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Staatliche Versuchsanstalt

Elektrotechnik und Elektronik

FEDERAL INSTITUTE OF TECHNOLOGY
ELECTRICAL AND
ELECTRONIC ENGINEERING

EXPERTISE

TGM – VA EE 39345

Ball throwing safety for
LED-Luminaire
Series: AFP2...

according to: DIN 57710-13/VDE 0710-13: 1981-05
DIN 18032-3:1997-04

Commissioned by:	ZG Lighting France
Address:	Route de Paix B.P. 504, 27705 Les Andelys Cedex, France
Order reached:	2023-03-05 / Order Nr. 90148510
Sign of order:	Mr. Picouet Gregory
Receiving of test sample(s):	22650 / 2023-05-16
Test period:	CW 20/2023 – CW 29/2023
TGM-number:	

1 Test order

As ordered we carried out the tests for ball throwing safe luminaires (DIN 57710-13/VDE 0710-13:1981-05) according to DIN 18032-3:1997-04 for the luminaire type AFP2... .

2 Test item

LED- Luminaires:

Series: AFP2...

Type: AFP2 S 48L70-740 A4 BS3550 CL1 GY

Nominal voltage: 230V~, 50/60 Hz

Nominal wattage: 1x100,9W

Class: I

IP- Degree of protection: IP66

Mounting: direct mounting on ceiling

Series: AFP2...

