

Figure 2.18 — *Dramatic Product Setup*

Figure 2.18 uses the same layout from **Figure 2.17**, but with a few key changes that transform the mood entirely:

- 1 → The two *Area* lights remain in the same positions, but the power gap between them is much wider. The *Key* is set to 2500 and the *Fill* to 1100. This higher contrast between the lights produces the bold shadow effect that characterizes this setup.
- 2 → The infinite backdrop material is changed from light grey to a medium blue. A colored background adds visual depth and a premium feel, making it well-suited for advertising and portfolio presentations.
- 3 → The camera is repositioned closer to the ground for a more dramatic composition. This low angle emphasizes the product's presence and makes it appear more imposing in the frame.

Beyond the light ratios and camera angle, the background material also plays a significant role in the final appearance. A dark background with high-contrast

cause the environment provides detailed reflections that progressively blur as *Roughness* increases.

Choosing the right *Roughness* value is often the difference between a material that looks convincing and one that feels artificial. Most real-world surfaces fall somewhere in the middle range. Polished materials like chrome, wet surfaces, and glazed ceramics typically use values between 0 and 0.2. Common everyday materials like plastic, painted surfaces, and finished wood sit in the 0.3 to 0.6 range. Rough materials like concrete, unfinished stone, and matte paint use values above 0.7.

The *IOR* parameter (Index of Refraction) determines how reflective a surface appears at different viewing angles. This behavior, known as the *Fresnel effect*, is what causes surfaces to become more reflective when viewed at shallow angles. You can observe this in everyday life: a wooden table appears mostly matte when viewed from above, but shows clear reflections when viewed from a low angle near the surface.

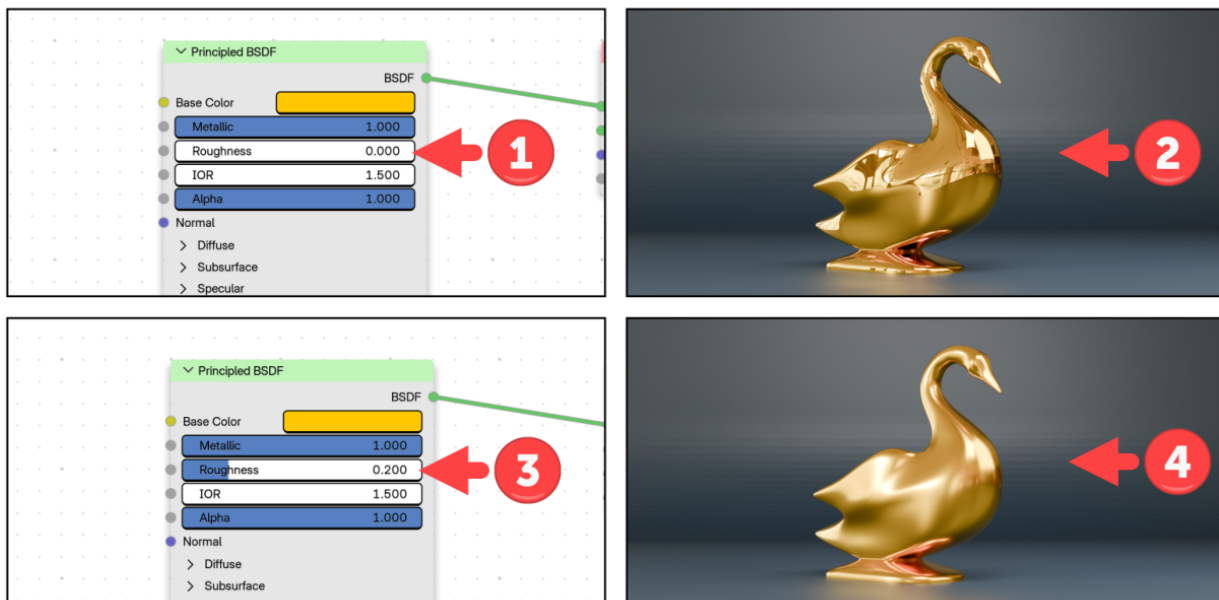


Figure 3.6 — *Roughness and IOR effects*

In the *Principled BSDF*, the IOR is controlled through the *IOR Level* parameter. This value multiplies the physical IOR; 0.5 represents no adjustment from the default. Most dielectric materials use IOR values between 1.4 and 1.6, which the default setting handles well. You generally do not need to change this parameter unless you are working with a specific material that requires an unusual Fresnel response.

For glass materials, the *IOR* value becomes more critical because it directly determines the angle of refraction at the surface. Standard glass has an IOR of approximately 1.5; water has an IOR of 1.33; and diamond has an IOR of 2.42. We will explore these values in detail when building glass materials in Section 3.3.

