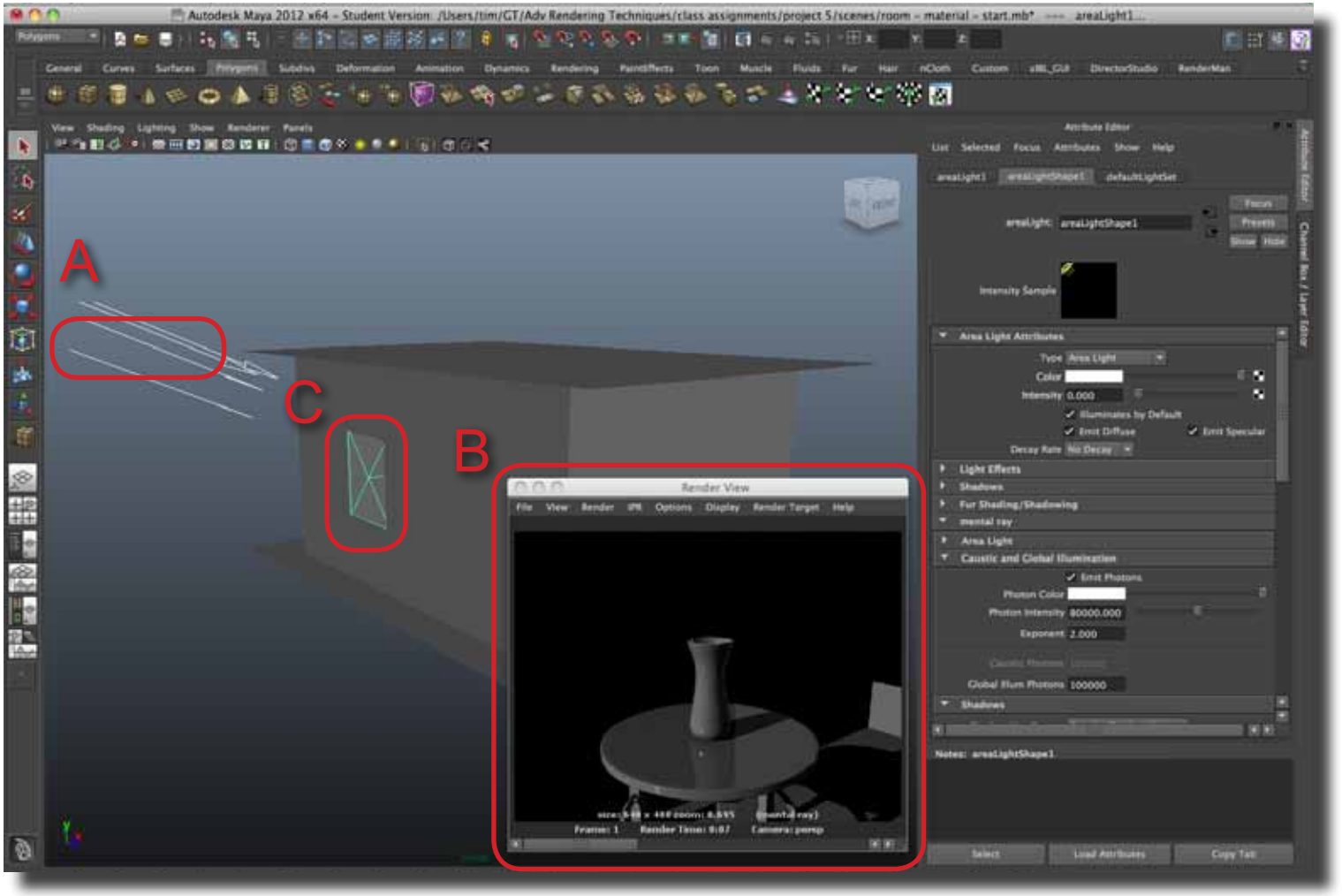
Maya - Adjusting Global Illumination

Step 1

In this example, there are two lights. The directional light is setup outside of the room and has shadows turned on (A). It places the room in shadow except for the “window” which lets light in (B). The second light is an area light which is placed just inside the “window” cutout and scaled to the same size and proportions as the “window” (C). This light has photons turned on. ***Note**: Make sure to model the room at full size. Otherwise the values in this tutorial may have to be adjusted significantly.*



