Illuminating ENGINEERING SOCIETY

AVIXA

ANSI/IES/AVIXA RP-38-17

Recommended Practice for Lighting Performance for Small to Medium Sized Videoconferencing Rooms

Approved American National Standard

ANSI

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Recommended Practice for Lighting Performance for Small to Medium Sized Videoconferencing Rooms

Publication of this Recommended Practice has been approved by IES and AVIXA.
Suggestions for revisions should be directed to IES.

Prepared by:
The Lighting for Videoconference and Presentation Committee of the Illuminating Engineering Society and the AVIXA Videoconferencing Lighting Task Group and Standards Steering Committee

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1.0 INTRODUCTION

This Standard provides lighting parameters and performance criteria for small-to-medium-sized single-axis videoconferencing spaces (with 3 to 25 primary seating locations), defined as one set of video displays and cameras oriented toward a group of seated participants.

The Standard provides guidance to professionals involved in the design, construction, assessment, and support of videoconferencing environments by establishing performance criteria for the design and testing of room lighting and finishes that will provide appropriate picture quality.

1.1 Keywords

Audiovisual, AV, camera, conferencing, distance learning, fill light, illuminance, key light, light meter, lighting, luminaire, luminance, meetings, teleconferencing, telepresence, video, videoconferencing, video teleconference (VTC).

2.0 FOREWORD

The human face, as we see it with our eyes, has a three-dimensional appearance. This helps us to read the nonverbal cues that are so important in communication. The primary goal of a videoconference space is to facilitate both verbal and nonverbal two-way communication. Therefore, the lighting provided in the space should balance the visual needs of the participants and the videoconference camera.

Lighting requirements for the participants and the camera are similar but not identical. The primary considerations for participants include:

- Visual comfort (control of direct light source or glare)
- Glare-free view of video displays and visual tasks (control of veiling reflections)
- Video image contrast
- Ability to see and interact with both local and remote participants
- Ability to read and send gestures and both verbal and nonverbal cues
- Ability to read and write (i.e., take notes), both on horizontal surfaces (tables) and vertical surfaces (e.g., white boards, interactive digital displays, computer displays)

The primary considerations for the camera include:

- Illumination
  - On the faces of participants, with appropriate contrast ratios for rendering of facial features
  - For image capture and transmission of visual aids, including marker boards, display boards, and documents
- Appropriate contrast between participants and surrounding room surfaces
- View of participants
- Luminaires out of camera view
- Daylight eliminated from view
- Video displays placed out of camera view
- Lighting and finishes that reduce image degradation

This Standard defines measurable luminance-based performance criteria for optimizing the participants' experience. These criteria should be used in designing, commissioning, and evaluating applicable videoconference rooms. While this performance standard is not a design guide, some design resources are referenced that support the creation of videoconferencing environments.

This Standard addresses performance criteria and is written with lighting and audiovisual (AV) design professionals in mind. However, due to the unique nature of these spaces, the full input of a lighting professional as part of a multidisciplinary design team is strongly recommended when this Standard is applied to design projects.

Nothing in this Standard suggests or implies that any national, state, or local codes pertaining to lighting and electrical energy may be disregarded in pursuit of compliance.

3.0 SCOPE, PURPOSE, APPLICATION, AND EXCLUSIONS

3.1 Scope

This lighting performance Standard for small-to-medium-sized videoconferencing rooms defines lighting requirements for videoconferencing that enhance the comfort of participants and the picture quality delivered. Specifically, this Standard addresses small-to-medium-sized single-axis videoconferencing rooms. A single-axis room is defined as having one set of video displays and cameras oriented toward a group of 3 to 25 seating locations (see **Figure 1**).