Reblur2Deblur: Deblurring Videos via Self-Supervised Learning —Supplementary Material—

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Acrobat Adobe Reader: `Ctrl+L` on Windows and `Command+L` on Mac
Evince (Ubuntu): `F5`
Preview.app (OSX): `Command+Shift+F`.

To compare the images resulting from different methods, please click the corresponding hyperlinks below each figure. For each image we provide a few details that are worth observing.

It is important to look at the results in presentation mode so that the images are aligned.

Document created with code from: https://github.com/gorazione/make_supplementary

Figure 1: Please note the letter '3', the shape of the car rear lamp, and the car antenna. DeblurGAN and MCD may look sharper, but introduce significant image artifacts compared to the ground truth.

Blurry Input

Blurry Input

DVD

DeblurGAN

MCD

DeblurGAN-Reblur (Ours)

DVD-Reblur (Ours)

Ground Truth

Figure 2: Please note the letter '3', the shape of the car rear lamp, and the car antenna. DeblurGAN and MCD may look sharper, but introduce significant image artifacts compared to the ground truth.

DVD

Blurry Input

DVD

DeblurGAN

MCD

DeblurGAN-Reblur (Ours)

DVD-Reblur (Ours)

Ground Truth

Next Comparison →

Figure 3: Please note the letter '3', the shape of the car rear lamp, and the car antenna. DeblurGAN and MCD may look sharper, but introduce significant image artifacts compared to the ground truth.

DeblurGAN

Blurry Input

DVD

DeblurGAN

MCD

DeblurGAN-Reblur (Ours)

DVD-Reblur (Ours)

Ground Truth

Figure 4: Please note the letter '3', the shape of the car rear lamp, and the car antenna. DeblurGAN and MCD may look sharper, but introduce significant image artifacts compared to the ground truth.

MCD

Blurry Input

DVD

DeblurGAN

MCD

DeblurGAN-Reblur (Ours)

DVD-Reblur (Ours)

Ground Truth

Figure 5: Please note the letter '3', the shape of the car rear lamp, and the car antenna. DeblurGAN and MCD may look sharper, but introduce significant image artifacts compared to the ground truth.

DeblurGAN-Reblur (Ours)

Blurry Input

DVD

DeblurGAN

MCD

DeblurGAN-Reblur (Ours)

DVD-Reblur (Ours)

Ground Truth

Next Comparison →

Figure 6: Please note the letter '3', the shape of the car rear lamp, and the car antenna. DeblurGAN and MCD may look sharper, but introduce significant image artifacts compared to the ground truth.

DVD-Reblur (Ours)

Blurry Input

DVD

DeblurGAN

MCD

DeblurGAN-Reblur (Ours)

DVD-Reblur (Ours)

Ground Truth

Figure 7: Please note the letter '3', the shape of the car rear lamp, and the car antenna. DeblurGAN and MCD may look sharper, but introduce significant image artifacts compared to the ground truth.

Ground Truth

Blurry Input

DVD

DeblurGAN

MCD

DeblurGAN-Reblur (Ours)

DVD-Reblur (Ours)

Ground Truth

Figure 8: Please note the artifacts on the building, around the window, and near the pole area. DeblurGAN and MCD introduce artifacts and shifts in the estimated images.

Blurry Input

Blurry Input

DVD

DeblurGAN

MCD

DeblurGAN-Reblur (Ours)

DVD-Reblur (Ours)

Ground Truth

← Previous Comparison   Next Comparison →

Figure 9: Please note the artifacts on the building, around the window, and near the pole area. DeblurGAN and MCD introduce artifacts and shifts in the estimated images.

DVD

Blurry Input

DVD

DeblurGAN

MCD

DeblurGAN-Reblur (Ours)

DVD-Reblur (Ours)

Ground Truth

Figure 10: Please note the artifacts on the building, around the window, and near the pole area. DeblurGAN and MCD introduce artifacts and shifts in the estimated images.

DeblurGAN

Blurry Input

DVD

DeblurGAN

MCD

DeblurGAN-Reblur (Ours)

DVD-Reblur (Ours)

Ground Truth

← Previous Comparison   Next Comparison →

Figure 11: Please note the artifacts on the building, around the window, and near the pole area. DeblurGAN and MCD introduce artifacts and shifts in the estimated images.

MCD

Blurry Input

DVD

DeblurGAN

MCD

DeblurGAN-Reblur (Ours)

DVD-Reblur (Ours)

Ground Truth

Figure 12: Please note the artifacts on the building, around the window, and near the pole area. DeblurGAN and MCD introduce artifacts and shifts in the estimated images.

DeblurGAN-Reblur (Ours)

Blurry Input

DVD

DeblurGAN

MCD

DeblurGAN-Reblur (Ours)

DVD-Reblur (Ours)

Ground Truth

Figure 13: Please note the artifacts on the building, around the window, and near the pole area. DeblurGAN and MCD introduce artifacts and shifts in the estimated images.

DVD-Reblur (Ours)

Blurry Input

DVD

DeblurGAN

MCD

DeblurGAN-Reblur (Ours)

DVD-Reblur (Ours)

Ground Truth

Figure 14: Please note the artifacts on the building, around the window, and near the pole area. DeblurGAN and MCD introduce artifacts and shifts in the estimated images.

Ground Truth

Blurry Input

DVD

DeblurGAN

MCD

DeblurGAN-Reblur (Ours)

DVD-Reblur (Ours)

Ground Truth

Figure 15: Please note the artifacts on the face, the textures on the window blinds, and the edge of the window.

Blurry Input

Blurry Input

DVD

DeblurGAN

MCD

DeblurGAN-Reblur (Ours)

DVD-Reblur (Ours)

Ground Truth

Figure 16: Please note the artifacts on the face, the textures on the window blinds, and the edge of the window.

DVD

Blurry Input

DVD

DeblurGAN

MCD

DeblurGAN-Reblur (Ours)

DVD-Reblur (Ours)

Ground Truth

Figure 17: Please note the artifacts on the face, the textures on the window blinds, and the edge of the window.

DeblurGAN

Blurry Input

DVD

DeblurGAN

MCD

DeblurGAN-Reblur (Ours)

DVD-Reblur (Ours)

Ground Truth

Figure 18: Please note the artifacts on the face, the textures on the window blinds, and the edge of the window.

MCD

Blurry Input

DVD

DeblurGAN

MCD

DeblurGAN-Reblur (Ours)

DVD-Reblur (Ours)

Ground Truth

← Previous Comparison   Next Comparison →

Figure 19: Please note the artifacts on the face, the textures on the window blinds, and the edge of the window.

DeblurGAN-Reblur (Ours)

Blurry Input

DVD

DeblurGAN

MCD

DeblurGAN-Reblur (Ours)

DVD-Reblur (Ours)

Ground Truth

← Previous Comparison   Next Comparison →

Figure 20: Please note the artifacts on the face, the textures on the window blinds, and the edge of the window.

