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The Pennsylvania State University

Fifth Year Student—Architectural Engineering
Lighting/Electrical Focus

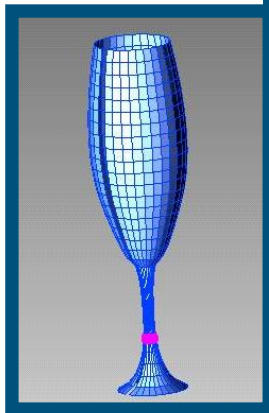
The following is a selection of work created primarily for class design projects at Penn State. In each piece I strive to maintain harmony between shapes, lines, and values. The importance of lightness to any work of art has led me to an interest in architectural lighting.

These works were completed in a variety of media and portray a range of technical and creative design tasks. Additionally, several hand-drawn pieces have been included that were the result of my primary education and personal leisure.

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3D Modeling



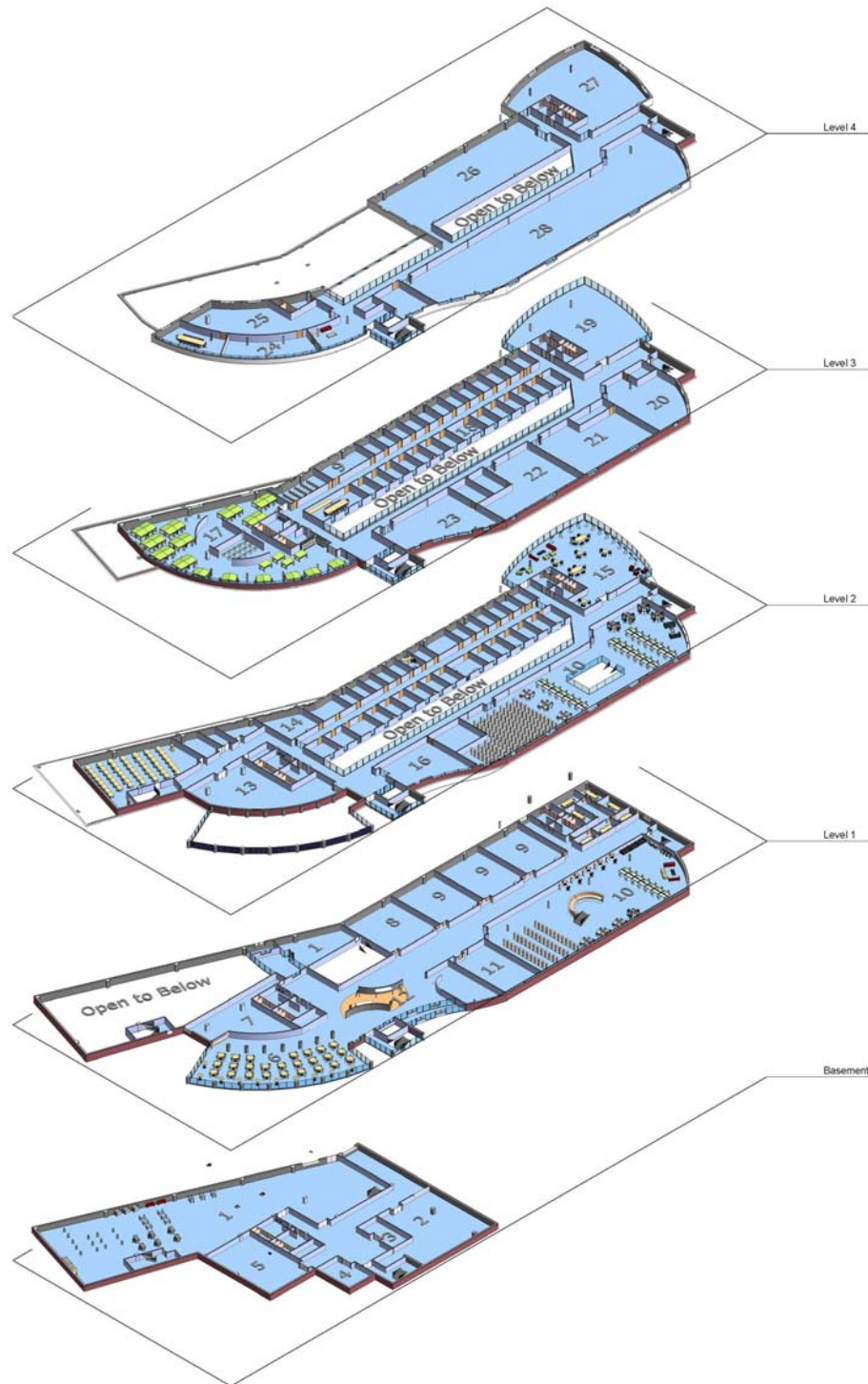
Micro CADD Applications for Buildings

These images were created as a set of assignments for AE 444.

- The couch was a study for creating shapes and applying textures in Autodesk 3ds Max Design.
