PxrBlackBody



Produces a color that represents the radiation emitted by an ideal black body heated at the given temperature in the visible spectrum. This allows you to easily create plausible light colors based on standard temperature measurement.

Input Parameters

Temperature

The temperature (in kelvin) of the black body. Color temperatures over 5,000K are called cool colors (bluish white), while lower color temperatures (2,700 to 3,000 K) are called warm colors (yellowish white through red).



Top: linear ramp from 1,000K to 6,500K at -22 exposure. Bottom: linear ramp from 5,000K to 15,000K at -28 exposure.

Temperature Value	Source
1700	Match flame
1850	Candle flame, sunset/sunrise
2700 to 3300	Incandescent lamps
3000	Soft (or warm) white compact fluorescent lamps
3200	Studio lamps, photofloods, etc.
3350	Studio "CP" light
4100 to 4150	Moonlight
5000	Horizon daylight
5500 to 6000	Vertical daylight, electronic flash

6200	Xenon short-arc lamp
6500	Daylight, overcast
6500 to 10500	LCD or CRT screen
15000 to 27000	Clear blue poleward sky

Physical Intensity

When set to 1, the color will emit the correct amount of energy. WARNING: Your color will become super intense.

Exposure

Use exposure to adjust the amount of emited energy. Very useful if physical intensity is above zero.

Output Parameters

resultRGB

The color emitted from the black body that was heated to the given temperature.

resultR

The R channel from the resultRGB output.

resultG

The G channel from the resultRGB output.

resultB

The B channel from the resultRGB output.