View-dependent Scene Appearance Synthesis using Inverse Rendering from Light Fields

ICCP 2021

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KAIST

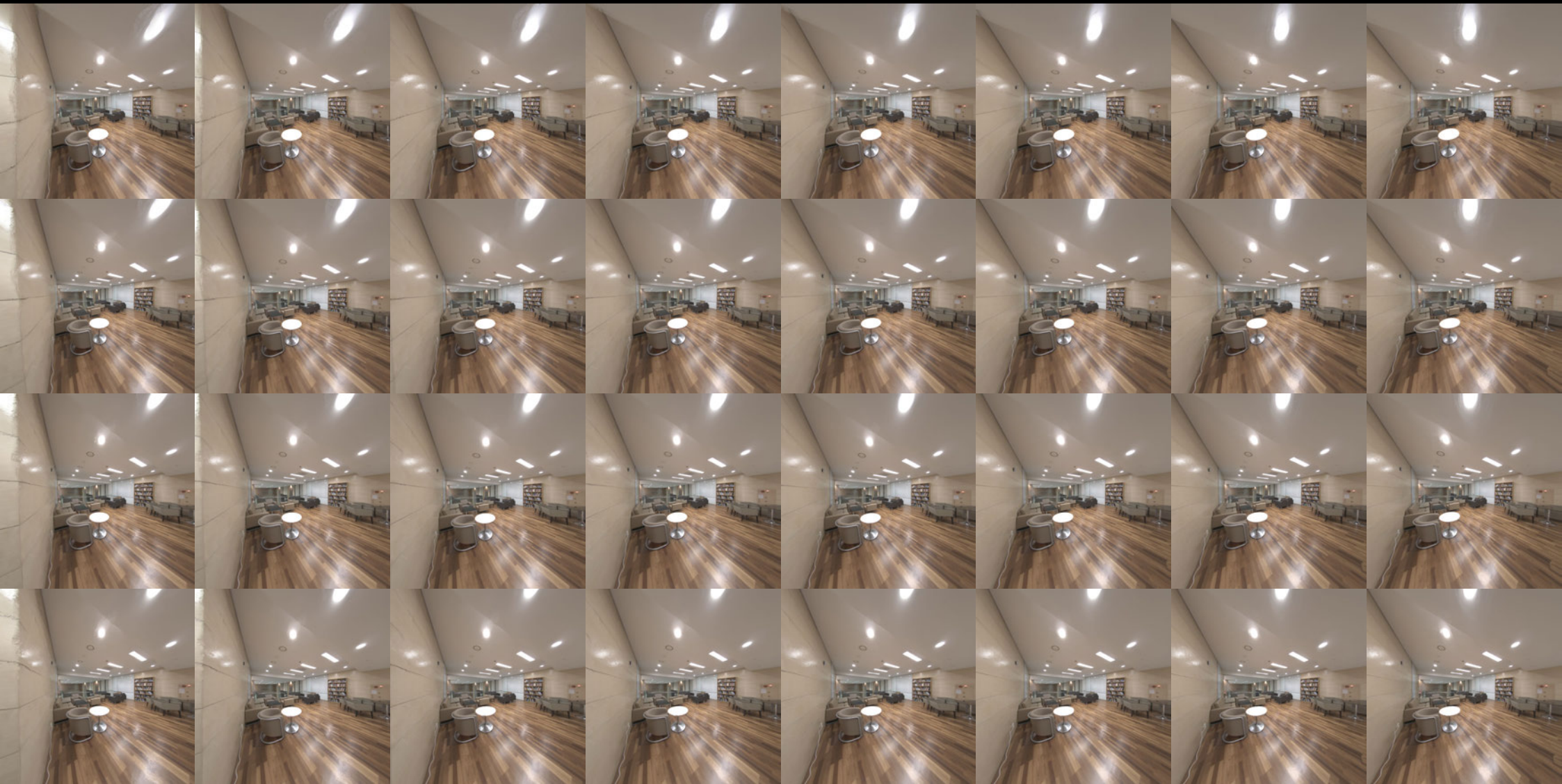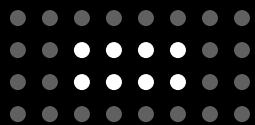# Novel view rendering: Lounge (real scene)
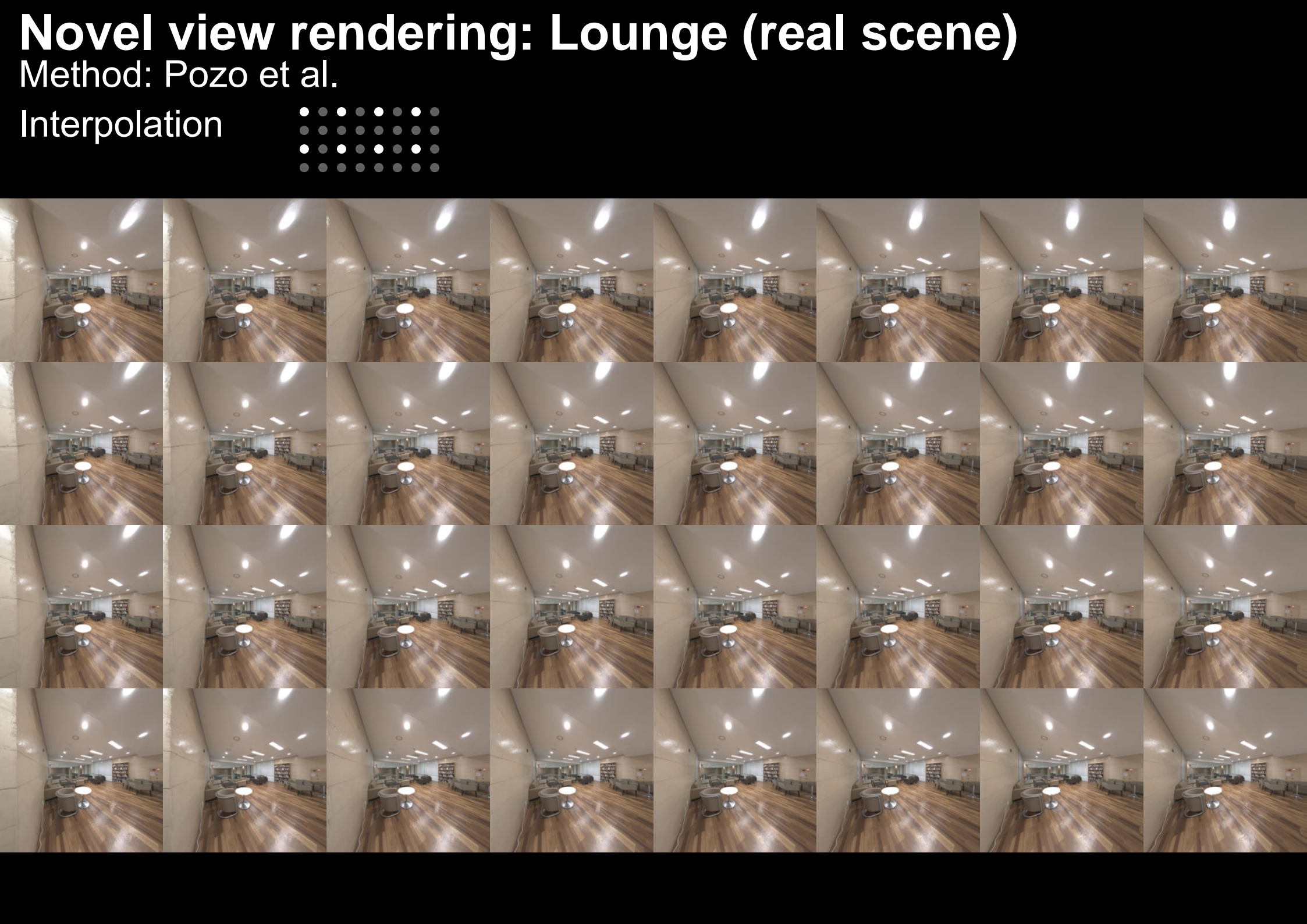Method: Ground truth

Novel view rendering: Lounge (real scene)
Method: Pozo et al.

