

Canalino Learning Center

Case Study



CLIENT

Carpinteria Unified School District

LOCATION

Carpinteria, California

SOLATUBE PRODUCT(S)

24 SolaMaster® 750 DS tubular daylighting devices (TDDs) with integrated dimmers

MODULAR BUILDER:

American Modular Systems

BACKGROUND:

As part of a \$90 million districtwide infrastructure improvement bond, Carpinteria Unified School District planned a new modular learning center and library for the shared campus of Canalino Elementary School and Canalino Family School. Completed in 2024, the single-story, 2,400-square-foot facility provides a flexible environment where students can explore books, collaborate and participate in group instruction.

The district partnered with American Modular Systems (AMS) to construct the 60-by-40-foot building using the AMS GEN7 modular classroom design, adapted into an open-concept layout to support multiple learning activities.

CHALLENGE:

The project team prioritized delivering abundant natural daylight throughout the GEN7 modular facility to create a bright, calming environment that encourages students to read, collaborate and learn. The learning center required balanced, high-quality illumination to support visual acuity and concentration, while avoiding glare or shifting light patterns that could distract students during lessons.

Any daylighting solution also needed to maintain comfortable indoor temperatures. Excess solar heat gain could create thermal hotspots that disrupt learning environments and increase HVAC demand.

Because the building was constructed using modular methods, the lighting strategy also had to accommodate the structural and logistical constraints of factory-built construction. Modular buildings typically feature



tight plenum spaces and carefully engineered roof assemblies that limit large penetrations or bulky daylighting systems. The solution therefore needed to integrate efficiently within tight ceiling cavities while maintaining the structural integrity and weather resistance required for transportation and installation.

The district sought a daylighting approach that aligned with its sustainability goals—reducing reliance on electric lighting, improving energy efficiency and supporting a healthy indoor environment for students and staff.

SOLUTION: To provide consistent natural full-spectrum illumination throughout the modular facility, the project team installed 24 Solatube SolaMaster® 750 DS tubular daylighting devices (TDDs) with integrated dimmers within the closed ceiling system.

The optical design of the Solatube system helps control glare and eliminates shifting light patterns that can distract students during classroom activities. At the same time, the system limits solar heat gain, helping maintain comfortable interior temperatures without increasing HVAC demand.

The compact tubular design is well suited for modular construction. The TDDs fit within tight ceiling cavities and require minimal roof penetration, allowing the daylighting system to integrate efficiently into the factory-built GEN7 modular structure. Integrated daylight dimmers allow staff to adjust light levels as needed for presentations, reading activities and other classroom uses.

Studies have shown that access to daylight can improve concentration and support healthy circadian rhythms.

RESULTS: The daylighting strategy created a bright, comfortable learning environment while supporting the district's sustainability goals. The 24 Solatube TDDs distribute glare-controlled natural light throughout the 2,400-square-foot learning center, reducing dependence on electric lighting during the school day.

Completed in December 2024, the modular learning center now serves students from both Canalino Elementary School and Canalino Family School as a shared academic resource. The naturally daylight space provides an inviting environment for reading, group learning and collaborative instruction.

