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Why Use Half Top Hats?

First, let's have a quick refresher class in top hats. If you look up in any Broadway or West End theatre you'll see top hats on nearly every conventional fixture. Why are they used?

Designers use top hats for three primary reasons:

1. To decrease the viewing angle to the lens so the audience doesn't see the bright and potentially distracting source of light.
2. To block spill light caused by optical deficiencies in the lighting fixture.
3. For decorative purposes, e.g., to make a lighting fixture look more "theatrical." Concentric rings, egg crates, and cross baffles are often used for this purpose.

Those three reasons illustrate the concept of why designers use top hats, but **why are half top hats used?** For half top hats, the first three reasons are the same, but there is an important fourth reason: To make a lighting fixture "disappear" in the lighting rig. This is easy to see in a theatre or light lab.

Here is a Source Four in a lighting rig:



It's easy to see that the bright glow of the lens might be distracting to the audience. Logic would suggest that the designer might choose to use a top hat to "decrease the viewing angle to the lens," in other words, to hide the bright glow of the lens from the audience.

Here is a Source Four in a lighting rig:



In this situation, did adding a top hat help? Not really, since the inside of the top hat is still glowing brightly, and is still potentially quite distracting.

Here is a Source Four in a lighting rig:



Now it is easy to see that by adding a **half top hat**, the Source Four on the right has nearly disappeared. In many cases when designers need to make fixtures disappear from audience view, they use half top hats rather than full top hats.

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