



Lighting Depth

Spatial Introduction

Four spaces were slated originally to have the lighting redesigned, the lobby, the capital market classroom, the auditorium, and the exterior façade. All four of the spaces are unusual in nature mostly due to their architectural feature, but also because of the different functions the rooms are intended to be used for. The four spaces are described briefly below.

The lobby contains the main entrance to the building and is the primary circulation for the building. A two story area, the lobby has main access to the more important areas on the first two floors, an auditorium, the capital market classroom, and the main lounges. The auditorium seats just over one hundred people and will serve the purpose of a large classroom and a meeting room for university associated groups. As with the auditorium, the capital market classroom is designed to have multiple uses. Designed to simulate a “Wall Street” environment, the capital market room is a unique classroom. The exterior façade provides many very unique opportunities to help make the building unique and memorable.

In addition to these spaces, fixtures were selected for some of the eastern facing rooms. Actual design was not done for these spaces, with the exception of the light tower on the corner of the building. Calculation data and power density were included for this space. The other rooms had the existing pendant fixture placed in the space with a dimmed lighting output so the affect could be observed on the exterior façade.

Lighting Design

Lighting standards and guidelines are set forth according to the IESNA Lighting handbook and ASHRAE standards, yet these are simply standards for the backbone of a system. The design and use of light in the space however should succeed in creating a comfortable and desirable atmosphere for people to work in. Therefore, the primary depth work will be in creating a satisfactory and useable design for the four spaces that were mentioned previously. Following the standards set forth in the IESNA handbook and the ASHRAE standards, a design was developed to improve the existing system that is currently installed in the building.



Design Goals

Some of the design goals are listed below.

- Create an unforgettable and dynamic exterior system
- Create a spacious and comfortable and environment for all the interior spaces
- Integrate day lighting into the building
- Implement a variable design system that allows the user to maximize the positive attributes of the system.
- Integrate lighting into the architecture to help minimize glare and create a more impressive environment
- Highlight key building features

There are additional lighting design points that should be integrated into the space. Day lighting is one of the new building system additions that I would like to expand on to help decrease energy consumption. Using day light can significantly decrease dependency on electric light and if designed properly can become a great addition to the building. Primarily, the day lighting will be integrated into the capital market, along with the classrooms which I will discuss next. Along with the day lighting systems, the controls will be very important in operating these systems. The controls will also help to create the desirable and variable atmospheres for the different spaces.

A large portion of the upper floors are taken up by classrooms, and these rooms are all south facing. These rooms will be utilized primarily during the day time hours, so they will hold great significance in the design of day lighting systems. Another importance of these rooms is the impact they can hold on the exterior façade design. Because of the close proximity of the surrounding building, most people will be looking up to view the building and during the night time will be see straight into these classrooms. Design of these rooms was not a primary part of the thesis design; however, these classrooms were considered in the design of the façade.

Another important space is the study rooms on the south east corner of the room. Though small in size, these rooms will also play a very important role in the design of the exterior lighting. Designed to be one of the more prominent features to this building, these rooms are meant to create a light tower at night that will glow brightly in the dark. The design for these spaces will significantly affect the exterior façade, and therefore must be considered along with the other factors in the exterior design.