ISO Central Secretariat

1, ch. de la Voie-Creuse
Case postale 56
CH - 1211 Genève 20
Switzerland

Telephone + 41 22 749 01 11
Fax + 41 22 733 34 30
E-mail central@iso.org
Web www.iso.org

Organisation internationale de normalisation
International Organization for Standardization
Международная Организация по Стандартизации

TO THE ISO MEMBER BODIES

Our ref. TS/P 229

Date 2012-06-19

ISO/TS/P 229 – *Light and lighting*

Dear Sir or Madam,

Please find attached a proposal for a new field of technical activity on *Light and lighting* submitted by DIN (Germany).

According to subclause 1.5.6 of Part 1 of the ISO/IEC Directives, you are kindly invited to complete the ballot form (Form 02) which can be downloaded at www.iso.org/forms and send it (preferably in Word format) to the Secretariat of the ISO Technical Management Board at *tmb@iso.org* before **19 September 2012.**

Yours faithfully,

Sophie Clivio,
Secretary of the Technical Management Board

Encl.: TS/P 229

TMB_CL/GLD

PROPOSAL FOR A NEW FIELD OF TECHNICAL ACTIVITY	
Date of proposal	Reference number (to be given by Central Secretariat)
Proposer	**ISO/TS/P**

A proposal for a new field of technical activity shall be submitted to the Central Secretariat, which will assign it a reference number and process the proposal in accordance with the ISO/IEC Directives (part 1, subclause 1.5). The proposer may be a member body of ISO, a technical committee or subcommittee, the Technical Management Board or a General Assembly committee, the Secretary-General, a body responsible for managing a certification system operating under the auspices of ISO, or another international organization with national body membership. Guidelines for proposing and justifying a new field of technical activity are given in the ISO/IEC Directives (part 1, annex Q).

The proposal (to be completed by the proposer)

Subject (the subject shall be described unambiguously and as concisely as possible)

Light and lighting

Scope (the scope shall define precisely the limits of the proposed new field of activity and shall begin with "Standardization of ..." or "Standardization in the field of ...")

Standardization in the field of application of lighting in specific cases complementary to the work items of the International Commission on Illumination (CIE) and the coordination of drafts from the CIE, in accordance with the Council Resolution 19/1984 and Council Resolution 10/1989 concerning vision, photometry and colorimetry, involving natural and man-made radiation over the UV, the visible and the IR regions of the spectrum, and application subjects covering all usages of light, indoors and outdoors, energy efficiency, including environmental, non-visual biological and health effects.

See overleaf

Purpose and justification (the justification shall endeavour to assess the economic and social advantages which would result from the adoption of International Standards in the proposed new field)

The purpose of the proposed standardization is the timely development and harmonization of national specifications and requirements in the field of light and lighting, which play a major role for consumers, employees at their work places, employers, legal authorities, manufacturers of lamps, luminaires and measurement equipment, lighting designers and architects, especially in the context of supporting optimized utilization of energy and protection of the environment.

Even more efficient international standardization in the field of light and lighting shall be established through the strong involvement of the International Commission on Illumination (CIE), which is the recognized international standardization body for light and lighting (Council Resolution 19/1984) and has members from industry, academia and National Metrology Institutes worldwide. The CIE has a well established structure for global cooperation in the field of vision, colour, light, and lighting, as well as related areas of photobiology, photochemistry and visual displays. More effective liaison will also be established with experts from CEN/TC 169 "Light and Lighting" and IEC/TC 34 "Lamp and related equipment". The foundation of an ISO TC will complement these already existing networks, particularly by providing enhanced involvement of national mirror committees in the voting procedures of CIE documents, and will thus support the adoption of best practice in the process of standardization in this field.

Due to the absence of an ISO/TC in the field of light and lighting, other ISO TCs stretch their scope by elaborating Work Items related to light and lighting, which is not only in conflict with the ISO-CIE Memorandum of Understanding, but also means that the relevant lighting experts are not involved; this can lead to the adoption of inappropriate or non-optimized methods and specifications. For example, currently Joint Working Group 4 of ISO/TC 163 "Thermal performance and energy use in the built environment" and ISO/TC 205 "Building environment design" is preparing new ISO Standards for the energy efficiency of buildings based on a holistic approach including lighting. In addition the revision of the Energy Performance of Buildings Directive (EPBD) standards, including EN 15193 "Energy performance of buildings - Energy requirements for lighting" will be revised under European Commission standardisation Mandate 480, if possible in parallel at ISO level under the coordination of ISO/TC 163/TC 205/JWG 4, with the aim to create joint ISO EN standards.

