MatBuilder: Mastering Sampling Uniformity Over Projections Supplementary Material

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1 TIMEOUT PARAMETER EVALUATION

In this section, we evaluate the impact of the timeout parameter of the solver. On the profile `generic-full-space-LDS` with the `u7` modifier, we consider several timeout values in $\{10, 30, 60, 90, 120, 180, 210\}$ seconds. As illustrated in Figure 1, the timeout has an important impact on the overall performance of the solver, yet, 8-dimensional L_2 discrepancy plots turn out to be quite similar for this profile.

2 CHANGING THE BASE

In Figure 2, we evaluate the impact of changing the base `p` on the performance of the solver for the `Generic-full-space-LDS`. As illustrated in this figure, generalized L2 discrepancies are similar and timings show that increasing `p` speeds up the solver for low matrix sizes.

3 RENDERING RESULTS

We present detailed rendering results in 6d and 8d following the setting described in the main document.

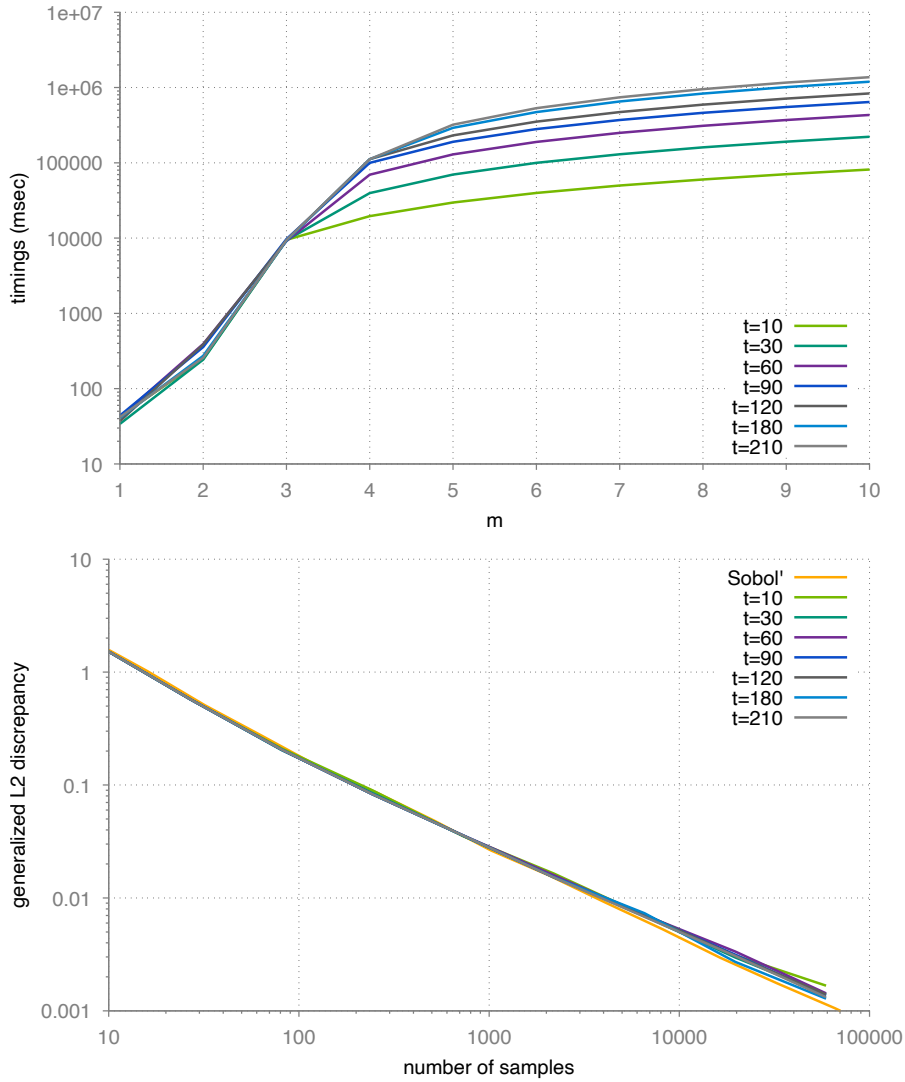

Fig. 1. Evaluation of the `Generic-full-space-LDS` profile with the `u7` modifier for various timeout values: *(top)* overall timings as the matrix size m increases, *(bottom)* associated generalized L_2 discrepancy graphs.

