

Minutes
Photometrics Working Group
Saturday, 24 March 2001
Westin Hotel
Long Beach, CA

Chair: Karl G. Ruling
Recording Secretary: William L. Maiman, ESTA

1 Opening Remarks

Karl Ruling welcomed all to Long Beach, the permanent port of the Queen Mary. He informed the committee that Tom Tyler would not be attending the meeting and that he had asked Karl Ruling to be the chair. The meeting was called to order at 13:10.

2 Introductions and taking of roll

A chartreuse sign in sheet was distributed. Everyone introduced themselves.

Attending:

Jerry Gorrell, Theatre Safety Programs, Principal, User
Ken Vannice, NSI Corporation, Principal; Producer
Jim McHugh, Humboldt State University/IES; Principal; User
Tim Hansen, Oasis Stage Werks; Principal; User
Joseph M. Good, III, Spectrum Professional Services; Principal; General
Tim Cox, PLASA; Principal; General
Michael Lay, Strand Lighting; Alternate; Producer

2.1 Recognition of alternate voting members

2.2 Requirements for membership

If a voting member misses three meetings in a row, they are moved to observer status. This will be done at the end of the third meeting missed.

2.3 Processing of new membership requests

Michael Lay of Strand Lighting applied as an alternate representing Strand Lighting in the principal category, Jody Good moved that Michael Lay be accepted as an alternate for Strand Lighting. The motion was seconded. The motion was approved unanimously by a show of hands.

3 Approval of the minutes from the previous meeting

Tim Pincu moved that the minutes from the previous meeting be accepted. The motion was seconded. The motion was accepted by a vote of 6 in favor, with one abstention.

4 Call for patents and Anti Trust Statements

Karl Ruling read aloud the call for patents:

"ESTA intends to publish no standard that contains protected intellectual property, unless that property can be licensed by anyone for a reasonable fee. ESTA uses a process of open patent disclosure to implement this intent. ESTA does not conduct patent searches and does not warrant that its standards contain no protected intellectual property."

"In keeping with the open disclosure policy, I ask if anyone present wishes to notify the working group of the existence of a patent or copyright that might protect material in a standard being developed by the working group. You need not be the holder of the patent or copyright in order to notify the working group of its existence."

No patent or copyright issues were brought to the attention of the chair.

Karl Ruling read aloud the anti-trust statement:

"The ESTA Board of Directors, the Technical Standards Committee, and the leadership of this Working Group will reject or nullify any actions that restrain trade. Anyone who feels that an action restraining trade is being or has been taken is requested to bring the matter to the attention of the chair immediately. Anyone who feels that actions in restraint of trade have been taken and not properly annulled is requested to notify the TSC chair or ESTA president immediately."
"ESTA legal counsel has informed us that any member of this working group may be found individually liable for any action that restrains trade taken by this working group. An individual convicted of a violation of the Sherman Act may be fined as much as \$100,000 and be imprisoned for up to three years. An easy to read pamphlet describing restraint of trade is available from the Technical Standards Committee."

No antitrust issues were brought to the attention of the chair.

5 Approval of agenda

Jerry moved that the agenda be approved. The motion was seconded. The motion was accepted unanimously.

6 Task group reports

6.1. E.1.9 Status

Karl Ruling noted that E1.9 –2001, Reporting photometric performance Data for Luminaires Used in Entertainment lighting were approved by the American National Standards Institute Board of Standards review on March 21st. ESTA is preparing to publish the standard and copies will be available in May of 2001.

6.1 Nutrition Label examples task group

Jim McHugh reported that there will be a delay of five weeks in preparing the report and that he will bring visuals to the next meeting for comments. Also, the committee should consider the usefulness of the information to the user.

6.2 Informative publications – where do we go from here?

Karl Ruling reported that an explanation of photometry is needed and that while the E1.9 standard will clarify terminology, comprehensive descriptions and explanations would be very useful for the entertainment industry. This information is needed to inform the public and to allow for the easier understanding of the technical information relating to the photometric measurement of lighting instruments. Karl Ruling noted that this information could be useful for distribution at industry events and at educational facilities. Discussion continued as to the format for this informational publication. A consensus was reached that a chapter format with a staggered completion and release dates would be best. Ultimately, a book based on the completed chapters could be released. Discussion then moved to topics and the resulting list organized by similar topics appears below. The list is also divided into yes and maybe categories, as noted by members at the meeting.

Yes

--Projection/gobos

Is it better to use a small gobo in a wide-throw ellipsoidal or a large gobo in a narrower unit?

DIMMING:

--Dim away

Effect of dimming -- "Chants," "Rules of Thumb"

Effect of power supply variation on output

I buy 2000-hour lamps; I buy 200-hour lamps.

UNITS

--Basic units: the lumen, candela, foot-candle, lux
Photometry using (IES) ED 100 material
Explain photometric measurements in layman's terms and from the perspective of theatre
Efficiency and Efficacy
Color in light: CCT and CRI

E1.9

--How can I use the ESTA info to predict performance on the set/stage
E1.9: what's it do?
Comparison of the new reporting system with older one-dimensional throw/output system
Iso-illuminance diagrams by Bill Klages.
Why does it matter which lamp I use?
Amount of reflectivity of the surface and its effect.