- The interior rendering was part of a semester-long project to model an entire residence in Revit. The exterior of the residence project is displayed on the opposite page.
- The champagne flute is an illustration of the various commands learned in AutoCAD 3D



4th Year Studio

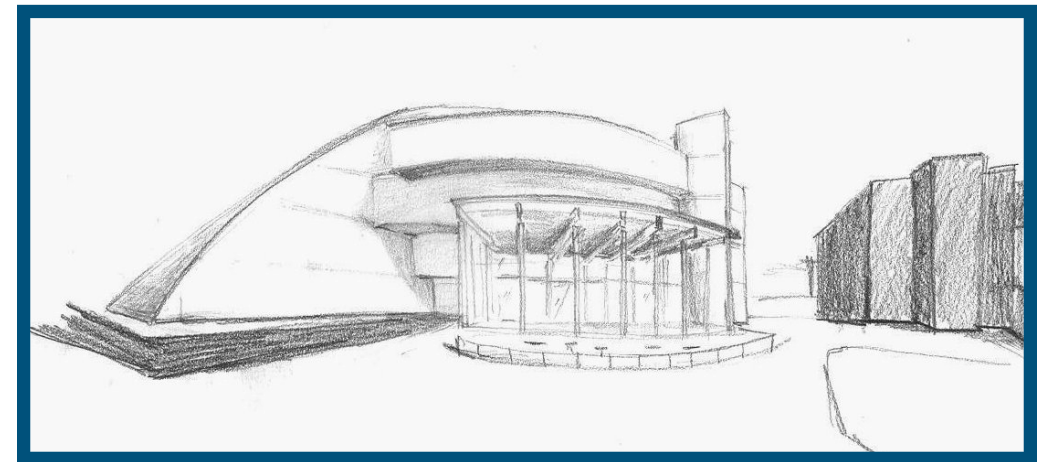


College of Engineering Signature Building

The Signature Building design was a group project for Fall 2008 that emphasized energy efficiency. Program requirements included spaces for the dean of the College of Engineering, the Learning Factory machine shop, a library, a café, and the entire AE department. In laying out these areas, we focused on accessibility/security, views, and the facilitation of communication or group study.

The final design included a central atrium space to incorporate daylighting and solar power by semi-transparent PV cells. A conceptual sketch for the café is presented below.

The opposite page displays the view of our building from the east, on S. Atherton St. From this view, you can clearly see the large open space devoted to the student lounge.