DVD-Reblur (Ours)

Blurry Input

DVD

DeblurGAN

MCD

DeblurGAN-Reblur (Ours)

DVD-Reblur (Ours)

Ground Truth

← Previous Comparison   Next Comparison →

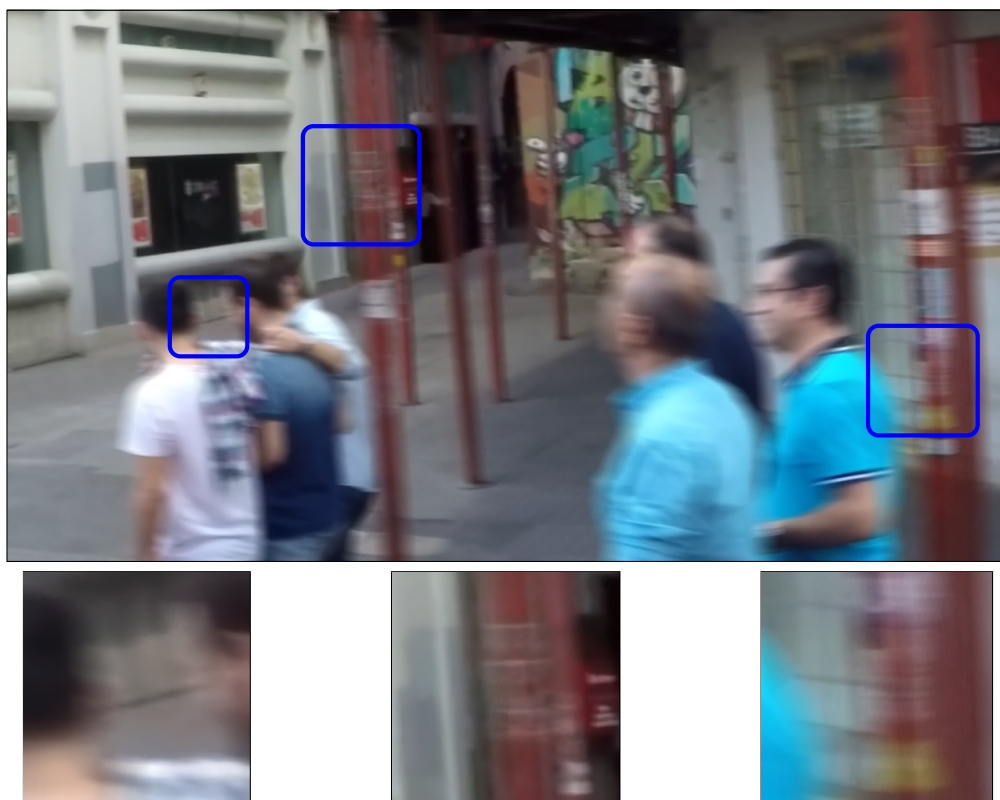Figure 21: Please note the artifacts on the face, the textures on the window blinds, and the edge of the window.

Ground Truth

Blurry Input

DVD

DeblurGAN

MCD

DeblurGAN-Reblur (Ours)

DVD-Reblur (Ours)

Ground Truth

Figure 22: Comment for second comparison.

Blurry Input

Blurry Input

DVD

DeblurGAN

MCD

DeblurGAN-Reblur (Ours)

DVD-Reblur (Ours)

Ground Truth

Figure 23: Comment for second comparison.

DVD

Blurry Input

DVD

DeblurGAN

MCD

DeblurGAN-Reblur (Ours)

DVD-Reblur (Ours)

Ground Truth

Figure 24: Comment for second comparison.

DeblurGAN

Blurry Input

DVD

DeblurGAN

MCD

DeblurGAN-Reblur (Ours)

DVD-Reblur (Ours)

Ground Truth

Figure 25: Comment for second comparison.

MCD

Blurry Input

DVD

DeblurGAN

MCD

DeblurGAN-Reblur (Ours)

DVD-Reblur (Ours)

Ground Truth

Figure 26: Comment for second comparison.

DeblurGAN-Reblur (Ours)

Blurry Input

DVD

DeblurGAN

MCD

DeblurGAN-Reblur (Ours)

DVD-Reblur (Ours)
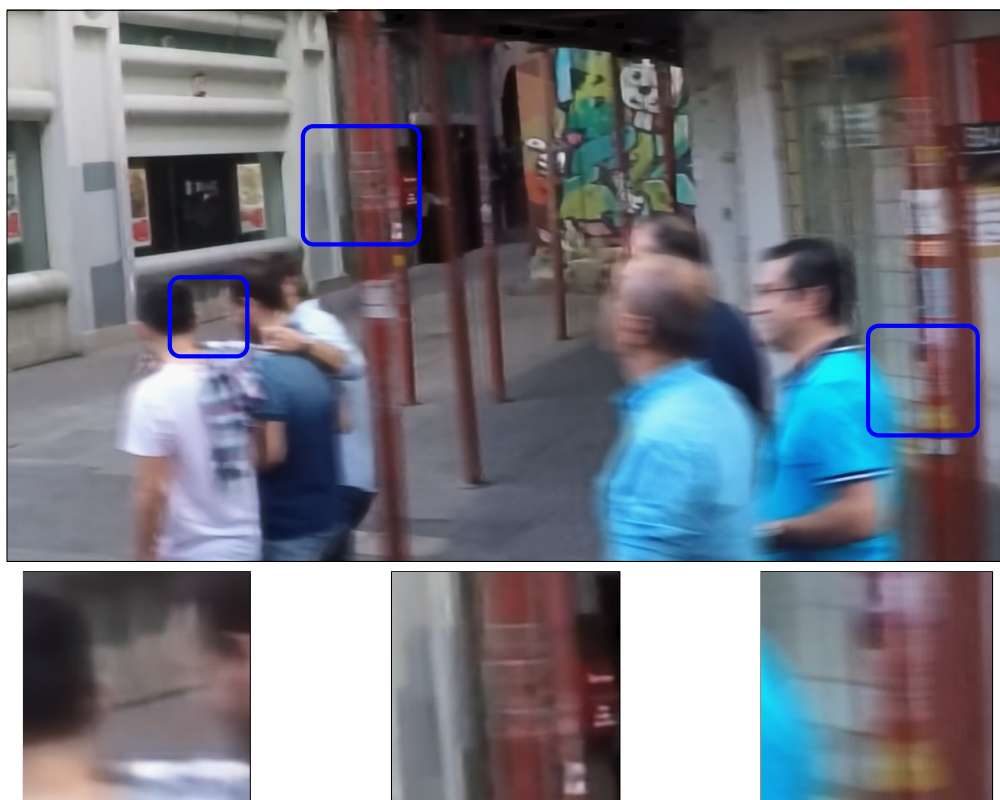
Ground Truth

← Previous Comparison   Next Comparison →

Figure 27: Comment for second comparison.

DVD-Reblur (Ours)

Blurry Input

DVD

DeblurGAN

MCD

DeblurGAN-Reblur (Ours)

DVD-Reblur (Ours)

Ground Truth

Figure 28: Comment for second comparison.

