



# RoHS Test Report

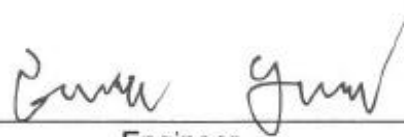
**Applicant** : NINGBO FORYARD OPTOELECTRONICS CO.,LTD.  
**Address** : NO.115 Qixin Road Ningbo Zhejiang China  
**Manufacturer** : NINGBO FORYARD OPTOELECTRONICS CO.,LTD.  
**Address** : NO.115 Qixin Road Ningbo Zhejiang China

The following sample(s) was /were submitted and identified on behalf of the clients as:

**Sample Name** : LED LAMP  
**Trade Mark** : FORYARD  
**Model Number** : FYL-3014URC1A  
**Sample Received Date** : Apr. 23, 2018  
**Testing Period** : Apr. 24, 2018–Apr. 26, 2018  
**Test Requested** : Selected test (s) in the selected parts as requested by client with the RoHS Directive 2011/65/EU.  
**Test Method** : Please refer to next page(s).  
**Test Result** : Please refer to next page(s).

The test results apply to all models with prefix FYL LED LAMP SERIES .

Prepared by:

  
Engineer

Reviewer:

  
Supervisor

Approved & Authorized Signer:

  
Tomy Wu / Manager





# RoHS Test Report

## Sample Description:

No.	Description	Name
1	LED	LED
2	Metal Pin	Metal Pin
3	Red Plastic	Red Plastic



# RoHS Test Report

## Test Result (No. 1):

Test Item(s)	Unit	Test Method (Reference)	Result	MDL	Limit
Cadmium(Cd)	mg/kg	IEC 62321-5:2013, ICP-AES	N.D.	2	100
Lead(Pb)	mg/kg	IEC 62321-5:2013, ICP-AES	N.D.	2	1000
Mercury(Hg)	mg/kg	IEC 62321-4:2013, ICP-AES	N.D.	2	1000
Hexavalent Chromium(CrVI)	mg/kg	IEC 62321:2008, UV-Vis	N.D.	2	1000
Sum of PBBs	mg/kg	IEC 62321:2008, GC-MS	N.D.	--	1000
Monobromobiphenyl	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	--
Dibromobiphenyl	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	--
Tribromobiphenyl	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	--
Tetrabromobiphenyl	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	--
Pentabromobiphenyl	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	--
Hexabromobiphenyl	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	--
Heptabromobiphenyl	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	--
Octabromobiphenyl	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	--
Nonabromobiphenyl	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	--
Decabromobiphenyl	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	--
Sum of PBDEs	mg/kg	IEC 62321:2008, GC-MS	N.D.	--	1000
Monobromodiphenyl ether	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	--
Dibromodiphenyl ether	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	--
Tribromodiphenyl ether	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	--
Tetrabromodiphenyl ether	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	--
Pentabromodiphenyl ether	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	--
Hexabromodiphenyl ether	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	--
Heptabromodiphenyl ether	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	--
Octabromodiphenyl ether	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	--
Nonabromodiphenyl ether	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	--
Decabromodiphenyl ether	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	--
DEHP	mg/kg	EN 14372:2004, GC-MS	N.D.	5	1000
DBP	mg/kg	EN 14372:2004, GC-MS	N.D.	5	1000
BBP	mg/kg	EN 14372:2004, GC-MS	N.D.	5	1000
DIBP	mg/kg	EN 14372:2004, GC-MS	N.D.	5	1000



