

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:

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

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

Huang

eal of

GUANGZHOU GRG METROLOGY & TEST CO., LTD Issue date: Oct,12, 2018

This test report is responsible for the tested samples only. Without permission of the test center this test report is not permitted to be duplicated in extracts. The test report is invalid without the specialized stamp of GUANGZHOU GRG METROLOGY & TEST CO., LTD. The test report is invalid if altered. Objections to the test report must be submitted to GUANGZHOU GRG METROLOGY & TEST CO., LTD. within 15 days.

GUANGZHOU GRG METROLOGY & TEST CO., LTD.

Address: 163 Pingyun Road West of Huangpu Avenue Tianhe District Guangzhou City, 510656, P. R. China Tel: +86-020-66664900 FAX: +86-020-38698685 http://www.grgtest.com



CheckCode: 061621 Report No.: C201809066888-E

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	/ N
	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
Trexavalent Cinomian [Or(VI)]	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)	JEC 62321-8:2017 Ed. 1.0	GC-MS	50mg/kg	1000 mg/kg
Dijsobutyl phthalate (DIBP)	IEC 62321-8:2017 Ed. 1.0	GC-MS	50mg/kg	1000 mg/kg



CheckCode: 061621 Report No.: C201809066888-E

	<u> </u>				<u> </u>
29	E	27	R. C.		20
<i>P</i>	* * * * * * * * * * * * * * * * * * *	Restricted	Results of	Result of Wet Chemical	Conclusion on
No.	Sample Description	Substances	XRF	Testing(mg/kg)	RoHS 2
8		Substances	S AIN	S resurig(Hig/kg)	Ed. Kollo
S			B	E)	
HOU GRE		Pb 🕓	BL	<u> </u>	Comply
		Cd	BL		Comply
		Нa	BL		Comply
₹3V		Cr(VI)	BL		Comply
1	White coating	PBBs	BL		Comply
	, , , , , , , , , , , , , , , , , , ,	PBDEs		1	Comply
6	250	DEHP &	1 8	N.D.	S Comply S
		BBP &	1 5	N.D.	Comply
3	GF GF	DBP	13	SN.D.	Comply
//		DIBP		N.D.	Comply
1/42		Pb	BL		Comply
V	W W	Cd	[™] BL		Comply
4		Hg	BL		Comply
)		Cr(VI)	BL 🤻	> <u> </u>	Comply X
2	Silvery metal shell	PBBs 🕅	1 1	W /	<i>y</i> / <i>W</i>
-	(Base of No.1)	PBDEs	₩	& / &	18
		DEHP	*		*
参	参	BBP	₹ \	₩ / ₩	₹>/
	MAH MAH	₩DBP	4/ay 1	May 1 May	Way 1 a
,	-X	<u> </u>	<u> </u>	X 1-X	× 1 ×
A	v #v	Pb	BL		Comply
1	1 1	Cd	BL ,	1	Comply
1/24		Hg	BL		Comply
-/		Cr(VI)	BL		Comply
3	Black plastic shell (In	PBBs	IN	N.D.	Comply
\	No.2)	RBDEs	Χ.	N.D.	Comply
S)	Los Los	DEHP		<u>့ပို N.D. ပို</u>	Comply
		BBP S	2 / 3	N.D.	Comply S
		DBP	/	N.D.	Comply
		DIBP 🚫	18	N.D.	Comply
C. 7		Pb	BL	7	Comply
000	6.	Ca	BL	8. 1 8.	Comply
		Hg	BL		Comply
	*** Clark with a second second	Čr(VI)	BL BL		Comply
4	Black rubber ring (In	PBBs A	BL 🚓		Comply
700	No.3)	PBDEs 🍣	0	\$	Comply
	No.3)	DEHP	1,20	N.D.	Comply
1		BBP		N.D.	Comply
CRC NETROLOGO		DBP	<u> </u>	N.D.	Comply
		DIBP		N.D.	Comply