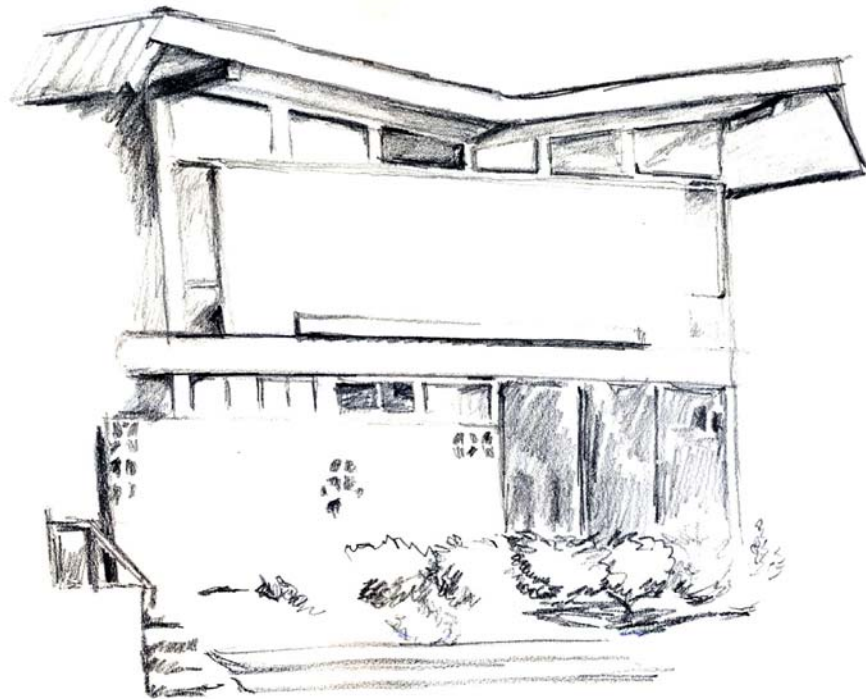
College of Engineering

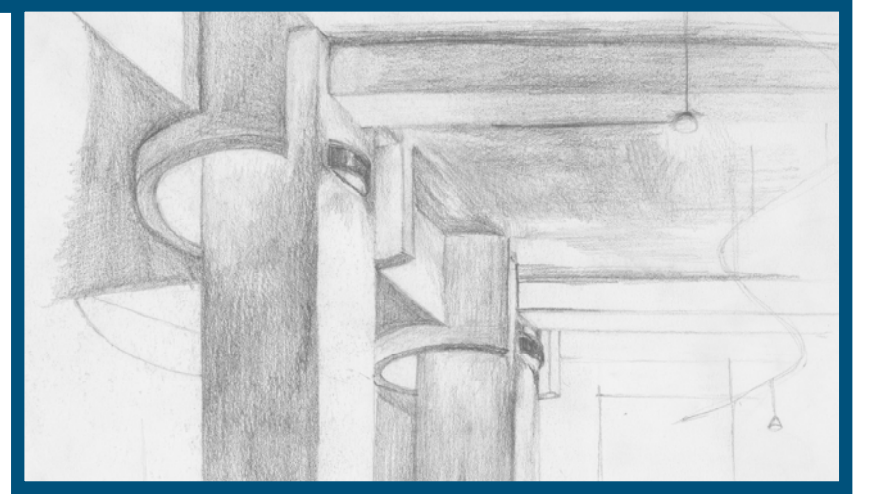
