

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

LightLab International Allentown, LLC

905 Harrison Street
Suite 135
Allentown, PA 18103
Mr. Mike Grather
Phone: 484-273-0705 x101
Email: mike@lightlaballentown.com
<http://www.lightlaballentown.com>

ENERGY EFFICIENT LIGHTING PRODUCTS

NVLAP LAB CODE 201079-0

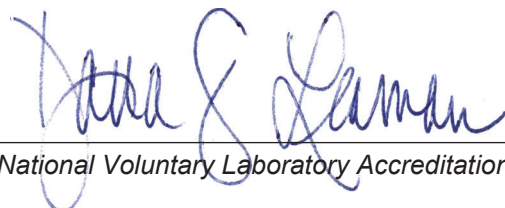
Lamps

Color Measurements

| <u>Code</u> | <u>Designation</u> | <u>Description</u> |
|-------------|---------------------|--|
| 22/C02a | IES LM-58:2013 | Spectroradiometric Measurements |
| 22/C02b | ANSI/IES LM-58:2020 | Spectroradiometric Measurement Methods for Light Sources |
| 22/C03 | CIE Pub. 13.3:1995 | Method of Measuring and Specifying Color Rendering of Light Sources |
| 22/C04 | CIE Pub. 13.2:1974 | Method of Measuring and Specifying Color Rendering of Light Sources |
| 22/C05 | CIE Pub. 15:2004 | Colorimetry |
| 22/C05a | CIE Pub. 15:2018 | Colorimetry, 4th Edition |
| 22/C06a | ANSI C78.376:2014 | Electric Lamps - Specification for the Chromaticity of Fluorescent Lamps |

Electrical Measurements

| <u>Code</u> | <u>Designation</u> | <u>Description</u> |
|-------------|--------------------|--|
| 22/E11a | IES LM-9:2009 | Fluorescent Lamps - Electrical Measurements |
| 22/E11b | ANSI/IES LM-9:2020 | Electrical and Photometric Measurement of Fluorescent Lamps - Electrical Methods |



For the National Voluntary Laboratory Accreditation Program

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| 22/E13b | IES LM-45:2015 | Incandescent Lamps - Electrical Measurements |
| 22/E13c | ANSI/IES LM-45:2020 | Electrical and Photometric Measurement of General Service Incandescent Filament Lamps - Electrical Measurements |
| 22/E14a | IES LM-51:2013 | High Intensity Discharge (HID) Lamps - Electrical Measurements |
| 22/E14b | ANSI/IES LM-51:2020 | Electrical and Photometric Measurement of High Intensity Discharge Lamps - Electrical Measurements |
| 22/E16b | IES LM-66:2014 | Single-Ended Compact Fluorescent Lamps - Electrical Measurements |
| 22/E16c | ANSI/IES LM-66:2020 | Electrical and Photometric Measurements of Single-Based Fluorescent Lamps - Electrical Measurements |
| 22/E18a | ANSI C78.375:2014 | Fluorescent Lamps - Electrical Measurements |
| 22/E32 | ANSI C82.77-10:2014 | Harmonic Emission Limits - Related Power Quality Requirements for Lighting Equipment - Fluorescent |
| 22/E33 | ANSI C82.77-10:2014 | Harmonic Emission Limits - Related Power Quality Requirements for Lighting Equipment - HID |

Photometric Measurements

| <u>Code</u> | <u>Designation</u> | <u>Description</u> |
|--------------------|---------------------------|---|
| 22/P07c | IES LM-9:2009 | Fluorescent Lamps - Total Flux Measurements |
| 22/P07d | IES LM-9:2009 | Fluorescent Lamps - Intensity Measurements |
| 22/P07e | ANSI/IES LM-9:2020 | Electrical and Photometric Measurement of Fluorescent Lamps - Total Flux Measurements |
| 22/P07f | ANSI/IES LM-9:2020 | Electrical and Photometric Measurement of Fluorescent Lamps - Intensity Measurements |
| 22/P08c | IES LM-20:2013 | Reflector Type Lamps - Total Flux Measurements |
| 22/P08d | IES LM-20:2013 | Reflector Type Lamps - Intensity Measurements |
| 22/P08e | ANSI/IES LM-20:2020 | Photometry of Reflector Type Lamps - Total Flux Measurement |
| 22/P08f | ANSI/IES LM-20:2020 | Photometry of Reflector Type Lamps - Intensity Measurement |
| 22/P10e | IES LM-45:2015 | Incandescent Lamps - Total Flux Measurements |
| 22/P10f | IES LM-45:2015 | Incandescent Lamps - Intensity Measurements |
| 22/P10g | ANSI/IES LM-45:2020 | Electrical and Photometric Measurement of General Service Incandescent Filament Lamps - Total Flux Measurements |

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| 22/P10h | ANSI/IES LM-45:2020 | Electrical and Photometric Measurement of General Service Incandescent Filament Lamps - Intensity Measurements |
| 22/P11c | IES LM-51:2013 | High-Intensity Discharge Lamps -Total Flux Measurements |
| 22/P11d | IES LM-51:2013 | High-Intensity Discharge Lamps - Intensity Measurements |
| 22/P11e | ANSI/IES LM-51:2020 | Electrical and Photometric Measurement of High Intensity Discharge Lamps - Total Flux Measurement |
| 22/P11f | ANSI/IES LM-51:2020 | Electrical and Photometric Measurement of High Intensity Discharge Lamps - Intensity Measurement |
| 22/P13e | IES LM-66:2014 | Single-Ended Compact Fluorescent Lamps - Total Flux Measurements |
| 22/P13f | IES LM-66:2014 | Single-Ended Compact Fluorescent Lamps - Intensity Measurements |
| 22/P13g | ANSI/IES LM-66:2020 | Electrical and Photometric Measurements of Single-Based Fluorescent Lamps - Total Flux Measurements |
| 22/P13h | ANSI/IES LM-66:2020 | Electrical and Photometric Measurements of Single-Based Fluorescent Lamps - Intensity Measurements |