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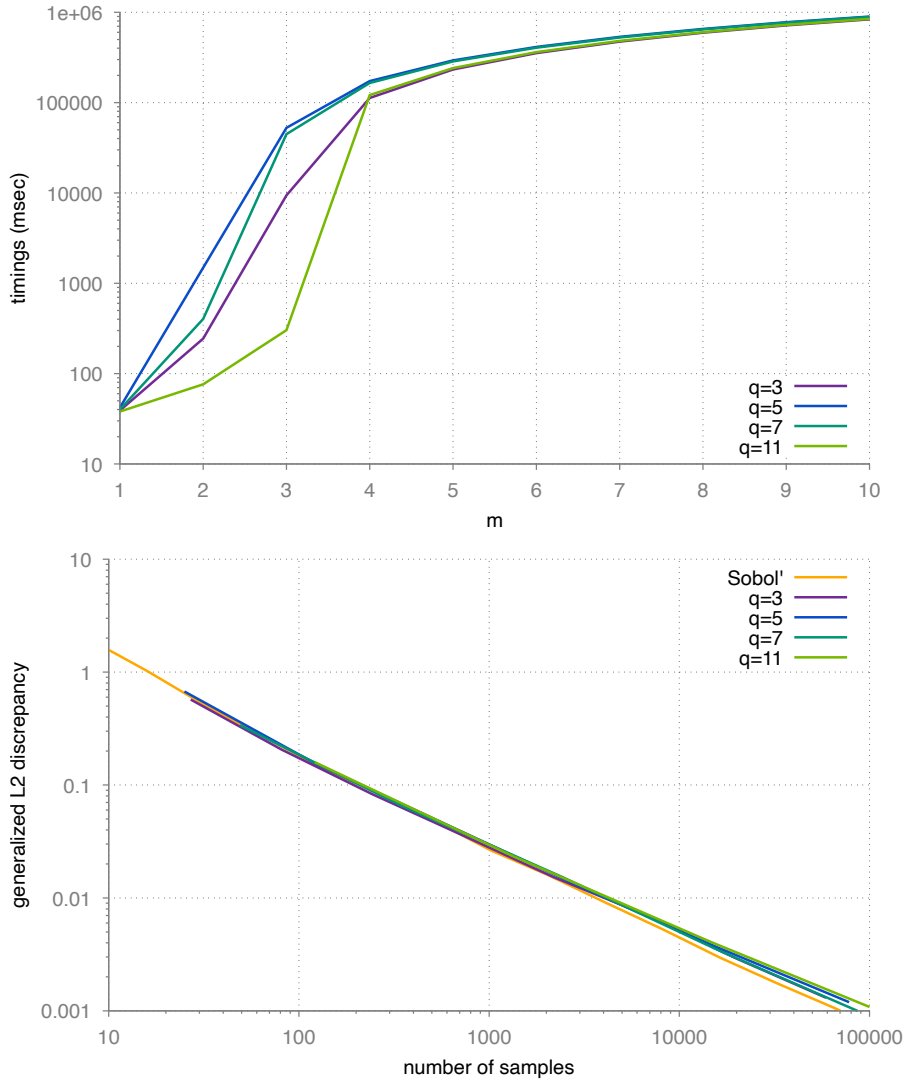

Fig. 2. Evaluation of the `Generic-full-space-LDS` profile with the u6 modifier for various bases $\mathsf{p} = \{3, 5, 7, 11\}$: *(Top)* the timings as m increases, *(bottom)*, the generalized L_2 discrepancy in $s = 8$ dimensions for p^k samples, $k \in \mathbb{N}_0$.

