



Daylighting assesement

Definition

A daylight assessment is use to analyze the amount of natural light that a project has, based on the location, geometry, surrounding buildings, etc.

In this type of assessment we calculated the average Daylight factor (ADF) of each room of the project, the Shadows produce by the buildings, the vector sky component (VCS) of each window, the Average probable sunlight hours (APSH) of each window, and the impact upon surrounding buildings and amenities.

Methodology

The methodology followed in this report follows the guidance set out by the BRE. We will build a 3D CAD model of the project and also the existing buildings around the site, based on the information provided by the client and a site visit.

After building the 3D model we will make the necessary calculations and simulations to deduce compliance. Outputs will be in the form of tables and illustrations. We will assess the average Daylight factor (ADF) of each room, the Shadows produce by the buildings and the Average probable sunlight hours (APSH).

We will tested the impact on the main rooms in each property (Bedrooms, Kitchen, Living room, Dining room and Study), as advised in the BRE guidelines. It is not necessary to test staircases, hallways, bathrooms and other 'non-habitable' rooms.

Once the simulations are complete we will analyses if the Daylight, Sunlight and Shadows are within the targets, using the BRE guidance as the benchmark for compliance. If the results don't meet the targets, we will give guidance on steps to make the project compliant

Objective

- Through thermal modeling we can assist Clients, Architects and the design team in understanding how design decisions influence energy consumption, carbon emissions, thermal comfort, daylight and other building performance metrics.
- Planning applications often require Clients to demonstrate to Local Authorities how the proposed building addresses their Sustainability and Low Carbon Agenda and meet Building Regulations, this can be achieved through thermal modeling
- There are some sustainable certificates that validate having a thermal assessment use as a tool for improving the design of the building.

Important documentation and guidance

- National Planning policy and guidance
- Local planning policy and guidance
- BRE guidelines report 209