

Minutes
Photometrics Working Group
14 April 2021
via WebEx

Chairperson: Jerry Gorrell; Theatre Safety Programs

Recording secretaries: Richard Nix & Karl Ruling; ESTA

Members attending:

John David (Javid) Butler; HDR Consulting LLC; P; DE
Tucker Downs; Tucker Downs; I; G
Jerry Gorrell; Theatre Safety Programs; P; U
Mitch Hefter; Signify; P; MP
Edwin S. Kramer; I.A.T.S.E. Local 1; R; U
Hans Lau; I.A.T.S.E. Local 728; P; U
Michael Lay; Candela Controls, Inc; P; DR
Wendy Luedtke; Electronic Theatre Controls, Inc.; P; MP
Jason Osterman; SGM Lighting, Inc; P; MP
Mark Primrose; Kino Flo, Inc.; P; MP
Karl G. Ruling; Unit 12 Productions; I; DE
Steven J. Rust; Theatre Projects Consultants, Inc.; O; DE
Mike Wood; Mike Wood Consulting LLC; P; G

1 Opening Remarks

Jerry Gorrell called the meeting to order at 15:01.

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 displayed a copy of the pamphlet to his webcam so attendees on WebEx could see it.

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

3.3 Determination of quorum

As of 26 March there are 12 voting members: a quorum is 4; the minimum for a supermajority is 7.

Karl Ruling said that there are enough people present for a quorum and enough to pass a motion needing a supermajority vote.

3.4 Processing of new membership and status change requests

Jason Osterman has left Altman and is now working for SGM Lighting, Inc. He is applying for principal voting status to represent SGM in the Mass-market Producer category.

Mike Wood moved to accept his application. The motion was seconded. The motion was approved with no objections or abstentions.

3.5 Changes to observer status due to lack of participation

None.

3.6 Consensus body during the meeting

Delegate	Representing	Voting status	Int. cat.
Pete Borchetta	Altman Lighting	P	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
John David (Javid) Butler	HDR Consulting LLC	P	DE
Jason Osterman	SGM	P	MP
Mitch Hefter	Signify	P	MP
Jerry Gorrell	Theatre Safety Programs	P	U
Tucker Downs	Tucker Downs	I	G

Delegate	Representing	Voting status	Int. cat.
Karl G. Ruling	Unit 12 Productions	I	DE
Justin Bennett	University of the Incarnate Word	P	U
	Total votes possible	13	
	Votes by interest category	0	CP
		5	MP
		2	DE
		1	DR
		2	G
		3	U

4 Approval of the minutes from the last meeting

See *PHmin01-2021_DRAFT.pdf*.

Javid Butler moved to accept the minutes as written. The motion was seconded and then approved unanimously, with no abstentions.

5 Approval of agenda

Javid Butler moved to accept the draft agenda. The motion was seconded and then approved unanimously, with no abstentions.

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 action or news now.

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 action or news now.

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 action or news now.

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 action or news now.

6.5 BSR E1.41, Recommendations for Measuring and Reporting Photometric Performance Data for Entertainment Luminaires Utilizing Solid State Light Sources

See *MikeWood_notes_on_E1-41.odt* for what Mike Wood feels we should change or leave the same. See *E1-41_2016_secured.pdf* for a copy of the existing standard.

Mike Wood summarized the suggestions he'd made. He suggested removing color efficiency and color

ratio, and suggested adding SPD reporting. He asked if anyone else had any comments, agreement or disagreement. The consensus was agreement with the suggestions.

There was discussion of the spectrum that needs to be measured and reported. The consensus was to cover 380 to 780 nm in 1 nm or 5 nm increments.

SVM (stroboscopic visibility measure) also needs to be reported, suggested Mike Wood. The 300 and 400 Hz PWM frequencies, commonly used in some older entertainment lighting equipment, is likely to be non-compliant with new EU regulations. He noted that the UK harmonized its lighting regulations with the EU last week, so these rules would apply in the UK, too.

Mike Wood said he would write a draft suitable for discussion at the next meeting.

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 action or news now.

6.7 ANSI E1.54 – 2021, ESTA Color Standard and informational doc

Revision, reaffirmation, or withdrawal by 07 January 2026

No action or news now.

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

Revision, reaffirmation, or withdrawal by 16 September 2021.

No action or news now. Karl Ruling suggested we could move to reaffirm it at the July meeting. He will ask Keith Sklar if it still meets Actors' Equity's needs.

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

Progress report and a new draft document. See BSR_E1-69_202x-r5.pdf and DraftResolsToLuedtkeComments.pdf.

Karl Ruling summarized the comment resolutions. He expressed concern for the definition of stabilization of output, which could require measurements finer than what might be possible with conventional meters. He described the situation when he was using his laundry room as a testing lab, and was taking measurements down to 1 or 2 lux. His meter does not report in less than integer increments, so measuring fractional changes in these levels would be impossible. There was discussion about what the goal was in defining or regulating stabilization. Is it important? Is it too granular?

Jason Osterman explained a houselight situation where many different types of luminaires need to operate together in the same space, so having some base dimming criteria that applies across a gamut of types is beneficial. Steve Rust agreed, and elaborated with his own experiences from a consultant's perspective. He will ask for fade performance from full to half over 30 seconds, and from half to out over 30 seconds to be reported, but this is problematic because his test is seen as too subjective, and is dismissed as simply a test he has cooked up. Some standard to reference would be helpful.

Mike Wood asked if the current iteration would help resolve some of the issues. Steve replied that it is a next step up from a subjective approach. Javid Butler said he had also done some limited testing using approaches similar to what this draft suggests, and it is helpful.

6.10 BSR E1.73, Guidelines for the measurement and reporting of luminaire spectral power/absorbance for the entertainment industry

Any news or action?

Tucker Downs apologized for not having a deliverable right now. He said he has words on paper, but they

are not yet ready to deliver to the working group. Will send what he has to Karl Ruling to send to interested parties.

In light of the item 6.5 discussion, he asked if there should be a conscious coordination and differentiation between the two draft standards (E1.41 and 1.73), in terms of resolution and spectral band. Mike Wood agreed there should be.

7 New business

None.

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.

8.2 Other announcements

None.

9 Schedule for future meetings

Richard Nix announced that the next meeting is scheduled for 15:00 EDT, Tuesday 27 July 2021.

10 Adjournment

The agenda being complete and there being no further business, Jerry Gorrell adjourned the meeting at 16:13.

Photometrics Working Group members as of 26 April 2021

Delegate	Repr	Voting status	Int. cat.
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	P	MP
John David (Javid) Butler	HDR Consulting LLC	P	DE
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
Wendy Luedtke	Electronic Theatre Controls, Inc.	P	MP
Richard J. Nix	ESTA	exf	G
Jason Osterman	SGM Lighting, Inc	P	MP

Photometrics Working Group members as of 26 April 2021

Delegate	Repr	Voting status	Int. cat.
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
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