connection to a wiring system shall not be required to be additionally enclosed.

(C) Wired Luminaire Sections. Wired luminaire sections are paired, with a ballast(s) or LED driver(s) supplying a light source or light sources in both. For interconnection between paired units, it shall be permissible to use metric designator 12 (trade size 3/8) flexible metal conduit in lengths not exceeding 7.5 m (25 ft), installed in accordance with Part II of Article 348. Luminaire wire operating at line voltage, supplying only the ballast(s) or LED driver(s) of one of the paired luminaires, shall be permitted in the same raceway as the light source supply wires of the paired luminaires where the voltage rating of the light source supply wires is greater than the line voltage.

Wired luminaire sections are shipped in pairs and marked for use in pairs. Each individual unit includes lamps in odd-numbered quantities (one or three is most common), with the odd-numbered lamp in each luminaire supplied by a two-lamp ballast located in one luminaire of the pair. Two-lamp ballasts are more energy efficient than single- or three-lamp ballasts.

**410.138 Autotransformers.** An autotransformer that is used to raise the voltage to more than 300 volts, as part of a ballast for supplying lighting units, shall be supplied only by a grounded system.

410.139 Switches. Snap switches shall comply with 404.14.

# Part XIII. Special Provisions for Electric-Discharge Lighting Systems of More Than 1000 Volts

#### 410.140 General.

- (A) Listing. Electric-discharge lighting systems with an opencircuit voltage exceeding 1000 volts shall be listed and installed in conformance with that listing.
- **(B) Dwelling Occupancies.** Equipment that has an open-circuit voltage exceeding 1000 volts shall not be installed in or on dwelling occupancies.
- (C) Live Parts. The terminal of an electric-discharge lamp shall be considered as a live part.
- (D) Additional Requirements. In addition to complying with the general requirements for luminaires, such equipment shall comply with Part XIII of this article.

### 410.141 Control.

- (A) Disconnection. Luminaires or lamp installation shall be controlled either singly or in groups by an externally operable switch or circuit breaker that opens all ungrounded primary conductors.
- **(B)** Within Sight or Locked Type. The switch or circuit breaker shall be located within sight from the luminaires or lamps, or it

shall be permitted to be located elsewhere if it is lockable open in accordance with 110.25.

**410.142 Lamp Terminals and Lampholders.** Parts that must be removed for lamp replacement shall be hinged or held captive. Lamps or lampholders shall be designed so that there are no exposed live parts when lamps are being inserted or removed.

## 410.143 Transformers.

- (A) **Type.** Transformers shall be enclosed, identified for the use, and listed.
- **(B) Voltage.** The secondary circuit voltage shall not exceed 15,000 volts, nominal, under any load condition. The voltage to ground of any output terminals of the secondary circuit shall not exceed 7500 volts under any load conditions.
- **(C) Rating.** Transformers shall have a secondary short-circuit current rating of not more than 150 mA if the open-circuit voltage is over 7500 volts, and not more than 300 mA if the open-circuit voltage rating is 7500 volts or less.
- **(D) Secondary Connections.** Secondary circuit outputs shall not be connected in parallel or in series.

#### 410.144 Transformer Locations.

- (A) Accessible. Transformers shall be accessible after installation.
- **(B) Secondary Conductors.** Transformers shall be installed as near to the lamps as practicable to keep the secondary conductors as short as possible.
- (C) Adjacent to Combustible Materials. Transformers shall be located so that adjacent combustible materials are not subjected to temperatures in excess of 90°C (194°F).
- **410.145** Exposure to Damage. Lamps shall not be located where normally exposed to physical damage.
- **410.146 Marking.** Each luminaire or each secondary circuit of tubing having an open-circuit voltage of over 1000 volts shall have a clearly legible marking in letters not less than 6 mm (¼ in.) high reading "Caution \_\_\_\_\_ volts." The voltage indicated shall be the rated open-circuit voltage. The caution sign(s) or label(s) shall comply with 110.21(B).

# Part XIV. Lighting Track

#### 410.150 Installation.

(A) Lighting Track. Lighting track shall be permanently installed and permanently connected to a branch circuit. Only lighting track fittings shall be installed on lighting track. Lighting track fittings shall not be equipped with general-purpose receptacles.