The international lighting industry, as well as lighting designers, are active in many countries and it is important for them to find similar application standards everywhere. Such standards make it possible to apply the same products and the same design in different countries, even allowing for different national lighting habits.

Due to new technologies on the field of Solid State Lighting (LED, OLED) a strong cooperation with IEC is necessary. IEC/TC 34 "Lamp and related equipment" creates - among others - standards relating to the product specification of lamps (including LEDs) and luminaires which affect standardisation in the area of lighting application. A close liaison with IEC/TC 34 shall avoid double standardisation.

To summarize the benefits to be gained:

- timely development and harmonization of national specifications and requirements in the field of light and lighting, including those for new solid state lighting technologies;
- strengthened cooperation with the work of the CIE, CEN and IEC, to ensure effective coordination of the work items of these bodies, avoid duplication of effort and double standardization, and encourage the involvement in lighting standardization of experts from industry, academia and National Metrology Institutes worldwide;
- enhanced involvement of national mirror committees in the voting procedures of CIE documents, to ensure these CIE documents meet the needs of all ISO

TCs, including those relating to the built enviroment and energy performance of buildings.

The ISO Strategy Plan 2011-2015 promotes seven key objectives and related actions. The foundation of an ISO TC on Light and Lighting with strong involvement of the CIE will contribute substantially to the implementation of ISO's strategy. The following paragraphs give some specific examples.

It will help to ensure that ISO is the "preferred international forum in which to meet standardization needs in existing and new areas that address globally relevant issues and for which solid justification, clear objectives and broad stakeholder support exist" (Action 1.2) in that coordination with the work items of the CIE will ensure effective inputs from the CIE's well-established network of stakeholder organizations involved in this field. A newly established Advisory Board, comprising (amongst others) all proposed liaison organizations and all other international organizations with which the CIE already has a Memorandum of Understanding, will ensure that stakeholder interests are properly processed into the ISO system and that standards developed are relevant and "..meet customer needs". Additionally, this structure will support ISO's strategic goal 4 to ".. excel(s) in reaching out to and engaging stakeholders" and 5 to "..foster(s) partnerships that further increase the value and efficient development of International Standards".

The strong involvement of Science and Metrology Institutions will "..actively develop links between standards and research and development to foster innovation" (Action 2.3) and implement Key Objective 7, particularly providing support to Action Item 7.4 "..to include academia's contribution, from the cutting edge of research and technology, in the standards development process".

The capacity and participation of developing countries in international standardization will be significantly enhanced (Key Objective 3) by cooperation with the Associate Members Programme of the CIE. This Programme was launched in 2010 to transfer knowledge and give access to science and standardization to developing countries. It will thus contribute to the action items detailed under ISO Key Objective 3.

Programme of work (list of principal questions which the proposer wishes to be included within the limits given in the proposed scope, indicating what aspects of the subject should be dealt with, e.g. terminology, test methods, dimensions and tolerances, performance requirements, technical specifications, etc.) It is also possible to attach a detailed programme of work showing proposed work item titles.

List of standards required	Suggested time to completion of task (yeas)
1 Energy requirements for lighting in buildings	4
2 Photometric data for the optical performance of LED- and OLED-products	3
3 Biological effects of light on human beings	3
4 Lighting of Outdoor Work Places	1
NOTE It is proposed that this list should be reviewed and supplemented as needed in due course.	

A Subcommittee which will process CIE Standards into the ISO System shall allow and encourage a coordinated approach to international standardization in the field.

In addition, we recommend four WIs should be addressed, which will work in close cooperation with the respective CIE Divisions and Technical Committees:

Work Item 1"Energy requirements for lighting in buildings"

This Work Item shall collaborate closely with CIE TC 3-52 "Energy Performance of Buildings - Energy Requirements for Lighting", and also with ISO/TC 163 "Thermal performance and energy use in the built environment", ISO/TC 205 "Building environment design", and CEN/TC 169/ WG 9 "Energy performance of buildings - Energy requirements for lighting"; it will adopt the recommendations of these committees as appropriate.

