



# Radiance Simulations Suffield Academy Athletic Center

July 2007

Prepared For:

CENTERBROOK Architects and  
Planners, LLC

# Suffield Academy Athletic Center Radiance Simulations

## Overview

**Date:** July 4, 2007

**Name of Project:** Suffield Academy Athletic Center

**Location of Project:** Suffield, CT, USA

**Name of Architects:** CENTERBROOK Architects and Planners, LLC

**Name of Daylighting Technology:** Solera®

**Names of Daylighted Spaces:** Gymnasium, Squash Courts

**Advanced Glazings Ltd. Contact:** Charles MacKinnon

Advanced Glazings, Ltd. has performed the enclosed daylighting analyses for the Suffield Academy Athletic Center in Suffield, CT.

## Note

We work closely with architects and developers to maximize the design of spaces for daylighting purposes. Our group of specialists use project details such as CAD drawings, elevations, materials, orientation, and location of building to provide the most accurate representations and analysis possible. The team at Advanced Glazings, Ltd. has worked on over 100 projects throughout North America.

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Three different glazing configurations were rendered for the gymnasium. Configuration 1 uses vision glass for all the glazing layers and the skylights. Configuration 2 uses vision glass for glazing layer 1, Solera with a 33% visible light transmittance (VLT) for glazing layer 3, Solera with a 26% VLT for glazing layer 2, vision glass for glazing layer 1, and Solera with a 50% VLT for the skylights. Configuration 3 is the same as Configuration 2 except the vision glass in glazing layer 1 was replaced with Solera with a 26% VLT. Figure 1 shows the various glazing layers.

Figure 1  
The glazing layers that define the various configurations rendered.