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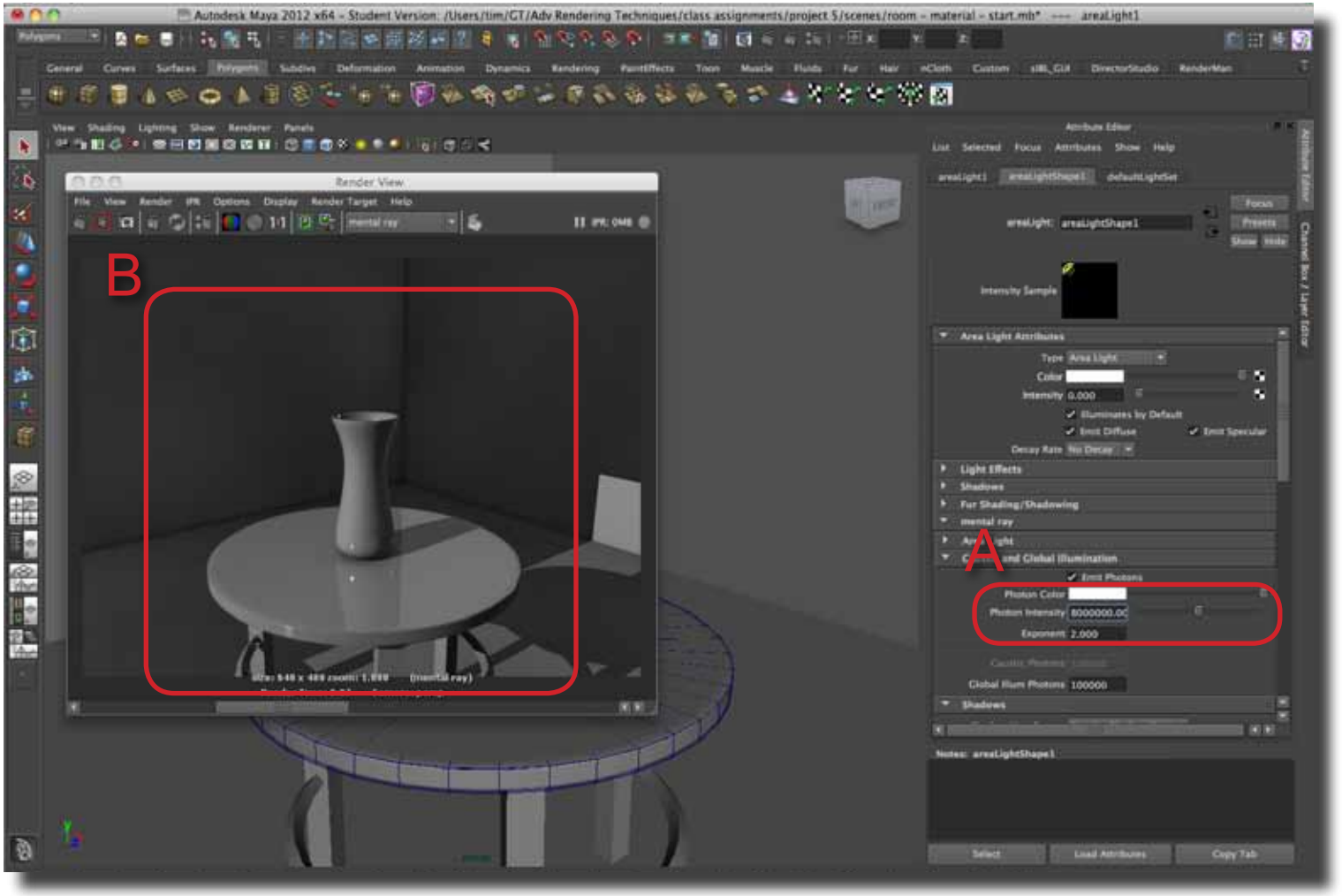
Step 2 There are two values involved in the intensity of the Global Illumination light (GI) (A). The first value is the Photon Intensity (B). Try changing values by power of ten (800,000 to 8,000,000). The GI is starting to appear in the render view (B).