This WI will result in improved calculation methodologies for evaluation of the amount of energy used for indoor lighting inside buildings, so providing a numeric indicator for lighting energy requirements used for certification purposes. The results will be able to be used for existing buildings and for the design of new or renovated buildings, and will provide reference schemes as a basis for targets for energy allocated for lighting usage. It will also provide an agreed methodology for the calculation of instantaneous lighting energy use and for the estimation of the total energy performance of a building. Further, the Energy Performance of Buildings Directive (EPBD) 2002/91/EC from the European Commission shall be considered as well as the revised EPBD 2010/31/EC, including all necessary software tools for the calculation of the energy efficiency of the total building. All European EPBD standards will be revised under European Commission standardisation Mandate 480, including EN 15193, if possible in parallel at ISO level under the coordination of ISO/TC 163/TC 205/JWG 4, with the aim to create joint ISO EN standards.

Work Item 2: "Photometric data for the optical performance of LED- and OLED-products"

This Work Item shall collaborate closely with CIE Division 2 "Physical Measurement of Light and Radiation" and IEC/ TC 34 "Lamp and related equipment" and CEN/TC 169/ WG 7 "Photometry", and adopt the recommendations of these committees as appropriate.

This WI will result in standardised terms and definitions in this field, and consistent presentation of photometric data for LED- and OLED-products, to facilitate effective communication between light source and luminaire manufacturers and those involved in their application. Typical LED-products are packages, modules, lamps and luminaires, whereas typical OLED-products are tiles,

panels, modules and luminaires.

Work Item 3: "Biological effects of light on human beings"

This Work Item shall collaborate with CIE Division 6 "Photobiology and Photochemistry" and CEN/TC 169/ WG 13 "Non-visual effects of light on human beings", and adopt the recommendations of these committees as appropriate.

This WI will lead to consistent definitions of metrics and measurement procedures used to evaluate and compare lighting conditions with respect to their potential in achieving non visual, eye mediated effects of light on human beings. It will also define requirements for application of non-visual effects in lighting practice, which has relevance for both the public and private domain.

Work Item 4: "Lighting of Outdoor Work Places"

This Work Item shall be based on CIE S 015/E:2005 and will therefore be carried out in collaboration with CIE Division 5 "Exterior Lighting and Other Applications". According to the Memorandum of Understanding between CIE and ISO it would be appropriate to register this WI as a Draft International Standard (DIS).

This Work Item will deal primarily with the specification of lighting requirements for outdoor work places, which meet the needs for visual comfort and performance. All usual visual tasks shall be considered.

Survey of similar work undertaken in other bodies (relevant documents to be considered: national standards or other normative documents)

International:

Note: the listed CIE Work Items are only a few examples, the complete list can be found at www.cie.co.at

CIE S 015/E:2005	Lighting of Outdoor Work Places
TC 2-50	Measurement of the Optical Properties of LED Assemblies
TC2-71	CIE Standard on Test Methods for LED Lamps, Luminaires and Modules
TC 3-39	Discomfort Glare from Daylight in Buildings
TC 3-52	Energy Performance of Buildings – Energy Requirements for Lighting
TC 4-47	Application of LEDs in Transport Signalling and Lighting
TC 4-48	White Light on Road Lighting
TC 6-45	Optical Radiation Hazard Measurements in the Workspace
TC 6-55	Photobiological Safety of LEDs

Europe:

EN 12464-2	Light and lighting - Lighting of work places - Part 2: Outdoor work places; German version EN 12464-2:2007
EN 15193	Energy performance of buildings - Energy requirements for lighting; German version EN 15193:2007
EN 13032-1	Light and lighting - Measurement and presentation of photometric data of lamps and luminaires – Part 1: Measurement and file format

Germany:

DIN V 5031-100	Optical radiation physics and illuminating engineering – Part 100: Non-visual effects of ocular light on human beings - Quantities, symbols and action spectra
DIN V 18599-4	Energy efficiency of buildings - Calculation of the net, final and primary energy demand for heating, cooling, ventilation, domestic hot water and lighting – Part 4: Net and final energy demand for lighting

Liaison organizations (list of organizations or external or internal bodies with which cooperation and liaison should be established)

The work of the proposed new TC should supplement the set of International Standards (see annex) already worked out in cooperation between CIE, ISO and IEC. Therefore, a strong liaison should be established with

- CIE
- ISO/TC 163 "Thermal performance and energy use in the built environment"
- ISO/TC 205 "Building environment design"
- IEC/ TC 34 "Lamp and related equipment"
- CEN/TC 169 "Light and Lighting"

Other comments (if any)

The German National Standards Institution (DIN) is prepared to undertake the secretariat duties of the proposed committee.

DIN Deutsches Institut für Normung e. V.
Am DIN-Platz
Burggrafenstraße 6 · D-10787 Berlin

2012-05-22

Signature of the proposer

Comments of the Secretary-General (to be completed by the Central Secretariat)

Signature