



COMMISSION INTERNATIONALE DE L'ECLAIRAGE
INTERNATIONAL COMMISSION ON ILLUMINATION
INTERNATIONALE BELEUCHTUNGSKOMMISSION

Central Bureau: Kegelgasse 27 - A-1030 Wien - Austria

Division 3: Interior Environment and Lighting Design

Minutes of Meeting CIE Division 3

York, 8th & 9th July 2000

Secretary: Geoffrey Cook

Attendees

Odd Arnesen	ICG/NTNU, Norway	Norway Rep
Lou Bedocs	Thornlighting, UK	TC3-21 Chair, R3-10 Report.
David Carter	University of Liverpool, UK	TC3-31 Chair
Geoffrey Cook	University of Reading, UK	UK Rep, Div. 3 Sec.
Jan Ejhed	Konstfack, Sweden	Sweden Rep
Dilek Enarun	Elektrik-Elektronik	Turkey Rep.
Marc Fontoynont	ENTPE, Lyon, France	Div.3 Director
Simon Hayman	CIE	Australia Rep
Warren Julian	University of Sydney	.CIE – VP(Technical)
Sueko Kanaya	Kanazawa Inst. of Tech	Ass. Dir. (Elec. Light)
Yasuko Koga	Kyushu Univ	TC 3-25 Sec.
Heinrich Kramer	Lichtdesign GmbH	TC3-20 Chair
Peter N Haug	Lyskultur	Observer
Terry McGowan	EPRI, USA	TC 3-34 Member
Naomi Miller		TC3-34 Member
Anna Perigrino	Torino University	Observer
Anthony Slater	BRE, UK	CEN Liaison
Axel Stockmar	LCI, Germany	Pres. German Nat. Comm
Peter Tregenza	University of Sheffield	Observer
Johan Van Kemende	Philips, Netherlands	TC 3-34 Member
Jennifer Veitch	NRC, Canada	TC3-34 Chair

1 Opening of Meeting

The Director of the division opened the meeting. This being the first meeting after the recent loss of Prof. H. Einhorn the Director led a series of tributes by members of the Division to his life and work. The Division then observed a minute of silence in remembrance of the loss of this highly respected member.

2 Approval of Agenda

The Agenda was approved.

3 Apologies for Absence

The Secretary tabled the list of apologies for absence:

Mr K. R. Ackerman
Craig A Bernecker
Dorin Beu
Christopher Cuttle
Jonathan David
Dominique Dumortier
Derrick Kendrick
Leif Liedquist
Eliyahu Ne'eman
Peter Ngai
Martin van Ooyen
Ivan Pasini
Yoshiaki Uetani

4 Approval of Warsaw Meeting Minutes

The minutes of the last meeting of the Division in Warsaw on 28th and 29th June 1999 were approved.

5 Division Membership changes

The Secretary informed the Division of the following changes to membership.

Belgium National Committee for Illumination is now:
Mrs Benedicte Collard
Product Line "Light and Customer Safety"
LABORELEC
Rue de Rhodes, 125
B-1630 Linkebeek.
BELGIUM
Tel: +32 02 3820367
Fax: +32 02 3820649
Email: benedicte.collard@laborelec.be

Prof. Craig A Bernecker
Executive Director
Albright-Penn State Partnership
c/o Albright College
13th & Bern Streets
PO Box 15234, Reading, PA 19612
USA
is now the US Member.

Gonzalo Esquerro
ODEL LUX, SA
C/ Cid Campeador s/n
28935 Mostoles (Madrid)
SPAIN
is the new Spanish member.

It was noted that the Director had been approached by representatives from the lighting community from Greece, who would like to take an active role in the CIE. It was noted that Greece cannot be Division 3 members since they are not members of CIE, but they may attend the meetings as observers. They could also take Part in the activities of TCs.

6 The Divisional Director & Associate Director's Report

6.1 Divisional Director.

The division director gave a report, which was mainly drawn from a recent meeting of Division Directors at CIE HQ in Vienna.

CIE Web Sites: the CIE has recently revamped its main web site. It is keen to have a web site for all divisions and it has expressed the wish that all division sites follow the same design. Since the Division 3 web site was created at a time (1997) when CIE had no guidelines, it does not have the same interface as the other division sites. However, in many ways, the division 3 web site is more advanced than any other division site. Therefore the site will stay as it is unless the CIE HQ take the initiative of changing it. (There was a proposal of Vice President Wout Van Bommel to take care of these changes). It was brought to the notice of the committee that the Division 3 web site has moved to a faster Internet access in June. Users will certainly notice the change.

