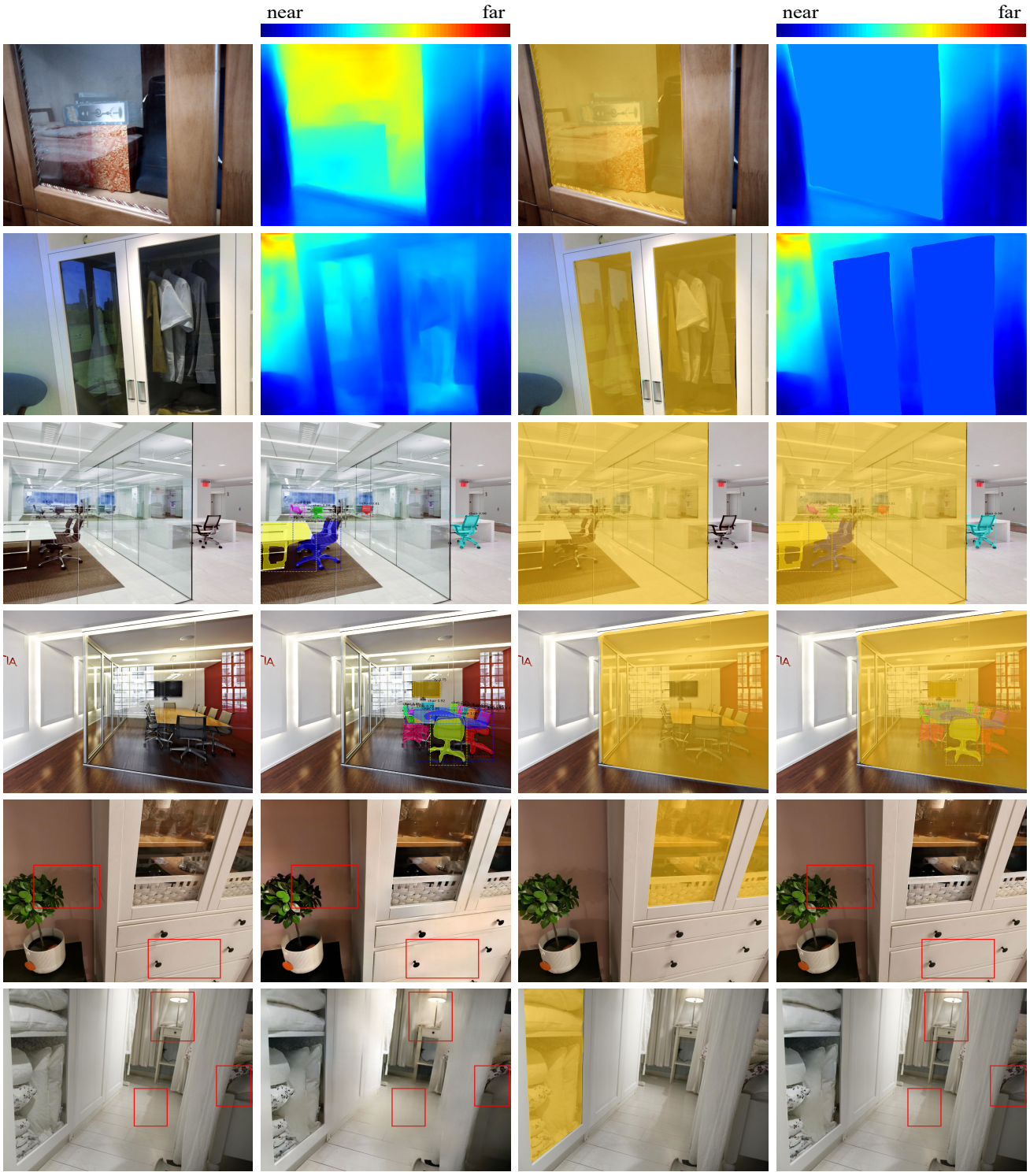
Don't Hit Me! Glass Detection in Real-world Scenes (Supplementary Material)

Haiyang Mei[1] Xin Yang[1,4,⋆] Yang Wang[1] Yuanyuan Liu[1] Shengfeng He[2]
Qiang Zhang[1] Xiaopeng Wei[1,⋆] Rynson W.H. Lau[3,†]
[1] Dalian University of Technology [2] South China University of Technology
[3] City University of Hong Kong [4] Advanced Institute of Information Technology Peking University
https://mhaiyang.github.io/CVPR2020_GDNet/index

1. Overview

In this supplementary, we first illustrate more examples of how GDNet can help correct failure cases for existing vision tasks, *i.e.*, depth prediction, instance segmentation and single image reflection removal, in Figure 1. We then show more image/mask pairs from our proposed GDD dataset in Section 2. We also present more comparisons to the state-of-the-arts on the images from the proposed GDD test set (Section 3) and the Internet (Section 4). Finally, we provide visual comparisons between our method fine-tuned for mirror segmentation and MirrorNet [12] on MSD test set in Section 5.

