



ENERGY EFFICIENCY CERTIFICATION (EEC): Test Report

Project Number: GZE160118-B1

Customer Name: L-TECH CORPORTION

Address: SHAOGANGTOU DISTRICT.QIAOTOU TOWN.
DONGGUAN CITY.GUANGDONG PROVINCE,CHINA

Brand name(s): L-TECH CORP

Model name(s): CLED4A/P/R-21 WITH TCLD421HZ(CLKT421)

Product category: LED DOWNLIGHT

Electrical Ratings: 120Vac,60Hz 23W

Representative (Tested) Model: CLED4A/P/R-21 WITH TCLD421HZ(CLKT421)(3000K)
CLED4A/P/R-21 WITH TCLD421HZ(CLKT421)(4000K)

Model differences: All construction and rating are the same, except CCT

LED Manufacturer: EVERLIGHT ELECTRONICS CO.,LTD.

LED Model 62-217D(3000 K)

The Sample(s) tested is(are) compliant with the following applied standards/regulations:

ENERGY STAR[®] : ENERGY STAR[®] Program Requirements Product Specification for Luminaires - Version 2.0

Test & Report By:

Johnson Sun

Engineer: Johnson Sun

Date: Jan.13,2015

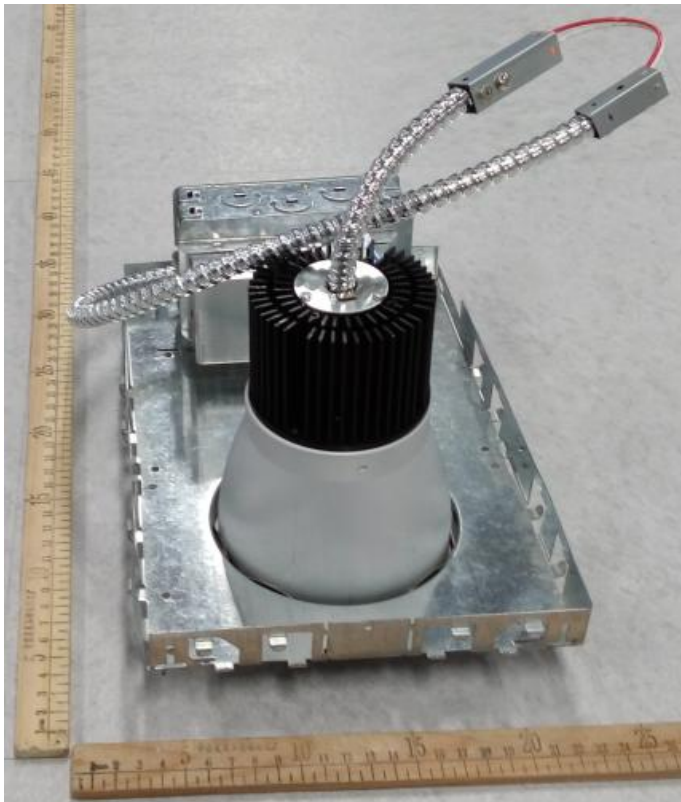
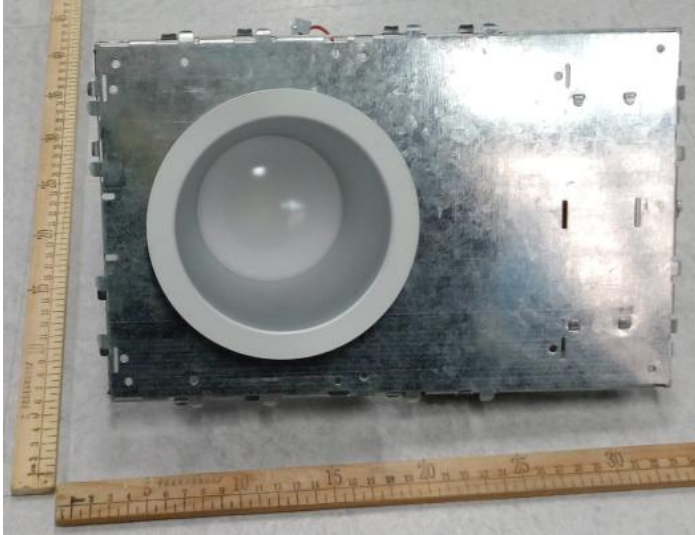
Review By:

