

Editable Indoor Lighting Estimation Henrique Weber¹, Mathieu Garon², Jean-François Lalonde¹ henrique.weber.1@ulaval.ca, mathieu@depix.ai, jflalonde@gel.ulaval.ca, ¹Université Laval, ²Depix lvsn.github.io/EditableIndoorLight/

1. Motivation

- We need lighting estimation for realistic renderings.
- Current methods output realistic light estimations, however they are hard to edit for a casual user.
- We propose a hybrid approach that combines parametric and non-parametric lighting that is **realistic** and **easy to edit**.

Lighting



2. Lighting Representation

• Most indoor scenes can accurately be modeled by a single HDR dominant light source and an LDR environment map.



- This single light source is represented as $\mathbf{p} = \{\mathbf{l}, d, s, \mathbf{c}, \mathbf{a}\}$, where I is the light direction, d distance, s radius, c light color, and a ambient color.
- The cuboid C is represented by a texture T: an RGB spherical image in equirectangular format. The scene layout indicates the intersections of the main planar surfaces in the room.











