

**Minutes**  
**Photometrics Working Group**  
14 October 2020  
via WebEx

**Working group leader:** Jerry Gorrell; Theatre Safety Programs

**Recording secretaries:** Richard Nix & Karl Ruling; ESTA

**Members attending:**

Justin Bennett; University of the Incarnate Word; P; U  
John David (Javid) Butler; Moda Light; P; MP  
Tucker Downs; Tucker Downs; I; G  
Jerry Gorrell; Theatre Safety Programs; P; U  
Mitch Hefter; Signify; P; MP  
Hans Lau; I.A.T.S.E. Local 728; P; U  
Michael Lay; Candela Controls, Inc; P; DR  
Mark Primrose; Kino Flo, Inc.; P; MP  
Karl G. Ruling; Unit 12 Productions; I; DE  
Mike Wood; Mike Wood Consulting LLC; P; G

**1 Opening Remarks**

Jerry Gorrell called the meeting to order at 17:02. He wished everyone a good afternoon and said it was nice to see smiling faces on the WebEx screen.

**2 ESTA declarations**

**2.1 Call for patents**

The following statement was aloud to the working group by Jerry Gorrell:

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

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

Nothing was revealed.

**2.2 Reading of the anti-trust statement**

The following statement was aloud to the working group by Jerry Gorrell:

ESTA and its members take seriously their obligation to comply with all applicable antitrust laws. Therefore, during this meeting and during all ESTA events, all discussions will be limited to those subjects that are permitted by the antitrust laws. All members should refrain from any discussion or mention of competitively sensitive subjects such as the current or future prices charged for any member product or services, current or future marketing plans or strategies, and current or future costs, including employee salaries. There also must be no agreement on the suppliers or customers that members will or will not do business with or the markets in which members will conduct business.

Violations of the antitrust laws can have serious consequences. If you have any questions or concerns about anything that is discussed at a ESTA meeting, please bring your concern to ESTA management. An easy to read pamphlet describing the antitrust laws is available from the ESTA staff.

Karl Ruling held up a copy in front of his webcam for attendees to see.

No anti-trust concerns were raised.

### 3 Attendance and membership

#### 3.1 Requirements for membership

The following statement was aloud to the working group by Jerry Gorrell:

Membership is open to all who are affected by the work of the group. Voters who would be in the designer or dealer/rental company interest category in particular are encouraged to become members. There is an annual \$100 participation fee for all members. Voting members are required to attend meetings and to vote on letter ballots. Voting members and their alternates may not miss three consecutive meetings or three consecutive letter ballots without a loss of voting status.

#### 3.2 Introductions of attendees

The participants list was reviewed and those present said hello.

#### 3.3 Determination of quorum

It was clear that enough voters were present to pass a motion needing a supermajority—and there certainly were enough in attendance for a quorum.

#### 3.4 Processing of new membership and status change requests

The following applications had been received:

Steven J. Rust; Theatre Projects; principal; designer  
Tucker Downs; individual; general interest

Mike Wood moved to accept Downs as a voter and Rust as an observer because he is not present. The motion was seconded and carried unanimously.

#### 3.5 Changes to observer status due to lack of participation

The following voting member has missed the last two meetings and will be moved to observer status if this meeting is also missed:

ASC, Motion Imaging Technical Council: Timothy S. Kang; CP

Kang was not present. He and the council he represents are now observers.

#### 3.6 Consensus body

The consensus body during this meeting was:

Delegate	Representing	Voting status	Int. cat.
Jason Osterman	Altman Lighting	P	MP
Pete Borchetta	Altman Lighting	A	MP
Michael Lay	Candela Controls, Inc	P	DR
Wendy Luedtke	Electronic Theatre Controls, Inc.	P	MP
Hans Lau	I.A.T.S.E. Local 728	P	U
Matthew Ardine	I.A.T.S.E. Local 728	A	U
Mark Primrose	Kino Flo, Inc.	P	MP
Jim Bogdanowicz	Kino Flo, Inc.	A	MP
Mike Wood	Mike Wood Consulting LLC	P	G

Delegate	Representing	Voting status	Int. cat.
John David (Javid) Butler	Moda Light	P	MP
Mitch Hefter	Signify	P	MP
Jerry Gorrell	Theatre Safety Programs	P	U
Tucker Downs	Tucker Downs	I	G
Karl G. Ruling	Unit 12 Productions	I	DE
Justin Bennett	University of the Incarnate Word	P	U
	<b>Total votes possible</b>	12	
	<b>Votes by interest category</b>	0	CP
		5	MP
		1	DE
		1	DR
		2	G
		3	U

#### 4 Approval of the minutes from the last meeting

See *PHmin07-2020\_DRAFT.pdf*.

Hans Lau moved that we accept the draft minutes as written. The motion was seconded. The motion was approved unanimously.

