Soft shadows—a brief introduction

Area light source L_0L_2 (Figure 1) is blocked by the rectangular box which casts soft shadows on the ground plane. A soft shadow is a shadow that transitions gradually from light to shadow over a penumbra region. The desired (output) image with view point *D* has a pixel *P* that samples the ground plane at point *S* which is in the penumbra region. *S* should receive only L_1L_2/L_0L_2 from the light's contribution.

The L_1L_2/L_0L_2 fraction can be approximated by subdividing the light source into *k* x *k* samples and counting how many of the light samples are visible from *S*.

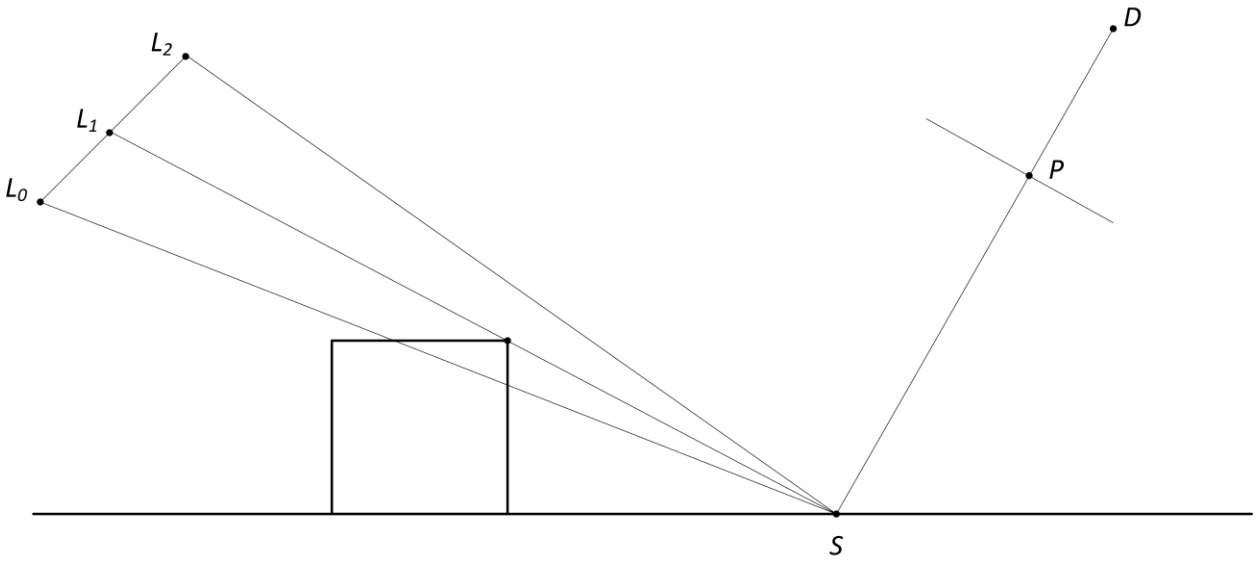

Figure 1. Soft shadows on ground plane.