Issues with my Nikkor 800mm f/6.3 PF

Chromatic aberrations are highly asymmetrical (e.g. compared to 300mm f/4 PF) and cannot be corrected with Adobe Lightroom Classic or DxO PureRaw 3.

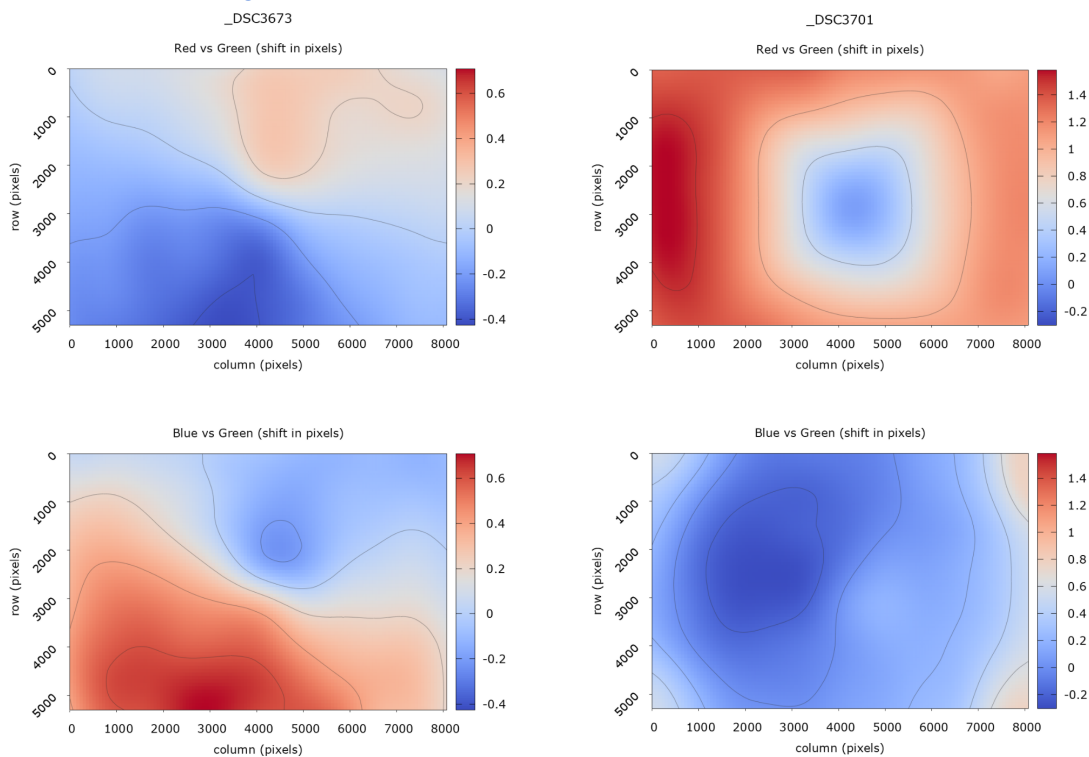To quantify this problem i have taken pictures of a test chart with my Nikon Z8 (Raw file for the 800mm https://drive.google.com/file/d/1Kf2QmqeSXYVdi1Jp9Lb7BNuHp6lZxHh8/view?usp=drive_link ; Raw file for the 300mm https://drive.google.com/file/d/1Neq3sidnkfFxR9o6jMF2iMcGb3JNnv0v/view?usp=drive_link) These files have then been fed into the MTF Mapper tool which can plot out the intensity of chromatic aberrations across the whole image frame (http://mtfmapper.blogspot.com/2020/07/lateral-chromatic-aberration.html).
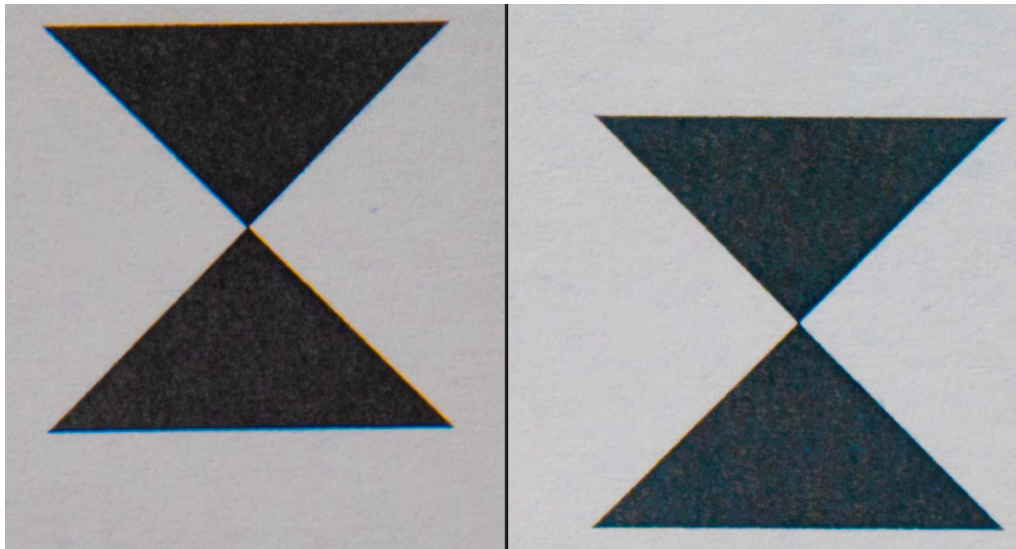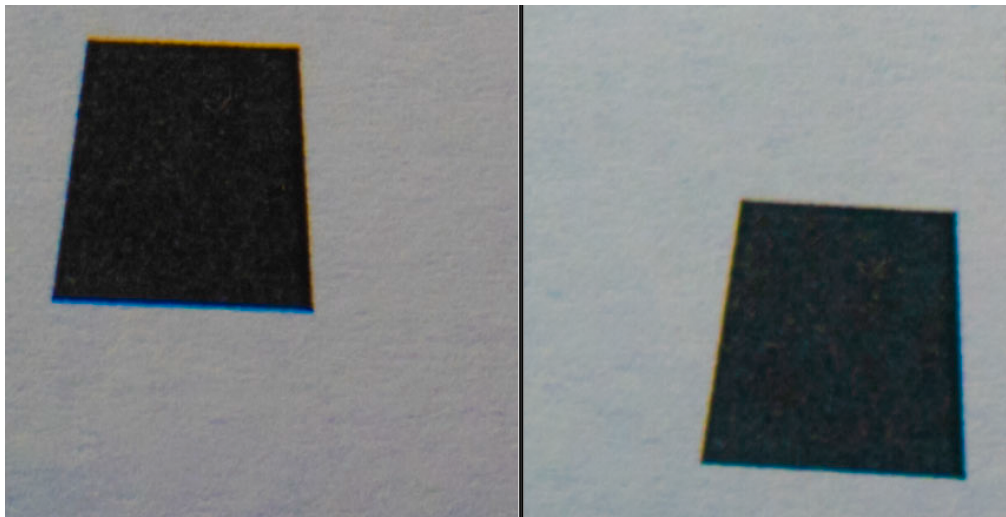