Extrapolation

Novel view rendering: Lounge (real scene)
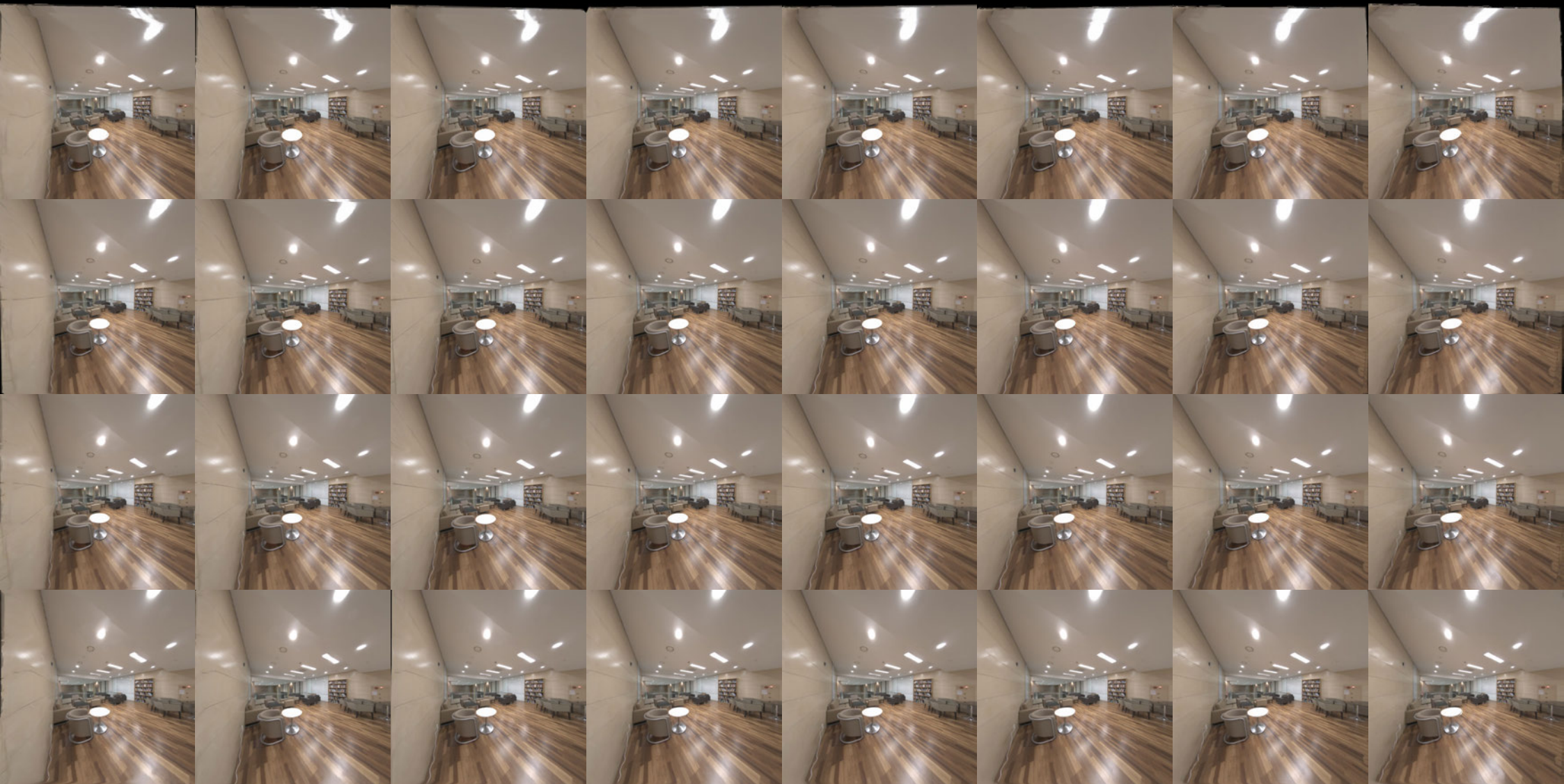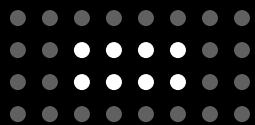Method: Pozo et al.

Interpolation

Novel view rendering: Lounge (real scene)
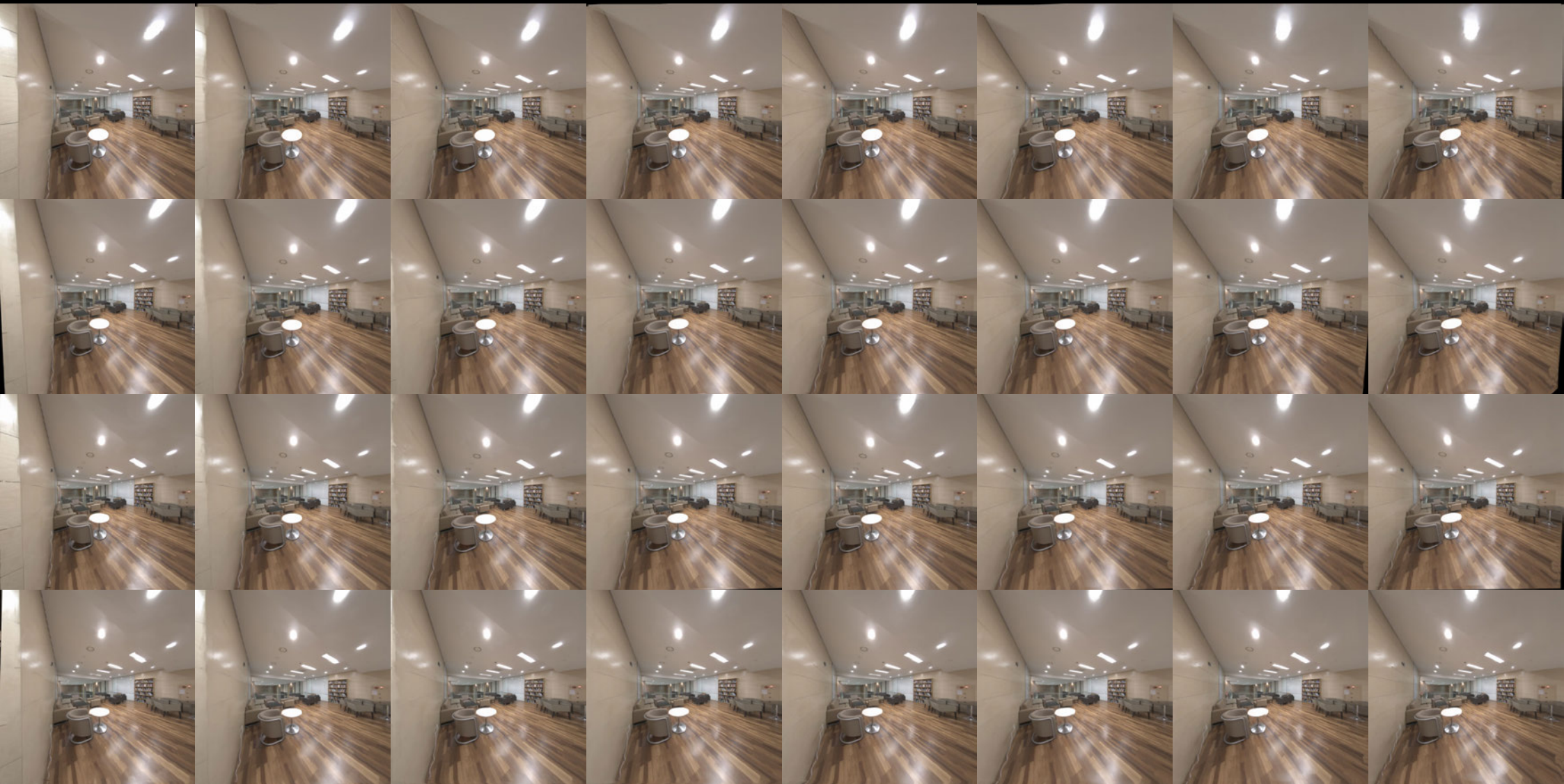Method: Mildenhall et al.

