

Notes for using HoloPro™

Your success in using HoloPro™ depends on the interaction of several individual components. The following description helps you to achieve the best possible projection results with HoloPro™.

1. HoloPro™ is a holographic rear projection screen, comprised of many thousand individual holographic-optical elements(HOE). The holographic information is stored on a photographic film, which is embedded in a special type of glass after it has been produced.

The special glass fulfils a protective function, since the film is sensitive to moisture and tears easily. It is a special glass with approximately 8 times less surface reflection compared to a conventional pane of glass. This glass can be cleaned like normal window glass. Do not use any abrasive or corrosive materials. To avoid cleaning smudges, only diluted cleaning fluid should be used.

Experience shows that a 1:1 mixture of alcohol and distilled water with a drop of a washing-up liquid is best. Conventional paper kitchen towels are suitable for cleaning the glass surfaces. Do not use newspaper or other types of paper.

2. The holographic-optical elements of HoloPro™ have a directional characteristic. On each HoloPro™ screen there is a cut-out in the hologram on one of the four corners of the film. This missing corner shows the alignment of the screen for fitting:

Projection from above ⇒ missing corner at the bottom right from the viewer's perspective

Projection from below ⇒ missing corner at the top left from the viewer's perspective

For a successful projection – that is, one which is brilliant and colour-neutral – it is important that the specified geometry is exactly observed. Deviations from the specified projection geometry lead to losses in brilliance and in certain circumstances the neutrality of the colour is no longer guaranteed.

The projection of HoloPro™ takes place from an angle of approximately 36° from above or from below. In order to minimise the "keystone effect" the projector should have a shift lens. If your projector has this shift lens, make sure that it is used the correct way round:

Projection from above ⇒ projector with legs facing the ceiling

Projection from below ⇒ projector with legs facing the ground

HoloPro™ is embedded in reflection-reducing glass and therefore an illuminated audience room does not have any influence on the brilliance of the projection. Despite this, you should still avoid the direct reflection from light sources, since a halogen spot or a fluorescent lamp can be seen even if there is a reflection of less than 1% and under certain circumstances can spoil the visual impression. If HoloPro™ is set up behind display window glass, the display window should preferably have an antireflective coating, since the ambient reflection in the display window can have a distracting effect on the viewer.

HoloPro™ is a hologram and directs the light in a selected angle from the direction of the projector into the audience room. Light from other directions is not affected by HoloPro™. The contrast of the projection is not reduced by outside light – provided that no outside light comes from the direction of the projector, since this was diffracted in exactly the same way as the projection light.

HoloPro™, the projector and the projection conditions must be coordinated with each other. In particular the light flux of the projector (ANSI lumen) in bright surroundings must be great enough – HoloPro™ is a passive element and cannot produce any light. A calculation example shows that a projector has, for instance, a brightness of 650 ANSI lumen. In the case of a picture area of 1.4 m² the projection area is illuminated with $650/1.4 = 460$ lux, which is too little in a bright room (according to German Industrial Standard DIN a normal workplace should be illuminated with 500 lux). A great ANSI lumen value of the projector is not decisive on its own. The contrast-generating ability of the projector also plays a big role, particularly if one wants to make suspended projections of free-standing objects, data, etc. without a background. **A lack of contrast becomes evident through a milky glimmer on places which should actually be clear.**

HoloPro™ is transparent and also remains transparent during the projection. The background "disappears" behind a bright part of the picture; the viewer automatically concentrates his attention on the projected picture.

The projection and the background of HoloPro™ should be coordinated with each other.

The projection is only visible from the viewer's side; HoloPro™ remains transparent when viewed from the back. At the most a residual diffusion of material becomes visible, which schematically darkens the picture.

Assembly instructions for HoloPro™ 67" standard screen

1. Projection from above - projection examples:

Illustration 1.1

Standard projection in the case of an average height of the viewer's eye of 1.65 metres.
Sharp XG-NV6 XE with leg facing the ceiling and approximately 25° inclination.