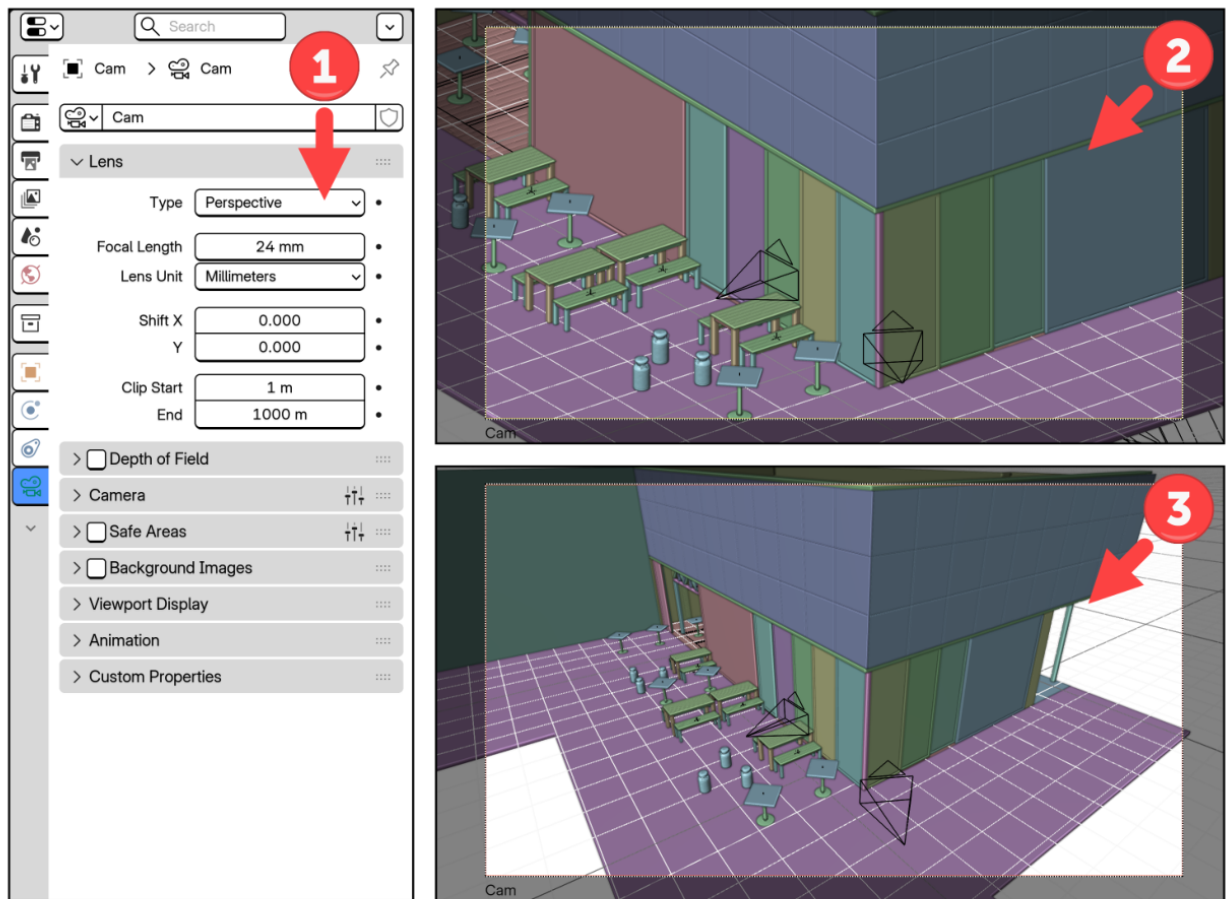


Figure 4.2 — *Lens Type Comparison*

The third option, *Panoramic*, captures an ultra-wide field of view suitable for 360-degree environment renders and VR content. This lens type offers several sub-modes (including *Equirectangular* and *Fisheye* variants) for specific panoramic applications. Most rendering workflows will not require this option, but it becomes valuable when creating immersive content or panoramic background images.

4.1.3 Camera Placement and Composition

Having the right focal length and lens type is only part of the equation. Where you place the camera in the scene and how you frame the subject determine whether a render looks professional or amateur. Blender provides several tools that make camera positioning intuitive and precise.

One fast approach is the *Align Active Camera to View* shortcut. Starting from the active camera in your scene (1) (Figure 4.3), navigate the *3D Viewport* until you find the angle you want, then press **CTRL+ALT+Numpad 0**. Blender instantly moves and rotates the active camera to match your current viewing angle (2). This shortcut is especially useful when you already have a good view of your scene and want the camera to capture exactly what you see on screen.

