



IES

UPDATE

| Standards |
| Research |
| Education |

Brian Liebel

Illuminating Engineering Society

The
New
IES

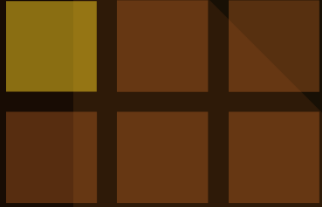
Standards
Research
Advocacy

Online Lighting
Library

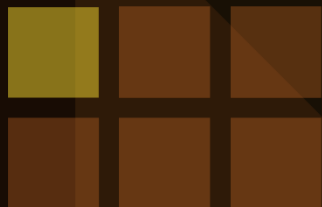
Creating New
Educational
Content

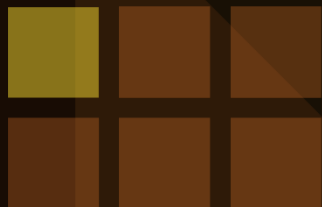
Ready
Reference App

How Can we
Help?



The
New
IES





Pat McGillicuddy
Manager of Standards



Geomara Flores
Cte Membership



Mark Lien
Industry Relations



Brian Liebel
Director Standards
& Research



Dawn De Grazio
Technical Editor



Zoe Milgram
Information Specialist



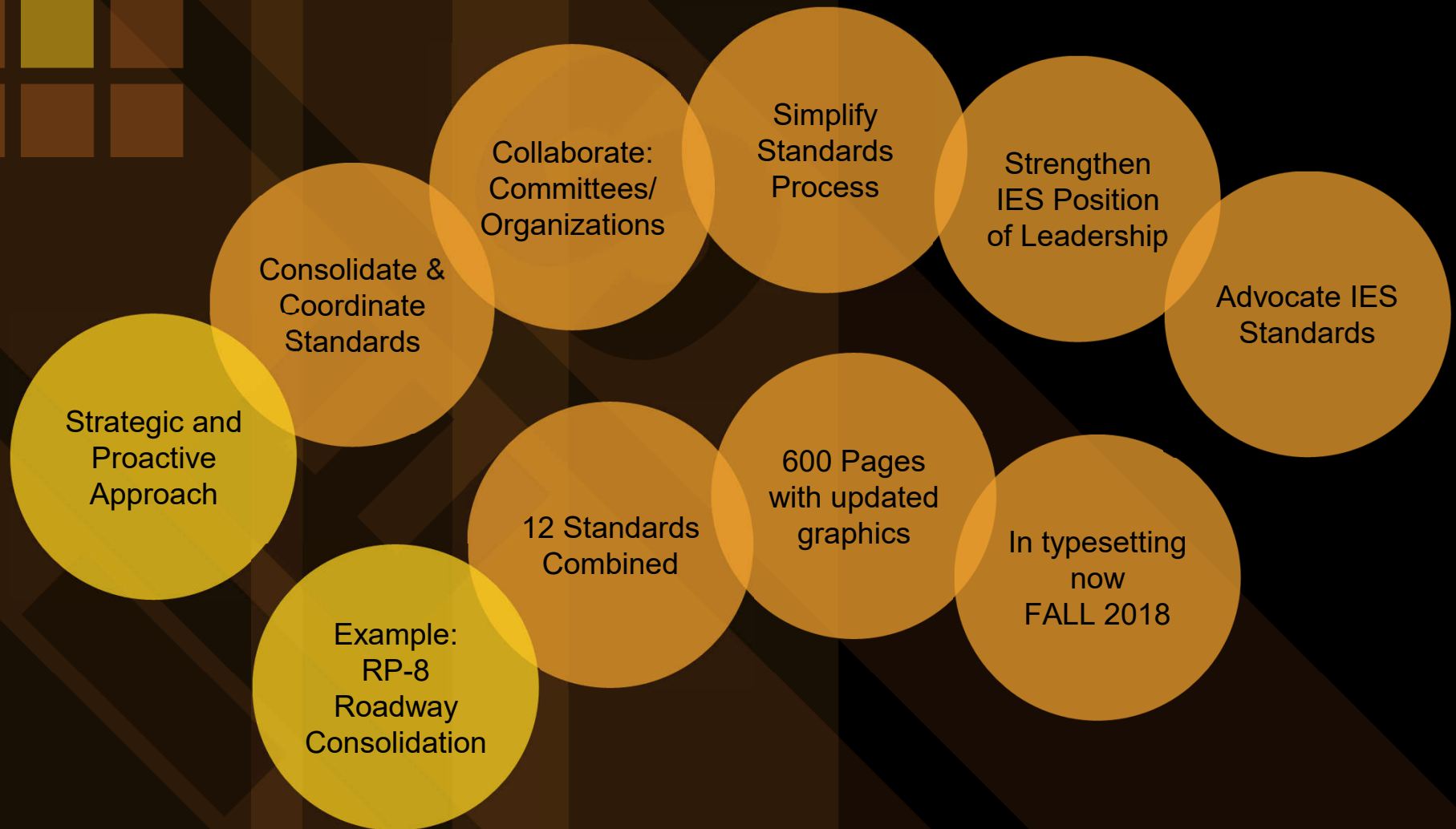
Alex Baker
Gov't & Public Policy

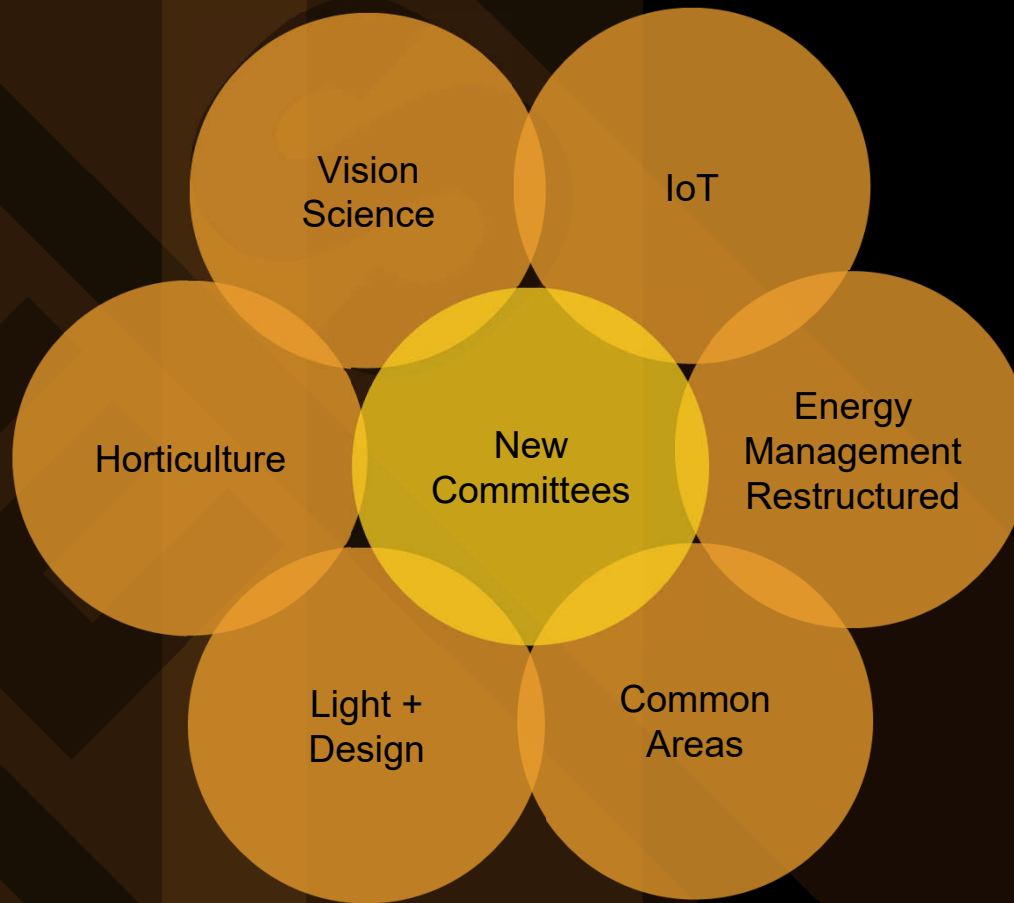
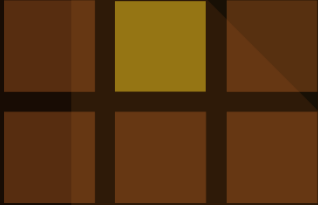


