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Degree of protection provided by enclosures against external mechanical impacts, acc. IK10 requirements on Little Brother SRLX Series Luminaires

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On request of:

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## 1 INTRODUCTION

On request of SIA VIZULO, Riga, Latvia, an IK10 test was conducted on different housing parts of a representative model of the Little Brother series floodlight / street light luminaires.

The requirements as well as the method of testing and test equipment of the IK10 test are described in EN 62262:2002 and IEC/TR 62969 standard and as detailed on the following pages.



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## **TESTED PRODUCT AND TEST DESCRIPTION**

**Product overview:** 





Figs. 1 and 2 – Front side and top side of Little Brother luminaire.



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The luminaire was supported by a wooden surface and subjected by 5 single impacts on the following luminaire parts:

- Aluminum housing (weakest spot)
- Glass cover

Three single impacts shall be conducted on the same location. The other two single impacts may be on a different location on the subjected surface/area.

#### 4.2 Characteristic group numerals of the IK code and their meanings

Each characteristic group numeral represents an impact energy value as shown in table 1.

Table 1 – Relation between IK code and impact energy	Table 1 -	Relation	between	IK	code	and	impact energy
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IK code	IK00	IK01	IK02	IK03	IK04	IK05	IK06	IK07	IK08	IK09	IK10
Impact energy, J	*	0,14	0,2	0,35	0,5	0,7	1	2	5	10	20
* Not protect	ed accord	ing to this	standard	l.		13: 	00	8.	0)) 	s - C	
NOTE 1 WI	hen higher	impact e	nergy is r	equired, t	he value	of 50 J is	recomme	ended.			
NOTE 2 A standards with							sen to avo	oid confus	ion with s	ome natio	nal

#### 5.2 Height of fall

To produce impacts of the required severity, the striking element shall be released from a height depending on the equivalent mass of the pendulum, according to Table 2.

Energy J	0,14	0	,2	(0,3)	0,35	(0,4)	0	,5	0,7	1	2	5	10	20	50
Equivalent mass kg	0,25	(0,2)	0,25	(0,2)	0,25	(0,2)	(0,2)	0,25	0,25	0,25	0,5	1,7	5	5	10
Height of fall mm ± 1 %	56	(100)	80	(150)	140	(200)	(250)	200	280	400	400	300	200	400	500

#### Table 2 – Height of fall

NOTE 1 Figures in brackets appear in previous IEC 60068-2 standards; although no longer recommended, they may be used for historic consistency.

NOTE 2 In this part of IEC 60068, the energy, J, is calculated taking the standard acceleration due to the earth's gravity  $(g_n)$ , rounded up to the nearest whole number, that is 10 m/s<sup>2</sup>.



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## Pass criteria:

After the test, the enclosure shall show no cracks or deformation and shall not affect the normal function of the equipment, reduce the insulation and/or creepage distances or reduce the specified degree of protection against access to hazardous parts below the permitted values. Superficial damage, such as removal of paint, breaking of cooling ribs or of similar parts, or depression of small dimensions can be ignored.



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### 3 RESULTS/CONCLUSION

After the test there was no damage or deformation visible on the enclosure, the glass translucent cover and on the antenna housing of the Little Brother Street Luminaire. The degree of protection and the integrity of the enclosure was still intact.

The product passed the test and complies with the specified requirements for IK10

Test conducted by:

L.N.H. Huynh



A.P. van der Veen

END OF EXAMINATION REPORT