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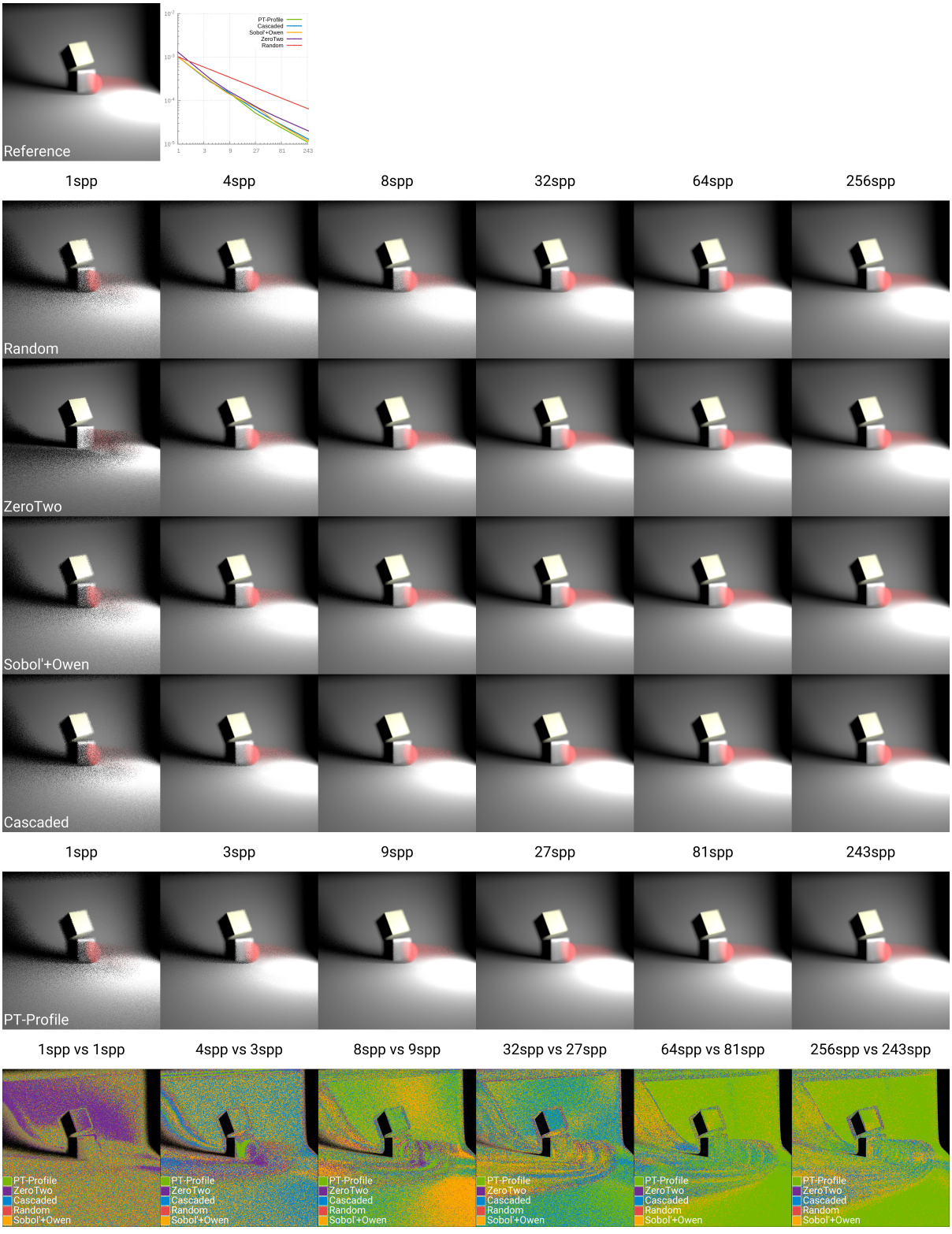

Fig. 3. **Rendering results and comparisons in 6d, 1 light source case**. The 6 dimensions are used to sample the lens (2d), the time (1d), and one light source (3d).