Ground Truth

Blurry Input

DVD

DeblurGAN

MCD

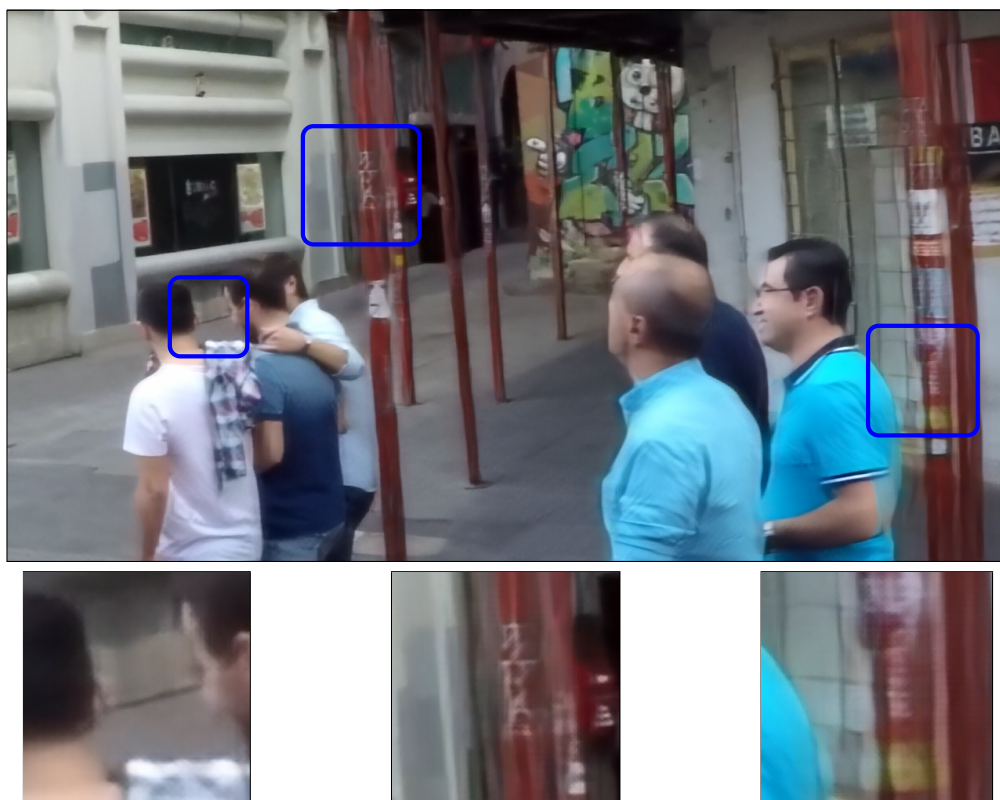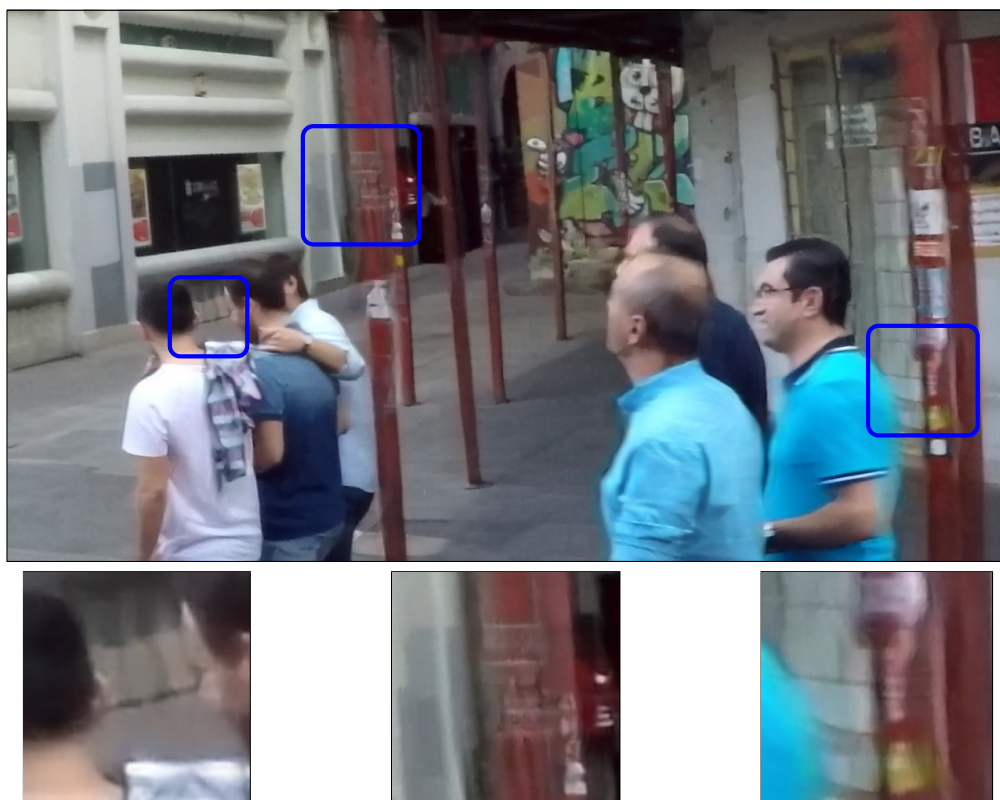DeblurGAN-Reblur (Ours)

DVD-Reblur (Ours)

Ground Truth

Figure 29: DeblurGAN and MCD introduces artifacts such as curved edges and textures, as noted in the highlighted regions.

Blurry Input

Blurry Input

DVD

DeblurGAN

MCD

DeblurGAN-Reblur (Ours)

DVD-Reblur (Ours)

Ground Truth

Figure 30: DeblurGAN and MCD introduces artifacts such as curved edges and textures, as noted in the highlighted regions.

DVD

Blurry Input

DVD

DeblurGAN
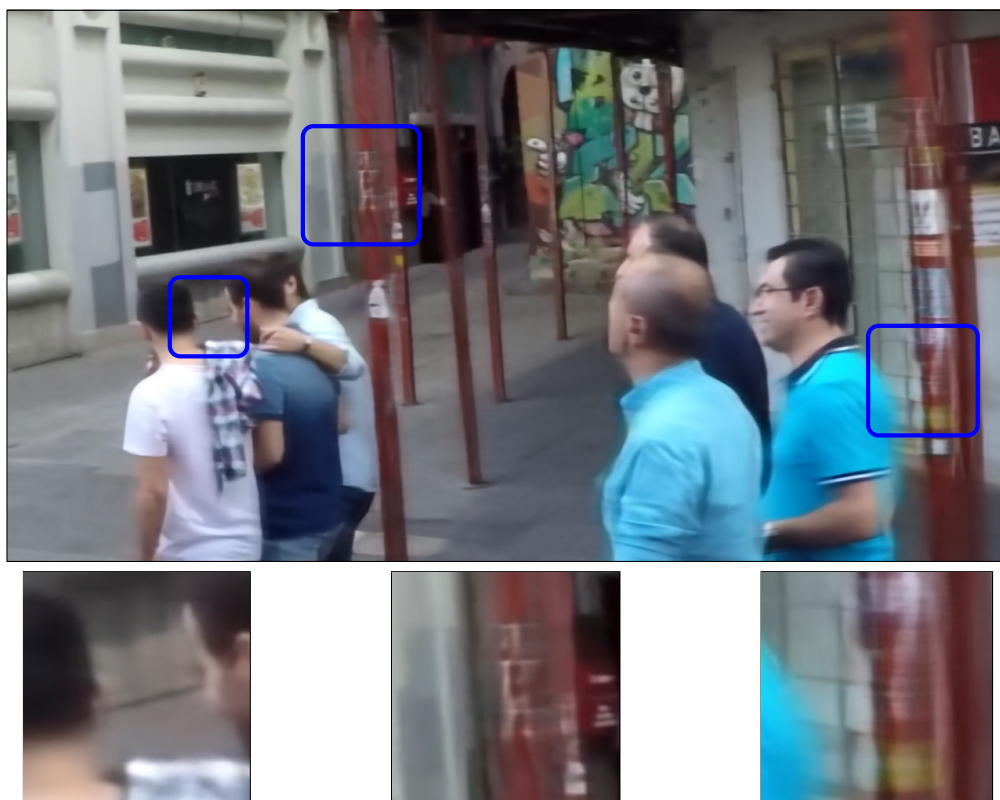
MCD

DeblurGAN-Reblur (Ours)

DVD-Reblur (Ours)

Ground Truth

Figure 31: DeblurGAN and MCD introduces artifacts such as curved edges and textures, as noted in the highlighted regions.

