

Supplementary material for Convolutional Neural Networks Can Be Deceived by Visual Illusions

A. CNN architectures

In this section are depicted the CNN architectures used in the paper. Note that “Jain2009 + Dilated convolutions” is not showed here because it is equivalent to Jain2009 with modified convolutional layers.

A.1. DN-NET, CC-NET, DB-NET

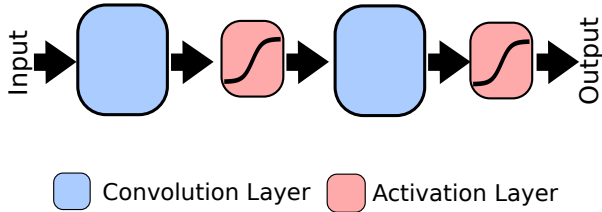


Figure A.1. Architecture used in DN-NET, CC-NET, DB-NET

A.2. Jain2009

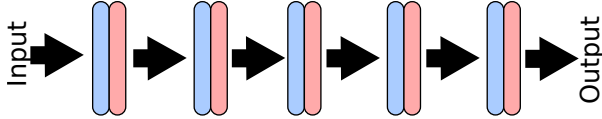


Figure A.2. Architecture of Jain2009

A.3. Jain2009 + Pooling

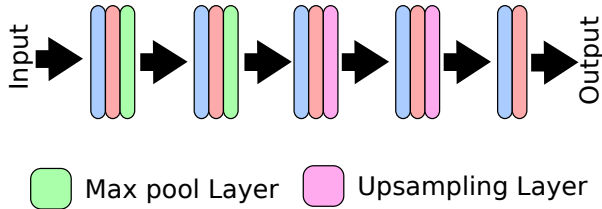


Figure A.3. Architecture of Jain2009 + Max pooling

A.4. Jain2009 + Residual connections

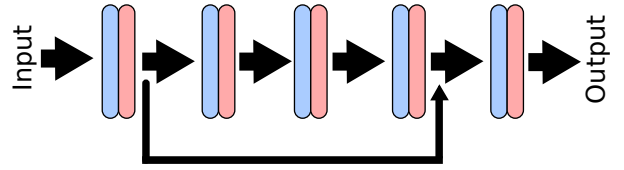


Figure A.4. Architecture of Jain2009 + Residual connections

B. Implementation details

All our CNN were trained in Keras framework[?] using mean squared error as loss function and Adam optimizer. The maximum number of epochs was set to 100 and with a batch size of 32. The training stops if there is no improvement in the validation set after two consecutive evaluations.

C. Extended version of the Figures

Table 1 shows the correspondence between the Figures presented in the paper (**Paper Fig.**) and its extended version included in this supplementary material (**Supp. Fig.**) together with the section of the paper (**Paper Sect.**) in where each figure is discussed.

| Paper Fig. | Supp. Fig. | Paper Sect. |
|------------|------------|-------------|
| Fig.3 | Fig. C.1 | 3.2 |
| Fig.3 | Fig. C.2 | 3.2 |
| Fig.3 | Fig. C.3 | 3.2 |
| Fig.4a,4b | Fig. C.4 | 3.3 |
| Fig.4c | Fig. C.5 | 3.4 |
| Fig.5 | Fig. C.6 | 3.5 |
| Fig.6a | Fig. C.7 | 3.6 |
| Fig.6b | Fig. C.8 | 3.7 |
| Fig.6c | Fig. C.9 | 3.8 |
| Fig.7 | Fig. C.10 | 3.8 |

Table 1. Correspondence between the Figure presented in the paper and its extended version in this supplementary material