Tom Butters
Director Education



Standards Research Advocacy







Research
Activities

2018
Symposium
Light + Health

Example:
Standard 90.1

2020
Symposium
Light + ???

Co-sponsors:
ASHRAE
IALD
BC Hydro

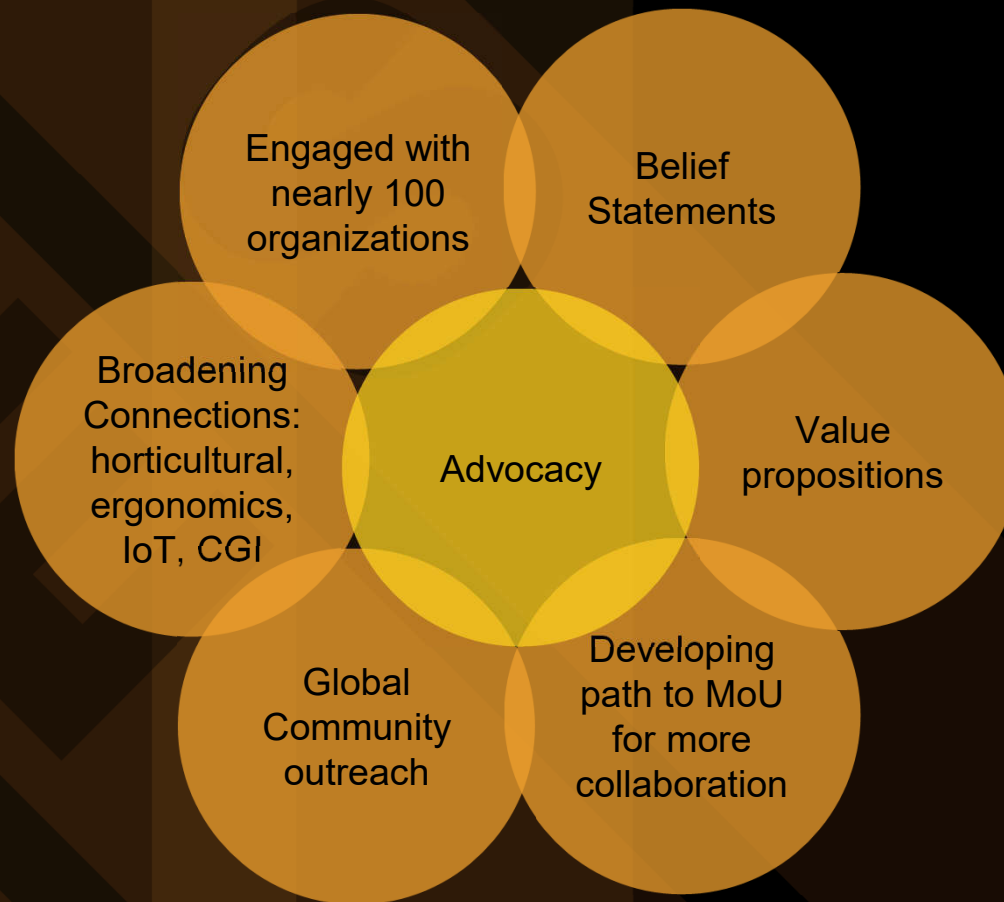
Parking
Lot/Garage
Study
Completed

Complete
review of all
modeling
assumptions

Research
Funding for
Standards
launched

Has affected
outcome of
next 90.1
Standard

Forum for
Illumination
Research
Engineering &
Science





2020





Vision 2020 : Online Lighting Library

In 2020, the entire catalog of IES Standards will be online.

Every Standard will be ANSI/IES (American National Standard)

Every Standard will be Continuing Maintenance

These changes result in faster ability to change Standards; better collaboration; and more focus for committees

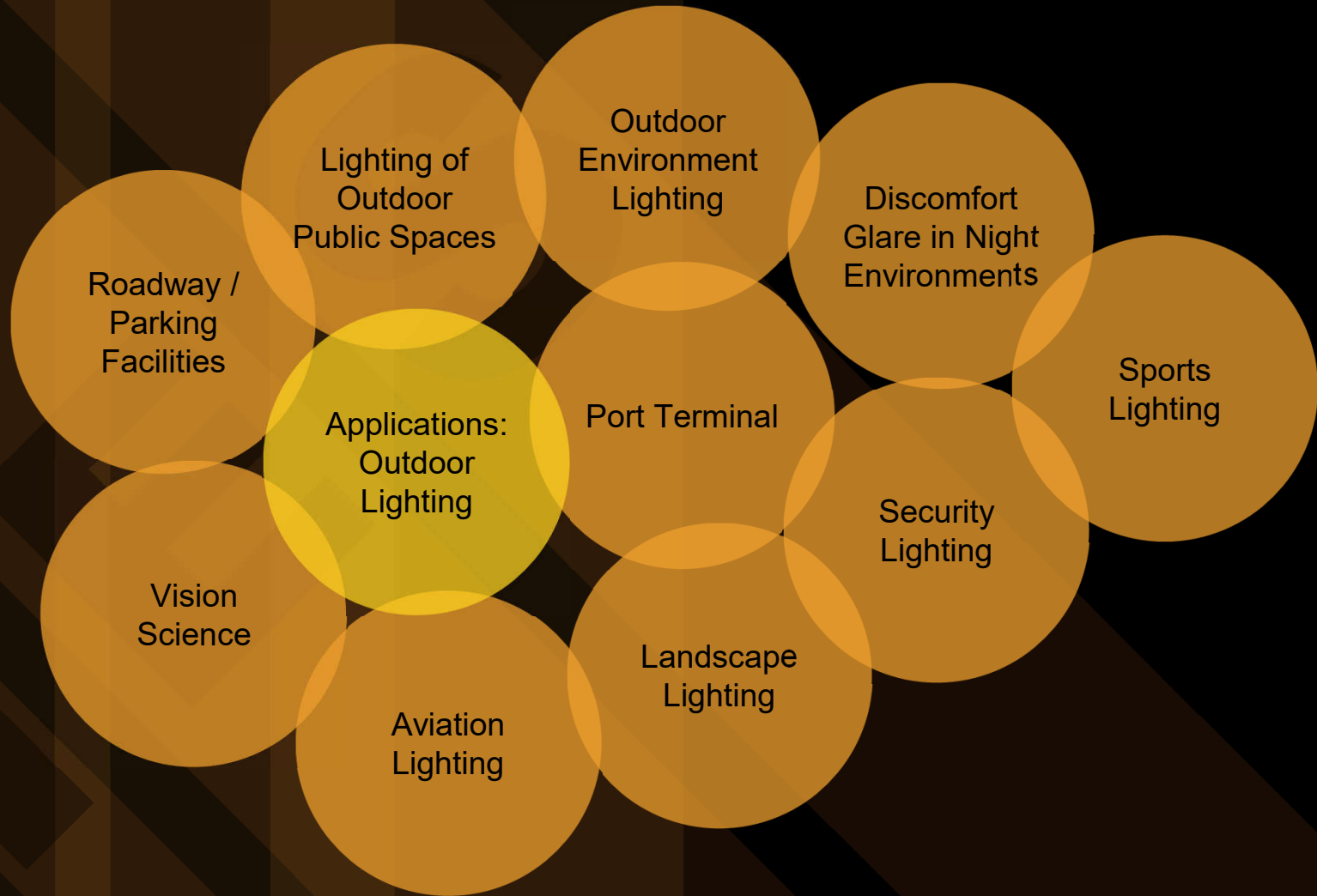


Science

Practice

Applications

Measurement & Testing





IES / ASTM Platform for Online Lighting Library:

- SDO with 148 technical committees and 12,500 active standards
- ASTM platform includes add'l 52,000 historical standards
- Started development 2011; Launched 100% ASTM standards & 2 add'l SDOs: 2014
- **8 related SDOs using platform to date**
- Site license for industry: full enterprise access, allows for team annotations
- Full Support 800 number manned by ASTM
- Partnering yields greater exposure of IES standards through ASTM network
- Coming—forum for platform users, collaboration on platform features