These values serve as starting points. You can always adjust them after a test render to find the exact amount of blur that works for your specific composition. The beauty of working with depth of field in *Cycles* is that you can experiment with different F-Stop values and re-render quickly without modifying anything else in the scene.

4.2.3 Aperture Blades and Bokeh Shape

When depth of field blurs bright points of light in the out-of-focus areas of your render, the shape of those highlights is called *bokeh*. In real photography, the bokeh shape is determined by the physical aperture blades inside the camera lens. Blender gives you direct control over this shape through the *Aperture Blades*, *Blade Rotation*, and *Ratio* settings in the *Depth of Field* panel.

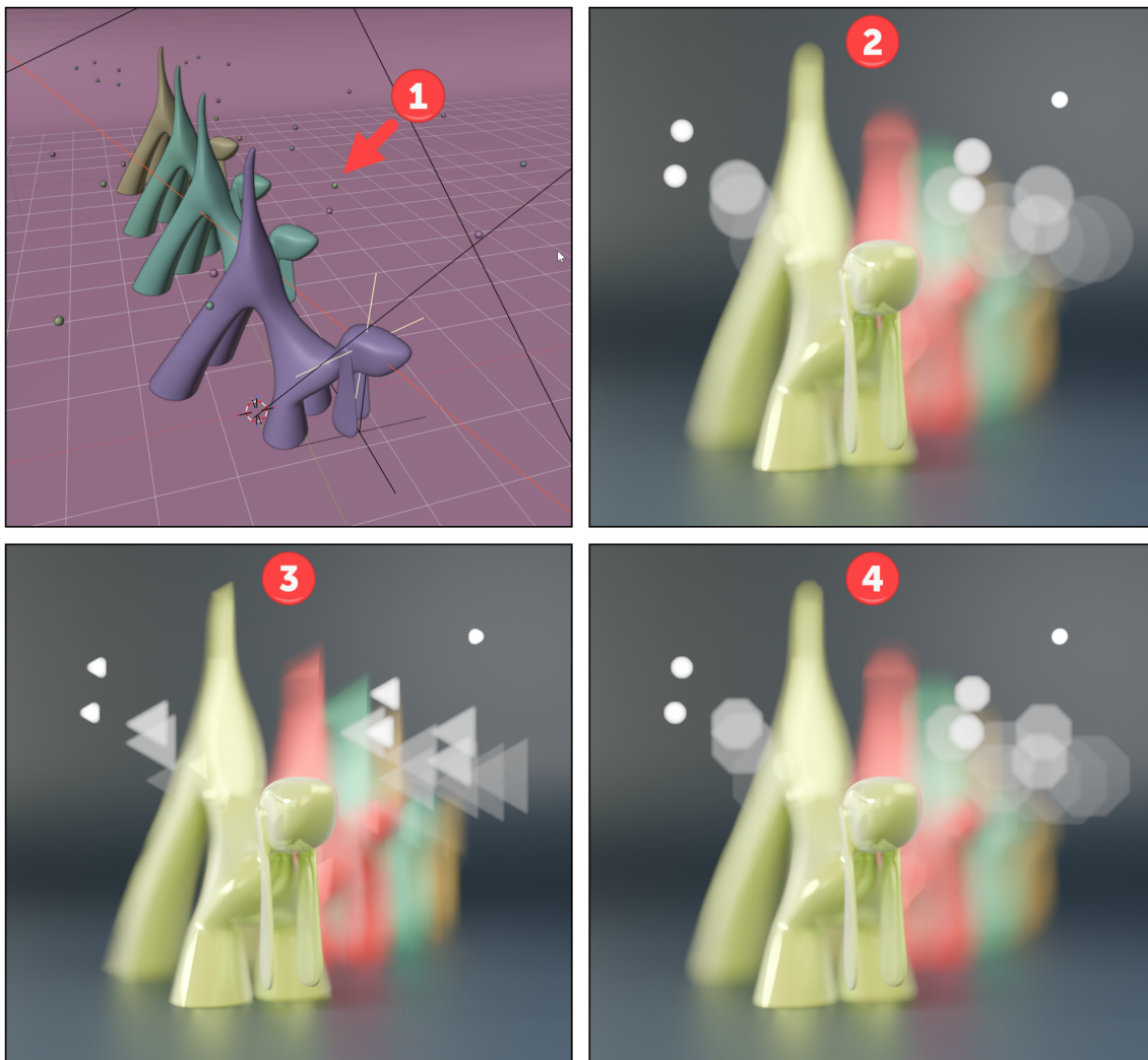


Figure 4.7 — *Bokeh Shape Variation*

By default, the *Aperture Blades* value is set to 0, which produces perfectly circular bokeh. This simulates an idealized aperture with infinite blades, creating smooth,