⋆ Xin Yang and Xiaopeng Wei are the corresponding authors. † Rynson W.H. Lau leads this project.



(a) glass images (b) w/o correction (c) GDNet (d) w/ correction

Figure 1. Problems with glass in existing vision tasks. In depth prediction, existing method [7] wrongly predicts the depth of the scene behind the glass, instead of the depth to the glass (first two rows of (b)). For instance segmentation, Mask RCNN [3] only segments the instances behind the glass, not aware that they are actually behind the glass (3*rd* and 4*th* rows of (b)). Besides, if we directly apply an existing singe-image reflection removal (SIRR) method [11] to an image that is only partially covered by glass, the non-glass region can be corrupted (last two rows of (b)). GDNet can detect the glass (c) and then correct these failure cases (d).

2. Examples of the Proposed GDD Dataset

Figure 2. Some glass image/mask pairs in our glass detection dataset (GDD). It shows that GDD covers diverse glass in daily life scenes.

3. Comparison on the GDD Test Set

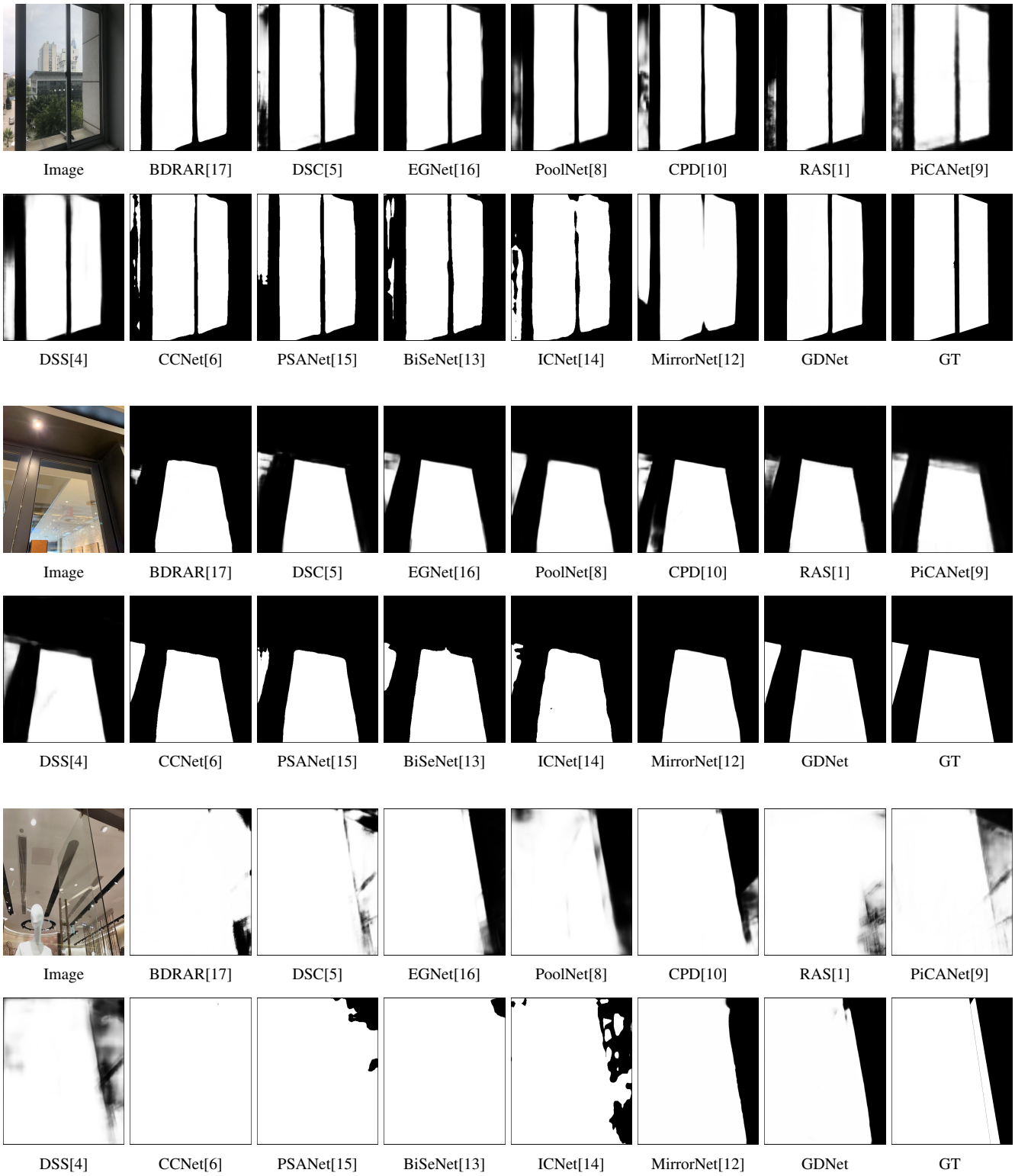


Figure 3. Visual comparison of GDNet to the state-of-the-art methods on the proposed GDD test set.

