# 2023

**IMPROVING LIFE**
**THROUGH QUALITY OF LIGHT™**

## Mission Statement

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

## Vision Statement

The IES will build upon a century of excellence to create the premier lighting community dedicated to promoting the art and science of quality lighting to its members, allied professional organizations, and the public.

## WE BELIEVE

- Light is vital to life; it is as important as air, food, water and shelter
- Light and the absence of light affect human vision, health, and behavior
- Lighting should enhance comfort and aesthetics, important components of the built environment
- Lighting designs should respond to human needs, while minimizing negative environmental impacts
- Lighting quality should be a priority at the onset of any design and be maintained throughout the construction process
- Sustained research is necessary to quantify lighting benefits that improve the quality of life
- Lighting Standards and policies should be based on the consensus of topic experts informed by scientifically validated data
- As the lighting authority, the IES believes that collaboration with other non-lighting organizations on lighting policies and regulations is essential for the benefit of the public interest
- Global collaboration and member participation are vital to the long-term viability of the lighting community
- Education is critical to maintaining a robust, dynamic lighting community and for continued professional growth

- **The IES has over 8500 members in 50 countries**

# IES Post Covid Priorities

- **Reduce operating expenses & increase revenue streams**
- **Reformat Lightfair due to maturity of technology and demands of the industry**
- **Expand and update Education offerings and Standards development Standards will now be updated every 2 years**
- **Lighting Library updates – Lighting Science is free to members - new Illuminance Selector – reduced cost for Library to $200**
- **Expand membership locally, regionally and globally**
- **Partner with other organizations and industry pillars**

| Submission Breakdown: | | | |
|---|---|---|---|
| Code | Type | No. | Percent |
| IS | Inc Sources | 1 | 0.5% |
| FS | Fluorescent Sources | 2 | 0.9% |
| MS | Metal Halide Sources | 3 | 1.4% |
| SS | HPS Sources | 1 | 0.5% |
| LS | LED Sources | 29 | 13.5% |
| HB | HID Ballasts | 1 | 0.5% |
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| RE | Research | 2 | 0.9% |
| PU | Publications | 2 | 0.9% |
| MA | Materials | 1 | 0.5% |
| DT | Design Tools | 2 | 0.9% |
| | | 215 | 100.0% |

2022 IES PROGRESS Report SELECTION

# 2012

*slide content courtesy of Mark Lien (used with permission)*

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2012

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| SO | Solar | | 0 | 0.0% |
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| | | | | |
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| PS | Power Sply | | 4 | 3.2% |
| SY | Lighting System | | 3 | 2.4% |
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2022

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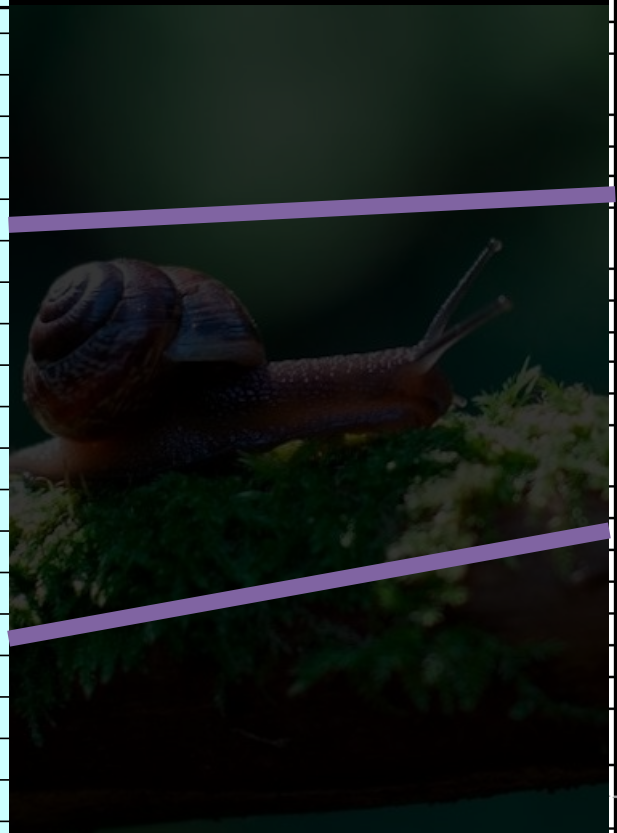