# RoHS Test Report

## Test Result (No. 2):

Test Item(s)	Unit	Test Method (Reference)	Result	MDL	Limit
Cadmium(Cd)	mg/kg	IEC 62321-5:2013, ICP-AES	N.D.	2	100
Lead(Pb)	mg/kg	IEC 62321-5:2013, ICP-AES	N.D.	2	1000
Mercury(Hg)	mg/kg	IEC 62321-4:2013, ICP-AES	N.D.	2	1000
Hexavalent Chromium(CrVI)	mg/kg	IEC 62321:2008, UV-Vis	N.D.	2	1000
Sum of PBBs	mg/kg	IEC 62321:2008, GC-MS	N.A.	--	1000
Monobromobiphenyl	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	--
Dibromobiphenyl	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	--
Tribromobiphenyl	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	--
Tetrabromobiphenyl	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	--
Pentabromobiphenyl	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	--
Hexabromobiphenyl	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	--
Heptabromobiphenyl	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	--
Octabromobiphenyl	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	--
Nonabromobiphenyl	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	--
Decabromobiphenyl	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	--
Sum of PBDEs	mg/kg	IEC 62321:2008, GC-MS	N.A.	--	1000
Monobromodiphenyl ether	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	--
Dibromodiphenyl ether	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	--
Tribromodiphenyl ether	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	--
Tetrabromodiphenyl ether	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	--
Pentabromodiphenyl ether	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	--
Hexabromodiphenyl ether	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	--
Heptabromodiphenyl ether	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	--
Octabromodiphenyl ether	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	--
Nonabromodiphenyl ether	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	--
Decabromodiphenyl ether	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	--
DEHP	mg/kg	EN 14372:2004, GC-MS	N.A.	5	1000
DBP	mg/kg	EN 14372:2004, GC-MS	N.A.	5	1000
BBP	mg/kg	EN 14372:2004, GC-MS	N.A.	5	1000
DIBP	mg/kg	EN 14372:2004, GC-MS	N.A.	5	1000



# RoHS Test Report

## Test Result (No. 3):

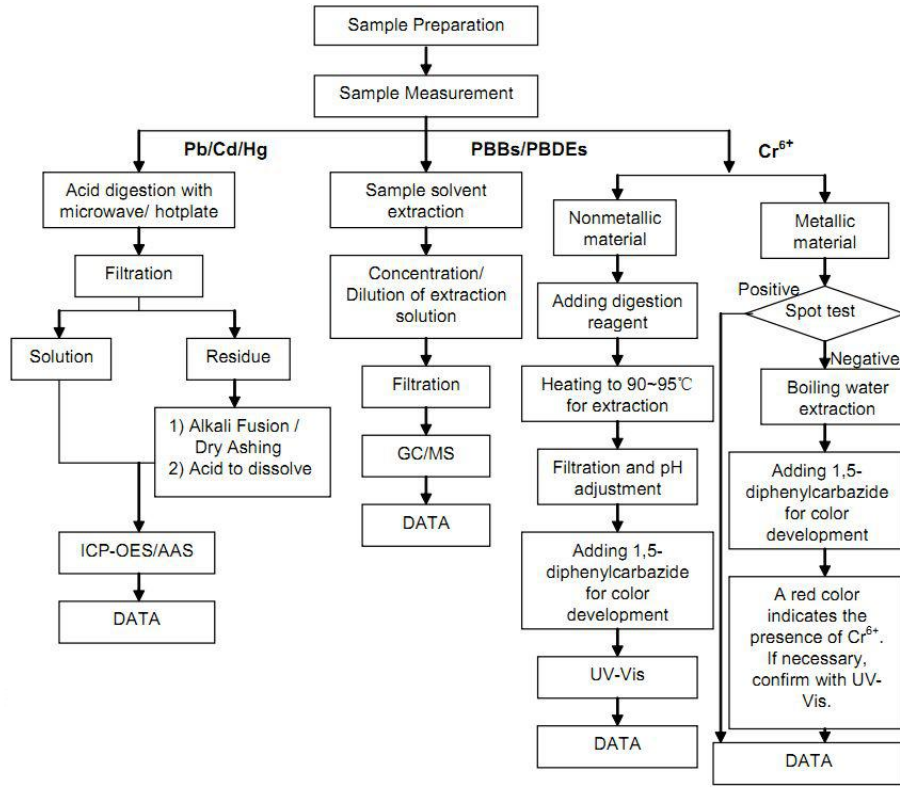
Test Item(s)	Unit	Test Method (Reference)	Result	MDL	Limit
Cadmium(Cd)	mg/kg	IEC 62321-5:2013, ICP-AES	N.D.	2	100
Lead(Pb)	mg/kg	IEC 62321-5:2013, ICP-AES	N.D.	2	1000
Mercury(Hg)	mg/kg	IEC 62321-4:2013, ICP-AES	N.D.	2	1000
Hexavalent Chromium(CrVI)	mg/kg	IEC 62321:2008, UV-Vis	N.D.	2	1000
Sum of PBBs	mg/kg	IEC 62321:2008, GC-MS	N.D.	--	1000
Monobromobiphenyl	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	--
Dibromobiphenyl	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	--
Tribromobiphenyl	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	--
Tetrabromobiphenyl	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	--
Pentabromobiphenyl	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	--
Hexabromobiphenyl	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	--
Heptabromobiphenyl	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	--
Octabromobiphenyl	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	--
Nonabromobiphenyl	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	--
Decabromobiphenyl	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	--
Sum of PBDEs	mg/kg	IEC 62321:2008, GC-MS	N.D.	--	1000
Monobromodiphenyl ether	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	--
Dibromodiphenyl ether	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	--
Tribromodiphenyl ether	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	--
Tetrabromodiphenyl ether	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	--
Pentabromodiphenyl ether	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	--
Hexabromodiphenyl ether	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	--
Heptabromodiphenyl ether	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	--
Octabromodiphenyl ether	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	--
Nonabromodiphenyl ether	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	--
Decabromodiphenyl ether	mg/kg	IEC 62321:2008, GC-MS	N.D.	5	--
DEHP	mg/kg	EN 14372:2004, GC-MS	N.D.	5	1000
DBP	mg/kg	EN 14372:2004, GC-MS	N.D.	5	1000
BBP	mg/kg	EN 14372:2004, GC-MS	N.D.	5	1000
DIBP	mg/kg	EN 14372:2004, GC-MS	N.D.	5	1000