Extrapolation

Novel view rendering: Lounge (real scene)
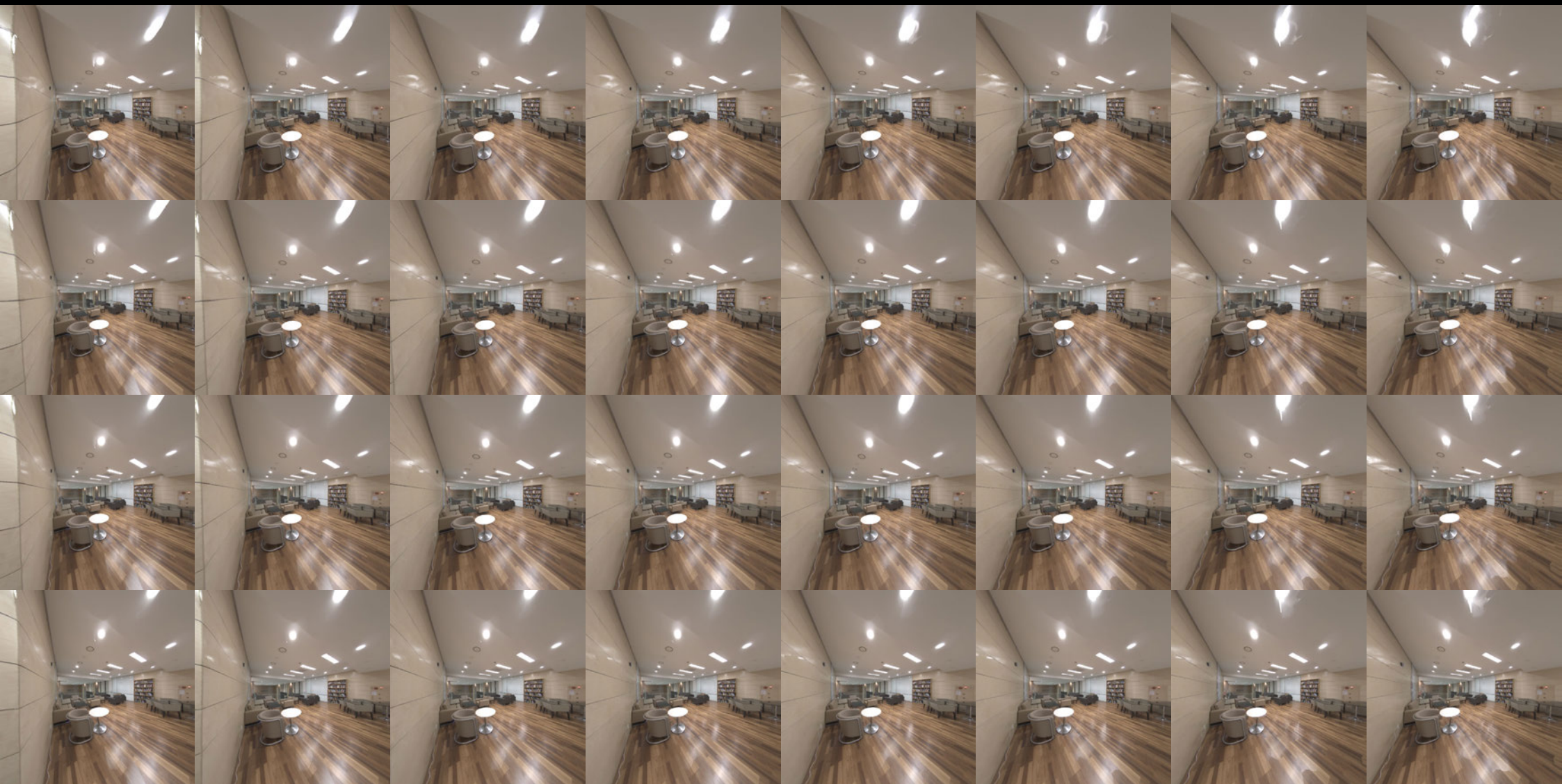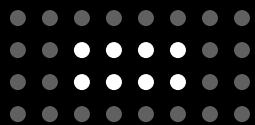Method: Mildenhall et al.

Interpolation

Novel view rendering: Lounge (real scene)
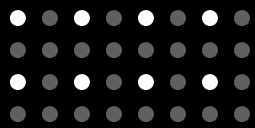
Method: Ours

Extrapolation

Novel view rendering: Lounge (real scene)

Method: Ours

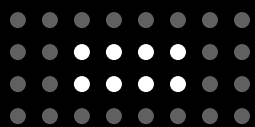Interpolation

Novel view rendering: Hallway (real scene)
Method: Ground truth

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Method: Pozo et al.

Extrapolation

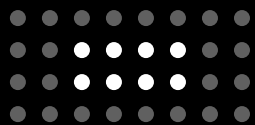# Novel view rendering: Hallway (real scene)
Method: Pozo et al.

Interpolation

Novel view rendering: Hallway (real scene)

Method: Mildenhall et al.

Extrapolation

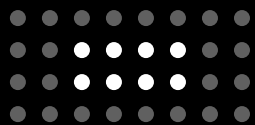# Novel view rendering: Hallway (real scene)
Method: Mildenhall et al.