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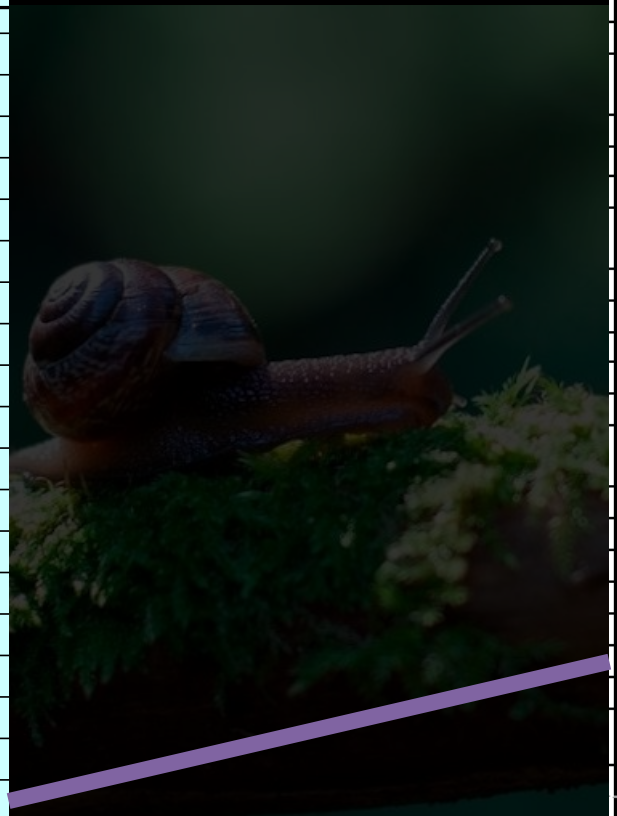

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2022

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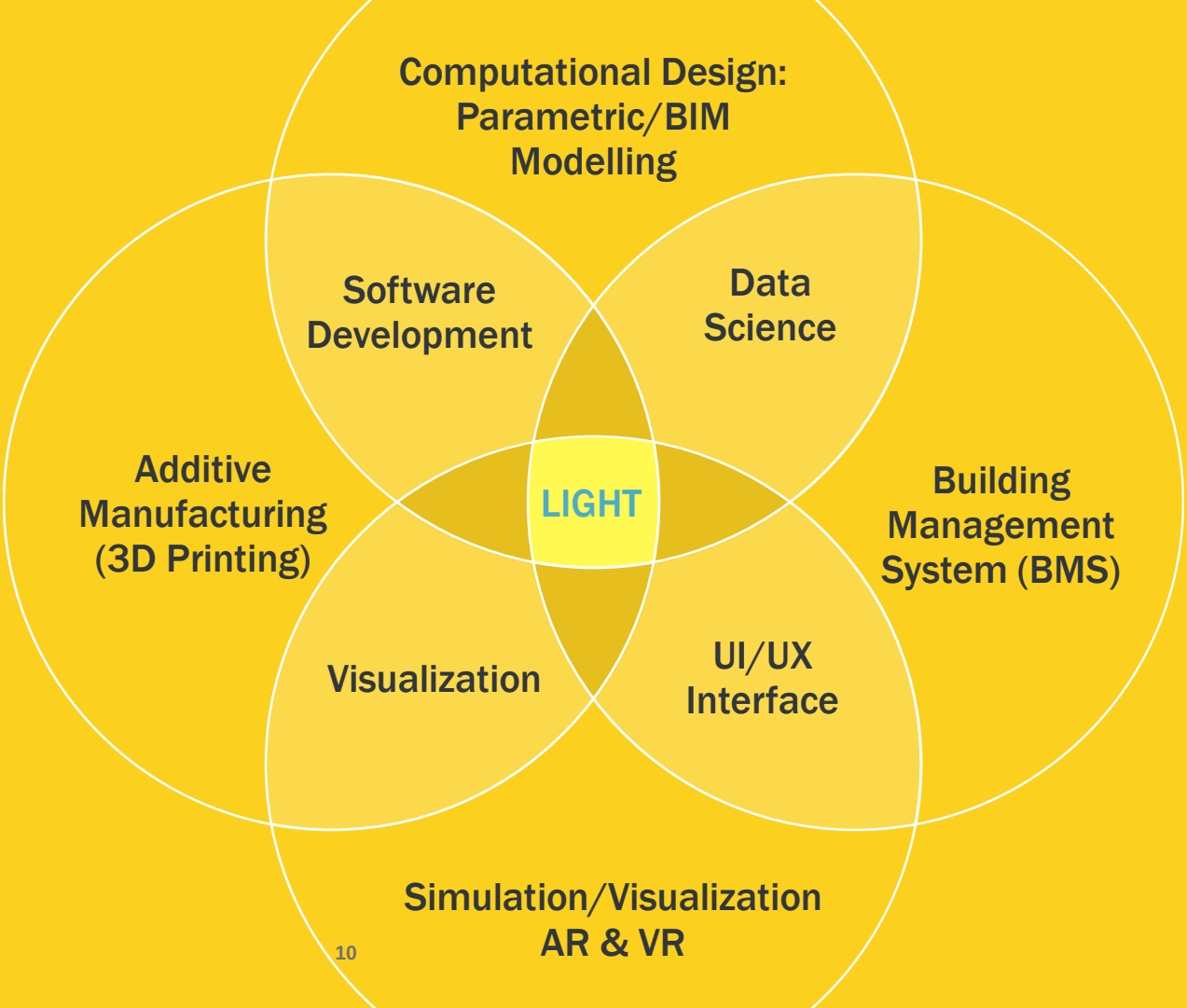
Convergence is accelerating.

