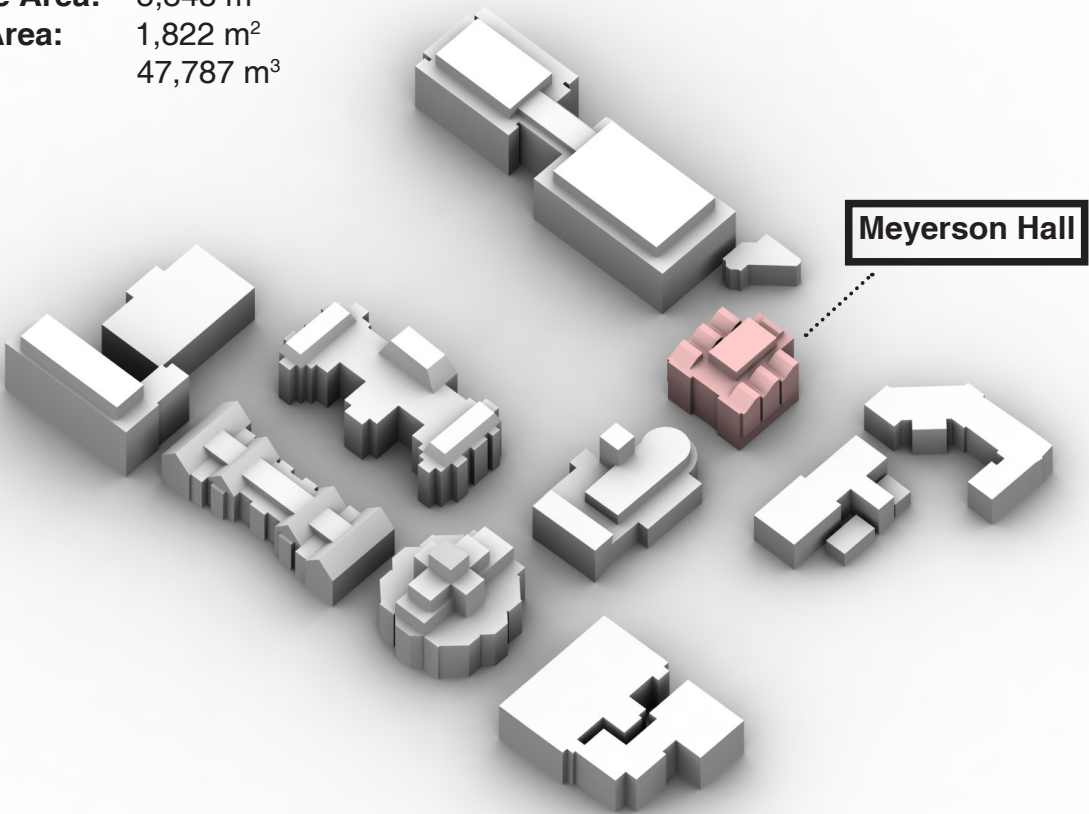


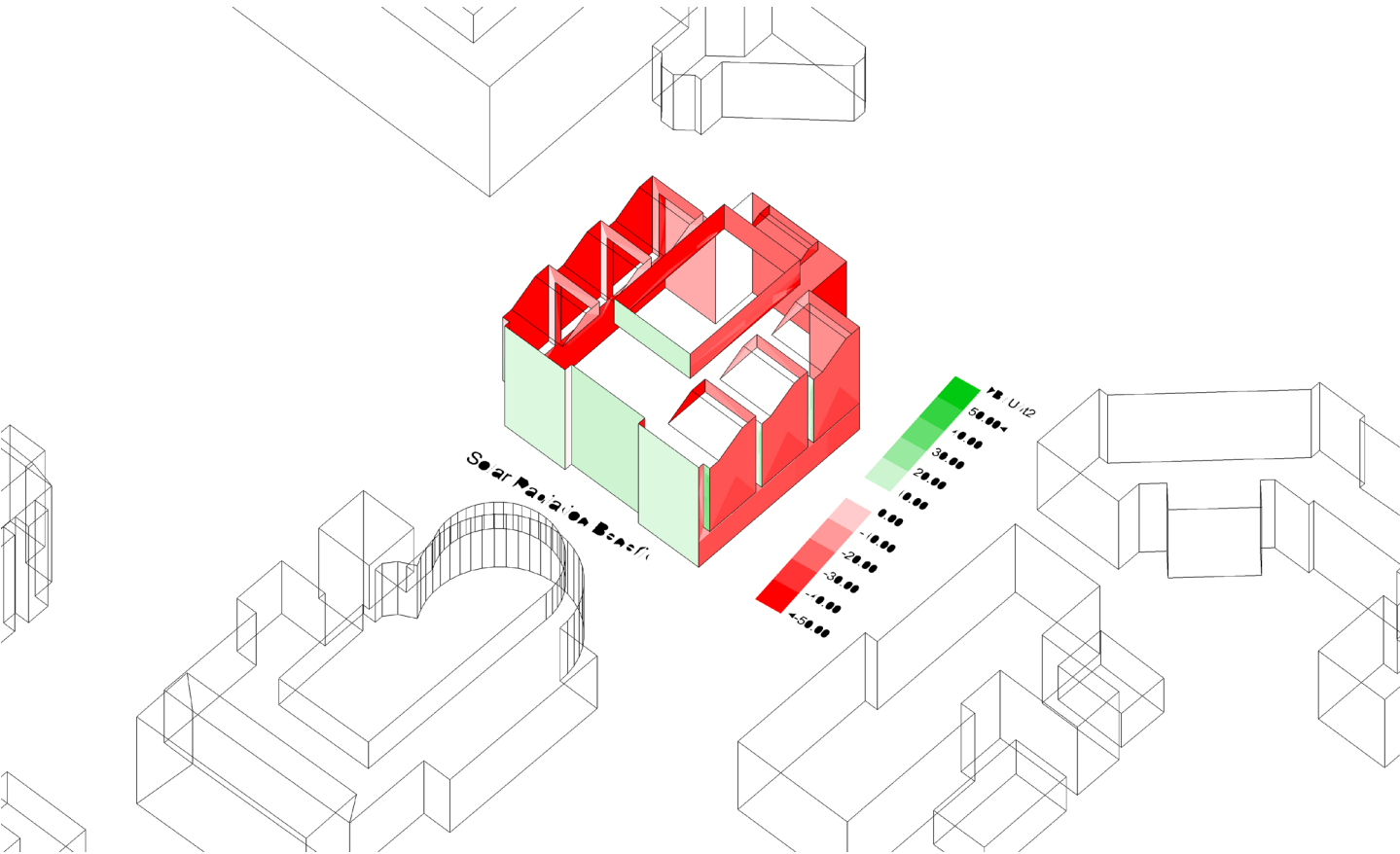
Assignment 6: Redesign of Meyerson Hall

Original Building

Height: 31.7m
Total Facade Area: 5,848 m²
Total Roof Area: 1,822 m²
Volume: 47,787 m³