DeblurGAN

Blurry Input

DVD

DeblurGAN

MCD

DeblurGAN-Reblur (Ours)

DVD-Reblur (Ours)

Ground Truth

Figure 32: DeblurGAN and MCD introduces artifacts such as curved edges and textures, as noted in the highlighted regions.

MCD

Blurry Input

DVD

DeblurGAN

MCD

DeblurGAN-Reblur (Ours)

DVD-Reblur (Ours)

Ground Truth

Figure 33: DeblurGAN and MCD introduces artifacts such as curved edges and textures, as noted in the highlighted regions.

DeblurGAN-Reblur (Ours)

Blurry Input

DVD

DeblurGAN

MCD
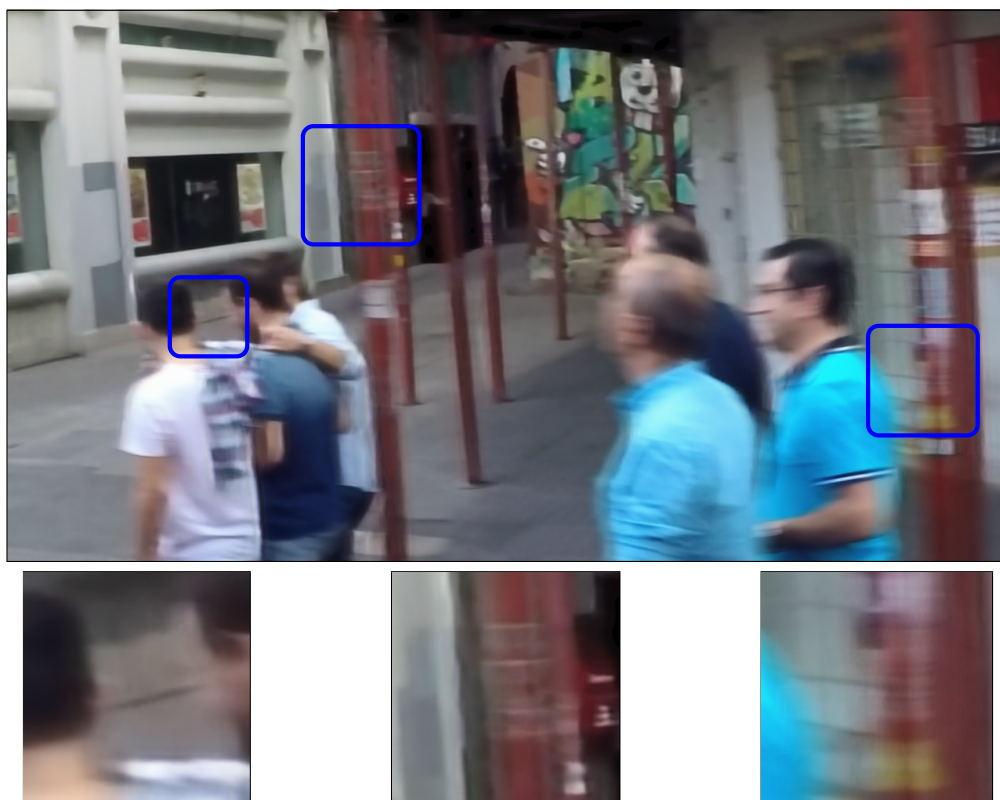
DeblurGAN-Reblur (Ours)

DVD-Reblur (Ours)

Ground Truth

Figure 34: DeblurGAN and MCD introduces artifacts such as curved edges and textures, as noted in the highlighted regions.

DVD-Reblur (Ours)

Blurry Input

DVD

DeblurGAN

MCD

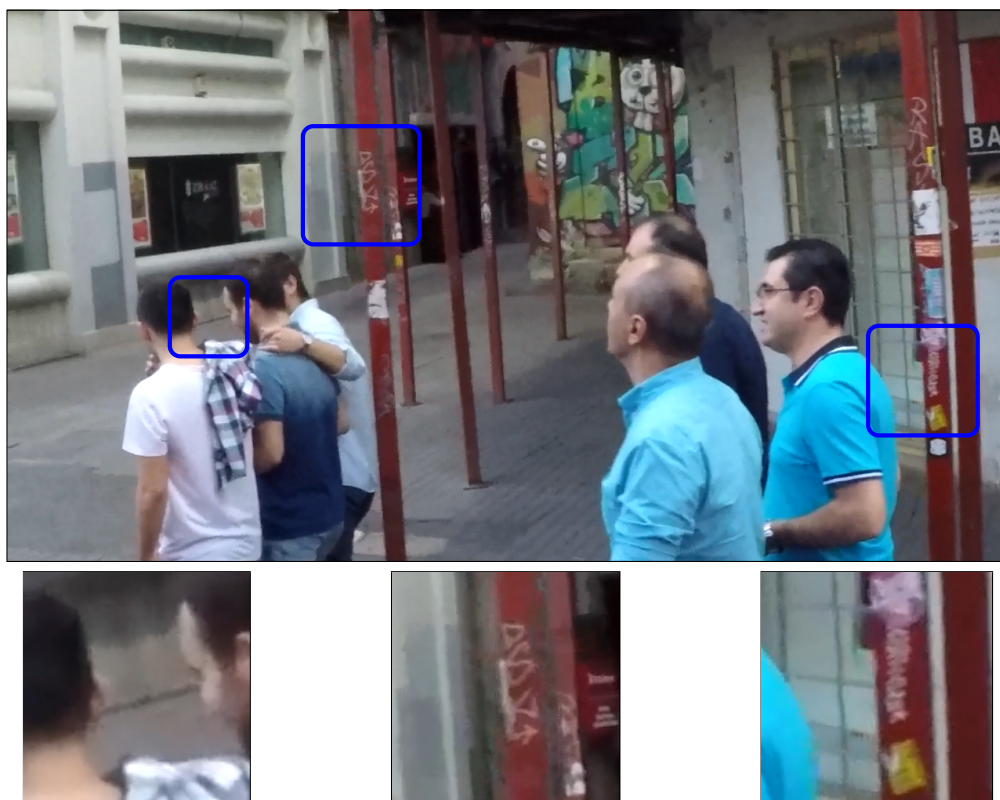DeblurGAN-Reblur (Ours)

DVD-Reblur (Ours)

Ground Truth

Figure 35: DeblurGAN and MCD introduces artifacts such as curved edges and textures, as noted in the highlighted regions.

Ground Truth

Blurry Input

DVD

DeblurGAN

MCD

DeblurGAN-Reblur (Ours)

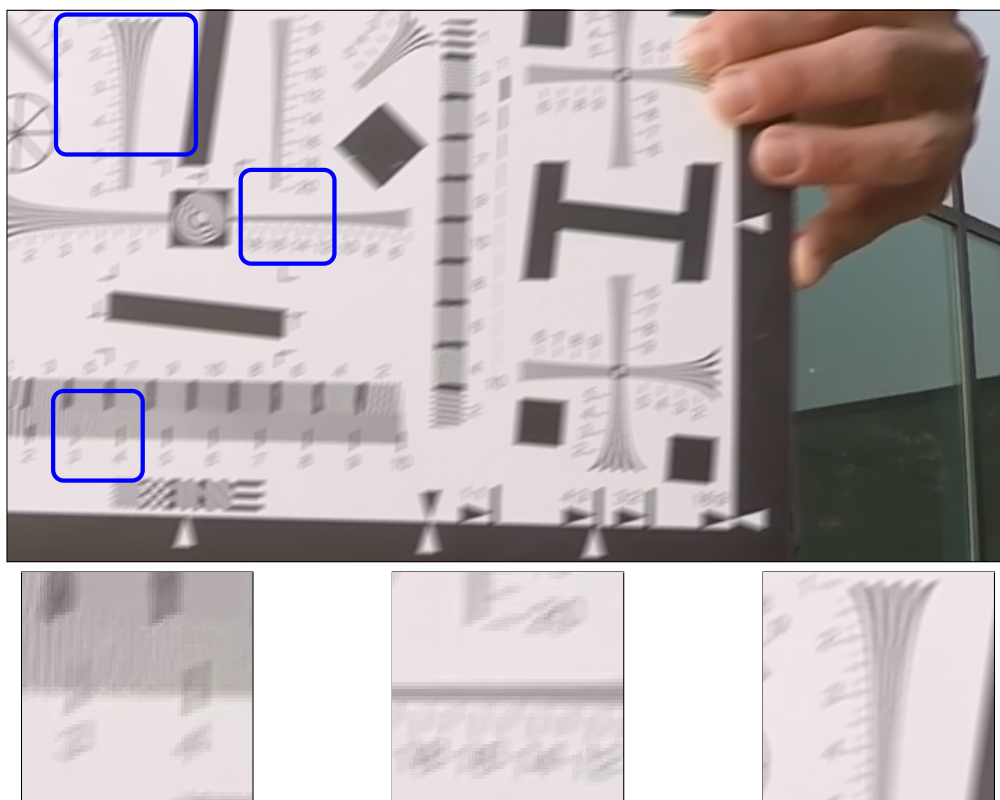DVD-Reblur (Ours)

Ground Truth

Figure 36: The ISO resolution chart clearly shows the high frequency artifacts that DeblurGAN and MCD introduced, while DeblurGAN-Reblur (ours) removes most of the artifacts and recovers more image details.

Blurry Input

Blurry Input

DVD

DeblurGAN

MCD

DeblurGAN-Reblur (Ours)

DVD-Reblur (Ours)

Ground Truth

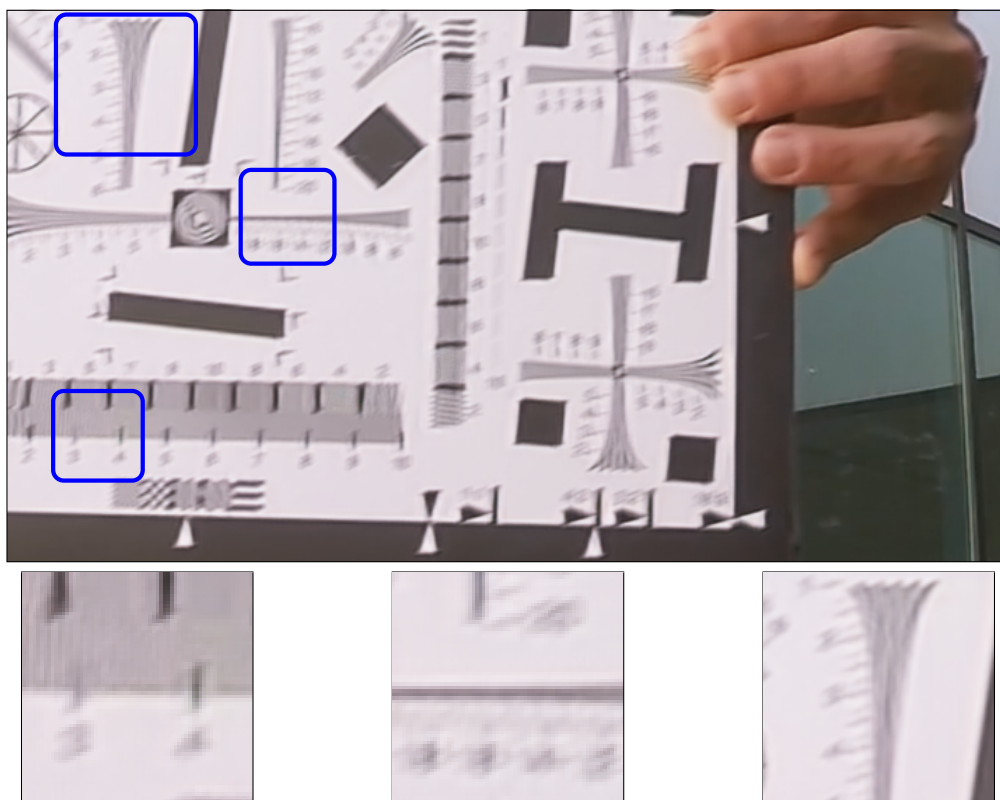← Previous Comparison   Next Comparison →

Figure 37: The ISO resolution chart clearly shows the high frequency artifacts that DeblurGAN and MCD introduced, while DeblurGAN-Reblur (ours) removes most of the artifacts and recovers more image details.

DVD

Blurry Input

DVD

DeblurGAN

MCD

DeblurGAN-Reblur (Ours)

DVD-Reblur (Ours)