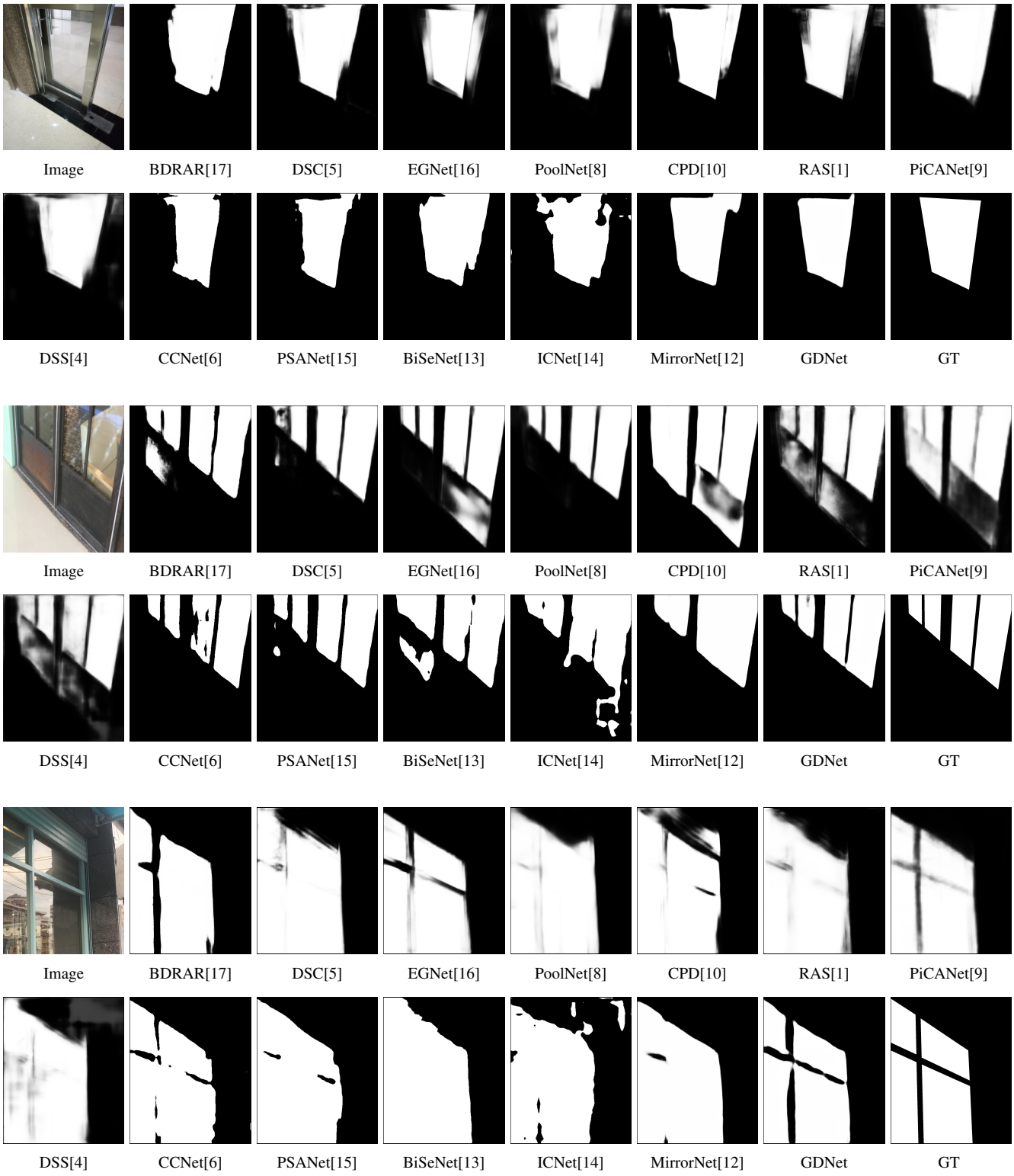


Figure 4. Visual comparison of GDNet to the state-of-the-art methods on the proposed GDD test set.

4. Comparison on Challenging Images from the Internet