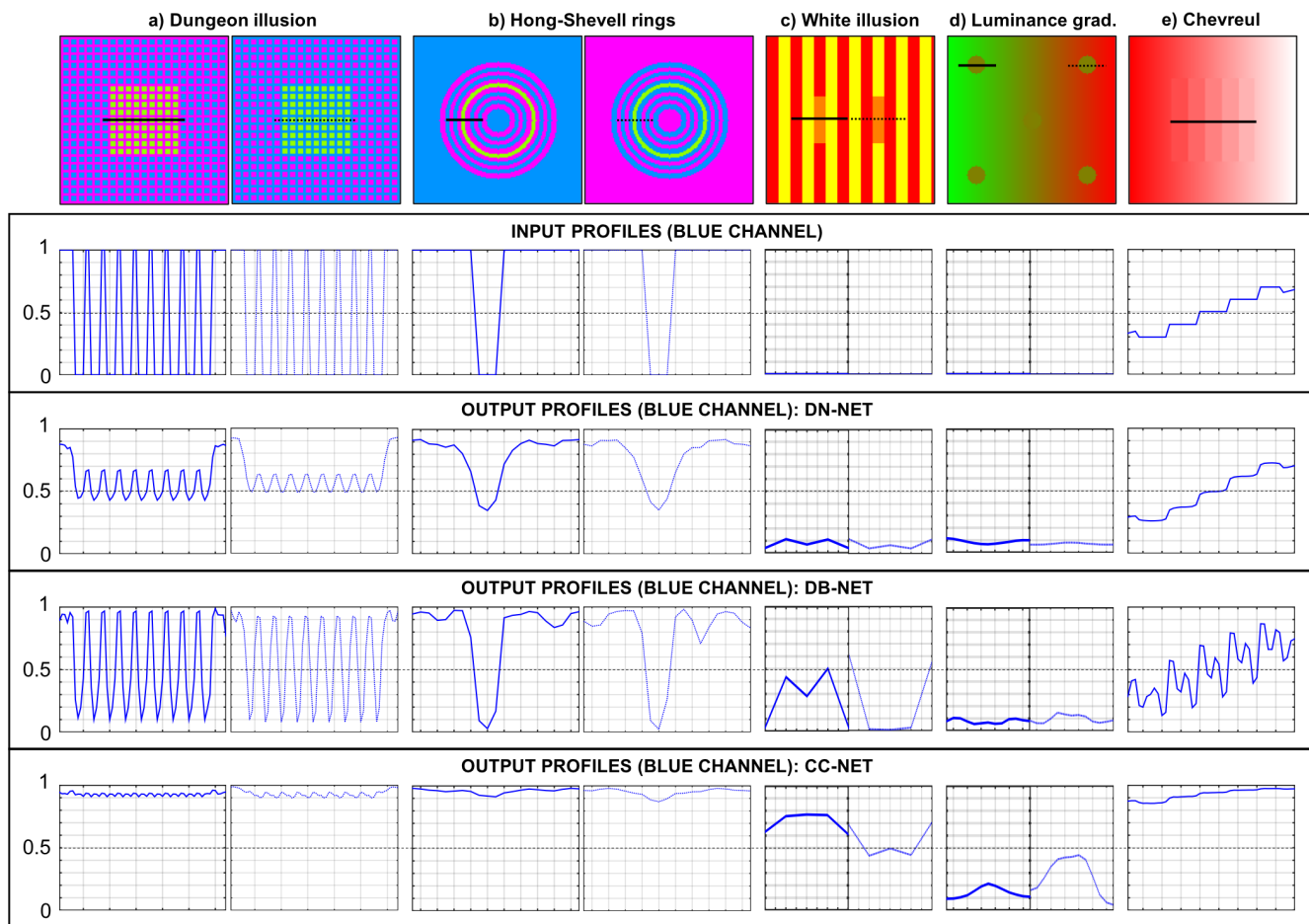


Figure C.1. Extension of the Fig.3 presenting only the blue channel profiles.