Ground Truth

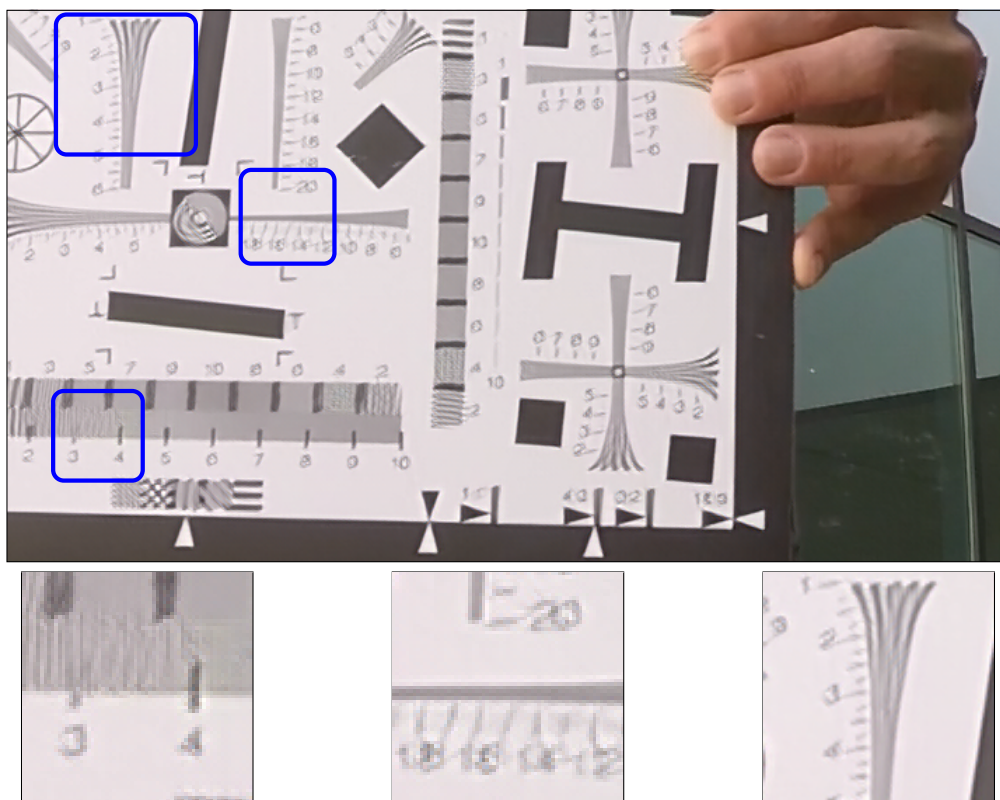← Previous Comparison   Next Comparison →

Figure 38: The ISO resolution chart clearly shows the high frequency artifacts that DeblurGAN and MCD introduced, while DeblurGAN-Reblur (ours) removes most of the artifacts and recovers more image details.

DeblurGAN

Blurry Input

DVD

DeblurGAN

MCD

DeblurGAN-Reblur (Ours)

DVD-Reblur (Ours)

Ground Truth

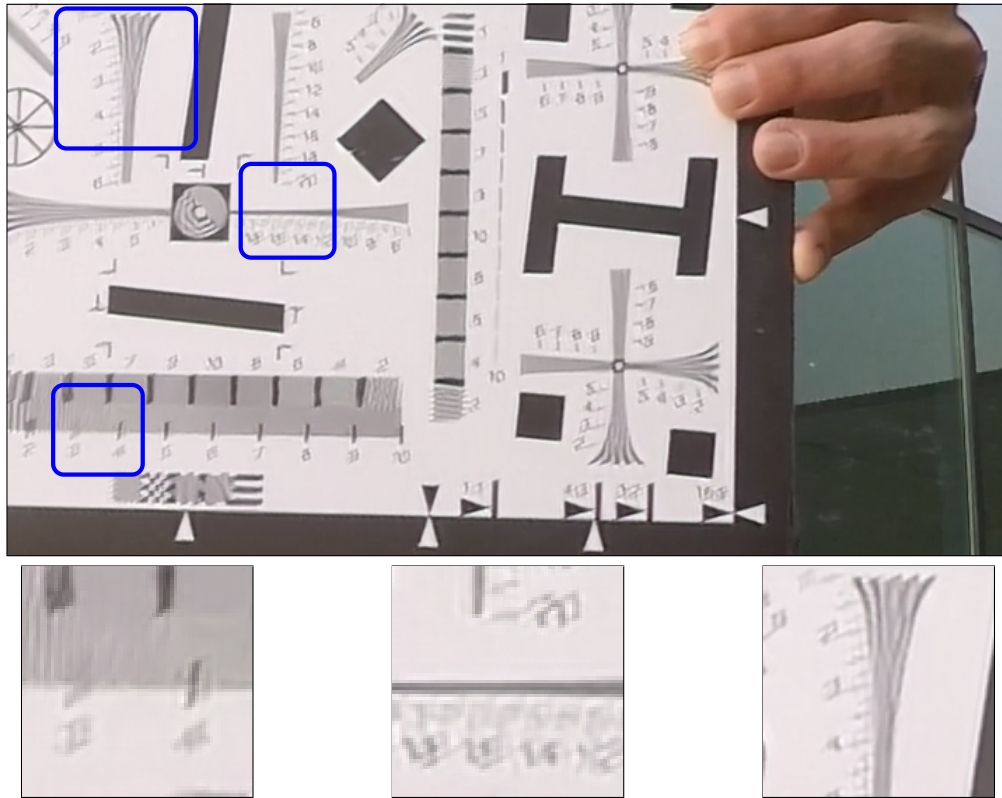← Previous Comparison   Next Comparison →

Figure 39: The ISO resolution chart clearly shows the high frequency artifacts that DeblurGAN and MCD introduced, while DeblurGAN-Reblur (ours) removes most of the artifacts and recovers more image details.

MCD

Blurry Input

DVD

DeblurGAN

MCD

DeblurGAN-Reblur (Ours)

DVD-Reblur (Ours)

Ground Truth

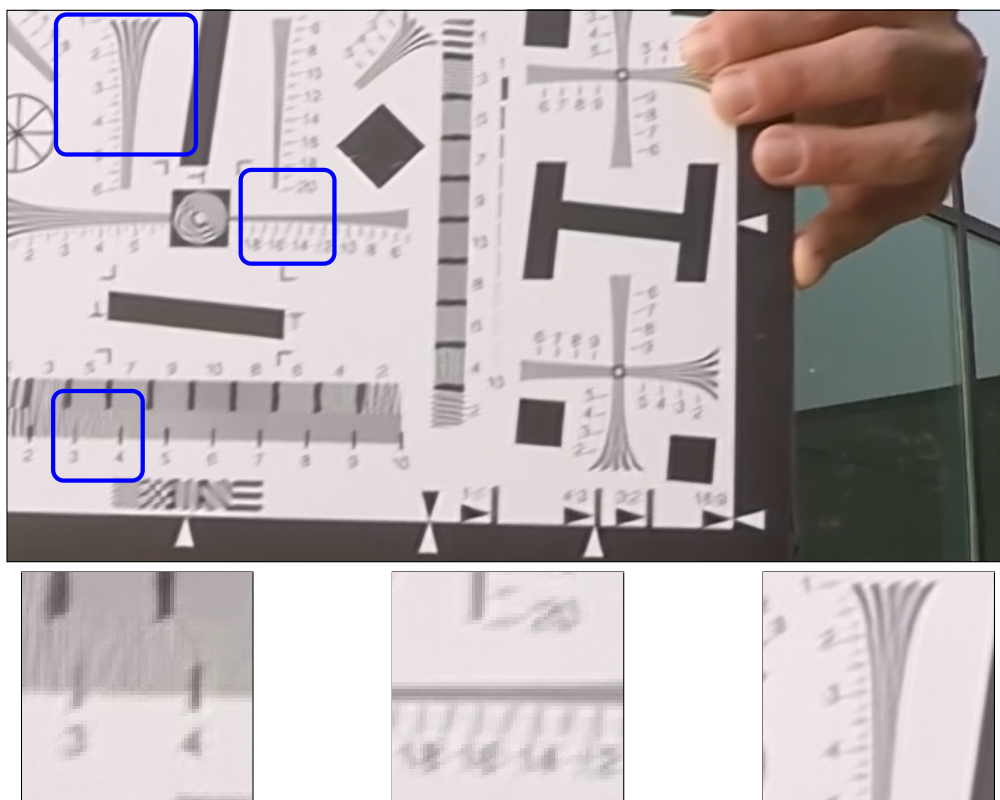← Previous Comparison   Next Comparison →

Figure 40: The ISO resolution chart clearly shows the high frequency artifacts that DeblurGAN and MCD introduced, while DeblurGAN-Reblur (ours) removes most of the artifacts and recovers more image details.