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Novel view rendering: Hallway (real scene)
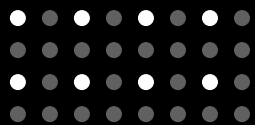Method: Ours

Extrapolation

Novel view rendering: Hallway (real scene)

Method: Ours

Interpolation
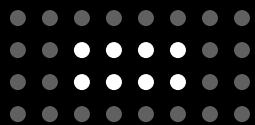
Novel view rendering: Lobby (real scene)
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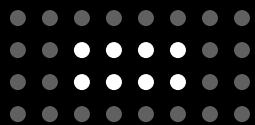
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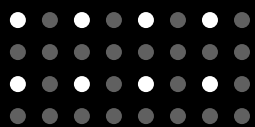# Novel view rendering: Lobby (real scene)
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Novel view rendering: Lobby (real scene)
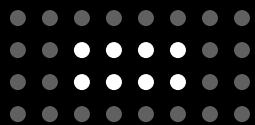
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Novel view rendering: Lobby (real scene)
Method: Ours
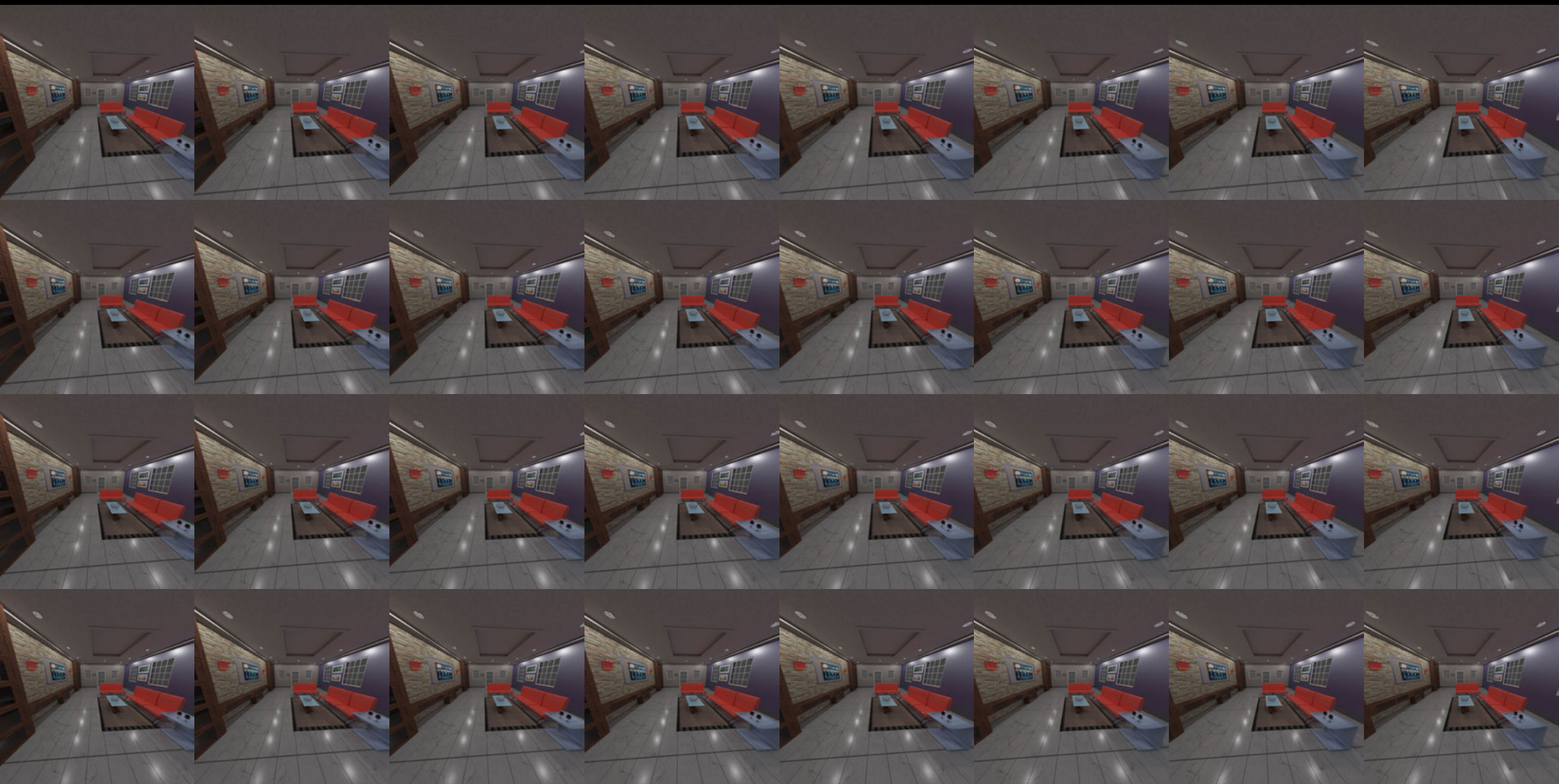
Extrapolation

Novel view rendering: Lobby (real scene)
Method: Ours

Interpolation
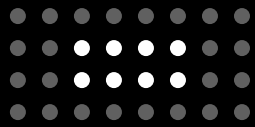
Novel view rendering: Livingroom (synthetic scene)
Method: Ground truth

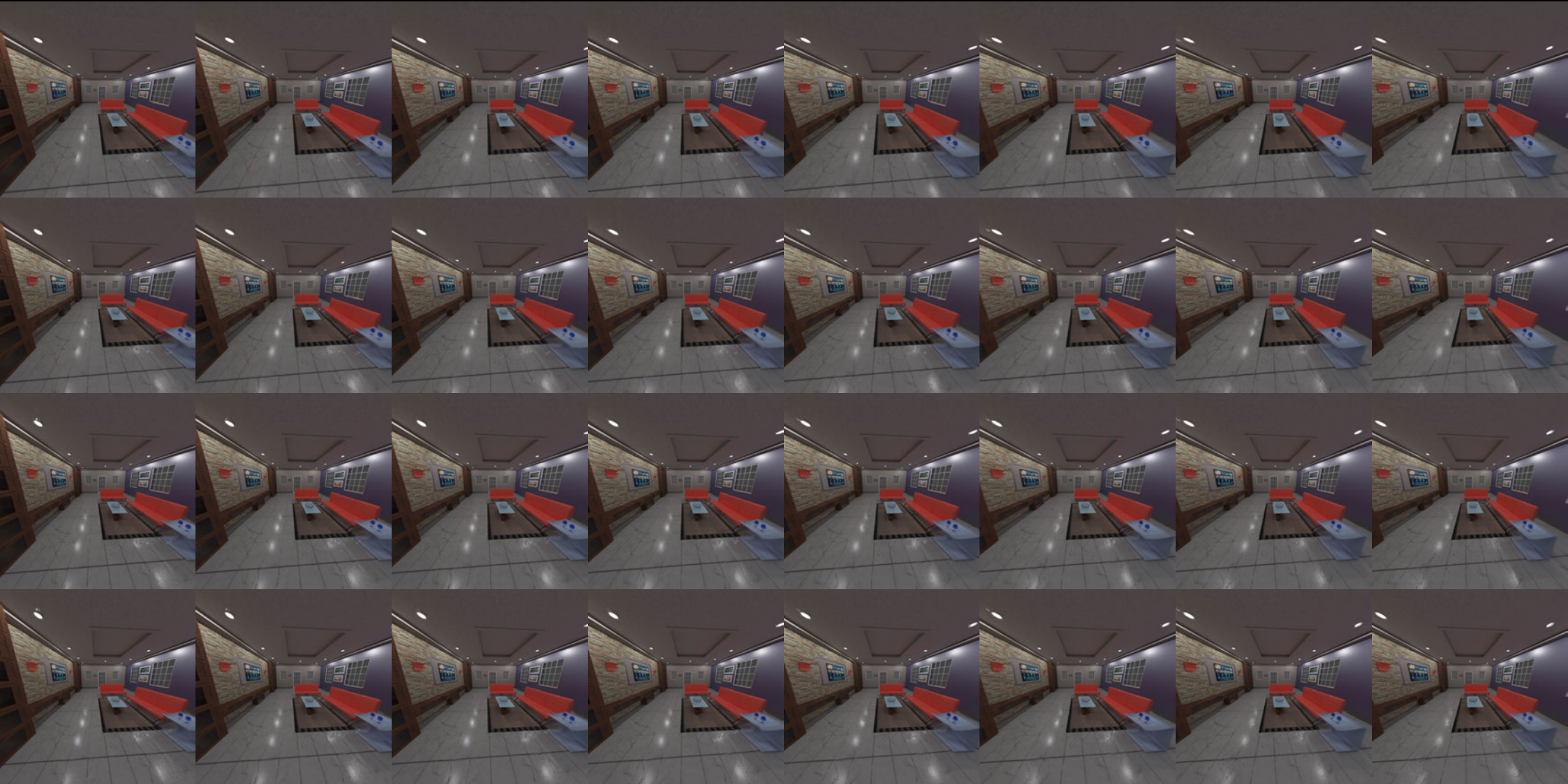# Novel view rendering: Livingroom (synthetic scene)
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Extrapolation