Type: AFP2 S 288L75-740 AI6 CL1 WS1 GY

Nominal voltage: 230V, 50/60 Hz

Nominal wattage: 1x628,9W

Class: I

IP- Degree of protection: IP66

Mounting: direct mounting on ceiling

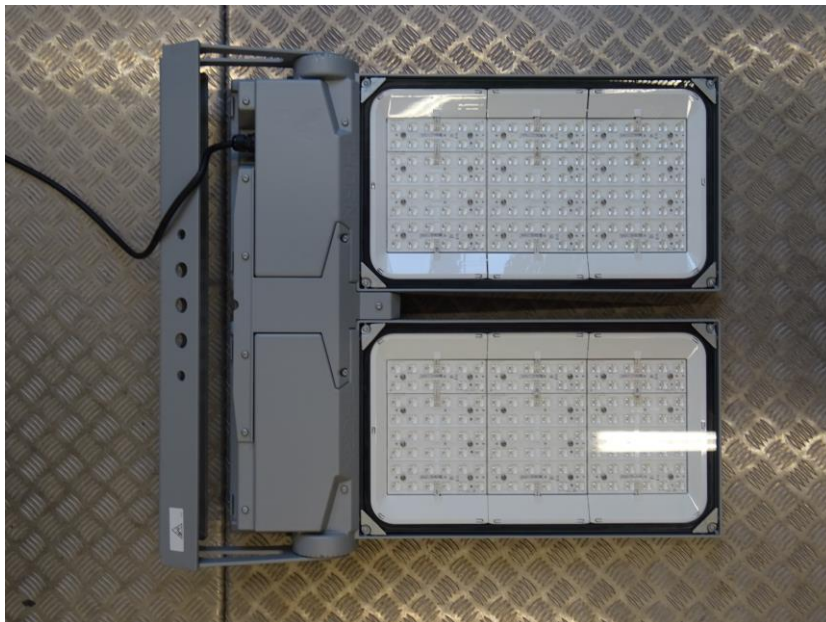


Figure 1: 2 x AFP2 2L 288L75-740 AI6 CL1 WS1 GY – front view



Figure 2: 2 x AFP2 2L 288L75-740 AI6 CL1 WS1 GY – back view

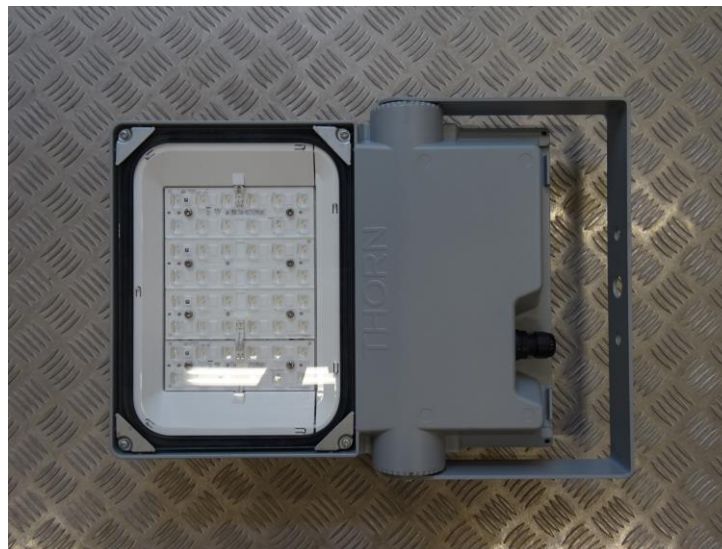


Figure 3: AFP2 S 48L70-740 A4 BS3550 CL1 GY – front view



Figure 4: AFP2 S 48L70-740 A4 BS3550 CL1 GY – back view

3 Marking



Figure 6: marking / label

4 Test specifications and Results

Specifications during the test:

The tests were performed according to DIN 57710-13/VDE 0710-13:1981-05 (Luminaires with operating voltage below 1000V; luminaires safety to ball throwing) in conjunction with DIN 18032-3:1997-04 (Sport halls – Halls for gymnastics, games and multi-purpose use – Part 3: Testing of safety against ball throwing)

The luminaire was mounted direct on the ceiling recessed in a wooden box on an 10cm thick wooden plate on the ceiling; fixed with a mounting frame.

Luminaires tested with all optics and light distributions according to type code on page 14.

Ball throwing test apparatus: similar picture 1 of DIN 18032-3:1997-04

Handball: mass: 430g

diameter: \varnothing 187mm

overpressure: 1.2bar

impact speed: (16.5 ± 0.5) m/s

ball	shot - angle	shot quantity
Handball	90°	12
Handball	-60°	12
Handball	+60°	12

Table 1: luminaires safety to ball throwing – shot sequence

After the test: The test sample fulfils the requirements of EN IEC 60598-1:2021+A11:2022 for the protection against electric shock (section 8: no access to live parts with the test finger) and the electric strength (section 10: high voltage test). There was no damage according to DIN 57710-13/VDE 0710-13:1981-05 detected, particularly:

- No access to live parts.
- Effectiveness of isolation barriers is not reduced.
- No reduction of the IP-degree of protection against the ingress of dust, solid objects and moisture.
- Covers could be removed or replaced without damaging the cover or isolation.

During the test no parts of the luminaire were falling down. The LED-modules shows no mechanical damage. The enclosure of the luminaire shows no damage which have an effect on the creepage distances and clearances.



Figure 7: 2 x AFP2 2L 288L75-740 A16 CL1 WS1 GY



Figure 8: 2 x AFP2 2L 288L75-740 A16 CL1 WS1 GY



Figure 9: AFP2 S 48L70-740 A4 BS3550 CL1 GY



Figure 10: AFP2 S 48L70-740 A4 BS3550 CL1 GY

5 Summary

The test item described and pictured under clause 2 fulfils the requirements for ball throwing safe luminaires (DIN 57710-13/VDE 0710-13:1981-05) according to DIN 18032-3:1997-04. The test result relates to all luminaire versions of the AFP2-.. series, provided these are structurally identical to the tested luminaires (see type code).



The present report

is including 9 Pages
0 Appendix(es) (with 0 pages)

Official in charge: Stephan Prochaska

Vienna, 2023-07-20



Ing. Dominic Litzka, BEd
Authorized Expert

Ing. Mag. Thomas Thun
Head of Department

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1. The test results recorded in this document refer exclusively to the test item described.
 2. The documentation and material returned to the client have been marked when necessary by the Testing Institute as far as this is possible.
 3. A third party will only be notified of the content of this document at the written agreement of the client.
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