AV, Broadcast, & Videoconference Lighting Solutions
About Brightline:

- Award-winning manufacturer of energy-conscious lighting
- Founded in 1997 & made in the USA
- Management shares +100 years in broadcast, video & film
- Top industry team from lighting & engineering fields
- Installed at 5000+ video and broadcast facilities
- Products designed & built to highest performance standard

Brightline is an Equal Opportunity Employer, a WBE/WMB, and a federally registered contractor of the DOD. Federal registration information: DUNS:022828524; CAGE/NCAGE: 1N5L7.
Brightline Architectural Media Products

Fixture Types and Ideal Applications
Flex-T
SELF-CONTAINED LIGHTING MODULES

With low-profile fixture height, The Flex-T accommodates shallow ceiling clearances and is completely serviceable from below.
Each individual module of the Flex-T features a wide range of rotation, facilitating flexibility in beam placement and direction.
Executive Showcase Conference Room
Lighting upgrades

BEFORE

AFTER
Power Over Ethernet Riser Diagram
Lighting Levels - designed in AGI 32

- With a once in 25-years budget, the facilities team at Maricopa County contracted Spinitar to design and integrate a state-of-the-art video conference facility for their public access council meetings.
- Both the Maricopa and Spinitar team appreciated the benefits of a total PoE-controlled lighting scheme.
- Evenly distributed foot-candles at vertical face height match ideal IESNA target levels.
- Brightline replaced the surface-mounted fluorescent lights that blocked line of sight with ceiling-recessed LED Flex-Ts.
- The new PoE LED lighting was carried throughout the room into task lights, providing a cohesive look and the convenience and safety of low voltage control.
What is PoE?

- Power-over-Ethernet (PoE) is a technology used in wired Ethernet local area networks (LANs) to deliver power over the same cable as the data.
- This reduces the number of cables and power supplies required to install a network and power the devices connected to it.
- Typical devices include:
  - VoIP phones
  - Wi-Fi access points
  - IP security cameras
  - Point-of-sale equipment
  - LED Lighting
  - More to come...
## Benefits of PoE

<table>
<thead>
<tr>
<th>Cost Savings</th>
<th>No conduit required, lower cost labor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integration</td>
<td>Power and data on the same cable</td>
</tr>
<tr>
<td>Plug-and-play</td>
<td>All IEEE 802.3at/bt devices are cross-compatible</td>
</tr>
<tr>
<td>Safety</td>
<td>55VDC (nom) much safer than 120/208/277VAC</td>
</tr>
<tr>
<td>Control/management</td>
<td>All devices can be managed through IT network</td>
</tr>
<tr>
<td>Availability</td>
<td>Power accessible wherever there’s an Ethernet connection</td>
</tr>
</tbody>
</table>
## PoE Standards

<table>
<thead>
<tr>
<th>Category</th>
<th>PoE</th>
<th>PoE+</th>
<th>UPoE</th>
<th>4PPoE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum power per PSE port</td>
<td>15.4W</td>
<td>30W</td>
<td>60W</td>
<td>90W+</td>
</tr>
<tr>
<td>Minimum guaranteed power to PD</td>
<td>12.95W</td>
<td>25.5W</td>
<td>49W</td>
<td>71W</td>
</tr>
<tr>
<td>Minimum cable type</td>
<td>Cat5e (24 AWG)</td>
<td>Cat5e (24 AWG)</td>
<td>Cat5e (24 AWG)</td>
<td>Cat6 (23 AWG)</td>
</tr>
<tr>
<td>Twisted pair used</td>
<td>2-pair</td>
<td>2-pair</td>
<td>4-pair</td>
<td>4-pair</td>
</tr>
</tbody>
</table>
Power over Ethernet on UTP Cable

PoE & 4PPoE: 60-90W+ over 4-pairs
Smart Building Overview

- Cloud Portal with User Interface
- Gateway (PC)
- PoE Network Switch
- Network Capable Nodes
- Devices
  - LED Fixtures
  - Switches
  - Sensors
  - Motorized Shades
  - Etc.
City of Maricopa Lighting Upgrades

Before

After
AutoCad Lighting Layout

- Based on the lighting task and ceiling conditions, the most efficient fixtures are chosen for design process.
- The light legend indicates the types of light fixtures selected in design and their prescribed accessories.
- The aesthetic of the lighting design placement becomes a cool architectural element.
- Brightline’s AGI and rendering ability provides a realistic pre-example of installed results.
City of Maricopa with Lighting Upgrades
LED VideoPlus

- Newly redesigned LVP offers enhanced performance and aesthetic utilizing the same high-rendering LEDs as the award-winning Flex-T.
- Multi-directional fixture provides task and video lighting from single 6-inch aperture.
- Available with one or two video light channels and task channel.
- Fin-light louver is integral to fixture.
- 2 or 4-ft lengths standard. Customizable to longer linear runs.
Lighting Levels – designed in AGI 32

- The challenge at NRCC was to evenly light the dais and audience with unobtrusive linear fixtures.
- The VideoPlus provided an elegant solution that enabled beautifully even levels throughout the chambers.
- Every single chair has perfect vertical foot-candle levels for video optimization.
- The integrity of the room monitors and their critical content is well-maintained within this visually-comfortable environment.
• AGI renderings enable Brightline design to check each beam angle to ensure that its direction is ideal.
• Design renderings allow ratios of foreground to background to be fine-tuned in advance of installation.
• Surface finishes can be imported into the design rendering program to further the accurateness of the virtual representation.
• Levels for each monitor and presentation device are reviewed to check for unwanted glare.
Niagara Regional Council Chambers with Lighting Upgrades
Uber ATG
Room Rendering - designed in AGI 32

• Rendering used to show visual proof of concept.
• Shows how different fixture layouts will fit aesthetically in the space.
Lighting Levels - designed in AGI 32

- Red numbers indicate vertical footcandles at face height, as participants look at the camera.
- Evenly distributed foot-candles at vertical face height match ideal IESNA target levels.
- The VideoPlus provided an elegant solution that enabled beautifully even levels throughout the room.
BL.16

- 16 High CRI LEDs provide a focused beam of light from longer distances
- Great for lighting presenters in front of a Video Display or Chroma Key Wall
- Available with DMX control and AC power switching that results in no wasted electricity when fixtures are not in use
- One of the only LED fixtures available with Forward Phase dimming
City of Fargo Council Chambers
Room Rendering - designed in AGI 32

- Rendering used to show visual proof of concept.
- Shows how fixtures illuminate the presenter while not washing out displays.
City of Fargo Council Chamber with Lighting Upgrades
Brightline T-Series—
the most politically correct representation in
The Simpsons’ West Wing Story—

Lighting across the table &
across the aisle in the
White House Situation Room
since 2006!
Thank You!

Google Statoil Microsoft The Pentagon Yahoo
The White House George W. Bush Library
Goldman Sachs Carnegie Mellon University Deloitte Fort Bragg
Walt Disney Imagineering UCLA Cisco Facebook
Good Samaritan Hospital Key Bank IRS Bank of America
The Sinclair Broadcasting Group The Grossman Burn Center Univision
Federal Energy Regulatory Commission Polycom The United Nations
STANFORD UNIVERSITY Cornell University San Diego City Council
The University of Maryland The Pittsburgh Steelers Blue Cross
Harvard Medical School THE SHOP CHANNEL JAPAN Mapquest
Sony Broadcasting The Game Network Youtube
American Telemedicine Association USS HARRY S TRUMAN
Baker Hughes LIFESIZE
Lowe's Motor Speedway CNN

www.brightlines.com