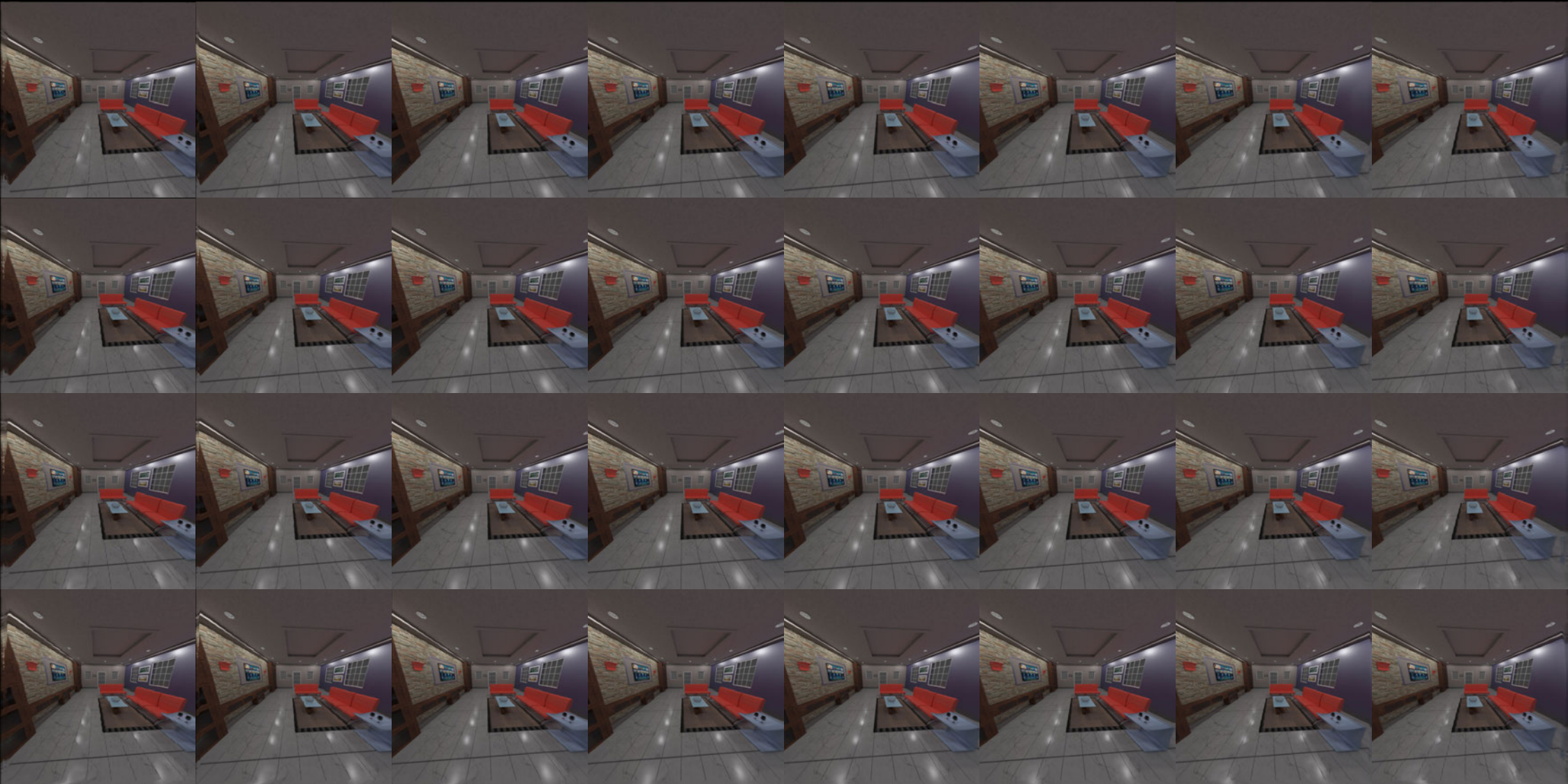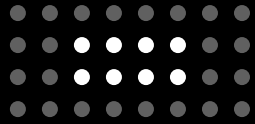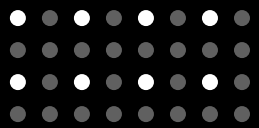# Novel view rendering: Livingroom (synthetic scene)
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Interpolation

