

STANDARD INFORMATION

Standard: UL 867

Standard ID: Electrostatic Air Cleaners [UL 867:2011 Ed.5+R:11Aug2023]

Previous Standard ID: Electrostatic Air Cleaners [UL 867:2011 Ed.5+R:16Aug2021]

EFFECTIVE DATE OF NEW/REVISED REQUIREMENTS

Effective Date: **August 11, 2025**

IMPACT, OVERVIEW, AND ACTION REQUIRED

Impact Statement: Per our accreditation, Intertek is required to review reports against the standard revisions to confirm compliance. Once compliance is confirmed, the standard reference in the report is updated to show continued compliance to the technical requirements of the standard. Reports not updated to this version by the effective date above will be withdrawn.

Existing listings to UL 867:2011 Ed.5+R:16Sep2016 are exempt from this update unless a change is made to the product.

Overview of Changes: Addition of requirements for Electrostatic Air Cleaners Generating Ultraviolet (UV) Radiation. Specific details of new/revise requirements are found in table below.

Current Listings Not Active? – Please immediately identify any current Listing Reports or products that are no longer active and should be removed from our records. We will do this at no charge as long as Intertek is notified in writing prior to the review of your reports.



STANDARD INFORMATION

CLAUSE	VERDICT	COMMENT
6A	Info	Nonmetallic Parts <i>New clause added;</i>
6A.4		Nonmetallic enclosures, cabinets, functional parts, barriers, switches, wiring, insulation, sleeving, etc., which are subjected to direct or reflective radiation from a UV lamp shall be shielded from the UV light or be constructed of a material that is capable of withstanding the UV exposure expected in the product without degrading. See the Ultraviolet Light Exposure Test in Table 51A.1, Item 22.
33B		<i>New section added;</i> Protection from Overexposure to Ultraviolet Radiation Equipment generating ultraviolet(UV) radiation, shall: Not emit UV emissions beyond the enclosure and expose a user or qualified personnel to
33B.1		a) Not emit UV emissions beyond the enclosure and expose a user or qualified personnel to UV emissions that exceed the 8-hour level of effective irradiance of 0.1 $\mu\text{W}/\text{cm}^2$, if tested in accordance with Ultraviolet Irradiance test, Section 52A; or b) Be equipment exclusively identified for the use of a lamp rated "Exempt Risk Group" by the Standard for Photobiological Safety for Lamps and Lamp Systems- General Requirements, ANSI/IES RP-27.1.
33B.2		Equipment that emits more than 0.1 $\mu\text{W}/\text{cm}^2$ shall have features to minimize the risk of overexposure of users or qualified personnel. Access to ultraviolet radiation that may result in overexposure shall be prevented by reliable means, such as enclosures and interlocks as required by 33B.3.
33B.3		Interlocks or interlock systems used to minimize risk of overexposure to ultraviolet radiation shall comply with Interlocks, Section 29.
51E		<i>New section added;</i> Ultraviolet Light Exposure Test
51E.1		Part(s), which may be exposed to the UV-C lamp radiation(100 nm to 280 nm) located within the product, shall be tested as outlined in 51E.3 or 51E.4.
51E.2		Nonmetallic part(s), which may be exposed to the UV-A or UV-B lamp radiation (>280 nm to 400 nm), located within the product, shall be tested as outlined in Ultraviolet Light Exposure Test in UL 746C.



