

Upper Room UVGI System Specification

Airborne Infectious Disease

Irradiation – Upper room fixture(s) shall be installed in sufficient quantity to provide a minimum irradiance of $40 \mu\text{W}/\text{cm}^2$ in all areas of the room being treated by UVGI.

Fixtures – shall be made of lightweight aluminum, factory assembled and tested and optimized for maximum square foot coverage. They shall consist of a housing and a true parabolic reflector, UV-C energy baffles, UV-C lamp, click-lock lamp holders, and ballast, with hospital grade power cord and plug with optional hard-wiring. They shall provide an even UVGI energy field throughout the upper room being treated.

Housings – shall be designed and constructed of heavy gauge aluminum for mounting on any wall, or as shown in the plans. They shall be designed to mount using key-hole mountings holes at 16” and 20” centerlines and shall mount at a 3% upward angle. Housing shall have 3 each - ½” electrical knockouts, 1 at each end of the fixture and one on the top, to facilitate NEC approved wiring.

Baffles – shall be designed to be of non-reflective powder coated aluminum to minimize stray UV-C light from entering the occupied zone, while providing 170° distribution of collimated UV-C energy throughout room.

Parabolic Reflector – shall be computer designed, tested, and constructed of high spectral Alano providing greater than 90% reflectance to maximize the fixtures UV-C output while minimizing input power.

Driver – shall be UL Listed, waterproof, 120-277Vac +/-10% - 50/60Hz, high power factor, low THD, Class P, Sound Rated “A”, auto-matching, Type 1 Outdoor types with thermal and end of lamp life protection and no PCB’s. They shall maximize lamp output, energy efficiency and reliability and warranted for three (3) years.

Lamps – Lamp Watts shall be printed on all lamps, no exceptions. They shall be commercially available standard output (SO), T5 diameter, hot cathode, mini bi-pin types that produce UV-C energy primarily at the 254nm wavelength. Each lamp shall contain no more than 8 mg of mercury and operate in air temperatures of 1-70° C. 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 fixture(s) installation shall be designed and installed to provide no less than $40 \mu\text{W}/\text{cm}^2$ in all areas of the room and shall be installed at a minimum seven feet (7’) above the floor.

Safety – UV-C system shall include an On/Off toggle switch(s) and shall have a safety disconnect switch when the baffles are removed for cleaning or lamp change out. Caution labels/signage shall be applied to walls indicating upper-air UVGI is in used and shall advise to switch off lamps before entering upper room.