DE[X] SPECIFICATION

Ultraviolet Light Specification

Coil Capacity Maintenance and Mold Control

High Output S/S Fixtures

INDEPENDENT TESTING – All UV-C components shall be tested and labeled as UL Listed.

FIXTURES – shall be HVAC, Plug-N-Play (PnP), high output (HO) types factory assembled and tested and optimized for heating and cooling temperatures of 33°F to 170°F, of any velocity. They shall consist of a housing and reflector, lamp, click-lock lamp holders, and waterproof driver, with PnP wiring. They shall provide the specified output using no more than 10 Watts of power consumption for each square foot of coil, and/or cross-sectional plane.

POWER SUPPLY HOUSING – shall be designed and constructed of 304 stainless steel for mounting anywhere in the system, or as shown in the plans. They shall include mounting holes, and 6- ½" electrical knockouts, 3- at each end, to facilitate NEC approved wiring.

IRRADIATION - Fixtures shall be installed in sufficient quantity to provide a minimum of 6 UV-C lamp W/ft^2 of coil surface area, consistent with ASHRAE 2011 Handbook, Chapter 60.8, and in such a manner so as to provide an "equal" distribution of energy at the lowest possible shadowed losses within the plenum. The energy striking "all" surfaces shall be sufficient to maintain coil capacity by degrading surface mold, bacteria and organic material as typically found in HVAC systems.

POWER SUPPLY – The power supply shall be UL Listed, 120-277VAC - 50/60Hz, HO type. They shall be High Power Factor, Low THD, Class P, Sound Rated "A", Type 1 Outdoor designs with inherent Thermal Protection, no PCB's and labeled for field wiring. They shall be capable of operating at temperatures of from 33°F to 170°F, while producing the specified output and organism destruction at no more than 10 Watts of power consumption for each square foot of treated, cross sectional plane. The power supply shall be capable of ensuring a minimum of 9000 hours of lamp life, and with 85% of its initial output at end of the lamp useful life. The power supply shall be protected against "end of lamp life" conditions.

LAMPS - They shall be high output (HO), T5 diameter, hot cathode, single-ended 4-pin types that produce UV-C energy primarily at the 254nm wavelength. Each lamp shall contain no more than 12 mg of mercury and be capable of operating in air temperatures of 33°F to 170°F, at any velocity. Useful lamp life shall be 9000 hours (minimum) with no more than a 15% output loss at the end of the lamps life. They shall not produce measurable ozone.

INSTALLATION – The row design shall minimally cover 90% of the coil surface width. Fixtures shall irradiate the intended surface(s) as well as all of the available line of sight airstream by proper placement and incident angle reflection.

SAFETY – UV-C system On/Off switch(s) shall be installed on the exterior of all UV-C plenums next to the plenum access door. Mechanical interlock switches and UV-C warning labels shall be installed on all UV-C accesses to insure that the UV-C fixtures are de-energized and personnel properly cautioned before any access is opened.