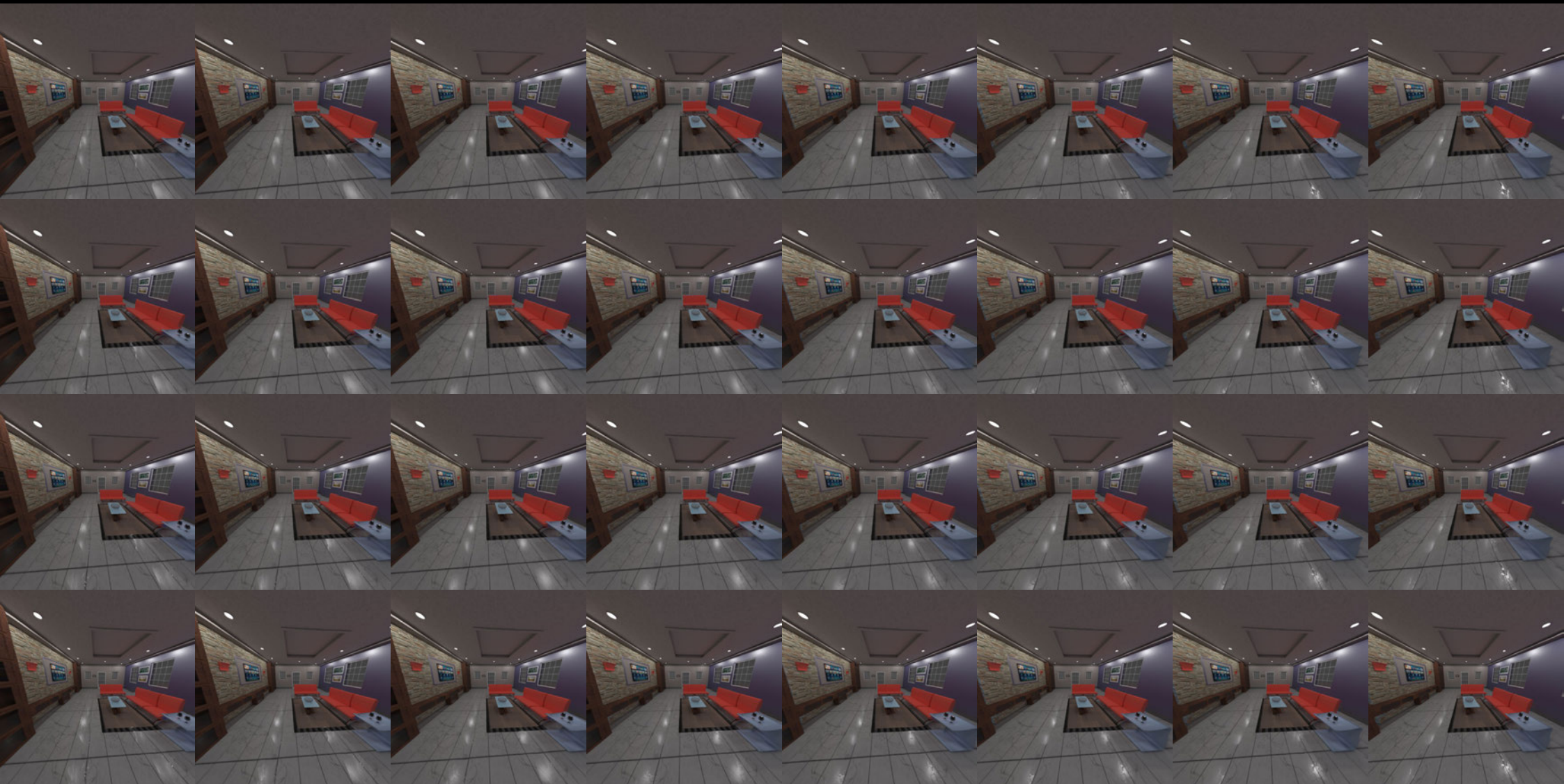# Novel view rendering: Livingroom (synthetic scene)
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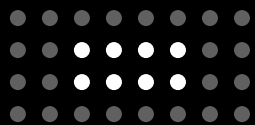# Novel view rendering: Livingroom (synthetic scene)

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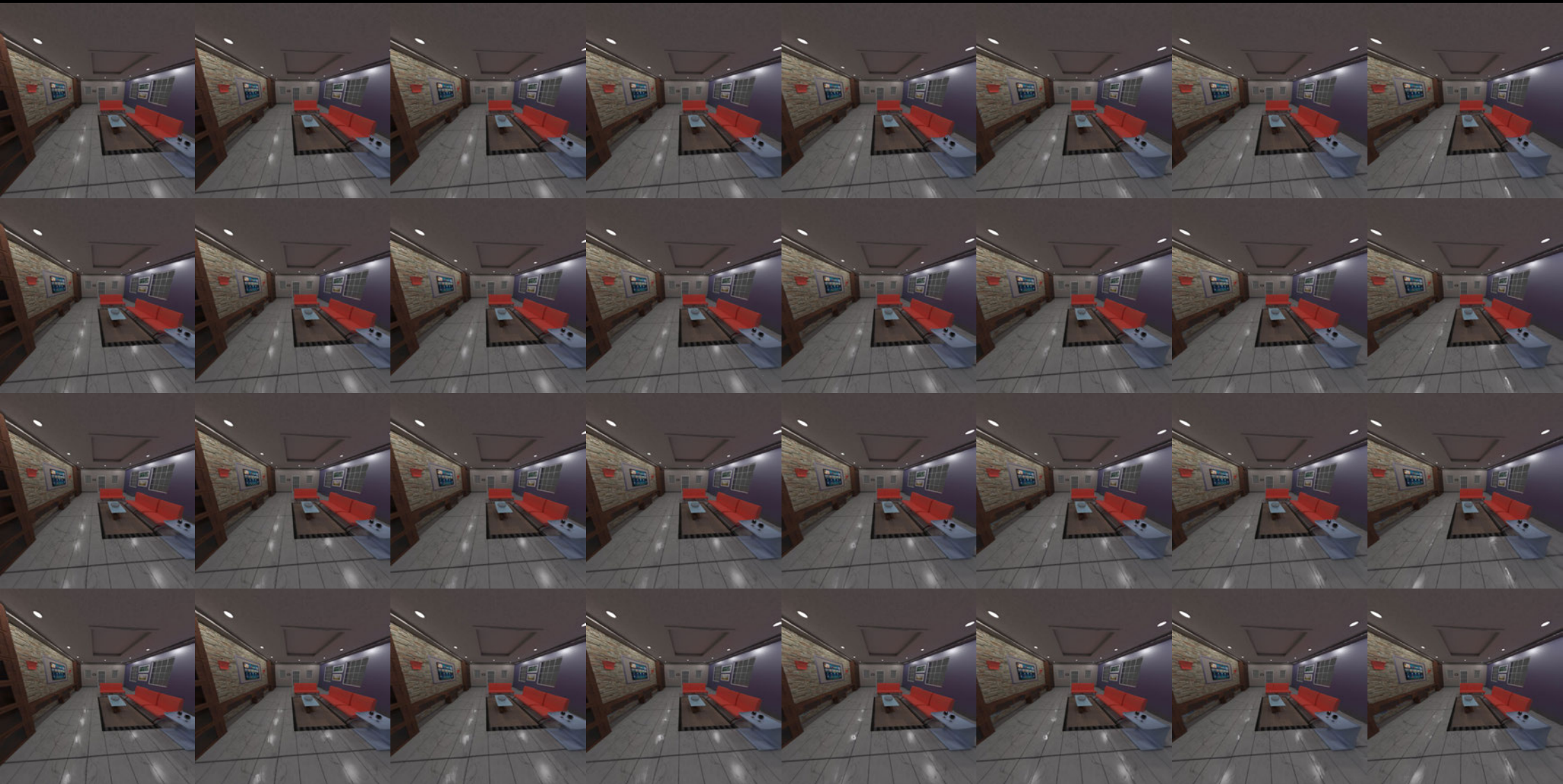
Method: Ours

