

# LIGHT TYPES

**FLUORESCENT** - wide variety of tubular bulbs from which light is emitted by a layer of fluorescent material; vary widely in spectral energy distribution, and some are not good for meat color

**INCANDESCENT** - light is produced by heating a filament via electric current (i.e. common household bulb)

**HALOGEN** - halogen gas reacts with a tungsten filament to produce light (i.e. some spotlights)

**HIGH INTENSITY DISCHARGE (HID)** - a group of lamps, including mercury vapor and metal halide lamps (i.e. gymnasium or auditorium lamps)

**LIGHT EMITTING DIODE (LED)** - emerging category of low voltage, efficient lamps that can have a color temperature suitable for meat; potential new lighting option

# LIGHT TERMS

**COLOR RENDERING INDEX (CRI)** - numerical score referring to the ability of a light to reveal the actual color of an object

**COLOR TEMPERATURE** - numerical value (in Kelvin) indicating its ability to make an object appear a certain color, from cool to warm

**INTENSITY** - quantity of light at the product surface measured in foot candles (square feet) or lux (square meters); 10.76 lux = 1 foot candle

# TARGETS

⊙ **Color Temperature of 2800 to 3500 Kelvin.**

Note: this is the single best reference for meat

⊙ **Color Rendering Index (CRI) of 80 to 90.**

Note: best used in conjunction with color temp.

⊙ **Light intensity of 150 to 200 foot-candles.**

Note: high intensities accelerate discoloration

# AVOID

⊘ **Cool white fluorescent bulbs emit too much blue and green light.**

⊘ **Bulbs with a color temperature of 4000-6500 Kelvin are too blue.**

⊘ **Incandescent bulbs emit non-uniform illumination and often heat the product.**

⊘ **HID lamps can make meat appear yellow or blue.**

⊘ **Lamps with high amounts of UV light accelerate discoloration and fading.**

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# MEAT LIGHTING FACTS



**A guide to selecting the best light for your meat product display**

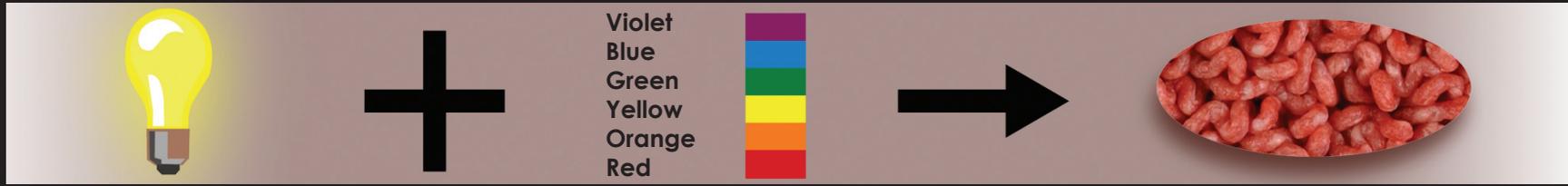
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# How light affects color



## Light Intensity

Light is emitted from the source with a given intensity.

Too great of light intensity accelerates discoloration of meat, whereas too low intensity does not adequately illuminate the product.

## Light Type

Light is a combination of colors emitted from a light source.

Higher proportions of red light are desirable for meat product display.

**Remember:** Light sources may emit some invisible UV rays, which can shorten display life.

## Why Light Matters

**Light determines how all things look.** Various lighting can make meat look redder, bluer, greener, yellower or grayer. The same product can look different under different light sources.

*See below.*

*Optimizing the variables of lighting type and intensity results in the best appearance of your product and increases display life.*

# Different lighting affects perceived color

The same products illuminated by different light sources

	Beef	Pork	Chicken	Salami	
Color Temperature = 6500 K CRI = 86					<b>Bluish appearance</b> <b>Not recommended</b>
Color Temperature = 3500 K CRI = 86					<b>Desirable red appearance</b> <b>Recommended!</b>
Color Temperature = 4100 K CRI = 64					<b>Grayish or faded appearance</b> <b>Not recommended</b>