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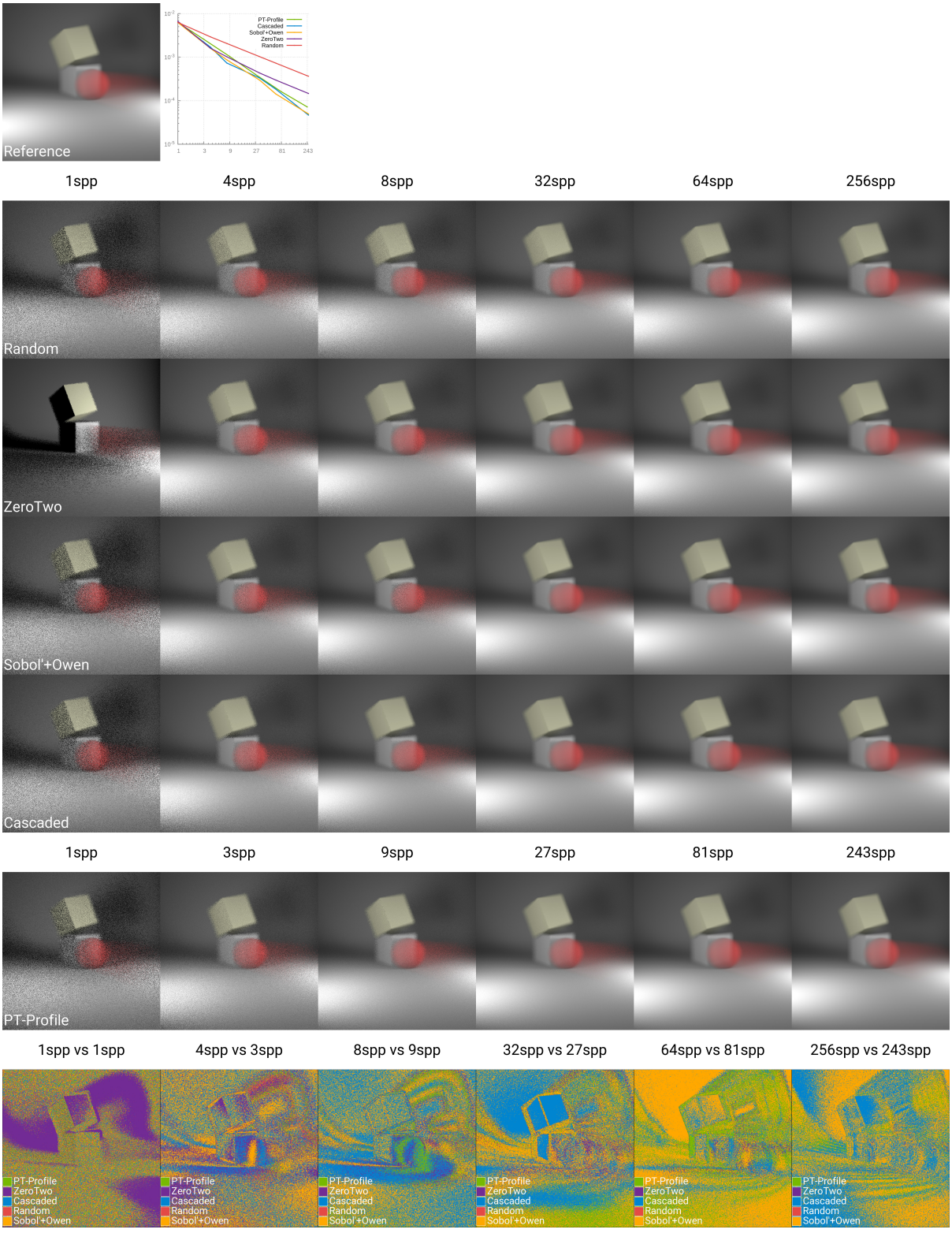

Fig. 4. **Rendering results and comparisons in 6d, 2 light sources case**: please refer to Fig. 7, row 1 in the main document. The 6 dimensions are used to sample the lens (2d), the time (1d), and two light sources (3d).

