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The difference between L-28 and L-398 scale (Foot-candle)

Subject:

"Who had the authority to change Foot-candle values?"
--Even in the same illumination (light situation), why the value which L-28 shows is different from one which L-398 shows; L-28C shows 250FC, but L-398 shows 320FC.

Answer:

(1) Change of Calibration Constant (C value)

L-398 Studio Deluxe was modified from L-28C, and then Sekonic changed Calibration Constant from C=270 to C=340.

At that time, manufacturers in photographic industry in the world tended to have larger Calibration Constant. (ISO, BS, ANSI). According to this world change, Sekonic decided to have C=340 after Flash Meter L-256 (in 1972)

L-398 production started since 1976. It was problem that one manufacturer used different Calibration Constant, so Sekonic applied same C=340 value to L-398 also.

What is Calibration Constant?

Calibration Constant (C value) is very important to calculate Exposure Value (combination of F-stop and Shutter speed) and based on the JIS (Japan Industrial Standard). Now, JIS doesn't exist, and new standard is ISO (International Standard Organization).

This C value can be determined by manufacturer as they like in the range of C=180 to 360, based on the actual photo testing. For example, Minolta's C value is 330, though Sekonic C=340. Gossen doesn't mention C value, so we don't know. (You can see C value in the specification of operating manual for products)

(2) Same F-stop, but different Foot-candle under same lighting situation

If the f-stop and shutter speed scale of L-398 had been designed with same Foot-candle display scale according to the change of C value, f-stop and shutter speed would have become different value (3.6, 5.0, 7.1...) from usual (4.0, 5.6, 8.0...). L-398 is "Exposure meter", so Sekonic thought usual f-stop value was more

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important than Foot-candle value not to confuse still photographers.

Thus, Sekonic determined not to change f-stop and shutter speed, but to change foot-candle scale.

Accordingly, it can be said that both Foot-candle (L-28C's 250FC and L-398's 320FC) are correct.

(3) Conclusion

The purpose of using "Exposure meter" is to find proper aperture and shutter speed by measuring illumination.

In exchanging from Illumination to EV(Exposure Value), used value is Calibration Constant, and it can be chosen in the range of 180 to 360 by manufacturers' design theory.

As is described in the definition, Illumination is absolute value, however, EV is relative value which can be variable in accordance with the change of Calibration Constant.

For this reason, even in the same illumination, if Calibration Constant is changed, measured value (f-stop) will also be changed. However, as a result that scale was designed on the basis of f-stop, foot-candle scale should be changed.

L-28C shows f5.6 under 125 foot-candle, and L-398 shows f5.6 under 160 foot-candle; both foot-candle value are correct.

We hope this explanation would be helpful answer to your question.

Sincerely yours,

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