

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

Lumentra

37 Van Horne Ave
Toronto M2J 2S8
Canada

Dr. Venkat Venkataramanan
Phone: 416 978 7082 Fax: 4169783936
Email: venkat@lumentra.com
<http://www.lumentra.com>

ENERGY EFFICIENT LIGHTING PRODUCTS

NVLAP LAB CODE 500084-0

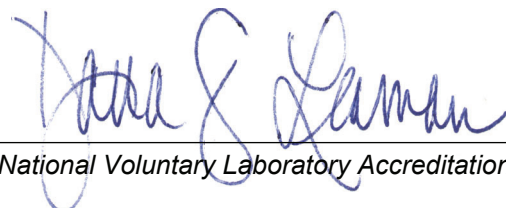
Lamps

Color Measurements

<u>Code</u>	<u>Designation</u>	<u>Description</u>
22/C02a	IES LM-58:2013	Spectroradiometric Measurements
22/C03	CIE Pub. 13.3:1995	Method of Measuring and Specifying Color Rendering of Light Sources
22/C05	CIE Pub. 15:2004	Colorimetry
22/C06	ANSI C78.376:2001	Electric Lamps - Specification for the Chromaticity of Fluorescent Lamps
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 <i>Testing conducted at 160 Frobisher Dr. Unit 5, Waterloo, ON N2V 2B1.</i>
22/E18	ANSI C78.375:1997	Fluorescent Lamps - Electrical Measurements <i>Testing conducted at 160 Frobisher Dr. Unit 5, Waterloo, ON N2V 2B1.</i>



For the National Voluntary Laboratory Accreditation Program

ENERGY EFFICIENT LIGHTING PRODUCTS

NVLAP LAB CODE 500084-0

22/E26 ANSI C82.2:2002 Ballast for Fluorescent Lamps - Methods of Measurement
Testing conducted at 160 Frobisher Dr. Unit 5, Waterloo, ON N2V 2B1.

22/E34 IEC 62301:2011 Household Electrical Appliances - Measurement of Standby Power

Life Tests

<u>Code</u>	<u>Designation</u>	<u>Description</u>
22/L10a	IES LM-65:2010	Single-Ended Compact Fluorescent Lamps - LifeTest Performance
22/L10b	IES LM-65:2014	Single-Ended Compact Fluorescent Lamps - LifeTest Performance

Photometric Measurements

<u>Code</u>	<u>Designation</u>	<u>Description</u>
22/P07c	IES LM-9:2009	Fluorescent Lamps - Total Flux Measurements <i>Testing conducted at 160 Frobisher Dr. Unit 5, Waterloo, ON N2V 2B1.</i>
22/P07d	IES LM-9:2009	Fluorescent Lamps - Intensity Measurements <i>Testing conducted at 160 Frobisher Dr. Unit 5, Waterloo, ON N2V 2B1.</i>

Luminaires

<u>Code</u>	<u>Designation</u>	<u>Description</u>
22/F06	IES LM-10:1996	Photometric Testing of Outdoor Fluorescent Luminaires <i>Testing conducted at 160 Frobisher Dr. Unit 5, Waterloo, ON N2V 2B1.</i>
22/F07	IES LM-31:1995	Photometric Testing of Roadway Luminaires <i>Testing conducted at 160 Frobisher Dr. Unit 5, Waterloo, ON N2V 2B1.</i>
22/F08	IES LM-35:2002	Photometric Testing of Floodlights Using Incandescent Filament or Discharge Lamps <i>Testing conducted at 160 Frobisher Dr. Unit 5, Waterloo, ON N2V 2B1.</i>
22/F09	IES LM-41:1998	Photometric Testing of Indoor Fluorescent Luminaires <i>Testing conducted at 160 Frobisher Dr. Unit 5, Waterloo, ON N2V 2B1.</i>
22/F09a	IES LM-41:2014	Photometric Testing of Indoor Fluorescent Luminaires
22/F10	IES LM-46:2004	Photometric Testing of Indoor Luminaires Using High Intensity Discharge or Incandescent Filament Lamps <i>Testing conducted at 160 Frobisher Dr. Unit 5, Waterloo, ON N2V 2B1.</i>

ENERGY EFFICIENT LIGHTING PRODUCTS

NVLAP LAB CODE 500084-0

Solid State Lighting

SSL Color Measurements

<u>Code</u>	<u>Designation</u>	<u>Description</u>
22/S01	IES LM-58:1994	Spectroradiometric Measurements
22/S01a	IES LM-58:2013	Spectroradiometric Measurements
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/S04	IES LM-16:1993	Practical Guide to Colorimetry of Light Sources
22/S05	CIE Pub. 15:2004	Colorimetry
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/S06	ANSI C82.2:2002	Ballast for Fluorescent Lamps - Methods of Measurement <i>Testing conducted at 160 Frobisher Dr. Unit 5, Waterloo, ON N2V 2B1.</i>
22/S07	ANSI C82.77:2002	Harmonic Emission Limits - Related Power Quality Requirements for Lighting Equipment
22/S07a	ANSI C82.77-10:2014	Harmonic Emission Limits - Related Power Quality Requirements for Lighting Equipment - Solid State
22/S28	IEC 62301:2011	Household Electrical Appliances - Measurement of Standby Power

SSL Life Tests

<u>Code</u>	<u>Designation</u>	<u>Description</u>
22/S18	EPA Lamps v. 1.0	Ambient Temperature Life Testing
22/S18a	ENERGY STAR® Ambient Temperature Life: September 2015	Ambient Temperature Life Test Method
22/S19	EPA Lamps v. 1.0	Elevated Temperature Life Testing

ENERGY EFFICIENT LIGHTING PRODUCTS

NVLAP LAB CODE 500084-0

22/S19a ENERGY STAR® Elevated Temperature Life Test Method
Elevated Temperature
Life: September 2015

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/S10	IES LM-79:2008 (Sec. 10)	Solid State Lighting Luminaires - Luminous Intensity Measurements <i>Testing conducted at 160 Frobisher Dr. Unit 5, Waterloo, ON N2V 2B1.</i>
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/S20	EPA Lamps v. 1.0	Elevated Temperature Light Output Ratio
22/S20a	ENERGY STAR® Elevated Temperature Light Output Ratio: September 2015	Elevated Temperature Light Output Ratio Test Method
22/S21	EPA Lamps v. 1.0	Start Time
22/S21a	ENERGY STAR® Start Time: September 2015	Start Time Test Method
22/S21b	ENERGY STAR® Start Time: October 2017	Start Time Test Method
22/S35	NEMA 77:2017	Temporal Light Artifacts: Test Methods and Guidance for Accepted Criteria

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/S17a	ANSI/UL 1598C	Light-Emitting Diode (LED) Retrofit Luminaire Conversion Kits