GEL

--What about using a gel? What happens?
Color temperature and gel
What can instrument selection do to affect gels that burn out/fade

TESTING

--Test it yourself by Tom Pincu
--Garage testing by Karl G. Ruling
--Previous work by Tom Lemmons
--How do we measure lumen output by Tom Pincu
--Good standards we can use

DISTRIBUTION

--What is "cosine" output, and what good is it?
Blending distribution – very visual
What's a cosine distribution?
How much illumination do you need?
Why not use zoom ellipsoidals?
Efficiency versus illumination
Why do I have to center the lamp in the reflector?

NEAR FIELD

--Near field and far field discussion
--Cyc lighting: photometry and building an even wash

Maybe topics:

--Basic instrument selection: What's used where.
--Demo'ing basic concepts with an interactive website or CD-ROM
--A glossary of IES terms

7 Other business:

Jody Good presented discussion on LM73, completed by Don Smith and others in mid January. All submitted comments have been received and resolved. The committee has voted to accept this document and it has been forwarded to the IES Testing Standards Committee, for voting on the revised format. It is anticipated that LM73 will be accepted by the IES Board of Directors at their next regularly scheduled meeting (Lightfair 2001.) So, by the end of May, it is expected that this standard will be in effect.

8 Schedule for future meetings:

Karl Ruling announced that the next meeting is scheduled for Saturday, July 14th 2001, from 1300 to 1700 hours at the Dallas/Ft. Worth Airport Marriott in Irving, Texas.

9 Adjournment

Jim McHugh moved that the meeting adjourn. The motion was seconded by Ken Vannice. The motion was accepted unanimously by a show of hands. Karl Ruling declared the meeting adjourned at 15:40.

Photometrics Working Group Membership List with Changes from the 24 March 2001 Meeting

| Name | Company | Parent company/ Org. represented | Voting status | Int. cat. |
|---------------------|---------------------------------|-------------------------------------|------------------|-----------|
| John Luk | Altman Stage Lighting | Altman Stage Lighting | P | P |
| Rick Loudenburg | Barbizon Rockies | Barbizon Companies | P | G |
| Lee J. Bloch | Bloch Design Group Inc. | Bloch Design Group Inc. | P | U |
| Ed Hyatt | Boston Illumination Group, Inc. | Boston Illumination Group | P | P |
| Bill Ellis | Candela Controls, Inc. | Candela Controls, Inc. | O | U |
| Angelo Cavenati | Clay Paky S.P.A. | Clay Paky S.P.A. | O | P |
| Francesco Romagnoli | Clay Paky S.P.A. | Clay Paky S.P.A. | O | P |
| David Bertenshaw | David Bertenshaw | David Bertenshaw | O | P |
| A C Hickox | Domingo Gonzalez Associates | Domingo Gonzalez Associates | O | U |
| Gregg Esakoff | ETC West | Electronic Theatre Controls, Inc. | P | P |
| Mike Wood | High End Systems Inc. | High End Systems Inc. | O | P |
| Jim McHugh | Humboldt State University/IES | Humboldt State University | P | U |
| Edwin S. Kramer | IATSE, Local 1 | I.A.T.S.E. Local 1 | O | U |

| Name | Company | Parent company/ Org. represented | Voting status | Int. cat. |
|------------------------|----------------------------------|-------------------------------------|------------------|-----------|
| Jim Grosh | Jim Grosh Associates | Jim Grosh Associates | O | G |
| Ken Vannice | NSI Corporation | Leviton Manufacturing Co., Inc. | P | P |
| Thomas Tyler | Lighting & Electronics, Inc. | Lighting & Electronics, Inc. | P | P |
| Hiroshi Kita | Marumo Electric Co., Ltd. | Marumo Electric Co., Ltd. | O | P |
| Tom Pincu | Moodie, Pincu & Associates, Inc. | Moodie, Pincu & Associates, Inc. | P | P |
| Bill Klages | New Klages Inc. | New Klages Inc. | P | U |
| Tim Hansen | Oasis Stage Werks | Oasis Stage Werks | P | U |
| Tim Cox | PLASA | PLASA | P | G |
| Tony Douglas-Beveridge | PLASA Standards Office | PLASA | A | G |
| Robert Barbagallo | Proximo Inc. | Proximo Inc. | O | U |
| David Jenkins | Radiant Imaging, Inc. | Radiant Imaging, Inc. | P | G |
| Ron Rykowski | Radiant Imaging, Inc. | Radiant Imaging, Inc. | A | G |
| Robert Mumm | Robert Mumm | Robert Mumm | O | G |
| Andre Broucke | ADB - TTV Technologies | Siemens | O | P |

| Name | Company | Parent company/ Org. represented | Voting status | Int. cat. |
|------------------------|--------------------------------------|--------------------------------------|------------------|-----------|
| Joseph M. Good, III | Spectrum Professional Services | Spectrum Professional Services | P | G |
| David Steven | Strand Lighting Ltd. | Strand Lighting Ltd. | P | P |
| Michael Lay | Strand Lighting | Strand Lighting Ltd. | A | P |
| Jerry Gorrell | Theatre Safety Programs | Theatre Safety Programs | P | U |
| Thomas A. Hough | Vari-Lite, Inc. | Vari-Lite, Inc. | O | G |
| Larry Lieberman | Vision Quest Lighting | Vision Quest Lighting | P | G |
| Eckart Steffens | SOUNDLIGHT | VPLT | O | G |

Voting Status

- P Principal voting representative for a company or organization
- A Alternate voting representative for a company or organization
- I Individual representing no organization other than himself or herself
- O Observer; non-voting

Interest Categories

- P Producer (manufacturer) of luminaires
- U User of luminaires
- G General Interest in luminaires