New developments.

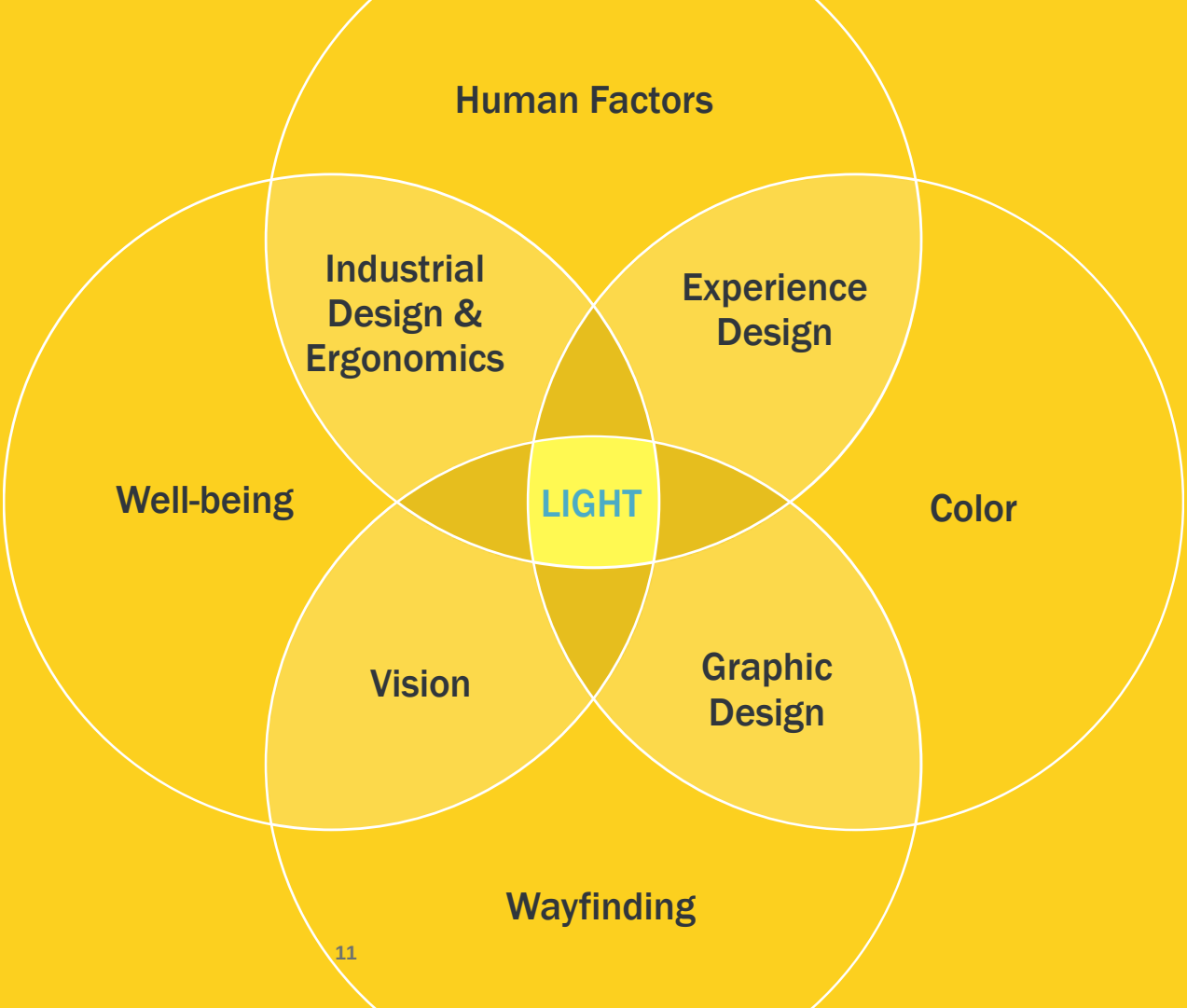
Standards progress.

