Update CIE Division 4 & 5 Technical Committee NSVV/CIE dag

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CIE / NSVV
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Workshop
CIE Div4 / Div5

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Voorstel agenda

- Overzicht lopende activiteiten en TCs
- Aan welke TCs kunt u bijdragen ?
- Welk onderwerp mist u ?
- en wat kunt u daaraan bijdragen ?

Highlights
CIE Conference 2015

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D4 / D5 document review

- CIE publication 129: Exterior work areas
  - new CEN standard (EN 12464-2:2014)
  - also on review list of ISO TC274
  - TC 5-18 dissolved

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Upcoming actions

- Preparation of D4/D5 roadmap
  - inventory of new subjects
- New TC on Exterior work places?

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Division 4
Lighting and Signalling for Transport

Terms of Reference:
To study lighting and visual signalling and information requirements of transport and traffic, such as road and vehicle lighting, delineation, signing and signalling for all types of public roads and all kinds of users and vehicles, and visual aids for modes other than road transport.

New DMT D4

- Intention to merge D4 and D5

- New DMT for 2 year term

- Division Director: Ron Gibbons (USA)
- Division Secretary: Maurice Donners (NL)
- Division Editor: Nigel Parry (UK)
- Associate Directors: Yandan Lin (PRC), Dionyz Gasparovsky (SK)

TC 4-15: Road Lighting Calculations

- To revise CIE 30.2 with the object of incorporating recently developed techniques relating to visibility, glare and other lighting variables. To recommend whether a CIE/ISO standard in this area is appropriate.
- Chair: Sermin Onaygil (TR)

- Working Draft is edited and ready for ballot.
- TC was waiting for harmonization with the European standard on the subject.
- As CIE 140 document is being finished, proposed to stop TC4-15 and follow-on with a new TC to consider new developments. TCC will write the Terms of Reference.

- Only dealing with fundamentals of calculation methods. No influence on actual designs.

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Road lighting calculations

- How to take into account reflectivity of road sides?
- How to deal with highly reflective road surfaces?
- Renewed interest in visibility with increase in calculation and measurement power

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TC 4-33: Discomfort Glare in Road Lighting

- To study the known mathematical description of the discomfort glare in road and vehicle lighting, its scaling and comparisons with field studies and to condense the outcome in a report that should result in methods for discomfort glare assessment. To review or replace Publication CIE Publication 31.
- Chair: Ron Gibbons (US)

- TC ToR too broad, including road and vehicle lighting, conventional and LED light sources.
- Decided to finish the TC due to a lack of new relevant data.
- Aim is to finish the report spring 2016 and to consider starting up a new TC dealing specifically with discomfort glare in LED road lighting.

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Disability glare

- Several pleas for extending / adapting TI
  - add background luminance

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Discomfort glare

- Observation on urban lighting
  - small stretches of luminance concept, chained with conflict areas
  - no measure for DG!

TC 4-36: Visibility Design for Roadway Lighting

- To develop a technical report on design procedures for roadway lighting based on the visibility level concept.
- Chair: Vacancy

- The report from TC4-36 was edited in June 2013

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TC 4-45: Performance Assessment Method for Vehicle Headlamps

- Extend the technical report describing the development of requirements for an objective procedure to evaluate forward-lighting system performance in terms of active safety taking into account latest forward lighting technologies.
- Chair: Gert Langhammer (DE)

- Not compliant to CoP, no progress, abolished?

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TC 4-46: 300 mm Roundel Signals

- Develop a CIE Standard, for proposal to ISO, providing the colorimetric and photometric properties of 300 mm road traffic control roundel signals. **Review CIE Standard S006.**
- Chair: Ron Gibbons (US)

- Report ready, due for voting

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TC 4-47: Application of LEDs in Transport Signalling and Lighting

- To review the application and methods of measurement of LEDs in transport lighting and signalling as far as they affect the visual performance of the users of the transport system. To prepare a Technical Report which includes the findings of the review and recommendations for the visual characteristics of LED signals and lighting.
- Chair: Steve Jenkins (AU)

- Scope of TC ToR too broad and continuously overtaken by LED developments.
- Decided to finish a part of the report and close TC.

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TC 4-50: Road Surface Characterization for Lighting Applications

- To revise Publication CIE/PIARC TR 66 1984 containing the standards. To propose methodologies for the determination of parameters from calculation and from laboratory and on site measurements, considering also the evaluation of uncertainty. To publish Data. Review CIE Publications 47 and 144, excluding the sections on markings. Chairs: Guiseppe Rossi (IT)

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TC 4-51: Optimizing of Road Lighting

- Develop guidance on optimization of road lighting to balance the benefits and costs. Primary issues include accident risk and energy consumption. Tasks include to set up a Technical Report or update CIE publication 93 and to provide an analysis of lighting quality.
- Chair: Per Ole Wanvik (NO)

- TC aims to establish the relation between lighting quality and traffic safety
- Also deals with the question when adaptive lighting is allowed
- Highly relevant for outdoor lighting.

