Certificate#4703.02

Ningbo TengLi Testing Co., Ltd

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LM-79-08 Test Report

For

L-TECH CORPORATION

(Brand Name: N/A)

Shaogangtou District, Qiaotou Town，Dongguan City

Model name(s): LMPT440(4000K)

Report Type:	Testing and Report According to IES LM-79-2008
Type of Luminaire:	LED Luminaires
Report Date:	2019-07-19
Prepared By:	Ningbo TengLi Testing Co., Ltd 2nd floor, Block B, Ningbo Testing and Certification Base, No. 66 Qingyi Road, Ningbo National Hi-Tech Zone, Ningbo, Zhejiang

Test & Report By:

Xeon Ren

Engineer: Xeon Ren

Review By:

Johnson Sun

Manager: Johnson Sun

Note: 1. The results contained in this report pertain only to the tested samples

2. This report does not imply product certification, approval, or endorsement by A2LA, or any agency of the Federal Government.

1.1 Product Information:		
Model Number	LMPT440(4000K)	
Remark	N/A	
Representative (Tested) Model	LMPT440(4000K)	
Model Difference	N/A	
SKU (if available)	N/A	
Type of Luminaire (for integral lamps, list base type and lamp type)	LED Luminaires	
LED Manufacturer	Luminus Devices, Inc.	
LED Model	CXM-9	
Dimming	Dimmable	
Sample Number	JCE181204-EE1(4000K)	
Date of Receipt	Mar.15,2019	
Luminaire Aperture (for downlights)	--	in.
Luminaire Length	--	mm
Luminaires Width	--	mm
Number of Units (modular products)	N/A	s

1.2 Rated Values:	
Rated Voltage / Frequency	120Vac, 60Hz
Nominal Power	9W
Rated Initial Lamp Lumen	--
Declared CCT	4000K

1.3 Test Specifications:

Test item	1. Total Luminous Flux 2. Correlated Color Temperature 3. Color Rendering Index 4. Chromaticity Coordinate 5. Electrical Parameters
Reference Standard	1. IES LM-79-2008 Electrical and Photometric Measurements of Solid-State Lighting Products 2. ANSI C78.377-2015 Specifications for the Chromaticity of Solid State Lighting Products 3. CIE 13.3-1995 Method of Measuring and Specifying Colour Rendering Properties of Light Sources 4. CIE 15-2004 Technical Report Colorimetry 5. IESNA LM-16-93 Practical Guide to Colorimetry of Light Source 6. IESNA TM-16-05 Technical Memorandum on Light Emitting Diode (LED) Sources and Systems
Reference Work Instruction	QD25

1.4 Test Methods

1) Chromaticity Measurement – Sphere-Spectroradiometer Method:

Chromaticity parameters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at 25 ºC ±1 ºC. The sample measurements were made using a spectroradiometer connected by a fiber optic cable and detector through the detector port of the integrating sphere. The sample was operated at 120 or rated Volts AC, 60Hz. It was stabilized before measurement was made. Chromaticity coordinates, correlated color temperature and color rendering index were calculated from the spectral power distribution taken at 5 nm intervals over the range of 380 to 780 nm.

2) Electrical Measurements:

Electrical parameters were measured using power meters incorporated in goniophotometer or sphere-spectroradiometer system. The ambient temperature surrounding the sample was maintained at 25 ºC ±1 ºC. The sample was operated at 120 or rated Volts AC, 60Hz. It was stabilized before measurement was made. Voltage, frequency, current, power, power factor and total harmonic distortion were measured by and read from the power meter.

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2.2 Electrical, Photometric and Chromaticity Measurements

Test date	2019-03-20	**Test Ambient:**	23.5 ℃
Test Orientation	As intended	**Stabilization Time (min)**	90
Model Number	LMPT440(4000K)		

Electrical Measurement:

Sample No.	Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD %
JCE181204-EE1	120.0	60	0.0749	8.651	0.9624	13.58

Chromaticity Measurement - Sphere-Spectroradiometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
CCT (K)	3990
Duv	0.0039
Chromaticity (x, y)	x=0.3837 y=0.3872
Chromaticity (u', v')	u'=0.2231 v'=0.5066
Color Rendering Index (CRI)	90.8
R9	69

Special Color Rendering Indices			
R1	91	R9	69
R2	92	R10	79
R3	91	R11	90
R4	92	R12	65
R5	89	R13	91
R6	87	R14	94
R7	96	R15	90
R8	89	--	--