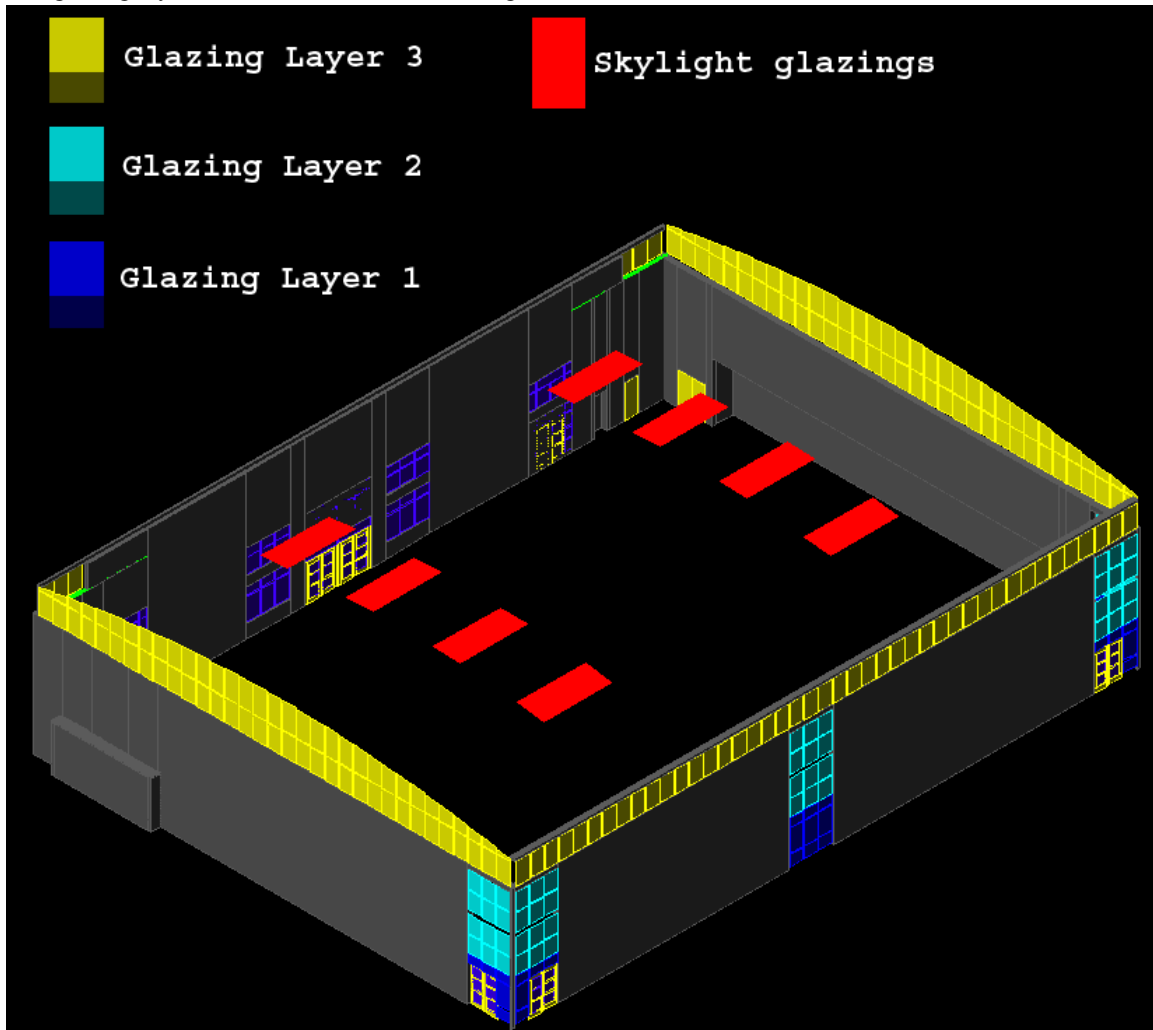


Figure 2

Two images of the gymnasium rendered at 2pm on March 21. The top image was rendered with configuration 1 and the bottom was rendered with configuration 2.

configuration



Figure 3

Two images of the gymnasium rendered at 2pm on March 21. The top image was rendered with configuration 1 and the bottom with configuration 3.

configuration



Figures 4 and 5 are false colored illuminance images showing the intensity of incident light on the surfaces within the space. The intensity is measured in Lux and the color scale mapping the color values to Lux values may be found on the lower left hand corner of each image. When studying the images, keep in mind that anything appearing red is at or above the maximum value of the scale. For example, the glare patches in configuration 1 as seen in Figure 4 appear red indicating that they are greater than or equal to the maximum value in the color scale. The scale used for the image has a maximum of 3000 Lux, but the actual Lux value of the red patches is around 22000 Lux. Also note that different scales are used for different sets of pictures so be sure to look at the scale in each set of pictures.

Figure 4

Two false colored illuminance images of the gymnasium rendered at 2pm on March 21. The top image uses configuration 1 and the bottom image uses configuration 2.