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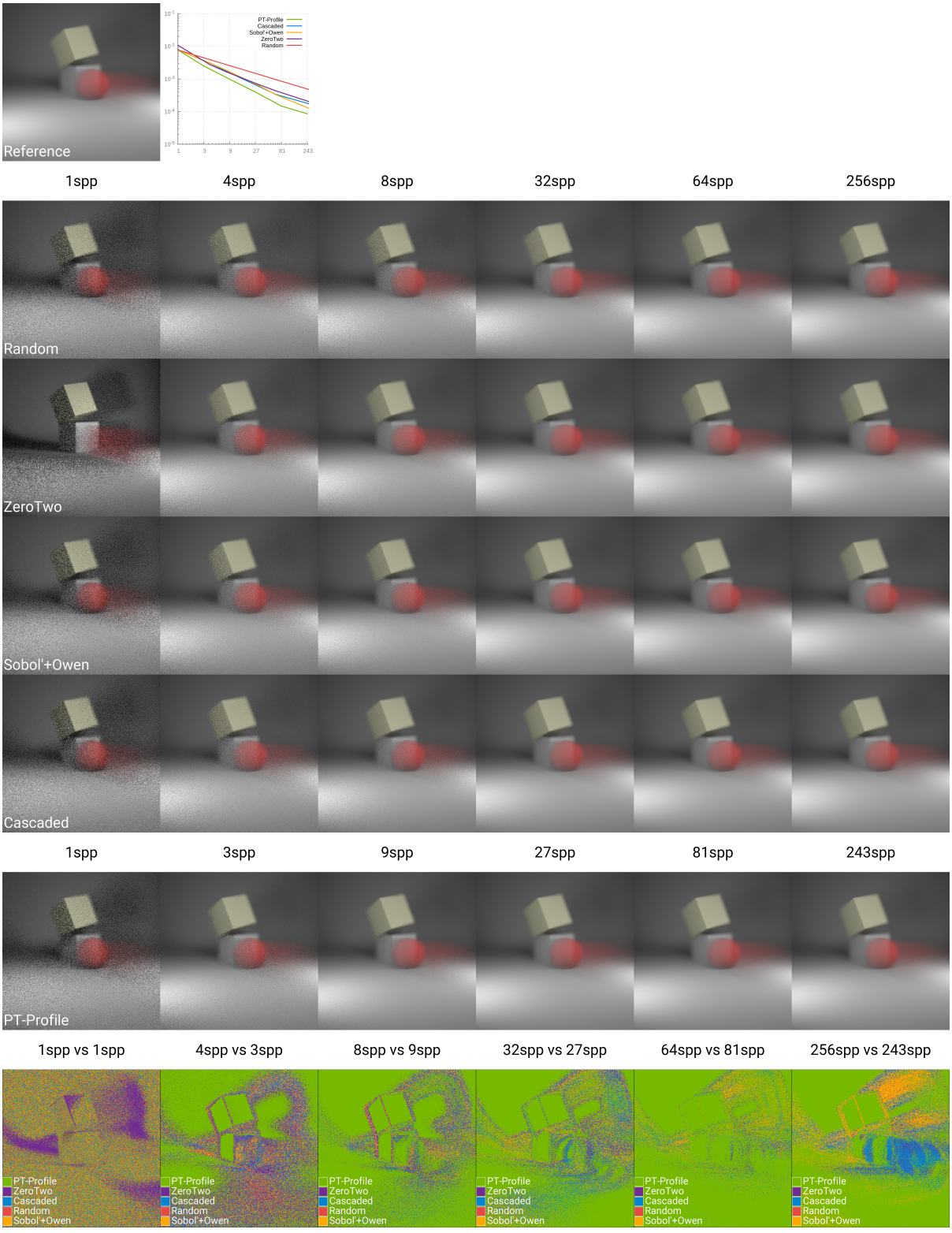

Fig. 5. **Rendering results and comparisons in 6d, 3 light sources case**: please refer to Fig. 7, row 2 in the main document. The 6 dimensions are used to sample the lens (2d), the time (1d), and three light sources (3d).

