



SECTION 16500

ELITE INDOOR TENNIS COURT LIGHTING

PART 1

1 – GENERAL

1.1 WORK INCLUDED

- 1. Provide all equipment and materials and do all work necessary to furnish and install an indoor tennis court lighting system tested and complete, as indicated on the drawings and as specified.**

1.2 RELATED WORK

- A. Examine contract documents for requirements that affect work of this section. Other specification sections that directly relate to work of this section include but are not limited to:**

1.3 SUBMITTALS

- A. Product Data: Submit manufacturer's printed product data and specifications for each product used, including details of construction relative to materials, dimensions, gauges, profiles, method of mounting, specified options, and finishes.**
- B. Shop Drawings: Provide large scale shop drawings for fabrication, installation and erection of all parts of work as required. Provide plans, elevations and details of anchorages, connections and accessory items. Provide installation templates for work installed by others. Show interfaces and relationships to work of other trades.**

1.4 COORDINATION

- A. **Install lighting system after structure has been erected and is weather-tight.**

1.5 QUALITY ASSURANCE

- A. **All lighting assemblies shall comply with the applicable standards of NEMA and shall have a UL label.**

1.6 WARRANTY

- A. **Provide manufacturer's standard written warranty for each item incorporated into the work.**

PART 2

2 – PRODUCTS

2.1 MANUFACTURER

- A. **Tennis court lighting system shall be supplied by:**

- 1. **Indoor Courts of America, Inc.
1280 N. Winchester
Olathe Ks 66061
U.S.A.
(800) 373-4262**

2.2 LUMINAIRE PERFORMANCE

- A. **The quantity per court and location of the luminaries as indicated on the drawings is based on the recommended design data of a particular manufacturer. Other manufacturers of similar type systems may recommend different locations and quantities to achieve the same lighting levels. If a system other than that set forth in this specification is proposed by the contractor, the contractor shall be responsible for the coordination of all sub-assemblies required to produce the substitute system including mounting and spacing of the substitute system to achieve the specified lighting levels and distribution.**
- B. **The manufacturer of the lighting system shall furnish lighting equipment and sub assemblies to meet or exceed the following performance specifications:**
 - 1. **Horizontal lighting levels in principal playing area:**

- a. Measured 3' (1 m) above playing surface
- b. Average maintained footcandles: 70 min. within the playing lines
- c. Specified lighting levels shall be achieved with an equivalent number or less fixtures as indicated on the drawings. A greater number of fixtures will not be acceptable.

2.3 MANUFACTURERS RESPONSIBILITY

- A. Manufacturer of the luminaries shall provide a computer generated layout indicating the foot candle readings for the proposed system. The layout shall indicate the laboratory that generated the lighting performance data.
- B. The manufacturer shall also set forth the power demand to operate the system proposed in KW per hour.
- C. Manufacturer shall provide a written guarantee stating that the proposed system conforms to the data submitted.

2.4

- A. The luminaries shall be ISL2-1000 watt Elite, Cat No. ISL2-EL-1000-MHST-MT-STM4-0.
- B. The luminaries shall consist of the following:
 1. **Housing:** Seamless impact resistant, 18 gauge spun steel with high temperature white polyester powdercoat finish.
 2. **Reflector:** Fabricated, conical shaped, six sided anodized specular aluminum (020) with minimum 86% reflectivity.
 3. **Wire Guard:** One piece, conical shaped, steel wire guard with 8 gauge spokes and 10 gauge circumferential rings. Wire guard finished in a flat black powdercoat finish.
 4. **Socket:** Porcelain mogul base, pulse rated open rated socket.
 5. **Lamp:** 1000-watt Metal Halide Protected lamp. Clear lamps supplied as standard. *The fixture complies with NFPA's (National Fire Protection Association) National Electric*

Code 2005 Article 410.73.F.5 in regards to metal halide containment requirements.

- 6. Mounting: The luminaire hangs from a white ¾” rigid aluminum stem. Upper connection utilizes a zinc- plated steel ball aligner with ¾” inch NPT swivel to mount to a standard 4-square electrical junction box. Ball aligner allows fixture to hang plumb at 45degrees.**

- 8. Servicing: Lamp changing and fixture cleaning is accomplished without tools by swing down action of housing away from stationary wire guard. Latching mechanism is integral to wire guard. Cable strap is included for safety purposes.**

- 9. Ballasts: Remote ballast is designed for indoor or protected locations. Ballast is class H, high power factor, core and coil design to operate a 1000 watt metal halide lamp. Total wattage consumption of ballast is 1080 watts. Ballast is available in multi-tap (120, 208, 240, 277) or 480 versions. Ballast enclosure is constructed of and finished in heavy gauge pre-galvanized steel. Ballast is UL listed for damp locations.**

- 10. Performance: Fixture shall be 100% indirect, symmetrical distribution, with maximum candlepower at 42 degrees from vertical. Photometric test should be produced by an independent laboratory.**

C. Color of luminaries shall be white.

2.5 LIGHTING CONTROLS

- A. All tennis court lighting shall be controlled from a remote location in the Clubhouse where designed by the Owner. A control panel shall be provided by others with switches and indicator lights to indicate the status**

PART 3

3 – EXECUTION

3.1 BRACKET AND LUMINAIRE INSTALLATION

- A. All materials and equipment specified herein shall be installed in accordance with the manufacturer's recommendations to conform to the contract documents. All installation shall be performed by skilled workers experienced in the type of work being performed.**
- B. The drawings indicate the general location and arrangement of equipment, conduit and wiring. The contractor shall field locate equipment so as to not interfere with the work of other trades and to be readily accessible. Changes in spacing and location of lighting fixtures, panel boards, cabinets, receptacles and other equipment may be made to satisfy site conditions provided that such changes do not alter the design or performance of the items being relocated. All such changes shall be approved by the architect and tennis consultant.**
- C. Any damage to finishes shall be repaired and finished as appropriate prior to erection.**
- D. The Owner's Electrical Contractor shall connect the power from the power distribution both in the court pavement to the electrical panel and at the mechanical support slab. The ballasts shall be supplied by the lighting fixture manufacturer for installation by the owners electrical contractor.**

3.2 TESTING

- A. All testing required by local governing authorities shall be scheduled and performed by the appropriate authorities prior to substantial completion of the project.**

3.3 BURN IN

- A. After the system has been connected to the electrical system and is deemed to be operative, the luminaries shall have a minimum burn in period of 100 hours prior to the recording of the lighting levels on the court.**

3.4 LIGHT LEVEL READINGS

- A. After the initial burn in period, light level readings shall be taken and compared to the manufacturers data and the requirements of the specifications. Major deviation (10% max) shall be corrected prior to final completion of the project.**
- B. A copy of the light levels taken after initial burn in shall be submitted to the Owner within 24 hours of recording.**

END OF SECTION