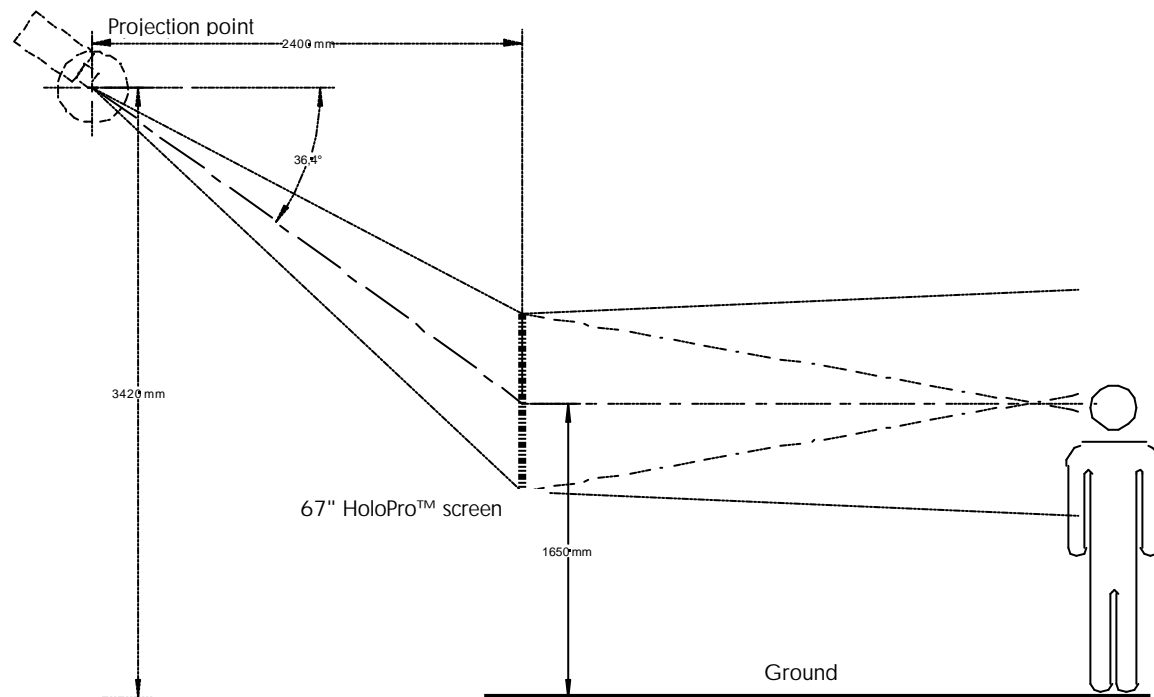


Illustration 1.2

HoloPro™ is mounted below the height of the viewer's eye and has an inclination angle of 10°. Sharp XG-NV6 XE with leg facing the ceiling and approximately 15° inclination.

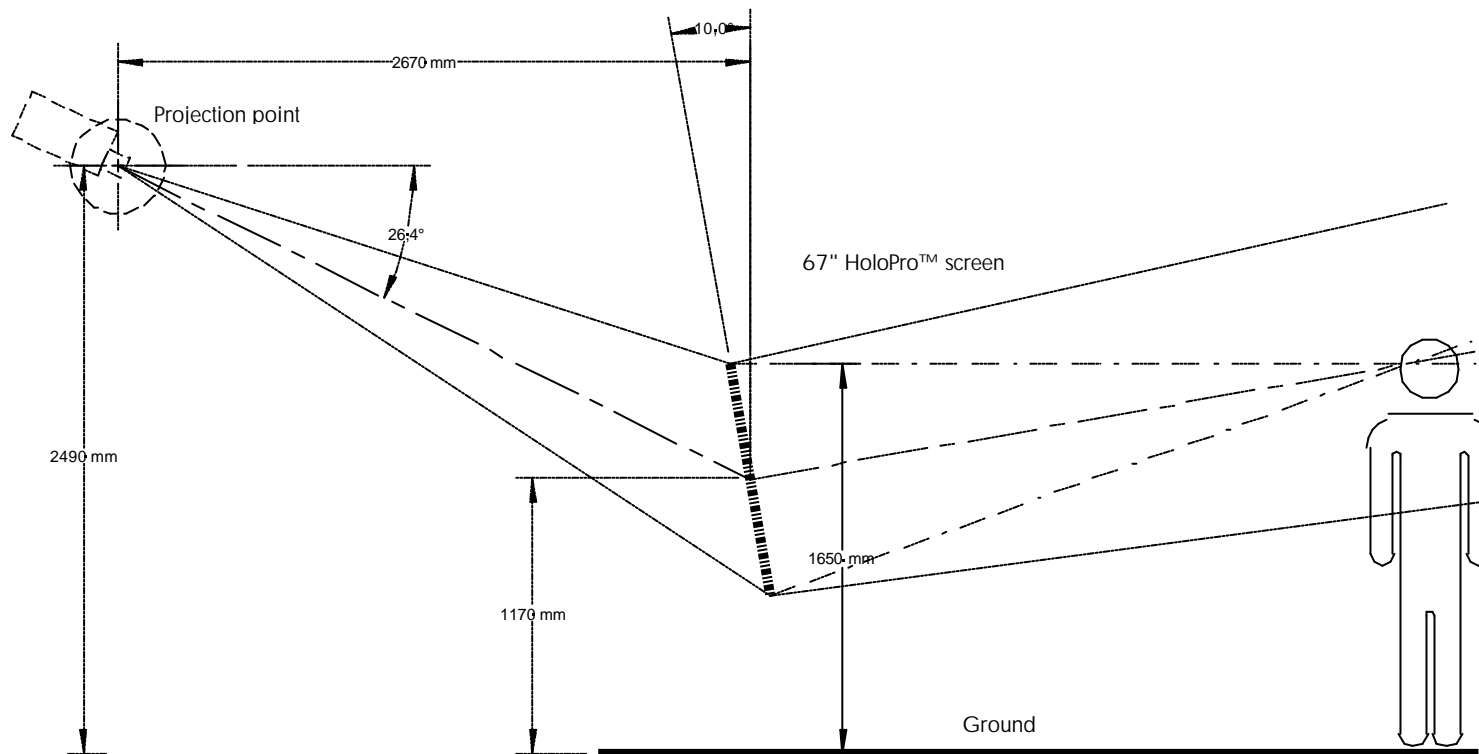


Illustration 1.3

HoloPro™ is mounted below the height of the viewer's eye and has an inclination angle of 20°.
Sharp XG-NV6 XE with leg facing the ceiling and approximately 5° inclination.