The need for a common database of member information was also identified as essential for the future. A CIE group was set up in Vienna in June. It is working on this database. It was noted that many members do not have access to electronic information. There was a call for further information from CIE-HQ to be supplied to members on how to access all of the CIE web sites. This is particularly important where members were involved in cross division activities. It was suggested that the password system currently operated by CIE does not facilitate good communication.

Publications: Some discussion concerning allowing industry to pay for the production and distribution of publications, although with no overt recognition, took place. This would allow publications to be issued free. The idea of an industry body, e.g., The European Union, The International Energy Agency (IEA) or other industry representative body, rather than individual companies, was favoured. The involvement of these industry agencies may also enhance a case for research funding from Government. It was noted that selling publications is a major source of income for some countries. There is also a problem of copyright making some publications cheaper in different countries.

The need to preserve academic independence in CIE activities is essential. The effective control of TC performance, e.g., meeting output objectives, would improve the publication output of the division and enhance the image of the division with industry. A Division 3 fund for research and TC activity would be advantageous.

Liaisons with other Divisions: Is complicated by the different objectives of different Divisions, e.g., work in Division 3 and Division 6. But Division 3 is certainly willing to benefit from the objectives defined in Division 6. J. Veitch (NRCC, Canada) is the most appropriate person to conduct such liaison. This can be effective with good feedback through division members. It was noted that Division 5 requires a liaison member for TC5-19 Emergency Lighting, Lou Bedocs accepted this role.

An Energy Policy: Although energy issues are not a focus of Division 3 activity there is a need to identify a specific topic within this area and carry it forward. The impact of lighting provision, including daylight integration and power demand was discussed. The Division wished the CIE to have a voice in

the energy debate, but at the CIE Board level. Division 3 does not have the expertise on energy issues, although the results of Division 3 activity can be used to allow CIE to have a view on energy. Since different countries have their own energy needs the CIE view may not be relevant everywhere. The CIE requires a series of statements on strategic policy, of which Energy is an important topic. The VP (Technical) agreed to investigate this issue.

6.2 Associate Director (Electric Lighting)

Work was progressing as described by these minutes.

Associate Director (Daylighting)

Work was progressing as described by these minutes.

7 TC Chairman reports

TC3-01 Glare from small and large sources - Chairman H Einhorn

Due to the death of the TC Chairman, the work on glare from large sources has not been completed. The Associate Director (Electric Lighting) was to check that the TC had voted last autumn on an interim report intended to go into the collection. It was agreed that this report should be published in the CIE collection and then the TC would close.

TC3-11 Daylight calculation methods - Chairman M Navvab

No report was tabled. The Division agreed that the Secretary would write to the TC Chairman and that if no report was available by the 30th September the TC would close and all archive material be sent to CIE HQ. [The secretary sent out the letter on 25th July 2000]

TC3-15 Sky Luminance models - Chairman Y Uetani

A report was tabled. The Secretary to contact the Chairman for this to be issued to all TC members. [The secretary contacted the chairman on 25th July 2000]

TC3-19 Scale Model Photometry for Interior Lighting - Chairman M Navvab

No report was tabled. The Division agreed that the Secretary would write to the TC Chairman and that if no report was available by the 30th September the TC would close and all archive material be sent to CIE HQ. [The secretary sent out the letter on 25th July 2000]

TC3-20 Lighting and Architecture - Chairman H Kramer

A verbal report was given. The final version of the report of this TC is due to be produced next year. The scanning of over 200 colour slides for inclusion in this over 100-page report, is an expensive problem. However, production is proceeding and a review committee is to be appointed. It will be used as a teaching tool in architecture and lighting. The size and the colour aspect of the report mean that it would be difficult to publish by CIE. A half-day presentation is to be arranged for the next meeting of the Division with the text to be issued a month before the presentation. The President of the Hungarian CIE requests that Dr. Andras Majoros, BME H-1022 Budapest Muegyetem rkp.3 e-mail: majoros@egt.bme.hu) join the committee.

TC3-21 CIE/ISO Interior Lighting Standards - Chairman L Bedocs

The Chairman submitted a report. Comments on the draft standard document are required by CIE HQ by the end of July 2000.

**TC3-22 Museum Lighting and Protection against Radiation Damage
Chairman E Ne'eman**

A report had been received by the Secretary and this was summarised. TC members present at the meeting added specific details. The TC has approved the contents of the final report. This should now proceed to the Division 3 and Board ballot. It was noted that there was considerable potential for the sales of this report.