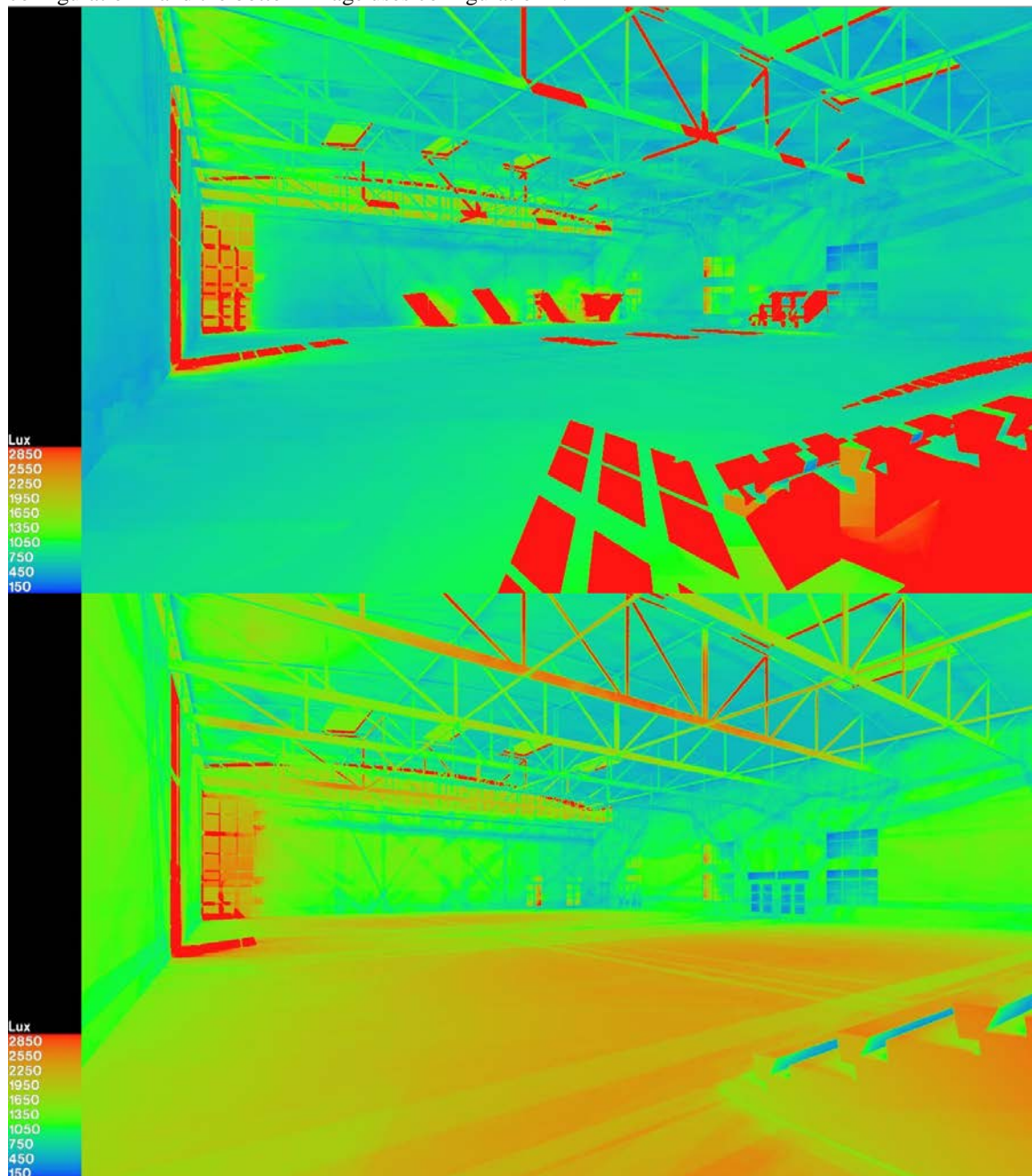


Figure 5

Two false colored illuminance images of the gymnasium rendered at 2pm on March 21. The top image uses configuration 1 and the bottom configuration 3.