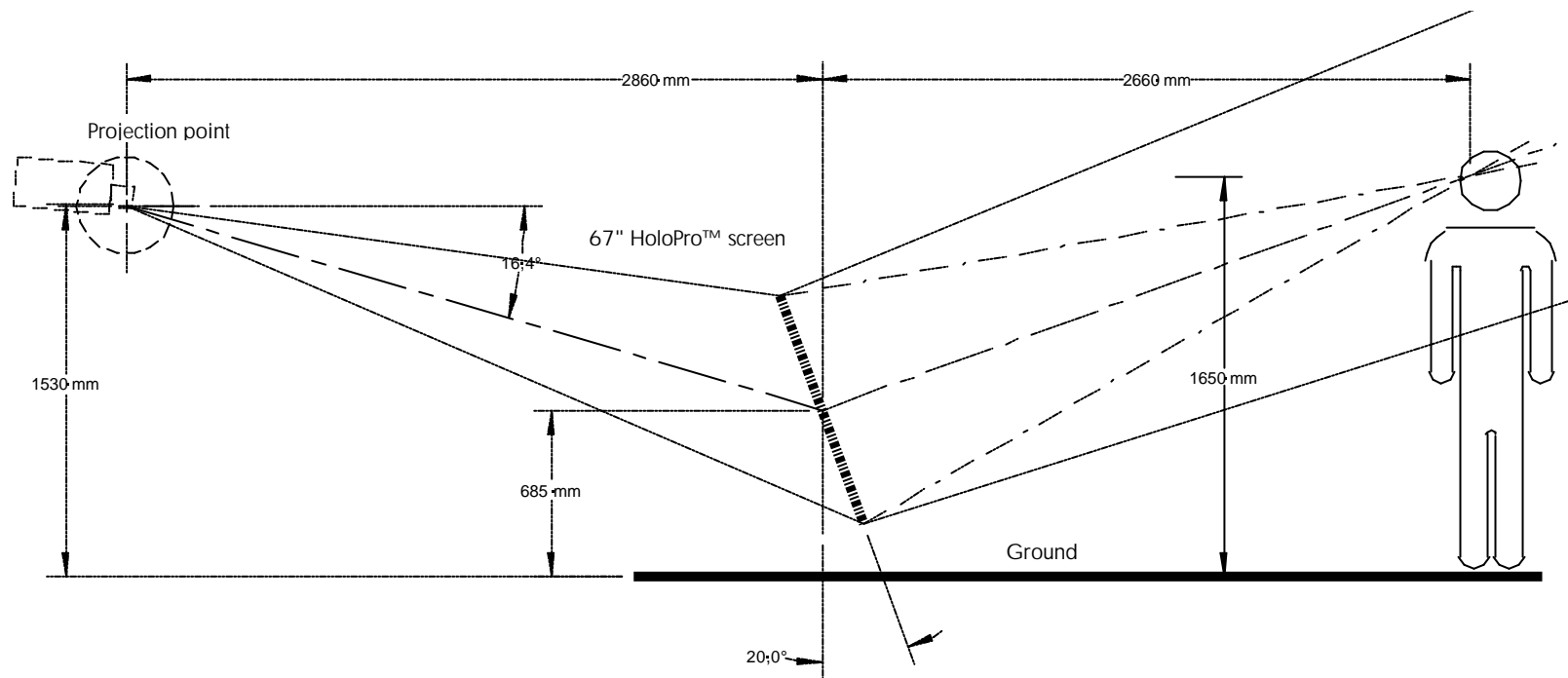


Illustration 1.4

The projection beam is directed at HoloPro™ via an inclined mirror. The degree of inclination of the mirror is 10°. Sharp XG-NV6 XE without inclination with leg facing the ceiling.