Photometric Measurement –Sphere-Spectroradiometer Method:

Parameter	Result
Test Voltage (V)	120.0
Frequency (Hz)	60
Total Luminous (lm)	844.9
Luminous Efficacy (lm/W)	97.67

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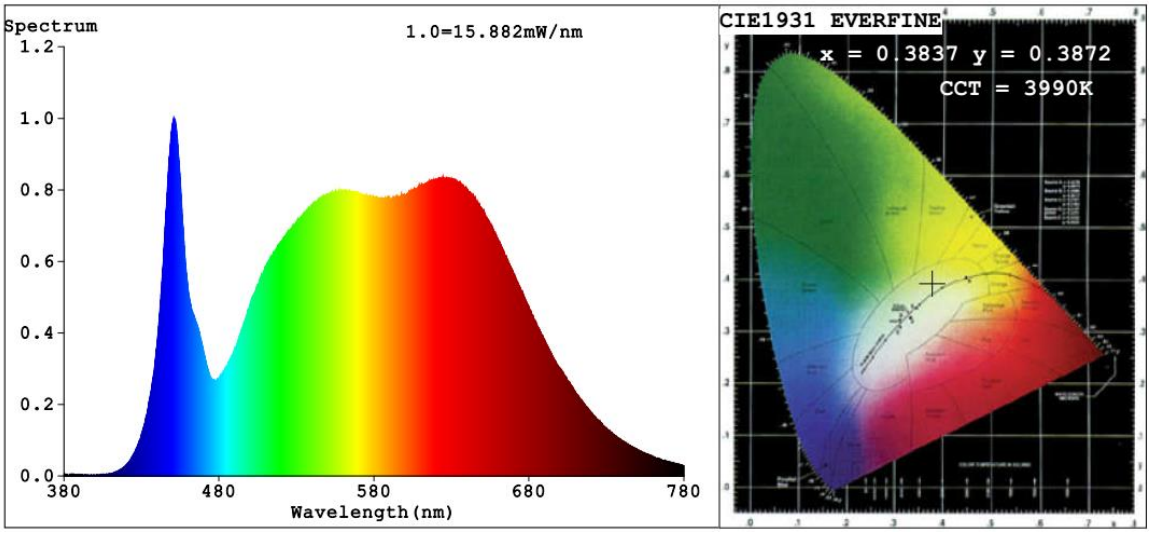
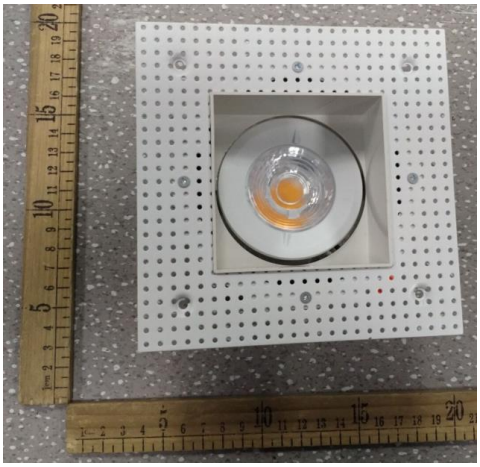
Spectral Power Distribution & Chromaticity Diagram

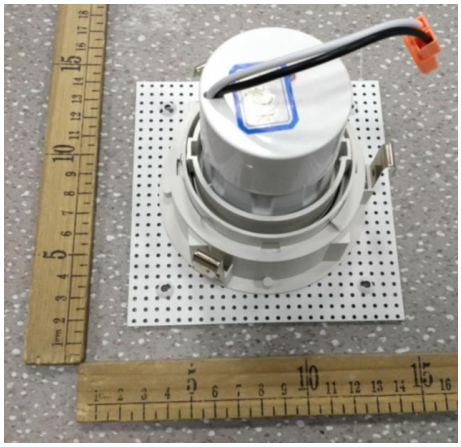


3. Test Equipment

Equipment ID	Equipment Name	Last Calibration Date	Next Calibration Date
ST-R-702	2 meter Integrating Sphere	Verified by D204 standard lamp	
ST-R-701	Spectral analysis system HAAS-2000	Verified by D204 standard lamp	
ST-R-705	Standard Lamp	2019-02-07	2020-02-06
ST-R-704	Power Meter for Integrating Sphere	2019-01-06	2020-01-05
Uncertainty: Photometric Measurement (Sphere):1.74% Chromaticity Measurement(Sphere):14.3K			

4. Product Photo





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