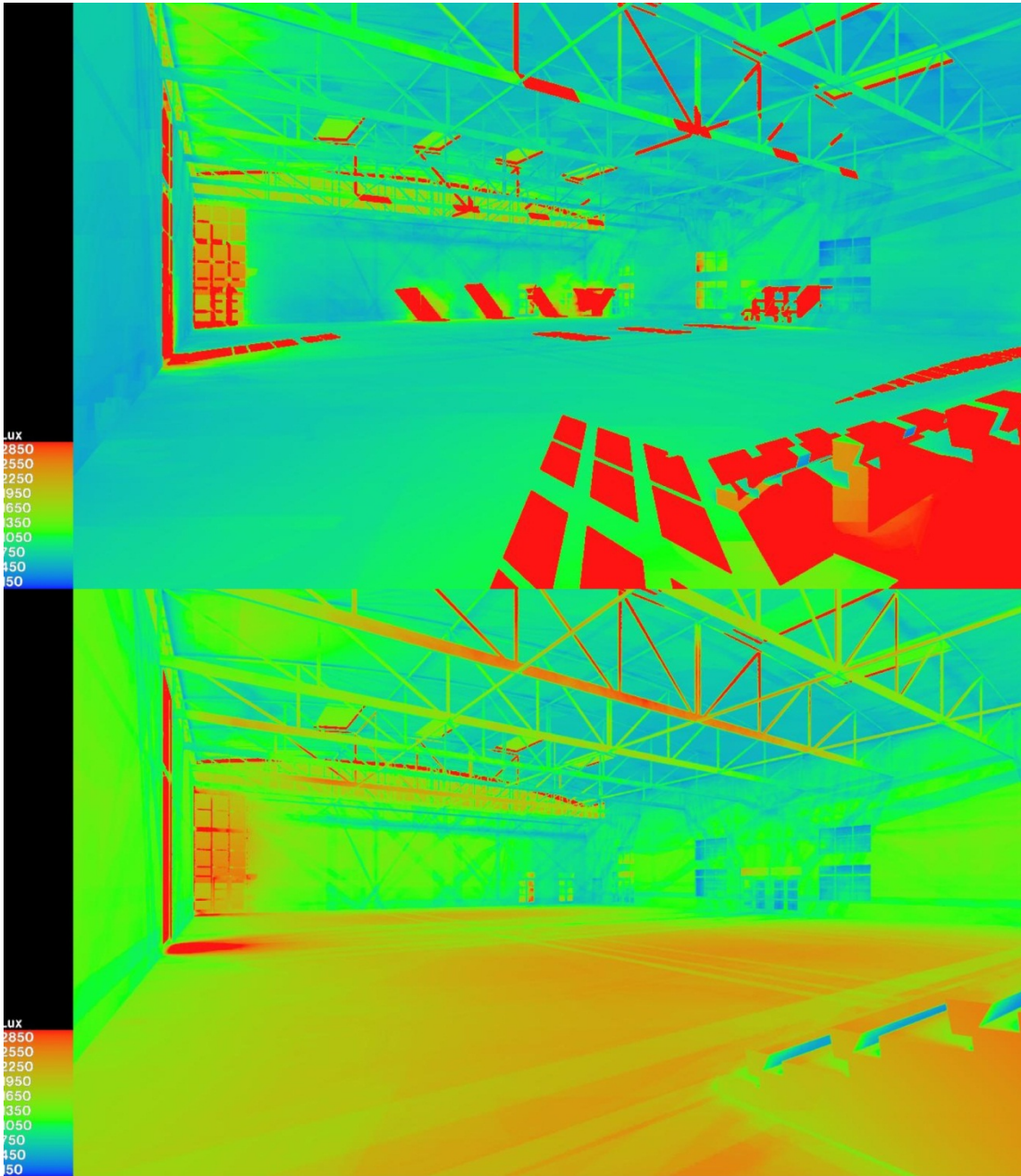


Figure 6

The squash courts rendered at 2pm on March 21. The top image uses vision glass for all the glazings and the bottom image uses Solera with a 26% VLT for all the glazings.

