



# American Ultraviolet Company

## UVC FIXTURES: CK Series High Output UVC Module Performance Specifications

### 1.0 UVC fixtures for Air Handling Units:

- 1.1 UVC Emitters shall be as manufactured by American Ultraviolet CK series
- 1.2 The "High-Output" fixtures shall be designed specifically for HVAC applications and be mounted in arrangements for cooling coil and drain pan irradiation as well as for pass-by air decontamination.
- 1.3 UVC output shall be as specified in paragraph 5.4 and 6.3 to guarantee continuous destruction of molds, bacteria and viruses and shall produce the specified UVC energy to prevent coil biological fouling reduce the need for coil cleaning and drain pan biocides.
- 1.4 Fixtures shall be designed for moisture resistant applications using UVC "Cell" lamp design to incorporate an outer quartz sleeve with protective boot on power end for water-tight sealing.

### 2.0 QUALITY ASSURANCE:

- 2.1 Fixtures shall be constructed using UL listed components.

### 3.0 Acceptable Manufacturers.

#### **American Ultraviolet Company.**

Or equal with 10 days prior approval by the specifying engineer.

### 4.0 Fixtures:

- 4.1 Fixtures shall be available in multiple lamp configurations with a moisture resistant construction. Sizes shall be 18, 24, 36, 48, or 60 inches in total lamp length as shown on the drawings and schedule.
- 4.1 Ballasts shall be of the solid-state electronic design and be a Class P rapid start with a .9 or greater power factor minimum. Ballasts shall be multi-voltage 120, 208, 230 or 277 VAC 50/60 Hz as shown in the schedule. They shall be designed for maximize

photon production in air temperatures of 35 to 150 degrees F. Minimum ballast start temperature shall be minus 20 degrees F. Ballasts shall have a RFI EMI rating as defined by FCC part 18A for industrial / commercial applications in regards to suppression. Ballasts shall be UL listed.

4.2 Each CK kit shall be factory assembled and tested prior to shipment. Each assembly consists of a power supply, lamp connector cables, high output "cell" style lamps, mounting clips, and optional clamp on lamp reflectors.

4.3 Power supply shall be constructed of heavy gauge type steel and designed for internal or external mounting.

4.4 Reflectors shall be fabricated from the highest grade polished aluminum lighting sheet material.

4.5 Fixtures shall be made in The U.S.A.

## 5 UVC Lamp:

5.1 Lamps shall be rated shall have a (2) year (17,000 hours) continuous operational life with no greater than a 20% drop in UVC output at end of lamp life.

5.2 UVC "Green Lamp" shall contain no greater than 8 mg of mercury content.

5.3 Lamps shall be guaranteed to produce no ozone.

5.4 Lamps shall have a minimum of  $11.7\mu\text{W}/\text{cm}^2$  per linear inch of lamp arc length at a distance of one meter as per IES Test Standards. Output shall be independently tested in airstreams of 400 feet per minute velocities at temperatures of 45 degrees F.

5.5 UVC lamps shall be a high-output variety, T5 lamp diameter, and shall be constructed from hard quartz tubing for superior UVC transmittance. Electrodes shall be designed to maximize plasma convection and stability for high output lamp performance.

## 6.0 Installation, Warranty and Start-Up.

6.1 Installation shall be by the designated contractor.

6.2 Comply with manufacturer's installation instructions placement, wiring and testing.

- 6.3 Fixtures shall be installed to evenly and adequately cover the surface of the coil face and drain pan with a minimum of  $75\mu\text{W}/\text{cm}^2$  per second per linear inch of lamp face at a distance of 12".
- 6.4 Provide an interlock switch on the access to the UVC Emitters to turn the lights off when the access is opened. End user will provide disconnect switch on unit exterior to turn off UVC lamps prior to entering UVC compartment and shall install provided Caution Labels on all accesses to the fixtures.
- 6.5 All UVC fixtures shall be warranted to be free from factory defects for no less than one year from date of installation. "Green Lamps" shall be warranted for no less than two years (17,000 hours) from date of start-up and ballast shall be warranted for no less than non-pro-rated 10 years.