Lab Code: 200707-0

LIGHTING FACTS LABEL MEASUREMENT AND TEST REPORT

For

ELEC-TECH INTERNATIONAL CO., LTD

NO.1 Jinfeng Road, Tangjiawan Town,Zhuhai City, Guangdong Province,P.R of China.

Model:520266

Report Type: LED		**Product Type:** LED PAR30S Lamp
Test Engineer:	Jack Zhou	Jack . zhou
Report No:	R2DG120420052-10-M1	
Test Date:	2012-02-21	
Report Date:	2013-08-15	
Reviewed By:	Jeanne Han/Safety Manager	Jeanne . Han
Revised Note:	This version report "No. R2DG120420052-10-M1" at 2013-08-15 replaced the previous report "No. R2DG120420052-10" at 2012-04-20	
Prepared By:	Bay Area Compliance Laboratories Corp. (Shenzhen). 6/F, the 3rd Phase of WanLi Industrial Building, ShiHua Road, FuTian Free Trade Zone Shenzhen, Guangdong, China. Tel: +86-755-33320018 Fax: +86-755-33320008	

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1 - GENERAL INFORMATION

1.1 Product Description for Equipment under Test (EUT)

Manufacturer	Description	Product type	Model No.	SKU	Brand
ELEC-TECH INTERNATIONAL CO., LTD	LED PAR30S Lamp AC120V 60Hz 10.5W 3000K	LED PAR30S Lamp	520266	/	ETI

1.2 Objective

The following test report is prepared on behalf of *ELEC-TECH INTERNATIONAL CO., LTD* in accordance with the following American National Standards or illumination Engineering Society of North America Test Guides:

- IESNA LM-79-2008: Approved Method: Electrical & Photometric Measurement of Solid-state Lighting Products
- ANSI C78.377-2008 Specification for the Chromaticity of Solid State Lighting Products
- IESNA LM-16: Correlated Color Temperature
- IESNA LM-58-94: Color Rendering Index and Correlated Color Temperature
- CIE Publication No.13.3-1995: Method of Measuring and Specifying Color Rendering of Light Sources

The objective of the manufacturer is to demonstrate compliance with above listed ANSI Standards and IESNA Guides for environmental stating, electrical and photometric characteristic for SSL.

1.3 Test Facility

The test facility used by Bay Area Compliance Laboratories Corp. (Shenzhen). is located at 6/F, the 3rd Phase of WanLi Industrial Building, ShiHua Road, FuTian Free Trade Zone Shenzhen, Guangdong, China

Bay Area Compliance Laboratories Corp. (Shenzhen). is a National Institute of Standards and Technology (NIST) accredited laboratory, under the National Voluntary Laboratory Accredited Program (NVLAP). The NVLAP Lab Code is 200707-0.

1.4 Test Equipment List and Details

Manufacturer	Description	Model	Calibration Rang	Calibration Date	Calibration Due Date
EVERFINE	Standard Light Source	D204	24V/50W	2011-09-24	2012-09-23
SENSING	Plus UV-VIS-Near IR Spectrophoto Colorimeter	SPR3000	350nm~800nm, reflectivity ＞90%	2012-01-04	2013-01-03
SENSING	Integral Sphere	Diameter 1.5m	1.5m	2012-01-04	2013-01-03
SENSING	Thermostat	SPR-600M	NA	NA	NA
YOKOGAWA	Digital Power Supply	WT210	0-600V/20A DC，0.5Hz～100kHz	2012-01-04	2013-01-03
SENSING	ITECH DC SOURCE METER	IT6154	60V/9A	2012-01-04	2013-01-03
KTJ	THERMO/HYGRO/CLOCK	TA218B	0~50℃	2011-09-25	2012-09-24
KISLO SPORT ELECTRONICS CO.,LTD.	Stop watch	K81	0s~3600s	2012-03-03	2013-03-02

Statement of Traceability: Bay Area Compliance Laboratories Corp. (Shenzhen).attests that all calibration has been performed using suitable standards traceable to the NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY (NIST).

1.5 Stated Performance Value

Voltage	AC 120V
Frequency	60Hz
Power	10.5W
Lamp efficacy (Lumen per Watt)	50 lm/W
Color Rendering Index – CRI	80
CCT (Kelvin)	3000K
Light Output (lumens)	525 lm

2 - SUMMARY OF TEST RESULT

Item	Measured	Requirement
Lamp efficacy (Lumen per Watt)	53.325	Two options for reporting: 1. Exact lumens/watt as measured; can round to nearest whole number 2. As calculated by dividing stated lumens by stated watts; can round to nearest whole number
Color Rendering Index – CRI	81.7	±2 points
Light Color (CCT) (Kelvin)	3189	Three options for reporting: 1.Exact CCT as measured 2.Flexible CCT, in 100K increments, as defined by ANSI C78.377-2008 3. Nominal CCT, as defined by ANSI C78.377-2008
Light Output (lumens)	549.782	±10% of tested lumen output
Input power (W)	10.31	Within the UL-approved using the following formula: {（measured wattage）*0.9-0.5}＜（stated wattage）＜{（measured wattage）*1.1+0.5}

Note: The test data was only good for the test sample. It may have deviation for other test sample.