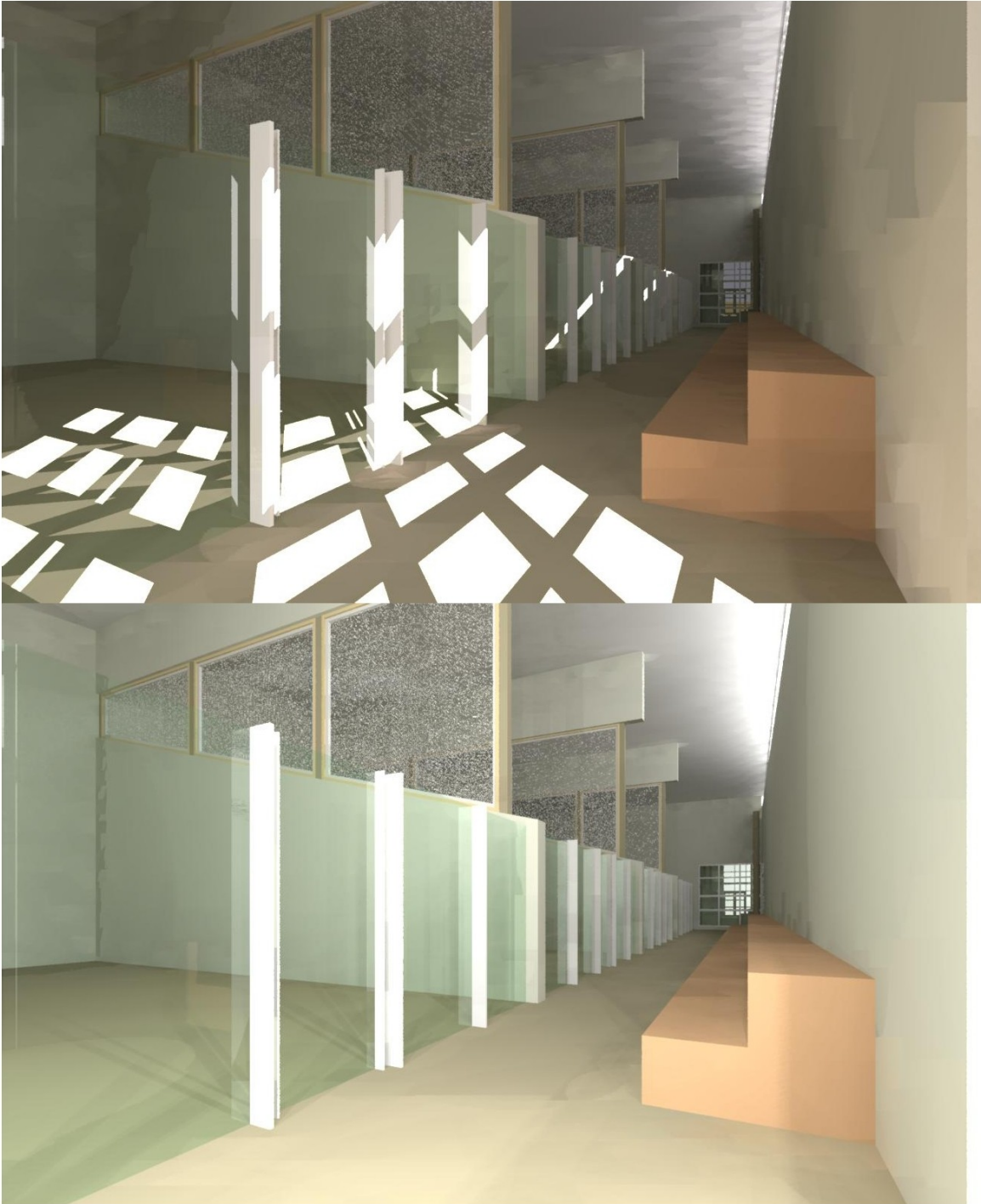




Figure 7

A squash court rendered at 2pm on March 21. The camera for these images was placed on the bench and looks into one of the middle squash courts. The top image uses vision glass for all the glazings and the bottom image uses Solera with a 26% VLT for all the glazings.

