



valid until: March 6, 2031

Fraunhofer

TESTED[®] DEVICE

EAE Lighting
BLOOM IP65 60x60
Report No. EA 2602-1723

DUPLICATE

Statement of
Qualification

Single product
Particle Emission
in Cleanroom
(atmospheric)

Statement of Qualification · Single product

Customer
 EAE ELEKTRİK AYDINLATMA ENDÜSTRİSİ SANAYİ VE TİCARET ANONİM ŞİRKETİ
 Organize Sanayi Bölgesi (Makina İhtisas OSB) Mah. 14.Sk. Fabrika Binası
 (A+B+C Blok) No:3/1 41455 Dilovası/KOCAELİ
 Turkey

Tested product
 Category: Cleanroom Facilities
 Subcategory: Lighting Systems
 Product name: BLOOM V3 IP65, Recessed Mounted 60x60cm 36 W LED Luminaire
 (manufacturing date: 12/2/2025; color: white; article number: 3181655;
 serial number: 5139565120002)

Random sampling of particle emissions (airborne) at representative sites in cleanroom under atmospheric conditions

Standards/guidelines: ISO 14644-1, -14
 The norms stated generally refer to the version valid at the time of the tests.

Test equipment: Optical particle counter:
 LasAir II 110 and LasAir III 110 with measuring ranges $\geq 0.1 \mu\text{m}$, $\geq 0.2 \mu\text{m}$,
 $\geq 0.3 \mu\text{m}$, $\geq 0.5 \mu\text{m}$, $\geq 1.0 \mu\text{m}$ and $\geq 5.0 \mu\text{m}$

Test environment parameters:

- Cleanroom Air Cleanliness Class (according to ISO 14644-1):..... ISO 1
- Airflow velocity:.....0.45 m/s
- Airflow pattern:..... vertical laminar flow
- Room temperature:22 °C ± 0.5 °C
- Relative humidity: 45 % ± 5 %

Test procedure parameters: The luminaire was subjected to stress as follows:

- Structure-borne noise: approx. 50 Hz
- Oscillation velocity (\emptyset):.....v = 1.0896 mm/s
- Oscillation acceleration (\emptyset):.....a = 0.2727 m/s²
- Deflection of the system (\emptyset):..... s = 0.0657 mm

Test result / Classification

The luminaire BLOOM V3 IP65, Recessed Mounted 60x60cm 36 W LED Luminaire is suitable for use under the specified test parameters (room temperature: 22 °C ± 0.5 °C; relative humidity: 45 % ± 5 %) in cleanrooms of the following Air Cleanliness Class according to ISO 14644-1:

Test parameter(s)	Air Cleanliness Class
Structure-borne noise = approx. 50 Hz	1
Overall result	

It should be noted that cleanrooms of class 1 to 5 according to ISO 14644-1 have a higher filter occupancy, which may restrict the use of panel lighting systems. Cleanrooms with a horizontal displacement flow form an exception to this.
 The test result may be affected by the surrounding ceiling system, in particular the material pairing between lights and ceiling frames, as well as other mounting accessories. Particle emission behavior should be reassessed in each assembly situation.

Please note: Transport damages, incorrect installation, aging behavior, corrosion etc. can influence the test result.

The measuring devices used for the qualification tests are calibrated at regular intervals; their results can be traced back to national and international standards. In cases where no national standards exist, the test procedure implemented complies with the technical regulations and norms applicable at the time of the test. The relevant documentation can be viewed on request at any time.

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