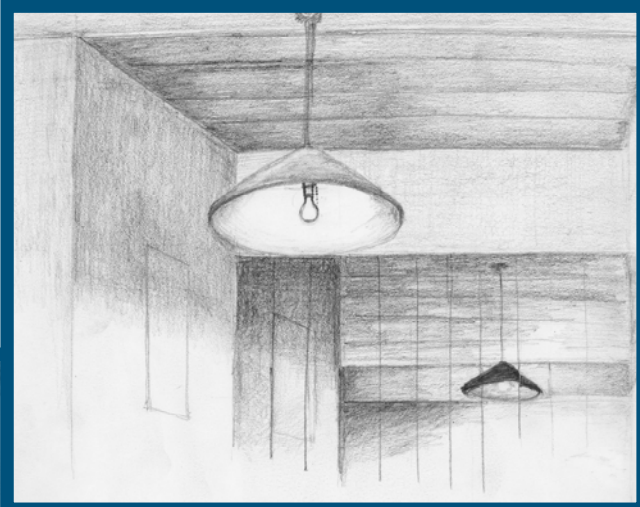
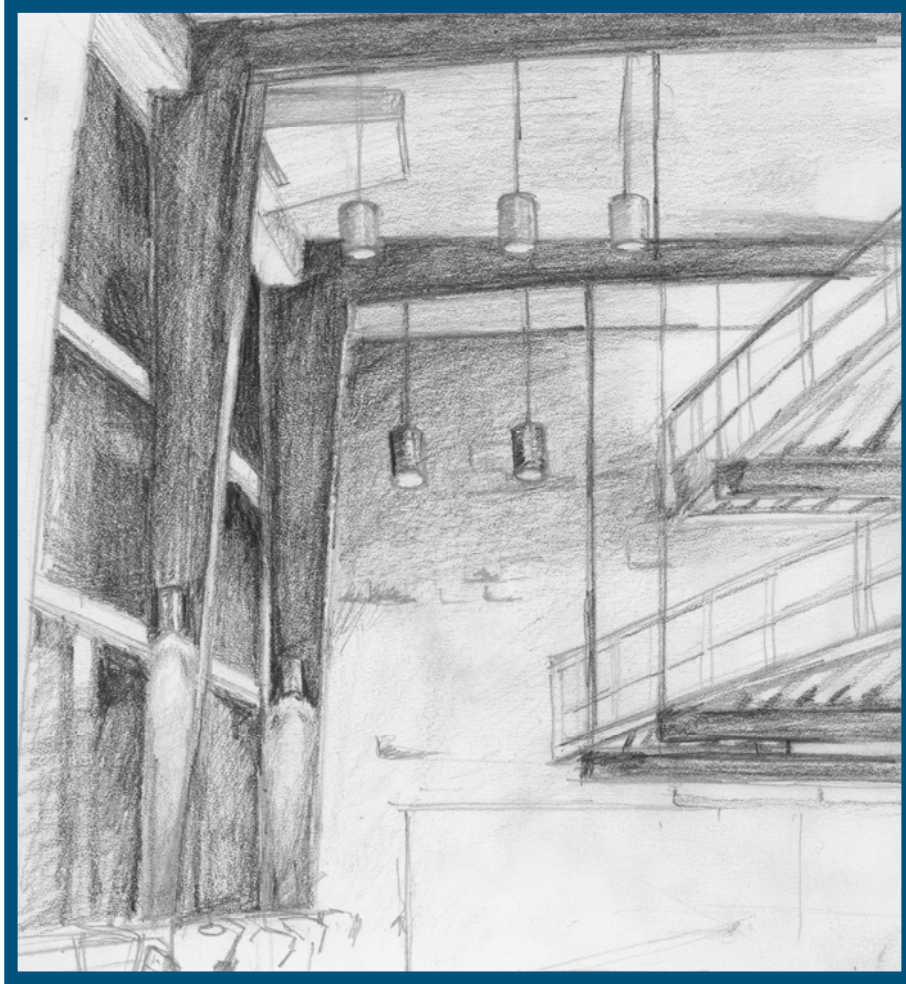
Sketches