#### 5 Approval of agenda

Mike Wood moved that we accept the draft agenda. The motion was seconded. Mitch Hefter said he had reports that could be under "Other announcements." The motion was approved.

#### 6 Old Business

##### 6.1 ANSI E1.9 – 2007 (R2017), Reporting Photometric Performance Data for Luminaires Used in Entertainment Lighting

*Revision, reaffirmation, or withdrawal by 2 November 2022.*

No news or action.

##### 6.2 ANSI E1.25 – 2012 (R2017), Recommended Basic Conditions For Measuring The Photometric Output Of Stage And Studio Luminaires By Measuring Illumination Levels Produced On A Planar Surface

*Revision, reaffirmation, or withdrawal by 2 November 2022.*

No news or action.

##### 6.3 ANSI E1.35 – 2013 (R2018), Lens Quality Measurements for Pattern Projecting Luminaires Intended for Entertainment Use

*Revision, reaffirmation, or withdrawal by 27 February 2023*

No news or action.

##### 6.4 ANSI E1.36 – 2007 (R2017), Model Procedure for Permitting the Use of Tungsten-Halogen Incandescent Lamps and Stage and Studio Luminaires in Vendor Exhibit Booths in Convention and Trade Show Exhibition Halls

*Revision, reaffirmation, or withdrawal by 2 November 2022*

No news or action.

## **6.5 ANSI E1.41 – 2016, Recommendations for Measuring and Reporting Photometric Performance Data for Entertainment Luminaires Utilizing Solid State Light Sources**

*Revision, reaffirmation, or withdrawal by 16 September 2021*

There was discussion of how the SPD project might overlap with this standard. The consensus was that there was no conflict and little overlap. There was no further news or action on E1.41.

## **6.6 ANSI E1.48 – 2014 (R2019), A Recommended Luminous Efficiency Function for Stage and Studio Luminaire Photometry**

*Revision, reaffirmation, or withdrawal by 08 January 2024*

No news or action.

## **6.7 BSR E1.54, ESTA Color Standard**

*See WG\_Explanatory\_BallotResults\_Photo\_2020-5015r2.pdf and WG\_E1-54\_final\_BallotResults\_Photo\_2020-5016r2.pdf*

*The motion to accept E1.54 as an American National Standard carried on the working group ballot. The motion to publish the informative notes document passed, too. The motions will be forwarded to the TSC.*

*Robert Timmerman's objections to the comment resolutions was part of both letter ballot reference documents. No one changed their vote in response. A final notice should be sent to Timmerman to indicate that voters considered his objections but declined to make further changes to the documents.*

Mike Wood moved that we inform Robert Timmerman that his objections were circulated to the voters and they did not find them persuasive. The Working Group will move forward with accepting the document as an American National Standard. The working group encourages Timmerman to attend the working group's meetings in the future to present his ideas on standards in development and on future standards. The motion was seconded. The motion was approved unanimously by all present, ten voting members out of a consensus body of twelve.

## **6.8 ANSI E1.55 – 2016, Standard for Theatrical Makeup Mirror Lighting**

*Revision, reaffirmation, or withdrawal by 16 September 2021.*

No news or action.

## **6.9 BSR E1.69, Reporting the Low-End Dimming Performance of Entertainment Luminaires Using LED Sources**

*See BSR\_E1-69\_202x-PostFrstReview.pdf and E1-69\_frstRevwCmmntSummary-with\_resols.pdf. The draft resolutions are DRAFT resolutions. They have to be approved or modified and then approved by the working group. Next steps can be considered after that.*

*Javid Butler has proposed rewriting the document to break out different testing procedures for different power supply sources and to add a reporting requirement for flicker. See Javid\_Proposes\_E1.69\_rewrite\_Fastmail.pdf and Javid\_proposes\_flicker\_reporting\_E1.69\_Fastmail.pdf.*

Karl Ruling gave an update, including emailed comments from Wendy Luedtke received earlier today, in which she suggested that one option is to start over. He does not like that option. There was more discussion. Tucker Downs agreed, but added that the draft needed to clarify what terms such as "stabilized state", and "flicker", really mean for our purposes. Javid Butler explained his concerns for flicker, and why it is important to have a good baseline definition.

Butler explained that his concern was largely with self-ballasted lamps that flicker erratically on wall dimmers. Karl Ruling suggested that may be a problem with the interaction with the triac dimmer, noting a Chinese patent for a driver circuit that uses a bleeder resistor on the input to assure a suitable holding current for the dimmer. Karl Ruling suggested excluding self-ballasted, incandescent-replacement lamps from the draft since these are not theatrical luminaires. Mitch Hefter said that would be reasonable for our industry.

Mark Primrose suggested that a source could have flickering output—e.g. PWM output with very stable and consistent amplitude—without being unstable, and that in fact we are concerned with instability of the light source, not with a constant flicker.