3 - Test Method

3.1 Photometric and Electrical Measurement

Total light output (luminous flux) for the 77°F ambient temperature conditions is measured using a 1.5m integrating sphere photometer. Temperature is measured at a position inside the sphere.

Spectral radiant flux measurements are made using Spectroradiometer attached to the detector port of the integrating sphere. Each lamp is operated at 120 volts AC in its designated orientation. Each lamp is allowed to stabilize from 30 min to 2 or more hours before measurements are made. Luminous flux, chromaticity coordinates, correlated color temperature, u', v' and color rendering index for each lamp are calculated from the spectral radiant flux measurements taken at 0.25 nm intervals over the range 380 to 780 nm. The calibration of the sphere photometer-spectroradiometer system is traceable to The National Metrology Institute of China, NIM. Lamp efficacy (lumens per watts) for each lamp model is computed based on this luminous flux result. Electrical measurements including voltage, current, power, power factor and harmonic analysis are measured using the Digital Power Analyzer.

The total uncertainty of the light output measurements is estimated, at the 95% confidence level, not to exceed ±3.1% over the wavelength range 380-700 nm rising to ±3.9% at 780 nm.

4 - Test Data

4.1 Photometric and Electrical Measurements

Photometric and Electrical Measurements at 77ºF								
Sample No.	**Voltage (V)**	**Current (A)**	**Input Power (W)**	**Power Factor**	**Luminous Flux (Lumens)**	**Luminaire efficacy (lm/W)**	**CCT (Kelvin)**	**CRI**
1	120.04	0.091	10.31	0.943	549.782	53.325	3189	81.7

Attachment A – Spectral Flux

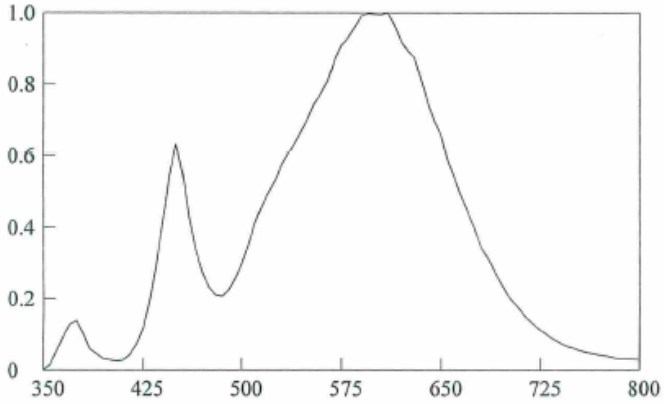
Report of Spectroradiometric & Electric Analysis for Light Source

Product: 520266
Manufacturer: ETI
Sample No.: 1# Date: 2-21-2012
Tested By: Blake Reviewed By: Jack

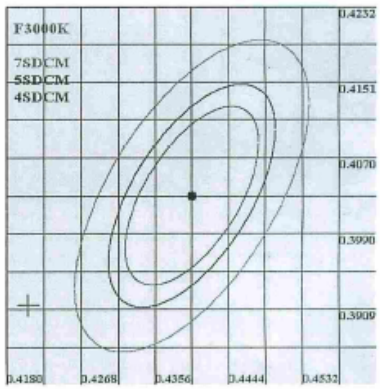
Test Condition

Temperature: 25.0°C RH: 65.0%
Spectrum Range: 350-800 nm Scan Step: 5 nm

Spectroradiometric Parameters



Spectral Distribution



SDCM:F3000K

x0=0.4400 y0=0.4030

Chromaticity Coordinates: x=0.4206 y=0.3913 u=0.2454 v=0.5138

Correlated Color Temperature: 3189 K Dominant Wavelength: 582.0 nm(E)

Luminous Flux: 549.782 lm Purity: 0.4374

Chromaticity Difference: -2.73E-03duv Peak Wavelength: 594.3 nm

Red Color Ratio: 43.0% Green Color Ratio: 50.1%

Blue Color Ratio: 7.0% Color Tolerance: 9.8 SDCM

Rendering Index: Ra=81.7 Radiant Flux: 1.58 W

R1=80 R2=89 R3=95 R4=79 R5=79 R6=84 R7=84 R8=63

R9=14 R10=73 R11=77 R12=67 R13=82 R14=97 R15=76

Electric Parameters

Voltage: 120.04 V Current: 0.091 A

Power Factor: 0.943 Power: 10.31 W

Luminous Efficacy: 53.325 lm/W

Attachment B – EUT Photo

B1.EUT Photo

B2.EUT Photo

**********END OF REPORT**********