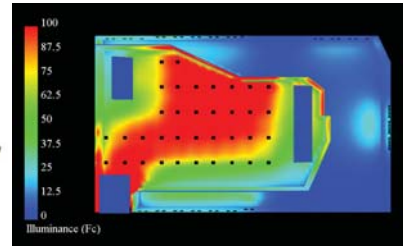


# Daylighting Design

**D**aylighting services at the LRC support the design analysis and integration of advanced daylighting technologies to save energy and improve daylighting in buildings.



The daylighting scheme for this large-scale food supplier uses roof monitors, skylights, and an integrated skylight system that incorporates the company's graphics into the diffuser design.



## The Daylighting Design Process

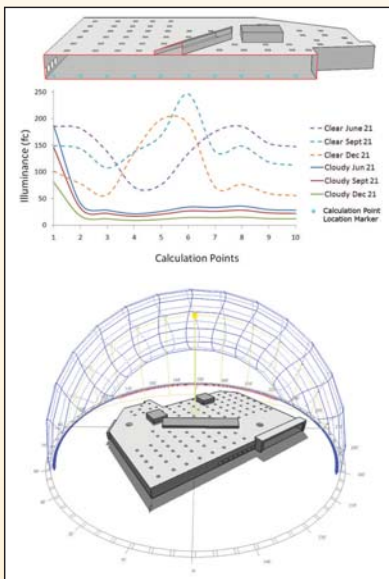
The LRC takes a holistic approach to the daylighting design process and quantifies design decisions by comparing a base case design to alternative daylighting designs.

The design process starts by bringing the clients and daylighting team together to discuss the design intent and lighting needs of the building. Often, the client will already have a daylighting scheme and would like to find out the impact of that strategy on the building, and if there is anything that can be done to optimize the design. This original design becomes the base case and is used as a benchmark to compare all new LRC design strategies.

Alternative daylighting strategies are developed based on the climate, location, building configuration, solar access, occupant comfort, energy savings potential, and design intent of the building. The alternative design strategies are then compared to the base case to quantify the performance of each strategy.

The LRC implements several modeling tools to develop and analyze daylighting designs including AGi32, Ecotect, Energy+, E-quest, SkyCalc, SketchUp, and physical models.

Light shelves and light scoops play an important role in the daylighting design for this medical manufacturing facility in New York (below).



A yearly illuminance distribution is plotted for clear and cloudy days to measure the effectiveness of the daylighting system (right, above) as well as solar paths (right, below).



Customers may also collaborate with LRC DesignWorks for integrated electric lighting design and control system specification as well as post-construction case study evaluation.

## Sponsor

New York State Energy Research and Development Authority



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