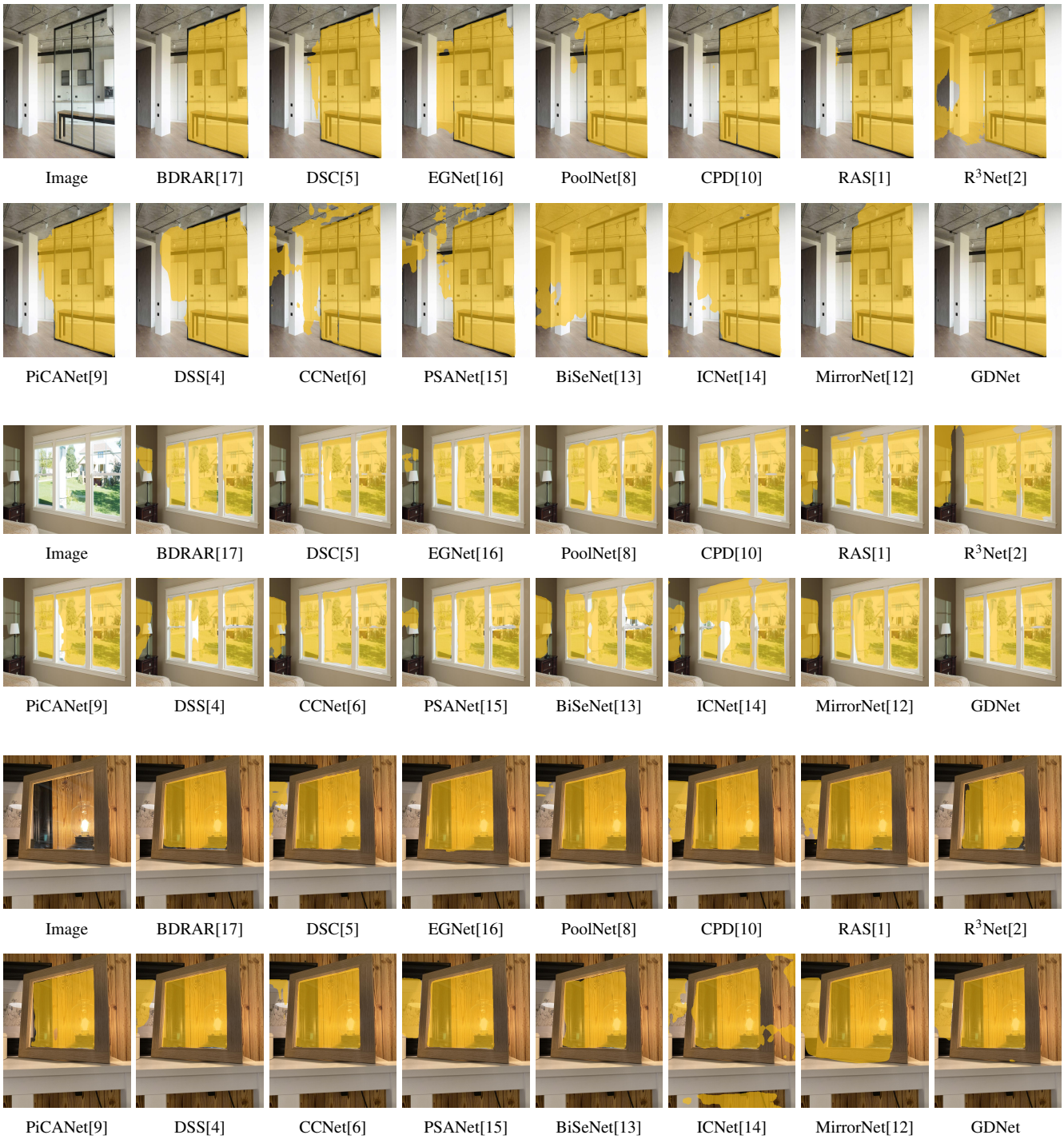


Figure 5. Visual comparison of GDNet to the state-of-the-art methods on the images obtained from the Internet.