2023

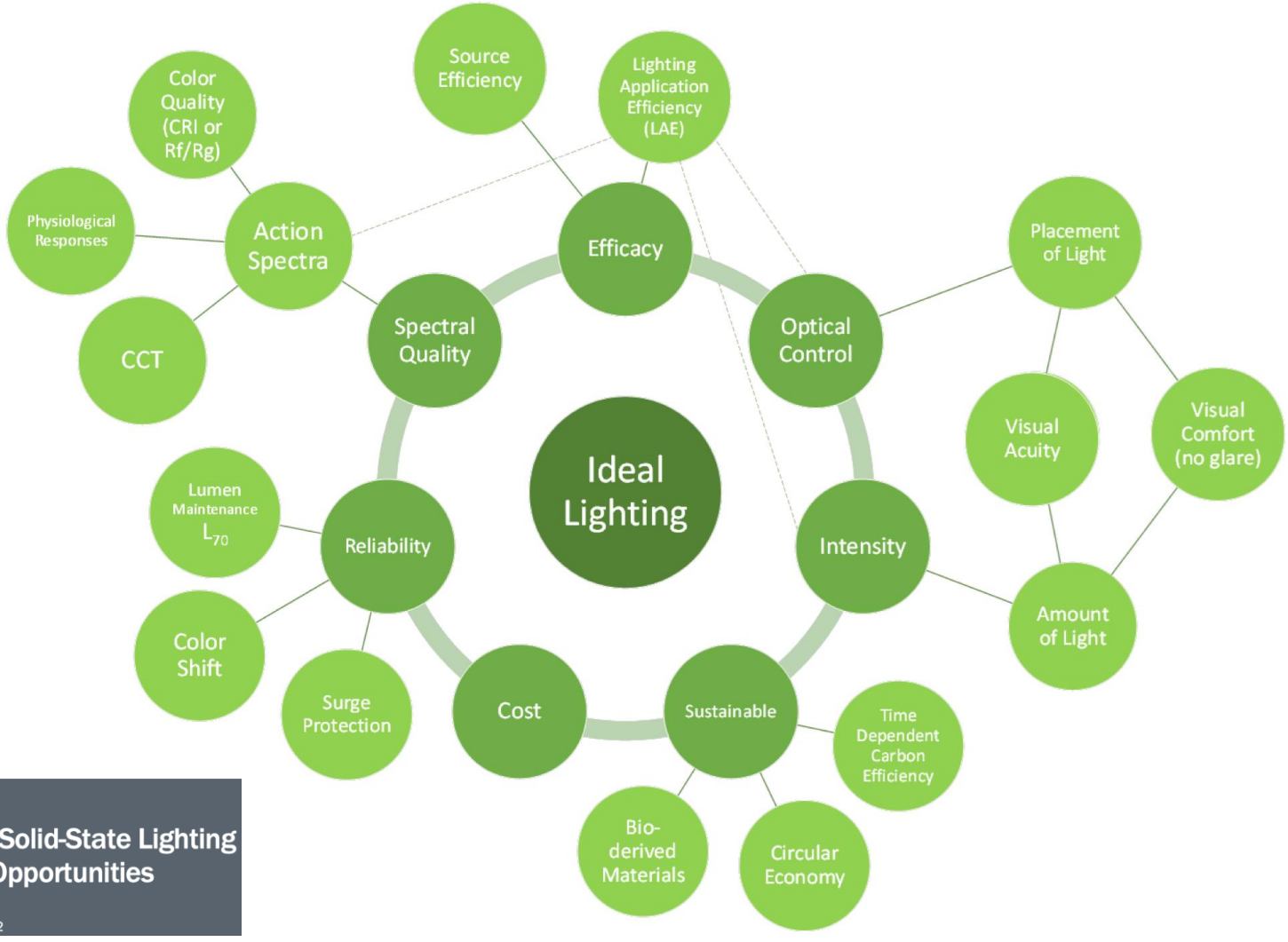
# Light + Technology



# Light + Health



# DOE




U.S. DEPARTMENT OF ENERGY

Office of ENERGY EFFICIENCY & RENEWABLE ENERGY

## 2022 Solid-State Lighting R&D Opportunities

February 2022

# DOE

| | | 2020 | 2025 | 2030 | 2035 |
|---|---|---|---|---|---|
| Current SSL Path | **LED Installed Stock (million units)** | **2,790** | **5,040** | **6,780** | **7,910** |
| | Commercial | 558 | 964 | 1,230 | 1,370 |
| | Residential | 2,060 | 3,800 | 5,230 | 6,210 |
| | Industrial | 25 | 56 | 76 | 84 |
| | Outdoor | 146 | 218 | 242 | 256 |
| | **LED Installed Stock Penetration (%)** | **35%** | **60%** | **76%** | **84%** |
| | Commercial | 44% | 72% | 88% | 93% |
| | Residential | 33% | 56% | 73% | 82% |
| | Industrial | 29% | 63% | 83% | 90% |
| | Outdoor | 66% | 93% | 98% | 99% |

# LIGHT TO PROTECT THE NIGHT

Five Principles for Responsible Outdoor Lighting

Illuminating ENGINEERING SOCIETY

IDA

## USEFUL

### ALL LIGHT SHOULD HAVE A CLEAR PURPOSE

Before installing or replacing a light, determine if light is needed. Consider how the use of light will impact the area, including wildlife and the environment. Consider using reflective paints or self-luminous markers for signs, curbs, and steps to reduce the need for permanently installed outdoor lighting.