DeblurGAN-Reblur (Ours)

Blurry Input

DVD

DeblurGAN

MCD

DeblurGAN-Reblur (Ours)

DVD-Reblur (Ours)

Ground Truth

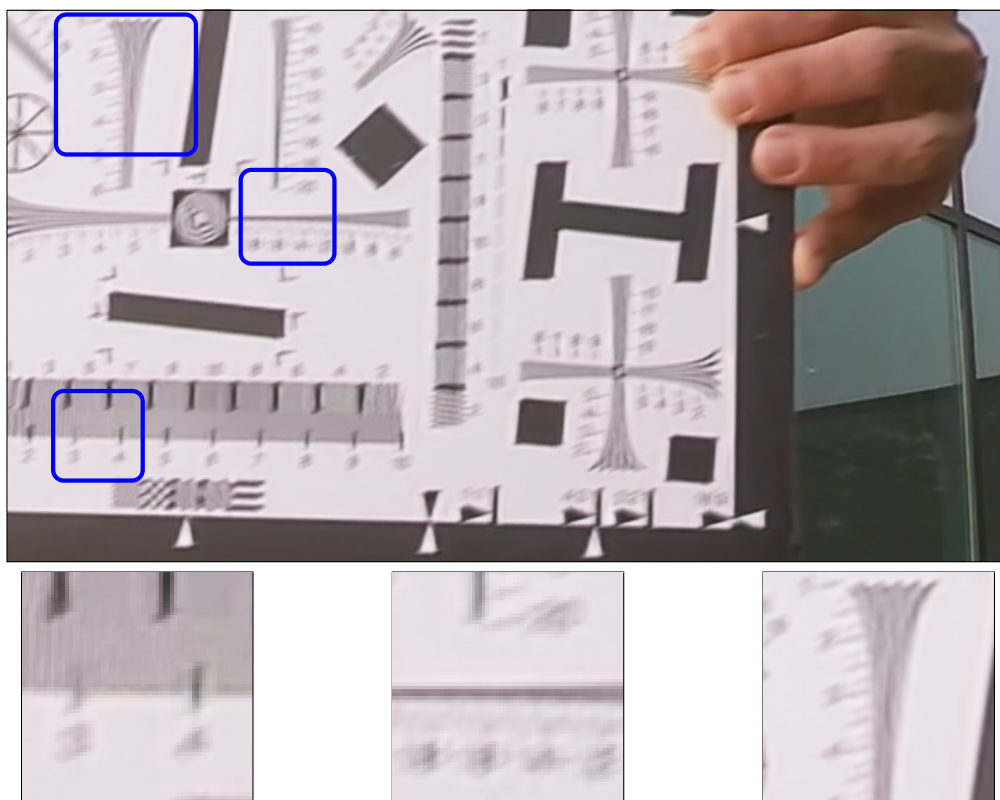← Previous Comparison   Next Comparison →

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Figure 41: The ISO resolution chart clearly shows the high frequency artifacts that DeblurGAN and MCD introduced, while DeblurGAN-Reblur (ours) removes most of the artifacts and recovers more image details.

DVD-Reblur (Ours)

Blurry Input

DVD

DeblurGAN

MCD

DeblurGAN-Reblur (Ours)
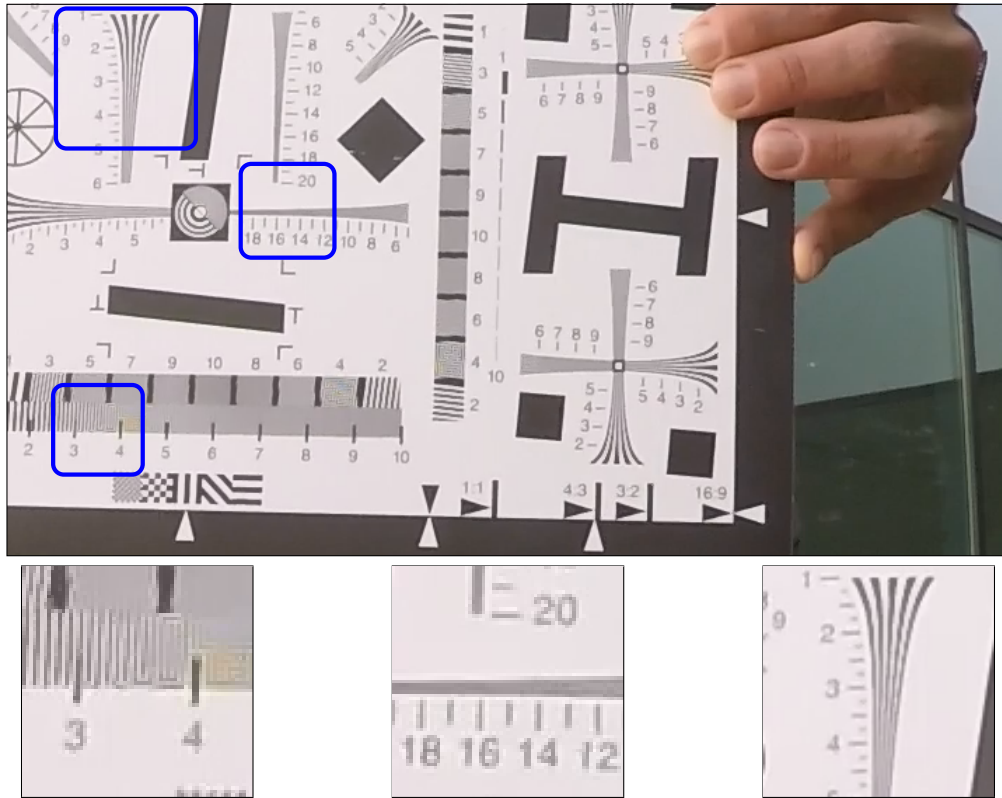
DVD-Reblur (Ours)

Ground Truth

Figure 42: The ISO resolution chart clearly shows the high frequency artifacts that DeblurGAN and MCD introduced, while DeblurGAN-Reblur (ours) removes most of the artifacts and recovers more image details.

Ground Truth

Blurry Input

DVD

DeblurGAN

MCD

DeblurGAN-Reblur (Ours)

DVD-Reblur (Ours)

Ground Truth

Figure 43: This image is from the WFA dataset, which does not have ground truth sharp image. MCD and DeblurGAN introduces spurious high frequency artifacts, such as the ghosting and ringing artifacts in the insets.

