

**Minutes**  
**Photometrics Working Group**  
Saturday, 17 March 2007  
Hyatt Regency Phoenix  
Phoenix, AZ

**Chairman:** Jerry Gorrell; Theatre Safety Programs; P; U

**Recording secretary:** Karl G. Ruling; ESTA

**Members attending:** Ken Vannice; Colortran (Leviton Manufacturing Co., Inc.); P; MP  
Ron Bonner; PLASA; P; G (joined at this meeting)  
Mike Wood; Mike Wood Consulting LLC; P; G  
Michael Lay; Strand Lighting (Genlyte Group LLC); P; MP

**Visitors:** None

**1 Opening Remarks**

Jerry Gorrell called the meeting to order at 11:04.

**2 Attendance and membership**

**2.1 Introductions of those present and taking attendance**

A pink attendance sign-in sheet was circulated. There were no self introductions because everyone present knew everyone present.

**2.2 Determination of quorum** (5 voting members: 3 needed for a quorum, 3 to pass a supermajority vote)

Three or more voters were needed for a quorum. There were four voters present at the start of the meeting. Jerry Gorrell announced that a quorum was present and business could be conducted.

**2.3 Recognition of alternate voting members**

There were none to recognize.

**2.4 Requirements for membership**

The following statement was read aloud to the assembly by Jerry Gorrell:

"Membership is open to all who are affected by the work of the group, but voting members are required to vote on letter ballots and to attend meetings. If a voting member and his alternate both miss three meetings in a row, they are moved to observer status. This will be done at the end of the third meeting missed."

**2.5 Processing of new membership requests**

The following had applied for membership in the working group:

Ron Bonner; PLASA; principal; general interest (to replace Nic Bowker, who has left PLASA)  
François Juliat; Robert Juliat; observer; mass-market producer  
Heidi Hyldahl; Martin Professional; observer; mass-market producer

Ken Vannice moved that the applications be accepted. The motion was seconded, and then approved with a unanimous voice vote.

The full consensus body during this meeting, including the one voter not present, was:

Name	Company	Representing	Voting status	Int. cat.
Rick Loudenburg	Barbizon Light (Denver)	Barbizon Companies	P	DR
Michael Lay	Strand Lighting	Genlyte Group LLC	P	MP
Ken Vannice	Colortran	Leviton Manufacturing Co., Inc.	P	MP
Mike Wood	Mike Wood Consulting LLC	Mike Wood Consulting LLC	P	G
Ron Bonner	PLASA	PLASA	P	G
Jerry Gorrell	Theatre Safety Programs	Theatre Safety Programs	P	U
		Total votes possible	6	
		Votes by interest category	0	CP
			2	MP
			1	DR
			1	U
			2	G

**3 Approval of the minutes from the 20 October 2006 meeting**

See document Photo/2006-5015, file name PHmin10-2006.pdf. Michael Lay moved that the draft minutes be accepted as written. The motion was seconded, and then approved with a voice vote

**4 Call for patents**

The following statement was read aloud to the assembly by Jerry Gorrell, the Chairman:

"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 or 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."

No patent or other protected intellectual property issues were brought to the attention of the assembly.

**and Anti-Trust Statement**

The following statement was read aloud to the assembly by Jerry Gorrell, the Chairman:

"The ESTA Board of Directors, the Technical Standards Committee, and the leadership of this working group will reject or nullify any actions that unlawfully restrain trade. Anyone who feels that such an action is being or has been taken is requested to bring that 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 violations of the anti-trust laws can have serious consequences. Individuals engaged in certain unlawful conduct can be found criminally liable. An individual convicted of a criminal violation of the Sherman Act may be fined as much as \$1,000,000 and imprisoned for up to ten years. An easy to read pamphlet describing restraint of trade issues is available from the Technical Standards Manager."

No restraint of trade issues were brought to the attention of the assembly.

**5 Approval of agenda**

Ken Vannice moved that the draft agenda be approved. The motion was seconded and then accepted on voice vote.

**6 Old Business**

### 6.1 Revision of ANSI E1.9-2001, Report on submission to ANSI

Karl Ruling reported that it had been submitted to ANSI and accepted. It will be published in a few weeks, after Ruling gets back from a Prolight + Sound in Germany.

### 6.2 ANSI E1.25-2006

No news.

### 6.3 BSR E1.35, pattern projection quality

Public review report. The review closed on 12 March 2007. Only Heidi Hyldahl of Martin Professional had commented. There was a discussion of her comments.

**Comment:** The standard does not take color aberrations in to account. (That the image has red or blue edge)

Mike Wood said that to the method does measure chromatic aberration, in that chromatic aberration smears the edges, changing the slope of the transitions, and reducing contrast. A lens with less chromatic aberration than another will have a higher number. The method does not distinguish whether the aberration results in a blue edge or a brown edge, or attempt to judge how objectionable the appearance of the edge is. However, the latter is a subjective evaluation, and subjectivity is something we would like to avoid.