## TARGETED

### LIGHT SHOULD BE DIRECTED ONLY TO WHERE NEEDED

Use shielding and careful aiming to target the direction of the light beam so that it points downward and does not spill beyond where it is needed.

## LOW LIGHT LEVELS

### LIGHT SHOULD BE NO BRIGHTER THAN NECESSARY

Use the lowest light level required. Be mindful of surface conditions as some surfaces may reflect more light into the night sky than intended.

## CONTROLLED

### LIGHT SHOULD BE USED ONLY WHEN IT IS USEFUL

Use controls such as timers or motion detectors to ensure that light is available when it is needed, dimmed when possible, and turned off when not needed.

## COLOR

### USE WARMER COLOR LIGHTS WHERE POSSIBLE

Limit the amount of shorter wavelength (blue-violet) light to the least amount needed.

# Standards & Education Progress

**RP-37-22 Lighting Airport Outdoor Environments**
**G-1-22 Guide for Security Lighting for People, Property, and Critical Infrastructure**
**LS-1-21 Nomenclature & Definitions**
**TM-37-21 Skyglow**
**LP-12-21 IoT**
**RP-43-22 Exterior Lighting**
**RP-44-21 UVGI**
**RP-45-21 Horticultural Lighting**
**LM-92-22 UV LEDs**
**LM-91-22 Distance Radiometry**
**TM-38-21 Tunable-White SSL**
**LM-80-21 Measuring Maintenance LEDs**
**TM-21-21 Radiant Flux Maintenance LEDs**
**RP-8-21 Roadway Lighting**
**LP-16-22 Control Narratives**
**RP-27.1-22 Risk Group Classification and Minimization of Photobiological Hazards From Ultraviolet Lamps and Lamp Systems**

