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### **CBL Lens Comparison**

#### **Digital Camera and the Performance of White Balance**

The one of great advantages of digital camera in the economic point of view comparing film camera is to take photos of around 10,000 times with the memory of the CF or SD cards and the most innovative and convenient function in shooting photos is the function of white balance. Generally the good white balance function makes your photos as much similar result as the colors, contrast, gradation, and others as seen by your eyes. The recent digital cameras have been improved a lot with better engines and sensors compared to the ones at the beginning stages. However except the normal lighting environment like sunny daylight, we are still hardly satisfied with the colors of photos taken under the lighting environment like cloudy, sunrise, sunset, near sea, river or snow where most photographers wish to try.

We know our mobile phone has its built in digital camera and it has several white balance modes but we experience very unusual color presentation. And compact digital cameras prefer being set with higher saturation or emphasized with some specific colors like red or yellow to be seen as more dazzling. But it is not the right color presentation and it is for users who like strong colors shown in the monitor or for the commercial purpose of camera makers.

DSLR cameras express more precise colors than compact cameras and even among DSLR cameras from same manufacturer, DSLR normally used by professionals are set to present colors more objectively as seen by our bare eyes.

For examples, Canon 400D is for the DSLR beginners and the colors shows most dazzling. 30D is bit less and 5D with full CMOS is more close to the actual colors. However comparing

1Ds MK2 for professional use, 5D shows still dazzling. As the price of 1Ds MK2 including basic lenses is almost 10 times higher than 400D, we think higher expectation on this 1Ds MK2. With such higher expectation, we shoot it by AWB but many people are disappointed with the result which is not so dazzling as 400D.

But the most precise color presentation close to as seen by our eyes is shown by the expensive 1Ds MK2. Most of pe

ople still like the colors presented exaggeratedly by 400D.

However 1Ds MK2 also can not express the real colors so exactly as seen as by eyes. It is just one of the best digital cameras we could have at the moment.

So we use Gray Card, Color Meter, or Exposure Meter to get more precise colors, gradation, contrast, or to set precise exposure level. And CBL Lens is one of the most advanced devices so far to help presenting the much closer colors, gradation, and exposure seen as by our own eyes.

## **Comparison of Gray Card, Color Meter, and CBL Lens**

I have tested the devices which express more precise colors. I used Canon 1Ds MK2 which express more closer colors. And lighting was under the tungsten light of 3,150K.

I used the custom white balance mode for Gray Card and CBL Lens and then used Color Meter to set the camera after checking Kelvin level on the subject.

The result shows delicate differences as well as quite substantial result at the same time. Under tungsten light, we can feel warmer colors on the photo. The above colors by Gray Card and Color Meter are expressed as taken under daylight. If we take photos under similar environments as set by the camera modes of cloud, indoor, fluorescent, tungsten, we feel sometimes these are all taken under daylight. CBL Lens also looks alike taken under daylight but still better than Gray Card or Color Meter as seen on the color of wood, glass, red color. Gray Card shows cooler image and not realistic. Color Meter is very close as taken under daylight. And CBL Lens expresses more natural colors than others.

Color Meter varies the level of Kelvin depending on the distance, angle, lighting direction to the subject and shows different results. CBL Lens shows more adaptability for uses and more realistic color presentation than the other two devices under same shooting environment.

**More effective presentation even under rainy and cloudy weather**

CBL Lens shows much better results especially under unexpected lighting environment as well as under ordinary outdoor daylight. It also shows more natural colors image under various mixed lighting such as daylight, tungsten, fluorescent, and halogen.

Under cloudy weather digital camera shows different colors from seen by eyes and after setting the camera mode of cloud, it shows as if under daylight. CBL Lens shows the realistic cloudy image as it is.

### **Under various mixed lighting environment**

One of the distinctive results of CBL Lens shows very natural color presentation under the various mixed lighting of tungsten, fluorescent, halogen, multi wave lamp, daylight environment.

Gray Card shows cooler expression and unnatural. Color Meter is so sensitive that it shows inconsistent results depending on shooting locations and angles. CBL Lens shows more adaptability for uses and realistic color presentation.