Luminaires

| <u>Code</u> | <u>Designation</u> | <u>Description</u> |
|--------------------|---------------------------|---|
| 22/F06a | ANSI/IES LM-10:2020 | Photometric Testing of Roadway and Area Lighting Fluorescent Luminaires |
| 22/F07a | ANSI/IES LM-31:2020 | Photometric Testing for Roadway and Area Lighting Luminaires Using Incandescent or High Intensity Discharge Lamps |
| 22/F08a | ANSI/IES LM-35:2020 | Photometric Testing of Floodlights Using High Intensity Discharge or Incandescent Lamps |
| 22/F09a | IES LM-41:2014 | Photometric Testing of Indoor Fluorescent Luminaires |
| 22/F09b | ANSI/IES LM-41:2020 | Photometric Testing of Indoor Fluorescent Luminaires |
| 22/F10a | ANSI/IES LM-46:2020 | Photometric Testing of Indoor Luminaires Using High Intensity Discharge or Incandescent Filament Lamps |

Solid State Lighting

SSL Color Measurements

| <u>Code</u> | <u>Designation</u> | <u>Description</u> |
|--------------------|---------------------------|--|
| 22/S01a | IES LM-58:2013 | Spectroradiometric Measurements |
| 22/S01b | ANSI/IES LM-58:2020 | Spectroradiometric Measurement Methods for Light Sources |

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| 22/S02 | CIE Pub. 13.3:1995 | Method of Measuring and Specifying Color Rendering of Light Sources |
| 22/S03 | IES LM-79:2008 (Sec. 12) | Solid State Lighting Luminaires - Color Characteristic Measurements |
| 22/S03a | ANSI/IES LM-79:2019 (Sec. 9) | Optical and Electrical Measurements of Solid-State Lighting Products - Chromaticity Uniformity Measurements |
| 22/S04 | IES LM-16:1993 | Practical Guide to Colorimetry of Light Sources |
| 22/S05 | CIE Pub. 15:2004 | Colorimetry |
| 22/S05a | CIE Pub. 15:2018 | Colorimetry, 4th Edition |
| 22/S23 | ANSI C78.377:2011 | Specifications for the Chromaticity of Solid State Lighting Products |
| 22/S23a | ANSI C78.377:2015 | Specifications for the Chromaticity of Solid State Lighting Products |
| 22/S23b | ANSI C78.377:2017 | Specifications for the Chromaticity of Solid State Lighting Products |

SSL Electrical Measurements

| <u>Code</u> | <u>Designation</u> | <u>Description</u> |
|--------------------|------------------------------|--|
| 22/S07a | ANSI C82.77-10:2014 | Harmonic Emission Limits - Related Power Quality Requirements for Lighting Equipment - Solid State |
| 22/S38 | ANSI/IES LM-79:2019 (Sec. 5) | Optical and Electrical Measurements of Solid-State Lighting Products - Electrical Test Conditions |

SSL Photometric Measurements

| <u>Code</u> | <u>Designation</u> | <u>Description</u> |
|--------------------|------------------------------|---|
| 22/S09 | IES LM-79:2008 (Sec. 9) | Solid State Lighting Luminaires - Total Flux Measurements (Luminous Efficacy) |
| 22/S09a | ANSI/IES LM-79:2019 (Sec. 7) | Optical and Electrical Measurements of Solid-State Lighting Products - Total Luminous Flux and Integrated Optical Measurements |
| 22/S10 | IES LM-79:2008 (Sec. 10) | Solid State Lighting Luminaires - Luminous Intensity Measurements |
| 22/S10a | ANSI/IES LM-79:2019 (Sec. 8) | Optical and Electrical Measurements of Solid-State Lighting Products - Luminous Intensity or Optical Angular Distribution Measurement |
| 22/S13 | IES LM-82-12 | Characterization of LED Light Engines and LED Lamps for Electrical and Photometric Properties as a Function of Temperature |
| 22/S13a | ANSI/IES LM-82:2020 | Characterization of Optical and Electrical Properties of Solid-State Lighting Products as a Function of Temperature |

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| 22/S35 | NEMA 77:2017 | Temporal Light Artifacts: Test Methods and Guidance for Accepted Criteria |
| 22/S36a | IES LM-20:2013 | Reflector Type Lamps -Total Flux Measurements |
| 22/S36b | IES LM-20:2013 | Reflector Type Lamps - Intensity Measurements |
| 22/S36c | ANSI/IES LM-20:2020 | Photometry of Reflector Type Lamps - Total Flux Measurement |
| 22/S39 | ANSI/IES LM-90:2020 | Measuring Luminous Flux Waveforms for Use in Temporal Light Artifact (TLA) Calculations |

SSL Temperature Measurement

| <u>Code</u> | <u>Designation</u> | <u>Description</u> |
|--------------------|---|---|
| 22/S15 | ANSI/UL 153:2002 (Secs. 124-128A) | Standard for Portable Electric Luminaires |
| 22/S16 | ANSI/UL 1574:2004 (Sec. 54) | Standard for Track Lighting Systems |
| 22/S17 | ANSI/UL 1598:2008 (Secs. 19.7, 19.10-16) | Luminaires |