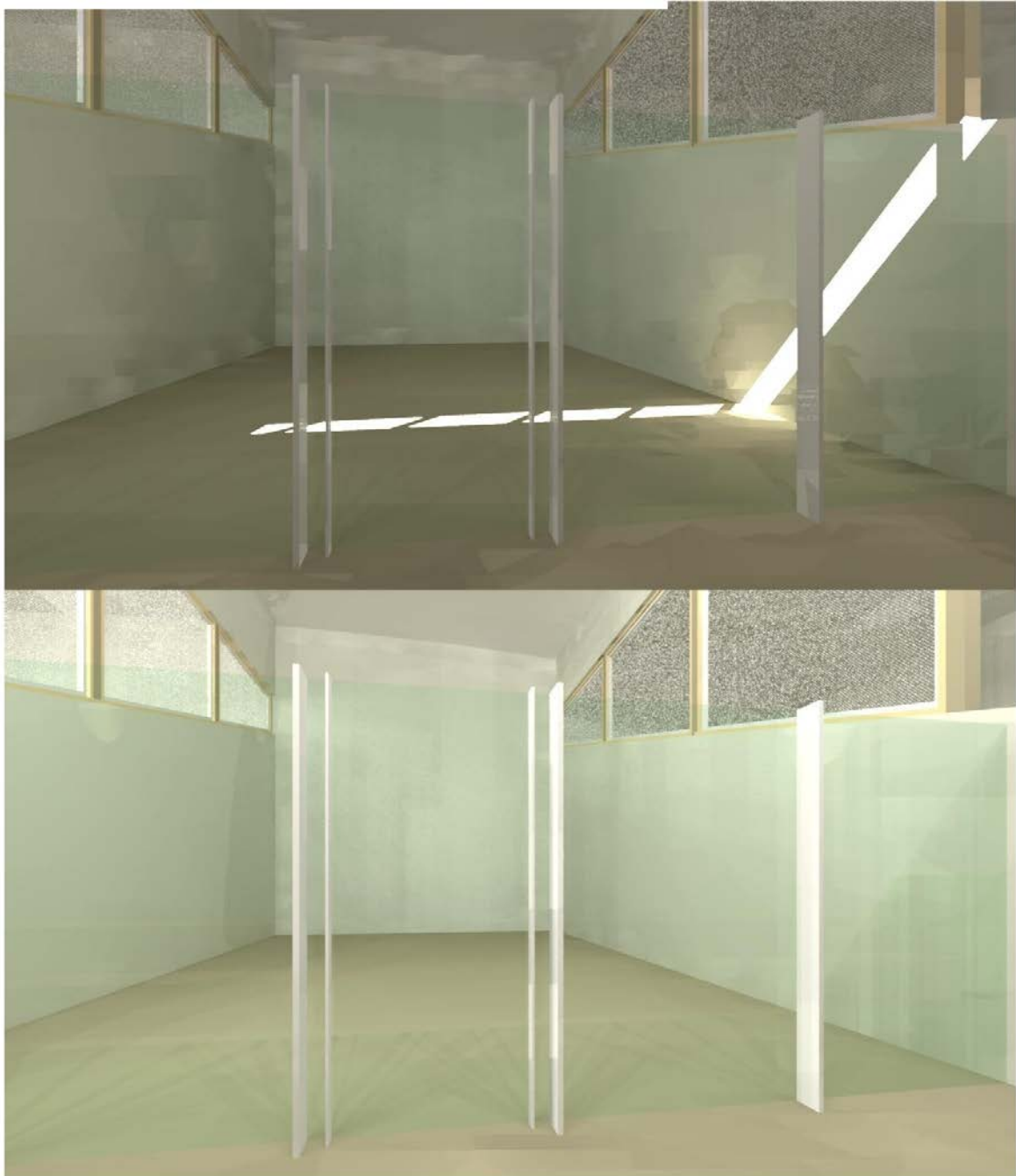


Figure 8

The squash courts rendered at 2pm on March 21 using false colors. The top image uses vision glass for all the glazings and the bottom image uses Solera with a 26% VLT for all the glazings.