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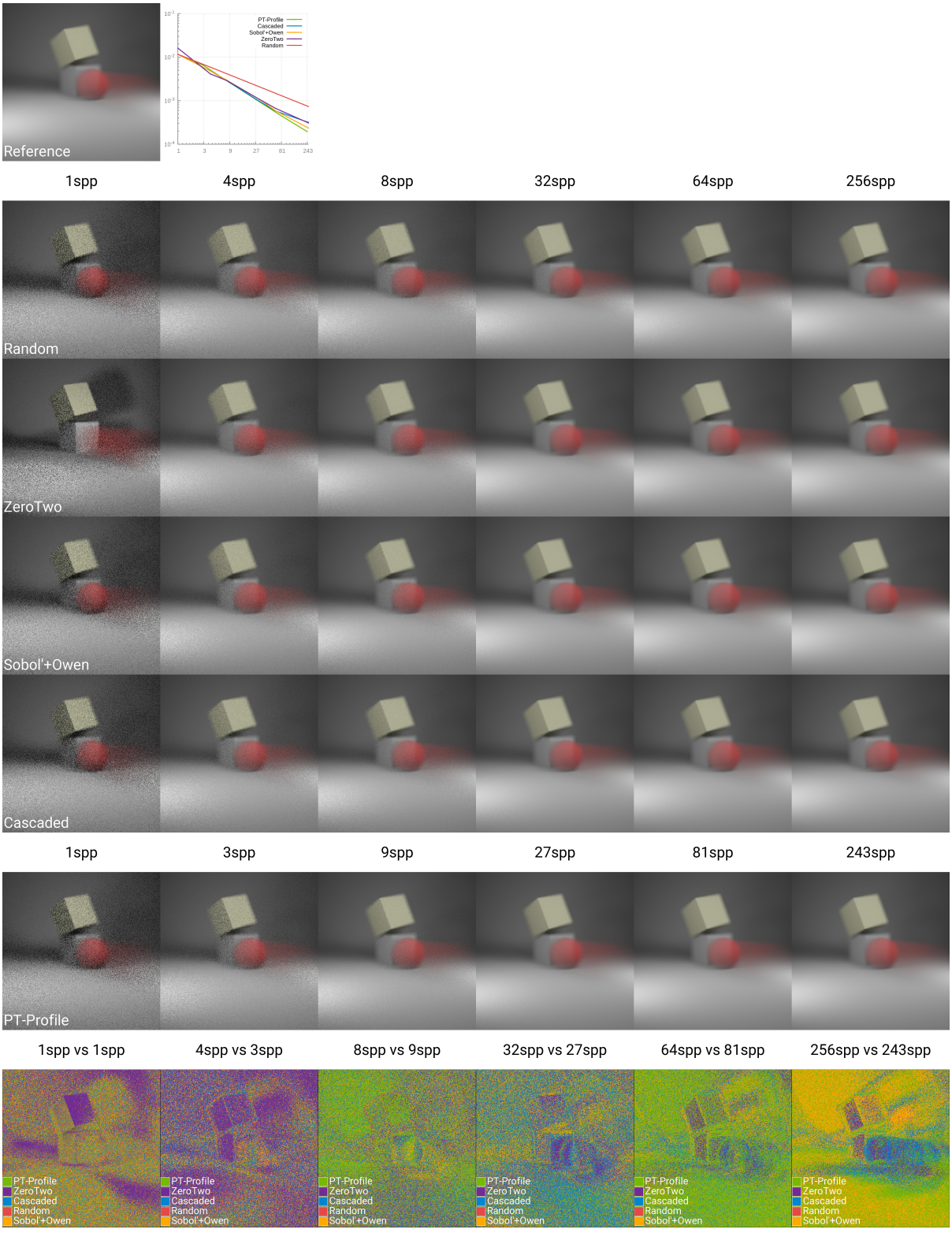

Fig. 6. **Rendering results and comparisons in 6d, 5 light sources case**: please refer to Fig. 7, row 3 in the main document. The 6 dimensions are used to sample the lens (2d), the time (1d), and five light sources (3d).

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Fig. 7. **Rendering results and comparisons in 8d, 2 light sources case**: please refer to Fig. 7, last row in the main document. The 8 dimensions are used to sample the pixel (2d), the direct lighting (3d) and the indirect lighting (3d).

Fig. 8. **Rendering results and comparisons in 8d, 3 light sources case**: please refer to Fig. 7, last row in the main document. The 8 dimensions are used to sample the pixel (2d), the direct lighting (3d) and the indirect lighting (3d).