Plots created via MTF Mapper. Left is the 800mm, the right is the 300mm.

Contrary to the 300mm lens, the 800mm PF lens does not show an axially symmetric pattern around the center of the image. My suspicion would be that this indicates some misalignment of optical elements inside the lens. Tools like Adobe Lightroom Classic or DxO PureRaw 3 struggle with these atypically distributed chromatic aberrations. **Both cannot properly remove chromatic aberrations from files captured with the 800mm lens and in fact add in new aberrations when applying the CA removal option.**

The following images are crops from the test chart for which saturation and vibrancy have been pushed in order to better demonstrate the problem. The left side shows the image captured by the 800mm lens and the right one is captured by the 300mm lens.
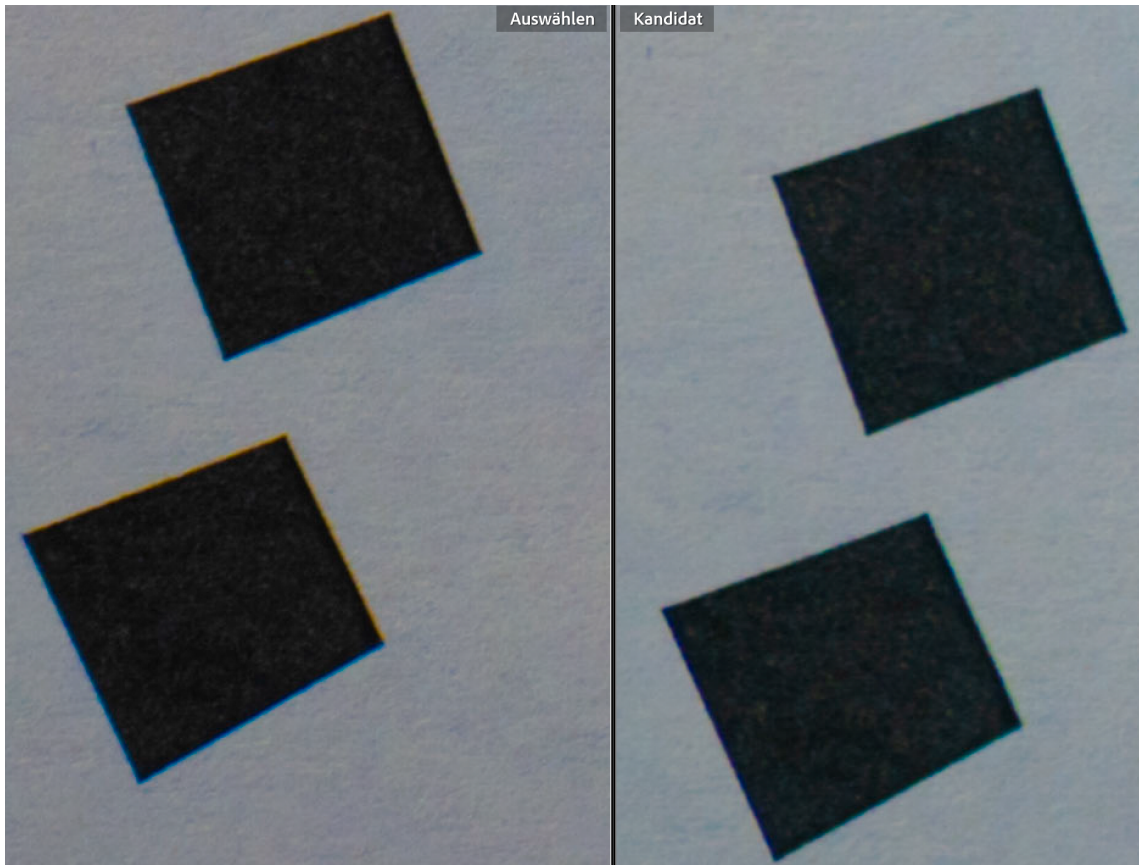

Center of the frame. Significant Chromatic aberrations are present in the 800mm image (left).

Crop from the bottom of the frame. Again, significant Chromatic aberrations are present in the 800mm image (left).

After applying the automatic chromatic aberration correction in Adobe Lightroom Classic, the aberrations in the 300mm image are nearly completely fixed. But in the 800mm image they are still present in different parts of the frame.

The same problem can also be seen in real world high contrast images:

With Adobe Lightroom Classic chromatic aberration correction ENABLED

With Adobe Lightroom Classic chromatic aberration correction DISABLED