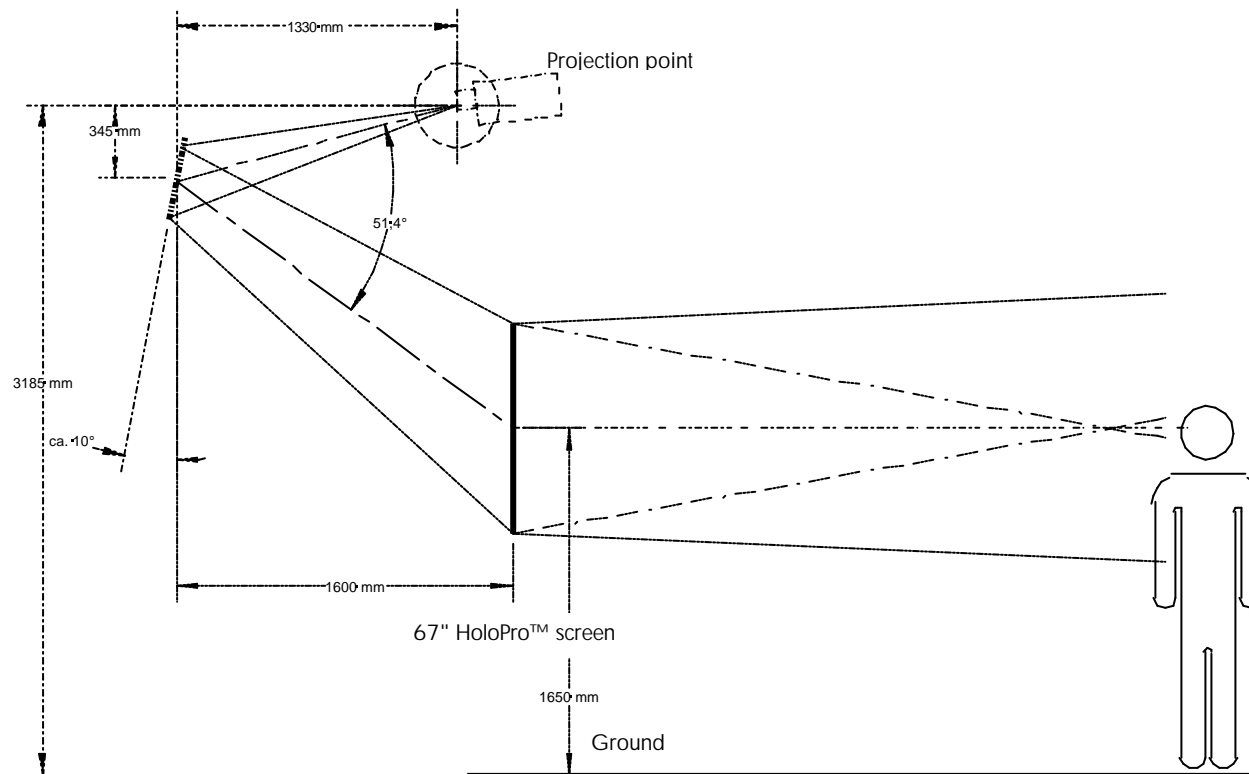


Illustration 1.5

The projection beam is directed at HoloPro™ via an inclined mirror.
