



CITATION

for Sustainable Daylighting

Mwabwindo School

Mwabwindo Village, Zambia

Renfro Design Group, Inc.

Richard Renfro, Jenny Stafford, Paola Bernal, and Florencia Castro



“In the context of daylighting only, this is a case study on the elegance of simplicity, as it delivers light, not only functionally – and free – but adds visual delight, and certainly a connectivity to the outside world and somehow it manages to do it without glare.”

—Lumen 2020 Jury

Under the relentless sun of the African savanna, designing a school in a remote village with electricity in short supply meant prioritizing comfort for occupants while harnessing the sun to illuminate the building's interior. With limited resources, the team from Renfro Design Group eschewed traditional solutions and instead relied entirely on architectural interventions to harvest usable, comfortable daylight.

Numerous daylight studies determined how the architecture could both filter and redirect lighting throughout the space, balancing daylight and comfort year-round. A daylight-permeable device – in the form of a perforated, handmade brick wall – breaks up otherwise dark and contrasty corridors and ushers diffuse daylight into classroom spaces. Clerestories in the classrooms and painting walls white together create an energized, student-friendly environment.

Literally raising the roof and then strategically placing voids at the center canopy directs more sunlight at high-activity areas and permits increased use of the visually arresting perforated walls — originally decorative in nature. Planted trees at the western edge of the site will provide additional shading as they mature and allow the community to utilize the open-air gathering area well into evening hours when the low African sun is the most harsh.

ARCHITECTS

Selldorf Architects

Annabelle Selldorf
Sara Lopergolo
Oliver Link
John Spencer
David Bench

PROJECT OWNER

14+ Foundation

Joseph Mizzi, CEO & Co-Founder
Nchimunya Wulf, Executive Director & Co-Founder
Fabian Bedolla, Director of Design & Construction

STRUCTURAL ENGINEER

Silman

Nat Oppenheimer

PHOTOGRAPHY

Chosa Mweemba