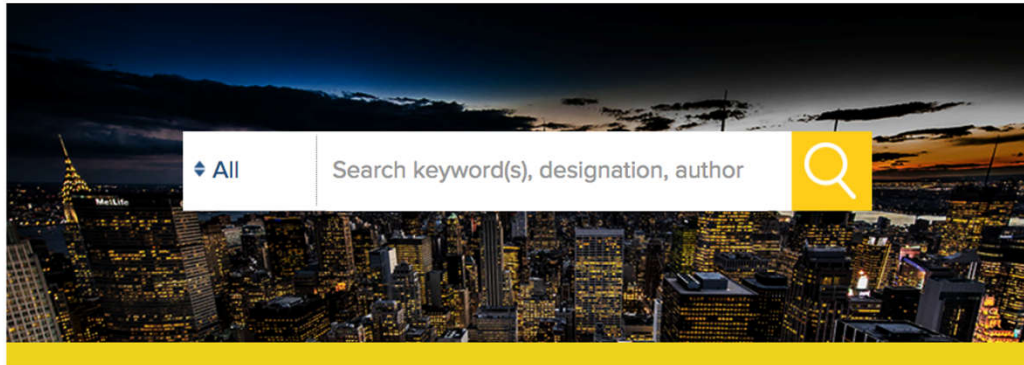


Online Lighting Library

SIGN IN 

[HOME](#) [CONTACT](#) [REGISTER](#) [LANGUAGES](#) [HELP](#)

Welcome POC Electrical



IES Online delivers new tools to find and engage with Illuminating Engineering Society standards quickly and accurately.

Enter the standard designation number in search or click the Lighting Library link to scroll through the IES collection.

Established in 1906, the IES is the recognized technical and educational authority on illumination. For over one hundred years its objective has been to communicate information on all aspects of good lighting practice to its members, to the lighting community, and to consumers through a variety of programs, publications, and services. The IES seeks to improve the lighted environment by bringing together those with lighting knowledge and by translating that knowledge into actions that benefit the public.

IES Lighting Library

The IES Lighting Library is the comprehensive collection of current IES and ANSI/IES Standards. This table of contents is updated regularly to reflect the addition of newly published documents. The IES Lighting Library includes the following series of Standards: Recommended Practices; Design Guides; Guidelines; Lighting Energy Management; Technical Memoranda; and Lighting Measurement Testing and Calculation Guides.

IES Illuminance Application:

RP-28 table for low vision population

Calculators Online

[Calculator 1](#)

[Calculator 2](#)

MY TOOLS

[My Annotations](#)

[My Bookmarks](#)

[My Saved Searches](#)

[My Groups](#)

[Standards Shared with Me](#)

[Product Alerts](#)

[Subscription Details](#)

Powered by:

ASTM COMPASS®

[Home](#) [Contact](#)

Illuminating Engineering Society 120 Wall Street, New York, NY 10005-4001, USA

Copyright © 1996 - 2018 ASTM. All Rights Reserved. ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA, 19428-2959 USA

INTRODUCTION

The concept and limitations of average luminance is addressed in this Guide. Although simple projected area examples are presented and more detailed area calculation methods are developed for reference purposes in [Annex A](#), it remains the user's responsibility to seek out the most appropriate methods/formulas each time he/she determines the actual projected areas for a specific luminaire.

1.0 SCOPE

The methods of calculating average luminance contained in this Guide cover various open bottom apertures as well as flat and drop lensed units, including units with multiple openings in the light emitting area. The candela values of interest are obtained by means of IES techniques for relative or absolute photometry, and are not obtained from field measurements in application. Note: Average luminaire luminance is not a reliable indicator of either direct or reflected glare due to potential luminance non-uniformity.

The averaging of data from spot luminance measurements obtained with luminance meters or high resolution imaging systems is not within the scope of this document. This calculation is based solely on the candela values obtained by goniometric measurement of the luminaire and the luminous projected area.

All light sources, for which there are current standards for luminaire photometry, are covered by this Guide. These include high intensity discharge and LED sources.

3.0 NOMENCLATURE AND DEFINITIONS

3.1 AB

The luminous area of the bottom of a lens case, measured in square meters (preferred) or square feet, viewed from nadir.

3.2 ABP

The projected luminous area of the bottom of a lens case as viewed from angle θ from nadir, measured in square meters (preferred) or square feet.

3.3 angle θ (vertical viewing angle)

This angle is expressed in degrees as measured from nadir. It is the angle at which the area projections are calculated, and at which the appropriate luminaire intensity (cd) is selected for average luminance calculations.

3.4 angle ψ (horizontal viewing angle)

The lateral position from a beginning reference position, from which performance information is evaluated.

3.5 AS

The luminous area of the side of a drop lens case, measured in square meters (preferred) or square feet, viewed from 90 degrees vertical.

3.6 ASP

The projected luminous area of the side of a drop lens case, measured in square meters (preferred) or square feet, as viewed from angle θ from 90 degrees vertical.

Average luminance (Calculated)

The average luminance of a luminaire based on the candela value obtained from a goniometric mea-



IES Guide for Determination of Average Luminance (Calculated) for Indoor Luminaires

INTRODUCTION

The concept and limitations of average luminance is addressed in this Guide. Although simple projected area examples are presented and more detailed area calculation methods are developed for reference purposes in Annex A, it remains the user's responsibility to seek out the most appropriate methods/formulas each time he/she determines the actual projected areas for a specific luminaire.

