

Verification Report

No. CANEC1706639701

Date: 17 May 2017

Page 1 of 14

LEDYI LIGHTING(HK) CO., LIMITED

YUECHANG TECHNOLOGY PARK, SHIYAN TOWN, BAO'AN DISTRICT, 518108, SHENZHEN, CHINA

Sample Name : LED Strip
SGS Job No. : CP17-020413 - GZ
Internal Reference No. : 2.1
Tested Basic Model No. LY60-S5050WW-W12
(P.O. No.) :
Tested Extended Model No. LY480-S3528WW-W24, LY60-S5050WW-W24, LY60-S3528WW-W12
(P.O. No.) :
Client Ref. Info. : See remark (4)
Date of Sample Received : 19 Apr 2017
Verification Period : 19 Apr 2017 - 17 May 2017
Verification Requested : With reference to RoHS Directive 2015/863/EU amending 2011/65/EU.
Verification Method : Please refer to next page(s).
Verification Result : Please refer to next page(s).
Verification Conclusion : Based on the verification results of the submitted samples, the results of Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs) do not exceed the limits as set by RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.
Note : The test results are related only to the tested items. The report shall not be reproduced except in full without the written approval of the testing laboratory.

Signed for and on behalf of
SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch

Jenny

Jenny Liao
Approved Signatory



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Page 2 of 14

Verification Method :

1. With reference to IEC 62321-2:2013, review was performed for the samples disjointed from the submitted articles.
2. With reference to IEC 62321-1:2013, tests were performed for the samples indicated by the photos in this report
 - (1) With reference to IEC 62321-3-1:2013, screening by EDXRF spectroscopy
 - (2) Wet chemical test method
 - a. With reference to IEC 62321-5:2013, determination of Cadmium by ICP-OES
 - b. With reference to IEC 62321-5:2013, determination of Lead by ICP-OES
 - c. With reference to IEC 62321-4:2013, determination of Mercury by ICP-OES
 - d. With reference to IEC 62321-7-1:2015, IEC 62321-7-2:2017 & ISO 17075-1:2017, determination of Hexavalent chromium by Colorimetric method using UV-Vis.
 - e. With reference to IEC 62321-6:2015, determination of PBBs and PBDEs by GC-MS



In accordance with the result of material risk assessment, the following disjointed parts in the submitted sample have been verified.

Part No.	Part Description	BOM No.	Restricted Substances	Results of EDXRF (1)	Result of Wet Chemical Testing(2) (mg/kg)	Conclusion on EU RoHS	Sample Submitted / Resubmitted Date
1	LY60-S5050WW-W12 - White "FPC"	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL BL BL	--- --- --- --- --- ---	Comply Comply Comply Comply Comply Comply	19 Apr 2017
2 -C	LY60-S5050WW-W12 - Black "chip resistor"	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	IN BL BL BL BL BL	657 --- --- --- --- ---	Comply Comply Comply Comply Comply Comply	19 Apr 2017 28 Apr 2017
3	LY60-S5050WW-W12 - Yellow body (LED)	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL BL BL	--- --- --- --- --- ---	Comply Comply Comply Comply Comply Comply	19 Apr 2017
4	LY60-S5050WW-W12 - White plastic (heat shrinkable tube)	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL BL BL	--- --- --- --- --- ---	Comply Comply Comply Comply Comply Comply	19 Apr 2017



Part No.	Part Description	BOM No.	Restricted Substances	Results of EDXRF (1)	Result of Wet Chemical Testing(2) (mg/kg)	Conclusion on EU RoHS	Sample Submitted / Resubmitted Date
5	LY60-S5050WW-W12 - Silvery metal solder	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL --- ---	--- --- --- --- --- ---	Comply Comply Comply Comply --- ---	19 Apr 2017
6	LY60-S5050WW-W12 - Black plastic (wire insulation)	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL BL BL	--- --- --- --- --- ---	Comply Comply Comply Comply Comply Comply	19 Apr 2017
7	LY60-S5050WW-W12 - Red plastic (wire insulation)	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL BL BL	--- --- --- --- --- ---	Comply Comply Comply Comply Comply Comply	19 Apr 2017
8	LY60-S5050WW-W12 - Silvery metal solder	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL --- ---	--- --- --- --- --- ---	Comply Comply Comply Comply --- ---	19 Apr 2017