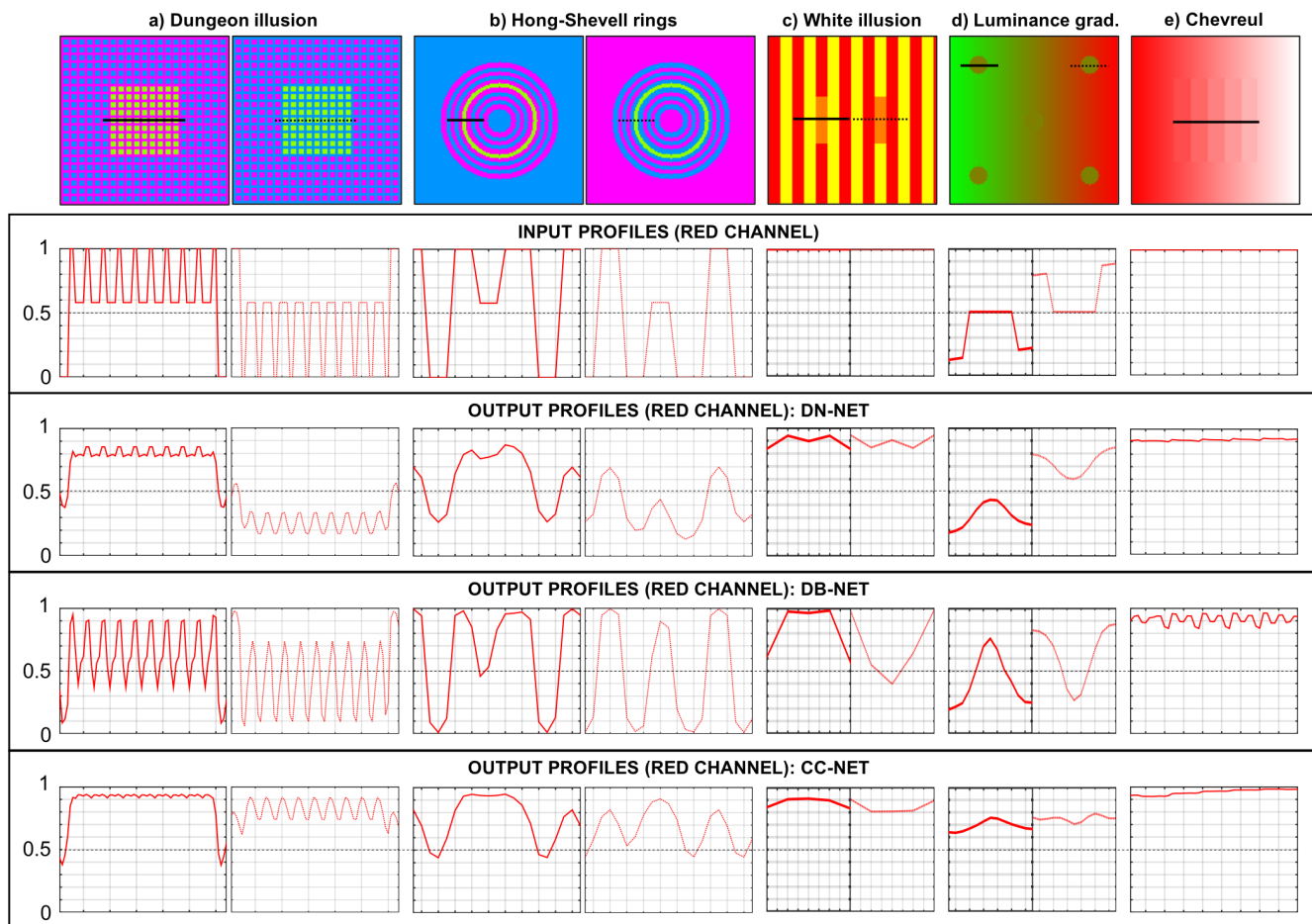


Figure C.2. Extension of the Fig.3 presenting only the red channel profiles.

