

# StructuresUnlimited

ENGINEERING DAYLIGHT



**Structural Clearspan™ Skylights**

800 225 3895

| [StructuresUnlimitedInc.com](http://StructuresUnlimitedInc.com)

| +1 603 645 6539

## Structural Clearspan™ Skylights

When you need it done right, on time and on budget, StructuresUnlimited is your single source solution. Aluminum box beam superstructures provide the basis for these energy efficient, pre-engineered skylight and canopy systems. No more need for separate steel fabricators, glazers and painters – these systems are pre-fabricated, prefinished and ready for quick, curb-up installation. That's what we call 'Engineering Daylight'.

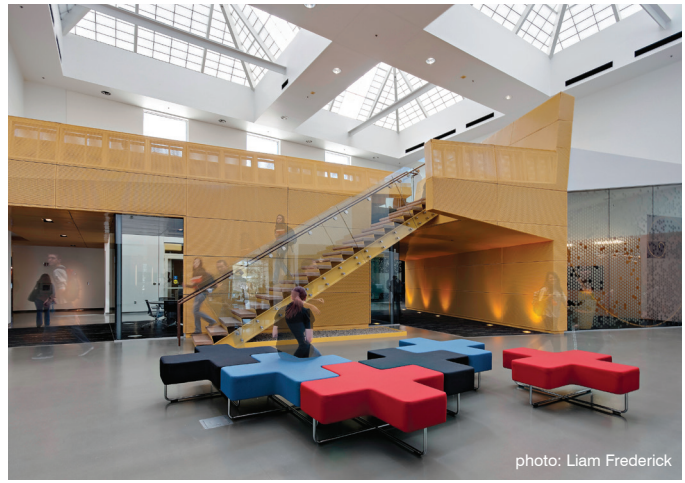


photo: Liam Frederick



## Resilient, Reliable and High Performance

All of StructuresUnlimited systems are engineered to withstand the toughest environments from hail storms and hurricane winds, to high snow and drift loads. Kalwall® translucent panels are secured to aluminum box beam members to form a rigid, cohesive structure. The unique panel overlap system provides a "shingle effect", virtually eliminating leaks, while our thermally-broken system improves the building envelope performance by reducing solar heat gain and heat loss.

## Daylight Modeling Services

StructuresUnlimited can provide a complimentary computer-generated daylight analysis. Specific target light levels can be obtained simply by changing the translucency of the panel's face sheets or the amount of insulation specified. When daylighting is critical, in environments such as schools, laboratories or studios, our daylight modeling services can be invaluable in creating just the right amount of light required for each specific task.



photo: Bill Lempe



## Design + Engineering

StructuresUnlimited can generate, free of charge, support-reaction calculations, allowing your engineers to determine exactly how to design footings, curbs and/or bearing walls necessary to support a skylight or complete enclosure. In specific instances tie rods, trusses or slip connections can greatly reduce the outward thrust exerted by the skylight, thus reducing the size and cost of the structural supports.





- Spans over 100 feet (30 meters)
- Thermal performance up to R-20!
- Low solar heat gain coefficients
- Condensation & corrosion resistant
- Low maintenance requirements
- Engineering, design & budget assistance
- Single source responsibility
- Made in the USA for over 45 years

**Performance Data: 2-3/4" (70mm) Panel**

FRP Face Sheet Combinations		Visible Light Transmission (VLT) % by NFRC 202					Solar Heat Gain Coefficient @ 0° by NFRC 201				
Exterior FRP	Interior FRP	0.53 U	0.29   <b>0.23 U</b>	0.22   <b>0.14 U</b>	0.18   <b>0.10 U</b>	<b>0.05 U</b>	0.53 U	0.29   <b>0.23 U</b>	0.22   <b>0.14 U</b>	0.18   <b>0.10 U</b>	<b>0.05 U</b>
Crystal	White	37%	26%	13%	7%	20%	0.33	0.31	0.18	0.14	0.27
White	White	23%	16%	9%	4%	14%	0.26	0.25	0.16	0.11	0.20
Crystal	Crystal	58%	35%	14%	9%	N/A	0.55	0.36	0.20	0.14	N/A

**Performance Data: 4" (100mm) Panel**

FRP Face Sheet Combinations		Visible Light Transmission (VLT) % by NFRC 202				Solar Heat Gain Coefficient @ 0° by NFRC 201			
Exterior FRP	Interior FRP	<b>0.55 U</b>	<b>0.15 U</b>	<b>0.08 U</b>	<b>0.05 U</b>	<b>0.55 U</b>	<b>0.15 U</b>	<b>0.08 U</b>	<b>0.05 U</b>
Crystal	White	37%	13%	5%	N/A	0.52	0.09	0.04	N/A
White	White	23%	11%	4%+	N/A	0.38	0.06	0.04*	N/A
Crystal	Crystal	58%	17%	6%	N/A	0.65	0.11	0.07	N/A

U-value SI conversion: 1.0 W/m²K = 0.176 Btu/hr/ft²/°F

= Air Gap Only
  = Fiberglass 'Batts'
  = Lumira® Aerogel

**U-values shown in bold denote thermally-broken grid core panels.**

Visible light transmission (VLT) - NFRC 202 as noted. VLT percentages over 30% are not recommended for most Kalwall applications.

Panel U-values include panel grid-core by NFRC 100 or 102. NFRC certified system U-values vary depending on framing. Project-specific Information available by request.

Shading Coefficient (SC) is equal to 1.15 times the Solar Heat Gain Coefficient (SHGC). \*By calculation only (not by NFRC 201). By calculation only (not by NFRC 202)



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