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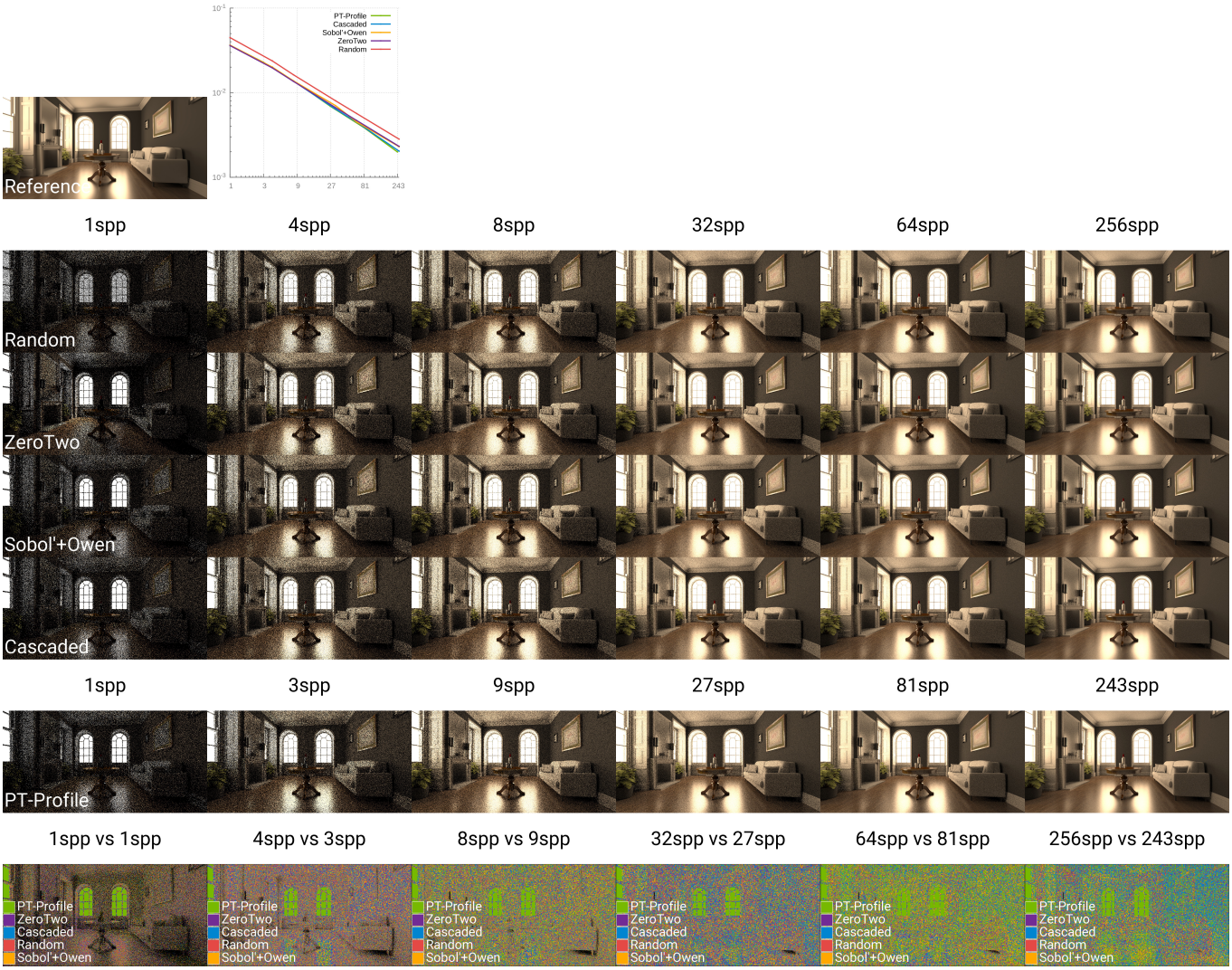

Fig. 9. **Rendering results and comparisons in 8d, 2 light sources case**: The 8 dimensions are used to sample the pixel (2d), the direct lighting (3d) and the indirect lighting (3d).