Second Year Studio and Arch. Illumination Systems & Design

- The sketches on this page were a site study for the Fall 2006 renovation design project of the Imperial Motor Inn in State College.
- The opposite page contains a series of sketches created for an ongoing assignment in the Architectural Illumination Systems & Design course (AE 461).

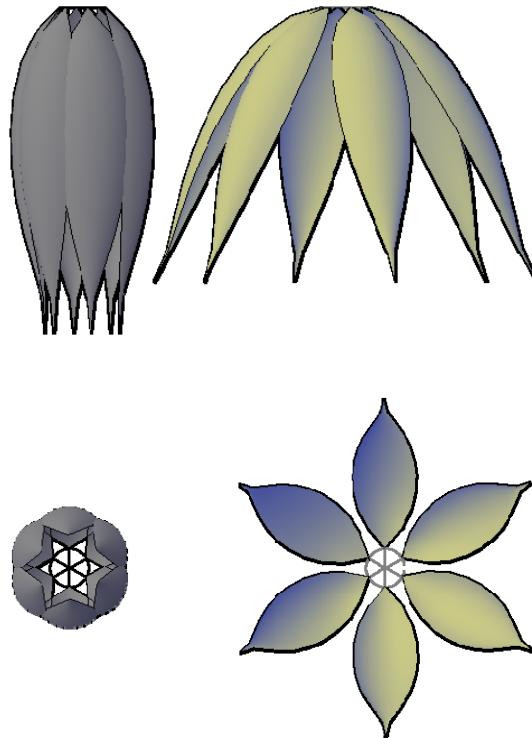




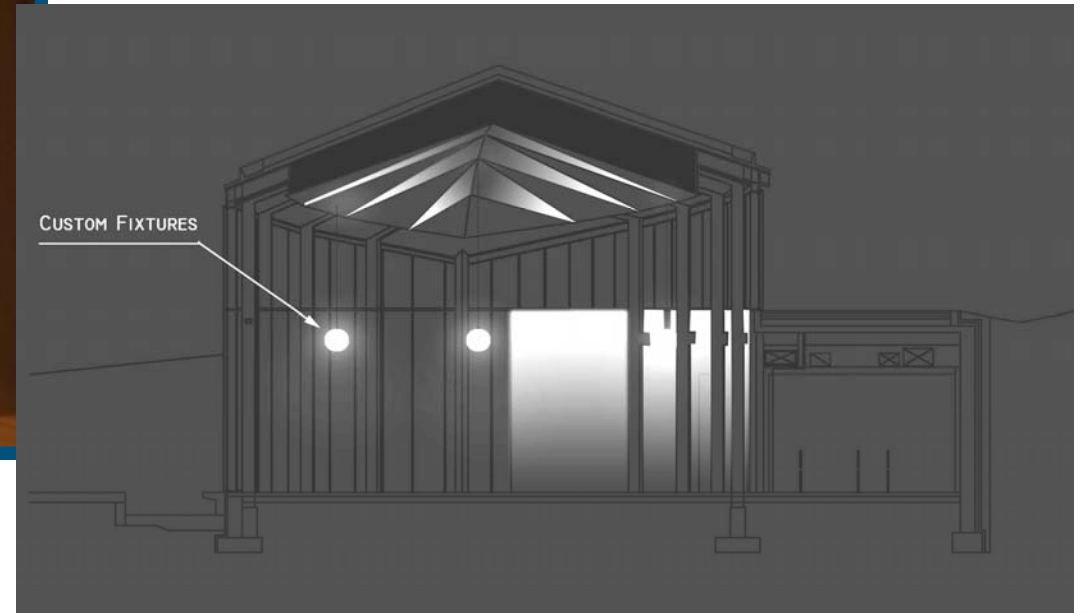
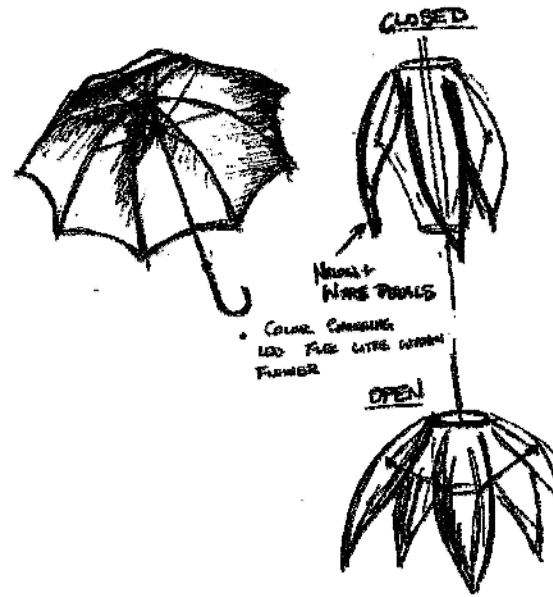
2009 Howard Brandston

AE 466

The Howard Brandston Lighting Design Competition project was a team project to design the interior and site lighting for a new visitor's center at an urban botanical garden. The spaces highlighted here are an assembly area and corridor.



- The images to the left are the model for the custom luminaire of the assembly space. It was designed to meet all needs of the space as well as emphasize the dynamics of the changing seasons with its adjustable petals.
- The opposite page displays the final rendering of the assembly space.