Extrapolation
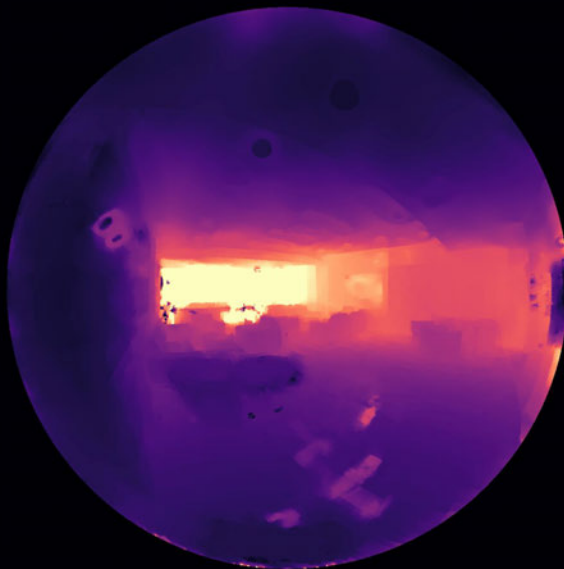
Novel view rendering: Livingroom (synthetic scene)
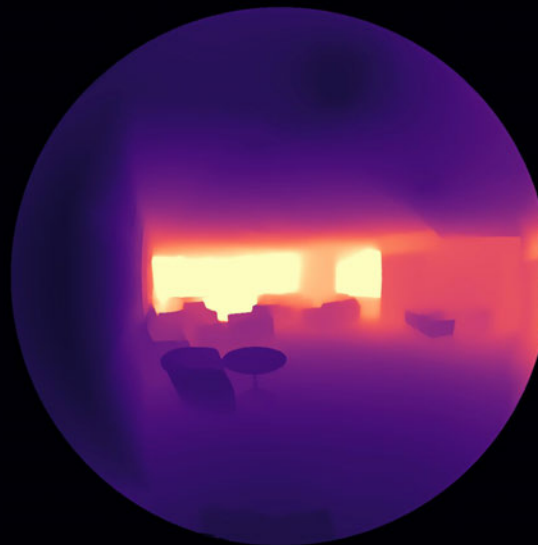Method: Ours
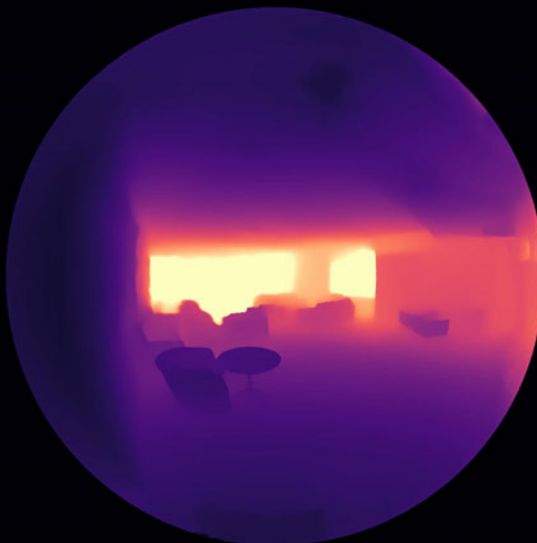
Interpolation
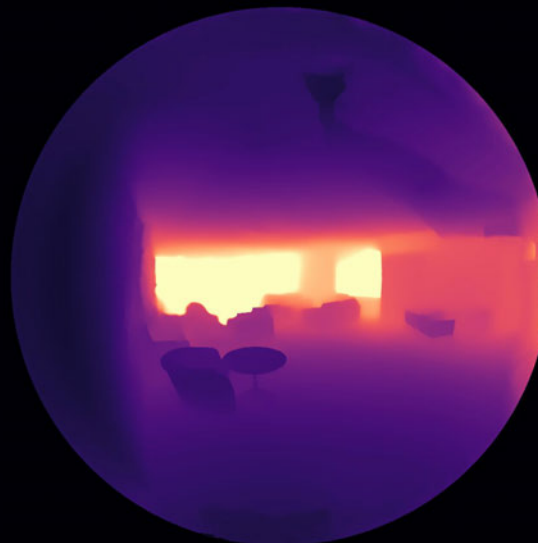
Depth comparison: Lounge (real scene)
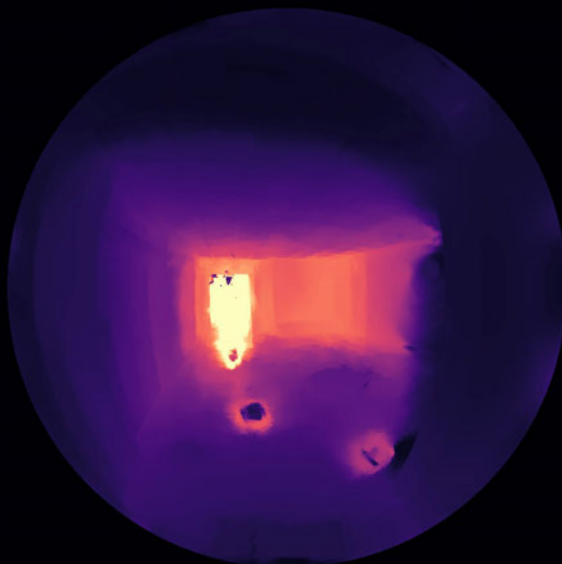

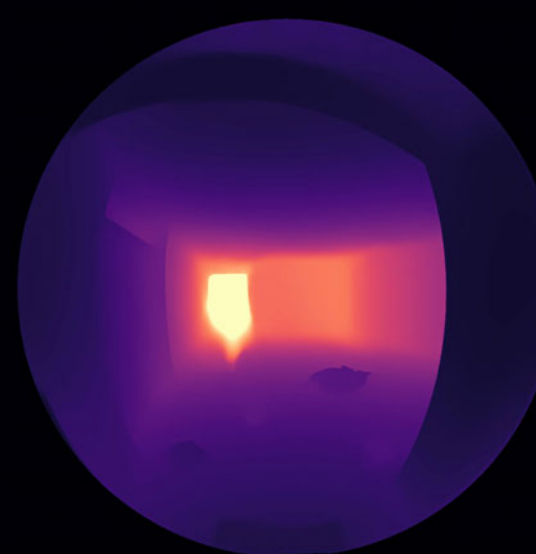Pozo et al.   Initial

1st iteration   2nd iteration
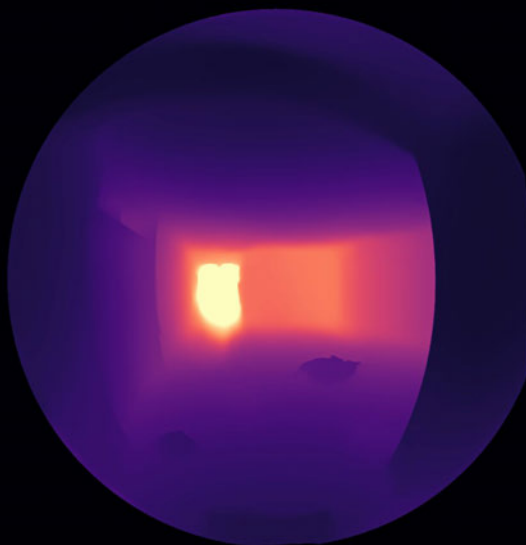
Depth comparison: Hallway (real scene)
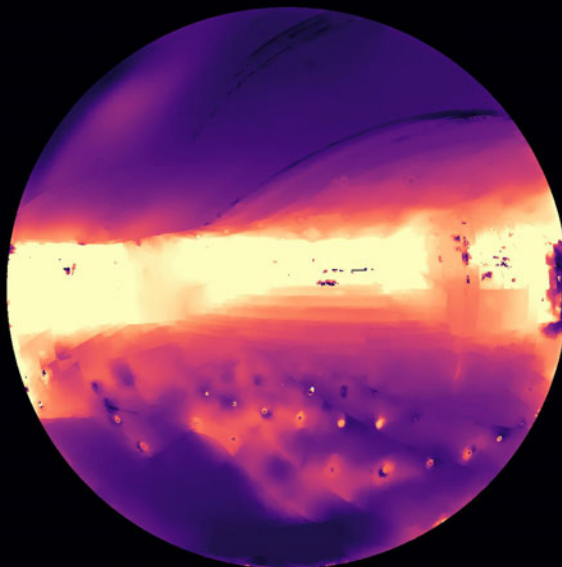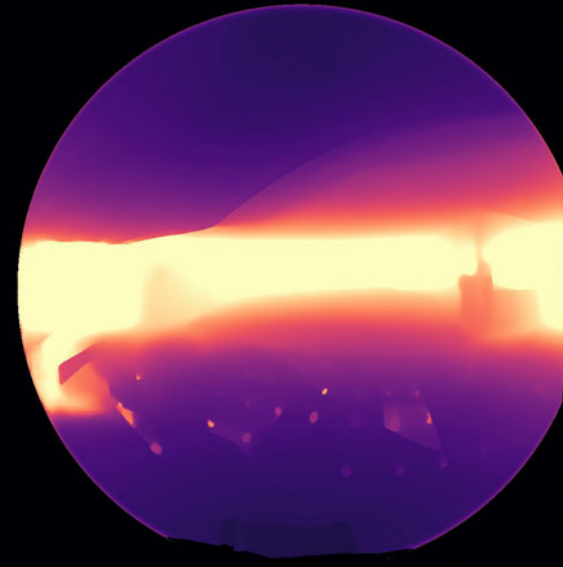