1.0 SCOPE

The methods of calculating average luminance contained in this Guide cover various open bottom apertures as well as flat and drop lensed units, including units with multiple openings in the light emitting area. The candela values of interest are obtained by means of IES techniques for relative or absolute photometry, and are not obtained from field measurements in application. Note: Average luminaire luminance is not a reliable indicator of either direct or reflected glare due to potential luminance non-uniformity.

The averaging of data from spot luminance measurements obtained with luminance meters or high resolution imaging systems is not within the scope of this document. This calculation is based solely on the candela values obtained by goniometric measurement of the luminaire and the luminous projected area.

All light sources, for which there are current standards for luminaire photometry, are covered by this Guide. These include incandescent, fluorescent, high intensity discharge (HID), low pressure sodium, and LED sources.

3.0 NOMENCLATURE AND DEFINITIONS

3.1 AB

The luminous area of the bottom of a lens case, measured in square meters (preferred) or square feet, viewed from nadir.

3.2 ABP

The projected luminous area of the bottom of a lens case as viewed from angle θ from nadir, measured in square meters (preferred) or square feet.

3.3 angle θ (vertical viewing angle)

This angle is expressed in degrees as measured from nadir. It is the angle at which the area projections are calculated, and at which the appropriate luminaire intensity (cd) is selected for average luminance calculations.

3.4 angle ψ (horizontal viewing angle)

The lateral position from a beginning reference position, from which performance information is evaluated.

3.5 AS

The luminous area of the side of a drop lens case, measured in square meters (preferred) or square feet, viewed from 90 degrees vertical.

3.6 ASP

The projected luminous area of the side of a drop lens case, measured in square meters (preferred) or square feet, as viewed from angle θ from 90 degrees vertical.

3.7 Average luminance (Calculated)

The average luminance of a luminaire based on the candela value obtained from a goniometric mea-

 Set Alert

 Annotate

 Feedback

 Next Point

[Home](#) [Contact](#)

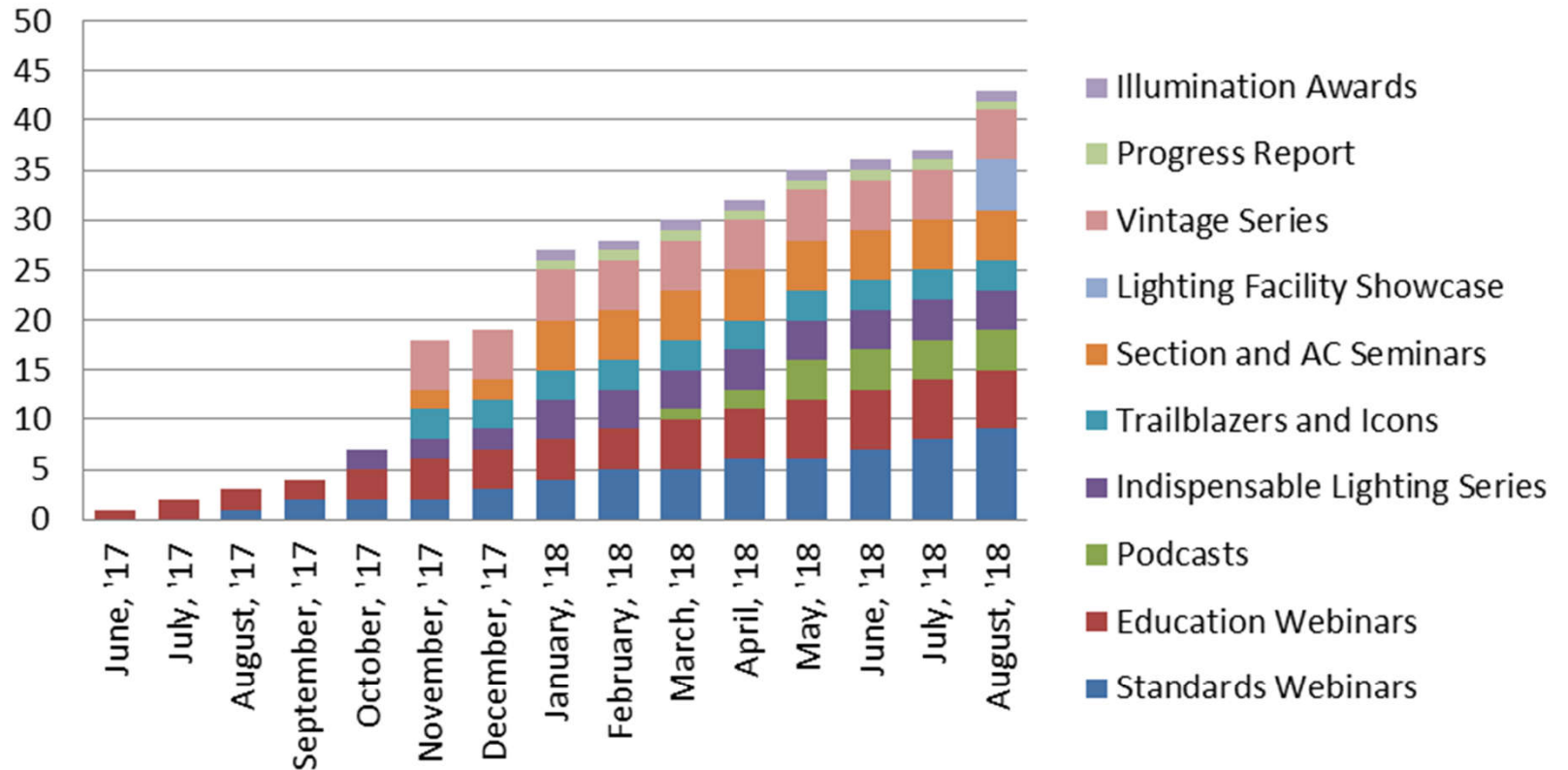
Illuminating Engineering Society 120 Wall Street, New York, NY 10005-4001, USA