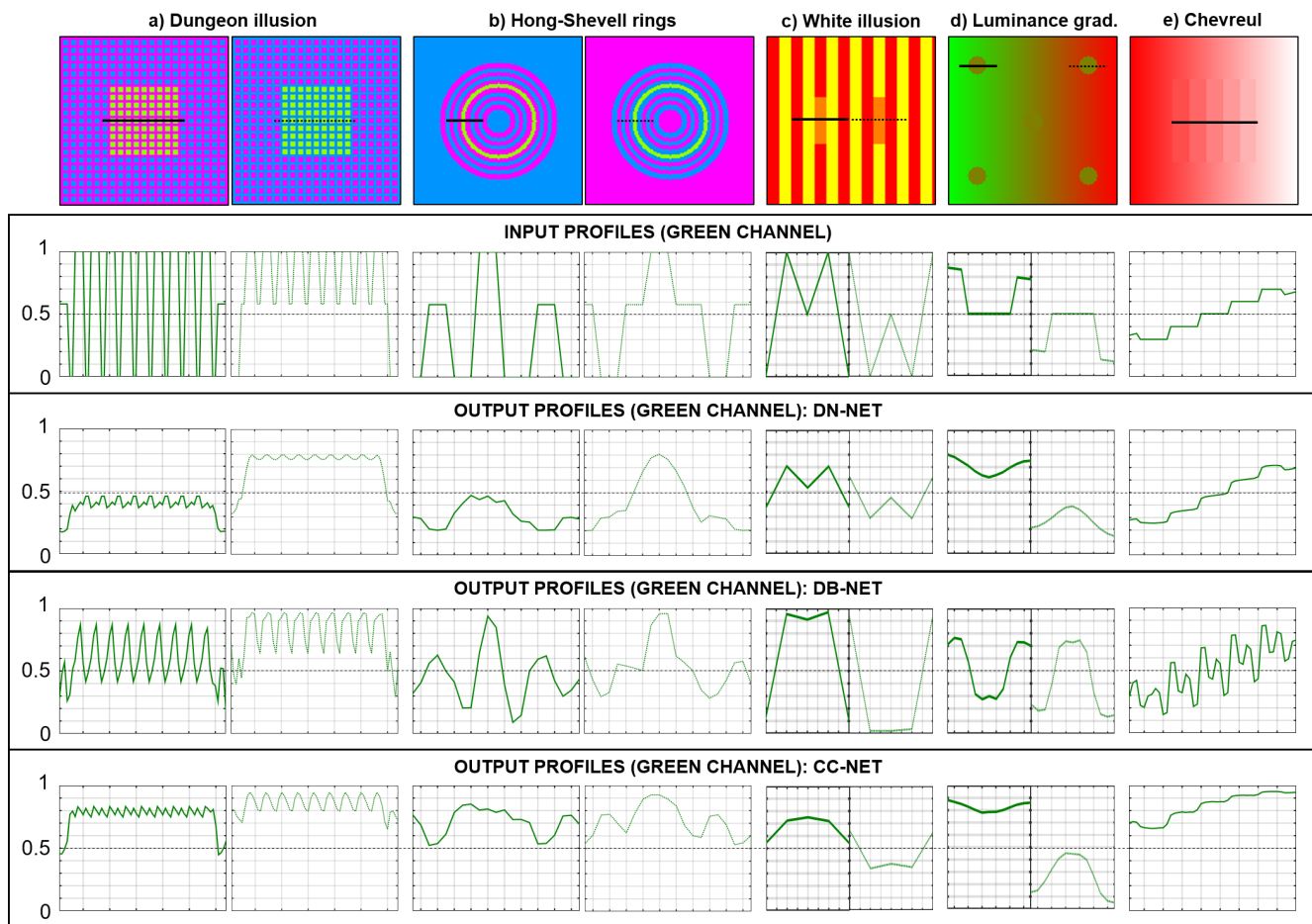


Figure C.3. Extension of the Fig.3 presenting only the green channel profiles.

