

TEST REPORT

CheckCode: 061621
Report No.: C201809066888-E

Applicant: NEKO LIGHTING AG
Address: Kreuzstrasse 2, CH-8008 Zürich, Switzerland

Report on the submitted sample(s) said to be:

Name: LED Track Light
Type/Model: PURE M-28W
Reference Type/Model:
Buyer: -----
Supplier: -----

Date of Receipt: Sep.29, 2018 **Test period:** Sep.29, 2018 – Oct.12, 2018

Test Request: As specified by client, to determine the Lead(Pb),Cadmium(Cd),Mercury(Hg), Hexavalent Chromium [Cr(VI)], Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs) , Bis(2-ethylhexyl) phthalate (DEHP) , Butyl benzyl phthalate (BBP) , Dibutyl phthalate (DBP) , Diisobutyl phthalate (DIBP)content in the submitted sample(s).

Judge Standard: RoHS Directive 2011/65/EU and its amendment directives.

Test Result: Please refer to following page(s).

Conclusion: Based on the performed tests on selected part of submitted samples as specified by applicant, the test results of Lead(Pb),Cadmium(Cd),Mercury(Hg), Hexavalent Chromium [Cr(VI)], Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs) , Bis(2-ethylhexyl) phthalate (DEHP) , Butyl benzyl phthalate (BBP) , Dibutyl phthalate (DBP) , Diisobutyl phthalate (DIBP) **comply with** the limits as set by RoHS Directive 2011/65/EU and its amendment directives.

Edited by Daniel Huang Reviewed by Lamb Wang Approved by Yoland Yan



Seal of: **GUANGZHOU GRG METROLOGY & TEST CO., LTD.**

Issue date: Oct.12, 2018

APPROVED(02)

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Client reference information:

Reference Type/Model:

GITTA S-15W、GITTA S-10W、PURE S-15W、PURE S-21W、FOCUS M-42W、PURE Art-15W、PURE Art-10W、CITA-15W、DELTA-15W、FOCUS S-15W、FOCUS S-21W、FOCUS S-28W、FOCUS M-28W、CITA-28W、CITA-42W、DELTA-28W、DELTA-42W、POINTSPOT-15W、POINTSPOT-21W、ZOOMSPOT-15W、ZOOMSPOT-21W、ZOOMART-15W、ZOOMART-21W

Test Result:

Test Methods:

Test Item(s)	Test method	Measuring instrument	MDL	Limit
Pb, Cd, Hg, Total Cr, Total Br	IEC 62321-3-1:2013 Ed. 1.0	XRF	20mg/kg	/
Lead (Pb)	IEC 62321-5:2013 Ed. 1.0	ICP-OES	2mg/kg	1000 mg/kg
Cadmium (Cd)	IEC 62321-5:2013 Ed. 1.0	ICP-OES	2mg/kg	100 mg/kg
Mercury (Hg)	IEC 62321-4:2013 Ed. 1.0	ICP-OES	2mg/kg	1000 mg/kg
Hexavalent Chromium [Cr(VI)]	IEC 62321-7-2:2017 Ed. 1.0	UV-VIS	10mg/kg	1000 mg/kg
	IEC 62321-7-1:2015 Ed. 1.0	UV-VIS	0.10µg/cm ²	/
Polybrominated biphenyls (PBBs)	IEC 62321-6:2015 Ed. 1.0	GC-MS	10mg/kg	1000 mg/kg
Polybrominated diphenyl ethers (PBDEs)	IEC 62321-6:2015 Ed. 1.0	GC-MS	10mg/kg	1000 mg/kg
Bis(2-ethylhexyl) phthalate (DEHP)	IEC 62321-8:2017 Ed. 1.0	GC-MS	50mg/kg	1000 mg/kg
Butyl benzyl phthalate (BBP)	IEC 62321-8:2017 Ed. 1.0	GC-MS	50mg/kg	1000 mg/kg
Dibutyl phthalate (DBP)	IEC 62321-8:2017 Ed. 1.0	GC-MS	50mg/kg	1000 mg/kg
Diisobutyl phthalate (DIBP)	IEC 62321-8:2017 Ed. 1.0	GC-MS	50mg/kg	1000 mg/kg