Photoshop

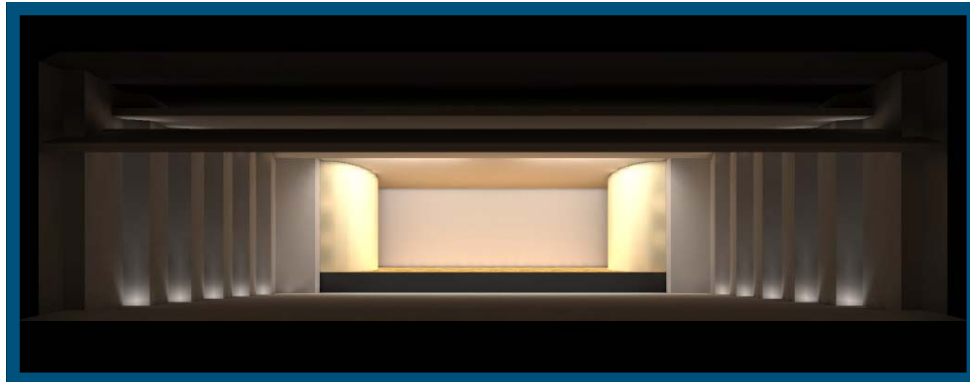
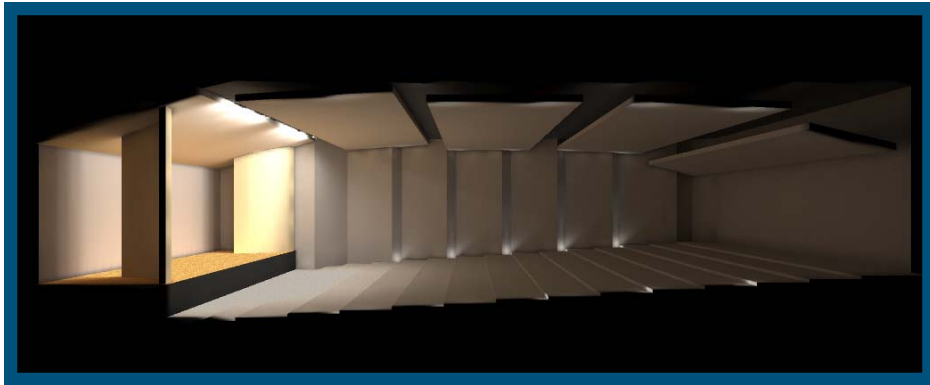
Schematic Lighting Design— AE 466

The objective of this assignment was to convert a daytime image to a nighttime image using Photoshop. The subject of my design was the art deco Niagara Mohawk Building in Syracuse, NY.



