

# Supplementary

## A. All denoised test cases

### I. Lena (512x512), frames = 50, Gaussian noise ( $\sigma = 0.02$ , normalized)



(a) input referenced image

(b) output image



(c) original Lena

PSNR compared to the original Lena is:

PSNR: 34.7725263 dB (red channel)

PSNR: 38.5701317 dB (green channel)

PSNR: 37.8803728 dB (blue channel)

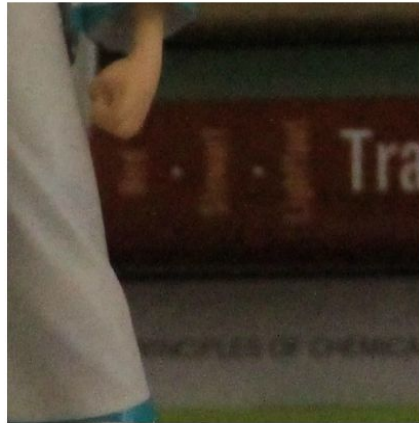
**II. Toy figures (5184x3456), frames = 12, ISO = 6400**



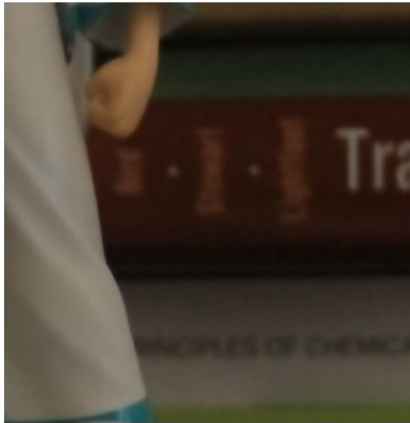
(a) input referenced image



(b) output image

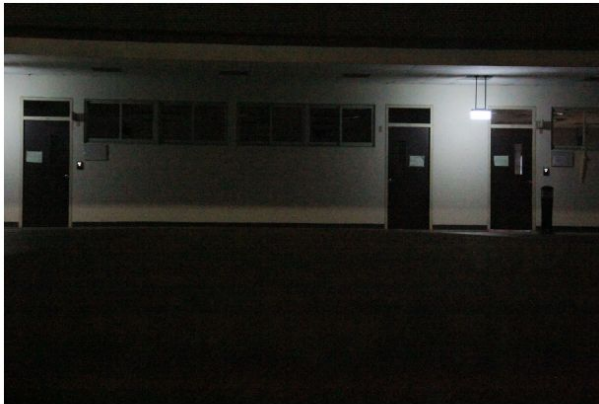


(c) close up of (a)

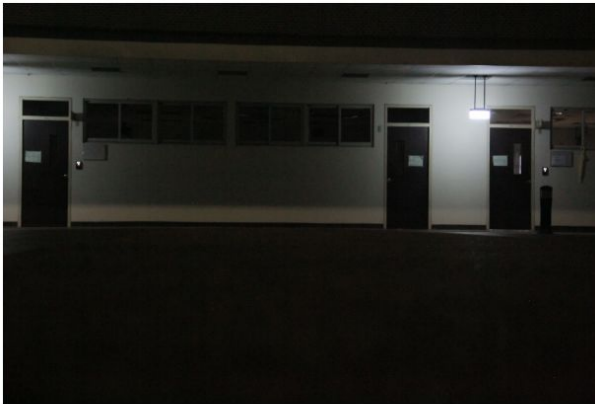


(d) close up of (b)

**III. Classroom (5184x3456), frames = 21, ISO = 12800**



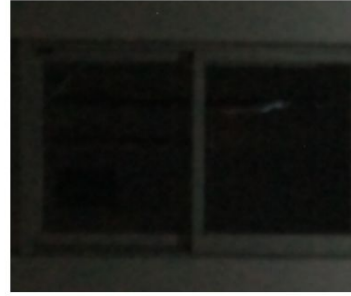
(a) input referenced image



(b) output image



(c) close up of (a)



(d) close up of (b)

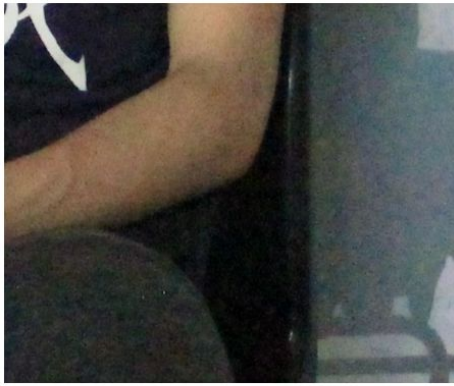
**IV. Portrait (5184x3456), frames = 13, ISO = 12800**