Sharp XG-NV6 XE with leg facing the ceiling and an inclination of approximately 25°.

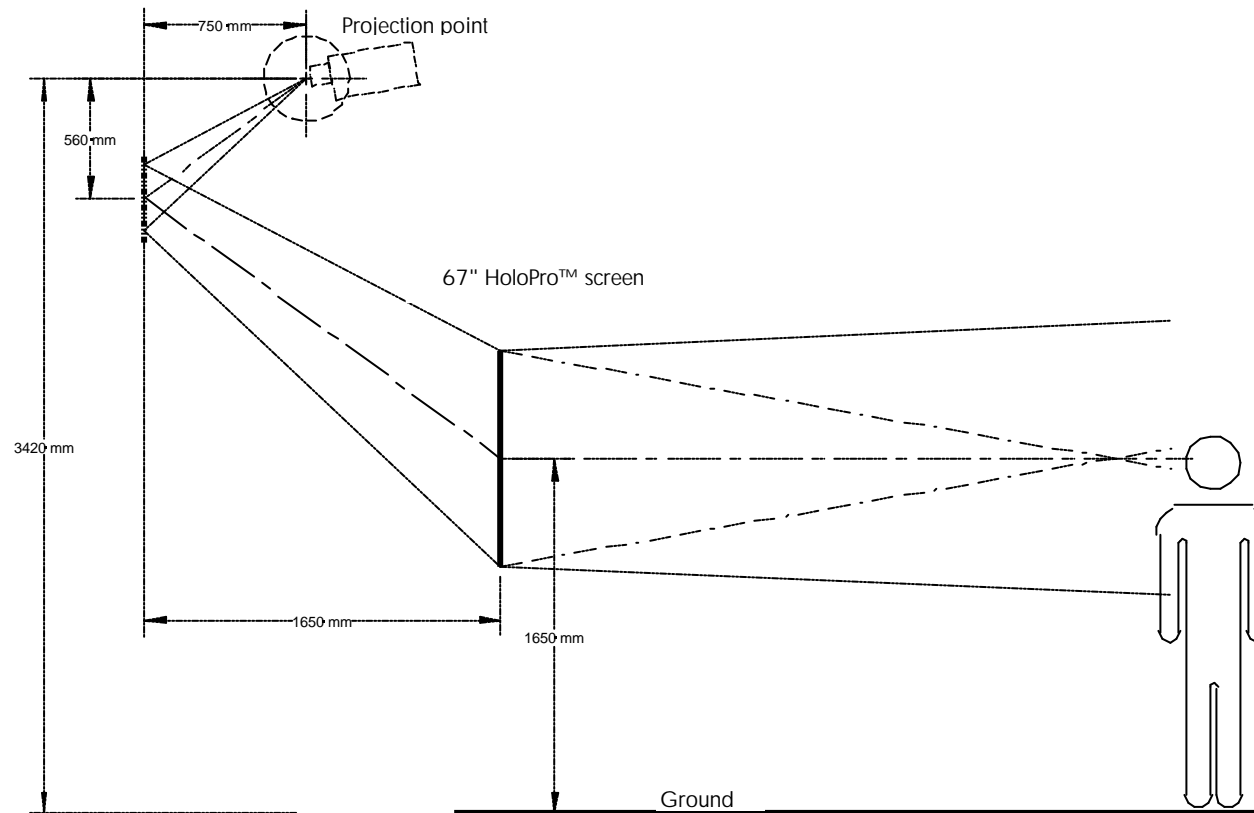
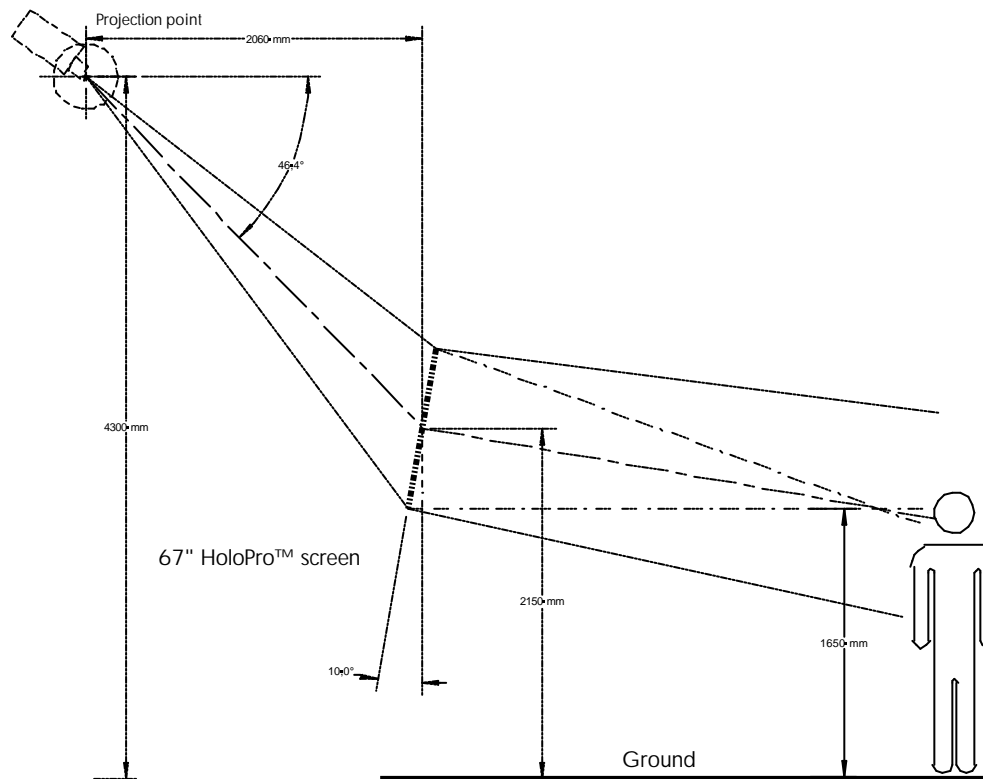