**TC3-25 Co-ordination Development of the IDMP and its data
Chairman D Dumortier**

A verbal report was given. The web server was now operating and the TC will be closing in the near future and the team will become a Study Group. The deliverable is the IDMP Web server, which is in full operation.

CLOSED TC3-26 Development of a Protocol for Post Occupancy Evaluation of Lighting - Chairman D Tiller

The TC was **closed** at the Warsaw meeting of the Division and the output of TC is to be archived at CIE HQ. The Canadian member to investigate what had been produced and report to the Division Director.

TC3-30 Hollow Light Guides - Chairmen L Whitehead

A report has been received. There was an extensive discussion concerning the content of the report and the critical views on the content of the report by one member of the TC. The Division Director has been involved in discussions with the members who have different views on the report content. There is a need to describe both hollow light guide systems in the report objectively: guides using highly reflective mirrors or total internal reflections. The Division Director to contact TC members to ensure that the report fairly reflects the state of development of the subject and that no minority report will be allowed by the division. The division director will contact the TC Chairman and Prof Julian Aizenberg to arrange a fair and professional conclusion to the work of this TC.

TC3-31 Lighting for Real Spaces - Chairman D Carter

Final report under detailed review. Final document to be TC balloted and go to Division by end of 2000.

**TC3-32 Validation of Algorithms for Daylight Outdoors
Chairman N Navvab**

No report was tabled. The Division agreed that the Secretary would write to the TC Chairman and that if no report was available by the 30th September the TC would close and all archive material be sent to CIE HQ. [The secretary sent out the letter on 25th July 2000].

TC3-33 Test Cases for the Assessment of Accuracy of Lighting Computer Programmes - Chairman R Mitanchey

The Division director gave a verbal report of the TC activity. A review of BRE work on artificial lighting software validation was given and a paper is being presented at the Lighting 2000 Conference following this meeting. The BRE output will be a CIBSE technical memorandum. A validation report on daylighting software has been produced by IEA (using results from BRE-UK and ENTPE-France and members of the TC) and this could be published by CIE. Prior to this the TC should be balloted on the contents. Sample reports of IEA will be circulated.. The Divisional and Board balloting would then follow.

TC3-34 Protocols for describing lighting – Chairman Jennifer Veitch
A report was received. The work is proceeding, a TC meeting took place prior to the Division 3 meeting. A draft report is to be produced during 2001.

TC3-35 General evaluation of discomfort glare Chairman - Kai Sorensen
The TC chairman has resigned which has raised issues concerning the work of the TC. It was agreed that the large sources aspect of the work of TC 3-01, and the work of R3-19 should be included in this TC. In addition there was also a need to include overhead glare and the determination of UGR at a point. The Deputy Director (Artificial Lighting) to contact a prospective TC chairman.

8 Division Reporters' Reports

R3-02 Stage and studio lighting - K R Ackerman
A report was received reporting the continuing activity of this reportership. Details of Showlight 2001 were issued to the Division.

R3-06 Accidents and lighting - R Topalova
No report

R3-10 Maintenance of indoor lighting - L Bedocs
Verbal report was given that the work of the reportership continues.

R3-13 Lighting vocabulary - C Belcher
No report

R3-15 Lighting standards - S Simos
No report

R3-16 Lighting in developing countries - R Henderson
No report

R3-17 Calculation of utilisation factors - R Topalova
No report

R3-18 Thermal Environment, outdoor climate and visual preferences – C Laurentin

The Division Director gave a brief presentation of the work of this reportership. The influence of temperature on light perception and the link between colour temperature outside and turning on lights was identified. Some discussion then occurred. The Division will be asked to comment on a PDF version of the final report by the end of October. The reporter was thanked for her work.

R3-19 Glare from windows - M. Velds
The Division Director gave a brief presentation of the work of this reportership. Literature review and a review of other methods of assessing glare were progressing. The Division will be asked to comment on a PDF version of the final report by the end of October. The reporter was thanked for her work.

R3-20 The use of satellite images – Y. Koga
Yasuko Koga gave a brief presentation of the work of the reportership. The report is to be completed by August 2000. This will then proceed through Division balloting. The reporter was thanked for her work.

9 Liaison Officers Reports

The Division Director has recently been appointed to an EU Commission concerned with research in lighting.

9.1 CEC JOULE Projects: Daylight Europe and Satellite Data

Liaison Officer - Mark Fontoyont

Nothing to report

9.2 CEN/TC169 Lighting Applications

Liaison Officer - Anthony Slater

The work into the lighting of indoor workplaces is progressing. This is due to be voted on by CEN later this year. Further work on the data for luminaires is also progressing. Work is also progressing in CEN 1838 Emergency lighting and CEN 12-193 Sports lighting. This is the subject of a paper at the Lighting 2000 Conference following the Division meeting.