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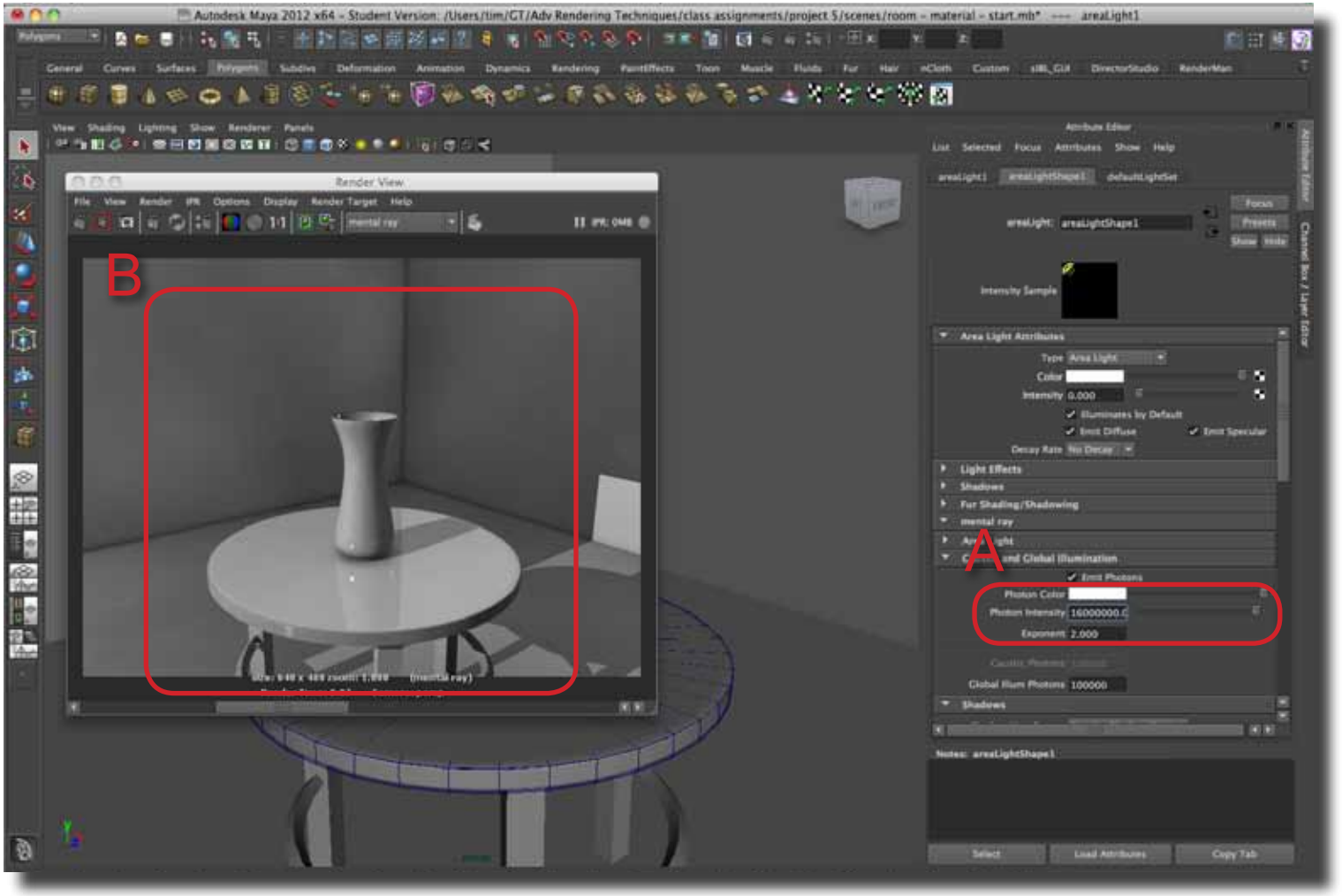
Step 3 In this view, the Photon Intensity was adjusted from 8,000,000 to 16,000,000 (A). The GI lighting is closer to the correct intensity but the “smoothness” of the result needs more work (B).



