



CELMA

*Federation of National Manufacturers Association for
Luminaires and Electrotechnical Components for
Luminaires in the European Union*



Joint CELMA / ELC LED Forum Light + Building Fair 14 April 2010

Overview of Standards for LED related products

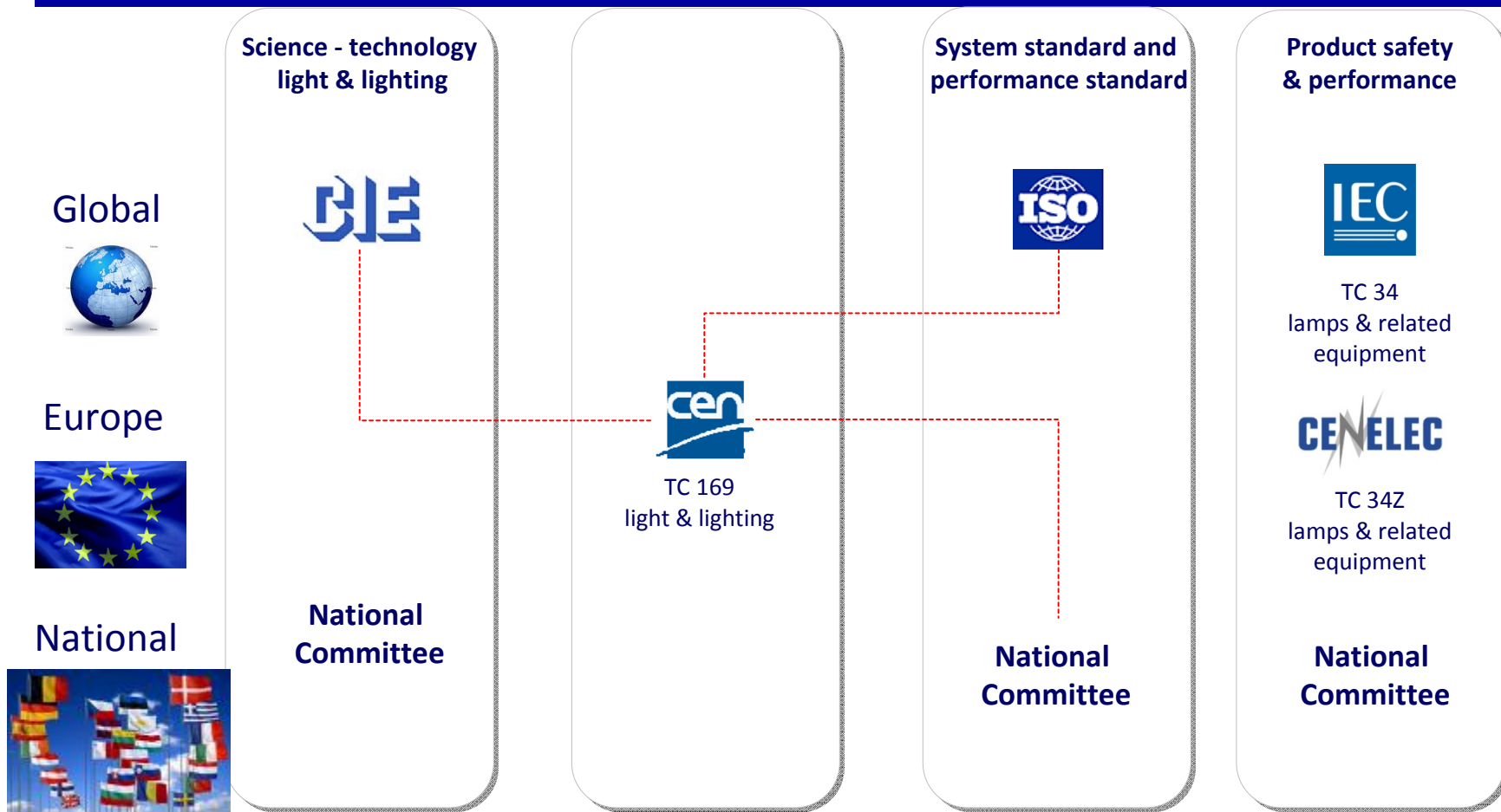
Franco Rusnati



Overview Standardisation bodies for lighting

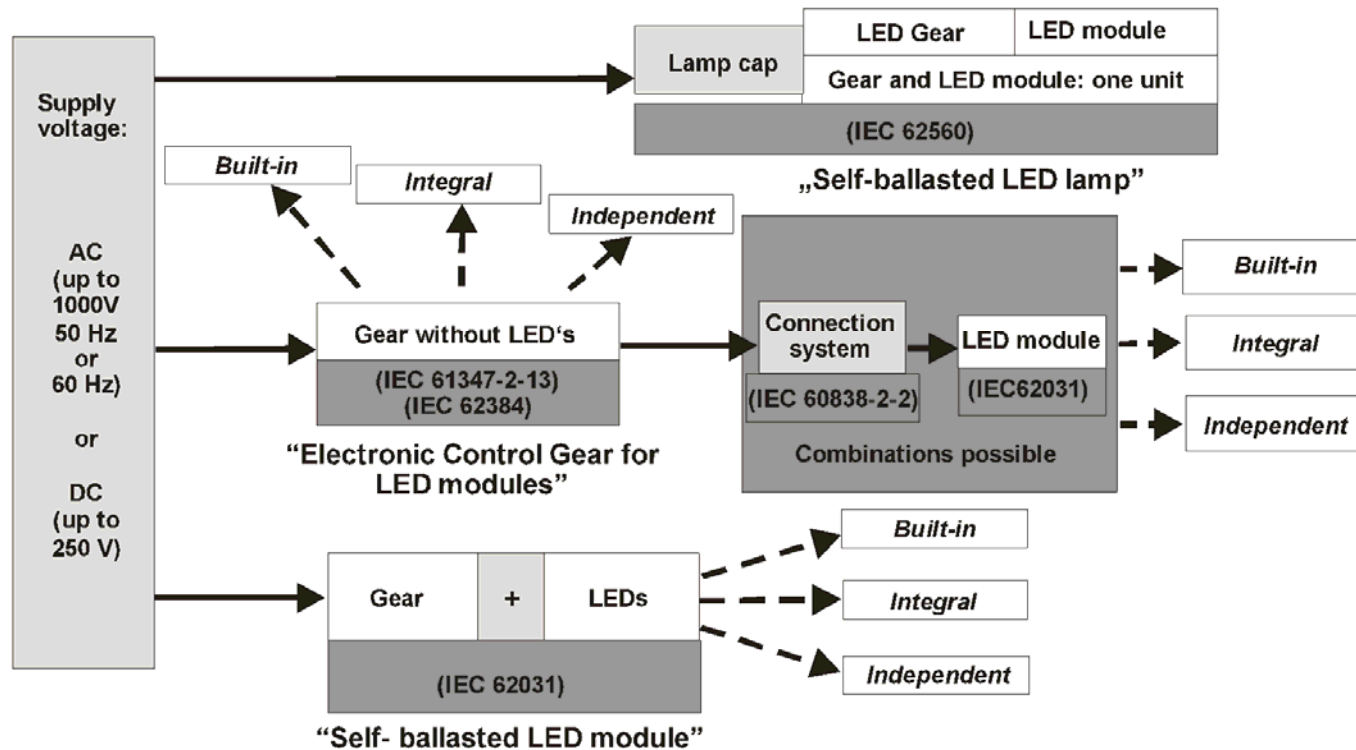
*non - electrotechnical
standardisation*

*electrotechnical
standardisation*



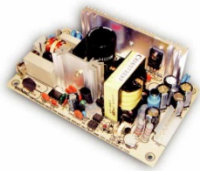


There is an overall IEC standardisation architecture





Key Standards Safety & Performance



| Product type | Safety Standard | Performance Standard |
|---------------------------|--|-------------------------------------|
| <p>LED Drivers</p> | <p>IEC 61347-2-13 Published 2006</p> | <p>IEC 62384 Published 2006</p> |
| | | |