9.3 International Association of Lighting Designers

Liaison Officer - Jules G Horton

No report.

9.4 International Energy Agency

Liaison Officer - Nancy Ruck

No report.

9.5 ISO/159/SC4/WG3:Ergonomics/Signs and Contr./Workpl. and Environ.

Liaison Officer - Lou Bedoc.

Discussions concerning symbols and shapes are progressing.

ISO/TC159/SC5/WG2 Ergonomics Physics Environment Lighting

Liaison Officer - Lou Bedocs

Work is progressing.

9.6 ISO/TC160/SC2/WG2 Glass in Buildings - Light and Energy

Transmission - Hans Allan Löfberg

No report.

9.7 ISO/TC59/SC159/SC3: Building Construction User Requirements

Liaison Officer - Peter Tregenza

No report.

9.8 WMO - Liaison Officer Peter Valko

No report.

10 Review of Division 3 Publications.

The Division Editor was asked to consider the need to withdraw or revise existing publications from the Division. CIE 29-2 was of particular concern.

11 Future work

11.1 New Technical Committees.

The following new TCs were proposed:

TC 3-36 The use of satellite images to derive daylight data.

Duration: 4 years (2000-2004)

Chairman: D. Dumortier

Members: R. Perez (USA),
P. Ineichen (Switzerland),
Y. Uetani (Japan),
Y. Koga (Japan),
To be completed.

Terms of Reference:

Assessment of the techniques used to derive the global, the direct and the diffuse horizontal illuminances from the images provided by the current generation of satellites. Work towards defining a standard procedure, which could be used to provide these quantities for any part of the world.

The first output will be a review of the different techniques to derive the components of daylight used around the world. The amount of extra information (i.e. not part of the satellite image) needed by each of this techniques will be highlighted and the accuracy claimed by each technique will be weighted against the results expected by final users (i.e. accuracy of daily means vs accuracy of monthly means).

The second output will be the definition of a CIE standard procedure to derive daylight data from satellite images.

The third output will consist in CIE recommendations to space agencies on the satellite ideally suited for the production of daylight data.

The TC will liaise with the CIE Division 3 Study Group on daylight measurements (past TC 3.25), the CIE division 2 on the physical measurement of light and radiation, the European projects working with satellite images (i.e. SODA-Solar Radiation Database), other projects in the world currently involved in the use of satellite images.

The TC proposal was voted and agreed by the Division.

TC 3-37 Guide for the application of the CIE General sky.

Duration: 4 years (2000-2004)

Chairman: Y.Uetani (Japan)

Members: S. Darula (Slovakia),
D. Dumortier (France),
M. Fontoynont (France),
R. Kittler (Slovakia),
K. Matsuura (Japan),
Y. Miki (Japan),
R. Mitanchey (France),
M. Navvab (USA),
R. Perez (USA),
P. Tregenza (UK).

Terms of reference:

The objective of the TC is to prepare a guide for users who apply the CIE General Sky to the practical daylighting calculation.

The CIE General Sky is the draft standard being prepared by the TC 3-15. The relative luminance distribution of the whole sky is defined by a series of equations. The wide range of sky conditions from the CIE overcast sky to the CIE clear sky are classified in fifteen categories by the sets of standard parameters.

The guide will provide the following:

- (1) Recommended procedure to derive absolute values: The CIE General Sky is intended to be linked with the absolute values of zenith luminance and horizontal illuminance. The raw data measured in different climates should be processed following to a unique procedure.
- (2) Recommended procedure for the classification and frequency analysis: Some researchers reported that frequency occurrence of standard sky categories varies in different climates. The guide will provide recommended procedure to determine categories from measured data in different locations. The statistical procedure and condition are also recommended.
- (3) Recommended interface for applications of daylighting calculation: For the easy use of end users, recommended interface are recommended to the application developers. It may include example of sky images of fifteen categories, sample source code to generate absolute values of sky luminance distribution as a function of categories, solar altitude, etc.

The item (1) and (2) depend on IDMP data in the world by the CIE Division 3 Study Group on daylight measurements (past TC 3.25). TC 3.36 is also expected to provide information on horizontal illuminance and zenith luminance formulae. The item (3) will be studied in closer connections with TC3-11, TC3-19, TC3-32, and TC3-33.

The TC proposal was voted and agreed by the Division

11.2 Proposals for new reporterships

There were no new proposals

12 Next meeting.

The next meeting will be Saturday 16th June and Sunday 17th June prior to the Lux Europa Conference in Iceland.