Copyright © 1996 - 2018 ASTM. All Rights Reserved. ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA, 19428-2959 USA

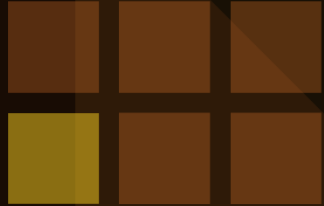


Education

New Electronic Resources on Website



Forty-three New Electronic Educational Offerings





Webinars



Educational Webinar Series

Each month, the IES presents a live webinar on topics we believe will be beneficial to our membership and the public at large. We are excited to offer you this education oriented program where you can expand your knowledge about lighting and earn IES continuing education credits (CEUs). We hope that you will join us. Consult the listing below for upcoming webinars. For the benefit of our members, we also list our webinar schedule in IES NEWS that is distributed every other week to IES members. We look forward to your participation. If you have general questions about the webinars, please forward them to Tom Butters, Director of Education tbutters@ies.org.

To obtain IES CEUs you must be individually logged in for the duration of the webinar.
No credits are given to those who log in exclusively by phone.

Webinars are free for IES Members; Non-Members: \$20

[Click here to become an IES Member](#)

WEBINAR SCHEDULE

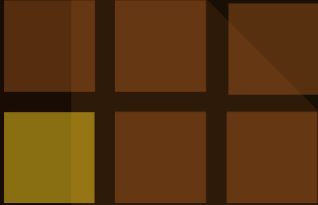
Maintenance in the LED Era

August 16th 12:00 PM EDT

Rather than being maintenance free, LED requires a change in maintenance practices more akin to stewardship than reactive replacement. Based on RP-36 and other information, this joint IES-NALMCO webinar will provide an overview of effective maintenance practices for indoor and outdoor LED lighting and control systems.

[Register for this Webinar](#)

Live Webinars – Free for IES Members



Standards Webinars

Each webinar in the IES Standards Webinar Series is devoted to a specific IES Standard. These webinars are typically presented by one or more lead contributors from the authoring committee of the standard. Webinars attendees have an opportunity to hear directly from experts who have an in-depth knowledge on the topic of the standard. Plus Question and Answer sessions at the end allow viewers to submit questions to the presenters. Available to IES Members only.

The IES is an accredited Standards Development Organization (SDO) under American National Standards Institute (ANSI) approved procedures. The Society publishes nearly 100 varied publications including recommended practices on a variety of applications, design guides, technical memoranda, and publications on energy management and lighting measurement.



G-1, Security Lighting Guidelines for People, Property and Critical Infrastructure

Presentation: Carl E. Lee, Larry Leetzow, Pamela Tresp



DG-28, The Smart City / IoT Update for the ANSI/IES Roadway Lighting Control System Standard

Presentation: Jim Frazer



RP-28, Lighting and the Visual Environment for Seniors and the Low Vision Population

Presentation: Eunice Diane Noell-Waggoner, Dr. Asha Hegde



RP-29, Lighting for Hospitals and Healthcare Facilities

Presentation: Mary Alcaraz, Karen Lee, Karen Murphy



RP-30, Museum Lighting and Lighting for Fine Art

Presentation: Scott Rosenfeld



DG-1, Design for Color and Illumination

Presentation: Wendy Luedtke, Jason Livingston



TM-30 in 2018 and Beyond: Guidance for Improving Color Quality

Presentation: Michael Royer



RP-11-17, Lighting for Residential Environments

Presentation: Doreen LeMay Madden

Archived Standards Webinars

Your Presenters

Mary Alcaraz, PE, LC, LEED BD+C, IALD

- Senior Project Manager at The Children's Hospital of Philadelphia
- Over 25 years designing healthcare facilities
- IES Healthcare Committee
- Architectural Engineering from Pennsylvania State University



Karen Lee, LC, LEED AP

- Head of Vertical and Applications Marketing for LEDVANCE LLC
- Over 25 years of cross-functional experience in the lighting industry
- IES Healthcare Committee
- Materials Engineering from Brown University



Karen Murphy, LC, IALD, LEED AP

- Senior Professional Associate with HDR
- Over 25 years as architectural lighting designer, specializing in healthcare, science and technology facilities
- IES Healthcare Committee
- Architectural Engineering from Pennsylvania State University



Design for Color and Illumination (DG-1-16)



Recorded April 19, 2018

When developing a lighting design, lighting specifiers determine the lamp and fixture combination that best suits the design's requirements based on many factors. While some considerations are largely technical, such as power consumption, the amount of light generated, and how light is distributed, one consideration is both technical and artistic and can be approached in a number of ways.