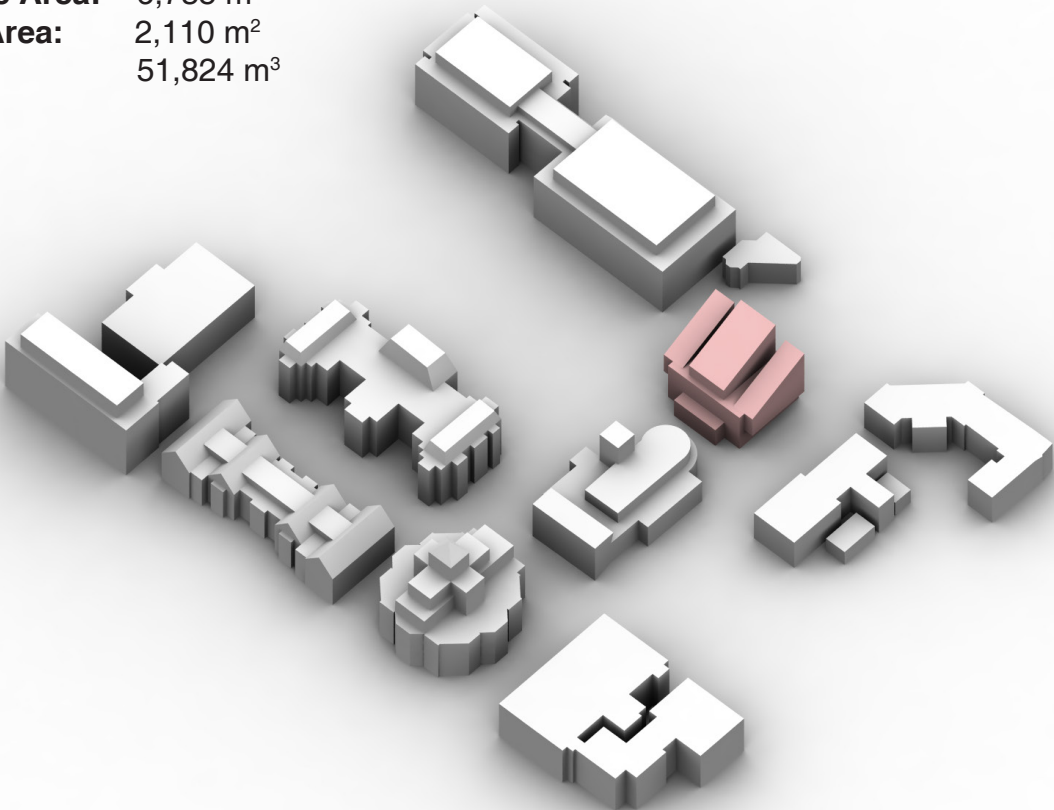
Solar Radiation Benefit



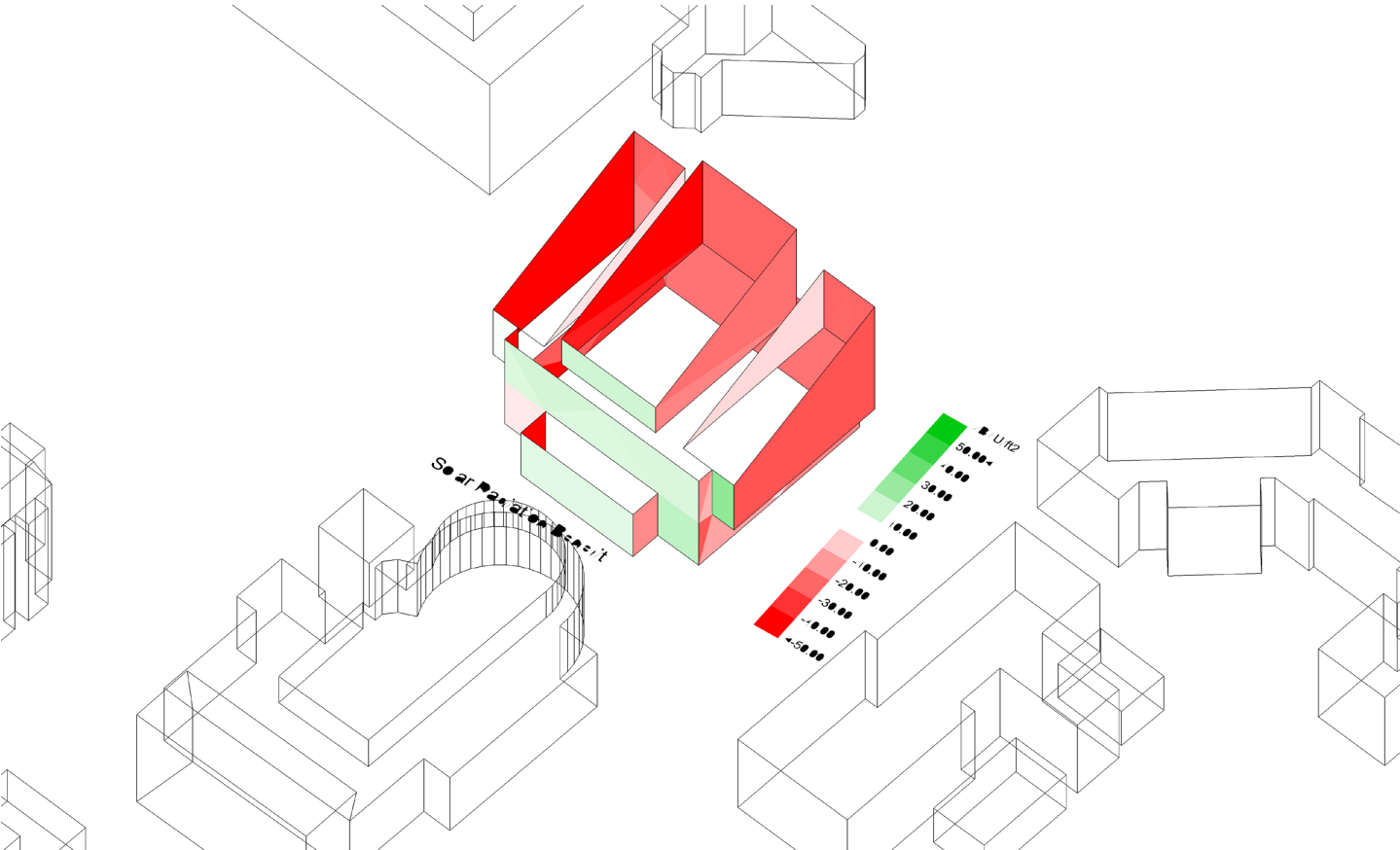
Net Solar Benefit: -11200

New Massing Strategy 1

Height: 42.6m
Total Facade Area: 6,735 m²
Total Roof Area: 2,110 m²
Volume: 51,824 m³