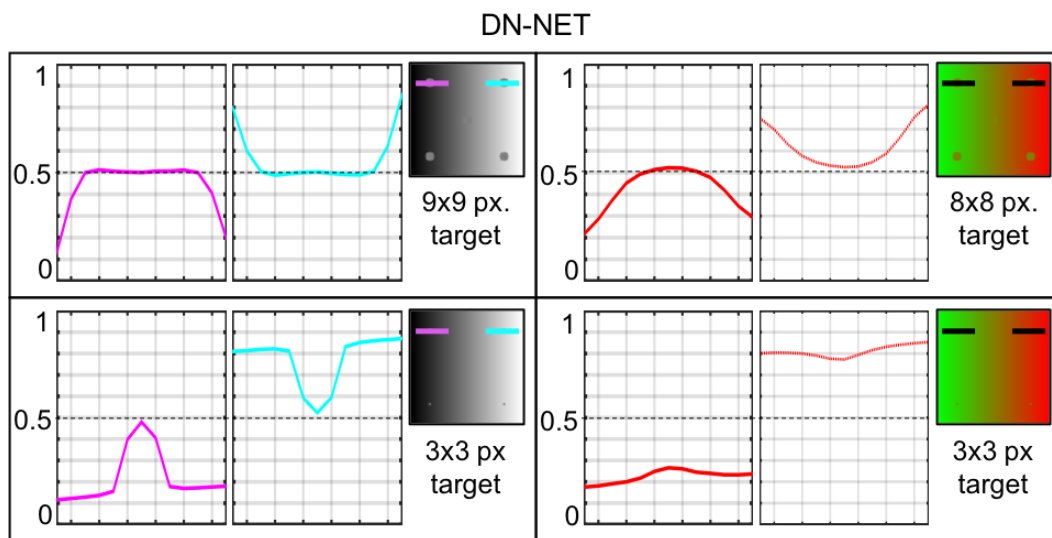


Figure C.4. Extension of the Fig.4a and Fig.4b showing Lum. in grayscale and color (red channel) for small and large targets.

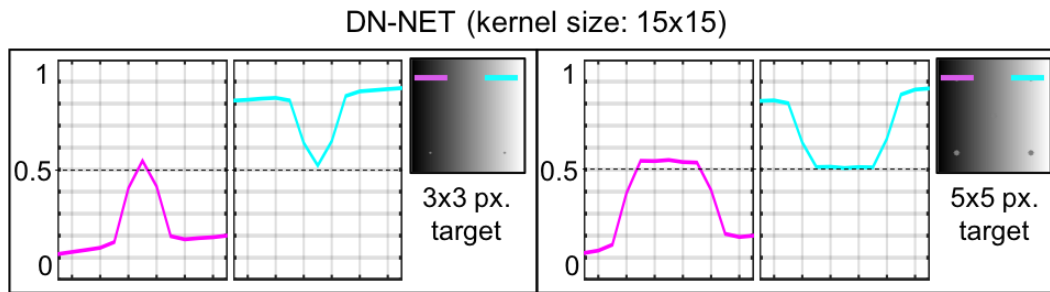


Figure C.5. Extension of the Fig.4a and Fig.4b presenting Lum. in grayscale for the scale used in Fig.3 and a smaller one.

