BACK TO START

PHOTOVOLTAIC SKYLIGHT

RENOVATION

The National Orchid Garden in Singapore selected Onyx Solar's technology to provide clean energy to this unique UNESCO World Heritage Site.

This photovoltaic skylight is composed by trapezoidal Insulated PV glass Units with **12 mm air chamber** to achieve the needed thermal insulation to keep an indoor optimal temperature to grow orchids. The glass selected was customized to reach **51% of Visible Light Transmittance and 40% SHGC (g-Value).**

Onyx Solar's involvement required fabricating **15 different glass dimensions and trapezoidal units** to accommodate the complex geometry of the existing metal frame.

TECHNICAL DATA

Nominal Power (Wp/m²)	81 Wp/m²
Visible Light Transmittance (VLT)	51%
Solar Factor (g-value)	40%
U value (W/m²K)	1.60
U value (Btu/h ft² °F)	0,28
Light Reflection (external)	8%

TECHNICAL DATA SHEET

NATIONAL ORCHID GARDEN

SINGAPORE

SKYLIGHT

CRYSTALLINE SILICON TECHNOLOGY

MORE INFO IN VIDEO

"The Cool House is designed to emulate a high elevation forest, which exists at altitudes of 1.000m to 2.000m, and with a surrounding temperature of 16°C to 23°C. Having in mind the extreme weather conditions of Singapore the selection of high performance glass with optimal passive properties was decisive."

Project Manager - Singapore Botanic Gardens