Blurry Input

Blurry Input

DVD

DeblurGAN

MCD

DeblurGAN-Reblur (Ours)

DVD-Reblur (Ours)

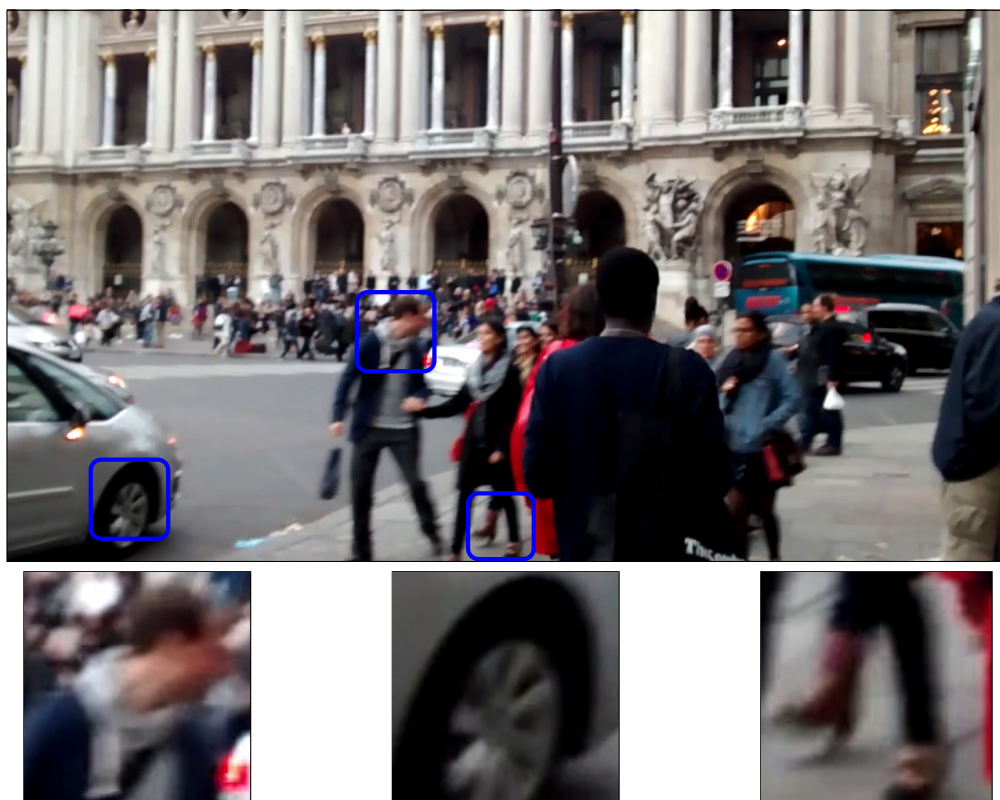← Previous Comparison   Next Comparison →

Figure 44: This image is from the WFA dataset, which does not have ground truth sharp image. MCD and DeblurGAN introduces spurious high frequency artifacts, such as the ghosting and ringing artifacts in the insets.

DVD

Blurry Input

DVD

DeblurGAN

MCD

DeblurGAN-Reblur (Ours)

DVD-Reblur (Ours)

← Previous Comparison   Next Comparison →

Figure 45: This image is from the WFA dataset, which does not have ground truth sharp image. MCD and DeblurGAN introduces spurious high frequency artifacts, such as the ghosting and ringing artifacts in the insets.

DeblurGAN

Blurry Input

DVD

DeblurGAN

MCD

DeblurGAN-Reblur (Ours)

DVD-Reblur (Ours)

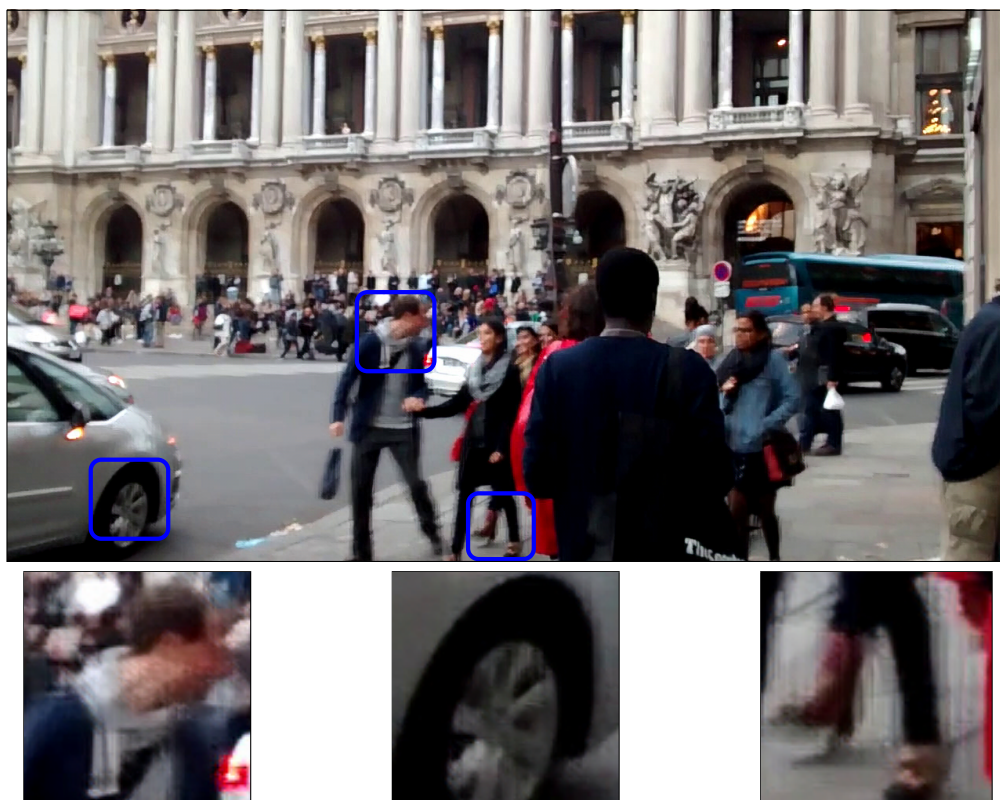← Previous Comparison   Next Comparison →

Figure 46: This image is from the WFA dataset, which does not have ground truth sharp image. MCD and DeblurGAN introduces spurious high frequency artifacts, such as the ghosting and ringing artifacts in the insets.

MCD

Blurry Input

DVD

DeblurGAN

MCD

DeblurGAN-Reblur (Ours)

DVD-Reblur (Ours)

← Previous Comparison   Next Comparison →

Figure 47: This image is from the WFA dataset, which does not have ground truth sharp image. MCD and DeblurGAN introduces spurious high frequency artifacts, such as the ghosting and ringing artifacts in the insets.

DeblurGAN-Reblur (Ours)

Blurry Input

DVD

DeblurGAN

MCD

DeblurGAN-Reblur (Ours)

DVD-Reblur (Ours)

← Previous Comparison   Next Comparison →

Figure 48: This image is from the WFA dataset, which does not have ground truth sharp image. MCD and DeblurGAN introduces spurious high frequency artifacts, such as the ghosting and ringing artifacts in the insets.

DVD-Reblur (Ours)

Blurry Input

DVD

DeblurGAN

MCD

DeblurGAN-Reblur (Ours)

DVD-Reblur (Ours)

← Previous Comparison   Next Comparison →