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Lodz, 07-09-2020

Certificate of Analysis K/326/01/2020

**Subject of analysis:** Device LumeeLamp Sterilizer Dual 36 F, radiator power UV-C 36W

**Customer:** Inelektra Sp. z o.o.  
87-100 Toruń, ul. Szeroka 10/12

The device for testing delivered by the Customer: 27-08-2020  
The tests began: 31-08-2020  
The tests finished: 05-09-2020

Type of analysis	Method	Results
Microbial parameters		
Antimicrobial efficacy against:	Own methodology Instruction I-85	Percent reduction in the number of microorganisms
		R <sub>10min</sub>
<i>Staphylococcus aureus</i> ATCC25923		100,0 %
<i>Aspergillus brasiliensis (A. niger)</i> ATCC 16404		98,7%

Authorized:

Accepted:

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**Evaluation of the antimicrobial effectiveness of LumeeLamp Sterilizer Dual 36 F, radiator power UV-C 36W**

**Aim and scope of the study**

The aim of the study was to determine the antimicrobial effectiveness of **LumeeLamp Sterilizer Dual 36F, radiator power UV-C 36W** (Certificate of analysis K/326/01/2020), against microorganisms: *Staphylococcus aureus* ATCC25923, *Aspergillus brasiliensis* (*A. niger*) (pleśnie) ATCC 16404.

**Experimental procedure**

The tests were carried out in accordance with own methodology developed in Laboratory (Instruction No. I-86), item 6.4 "Checking the A suspension of the test strain (density 1 on the McFarland scale) was prepared, followed by a series of ten-fold dilutions. 0.1 mL suspension was taken from the appropriate dilution and spread on 90 mm diameter plates with appropriate agar medium (TSA, TSYEA YGC) to grow to 300 cfu (colony forming units). Control plates (without UV- disinfection) were placed in an incubator at the appropriate temperature for the given microorganism (37° C, 25° C) and incubated for 48 hours to 5 days. The second open test plate was placed on the table and UV-disinfected for 10 minutes from 1,5 m of distance. The plates after disinfection were incubated in an incubator at the appropriate temperature for the given microorganism (37 ° C, 25 ° C) for a specified time (from 48 hours to 5 days). After incubation, the grown colonies were counted on control and test plates (disinfected with UV rays). The test was carried out three times for each microorganism, and then the percentage decrease in the number of microorganisms was calculated according to formula (1).

$$(1) R = 100 - (b \times 100/k)$$

where:

R- percent reduction in the number of microorganisms

b- average number of microorganisms after UV disinfection [cfu /ml],

k- average number of microorganisms on control plates (without UV disinfection) [cfu /ml]



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Table 1. Antimicrobial effectiveness of LumeeLamp Sterilizer Dual 36F, radiator power UV-C 36W

Results for control and tested sample					
Strain	Microorganisms number on control plates without UV disinfection [cfu/ml]		Microorganisms number on control plates after 10 minutes of UV disinfection [cfu/ml]		Percent reduction in microorganisms number on control plates after 10 minutes of UV disinfection [-]
		k		b	R[%]
<i>Staphylococcus aureus</i> ATCC 25923	296	300	0	0	100
	304		0		
	301		0		
<i>Aspergillus brasiliensis</i> ( <i>A. niger</i> ) ATCC 16404		k		b	R[%]
	304	305	4	4	98,7
	309		5		
302	3				

**Conclusion**

After 10 minutes of UV disinfection by LumeeLamp Sterilizer Dual 36F, radiator power UV-C 36W) microbial contaminated plates: a 100% reduction was found for *Staphylococcus aureus* (bacterium) and a 98.7% reduction for *Aspergillus brasiliensis* (mold).

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