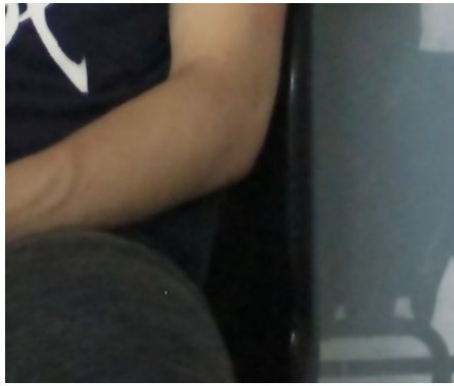
(a) input referenced image



(b) output image



(c) close up of (a)



(d) close up of (b)



**V. Portrait 2 (5184x3456), frames = 19, ISO = 12800**



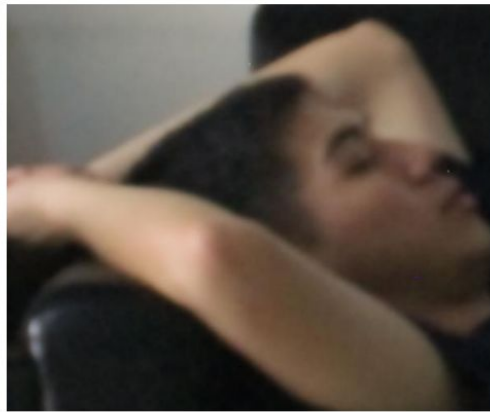
(a) input referenced image



(b) output image



(c) close up of (a)



(d) close up of (b)

**B. Comparison between adding and not adding diffusion filter**

**I. Using Lena (512x512), frames = 50, Gaussian noise ( $\sigma = 0.02$ , normalized)**



(a) input image



(b) denoising with diffusion



(c) denoising without diffusion



(d) close up of (a)

(e) close up of (b)

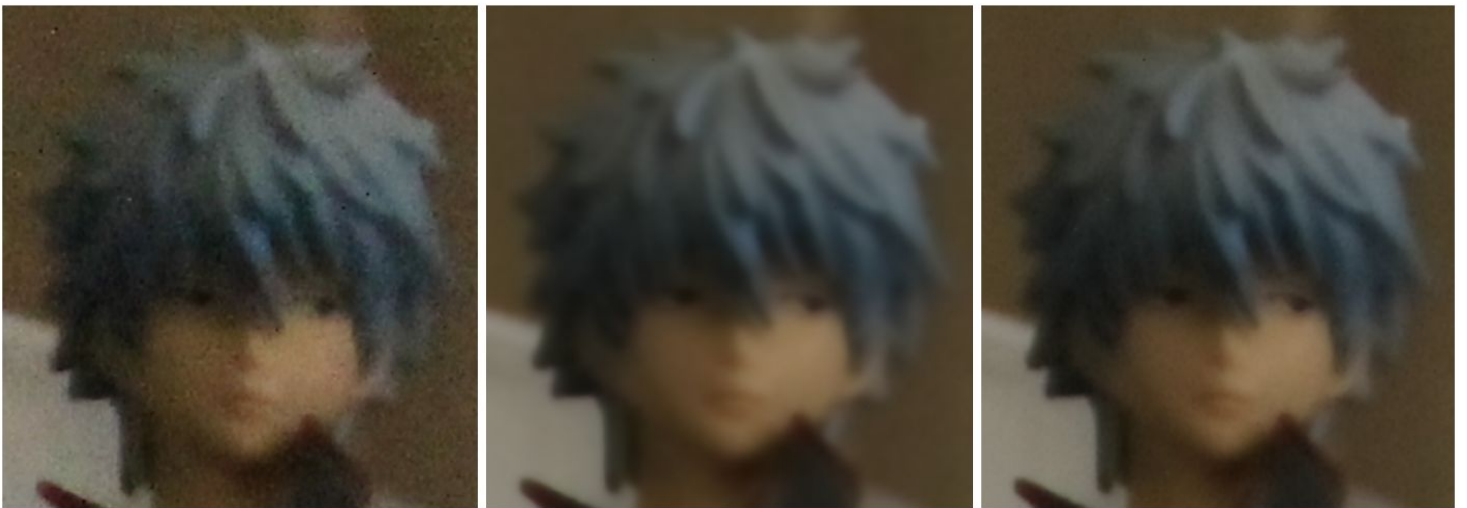
(f) close up of (c)

PSNR (dB) comparison

	PSNR (red)	PSNR (green)	PSNR (blue)
with diffusion	34.7725263	38.5701317	37.8803728
without diffusion	33.7525381	36.5550972	35.7223342

From the close up and the table we see that denoising with the diffusion filter performs better, however, we will show in the following results that some details will be blurred.

## II. Toy figures



(a) input reference image (cropped)

(b) denoised with diffusion (cropped)

(c) denoised without diffusion (cropped)

With diffusion the hair and facial features are blurrier, but without diffusion the noise is greater.

### III. Classroom



(a) input reference image (cropped)    (b) denoised with diffusion (cropped)    (c) denoised without diffusion (cropped)

Again we see that with diffusion the numbers are blurred, but without diffusion the noise is more severe.