

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

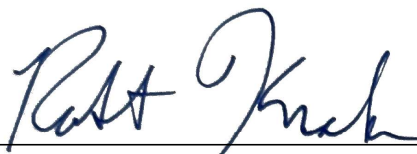
Lamps

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

ENERGY EFFICIENT LIGHTING PRODUCTS

NVLAP LAB CODE 201079-0

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

ENERGY EFFICIENT LIGHTING PRODUCTS

NVLAP LAB CODE 201079-0

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
22/P23	ANSI/IES LM-90:2020	Measuring Luminous Flux Waveforms for Use in Temporal Light Artifact (TLA) Calculations
22/P24	ANSI/IES LM-91-22	Application Distance Radiometry

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>
--------------------	---------------------------	---------------------------

ENERGY EFFICIENT LIGHTING PRODUCTS

NVLAP LAB CODE 201079-0

22/S01a	IES LM-58:2013	Spectroradiometric Measurements
22/S01b	ANSI/IES LM-58:2020	Spectroradiometric Measurement Methods for Light Sources
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/S03b	ANSI/IES LM-79:2024 (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
22/S23c	ANSI C78.377:2024	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
22/S38a	ANSI/IES LM-79:2024 (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

ENERGY EFFICIENT LIGHTING PRODUCTS

NVLAP LAB CODE 201079-0

22/S09b	ANSI/IES LM-79:2024 (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/S10b	ANSI/IES LM-79:2024 (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
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/S36d	ANSI/IES LM-20:2020	Photometry of Reflector Type Lamps - Intensity Measurement
22/S39	ANSI/IES LM-90:2020	Measuring Luminous Flux Waveforms for Use in Temporal Light Artifact (TLA) Calculations
22/S45	ANSI/IES LM-91-22	Application Distance Radiometry

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
22/S44	ANSI/IES LM-98:2024	Approved Method: Measuring In-Situ Temperature of Solid-State Lighting Components in Lamps and Luminaires