

ESCALATOR HANDRAIL UV STERILIZATION LAMP

Model ESHRSD

Escalator Handrail UV Sterilization Lamp

The UV sterilization lamp is designed for escalators and moving walkways. The short wave 270~285nm ultraviolet has the bactericidal effect. The principle of the UV sterilization method is to damage the molecular structure of microbial cell's (bacteria, virus and other pathogens) DNA and RNA.

When the escalator is running, the UV light kills the bacteria on the handrail. Sterilization rate $\geq 99\%$. The sterilization device is concealed on the return side under the handrail to ensure passenger safety. Multiple sterilization devices can be installed on the same escalator, based on the rise of the unit.

In case the of the handrail length 28m (92ft) and the running speed of 0.5m/s (3.3 ft/s), one running cycle of the handrail is 56s and the residence time of the irradiation area is 0.2s. Since the cumulative effective sterilization time is 1min, escalator needs to operate 4.6 hours to achieve the 99.99% sterilization effect.

Installation

This lamp must be installed inside the enclosed space. Reflector of the lamp goes through the handrail. Luminous surface of the lamp faces the handrail. Distance of 10-15 mm 0.4"-0.6" between handrail and lamp brings the best sterilization effect. If the escalator pauses or stops, the lamp should be turned off accordingly.