Contributor(s)



Wendy Luedtke

Wendy Luedtke is the product technology specialist for color at ETC and is a member of its Advance Research Group (ARG). She is the co-chair of the IES Color Committee and a member of the ESTA-TSP Photometrics Working Group, the US National Committee of the CIE, and United... [Continue Reading »](#)



Jason Livingston

Jason Livingston is the principal of Studio T+L, a lighting design and theatre consulting studio in Brooklyn, NY, and is co-chair of the IES Color Committee. He has over 30 years of experience in entertainment lighting design and over 20 years in architectural lighting design.... [Continue Reading »](#)

Your Presenters

Eunice Noell-Waggoner, LC

Her current work through the Center of Design involves raising awareness within the design community through presentations, published papers, and working with national standard setting organizations, including the Illuminating Engineering Society (IES), ASHRAE, AIA Design for Aging Center's Silvering Committee, and the Low Vision Design Committee of the National Institute of Building Sciences, plus state and local agencies. As the founding Chair of the Lighting for the Aged and Partially Sighted Committee of the IES, she directed the development of the first edition of RP-28 "Lighting and the Visual Environment for Senior Living", which is now an ANSI Standard. She was the recipient of the 2013 Distinguished Service Award and the L.B. Marks Award in 2017 from the Illuminating Engineering Society.



Asha Hegde, Ph.D., LC

Asha Hegde is an Associate Professor of Interior Design and Lighting Design at Texas State University, San Marcos, TX. Besides research and teaching she conducts continuing education seminars to architects and interior designers on the topic of light and color across the nation. She has a BS in Interior Design from Florida State University and a MS and Ph.D. in Human Environmental Sciences with an emphasis in lighting from Oklahoma State University. She has over 25 refereed publications and invited presentations in the field of light and color. She is the incoming chair of the IES National Committee of Lighting for Aging and Partially Sighted.



Live Webinars – Quality IES Members Helping Members

https://www.ies.org/education/electronic-resources/lighting-education-webinars/ 67%

Join the IES
Increase your career opportunities Build your lighting knowledge base

Lighting Education Webinars

The IES Educational Webinar Series covers a variety of lighting and Illuminating Engineering Society specific topics to help you grow your lighting knowledge and get the most out of your IES membership. (Members Only)

- What's New at the IES?**
Presentation: Brian Liebel, Mark Lien, Robert Horner, Jennifer Marotta Collin, Tom Butters
- IES Leadership Bootcamp**
Presentation: Kimberly Mercier, Wanda Barchard, Mariel Taviana Acevedo, Bob Bridges
- Synergistic Buildings in the Era of IoT**
Presentation: Michael C. Skurla
- Measuring Light in the Field**
Presentation: Joseph Good
- Layers of Light: Residential & Hospitality**
Presentation: David K. Warfel
- Tunable White Controls**
Presentation: Brent Protzman

H04
Up to 135 lumens per watt
FINELITE
Better Lighting
Created at iStockphoto

Lighting and the Visual Environment for Seniors and the Low Vision Population (ANSI/IES RP-28-16)
List Price: \$80.00
Member Price: \$56.00
Order # RP-28-16
Click for more information