Tommy Liang

Manager: Tommy Liang

Attachment

Photo





Standard-Tech Co. Ltd Testing Center

STD/QR4910-A/1



NVLAP LAB CODE 201011-0

Annex					
Regulatory Body	Tests to Determine Compliance	The Type Luminaires	Test Limit per Regulation or Program Requirement	Measured Efficiency or Limit Level	Pass / Or Fail
ENERGY STAR	Luminaire Minimum Light Output	SSL downlight	$\leq 4.5''$ aperture: 345 lumens $> 4.5''$ aperture: 575 lumens	3000K:1538.9lm 4000K: 1587 lm	Pass
ENERGY STAR	Input Wattage	All	\leq Rated Wattage	3000K:22.79W 4000K:22.98W	Pass
ENERGY STAR	Luminous Efficacy	SSL downlight	≥ 55 lm/W	3000K:67.53lm/W 4000K:69.06lm/W	Pass
ENERGY STAR	Zonal Lumen Density	SSL downlight	$\geq 75\%$ of total initial lumens within the 0-60° zone	90.5%	Pass
ENERGY STAR	Correlated Color Temperature (CCT)	Shall be capable of providing at least one of the following nominal correlated color temperatures (CCTs): 2700 Kelvin 3000 Kelvin 3500 Kelvin 4000 Kelvin 5000 Kelvin	3045 \pm 175 K Duv 0.0001 \pm 0.006 3985 \pm 275 K Duv 0.0009 \pm 0.006	3000K:2984K Duv=0.0003 4000K:4033K Duv=0.0005	Pass
ENERGY STAR	Color Rendering Index (CRI)	All	$R_a \geq 80$ $R_9 > 0$	3000K: $R_a = 81.5$ $R_9 = 5$ 4000K: $R_a = 84.0$ $R_9 = 21$	Pass
ENERGY STAR	Color Maintenance	Solid State	$\Delta u'v' \leq 0.007$	See LM80	Pass



ENERGY STAR	Color Angular Uniform	SSL downlight	The variation of chromaticity shall be within 0.006 from the weighted average point on the CIE 1976 (u',v') diagram	0.0023	Pass
ENERGY STAR	Start Time	Solid State	< 750 ms	215ms	Pass
ENERGY STAR	Power Factor	Solid State	Total luminaire input power ≤ 5 watts: PF ≥ 0.5 Total luminaire input power > 5 watts: PF ≥ 0.7	3000K:0.9933 4000K:0.9925	Pass

Annex					
ENERGY STAR	Transient Protection	All Luminaires	The line transient shall consist of seven strikes of a 100 kHz ring wave, 2.5 kV level, for both common mode and differential mode.	Comply	Pass
ENERGY STAR	Dimming	Solid State	The luminaire and its components shall provide continuous dimming from 100% to 20% of total light output.	Comply	Pass
ENERGY STAR	Operating Frequency Requirements - Directional and Non-Directional Luminaires	Solid State	Frequency \geq 120 Hz	120.09Hz	Pass
ENERGY STAR	Driver Replaceability	Solid State	Drivers shall be accessible and removable by an electrician without the cutting of wires and without damage to the luminaire housing, trim, decorative elements or the carpentry (e.g., ceiling drywall) to which the luminaire is attached.	N/A	Pass
ENERGY STAR	Maximum Measured Ballast or Driver Case Temperature	Solid State	$\leq 105\text{ }^{\circ}\text{C}$	69.3°C	Pass
ENERGY STAR	Maximum In-Situ Source Temperature	Solid State	$\leq 95\text{ }^{\circ}\text{C}$	67.1°C	Pass
ENERGY STAR	Warranty	Solid State	≥ 3 years	3 years	Pass



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ENERGY STAR	Safety	Solid State	N/A	N/A	Pass
ENERGY STAR	Lighting Toxics Reduction Requirements	Solid State	N/A	RoHS report has been verified	Pass
ENERGY STAR	Packaging Requirement				
ENERGY STAR	CCT	Solid State	Packaging shall clearly describe the nominal color designation in units of Kelvin (e.g. 2700K, 3000K).	3000K,4000K	Pass

--- End of Report ---