



327 Motion Picture camera

FS5 S35 DIGITAL CINEMA CAMERA

IN CAMERA MIC
COLD SHOE MOUNT
ZOOM ROCKERS
PROGRAMMABLE BUTTONS
START/STOP BUTTONS

EYEPiece
SDI OUT
FOCUS POST
BATTERY RELEASE
SD CARD SLOTS
BATTERY RELEASE
EYEPiece
XLR PLUG

ND SELECTOR
EYEPiece
POWER SELECTOR
ZOOM ROCKER/ CLEAR ZOOM
SELECTOR DIAL
SUPER 35 SENSOR
WB SELECTOR
LENS RELEASE BUTTON

Sliding base plate locking knob
Sliding base plate
Tripod tilt lock knob
Tripod pan lock knob
Bubble level
Safety latch, insert base plate back to front
Dovetail end view
Ball leveling head Tie down
Ball leveling head

Think of aperture like a dart board, bulls eye is worth high points IE F22 (LESS LIGHT)
Out side rings worth lower points IE F2.2 (MORE LIGHT)

APERTURE BLADES
SMALLER THE HOLE LESS LIGHT BIGGER THE HOLE MORE LIGHT

MOTION PICTURE PRIME LENS
FOCUS RING
APERTURE RING

Depth of Field

Aperture Scale

Large Aperture
More Light
Wide Open
Small Aperture
Less Light
Stopping Down

Factors that affect depth of field:

SHALLOW DEPTH OF FIELD
Longer lens
Deeper DOF
Wider lens
Shallow DOF

LARGE DEPTH OF FIELD
Shorter lens
Shallow DOF
Deeper DOF
Narrower lens
Shallow DOF

Closer focus objects shallow DOF
Farther focus objects deep DOF

DOF: The area in front of and behind the focal point
That is in acceptable focus to the human eye

ND Neutral density in camera filters
Act like sunglasses for the camera
Making the amount of light hitting the sensor
Less allowing the aperture to be open wider
Thus-Shallower DOF

ISO/sensitivity of the sensor
Higher iso more light stop down deeper DOF
Lower iso less light stop open shallow DOF

Color temp examples

The sun color temperature is 5600 degrees kelvin

Tungsten light color temperature is around 3200 degrees kelvin

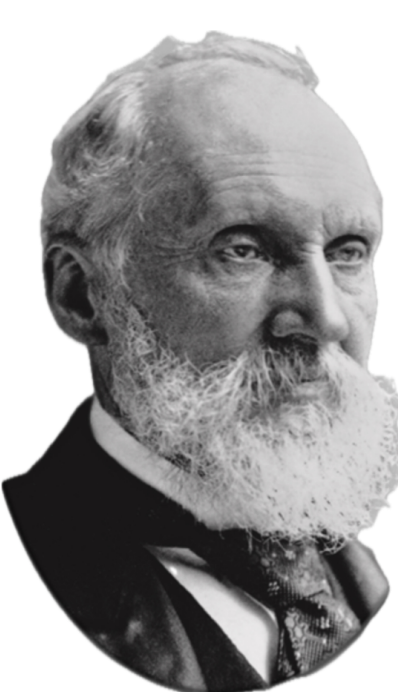
Incandescent light color temperature is around 2900 degrees kelvin

White balance

The human eye automatically white balances
Blue gel Demo

Camera sensors have Auto function like the human eye
Cameras also have manual WB we need to "feed" the sensor
The correct color of light, the camera wants to see
White/neutral light
If we are shooting outdoors: 5600 degrees K
Indoors with tungsten light: 3200 degrees K

Why do we call color temperature Kelvin?



Scottish-Irish physicist William Thomson, better known as Lord Kelvin, was one of the most eminent scientists of the 19th century and is best known today for inventing the international system of absolute temperature that bears his name.

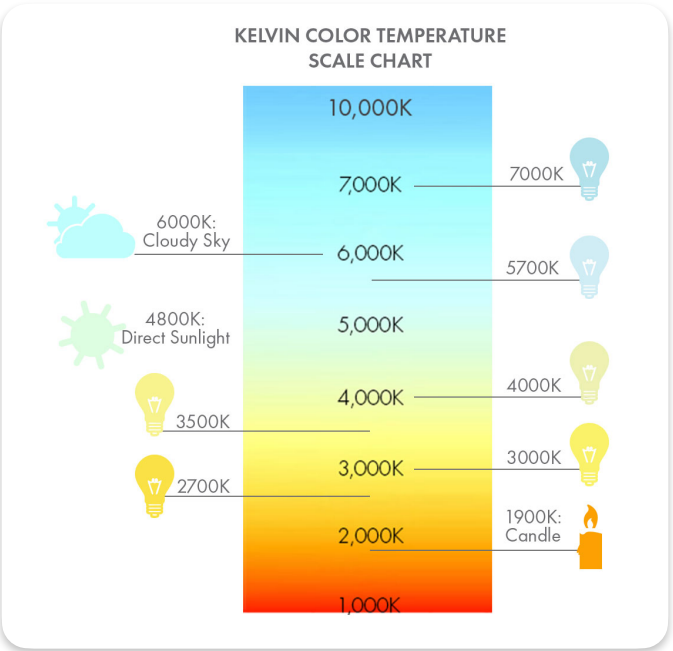
The color of light is defined by a (Temperature) scale developed by William Thomson, a British mathematical physicist, in the mid-19th century. Thomson's work centered on thermodynamics defining the correct value of absolute zero at -273.15 degrees Celsius. For this and many other accomplishments, Thomson was knighted and also became the 1st Baron Kelvin, a title that comes from the River Kelvin that flowed near his laboratory at the University of Glasgow. Absolute temperatures are stated in units of kelvin (K) in his honor.

In 1931 International Commission on Illumination (CIE) developed what we now commonly refer to as the RGB (red, blue, and green tristimulus values) and XY color space, still widely used today. When we superimpose the black body curve onto this color space, we can see the various colors of "white" light. The perception of white is relative to the relationship of red, blue, and green in the source. The entire diagram is the gamut of the human visual system's ability to see the visible light spectrum. The simple explanation of the black body curve is based on heating a piece of iron. As the temperature increases, the iron becomes red, bright red, orange, yellow, white, and eventually blue-white. In fact, the color of light isn't actually 3000K. If it were, we would burn ourselves, so the color temperature scale we use today is a correlated number based upon what the color the iron would look when heated. Stars range from 800K to 12,200K and we know that the color of daylight changes over the course of a day from the warm colors of sunrise to noon to the evening sunset. The color the human visual system perceives as white light is not constant.

Lord Kelvin's theory

Each color had its own temperature

The "Black body Curve"



Color temp conversions

Daylight 5600K

Full CTO

Converts daylight to tungsten 3200K

Tungsten 3200K

Full CTB

Converts tungsten to daylight 5600K

WB set to daylight

Shot with Tungsten light

Orange warm cast
Camera thinks its seeing
daylight balanced light

WB set to Tungsten

Shot with daylight balanced light

Blue cast
Camera thinks its seeing
Tungsten balanced light