Illustration 1.6

HoloPro is mounted above the height of the viewer's eye and has an inclination angle of 10° .
Sharp XG-NV6 XE with leg facing the ceiling and an inclination of approximately 35° .



2. Projection from below - projection examples

Illustration 2.1

Standard projection in the case of an average height of the viewer's eye of 1.65 m.
Sharp XG-NV6 XE with an inclination of 25°.

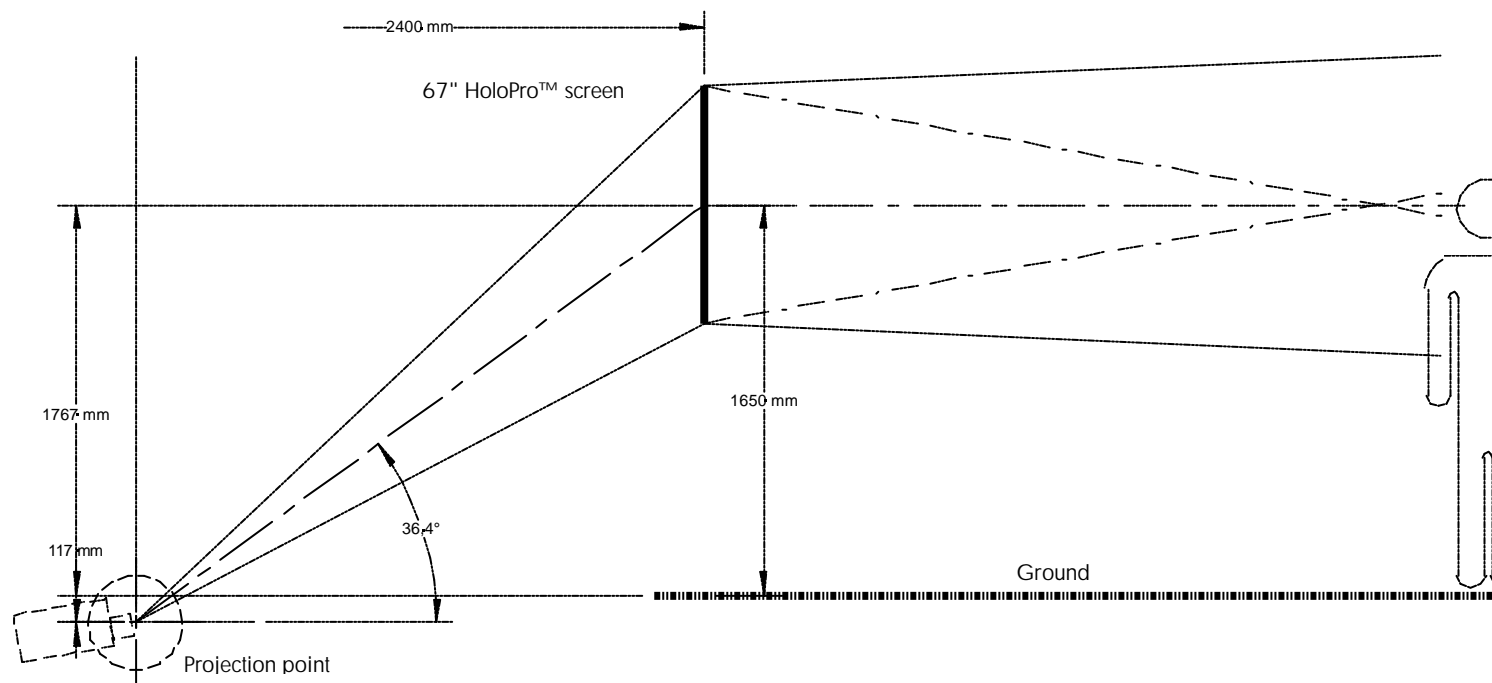


Illustration 2.2

HoloPro™ is mounted below the height of the viewer's eye and has an inclination angle of 10°. Sharp XG-NV6 XE is inclined at an angle of approximately 35°.

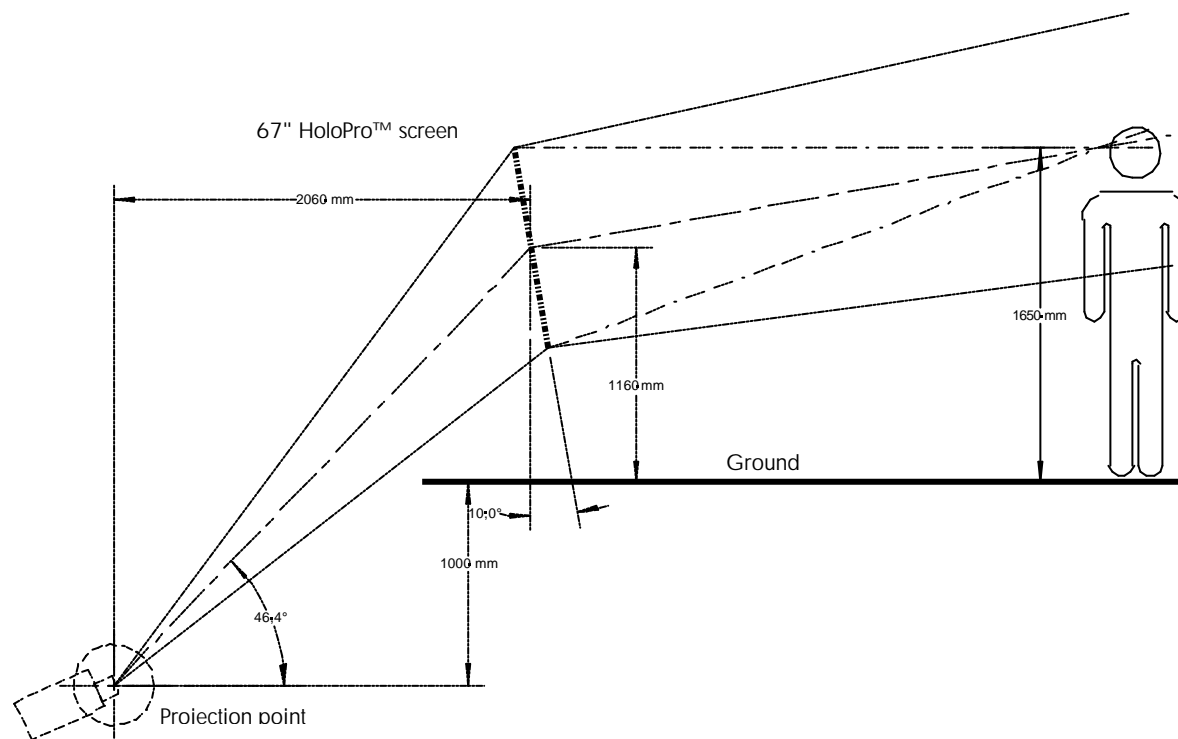


Illustration 2.3

HoloPro™ is mounted below the height of the viewer's eye and has an inclination angle of 20°. The Sharp XG-NV6 XE is recessed in the flooring and is inclined at an angle of approximately 45°.