Javid Butler explained a lot of his concerns, and reasoning behind his suggestions for a rewrite. There was a lot more discussion. Butler will submit the text of his proposed rewrite. Karl Ruling said he could not understand what Butler had in mind without seeing the proposed text.

Tucker Downs and Justin Bennett moved we accept the proposed comment resolutions. The motion was seconded and carried unanimously. The resolutions will be sent back to the commenters, but the draft standard will be described as a “work in progress.” The draft document will be distributed among the working group for further revisions and consideration.

## **7 New business**

*At the last meetings Tucker Downs agreed to write a proposal for a new standard for reporting spectral power distributions.*

Tucker Downs explained his proposal, “Guidelines for the Measurement and Reporting of Luminaire Spectral Power/Absorbance.”

Mike Wood agreed that we need it. He noted that there already is an IES standard for communicating SPD. It doesn't meet our needs, but we could build on it.

Karl Ruling moves that Tucker Downs's proposal be accepted. The motion was seconded. The motion was approved.

## **8 Other business and announcements**

### **8.1 Above & Beyond Awards**

The Above & Beyond nomination site is open year-round at [http://tsp.esta.org/tsp/news/award\\_nomination.html](http://tsp.esta.org/tsp/news/award_nomination.html). November 1 is the deadline, said Jerry Gorrell. We can nominate people on other working groups, too.

### **8.2 Other business and announcements**

Mitch Hefter reported that the IES library will be on-line at the end of this month. He shared a link for the library's FAQ: <https://www.ies.org/lighting-library/lighting-library-frequently-asked-questions/>

Hefter also gave an update on where the NEC is in its review cycle. There is a proposal to rewrite article 530. Hans Lau and Alan Rowe were behind the proposal. The response to that unknown. The proposal has been submitted as public input. Code Making Panel 15 will have task group meetings starting in late October and running into November.

## **9 Schedule for future meetings**

The ESTA meeting schedule is posted at <http://www.esta.org/ESTA/meetings.php>. Karl Ruling said the 2021 meetings are not listed there yet but we will probably meet in January via WebEx.

## **10 Adjournment**

All business being completed, Jerry Gorrell declared the meeting adjourned at 18:24.

Photometrics Working Group members as of 29 October 2020

<b>Delegate</b>	<b>Representing</b>	<b>Voting status</b>	<b>Int. cat.</b>
Matthew Ardine	I.A.T.S.E. Local 728	A	U
Robert Barbagallo	Solotech Inc.	O	DR
Justin Bennett	University of the Incarnate Word	P	U
Jim Bogdanowicz	Kino Flo, Inc.	A	MP
Pete Borchetta	Altman Lighting	A	MP
John David (Javid) Butler	Moda Light	P	MP
Tucker Downs	Tucker Downs	I	G
Bill Ellis	Candela Controls, Inc.	O	U
Mike Garl	Mike Garl Consulting LLC	exf	
Robert Goddard	Goddard Design Co.	O	CP
Nicolas Goerg	Rosco Laboratories	O	CP
Jerry Gorrell	Theatre Safety Programs	P	U
Erin Grabe	ESTA	exf	G
Tim Hansen	Oasis Stage Werks	O	U
Robert Haycock	UC Berkeley	O	U
Mitch Hefter	Signify	P	MP
Ed Hyatt	Boston Illumination Group	O	CP
Frank Kjær Jensen	Harman International Industries	O	MP
Timothy S. Kang	ASC, Motion Imaging Technical Council	O	CP
Hans Lau	I.A.T.S.E. Local 728	P	U
Michael Lay	Candela Controls, Inc	P	DR
Rick Loudenburg	Barbizon Companies	O	DR
Wendy Luedtke	Electronic Theatre Controls, Inc.	P	MP

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Delegate	Representing	Voting status	Int. cat.
Richard J. Nix	ESTA	exf	G
Jason Osterman	Altman Lighting	P	MP
Mark Primrose	Kino Flo, Inc.	P	MP
Karl G. Ruling	Unit 12 Productions	I	DE
Karl G. Ruling	ESTA	exf	G
Steven J. Rust	Theatre Projects Consultants, Inc.	O	DE
Larry Schoeneman	Larry Schoeneman	O	G
Ford Sellers	Chauvet Lighting	O	MP
Keith Sklar	Actors' Equity Association	O	G
Robert Timmerman	Signify	O	MP
Mike Wood	Mike Wood Consulting LLC	P	G

**Key to codes:**

P	Principal voter	CP	Custom-market producer
A	Alternate voter	DE	Designer
I	Individual voter	DR	Dealer/Rental company
O	Observer, non-voter	G	General interest
exf	ex officio, staff	MP	Mass-market producer
		U	User