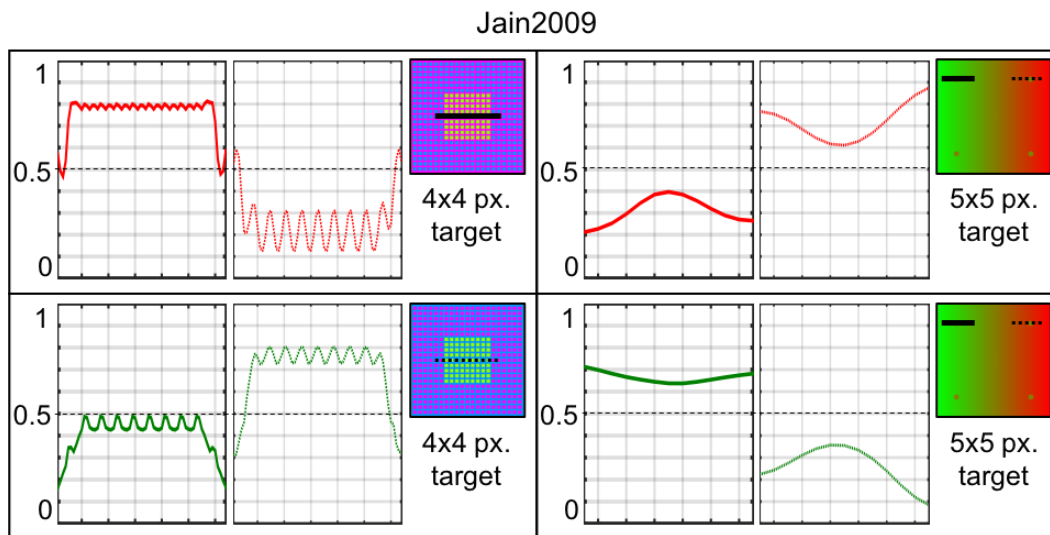


Figure C.6. Extension of the Fig.5 showing Dungeon and Lum. in color (red and green channels) for the scales used in Fig.3.

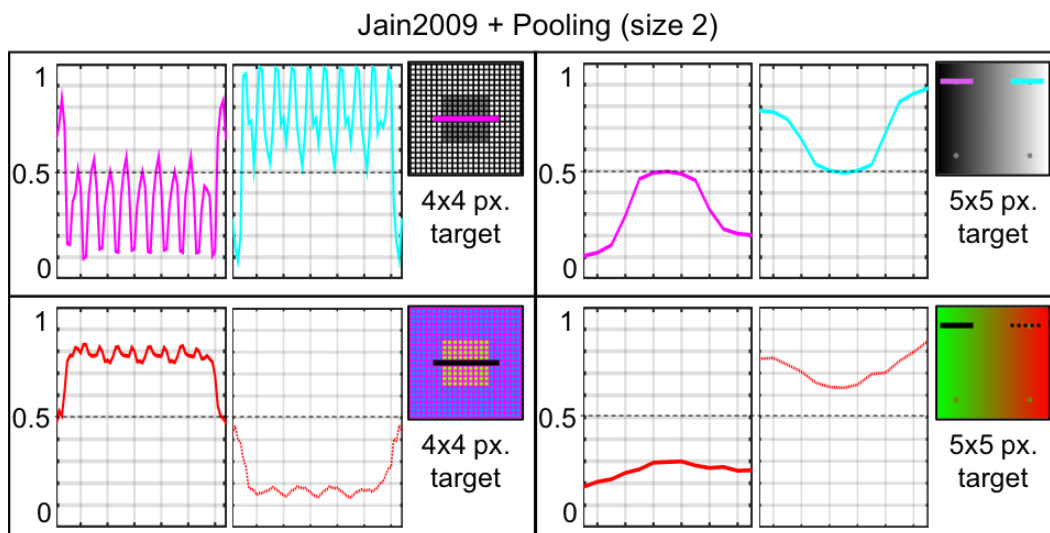


Figure C.7. Extension of the Fig.6a presenting Dungeon and Lum. grayscale and color (red channel) in the same scales used in Fig.3.