The group drafted the following response:

**Resolution:** We will make no change. The method does quantify chromatic aberration. It does not distinguish the color of the aberration, but the method is intended to be simple, and changing it to measure chromatic aberration will at least double, if not triple, the complexity of the procedure. The method as it is seems adequate to help distinguish bad pattern projection lenses from better lenses.

**Comment:** The standard does not take the fact that the eye will see the image quality different when the light intensity is high than when the light intensity is low.

Mike Wood said that this is true, but the procedure is not intended to give a measure of the human eye response.

**Resolution:** Make no change. The procedure is not intended to give a measure of the human eye response.

**Comment:** I also have some comments on the section 4.1.2 Manufacture of the test pattern: I would state the pattern material and coating in order to be sure that the stray light issue is the same in every test. The material could be glass borofloat 33, coating could be mirror or maybe enhanced dark mirror coating. And the mounting of the test pattern could be with coating side towards the lens system if mirror coating is used, and the other way if enhanced dark mirror coating is used.

**Resolution:** You have obliquely highlighted a problem. We don't want to tell people exactly how to make the gobo, but the gobo must remain flat. We will add a clause "e" to 4.1.1 and change the requirements for 4.1.2 as follows:

#### 4.1.1 Test pattern description

e. The pattern is a flat plane.

#### 4.1.2 Manufacture of the test pattern

The test pattern can be manufactured in any suitable material by any suitable process that ensures it remains flat and dimensionally stable, and that the image is accurate.

Ken Vannice moved that the comment resolutions be accepted. The motion was seconded. All present voted in favor except for one abstention. There were now six voting members, and the vote was four yes, one abstain, no No votes, and one voter was not present. The motion was accepted by a supermajority, which is four or more votes for a voting body of six.

Mike Wood moved that the revised document be offered for public review. The motion was seconded. By a roll call ballot, the vote was:

Name	Company	Representing	Voting status	Int. cat.	Yes	No	Abstain	Not present
Rick Loudenburg	Barbizon Light (Denver)	Barbizon Companies	P	DR				X
Michael Lay	Strand Lighting	Genlyte Group LLC	P	MP	X			
Ken Vannice	Colortran	Leviton Manufacturing Co., Inc.	P	MP	X			
Mike Wood	Mike Wood Consulting LLC	Mike Wood Consulting LLC	P	G	X			
Ron Bonner	PLASA	PLASA	P	G	X			
Jerry Gorrell	Theatre Safety Programs	Theatre Safety Programs	P	U	X			
		Total votes possible	6		5	0	0	1
		Votes by interest category	0	CP	0	0	0	0
			2	MP	2	0	0	0
			1	DR	0	0	0	1
			1	U	1	0	0	0
			2	G	2	0	0	0

The motion was accepted by a supermajority.

#### 6.4 BSR E1.36, model procedure for permitting T-H lamps and stage and studio luminaires

Public review report. The review closed 12 March 2007. Only Mark Ravenhill of Martin Professional had commented. There was a discussion of his comments.

**Comment:** Point 4.4.4 seems to give quite some restrictions to fixtures use in the future. If I read this correctly, it means that fixtures could not be floor mounted as part of a set, either sitting on their base for an automated fixture or attached to the floor for conventionals. So, presumably this, in other words, bans the use of items such as Howie Battens for lighting certain set pieces, place a fixture on the floor at the rear of an entrance for a big backlight effect, attach fixtures to a revolve for a car launch and examples like that.

The following response was drafted by the working group:

**Resolution:** Accept in principle. We don't want to preclude floor mounting. Instruments can be mounted on the floor, as long as there is enough of an air gap or the instrument is designed for floor mounting. We will modify 4.4.4, and add an exception for luminaires designed to be mounted on the floor, as follows:

**4.4.4** the distances in 4.4.3.2 are equal to or greater than 24" or 610 mm from the front of a luminaire, 24" or 610 mm from the luminaire's lens or light-emitting aperture, 24" or 610 mm from the top of a luminaire's housing, 12" or 305 mm from the back and sides of the housing, and 4" or 102 mm from the bottom of the luminaire's housing;

*Exception: A luminaire designed to sit directly on the floor shall be permitted to sit directly on the floor.*

**Comment:** I guess there is a question then about the definition of the stage you mention in 4.5. What defines a 'stage'. Is a car revolve without any performers, a stage?

The following response was drafted by the working group:

**Resolution:** Make no change. You could be allowed to use the stage/studio luminaire on a car revolve even if the it's not called a "stage" under other provisions. This clause is a "let's stop arguing" clause. If we agree it's a stage, we can stop arguing because the stage is in an exhibition hall rather than in a theatre. We agree it's a stage, the luminaires can be used.

Mike Wood moved that the comment resolutions drafted here be accepted. The motion was seconded. The motion was accepted with a show of hands with all present voting Yes. The motion was accepted by a supermajority.