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51E.3		The UV-C Radiation Effect on Non-Metallic Materials Test, in the standard for Household and similar electrical appliances – Safety – Part 1: General requirements, IEC 60335-1, Annex T shall be conducted except that Clause 7.5 shall not be applied and instead following the exposure, the part shall comply with the relevant tests in Table 51A.1 based on whether the nonmetallic part serves as an enclosure, cabinet or functional part.
51E.4		The Ultraviolet Light Exposure Test of UL 746C shall be conducted except with the 1000-hour continuous UV conditioning from the actual UV radiation source to which the nonmetallic part is exposed, rather than the xenon-arc conditioning. Following UV exposure, the nonmetallic part serving as an enclosure, cabinet or functional part, shall comply with the relevant tests in Table 51A.1.
52A		<i>New section added;</i> Ultraviolet Irradiance Test
52A.1		Emissions of ultraviolet radiation from the equipment shall be evaluated in accordance with 52A.2 – 52A.8 and shall not emit effective irradiance in excess of 0.1 $\mu\text{W}/\text{cm}^2$.
52A.2		The product shall be installed as specified in the installation instructions and within a closed room that will not permit any external source of UV radiation. The ambient temperature shall be maintained at $77 \pm 9^\circ\text{F}$ ($25 \pm 5^\circ\text{C}$).
52A.3		Testing shall be performed in the condition(s) most likely to result in the highest emission levels, including removal or adjustment of user adjustable and user removable parts, or operating settings. Exposure locations are to be determined by contact with the accessibility probe illustrated in Figure 7.1. The test shall be performed using a new lamp (or other integral radiation source) representative of the maximum emission capability (including user replacement parts). The UV irradiance measurements shall be performed based on the procedures in the Standard for Photobiological Safety of Lamps and Lamp Systems, IEC 62471. UV assessment distance is performed at or recalculated to be as close as possible to the radiation source, to represent UV exposure to the user's body.
52A.4		For fixed appliances marked with a minimum mounting height (i.e. the shortest vertical distance from the lowest point on the appliance to the floor) of at least 2.1 m (7 feet), the measurement of UV radiation shall be conducted along the 2-dimensional test plane which is parallel to floor and up to but not higher than 2.1 m (7 ft) above the floor which is intended to represent the upper limit of occupied space.
52A.5		For duct type appliances, UV radiation shall be additionally measured at the openings of ductwork, such as inlet/outlet grills etc. and on the duct type appliance.



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52A.6		For products that employ enclosures, guards and similar protective features to minimize the risk of overexposure to ultraviolet radiation, these parts shall be resistant to degradation from mechanical abuse. After subjecting the protective features to the Impact Test, Section 28, the protective features shall be visually examined. If visual examination indicates that the protection afforded by the protective feature may have been impaired, UV irradiance measurements shall be repeated. In this case, a different sample shall be used for each mechanical abuse/irradiance test sequence unless agreeable to all parties.
52A.7		Instrumentation used for the radiation measurements shall be capable of measuring UV radiation in the wavelength range of 200 – 400 nm. Use of a double monochromator is recommended for ensuring the needed accuracy in measuring the UV emissions in accordance with Annex B, Clause B.1.1 in the Standard for Photobiological Safety of Lamps and Lamp Systems, IEC 62471.
52A.8		The effective irradiance shall then be determined based on the spectral weighted values as a function of the UV wavelength in accordance with Clause 4.3.1 in IEC 62471.
58A		<i>New section added;</i> Markings for Products Generating Ultraviolet Radiation
58A.1		A product employing ultraviolet lamps shall be plainly and permanently marked such that it is visible during the relamping process with the word "WARNING" and the following or equivalent: "Skin or eye damage may result from directly viewing the light produced by the lamp in this apparatus. Always disconnect power before relamping or lamp servicing. Replace Lamp With Lamp [MODEL NO.], Manufactured by [Manufacturer's Name]" where the correct lamp model number and manufacturer's name are inserted within the marking. The marking shall be located where readily visible during any approach to the lamp compartment.
58A.2		Products having lamps intended for replacement only by qualified service personnel shall be clearly marked to indicate this. These markings shall be located where readily visible during any approach to the lamp compartment.
58A.3		A fixed appliance that complies with 52A.4 shall be marked where readily visible during installation of the appliance with the word "CAUTION" and the following or the equivalent: "Risk of UV exposure. Ensure appliance is installed so that the lowest point on the appliance is at least H above the floor", where H is the mounting height.
58A.4		A duct type appliance that complies with 52A.5 shall be marked where readily visible during installation of the appliance with the word "CAUTION" and the following or the equivalent: "Risk of UV exposure. Ensure appliance is installed with minimum L ductwork of the building. Do not have any opening on the ductwork within minimum distance L", where L is the length of ductwork.



CLAUSE	VERDICT	COMMENT
59	Info	Manufacturer's Literature <i>New clause added;</i> The instructions for products generating ultraviolet radiation shall contain the manufacturer's declaration of conformity to the applicable provisions of applicable US Federal requirements, including 21 CFR, Chapter 1, Subchapter J, Radiological Health. In addition, the instructions shall include the following: 59.14 a) Information as outlined in the markings of 58A.1 – 58A.4 shall be provided under the heading of "Important Safety Instructions". b) Equipment specified only for commercial or industrial applications shall be provided with instructions indicating the need to take precautions to ensure that the concentration of ozone is limited to an amount not exceeding that specified in Code of Federal Regulations, Air contaminants, 29 CFR 1910.0000, c) Information outlining the procedures for properly handling and disposing UV bulbs.