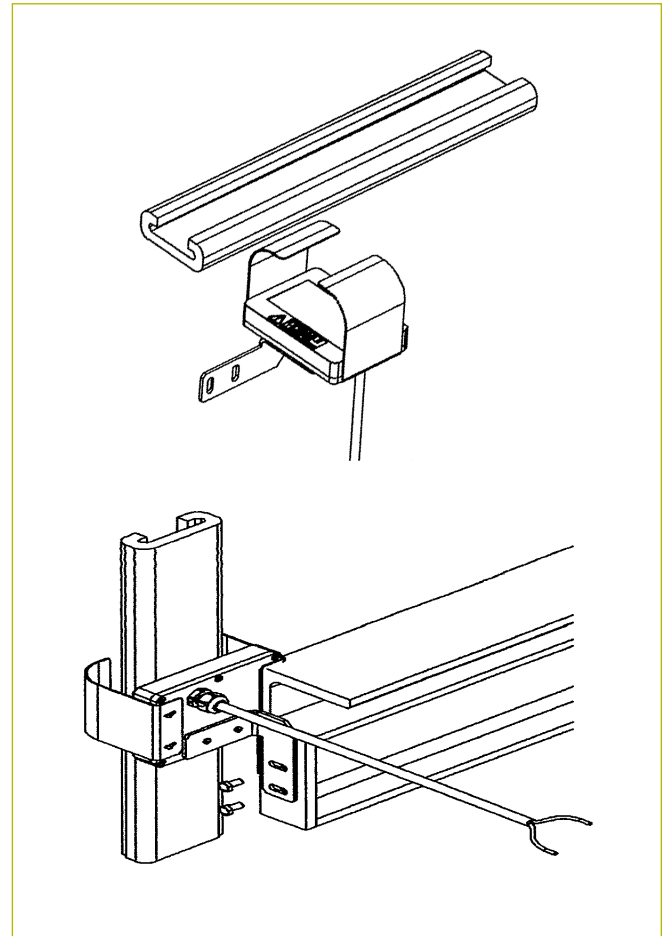


Technical Parameters

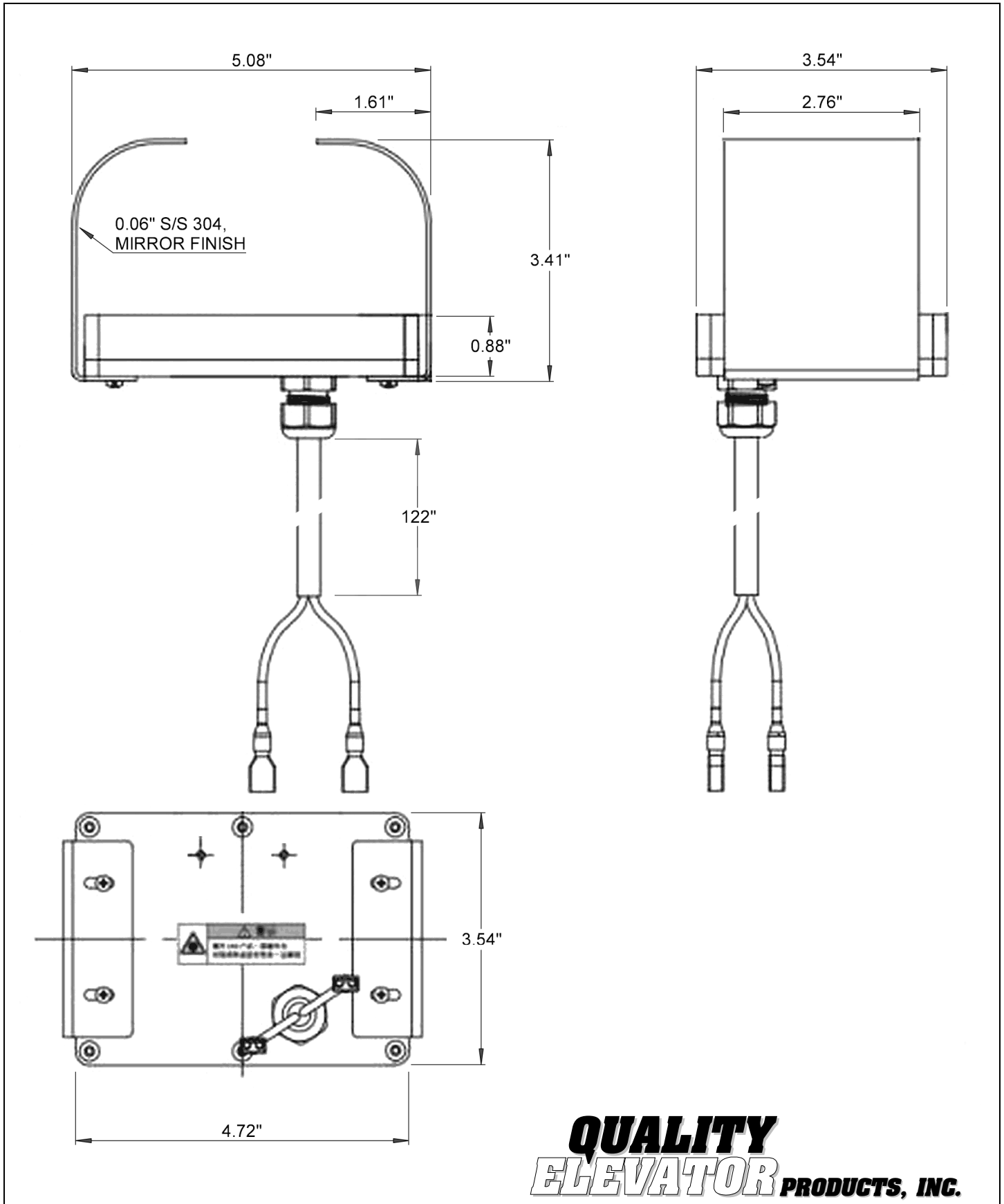
Disinfection technology	UV emitted LED
Wave length	270~285nm
Bactericidal efficiency	>99.99%
Virus killing rate	>99.99%
Sterilization Distance	<15mm, <0.6"
Irradiation area	100 x 50 mm, 3.94" x 1.97"
Initial Irrandiance	$\geq 45\text{uW/cm}^2$ (@15mm)
Irrandiance@10000Hrs	$\geq 38\text{uW/cm}^2$ (@15mm)
Material	PC, SUS304, Quartz Glass
LED Size	3.5 x 3.5 mm, 0.14" x 0.14"
LED Quantity	12 PCS
Input Voltage	DC24V $\pm 10\%$
Input Current	<0.15A
Design Lifetime	10000hrs
IP Protecting Level	IP55
Working Temperature	-13°F ~ +140°F
Relative Humidity	$\leq 95\%$
Off and On time	>300,000 times
Cable length	10 ft.
Weight	1.5 lb.
Certification	CE certified

Note:

1. Sterilization Distance: Vertical distance between light emitting surface of lamp and handrail.
2. The intensity of ultraviolet light decreases with the square of the distance of the LED light source.
3. The effect of ultraviolet sterilization is related to irradiation time and distance. The sterilization will be better if the irradiation time is longer and the distance is closer.



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Handrail UV LED Lamp_081600