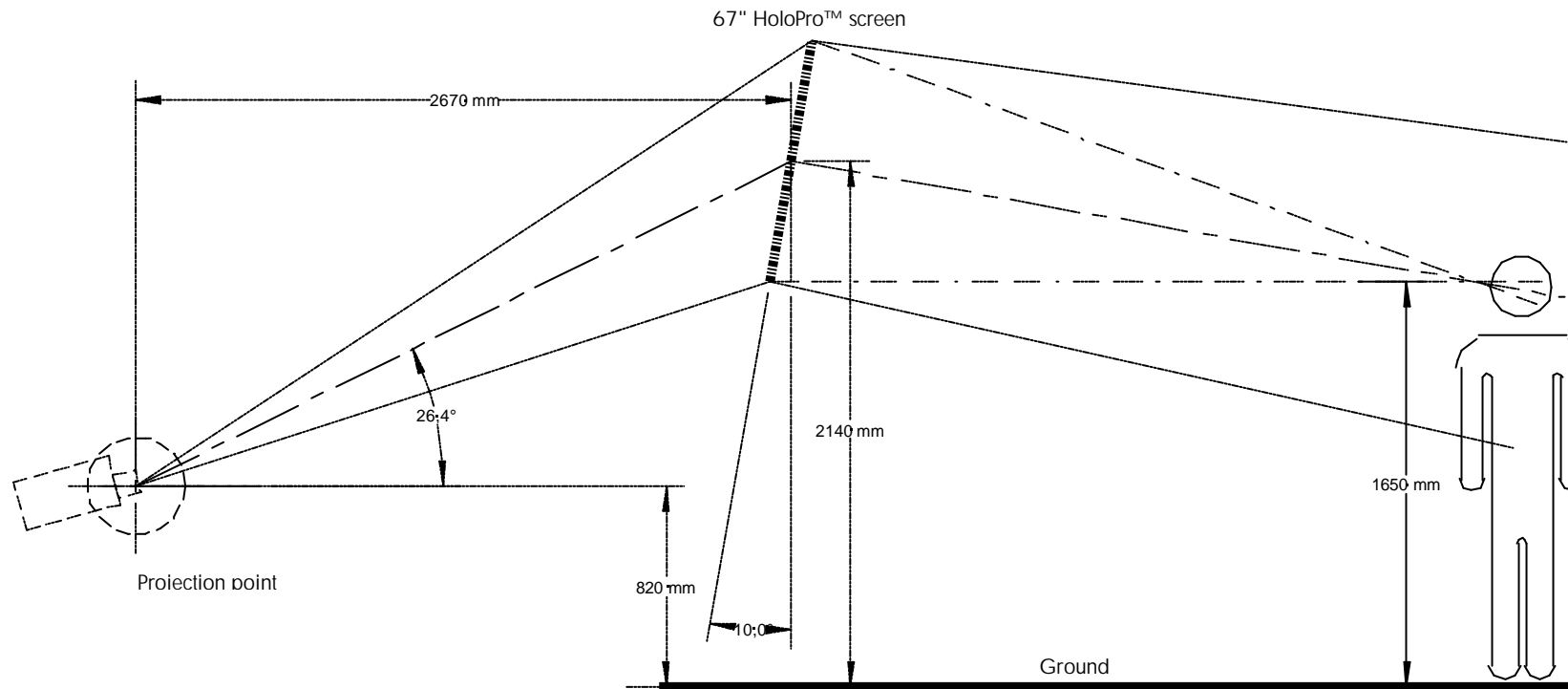


Illustration 2.4

The projection beam is directed at HoloPro™ via an inclined mirror. The inclination of the mirror is 10°. The Sharp XG-NV6 XE is not inclined.