Michael Lay moved that the revised document be offered for public review. The motion was seconded. By a roll call ballot, the vote was:

Name	Company	Representing	Voting status	Int. cat.	Yes	No	Abstain	Not present
Rick Loudenburg	Barbizon Light (Denver)	Barbizon Companies	P	DR				X
Michael Lay	Strand Lighting	Genlyte Group LLC	P	MP	X			
Ken Vannice	Colortran	Leviton Manufacturing Co., Inc.	P	MP	X			
Mike Wood	Mike Wood Consulting LLC	Mike Wood Consulting LLC	P	G	X			
Ron Bonner	PLASA	PLASA	P	G	X			
Jerry Gorrell	Theatre Safety Programs	Theatre Safety Programs	P	U	X			
		Total votes possible	6		5	0	0	1
		Votes by interest category	0	CP	0	0	0	0
			2	MP	2	0	0	0
			1	DR	0	0	0	1
			1	U	1	0	0	0
			2	G	2	0	0	0

The motion was accepted by a supermajority.

**7 New business**

None.

**8 Other business**

None.

**9 Schedule for future meetings**

Jerry Gorrell announced that the next meeting is scheduled for Friday, 16 November 2007, 08:00 to 10:00, at some hotel in Orlando, FL. The group decided that they would like to request a July meeting. The BSR E1.35 and BSR E1.36 documents should be back from public review by then.

**10 Changes to observer status**

Principals (and alternates) who have missed the last two meetings and who will have not meet the minimum attendance requirements for voters if this meeting also is missed:

None.

**11 Adjournment**

Ken Vannice moved that the meeting adjourn. The motion was seconded. The motion was approved with a show of hands. Jerry Gorrell declared the meeting adjourned at 12:21.

## Working Group Members and Contact Information as of 8 May 2007

Name	Company	Representing (This is the sort field.)	Voting status	Int. cat.
Andre Broucke	ADB - TTV Technologies	ADB-TTV Group	O	MP
John Luk	Altman Stage Lighting	Altman Stage Lighting	O	MP
John T. Ryan	Altman Stage Lighting	Altman Stage Lighting	O	MP
Rick Loudenburg	Barbizon Light (Denver)	Barbizon Companies	P	DR
Lee J. Bloch	Bloch Design Group, Inc.	Bloch Design Group, Inc.	O	U
Ed Hyatt	Boston Illumination Group, Inc.	Boston Illumination Group	O	CP
Bill Ellis	Candela Controls, Inc.	Candela Controls, Inc.	O	U
Francesco Romagnoli	Clay Paky S.P.A.	Clay Paky S.P.A.	O	MP
David Bertenshaw	David Bertenshaw	David Bertenshaw	O	G
A C Hickox	Domingo Gonzalez Associates	Domingo Gonzalez Associates	O	U
Gregg Esakoff	ETC West	Electronic Theatre Controls, Inc.	O	MP
Michael Lay	Strand Lighting	Genlyte Group LLC	P	MP
Mitch Hefter	Entertainment Technology	Genlyte Group LLC	O	G
Jim McHugh	Humboldt State University/IES	Humboldt State University	O	U
Robert Mokry	I C Lighting	I C Lighting	O	G
Jim Grosh	Jim Grosh Associates	Jim Grosh Associates	O	G
Ken Vannice	Colortran	Leviton Manufacturing Co., Inc.	P	MP
Afsan Quazi	Lighting & Electronics, Inc.	Lighting & Electronics, Inc.	O	G
Heidi Hyldahl	Martin Professional A/S	Martin Professional A/S	O	MP
Hiroshi Kita	Marumo Electric Co., Ltd.	Marumo Electric Co., Ltd.	O	MP
Mike Wood	Mike Wood Consulting LLC	Mike Wood Consulting LLC	P	G
Tom Pincu	Moodie, Pincu & Associates, Inc.	Moodie, Pincu & Associates, Inc.	O	MP
Bill Klages	New Klages Inc.	New Klages Inc.	O	U
Tim Hansen	Oasis Stage Werks	Oasis Stage Werks	O	U
Ron Bonner	PLASA	PLASA	P	G
James Eade	PLASA	PLASA	O	G
Ron Rykowski	Radiant Imaging, Inc.	Radiant Imaging, Inc.	O	G
Francois Juliat	Robert Juliat	Robert Juliat	O	MP
Andrew Nichols	Selecon	Selecon NZ Ltd.	O	MP
Robert Barbagallo	Solotech Inc.	Solotech Inc.	O	DR
Joseph M. Good, III	Spectrum Professional Services	Spectrum Professional Services	O	G
Jerry Gorrell	Theatre Safety Programs	Theatre Safety Programs	P	U
Larry Lieberman	Vision Quest Lighting	Vision Quest Lighting	O	CP
Eckart Steffens	SOUNDLIGHT	VPLT	O	G

**Key to codes:**

P principal voting member  
 A alternate voting member  
 I individual voting member  
 O observer, non-voting

MP mass-market producer interest category  
 CP custom-market producer interest category  
 DR dealer or rental company interest category  
 U user interest category  
 G general-interest interest category