## Where we are headed…

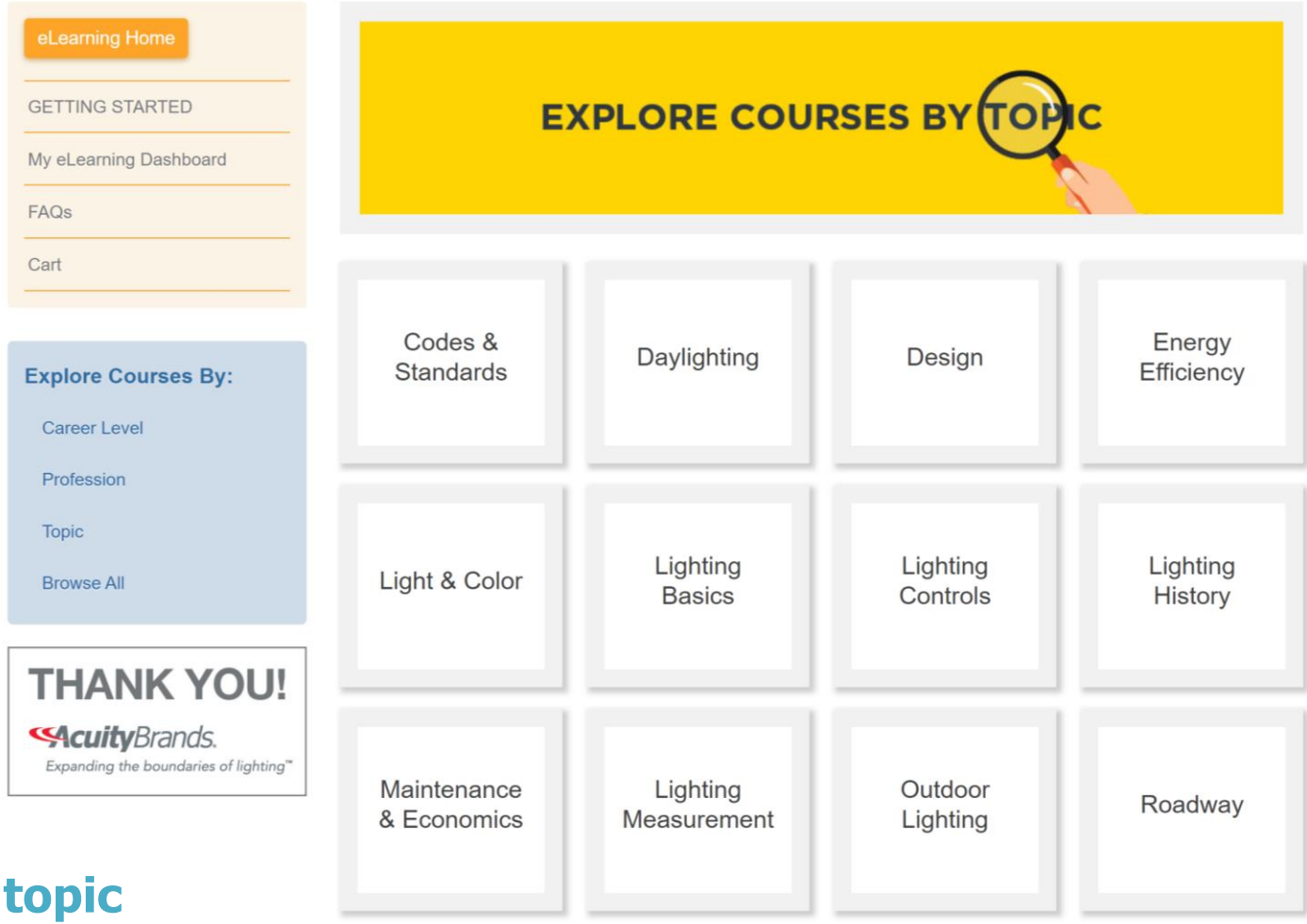
## Expanded LightFair Conference and new education opportunities