- Note:**
1. mg/kg= ppm
  2. N.D.= Not Detected(<MDL)
  3. MDL = Method Detection Limit
  4. -- = No Testing

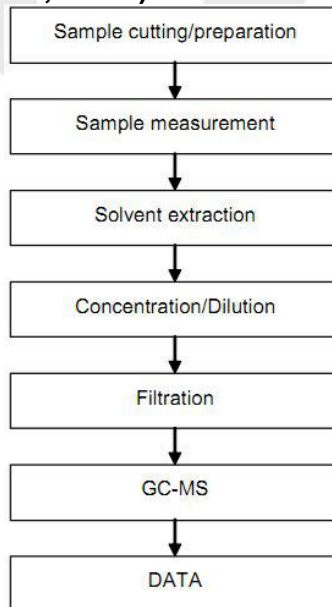


# RoHS Test Report

## Testing Flow Chart (Pb, Cd, Hg, Cr<sup>6+</sup>, PBBs, PBDEs):

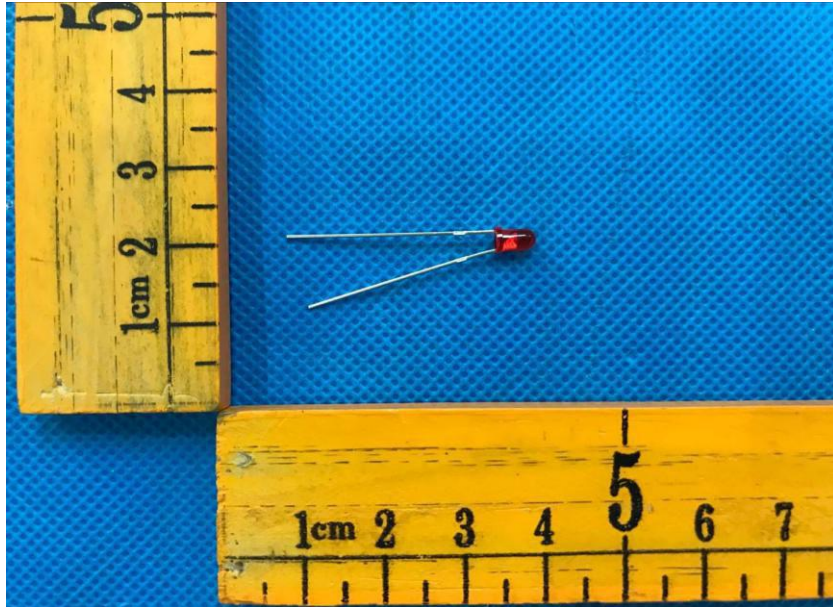


## Testing Flow Chart (DEHP, DBP, BBP, DIBP):



# RoHS Test Report

Photo of Sample:



\*\*\* End of Report\*\*\*