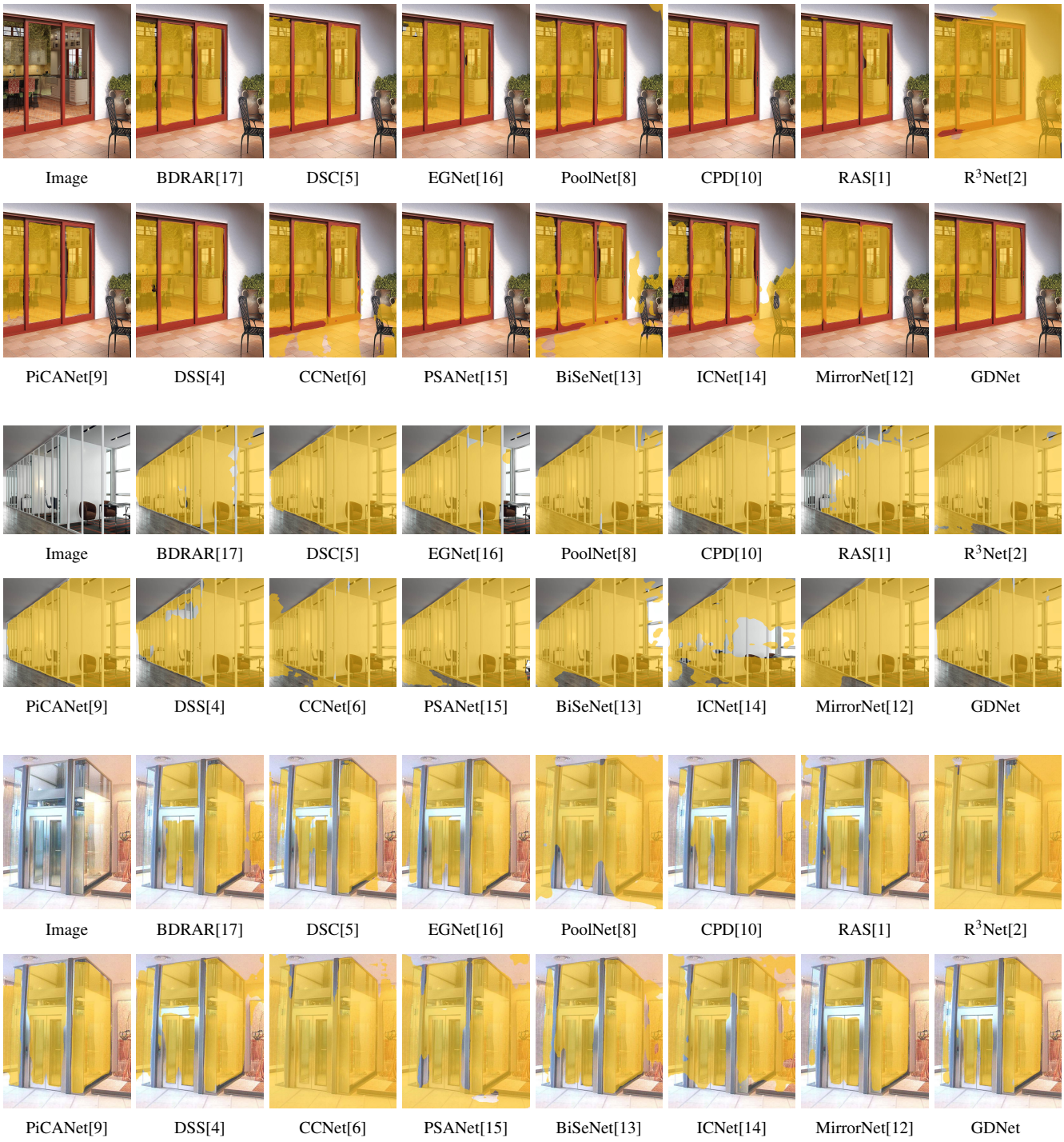


Figure 6. Visual comparison of GDNet to the state-of-the-art methods on the images obtained from the Internet.