## Intensive Courses: Roadway, then Lighting Controls

# eLearning portal


elearning.ies.org

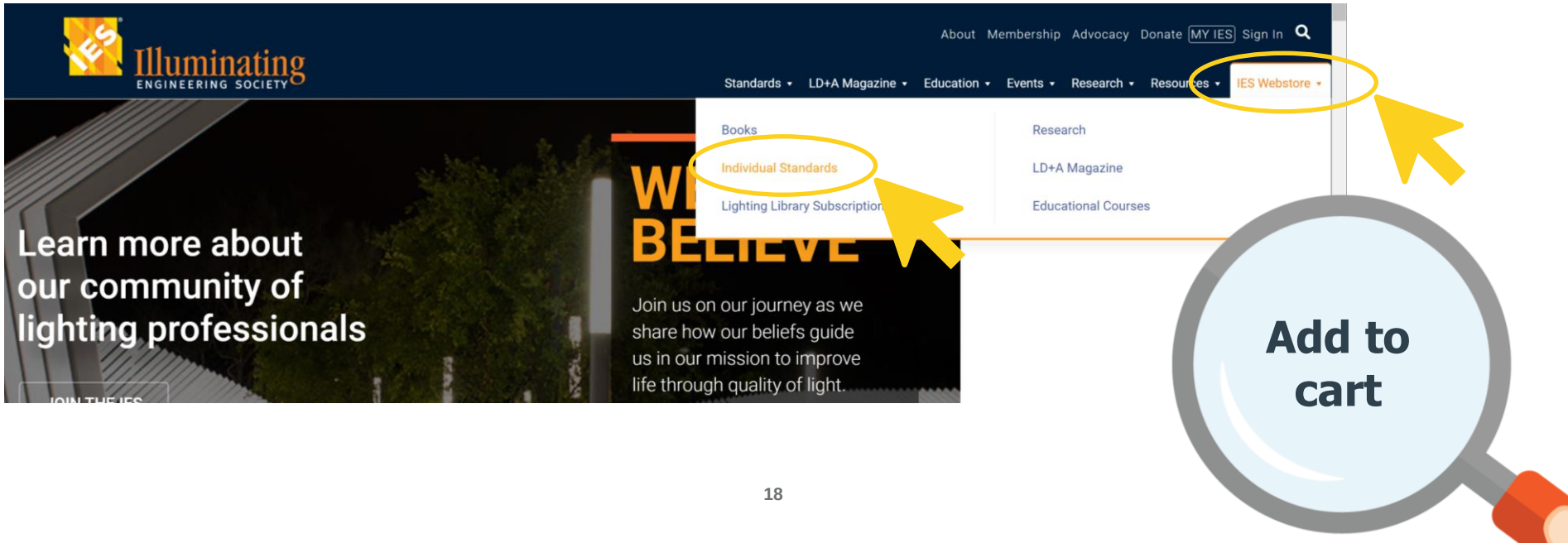
# eLearning portal




elearning.ies.org/topic

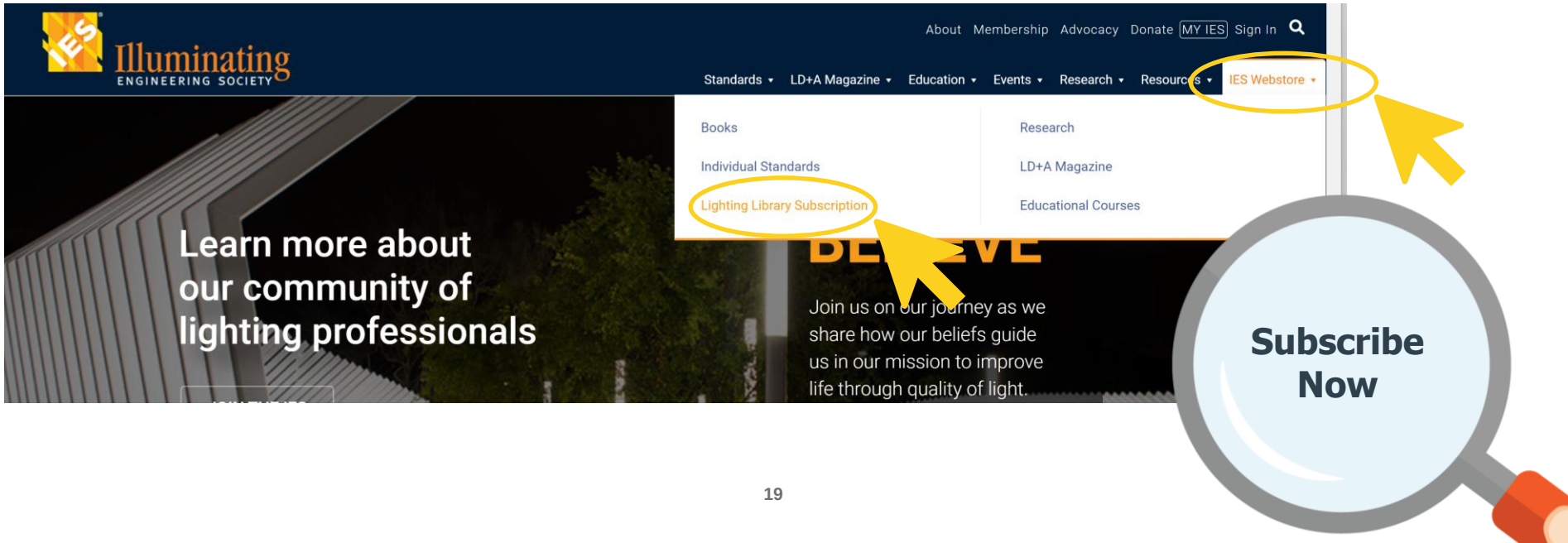
# Standards Access

## Individual Standards: Buy any Standard, any time, in PDF.



# Standards Access

**Library Subscription: Access all standards, cloud-based, collaborative, always up to date.**



# Interactive Illuminance Selector

# Customizable reports (PDF)

| Application Task/Area | Task or Area | Veil. Risk: High Med Low | $E_h$ CAT | $E_h$ (Horiz.) Fc@Ft | $E_h$ Max Avg Min | $E_h$ Unif. | $E_h$ Unif. Ratio Basis | $E_v$ CAT | $E_v$ (Vert.) Fc@Ft | $E_v$ Max Avg Min | $E_v$ Unif. | $E_v$ Unif. Ratio Basis |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **LIGHTING OUTDOOR AIRPORT ENVIRONMENTS** | | | | | | | | | | | | |
| ■ Aprons: Commercial, General Aviation, Cargo, Hangar [1,2] \| ANSI/IES RP-37-20 \| Table A-1 | | | | | | | | | | | | |
| ☐ Aircraft parking position | A | | H | 2@0.0 | Avg | 4:1 | Avg:Min | H | 2@6.6 | Avg | 4:1 | Avg:Min |
| ☐ Aircraft service area [3] | A | | F | 1@0.0 | Avg | 5:1 | Avg:Min | F | 1@0.0 | Avg | 5:1 | Avg:Min |