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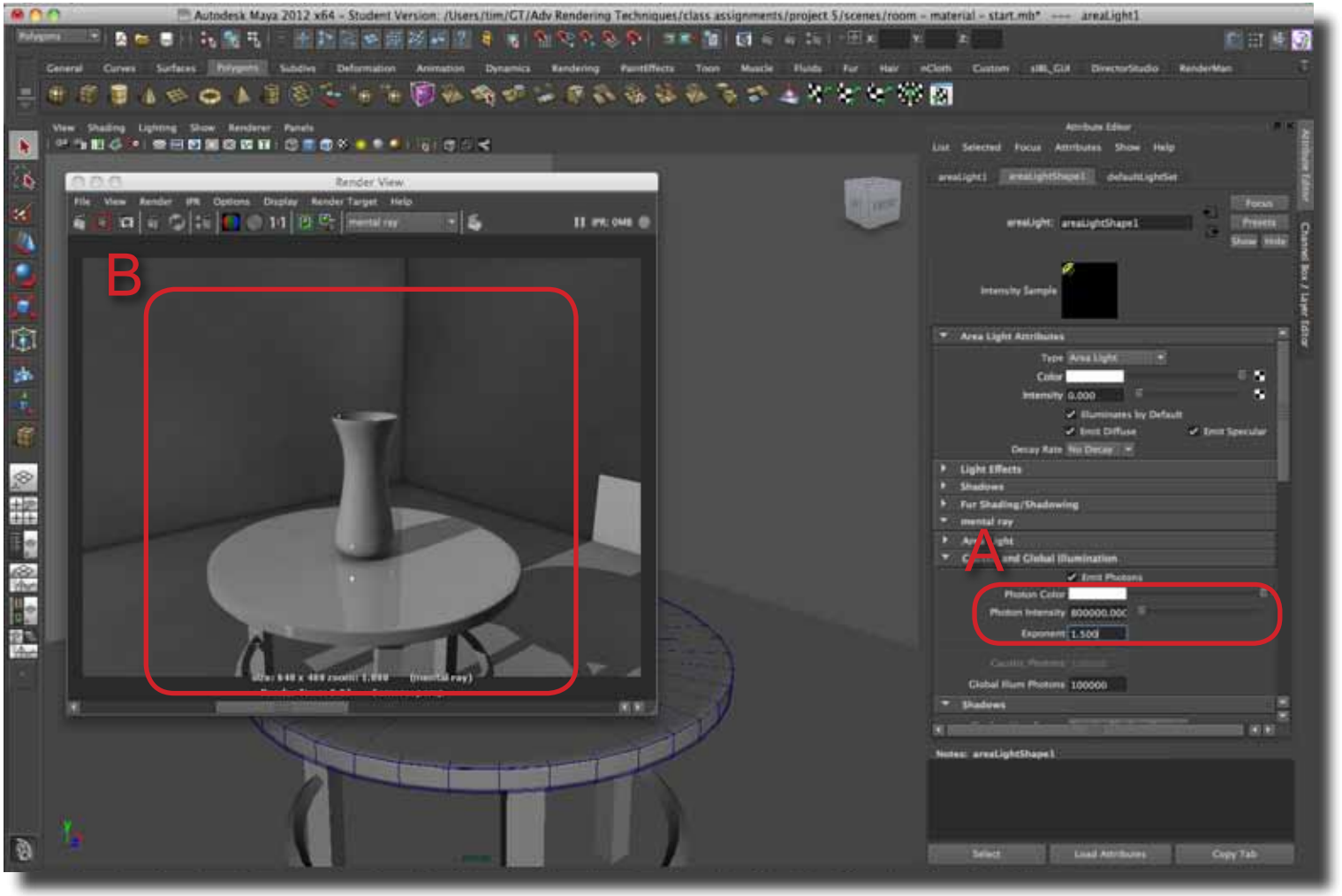
Step 4 Another way to adjust the GI lighting is through the Exponent value. In this view, the Photon Intensity was adjusted back to 800,000 and the Exponent set from 2 to 1.5 (A). The GI lighting is better (B). The Exponent value controls the fall off of the photons. As the illustration shows below, higher Exponent values cause the photons to loose energy quicker.

Exponent: 2

Exponent: 1



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Step 5 In practice, adjusting the Photon Intensity and Exponent together works well (A). In this view, the Exponent value acts as the gross adjustment while the Photon Intensity is the fine adjustment (B). In the Tuning Global Illumination tutorial, the smoothness of the GI results will be improved.