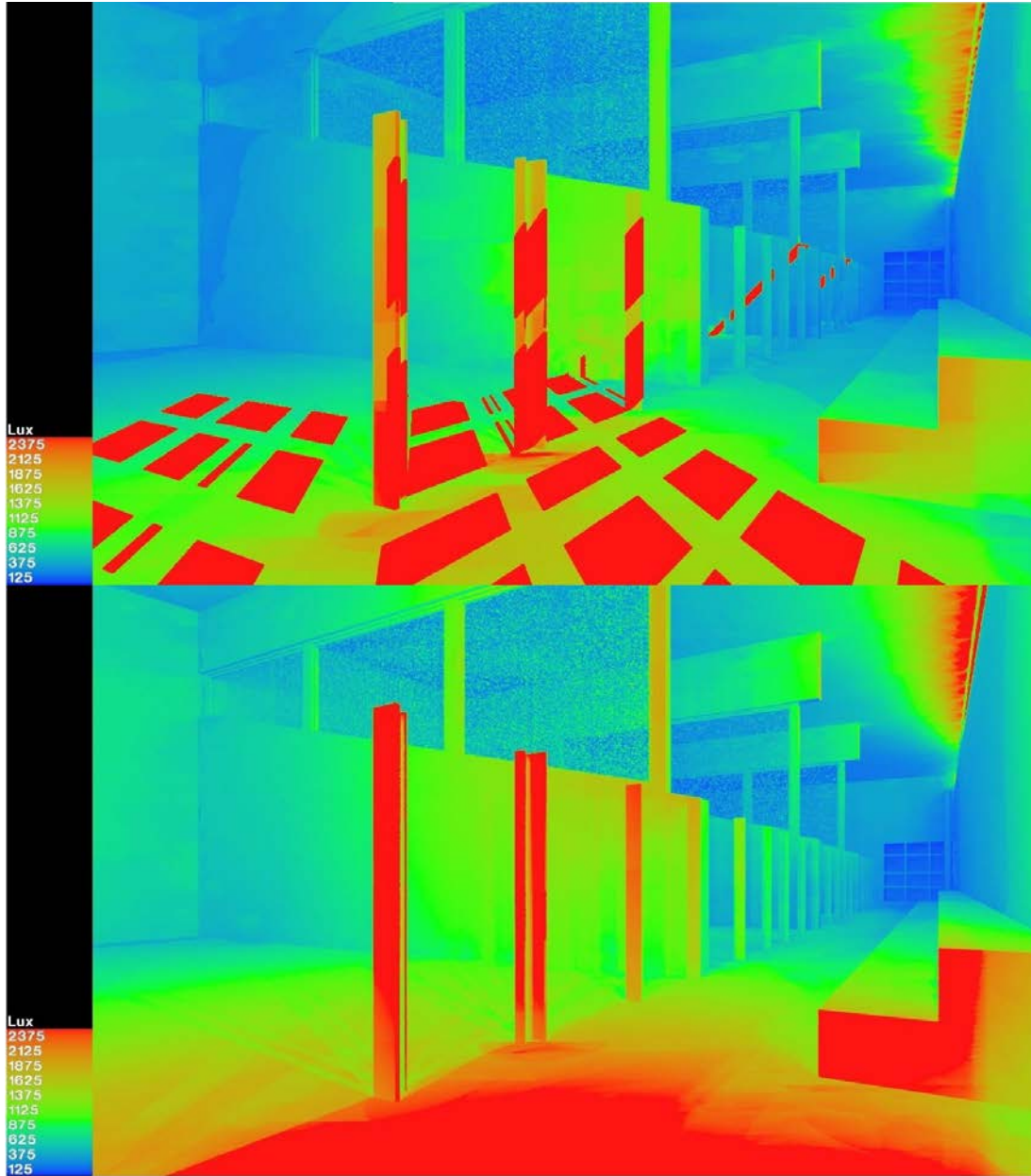


Figure 9

The squash court rendered at 2pm on March 21 using false colors. The top image uses vision glass for all the glazings and the bottom image uses Solera with a 26% VLT for all the glazings.