| ☐ Aircraft stands: Group I or Code A | A | | H | 2@0.0 | Avg | 5:1 | Avg:Min | H | 2@6.6 | Avg | 5:1 | Avg:Min |
| ☐ Cargo facility loading and unloading | A | | K | 5@0.0 | Avg | 4:1 | Avg:Min | K | 5@6.6 | Avg | 4:1 | Avg:Min |
| ☐ Mechanical checks, maintenance, repair | A | | H | 2@0.0 | Avg | 4:1 | Avg:Min | H | 2@6.6 | Avg | 4:1 | Avg:Min |
| ☐ Fueling operations | A | | H | 2@0.0 | Avg | 4:1 | Avg:Min | H | 2@6.6 | Avg | 4:1 | Avg:Min |
| ■ Outdoor Electrical \| ANSI/IES RP-37-20 \| Table A-1 | | | | | | | | | | | | |
| ☐ Outdoor switchyards and substations | A | | H | 2@0.0 | Avg | 4:1 | Avg:Min | | | | | |
| ☐ Substation operating aisles | A | | K | 5@0.0 | Avg | 4:1 | Avg:Min | | | | | |
| ☐ Switch racks | T | | O | 20@TS | Avg | 4:1 | Avg:Min | M | 10@TS | Avg | 4:1 | Avg:Min |
| ■ Other Airside Areas [2] \| ANSI/IES RP-37-20 \| Table A-1 | | | | | | | | | | | | |

Room/Area: Room/Area

# • Why IES?

**FREE Lighting Science Collection ($249)**
**FREE IES Monthly Webinars (15 @ $20 = $300)**
**CEU access (as a member, there are special privileges)**
**LD+A ($53)**
**LEUKOS ($40/4x year, $160)**
**Event Discounts (~$200)**
**LC Study Group Discounts ($100)**
**FREE LightFair show-floor access ($99)**

**= $1161 (w/o LC, $1061)**

# Thank you!