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Part No.	Part Description	BOM No.	Restricted Substances	Results of EDXRF (1)	Result of Wet Chemical Testing(2) (mg/kg)	Conclusion on EU RoHS	Sample Submitted / Resubmitted Date
9	LY480-S3528WW-W24-White "FPC"	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL BL BL	--- --- --- --- --- ---	Comply Comply Comply Comply Comply Comply	19 Apr 2017
10	LY480-S3528WW-W24-Silvery metal solder	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL --- ---	--- --- --- --- --- ---	Comply Comply Comply Comply --- ---	19 Apr 2017
11	LY480-S3528WW-W24-White plastic w/ black printing (heat shrinkable tube)	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL BL BL	--- --- --- --- --- ---	Comply Comply Comply Comply Comply Comply	19 Apr 2017
12	LY60-S5050WW-W24 - White "FPC"	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL BL BL	--- --- --- --- --- ---	Comply Comply Comply Comply Comply Comply	19 Apr 2017



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Part No.	Part Description	BOM No.	Restricted Substances	Results of EDXRF (1)	Result of Wet Chemical Testing(2) (mg/kg)	Conclusion on EU RoHS	Sample Submitted / Resubmitted Date
13	LY60-S5050WW-W24 - Yellow/ white body (LED)	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL BL BL	--- --- --- --- --- ---	Comply Comply Comply Comply Comply Comply	19 Apr 2017
14	LY60-S5050WW-W24 - Silvery metal solder	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL --- ---	--- --- --- --- --- ---	Comply Comply Comply Comply --- ---	19 Apr 2017
15	LY60-S3528WW-W12 - White "FPC"	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL BL BL	--- --- --- --- --- ---	Comply Comply Comply Comply Comply Comply	19 Apr 2017
16	LY60-S3528WW-W12 - Silvery metal solder	-	Pb Cd Hg Cr(VI)▼ PBBs PBDEs	BL BL BL BL --- ---	--- --- --- --- --- ---	Comply Comply Comply Comply --- ---	19 Apr 2017



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Remark :

- (1) (a) There are the results on total Br while test items on restricted substances are PBBs and PBDEs. There is the result on total Cr while test item on restricted substances is Cr(VI).
- (b) Results are obtained by EDXRF for primary screening, and further chemical testing by ICP-OES (for Cd, Pb, Hg), UV-Vis (for Cr(VI)) and GC-MS (for PBBs, PBDEs) is recommended to be performed, if the concentration exceeds the below warning value according to IEC62321-3-1:2013 (unit: mg/kg).

Element	Polymer	Metal	Composite Materials
Cd	$BL \leq (70-3\sigma) < X < (130+3\sigma) \leq OL$	$BL \leq (70-3\sigma) < X < (130+3\sigma) \leq OL$	$LOD < X < (150+3\sigma) \leq OL$
Pb	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma) \leq OL$
Hg	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma) \leq OL$
Br	$BL \leq (300-3\sigma) < X$	--	$BL \leq (250-3\sigma) < X$
Cr	$BL \leq (700-3\sigma) < X$	$BL \leq (700-3\sigma) < X$	$BL \leq (500-3\sigma) < X$

(c) BL = Below Limit, OL = Over Limit, IN = Inconclusive, LOD = Limit of Detection, -- = Not regulated.

(d) The XRF screening test for RoHS elements - The reading may be different to the actual content in the sample be of non-uniformity composition.

- (2) (a) mg/kg = 0.0001%, MDL = Method detection Limit, ND = Not Detected (<MDL), --- = Not conducted, - = Without BOM.

(b) Unit and MDL in wet chemical test

Test Item	Pb	Cd	Hg
Unit	mg/kg	mg/kg	mg/kg
MDL	10	10	10

The MDL for single compound of PBBs and PBDEs is 100 mg/kg,
 MDL of Cr(VI) for polymer and composite sample is 10 mg/kg,
 MDL of Cr(VI) for metal sample is 0.10 µg/cm².



(c) ▼ =Metal sample

- a. The sample is positive for CrVI if the CrVI concentration is greater than 0.13 µg/cm².
The sample coating is considered to contain CrVI
- b. The sample is negative for CrVI if CrVI is ND (concentration less than 0.10 µg/cm²).
The coating is considered a non-CrVI based coating
- c. The result between 0.10 µg/cm² and 0.13 µg/cm² is considered to be inconclusive
- unavoidable coating variations may influence the determination

Information on storage conditions and production date of the tested sample is unavailable and thus Cr(VI) results represent status of the sample at the time of testing.