©1996-2018 Illuminating Engineering Society
Terms of Use | Privacy Policy

Webinar Archives – Other Lighting Topics



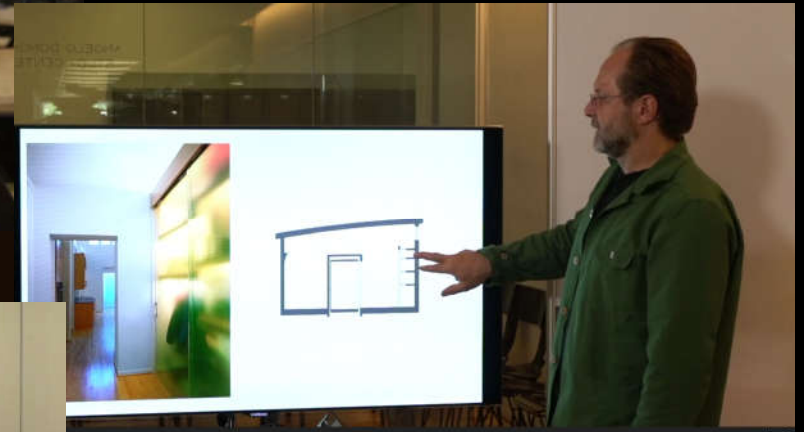
LIGHTS OF THE ROUND



Indispensable Lighting Series – Lights of the Round - Parts 1 & 2



Trailblazers and Icons Interview Series



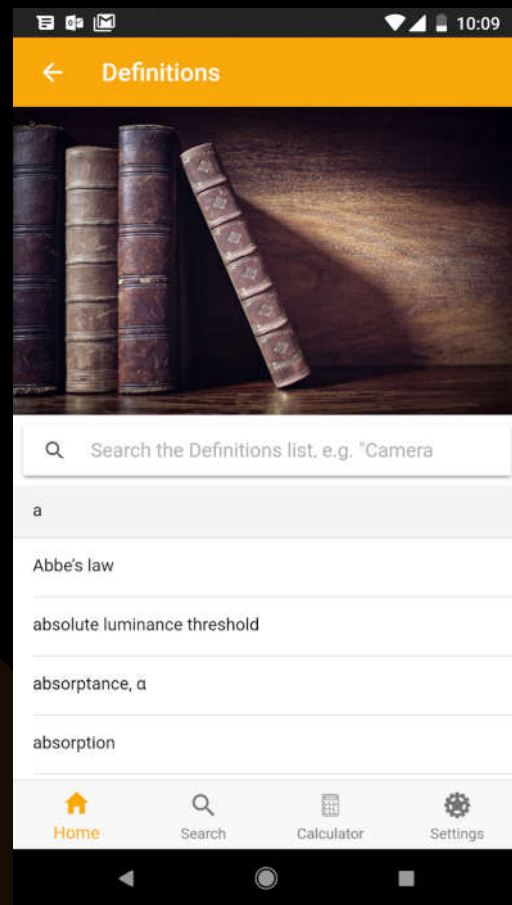
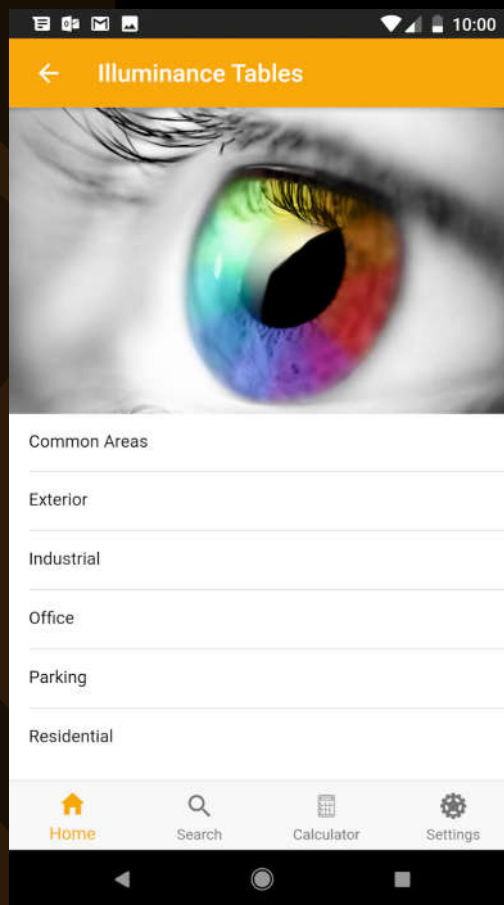
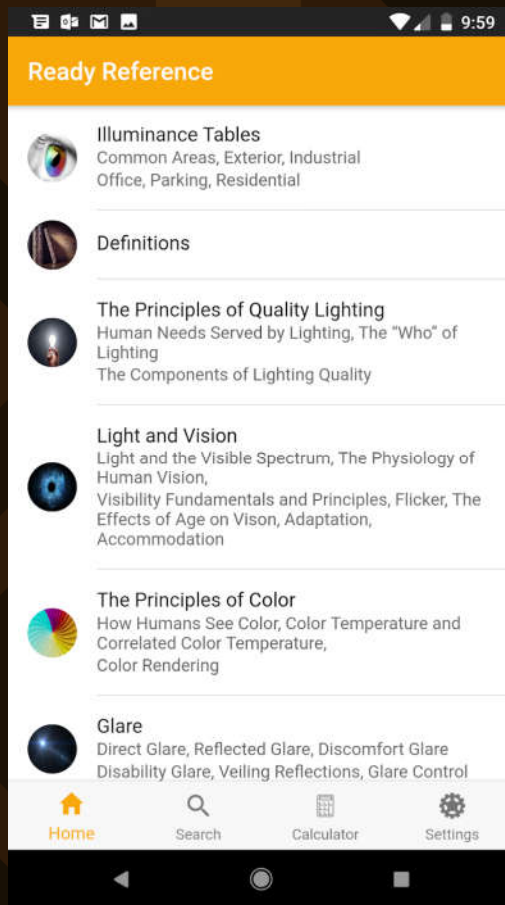
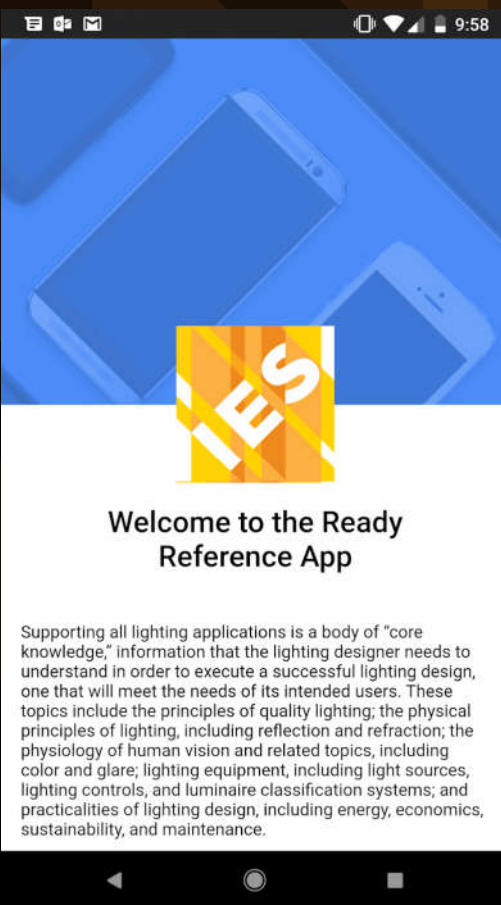
Lighting Education Facility Showcase – Parsons - The New School



Lighting Education Facility Showcase – Lighting Research Center



Ready
Reference App



IES Ready Reference App



How Can We
Help?



Contact Information:

Director of Standards & Research

Brian Liebel, PE
bliebel@ies.org

Manager of Government Affairs & Public Policy

Alex Baker
abaker@ies.org

Manager of Standards Development

Pat McGillicuddy
Pmcgillicuddy@ies.org

The logo for the Illuminating Engineering Society (IES) is displayed in white. It consists of the letters 'I', 'E', and 'S' in a stylized, bold font. The 'I' is a simple vertical bar. The 'E' is composed of three horizontal bars of equal length, stacked vertically. The 'S' is a large, rounded, continuous shape. The logo is set against a background of diagonal stripes in various shades of orange and brown.

IES

Illuminating Engineering Society

Thank you all!

www.ies.org