

Home Designer Rendering Tips

Reference Number: **KB-00399**

Last Modified: **September 19, 2023**

The information in this article applies to:



QUESTION

What tips are recommended to improve 3D renderings in my plans?

ANSWER

Home Designer features a built-in, easy to use rendering engine that makes use of the DirectX rendering engine. However, to take full advantage of the rendering engine, it's best to familiarize yourself with each of the settings and tools mentioned below.

Rendering Tips

- **Graphics/Video Card Hardware**

If you are experiencing issues with regards to 3D rendering, first check to ensure that your video card meets, or exceeds, the minimum system requirements for running the software, and that you are using the most up-to-date driver which is compatible with your operating system.

System requirements for Home Designer programs can be located at:

<https://www.homedesignersoftware.com/support/article/KB-01095/home-designer-minimum-system-requirements.html> (<https://www.homedesignersoftware.com/support/article/KB-01095/home-designer-minimum-system-requirements.html>)

Instructions on updating the video card driver, including additional troubleshooting information, can be located in [KB-00897: Troubleshooting 3D Camera View Display Problems in Home Designer](https://www.homedesignersoftware.com/support/article/KB-00897/troubleshooting-3d-camera-view-display-problems-in-home-designer.html)

(<https://www.homedesignersoftware.com/support/article/KB-00897/troubleshooting-3d-camera-view-display-problems-in-home-designer.html>).

- **Lighting**

Lighting is extremely important in most 3D renderings. Lighting controls the visibility of objects in a view, affects the appearance of surfaces, and influences the appearances of colors and textures on those surfaces.

Even small changes to light intensity, direction and color can have a large impact on image quality.



For more information on lighting, please see the [Lighting Knowledge Base Category](https://www.homedesignersoftware.com/support/category/182/lighting.html) (<https://www.homedesignersoftware.com/support/category/182/lighting.html>) or select **Help> Launch Help ?** within your software, and search for "lighting".

- **Shadows**

Like lighting, shadows have an important effect on image quality. Shadows are enabled in Full Camera views by default and can be generated in any type of camera view using any Rendering Technique aside from Glass House.

When shadows are enabled and the sun is shining directly at a window, its light can shine through the window and into an interior room. These shadows use Ray Casted Sun Shadows by default, but this option can be unchecked if it slows performance in 3D views.

Shadows are affected by the number of light sources in a plan, as well as what Rendering Technique is in use. In order for a light source to cast shadows, it must be **On** in the current view and have **Cast Shadows*** checked in its specification dialog.

Shadows can be controlled for each individual camera view, or for each camera tool in the software by accessing the **Default Settings** . You can also toggle shadows in a camera view on or off by navigating to **3D> Camera View Options> Toggle Shadows** .


For more information on shadows, see [KB-00230: Toggling Shadows in Camera Views](https://www.homedesignersoftware.com/support/article/KB-00230/toggling-shadows-in-camera-views.html) (<https://www.homedesignersoftware.com/support/article/KB-00230/toggling-shadows-in-camera-views.html>).

The sun's angle and intensity can also affect shadows. See [KB-00922: Adjusting the Sunlight](https://www.homedesignersoftware.com/support/article/KB-00922/adjusting-the-sunlight.html) (<https://www.homedesignersoftware.com/support/article/KB-00922/adjusting-the-sunlight.html>) to learn more.

*Casts Shadows is only available in Home Designer Architectural and Home Designer Pro.

- **Ambient Occlusion**

Ambient occlusion adds shading to surfaces near corners which, because of their location, reflect less light compared to other surfaces. Too little ambient occlusion can result in a view having a flat appearance.

You can specify the amount of Ambient Occlusion to use in Standard renderings for each individual camera view, or for each camera tool in the software by accessing the **Default Settings** .

- **Reflections**

Reflections are another aspect of lighting that can increase a 3D view's realism. If a flat surface is assigned a Mirror material, it can display reflections of other objects in the scene. Bear in mind that a Mirror surface


cannot display the reflection of another mirror: when one mirror can be seen in another, its material is shown rather than a reflection.

Reflections in Mirrors only generate in Perspective 3D views using Rendering Techniques that show material textures. Much like shadows, reflections can be controlled for each individual camera view, or for each camera tool in the software by accessing the **Default Settings** . You can also toggle reflections in a camera view on or off by navigating to **3D> Camera View Options> Toggle Reflections** .

For more information on reflections, select **Help> Launch Help**  within your software, and search for "reflections".