IEC 62321 series is equivalent to EN 62321 series

http://www.cenelec.eu/dyn/www/f?p=104:30:1742232870351101:::FSP_ORG_ID,FSP_LANG_ID:1258637,25



(3) According to the declaration from applicant, the materials of other parts in Models “LY480-S3528WW-W24, LY60-S5050WW-W24, LY60-S3528WW-W12” are the same as those in Model “LY60-S5050WW-W12”, and the results of Model “LY60-S5050WW-W12” for support the results of other parts in Models “LY480-S3528WW-W24, LY60-S5050WW-W24, LY60-S3528WW-W12”. The applicant will take the responsibility of all discrepancy and risk.

(4) According to declaration from client, the materials in models as below are the same as those in Model LY60-S5050WW-W12.

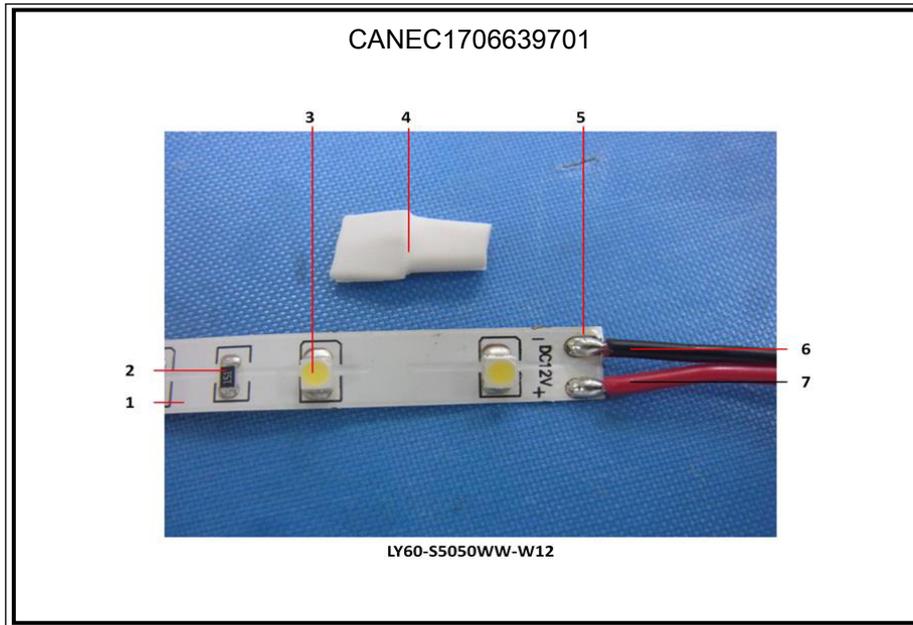
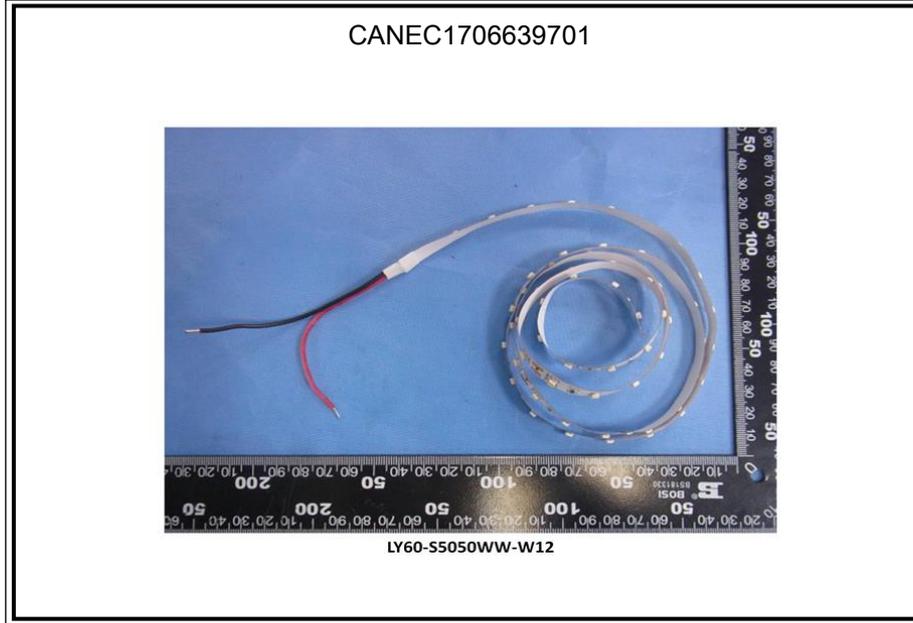
LY120-S3528WW-W12, LY120-S3528WWW-W12, LY240-S3528WW-W12, LY30-S5050WW-W12, LY30-S5050RGB-W12, LY60-S5050RGB-W12, LY60-S5050RGBW-W12, LY60-S5050WWW-W12, LY30-S2835WW-W12, LY60-S2835WW-W12, LY120-S2835WW-W12, LY240-S2835WW-W12, LY60-S2835WW-W24, LY60-S3014WW-W12, LY120-S3014WW-W12, LY204-S3014WW-W12, LY240-S3014WW-W12, LY30-S5630WW-W12, LY60-S5630WW-W12, LY60-S3528WW-W24, LY90-S3528WW-W36, LY180-S3528WW-W24, LY240-S3528WW-W24, LY360-S3528WW-W24, LY480-S3528WW-W24, LY30-S5050WW-W24, LY30-S5050RGB-W24, LY60-S5050WW-W24, LY60-S5050RGB-W24, LY60-S5050WWW-W24, LY60-S5050RGBW-W24, LY120-S5050WW-W24, LY120-S5050RGB-W24, LY144-S5050WW-W24, LY60-S2835WW-W24, LY112-S2835WWW-W24, LY120-S2835WW-W24, LY144-S2835WW-W24, LY240-S2835WW-W24, LY60-S3014WW-W24, LY120-S3014WW-W24, LY204-S3014WW-W24, LY240-S3014WW-W24, LY60-S5630WW-W24, LY112-S5630WWW-W24, LY120-S5630WW-W24, LY60-S3030WW-W24, LY96-S3030WW-W24, LY240-S2016WW-W24