Key Standards Safety & Performance

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|---|---------------------------|---|--|
|  | <p>LED Drivers</p> | <p>IEC 61347-2-13 Published 2006</p> | <p>IEC 62384 Published 2006</p> |
|  | <p>LED Modules</p> | <p>IEC 62031 Edition 1 Publication 2008</p> | <p>Draft standard expected for April 2010</p> <p>Public Available Specification (PAS) expected in 2010</p> |



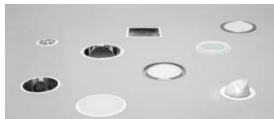
Key Standards Safety & Performance



| Product type | Safety Standard | Performance Standard |
|---|--|--|
| LED self ballasted lamps (>50V) | IEC 62560 Edition 1 Publication expected 2010 | IEC/PAS 62612 Publicly Available Specification published 2009 publication of IEC 62612 standard expected 2011 |
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Key Standards Safety & Performance



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| LED self ballasted lamps (>50V) | IEC 62560 Edition 1 Publication expected 2010 | IEC/PAS 62612 Publicly Available Specification published 2009 publication of IEC 62612 standard expected 2011 |
| LED luminaires | IEC 60598-1 ed 7 2008 | IEC/PAS expected in 2010 |
| | | |



Key Standards Safety & Performance

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|  | <p>LED luminaires</p> | <p>IEC 60598-1 ed 7 2008</p> | <p>IEC/PAS expected in 2010</p> |
|  | <p>LED products</p> | <p>IEC TS 62504 Terms and Definitions for LED's and LED modules in general lighting</p> | <p>To be published in 2010</p> |



LUMINAIRE IEC/EN 60598-1

In the last edition of luminaire standard EN 60598-1: 2008, new requirements for d.c. SELV circuits used mainly for LED application have been introduced

EUROPEAN STANDARD **EN 60598-1**
NORME EUROPÉENNE
EUROPÄISCHE NORM
October 2008
ICS 29.140.40 Supersedes EN 60598-1:2004 + A1:2006

English version

Luminaires -
Part 1: General requirements and tests
(IEC 60598-1:2008, modified)

Luminaires -
Partie 1: Exigences générales
et essais
(CEI 60598-1:2008, modifiée)

Leuchten -
Teil 1: Allgemeine Anforderungen
und Prüfungen
(IEC 60598-1:2008, modifiziert)

This European Standard was approved by CENELEC on 2008-10-21. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

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Ref. No. EN 60598-1:2008 E



SELV = 50V a.c. or 120V d.c.

Both poles may be accessible if:

ORDINARY LUMINAIRE

- ≤ 25 V a.c. or 60 V d.c.
- ≤ 35 V peak or 60 V d.c. in no load conditions

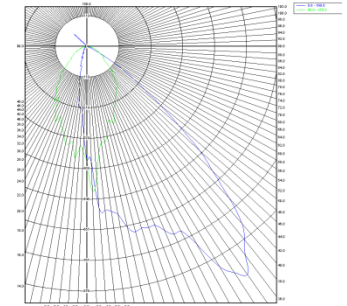
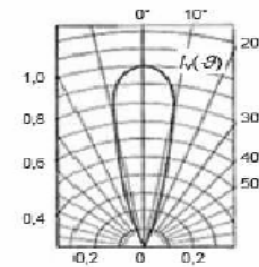
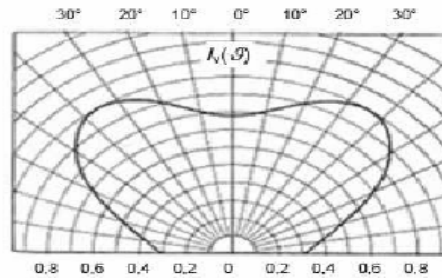
**OTHER THAN ORDINARY
(IP>20)**

- ≤ 12 V a.c. or 30 V d.c.



Key standards Photometric Measurement

- EN 13032-1
- EN 13032-2
- EN 15193





Other infos

- There are also regional standards
- Full details available in the CELMA / ELC Guide to LED related standards in your USB stick and on ELC & CELMA websites



Joint CELMA / ELC Guide on LED related standards



2nd Edition, April 2010

www.celma.org – www.elcfed.org



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**Thank you very much
for your kind attention!**

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