- **Bloom**


Bloom, or light bloom, occurs around areas of intense illumination and looks as though the light is 'bleeding' beyond the edges of the light source. This adds realism to the view, but takes longer to render.

Bloom only affects Standard and Watercolor rendering technique options, and can be toggled for each individual camera view, or by accessing the **Default Settings** .

- **Material Definitions**

Textures are graphic files that represent irregular surfaces of objects such as carpet, bricks, tile, and wood in 3D views. Textures are assigned to materials which in turn are assigned to objects.

The display of materials in 3D views is controlled by settings in the **Define Material** dialog.

For more information on materials, please see the [Materials Knowledge Base Category](https://www.homedesignersoftware.com/support/category/49/materials.html) (<https://www.homedesignersoftware.com/support/category/49/materials.html>), or select **Help> Launch Help** , then search for "material".

Brightness, shininess and transparency control how light sources affect the display of surfaces in 3D views. If no texture is selected for a material, or if the display of textures is turned off, affected surfaces are a solid color instead.

- **Images**


Image objects use picture files to represent individual objects such as trees, flowers, and vehicles in 3D views. Images are useful because they have only one 3D surface, allowing them to represent complicated 3D objects with a high degree of realism but with minimal cost in terms of performance.

- **Backdrops and Generated Sky**

Backdrops are images that display in the background of 3D views. Only one backdrop can be used at a time. If a backdrop is not applied, Home Designer applies a background color.

The Generated Sky is a spherical backdrop option that simulates the sky at different times of day based on the position of the Generic Sun. A horizon line is also modeled when the Generated Sky is in use. In a camera with a


Tilt Angle of 0°, the horizon line runs across the center of the view window. As the sun is moved closer to the horizon, its intensity decreases and its color becomes an increasingly deep amber color. When the sun is moved below the horizon it may continue to contribute to light to the sky, but it will not cast light on the model. When the sun is either below the horizon or toggled off, representations of the moon and stars become visible.



Backdrops and the Generated Sky can be controlled for each individual camera view, or by accessing the **Default Settings** .

For more information on backdrops, please see [KB-00325: Changing the Backdrop in a Camera View \(https://www.homedesignersoftware.com/support/article/KB-00325/changing-the-backdrop-in-a-camera-view.html\)](https://www.homedesignersoftware.com/support/article/KB-00325/changing-the-backdrop-in-a-camera-view.html).

• Edge Smoothing

Angled surface edges and pattern lines will sometimes display on screen as jagged or stair-stepped. Edge smoothing softens this effect, producing cleaner looking lines.

You can specify how much Hardware Edge Smoothing occurs in 3D views in the **Preferences**  dialog. Hardware Edge Smoothing is set to "High" by default. Using a lower setting will lower rendering quality but may improve performance on some systems.

Even higher quality edge smoothing can be produced by checking **Edge Smoothing When Idle** for each individual camera view, or by accessing the **Default Settings** . This setting does not affect a camera while its position or orientation are being changed, but applies additional smoothing to edge lines when the camera is not in motion. This high quality edge smoothing option is view-specific and can also be toggled on or off by selecting **3D> Camera View Options> Toggle Edge Smoothing When Idle** .

Related Articles

-  [Adding Interior Lighting \(/support/article/KB-01063/adding-interior-lighting.html\)](/support/article/KB-01063/adding-interior-lighting.html)
-  [Changing the Backdrop in a Camera View \(/support/article/KB-00325/changing-the-backdrop-in-a-camera-view.html\)](/support/article/KB-00325/changing-the-backdrop-in-a-camera-view.html)
-  [Controlling Light Sources \(/support/article/KB-01007/controlling-light-sources.html\)](/support/article/KB-01007/controlling-light-sources.html)
-  [Creating a Night Scene with Exterior Lights \(/support/article/KB-00282/creating-a-night-scene-with-exterior-lights.html\)](/support/article/KB-00282/creating-a-night-scene-with-exterior-lights.html)
-  [Toggling Shadows in Camera Views \(/support/article/KB-00230/toggling-shadows-in-camera-views.html\)](/support/article/KB-00230/toggling-shadows-in-camera-views.html)
-  [Troubleshooting 3D Camera View Display Problems in Home Designer \(/support/article/KB-00897/troubleshooting-3d-camera-view-display-problems-in-home-designer.html\)](/support/article/KB-00897/troubleshooting-3d-camera-view-display-problems-in-home-designer.html)