Pozo et al.

Initial

1st iteration

2nd iteration

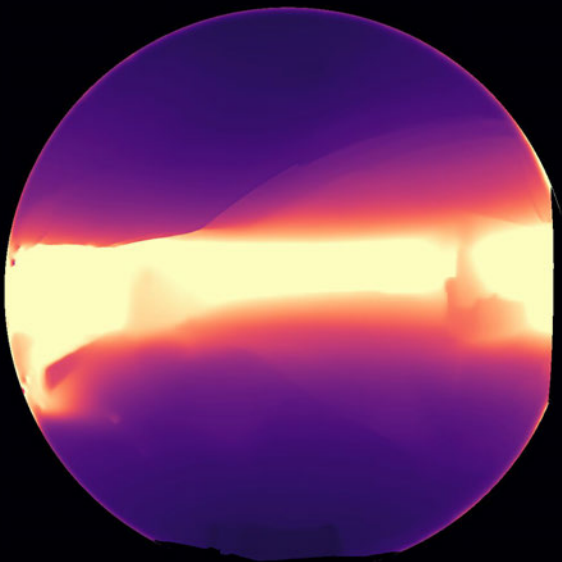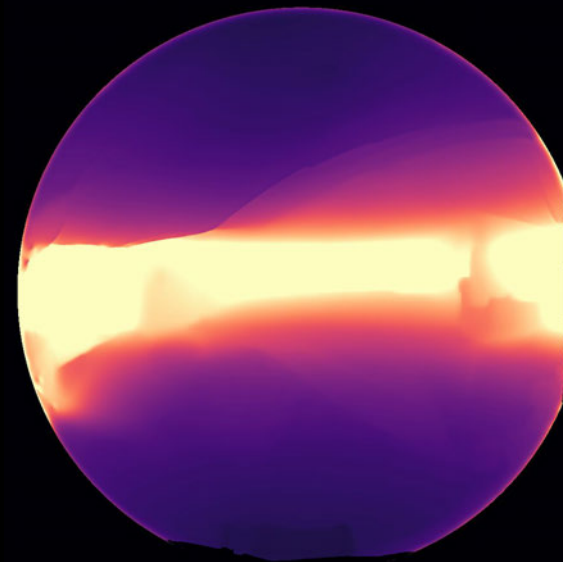# Depth comparison: Lobby (real scene)
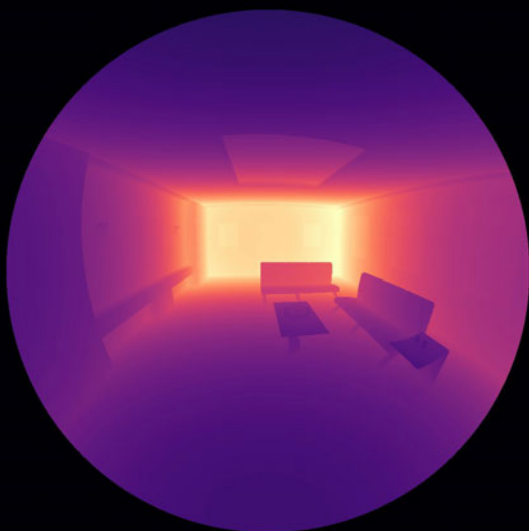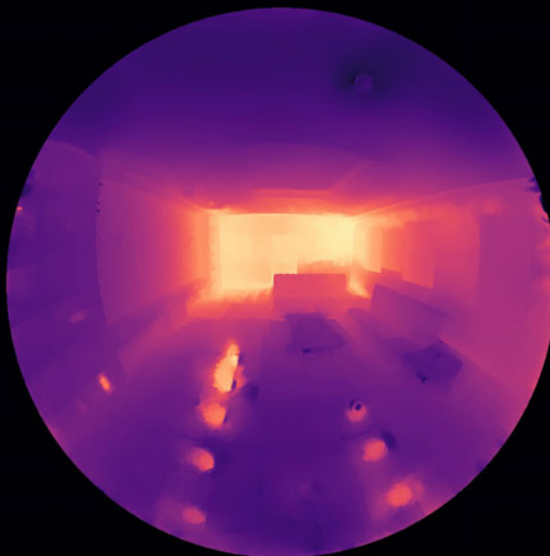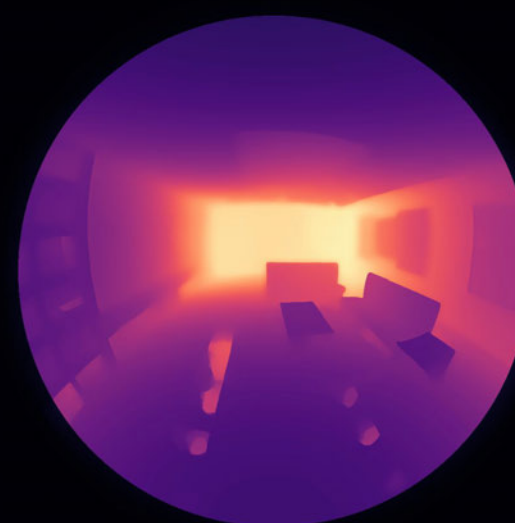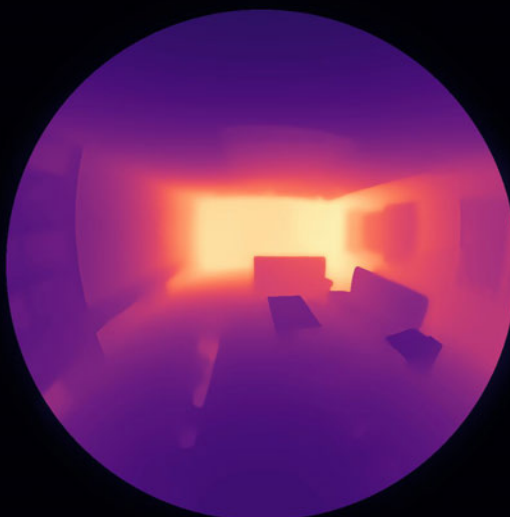
Depth comparison: Livingroom (synthetic scene)

Ground truth

Pozo et al.

Initial

1st iteration

2nd iteration