5. Comparison on Mirror Segmentation Task

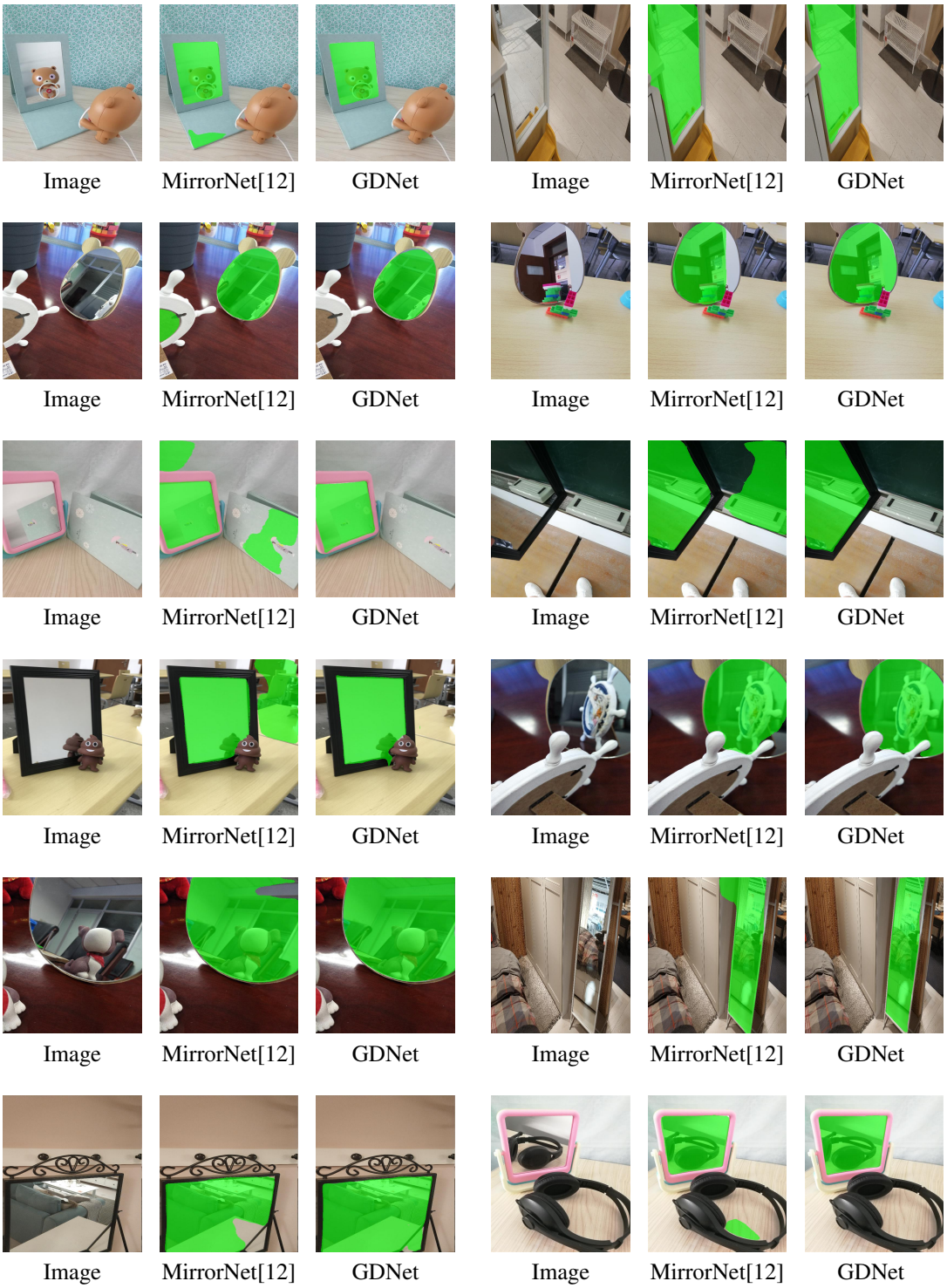


Figure 7. Visual comparison of our method fine-tuned for mirror segmentation to MirrorNet [12] on the MSD test set.

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