

Brighten Up® Series 160DS

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Product: Solatube 160 DS (250mm diameter) Transparent roof-mounted skylight dome and self-flashing curb, reflective tube, and ceiling level diffuser assembly, transferring sunlight to interior spaces; complying with ICBO/ICC AC-16.

Roof Dome:

- **Brighten Up Series: Solatube Model 160DS**, 250mm Daylighting System.
- Transparent, UV and impact resistant dome with flashing base supporting dome and top of tube.
- Outer Dome Glazing: Type DA, 0.125 inch (3.25 mm) minimum thickness impact resistant injection moulded acrylic classified as CC2 material; UV inhibiting, impact modified acrylic blend.
- Optional Shock Inner Dome Glazing: Type DI, 0.115 inch (2.9 mm) minimum thickness high impact resistant injection moulded acrylic required for high velocity wind zones.
- Raybender 3000: Variable prism optic moulded into outer dome to capture low angle sunlight and limit high angle sunlight.
- LightTracker Reflector: Aluminum sheet, thickness 0.015 inch (0.4 mm) with Spectralight Infinity. Positioned in dome to capture low angle sunlight.

Roof Flashing

- Flashing Base: One piece, seamless, leak-proof flashing functioning as base support for dome and top of tube.

Top Ring

- Tube Ring: Attached to top of base section; 0.090 inch (2.3 mm) nominal thickness injection moulded high impact acrylic; to prevent thermal bridging between base flashing and tubing and channel condensed moisture out of tubing.

Extension Tube Sections

- Reflective Extension Tube: Aluminum sheet, thickness 0.015 inch (0.4 mm).
- Interior Finish: Spectralight Infinity high reflectance specular finish on exposed reflective surface. Visible spectrum (400 nm to 760 nm) greater than 99 percent. Total solar spectrum (400 nm to 2500 nm) less than 93 percent.

Angle Adaptor

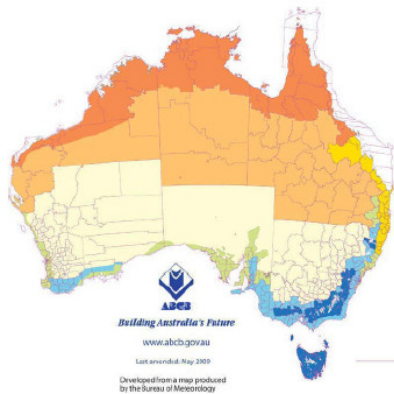
- Reflective 30 degree Adjustable tube: Aluminium sheet, thickness .015 inch (0.4mm)
- Reflective 90 degree Adjustable tube: Aluminium sheet, thickness .018 inch (0.5mm)
- Interior Finish: Spectralight Infinity high reflectance specular finish on exposed reflective surface. Visible spectrum (400 nm to 760 nm) greater than 99 percent. Total solar spectrum (400 nm to 2500 nm) less than 93 percent.

Diffuser

- Dual Glazed Diffuser Assembly: with glazing options and lens effect option for mood lighting control.

Performance

- Products have been tested by NFRC (National Fenestration and Ratings Council) and meet the SHGC and U-Value requirements as set out in the BCA (Building Code of Australia) tables 3.12.1.2 and J1.4.



Climate Zones

- Zone 1
- Zone 2
- Zone 3
- Zone 4
- Zone 5
- Zone 6
- Zone 7
- Zone 8

Local Government Area boundary



Solatube® 160 DS & 290DS Daylighting Systems	SHGC ¹	U-Factor ¹
OptiView®	0.33	2.44
Vusion®	0.35	2.44
Zone 1	✓	✓
Zone 2	✓	✓
Zone 3	✓	✓
Zone 4	✓	✓
Zone 5	✓	✓
Zone 6	✓	✓
Zone 7	✓	✓
Zone 8	✓	✓

SHGC: Fraction of incident solar radiation.

U-Factor: U-Factor qualification criteria based on the 2009 building codes board simulation and certification procedures that rate roof lights on thermal performance of transparent and translucent elements for the energy efficiency requirements.



Brighten Up® Series Material Specifications

1. Roof Dome: Injection moulded, impact-resistant, polycarbonate with UV protective characteristics. Classified as TP(a) material, 3.2mm thick, visible transmission minimum 92%. Raybender® 3000 technology (patented) prismatic pattern moulded into dome to capture low angle sunlight.
2. LightTracker™ Reflector increases daylight collection and harvesting for low sun angles resulting in increased light output. Spectralight Infinity, for specifications see #5 below.
3. Dome Ring contains condensation gutter designed to channel out condensed moisture.
4. Roof Flashing: metal with protective powder coating complements roofing materials and combats corrosive material. Alternative roof flashings available.
5. Spectralight Infinity Tubing: Fabricated from aluminium sheet meeting the requirements of ASTM B 209, alloy and temper required by the manufacturer to suit forming operations and finish requirements, 0.4mm thick.

Interior finish: Spectralight Infinity high reflectance specular finish on exposed reflective surface; Visible spectrum (400 nm to 760 nm) greater than 99%; Total solar spectrum (400nm to 2500nm) less than 93%.

Colour a* and b* (defined by CIE *a*b colour model) shall not exceed plus 2 or be less than minus 2 as determined in accordance to ASTM E 308.

6. The 30-degree Angle Adaptors: Spectralight Infinity tubing fabricated from aluminium sheet meeting the requirements of ASTM B 209, alloy and temper required by the manufacturer to suit forming operations and finish requirements, 0.4mm thick. Optional 0-90 Degree extension tube also available (0.46mm thick)
7. Ceiling Ring: Injection moulded impact resistant acrylic.
8. Ceiling Diffuser assembly (Dual Glazed): Two options, Optiview Diffuser or Vusion Diffuser.
 - a) Diffuser Lens:
 - Optiview – Moulded polycarbonate plastic classified as TP(a) material.
 - Vusion – Injection Moulded acrylic plastic classified as TP(a) material.
 - b) Diffuser Dress Ring: Injection moulded impact resistant acrylic.