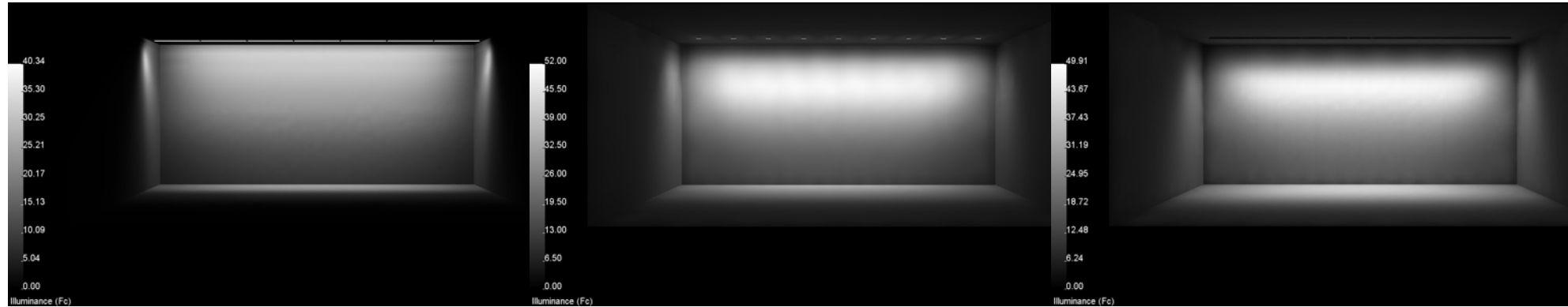


AGI32



Lighting Studies & AE 466

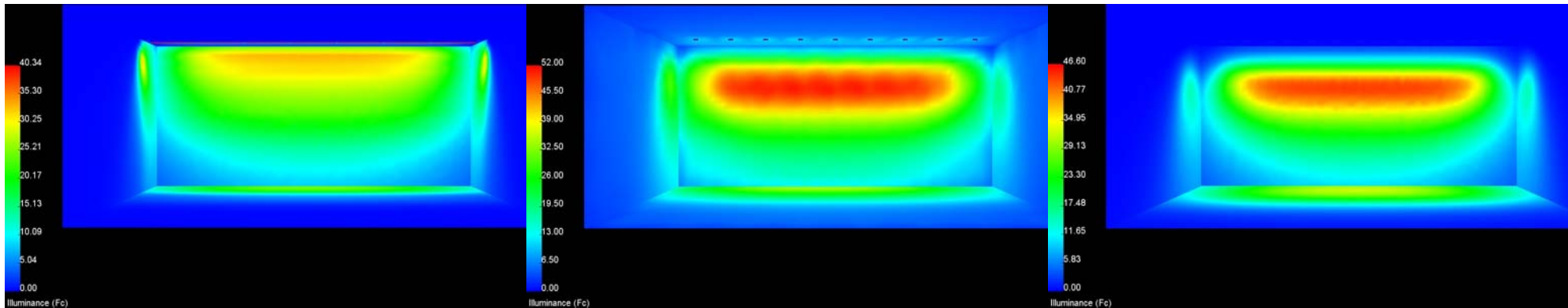
- The images of the auditorium to the left were completed independently in an effort to become more familiar with AGI32.
- The opposite page contains a study conducted for an AE 466 assignment that explored different sources and luminaires for washing and grazing a wall.



