

# NightLighting: a Nocturnal Urban Illumination Approach

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Real time rendering of cities with realistic global illumination is still an open problem. In this paper we propose a two-step algorithm to simulate the nocturnal illumination of a city. The first step computes an approximate aerial solution using simple textured quads for each street light. The second step uses photon mapping to locally compute the global illumination coming from light sources close to the viewer. Then, we transfer the local, highquality solution to the low resolution buffers used for aerial views, refining it with accurate information from the local simulation. Our approach achieves real time frame rates in

commodity hardware.