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1	White coating	Pb	BL	/	Comply
		Cd	BL	/	Comply
		Hg	BL	/	Comply
		Cr(VI)	BL	/	Comply
		PBBs	BL	/	Comply
		PBDEs		/	Comply
		DEHP	/	N.D.	Comply
		BBP	/	N.D.	Comply
		DBP	/	N.D.	Comply
		DIBP	/	N.D.	Comply
2	Silvery metal shell (Base of No.1)	Pb	BL	/	Comply
		Cd	BL	/	Comply
		Hg	BL	/	Comply
		Cr(VI)	BL	/	Comply
		PBBs	/	/	/
		PBDEs	/	/	/
		DEHP	/	/	/
		BBP	/	/	/
		DBP	/	/	/
		DIBP	/	/	/
3	Black plastic shell (In No.2)	Pb	BL	/	Comply
		Cd	BL	/	Comply
		Hg	BL	/	Comply
		Cr(VI)	BL	/	Comply
		PBBs	IN	N.D.	Comply
		PBDEs		N.D.	Comply
		DEHP	/	N.D.	Comply
		BBP	/	N.D.	Comply
		DBP	/	N.D.	Comply
		DIBP	/	N.D.	Comply
4	Black rubber ring (In No.3)	Pb	BL	/	Comply
		Cd	BL	/	Comply
		Hg	BL	/	Comply
		Cr(VI)	BL	/	Comply
		PBBs	BL	/	Comply
		PBDEs		/	Comply
		DEHP	/	N.D.	Comply
		BBP	/	N.D.	Comply
		DBP	/	N.D.	Comply
		DIBP	/	N.D.	Comply

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5	Translucent plastic part (In No.3)	Pb	BL	/	Comply
		Cd	BL	/	Comply
		Hg	BL	/	Comply
		Cr(VI)	BL	/	Comply
		PBBs	BL	/	Comply
		PBDEs		/	Comply
		DEHP	/	N.D.	Comply
		BBP	/	N.D.	Comply
		DBP	/	N.D.	Comply
DIBP	/	N.D.	Comply		
6	White plastic shell (In No.3)	Pb	BL	/	Comply
		Cd	BL	/	Comply
		Hg	BL	/	Comply
		Cr(VI)	BL	/	Comply
		PBBs	BL	/	Comply
		PBDEs		/	Comply
		DEHP	/	N.D.	Comply
		BBP	/	N.D.	Comply
		DBP	/	N.D.	Comply
DIBP	/	N.D.	Comply		
7	White plastic sheet (In No.2)	Pb	BL	/	Comply
		Cd	BL	/	Comply
		Hg	BL	/	Comply
		Cr(VI)	BL	/	Comply
		PBBs	BL	/	Comply
		PBDEs		/	Comply
		DEHP	/	N.D.	Comply
		BBP	/	N.D.	Comply
		DBP	/	N.D.	Comply
DIBP	/	N.D.	Comply		
8	Orange "LED" (On No.7)	Pb	BL	/	Comply
		Cd	BL	/	Comply
		Hg	BL	/	Comply
		Cr(VI)	BL	/	Comply
		PBBs	BL	/	Comply
		PBDEs		/	Comply
		DEHP	/	N.D.	Comply
		BBP	/	N.D.	Comply
		DBP	/	N.D.	Comply
DIBP	/	N.D.	Comply		

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9	Silvery-grey metal screw (On No.7)	Pb	BL	/	Comply
		Cd	BL	/	Comply
		Hg	BL	/	Comply
		Cr(VI)	BL	/	Comply
		PBBs	/	/	/
		PBDEs	/	/	/
		DEHP	/	/	/
		BBP	/	/	/
		DBP	/	/	/
10	Silvery-grey metal part (In No.2)	Pb	BL	/	Comply
		Cd	BL	/	Comply
		Hg	BL	/	Comply
		Cr(VI)	BL	/	Comply
		PBBs	/	/	/
		PBDEs	/	/	/
		DEHP	/	/	/
		BBP	/	/	/
		DBP	/	/	/
11	Lt-blue surfaced metal screw (On No.10)	Pb	BL	/	Comply
		Cd	BL	/	Comply
		Hg	BL	/	Comply
		Cr(VI)	IN	N.D.	Comply
		PBBs	/	/	/
		PBDEs	/	/	/
		DEHP	/	/	/
		BBP	/	/	/
		DBP	/	/	/
12	Silvery-grey metal screw (On No.10)	Pb	BL	/	Comply
		Cd	BL	/	Comply
		Hg	BL	/	Comply
		Cr(VI)	BL	/	Comply
		PBBs	/	/	/
		PBDEs	/	/	/
		DEHP	/	/	/
		BBP	/	/	/
		DBP	/	/	/
DIBP	/	/	/		