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Adaptive Lighting

- FHWA: future driver for adaptive lighting:
  - shift of peak load from late afternoon to night due to electrical vehicle charging

- Legal aspects:
  - ‘ Sovereign immunity’: you can’t sue government
    - but you can sue lighting designers and consultants
  - Level of Service

- ILP published PLG08: Guidance on the Application of Adaptive Lighting

- Italy: adaptive lighting limited

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TC 4-52: Lighting for Pedestrians

- To establish empirical data that might be used to determine design criteria when lighting to meet the needs of pedestrians. The committee will consider three approaches to establishing such criteria:
  - evaluation of the costs and benefits of lighting.
  - the visual needs of pedestrians.
  - current practise.
- Chair: Steve Fotios (UK)

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Pedestrians / Cyclists

- Pedestrians
  - recommendation for uniformity needed?

- Pedestrian crossings

- Suggestion to look into cyclists resonated
- First paper (Steve Fotios):
  - obstacle detection in peripheral vision

- need to follow / steer this subject
  - TC secretary in pedestrian TC

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TC 4-53: Road Lighting for an Ageing Society

- ToR: To propose improvements to the existing road lighting recommendations using performance based empirical data to provide the required comfort and safety for road users with a deteriorated visual system.
- Chair: Maurice Donners (NL)

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TC 4-54: Tunnel lighting

- ToR: To propose improvements to the existing tunnel lighting recommendations. Update of CIE 88:2004.
- Chair: Raoul Lorphevre (BE)

Tunnel lighting

- Add a 3 degrees observer
- increase calculation grid resolution with decreasing uniformity

- review of CIE 88:2004. New items are needed:
  - on Control systems and LED technology;
  - a paragraph on LEDs in chapter 9.2 on lamp lumen depreciation: maintenance;.
  - 4.1 Short tunnel diagram;
  - 6.7 Length of 30 seconds for interior zone needs clarification as no starting point is specified;
  - 5.1 and 6.6 Lighting management for energy savings variation of speed during rush hour;
  - Luminance in transition zone in steps (6.6)
  - New items: new chapter on luminaire management; Recommendations on calculation of annual power consumption; new definitions, annex with example of lighting design and, or management; Connection of 2 tubes in entrance or exit (conflict zone); Hard shoulder.
  - Suggestion to form new TC.

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R 4-XX: Lighting for cyclists

- ToR: To establish empirical data that might be used to determine design criteria when lighting to meet the needs of cyclists.
- Members: Steve Fotios (UK), Maurice Donners (NL)

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JTC 1 (D1/D2/D4/D5): Implementation of CIE Mesopic Photometry in Outdoor Lighting

• To investigate adaptation and viewing conditions and define visual adaptation fields in outdoor lighting. To define lighting applications where mesopic photometry could be used. To provide guidelines for implementing mesopic photometry in outdoor lighting.
• Chairs:
  – Stuart Mucklejohn (UK)
  – Tatsukiyo Uchida (JP)

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Mesopic

- France: implementation of mesopic in French recommendations for urban lighting?

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Division 5

Terms of Reference:
To study procedures and prepare guides for the design of lighting for exterior working areas, security lighting, flood lighting, pedestrian and other urban areas without motorized traffic, areas for sports and recreation, and for mine lighting.

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TC 5-20: Guide for Sports Lighting

- ToR: To prepare a Guide for Sports Lighting that excludes lighting for TV and films. This guide will replace the present publications CIE 42-1978, CIE 45-1979, CIE 57-1983, CIE 58-1983 and CIE 62-1984
- Chair: Alan Smith (UK)

- Previous TCC resigned, TC5-26 chair took over
- Proposal to merge with TC5-26

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TC 5-26: Guide for the Lighting of Sport Events for Colour Television and Film Systems

- ToR: To prepare a revision of CIE 83-1989 to better relate to CIE 169:2005 and the present state of the art of HDTV.
- Chair: Alan Smith (GB)

- last draft from March 2014

- Followed by Mike Simpson (Philips UK) and Gilles Page (MIR)

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TC 5-21: A Guide to Urban Lighting Masterplanning

- ToR: To prepare a Guide to Masterplanning Urban Lighting. The Guide shall be used whenever designing new or renewed creative lighting for masterplanning urban lighting. The Guide includes an integrated approach which takes into consideration functional lighting, floodlighting, decorative lighting and considers functional, aesthetic and emotional aspects of lighting design.
- Chair: Müjgan Serefhanoglu-Sözen (TR)

- Draft almost finalized in 2012 but France voted against, because social aspects were not taken into account.
- Decided to incorporate input on social aspects from Cyril Chain. LUCI did not provide any of the promised input.
- Issues with copyright of photographs and figures in draft; Draft now with editor.
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TC 5-28: Guide on the Limitation of the Effects of Obtrusive Light

- ToR: To review and update if and where required publication CIE 150:2003.
- Chair: Nigel Pollard (GB)

- Working draft circulated for first ballot in TC in October 2014
- Ballot revealed lack of required consensus among TC members on technical issues

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Light Pollution

- Road lighting health effects
  - recurring concerns
  - Study by independent Harvard Researcher:
    - adaptive lighting with 4000K LEDs had 40 % lower melanopic impact than HPS

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NSVV bijdrage aan CIE

- Optimalisatie van wegverlichting
- Voetgangers
- Tunnels
- Fietsers
- …

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CIE Roadmap

- Welke onderwerpen mist u ?
- en kunt u hieraan bijdragen ?

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