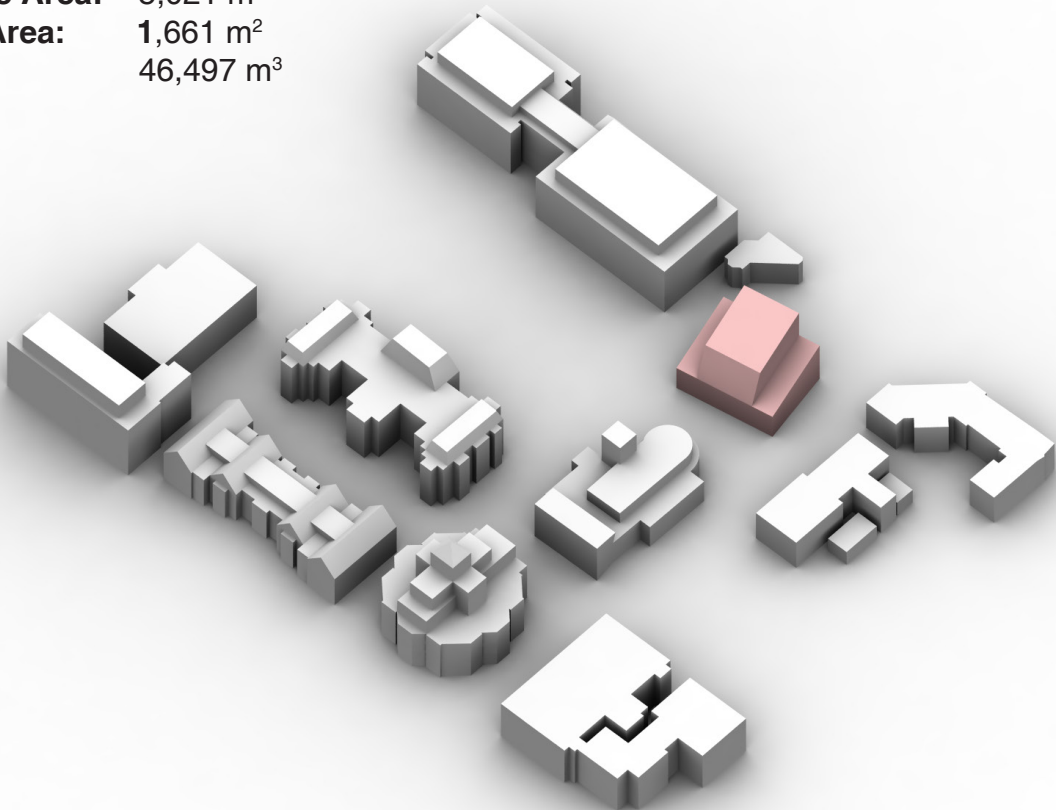
Solar Radiation Benefit



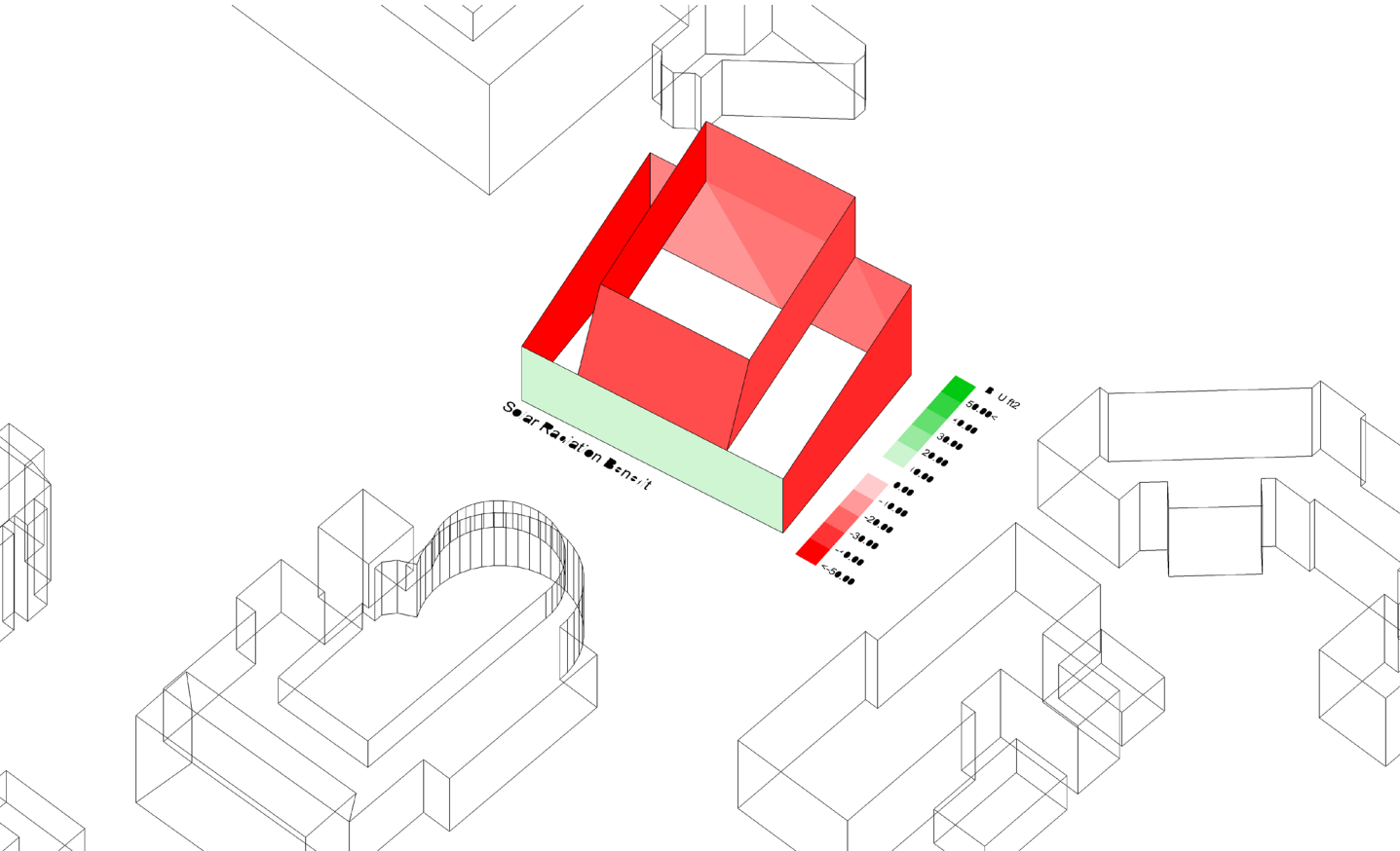
Net Solar Benefit: -1130

New Massing Strategy 2

Height: 38.2m
Total Facade Area: 5,021 m²
Total Roof Area: 1,661 m²
Volume: 46,497 m³