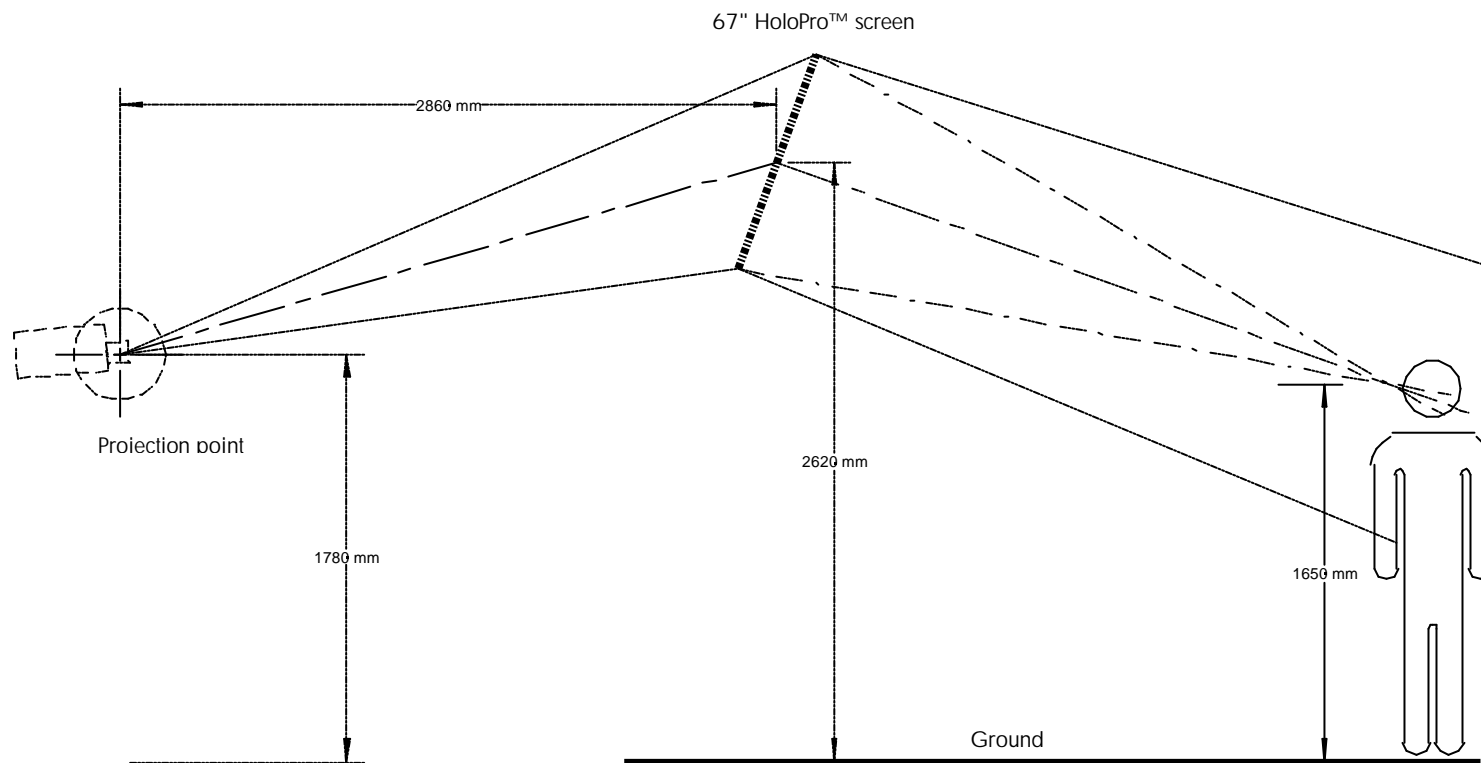


Illustration 2.5

The projection beam is directed at HoloPro™ via a mirror.
The inclination of the Sharp XG-NV6 XE is approximately 25°.

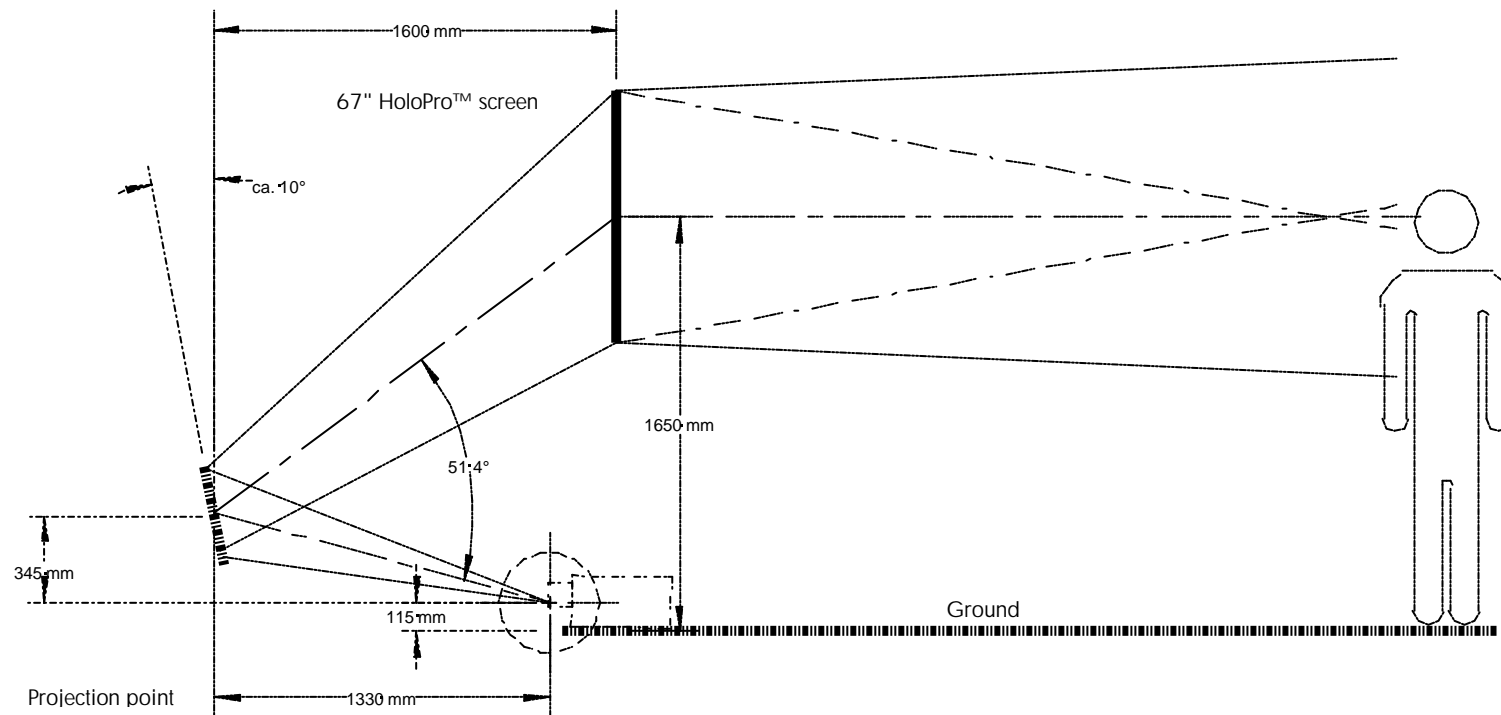


Illustration 2.6

HoloPro™ is mounted above the height of the viewer's eye and has an inclination angle of 10°. The inclination of the Sharp XG-NV6 XE is approximately 25°.

