Certified translation from the Polish language

[header on all 3 pages of the document: **Certified translator of the German language, no. TP/45/13/, Tomasz Korab, MA;** ul. Staszica 12/1, 38-400 Krosno, Tel. +48697038006, e-mail: tktranslate@tktranslate.pl, www.tktranslate.pl]

CERTIFIED TRANSLATION FROM THE GERMAN LANGUAGE

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The German Accreditation Unit
D-PL-11027-04-00

Test report

Testing of safety against ball throwing

Report no.:	903 2612 000/Man/Sgm
Client:	LUG Light Factory Ltd. LUG Headquarters/Central Office 65-127 Zielona Góra ul. Gorzowska 11 POLAND
Order no. (the client):	-
Order no. (MPA):	**903 2612 000**
Tested object:	**Ceiling lighting "CRUISER 2 LED"**
Test specification:	[1] DIN 18032-3:1997-04 Sport halls - Halls for gymnastics, games and multi-purpose use - Part 3: Testing of safety against ball throwing [2] DIN EN 13964:2014-08 Suspended ceilings – requirements and test methods
Tested object received on:	04-10-2016
Test date:	08-11-2016
Date of issue:	14-11-2016
Page 1 of	3 pages
Appendices:	3
Schedules:	[No entry]
Total number of pages:	6
Number of copies:	1 x LUG Light Factory Ltd.

Test results refer solely to the tested sample.

Publication of this report (or fragments thereof) is permitted only upon a written consent of MPA, University of Stuttgart.

Aleksandra Kacalska-Zając

MPA, University of Stuttgart is a testing laboratory accredited by DAkkS Deutsche Akkreditierungsstelle GmbH in accordance with the DIN EN ISO/IEC 17025 standard.
The accreditation applies to test methods specified in the documents.

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1. Scope of tasks

In your letter of 26-09-2016, University of Stuttgart's MPA received an order for a test of safety of a fitting against ball throwing in accordance with DIN 18032-3 standard [1] as well as resistance of ceiling fixtures to impact in accordance with the DIN EN 13964 [2], Appendix D.

2. Tests performed

2.1 Fixture description

The tested fixtures were **Cruiser 2 LED** ceiling lamps.
The dimensions of the tested ceiling lamps were 515mm x 354mm x 90mm. The lighting fixture casing is made of aluminium, 3mm thick and 6.5mm thick. Glazed cover was made of 4mm-thick toughened glass (IK07) and was fixed to the casing with 6 stainless steel screws (A2, M4xI6).
On the reverse side of the ceiling lighting there were two steel bevels (ST3s, 2mm) fixed to the casing with two screws (M5xI56). These steel bevels were also intended for fixing the lamps to the suspended ceiling with two screws per bevel. The following model variants may be installed likewise in sports halls and identified as safe against ball throwing:

- Cruiser 2 LB LED

Test procedure

The test was performed in accordance with DIN 18 032-3 [1] and DIN EN 13964 [2], Appendix D (testing method accredited in accordance with DIN EN ISO/IEC 17025; see DAkkS document no. D-PL-11027-04-07).

The test was performed at a lab at the temperature of 22°C.

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3. Test results

Table 1: Results of the test of safety of **Cruise 2 LED** fixture against ball throwing in accordance with [1]

Ball	Impact angle in degrees	Number of throws	Changes in the fixture
Hand ball	90	12	None
Hand ball	60	12	
Hand ball	60	12	

The tested fixture survived the impact without any damage.
Therefore, it should be evaluated as safe against ball throwing in accordance with DIN 18032-3 [1] when used on ceilings, and as impact-resistant in accordance with DIN EN 13964 [2], Appendix D, for grade 1A (impact speed 16.5± 0.8m/s)).

This test certificate is valid until 14-11-2018.

The test will not have to be repeated prior to this date only if the applicant can prove and receives a confirmation from the research institute that the tested fixture will be manufactured and assembled without any changes in terms of the relevant components.

(illegible signature)
Manske
Clerk

(illegible signature)
Dr.-Ing. Stegmaier
Office Manager

[Seal with a coat of arms in the centre and the following circumscription: University of Stuttgart, Materials Testing Unit (12)]

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I do hereby certify that the above is a true translation of the document presented to me in the German language.
Tomasz Korab, MA, certified translator of the German language, entered onto the list of certified translators kept by the Minister for Justice under the no. TP/45/13.
Translation no. 1986/2016Krosno, on 28-12-2016.

[in the bottom right corner of all 3 pages of the document, a round seal with a circumscription: TOMASZ KORAB, CERTIFIED TRANSLATOR OF THE GERMAN LANGUAGE, and a number in the centre: TP/45/13; and an illegible signature]

I, Aleksandra Kacalska-Zając, certified translator of the English language, do hereby certify the above to be a true translation of the original document presented to me in the Polish language.
Translation no. 62/2017
Poznań, 17 March 2017

Aleksandra Kacalska-Zając