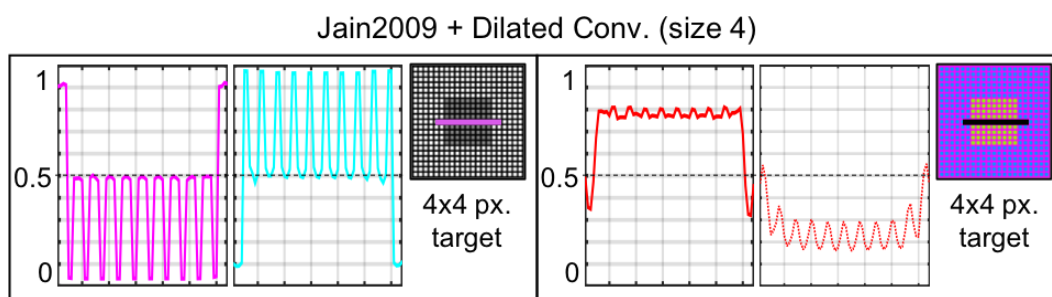


Figure C.8. Extension of the Fig.6b presenting Dungeon results in grayscale and color (red channel) using the same scale of Fig.3.

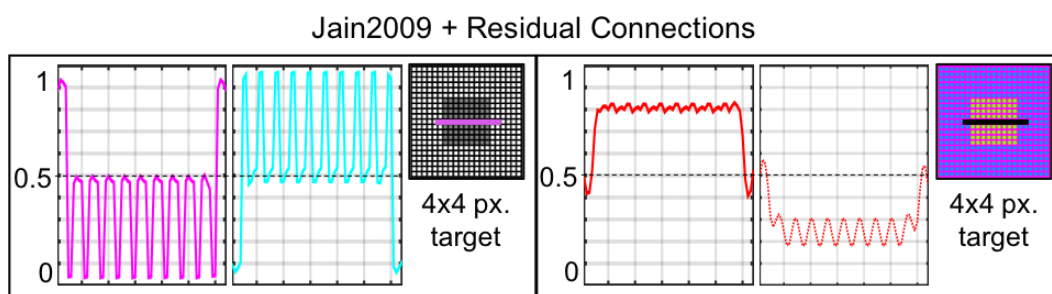


Figure C.9. Extension of the Fig.6c showing Dungeon results in grayscale and color (red channel) using the same scale of Fig.3.

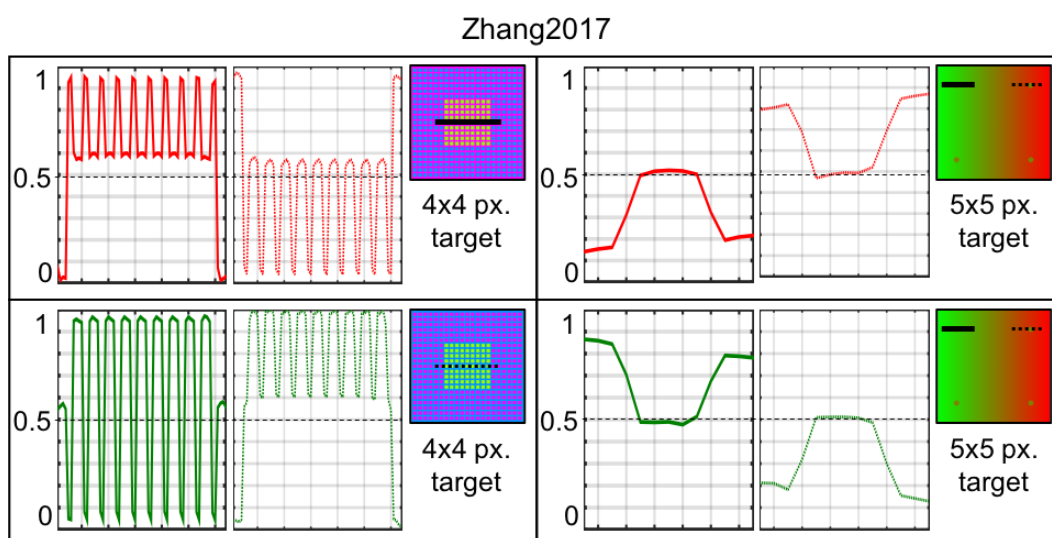


Figure C.10. Extension of the Fig.7 presenting Dungeon and Lum. results in color (red and green channels) in the baseline scale of Fig.3.