Trouble Shooting "Blurry" or Ghosted" reticles in a red dot optical sights.

The issue of "Blurry" or "Ghosted" reticle can be frustrating However it is a very common and often mis-understood issue expereinced by many shooters. Introducing a level of doubt in the ability for accuracy, that is simply not acceptable.

With a Zero Magnification (1x) Reflex red dot sight, a LED is used to project the reticle onto a specilaized reflex screen to produce the reticle image. This Gererates a completely illuminated reticle. Illuminated reticles used in this way have a few common issues.

SENSITIVITY TO AMBIANT LIGHT CONDITIONS:

If the reticle brightness is overdriven for the light conditions, the reticle will produce "FLARE" which is a bleed of light around the edges of the reticle. This may cause the reticle to appear "Blurry". The simple solution to this is to lower the reticle brightness until you eliminate this effect.

SENSITIVITY TO UN-CORRECTED ASTIGMATISM:

Many folks have a level of astigmatism that is un-corrected in their vision, even if they wear corrective lenses, this can still be an issue. This is where "Ghosting" reticles comes into the equasion. Typically, the reticle "Ghosting" is directional, (up and to the right) or (up and to the left), showing what can be better described as a "Multiple Reticle image of overlapping reticle shapes.

To begin to troubleshoot the issue first the true nature of the issue has to be Identifed. This simple process makes very short work of determing the nature of the issue.

STEP 1 - Look through the optic, identify if the "Ghosting" you are experiencing is directional. *(If not see "SENSITIVITY TO AMBIANT LIGHT CONDITIONS:" above.)*

STEP 2 - While looking through the optic, rotate the optic 360 degrees, pay careful attention, Does the "directional" nature of the "Ghosting" move with the optic? Or does it stay in the same orientation through this process?

If the optic actually has a flaw in the lens coatings or the reticle generation from the LED emitter, the "directional " nature of the "Ghosting" will move with the optic during rotation.

If the issue rests in the operators eye, the "Ghosting" will stay in the same orientation and not rotate through this process? As the operators eye is not rotating.

NOTE: Using some form of magnification (2x or more) to enhance the performance of your optic, typically solves the reticle "Ghosting" issue for the operator.

NOTE: Another way of troubleshooting the issue is to attempt to photograph the reticle issue. The camera does not have the issue of astigmatism, thus it will not be able to reproduce the "Ghosted" reticle image. This can be a tricky process of getting the reticle in focus and may take multiple attempts to capture a true representation of the reticle image.

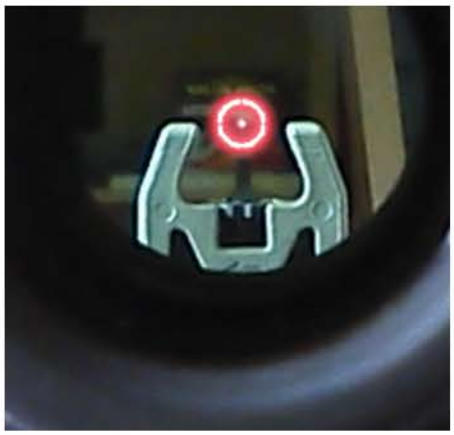

IMAGE - 1

Shows a LUCID HD7 with the reticle overdriven for the light conditions, producing reticle "Flare"

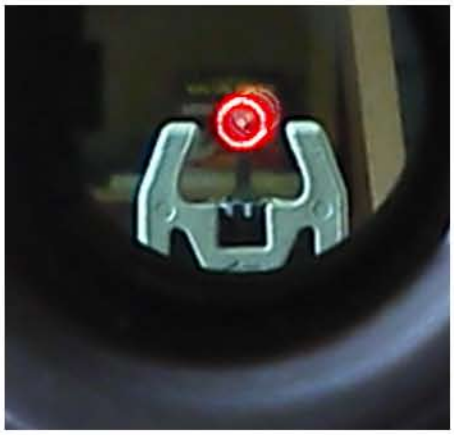

IMAGE - 2

Shows a graphical representation of an Up and the the right directional reticle "Ghosting" due to Astigmatism.

IMAGE - 3

Shows a LUCID HD7 with a properly adjusted reticle brightness as a sample of a proper reticle image.