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13	Silvery-grey metal nut (On No.12)	Pb	BL	/	Comply
		Cd	BL	/	Comply
		Hg	BL	/	Comply
		Cr(VI)	BL	/	Comply
		PBBs	/	/	/
		PBDEs	/	/	/
		DEHP	/	/	/
		BBP	/	/	/
		DBP	/	/	/
14	Silvery metal washer (On No.12)	Pb	BL	/	Comply
		Cd	BL	/	Comply
		Hg	BL	/	Comply
		Cr(VI)	BL	/	Comply
		PBBs	/	/	/
		PBDEs	/	/	/
		DEHP	/	/	/
		BBP	/	/	/
		DBP	/	/	/
15	Beige translucent plastic part (In No.13)	Pb	BL	/	Comply
		Cd	BL	/	Comply
		Hg	BL	/	Comply
		Cr(VI)	BL	/	Comply
		PBBs	BL	/	Comply
		PBDEs	/	/	Comply
		DEHP	/	N.D.	Comply
		BBP	/	N.D.	Comply
		DBP	/	N.D.	Comply
16	Silvery metal part (Base of No.1)	Pb	BL	/	Comply
		Cd	BL	/	Comply
		Hg	BL	/	Comply
		Cr(VI)	BL	/	Comply
		PBBs	/	/	/
		PBDEs	/	/	/
		DEHP	/	/	/
		BBP	/	/	/
		DBP	/	/	/
DIBP	/	/	/		

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17	White plastic cover (On No.16)	Pb	BL	/	Comply
		Cd	BL	/	Comply
		Hg	BL	/	Comply
		Cr(VI)	BL	/	Comply
		PBBs	BL	/	Comply
		PBDEs		/	Comply
		DEHP	/	N.D.	Comply
		BBP	/	N.D.	Comply
		DBP	/	N.D.	Comply
18	Silvery-grey metal spring (In No.17)	Pb	BL	/	Comply
		Cd	BL	/	Comply
		Hg	BL	/	Comply
		Cr(VI)	BL	/	Comply
		PBBs	/	/	/
		PBDEs		/	/
		DEHP	/	/	/
		BBP	/	/	/
		DBP	/	/	/
19	White plastic gear (In No.17)	Pb	BL	/	Comply
		Cd	BL	/	Comply
		Hg	BL	/	Comply
		Cr(VI)	BL	/	Comply
		PBBs	BL	/	Comply
		PBDEs		/	Comply
		DEHP	/	N.D.	Comply
		BBP	/	N.D.	Comply
		DBP	/	N.D.	Comply
20	Silvery-grey metal sheet (In No.19)	Pb	BL	/	Comply
		Cd	BL	/	Comply
		Hg	BL	/	Comply
		Cr(VI)	BL	/	Comply
		PBBs	/	/	/
		PBDEs		/	/
		DEHP	/	/	/
		BBP	/	/	/
		DBP	/	/	/
DIBP	/	/	/		

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Remark:

- (1) XRF result is on total Br while test item on restricted substances is PBBs/PBDEs. XRF result is on total Cr while test item on restricted substances is Cr(VI).
- (2) The XRF result is for primary screening, and further chemical testing by ICP (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 IEC 62321-3-1: 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	$BL \leq (700-3\sigma) < X$	$BL \leq (700-3\sigma) < X$	$BL \leq (500-3\sigma) < X$

(3) BL=Below limit ,IN = Inconclusive, OL=Over limit, LOD=Limit of Detection;

(4) mg/kg = ppm = 0.0001%;

(5) “/” = Not Conducted;

(6) “N.D.”= Not Detected (Below Method Detection Limit);

(7) For metal sample

- The sample is negative for Cr(VI) if Cr(VI) is N.D.(concentration less than $0.10 \mu\text{g}/\text{cm}^2$).The sample coating is considered a non- Cr(VI) based coating.
- The sample is positive for Cr(VI) if the Cr(VI) concentration is greater than $0.13 \mu\text{g}/\text{cm}^2$.The sample coating is considered to contain Cr(VI).
- The result between $0.10 \mu\text{g}/\text{cm}^2$ and $0.13 \mu\text{g}/\text{cm}^2$ is considered to be inconclusive. Unavoidable coating variations may influence the determination.

