HUVCO, DAYLIGHTING SOLUTIONS™
POST OFFICE BOX THREE, ROHRERSVILLE, MARYLAND 21779
800-832-6116 FAX: 301-432-7185
WWW.HUVCO.COM

SECTION 086400

FIBER OPTIC SKYLIGHT SYSTEM SPECIFICATIONS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Fiber Optic Skylight System, consisting of exterior mounted, sun-tracking panel, fiber optic cable, and interior luminaries

B. Accessories.

1.2 RELATED SECTIONS

A. Section 07311 - Asphalt Shingles: Flashing of skylight base.

B. Section 07320 - Roof Tiles: Flashing of skylight base.

C. Section 07510 - Built-Up Bituminous Roofing: Flashing of skylight base.

D. Section 07530 - Electrometric Membrane Roofing: Flashing of skylight base.

E. Section 07550 - Modified Bituminous Membrane Roofing: Flashing of skylight base.

F. Section 16150 - Equipment Wiring: Electrical connections.

1.3 REFERENCES

A. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2001.

B. ASTM E 330 - Structural Performance of Exterior Windows, Curtain Walls and Doors.

C. ASTM E 331 - Test Method for Water Penetration of Exterior Windows, Curtain walls and Doors by Static Air Pressure Difference.

D. ASTM D 635 - Test Method for Rate of Burning and/or Extent of Time of Burning of Self-Supporting Plastics in a Horizontal Position.

E. ASTM D-1929 - Test Method for Ignition Properties of Plastics.

1.4 PERFORMANCE REQUIREMENTS

A. Completed fiber optic skylight system assemblies shall be capable of meeting the following performance requirements: To be determined

1.5 SUBMITTALS

A. Submit under provisions of Section 01300.

B. Manufacturer's data sheets on each product to be used, including:
1. Preparation instructions and recommendations.

2. Storage and handling requirements and recommendations.
3. Installation methods.

C. Shop Drawings: As provided

D. Verification Samples: As requested by Architect.

E. Test Reports: To be determined

1.6 QUALITY ASSURANCE

A. Manufacturer Qualifications: Engaged in manufacture of fiber optic skylights for minimum 2 years.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Store products in manufacturer's unopened packaging until ready for installation. Protect form weather and adverse conditions.

1.8 PROJECT CONDITIONS

A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

1.9 WARRANTY

A. Fiber Optic Skylight: Manufacturer's standard warranty for two (2) years.

PART 2 PRODUCT

2.1 MANUFACTURER

A. Acceptable Manufacturer: Parans Solar Lighting AB, Sweden
Imported by: HUVCO, LLC – Daylighting Solutions
Address: Post Office Box Three, Rohrersville, Maryland 21779.
Phone: 800-832-6116 or 301-432-0678
Fax 301-432-7185
Web: www.huvco.com
Email: info@huvco.com

2.2 Fiber Optic Skylight System: The HUVCO – Parans Fiber Optic Skylight is a unique way to bring natural light deep into an interior space. The system is comprised of an exterior daylight collecting panel which has 64 Fresnel lenses on the inside. These lenses rotate to track the sun automatically, controlled by an internal computer. Each lens acts like a magnifying lens to focus the sunlight. This focused sunlight is directed into a fiber optic strand, each individual strand is combined with other strands to create a fiber optic cable, 6 mm in diameter. There are four fiber optic cables coming out of each panel. Each of these cables can be up to 60 feet long. These cables can be routed through walls or ceilings and bent around obstructions. Each fiber optic cable can be used to bring the natural light to a different interior luminaries; or they can be combined in one luminaries. There are a variety of luminaries available, some of which combine the natural light and electric light into a hybrid fixture. The hybrid fixture can be combined with a sensor that will automatically turn the electric lights off when the natural light is sufficient.

2.3 Exterior panel:

A. SP2 requires 2 W of power, power cord provided. The SP2 Panel had 64 Fresnel lenses inside that are computer controlled to track the sun. There are three motors inside the panel that rotate the lens up to 60 degrees in each direction. Each lens focuses the sunlight into a fiber optic strand 0.075 mm. 16 strands are joined to create one fiber optic cable each 6 mm diameter. There are four fiber optic cables from each SP2 panel. Each fiber Each panel also has a power supply cord and a communication wire. SP2 panel is 980 mm L x 980 mm W x 180 mm H, weight is 30 kg. Exterior is Eloxated Aluminum, with a hardened glass cover.

2.4 Luminaries:

A. L1 – Avalable in three different sizes, small, medium and large. Sunlight only. Dims (mm) Small: 450 x 450x 86, weight (kg): 3.6. Medium: 450 x 900 x 86 @ 7.2 kg. Large: 900 x 900 x 86 @ 14.4 kg

B. L2 – Round fixture, available in two sizes, small and large. Hybrid fixture, small dims(mm): 500 x 107, weight (kg): 4.5, Large dims: 1000 x 159, weight (kg): 5.9

C. L3 – Spotlight type fixture, Sunlight only, Dims: 50 mm x 40 mm x 33 mm, weight (kg): .053

D. L4 – Lineal type of fixture. Hybrid fixture, Dims (mm): 1217 x 84 x 92, weight (kg): 3.7

E. L5 – Suspended ceiling type of fixture, Hybrid fixture, Dims (mm): 596x596x210, weight(kg): 3.7

2.5 Fiber Optic Cable:

Optical cable contains 0.75 mm optical fiber, bundles into a 6.0 mm optical cable. Fiber made of PMMA. Light transmission of 95.6 per meter. With Fluorinated polymer cladding. Each fiber optic cable can be a maximum of 60 feet long. Each cable wwill have a threaded fitting on one end for the luminaire attachment. All fire proofing procedures must be followed when running cables thru a fire rated wall.

2.6 ACCESSORIES

F. Fasteners: Same material as metals being fastened, non-magnetic steel, non-corrosive metal of type recommended by manufacturer, or injection molded nylon.

PART 3 EXECUTION

3.1 EXAMINATION

A. Do not begin installation until substrates have been properly prepared.

B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

A. Clean surfaces thoroughly prior to installation.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

A. Install in accordance with manufacturer's printed instructions.

B. After installation of first unit, field test to determine adequacy of installation. Conduct water test in presence of Owner, Architect, or Contractor, or their designated representative. Correct if needed before proceeding with installation of subsequent units.

3.4 PROTECTION

A. Protect installed products until completion of project.

B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION