



**Fraunhofer**

**TESTED<sup>®</sup>  
DEVICE**

BUCK d.o.o.  
CLEAN ROOM 414/840 DP  
**Report No. BU 1106-561**

DUPLICATE

Statement of  
Qualification

# Statement of Qualification

**Customer:** BUCK d.o.o.  
Milorada Jovanovica 9  
11147 Belgrade  
Serbia

**Test results:**  
(according to ISO 14644-1)

The luminaire CLEAN ROOM 414/840 DP is suitable for use in cleanrooms fulfilling the Air Cleanliness Class 1.

## Component tested:

Category: Cleanroom Facilities  
Subcategory: Lighting Systems  
Type: Luminaire CLEAN ROOM 414/840 DP

## Random check measurements of particle emission (airborne) at representative points

Test procedure: According to VDI 2083 Part 9.1

Measuring instruments being used: Optical Particle Counter:  
Model LasAir II 110 manufactured by PMS with measuring channels of  
 $\geq 0.1 \mu\text{m}$ ,  $\geq 0.2 \mu\text{m}$ ,  $\geq 0.3 \mu\text{m}$ ,  $\geq 0.5 \mu\text{m}$ ,  $\geq 1.0 \mu\text{m}$  and  $\geq 5.0 \mu\text{m}$

Test parameters of the test environment:

- Cleanroom of Air Cleanliness Class: .....ISO Class 1  
.....(according to ISO 14644-1)
- Air flow velocity: .....0.45 m/s
- Air flow guidance: .....vertical unidirectional air flow from ceiling to floor
- Temperature: .....22 °C  $\pm$  0.5 °C (71.6 °F  $\pm$  0.9 °F)
- Relative humidity: ..... 45 %  $\pm$  5 %

Test parameters of the test execution:

The luminaire was stressed as follows:

- Impact sound: ..... between approx. 5 Hz and 50 Hz
- Average oscillation velocity: .....  $v = 0.246 \text{ mm/s}$
- Average oscillation acceleration: .....  $a = 0.182 \text{ m/s}^2$
- Average oscillation of the system: .....  $s = 0.00090 \text{ mm}$

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The measuring equipment used for the qualification is regularly calibrated and is based on national and international standards. In the case where no national standards exist, the measuring procedure used corresponds with technical regulations and norms valid at the time of the measurement. The documents drawn up for this procedure are available for viewing.


The validity of this certificate applies only to the mentioned product in this particular condition for a duration of 5 years.  
Further information: [www.tested-device.com](http://www.tested-device.com).

Fraunhofer Institute for  
Manufacturing Engineering and Automation IPA

Department Ultraclean Technology  
and Micromanufacturing

Nobelstrasse 12  
70569 Stuttgart  
Germany

Stuttgart, August 2, 2011  
Place, Date

  
i. A.   
Project manager