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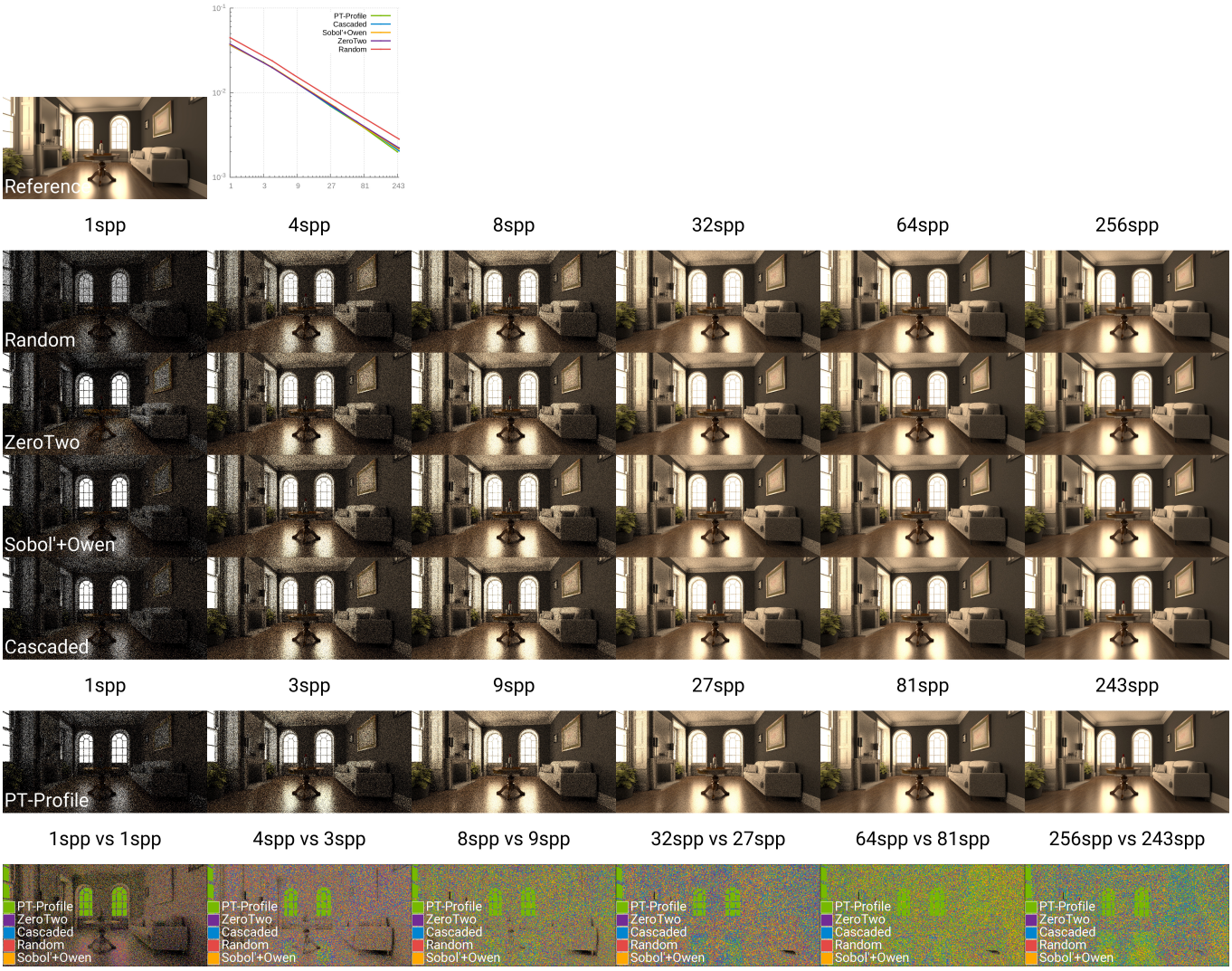

Fig. 10. **Rendering results and comparisons in 8d, 3 light sources case**: The 8 dimensions are used to sample the pixel (2d), the direct lighting (3d) and the indirect lighting (3d).

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