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Photo of Sample

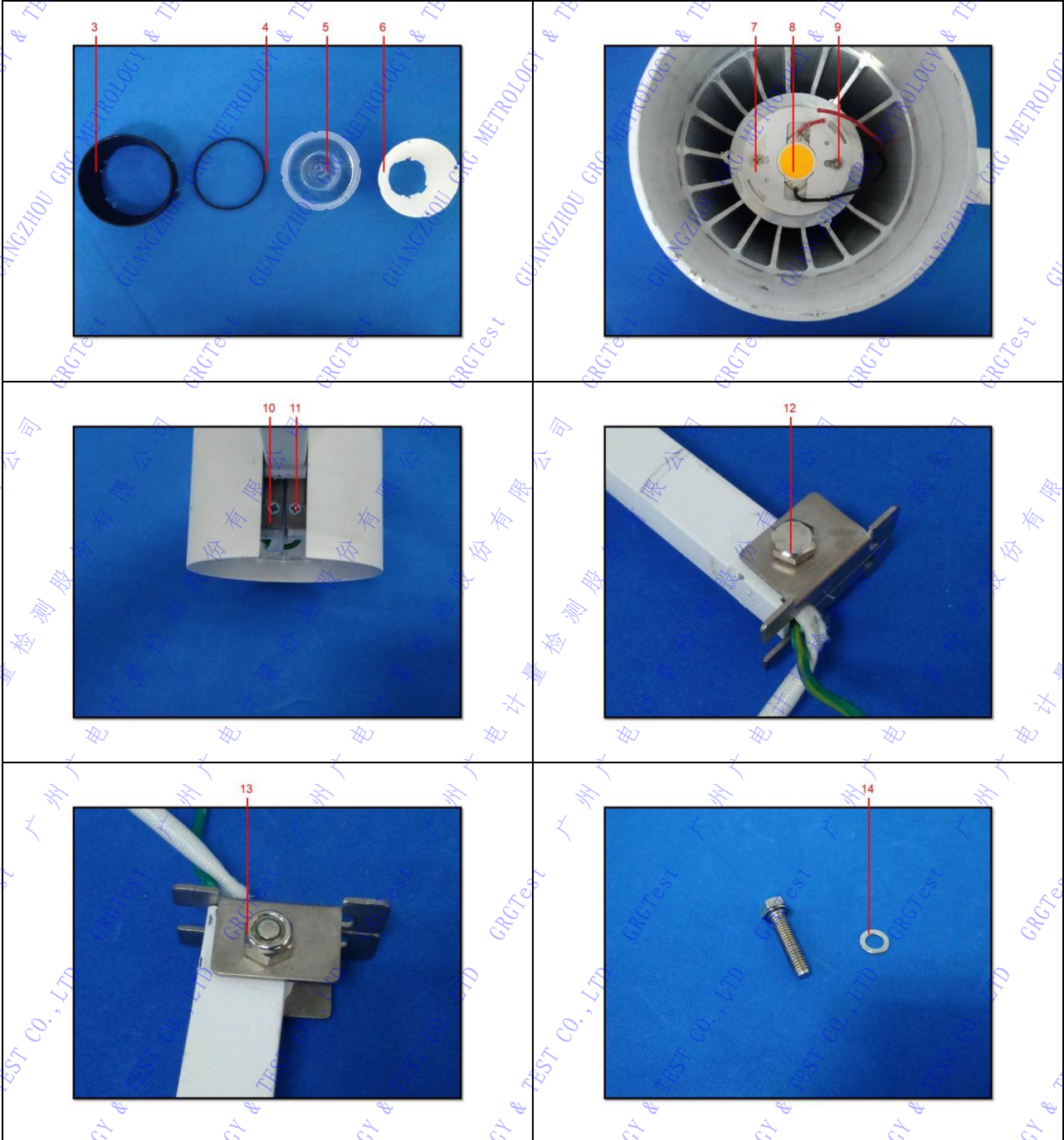