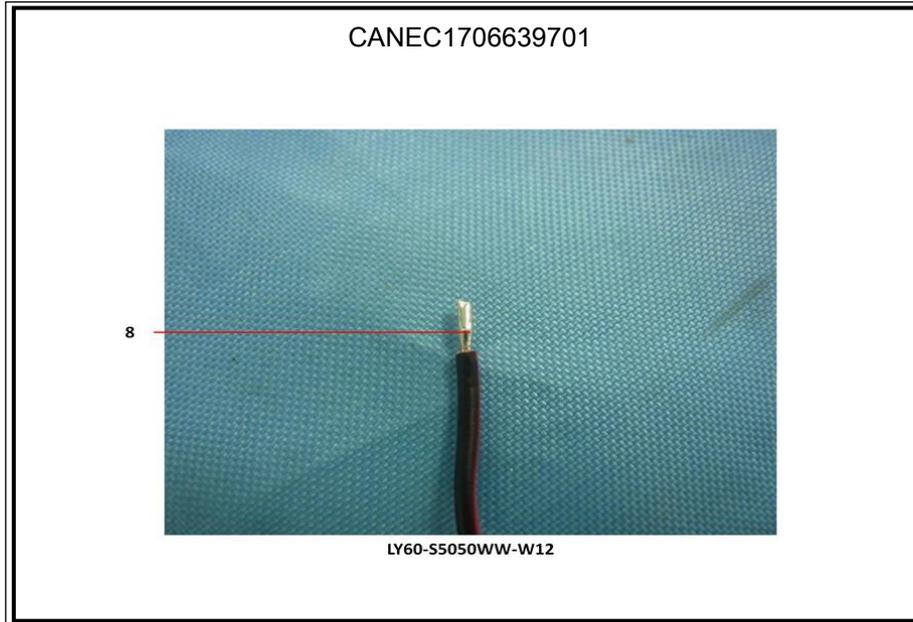


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Sample photo:

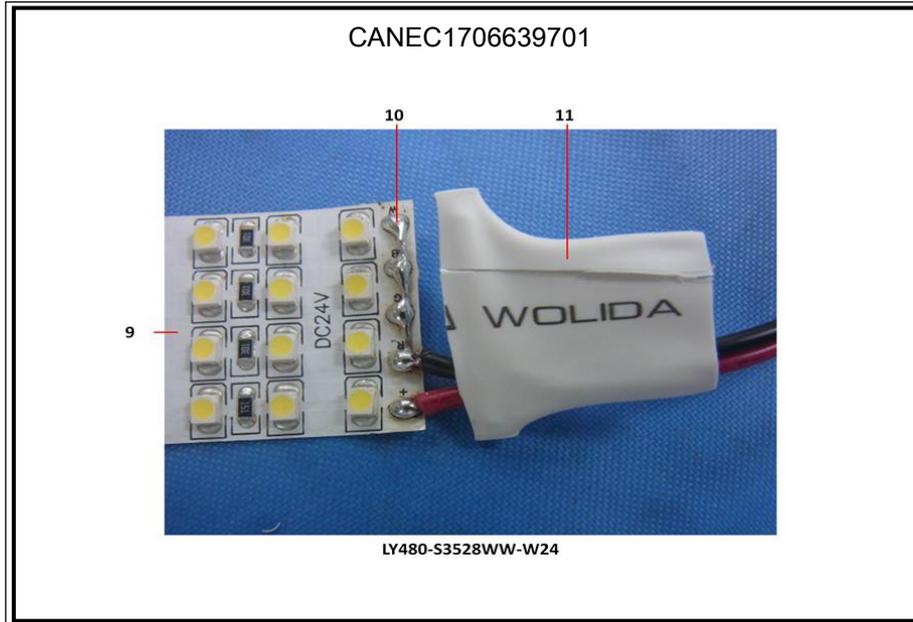




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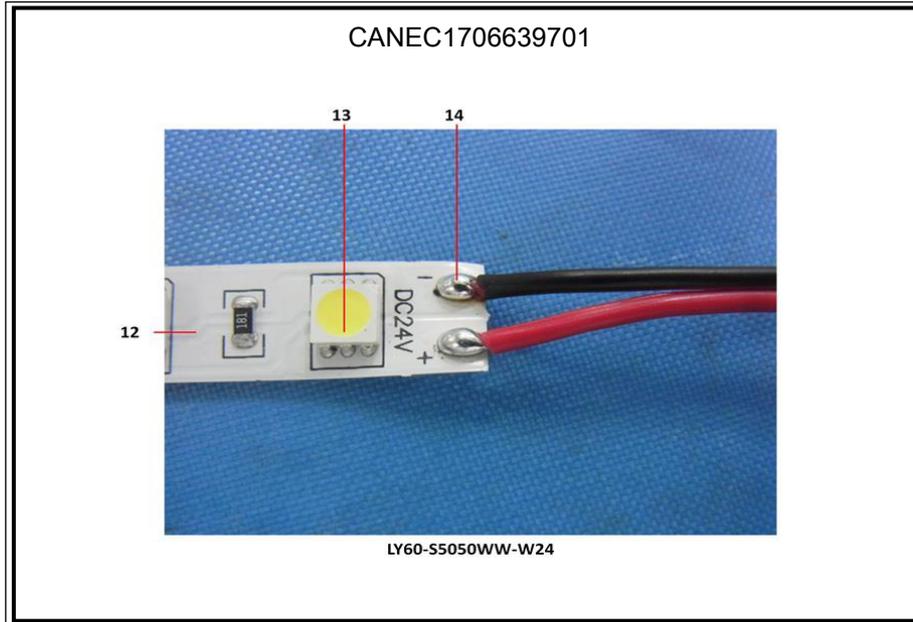




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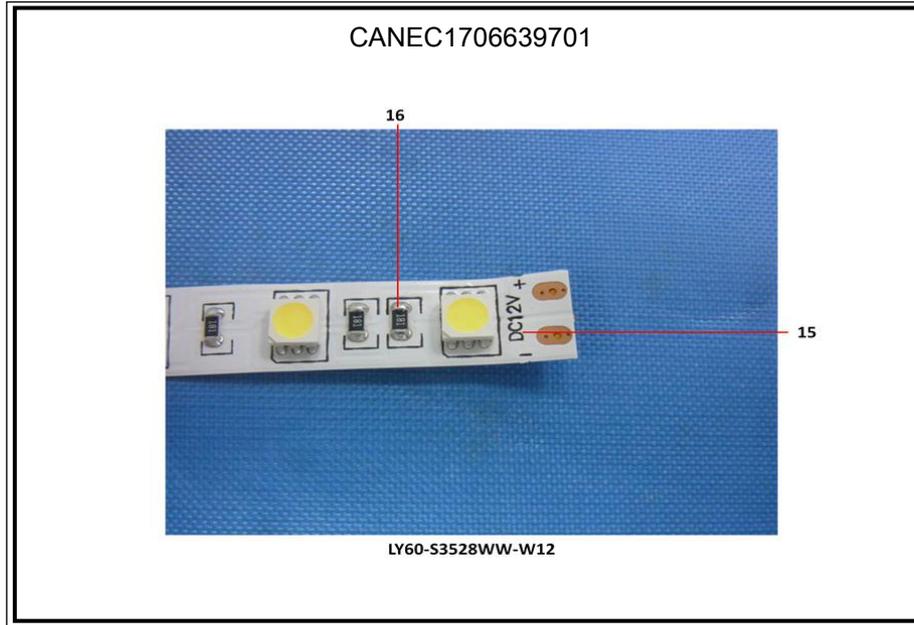




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