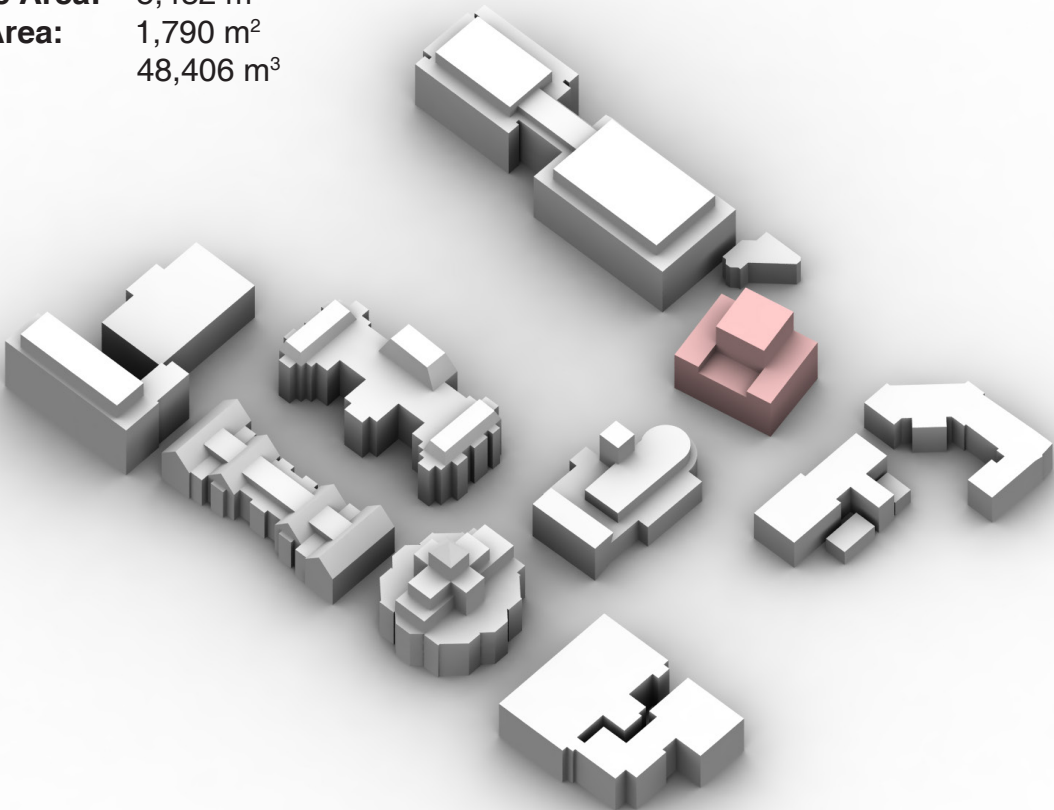
Solar Radiation Benefit



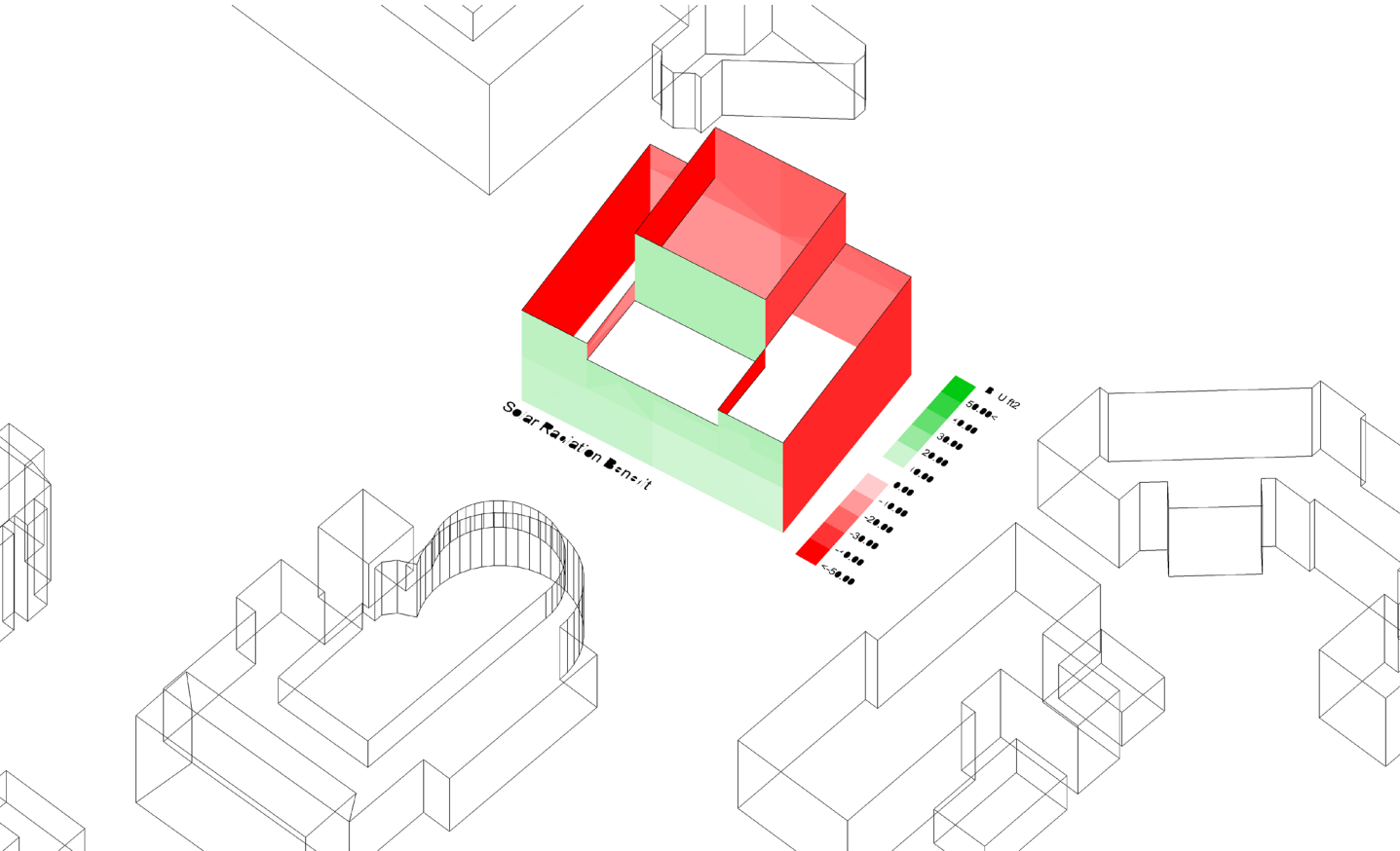
Net Solar Benefit: -609

New Massing Strategy 3

Height: 37.8m
Total Facade Area: 5,432 m²
Total Roof Area: 1,790 m²
Volume: 48,406 m³



Solar Radiation Benefit



Net Solar Benefit: -371

Summary

The massing are trying to maximize all the surface area facing towards to the south. The massing1 is almost kept the same with the original meyersen hall massing, but simplified the geometry and enlarge the south-face roof area, thus the net solar benefit down to -1130. The second one is simplify the number of the surface and rotate directly to the south, but the facade area is not big enough although the roof area could get better solar radiation benefit. The last one could get the best net solar benefit down to -371, which attempted to maximize and keep the balance between the south surface area between roof and facade.