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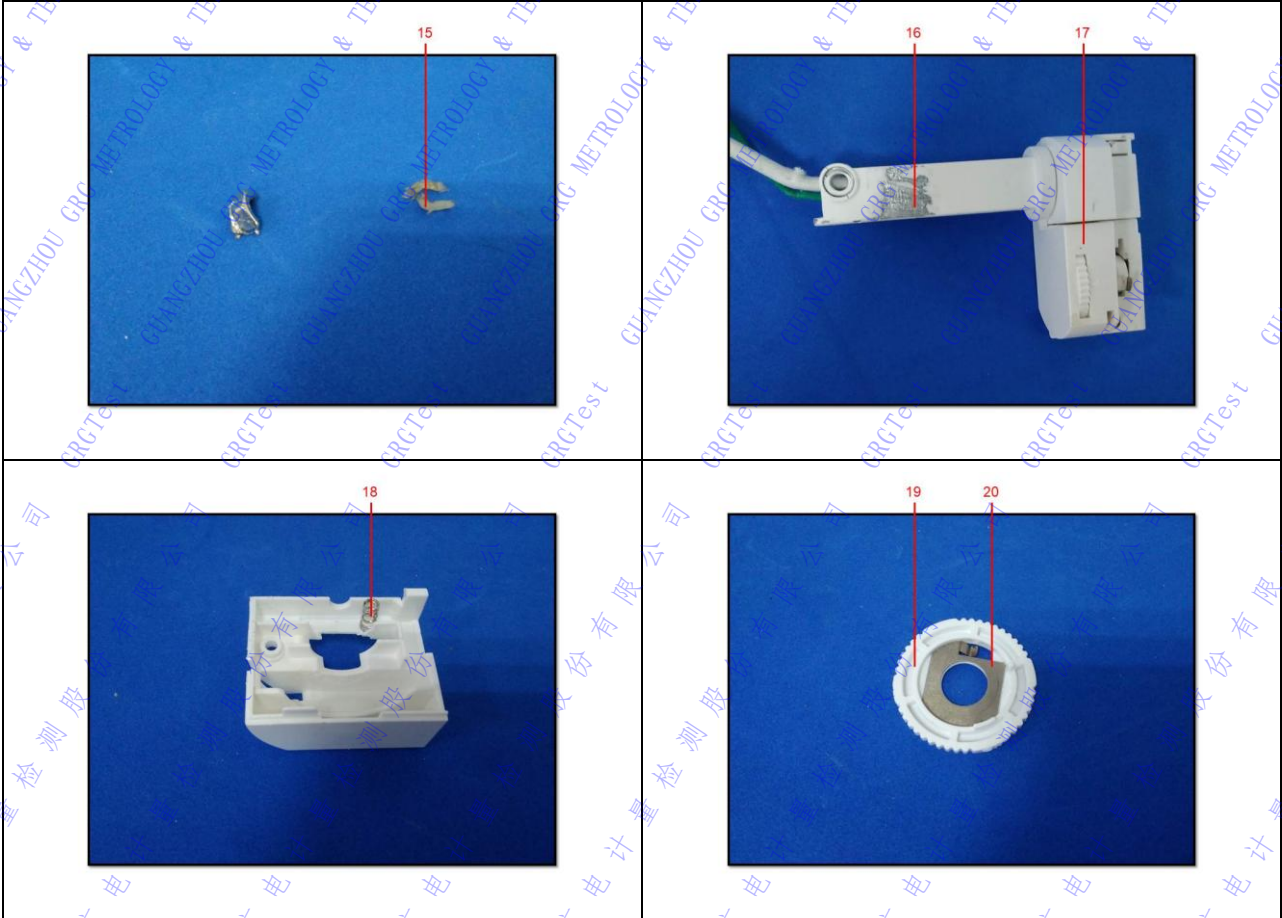


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