Wall Washing with a Semi-Recessed Linear Fluorescent

Wall Washing with a Semi-Recessed Metal Halide

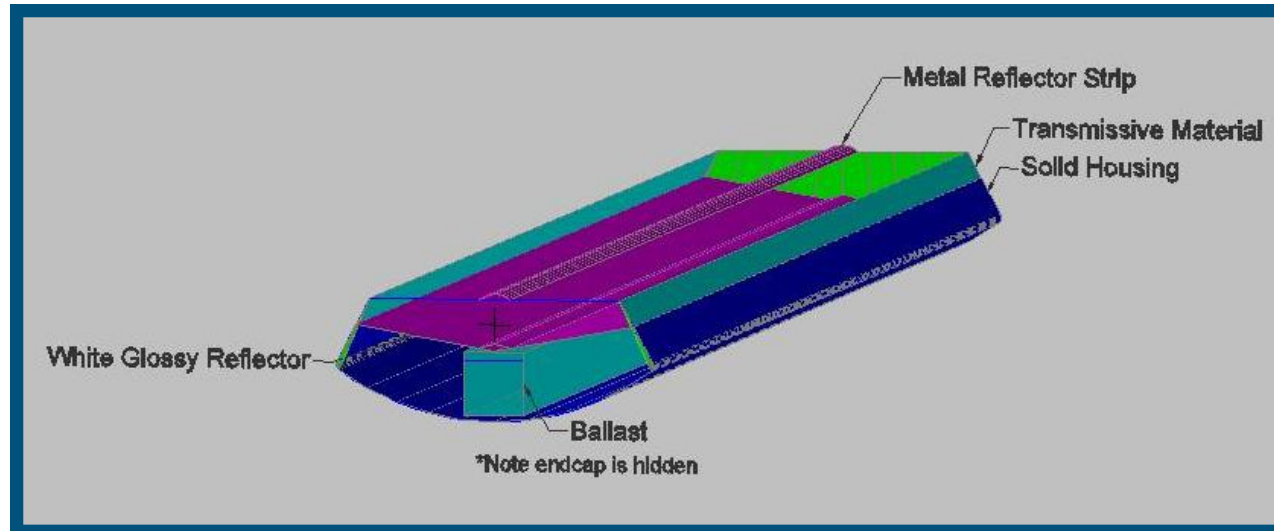
Wall Washing with a Surface-Mounted LED

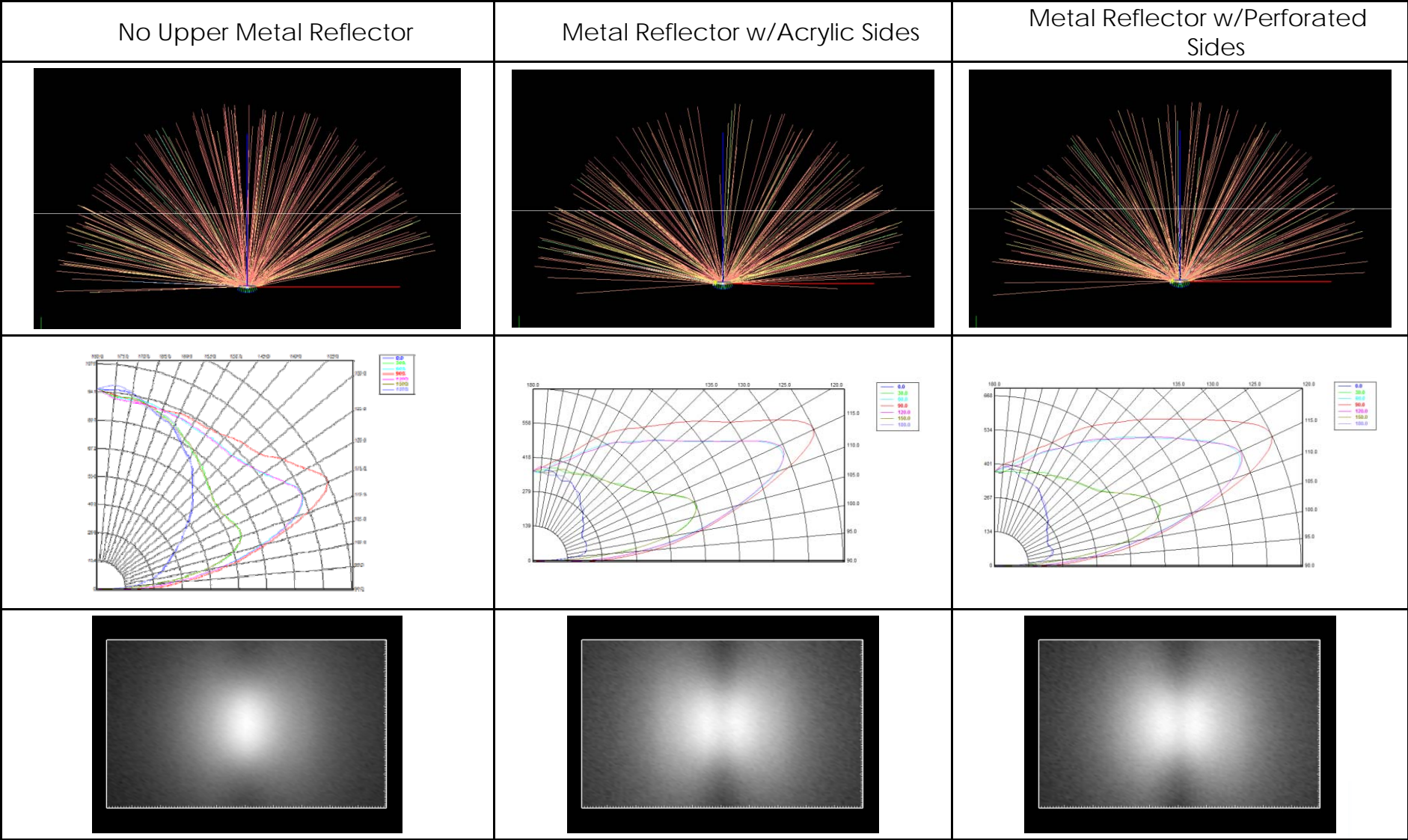


Photopia

Luminaire Optics

- The luminaire shown below was created for an AE 563 assignment to design an indirect luminaire and reflector that would create the widest distribution possible.
- The model was created in AutoCAD and analyzed in Photopia. My best results were obtained when a metal reflector was placed below and above the lamp and the luminaire sides were made transmissive.





Independent Works

