



Technical Assignment I: Lighting Existing Conditions and Design Criteria Report

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Executive Summary

The following Lighting Existing Conditions and Design Criteria Report analysis the lighting system being considered for the renovation and addition of the Franklin Care Facility. It is important to note that the information for this report was gathered from 80% design development documents. This is not a report of the actual lighting conditions of the Franklin Care Facility. Many assumptions have been made regarding issues that have not been finalized.

This report analyses a general overview of the lighting in the Franklin Care Facility as well as a detailed analysis for the physical therapy suite, main entrance lobby, chapel and courtyard. Analyses were completed taking into account design criteria recommended by the IES Handbook, the IES Lighting and the Visual Environment for Senior Living, and special needs of the individual spaces. Each space was analyzed using AGI32 rendering software. Accurate IES files were used for each luminaire type, and light loss factors calculated. Daylighting and room surface materials were also taken into account. Daylighting studies were completed for the physical therapy suite and main entrance lobby. These studies show the effect of light during the 21st of March, June, and December at 10am and again at 1pm. ASHRAE 90.1 power densities were compared to the designed power densities in the spaces.

Lighting in the Franklin Care Center should cater to the needs of the elderly. Illuminance values, glare, flicker and contrast are very important issues. Daylighting is essential in this building since it will be a living facility where the occupants will spend all of their time. Daylighting also plays an important role in cutting energy usage and working towards a green building. Most of the electrical lighting will be controlled by a DALI system, and dimming can integrate with daylight to provide correct illuminance levels while using minimum energy. The Franklin Care Center is anticipating LEED silver certification, and the lighting should be designed accordingly.