Color Temperatures: When To Use Different Kelvin Levels?

If you have read our page about the meaning of color temperature, you understand that the Kelvin rating on a light bulb or fixture indicates the shade of white light that emits from that source. Just as sunlight transitions from orange shades in the morning and evening and blues during the middle of the day, these light qualities are available in our light sources. It is not to say that warm or cool color temperatures are better than one another, but they are more appropriate for different environments.

Throughout ShineRetrofits.com, you will see options to shop by color temperatures using our product filters or choose a different Kelvin level for different products. The temperature you choose is important in order to make sure you set the right ambiance for your setting. We are going to spend some time here helping you make that decision with recommended applications for each color temperature. That said, it is up to you! Everyone has their own preferences. If you need help making a decision, you can always call one of our lighting experts at 1-877-643-4534.
The Scale of Color Temperatures

On ShineRetrofits.com, you will find a color temperature scale that will show a representation of the shades of white light. They range from orange/yellow to blue and you will find this indicator throughout our website. In November of 2016, we revised this scale to more accurately reflect the actual color characteristics of the light source. We find that there are some gross exaggerations of these color temperature scales around the web, so beware.

![Color Temperature Scale]

This scale shows the various color temperatures that are available in common light sources. They range from orange to blue, but remember that these are all white light. This graphic would indicate that the product is 5200K.

A good point of reference is that the sun at mid-day measure 5780 Kelvin. If you look at that on the scale of color temperatures, that is already getting into the bluish range. So, what you perceive to be white light actually has a bit of a blue tint. Typical household lamps use bulbs in the 2000-3000 Kelvin range, and you probably consider them to be white as well. A candle registers at 1900K, so you can see how the glow of fire emits a warm white light. Keep in mind, these are all shades of white light.

Circadian Lighting

The natural color temperatures that we see throughout the day produced by the sun vary from warm to cool. The early and late sunlight is low on the color temperatures scale emitting a warm orange glow. The sunlight that we see in the middle of the day is actually a cool blue color temperature. Recent studies show that there are positive health effects when artificial lighting mimics the natural color temperatures of the sun throughout the day. This
explains the choices for many of the color temperature recommendations we make in this post. Warmer light is used in the living room because we often spend our time there in the mornings and evenings. We use cooler light in the workplace because we are there most often during the middle of the day. Essentially, we want to match the natural rhythm of the sun. However, there are some special cases that call for special color temperatures.

**Ranges of Color Temperatures & Their Applications**

Now let's take a look at some typical color temperature ratings that you might see while shopping for lighting products. For each range, we will suggest some applications where they are most appropriate. One again, these are just suggestions. We suggest that warm lighting is appropriate for restaurants. However, what if your restaurant had an ice theme because it is known for chilled drinks? Cooler color temperature lighting might be appropriate to give an arctic ambiance. Your space is your canvas! Do as you please.
2700K - Warm White - Intimate, Cozy, Personal

This is the light that you are probably most familiar with seeing around the home. The warm glow is reminiscent of the sunset or a flame. Common applications would be:

**Living Rooms**
Living rooms are made for relaxation, and you are probably going to be needing the lights on mostly in the evenings after the daylight is no longer illuminating the room. This calls for warm and cozy light, so look for light sources around 2700K.

**Restuarants**
For the most part, restaurants want to create an inviting and intimate environment. That is why they most often choose warmer light sources with dimmers, so they can adjust the lighting throughout the evening. Some will even opt for a warmer color temperature to mimic candlelight.

**Hotels**
The primary mission of a hotel is to make you feel at home, so it is no surprise to see they use a similar color temperature to what you might use in your living room. Warmer temperatures provide cozier atmospheres, which is why 2700K is a great choice for the hospitality industry.
3000K - Soft White - *Warm, calming*

If you still want a relaxing ambiance but may need a bit more clarity in your environment, bump it up to 3000K. These light levels are still for residential areas but typically where you are completing tasks.

**Bathrooms**
A bathroom is still a place in your home where you might want warm light levels, but slightly higher so that you can see what you are doing and see a brighter reflection in the mirror. You would not want to miss that poppy seed stuck in your teeth! For that reason, we recommend 3000K in bathrooms.

**Kitchens**
While a kitchen is a gathering place in your home justifying warm color temperatures, it is also a workshop for your culinary talents. A color temperature that is not quite as warm as the living room helps you to see the true color of the food in front of you. This helps you make sure that chicken is cooked all the way through when you pull it from the oven.
### 3500K - Neutral White - *Balanced, friendly, inviting*

The theory of circadian lighting will tell you that the brain is most alert in the middle of the day when light levels move into the pure white areas of the spectrum. For this reason, we use these color temperatures in environments where people need to focus and remain alert. However, it might be a bit much to spend your entire work day in completely white light, so these neutral tones tend slightly more in the warm direction while near to the white part of the spectrum.

**Office Spaces**
Keep your employees alert yet relaxed using one of these neutral warm color temperatures around 3500K. The light will be white enough to keep them from falling asleep without torturing them under a blue light all day long.

**Retail Stores**
Retail stores want to create an inviting environment on the warm side of the scale, while allowing customers to see the true qualities of the products like clothing. 3500K is often ideal since a light source that is too blue can make customers look unhealthy. This leads them to leave the store without making a purchase.
4100K - Cool White - *Precise, clean, focused*

Sometimes, a warm and cozy environment is not desired. When you need precision and the ability to see your subject clearly, cool white lighting is ideal. These color temperatures are going to be above 4100K.

**Garages**
If you are using your garage as a workspace, you will want to use clean crisp lighting. This will bring clarity to any project you are working on and create the safest working environment.

**Grocery Stores**
Compared to a clothing retail store, grocery stores typically opt for a slightly higher color temperature. This creates a better environment for examining foods and also makes the colors pop to make packaging more appealing.
5000K - Bright White - *Vibrant, Crisp*

**Warehouses**
Proper lighting in a warehouse contributes to efficiency and productivity for employees. Adequate light levels are also usually required by OSHA regulations, and crisp white light is ideal. This is not the area to set an ambiance. Warehouses need the brightest light they can afford.

**Sports Stadiums**
Sports stadiums across the country are replacing their lighting with LED technology. High-definition broadcasting has almost become a standard now, and that clarity relies on high quality lighting. HD cameras will be able to pick up subtle details better when the light is crisp white.

**Healthcare**
Another industry where perfectly crisp lighting is a necessity is the healthcare industry. When you are up on the operating table, your doctor is going to want the most pure white lighting possible so that they can make the most objective decisions about your body... and where to cut next.
6500K - Daylight - *Alert, energetic*

**Indoor Agriculture**
Light in the 6500K range is starting to be very apparently blue. At these color temperatures, the light is most similar to the light from the sun. For that reason, this is best for use in agriculture particularly for indoor farming.