CheckCode: 061621 Report No.: C201809066888-E

S,		S. S	چې		جي جي ا
4		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
*		Restricted	Results of	Result of Wet Chemical	Conclusion on
No.	Sample Description	Substances	XRF	Testing(mg/kg)	RoHS
E		2 Composition of the composition	2 2 2	S rooming(mg/kg)	The state of the s
		Pb 😜	BL	<u> </u>	Comply
DOM		Cd	BL	\$ 5	Comply
		Ha	BL		Comply
	Township and plants mant	Cr(VI)	BL	20V / 20V	Comply
5	Translucent plastic part	PBBs	BL		Comply
	(In No.3)	PBDEs	·	/	Comply
, O	250	DEHP &	1 5	N.D.	Comply
a significant of the significant		BBP		N.D.	Comply
G	G, G,	DBP	185	™N.D.	Comply
1117	TIES THE	DIBP	1/17>	N.D.	Comply
~		Pb	BL	/	Comply
١V		Cd	₩ BL	V / V	Comply
	h 1/2	Hg	BL		Comply
	NAME it a selection of the selection of	Cr(VI)	BL 🧮)	Comply (Comply)
6	White plastic shell (In	PBBs 🕅	BL, W	W W	Comply
	No.3)	PBDEs		<u></u> ♦ 1	Comply
		DEHP	*	N.D.	Comply
参	参	BBP	₩ /	N.D.	Comply
W	MAY MAY	DBP	Alay 1	May N.D. May	Comply
	->->-	DIBP	<u> </u>	N.D.	Comply
¥	U W	Pb	BL	*	Comply
₹	Z Z	Cd	BL 🖯		Comply
152		Hg	BL	The state of the s	Comply
-/	Mhita plactic about 10 lb	Cr(VI)	BĽ	1	Comply
7	White plastic sheet (In	PBBs	BL		Comply
2	No.2)	RBDEs	<u>×</u>		Comply
Ĭ		DEHP	80 1	<u>్లో N.D.లో</u>	Comply
		BBP 3		N.D.	S Comply
		DBP	/	N.D.	Comply
		DIBP	1.8	N.D.	Comply
0.	.0.	Pb	BL		Comply
20		Ca	BL	0. 1 0.	Comply
		Hg	BL		Comply
T .	Orange "LED" (On	Cr(VI)	BL	9 , 9	Comply
8	Orange LED (On	PBBs	BL 👶		Comply
2	Orange "LED" (On No.7)	PBDEs 3		\$	Comply
		DEHP	1,2	N.D.	Comply
CRC METHOLO.		BBP		<u></u> N.D.	Comply
8		DBP		N.D.	Comply
5		DIBP	51	N.D.	Comply



CheckCode: 061621 Report No.: C201809066888-E

S		5	5	\$	5
7		29	20	27	20
<i>\$</i>	<i>₩ ₩</i>	Restricted	Results of	Result of Wet Chemical	Conclusion on
No.	Sample Description	Substances	XRF		RoHS
		Substances	ARF	Testing(mg/kg)	RODS P
Š				S .	
SAS		Pb 👟	BL	ي ا ني	Comply
		Cd	BL		Comply
		Hg	BL		Comply
ZOV		Cr(VI)	BL		Comply
9	Silvery-grey metal screw	PBBs	3 1		
	(On No.7)	PBDEs	,	1	/
0	2 50	DEHP 💍	1 8	ž	× 1 × 5
1383		BBP 🚫	1 5	3 13	1 5
3	<i>3</i> ²	DBP	135	3 1 3	13
- A		DIBP		1	
		_Pb	BL		Comply
V	$\overline{\mathbb{V}}$ $\overline{\mathbb{V}}$	\\Cd	^{∖∀} BL	<u> </u>	Comply
7		Hg	BL		Comply
)	₹ X	Cr(VI)	BL 🤻		Comply X
10,	Silvery-grey metal part	PBBs 🥸	1 1	Ū √Ā	<i>y</i> / <i>\Bar{\Bar{\Bar{\Bar{\Bar{\Bar{\Bar{\B</i>
	(In No.2)	PBDEs	· 8	♦ / ♦	18
		DEHP	*	<u></u>	*
参	₹	BBP	₹		ZVI
9 ₈₄	May May	DBP	4/ay 1	Alay 1 Alay	4 1 4 A
	-X	X DIBP	<u> </u>	1-x	× 1 ×
A	U W	Pb	BL		Comply
1	1 1	Cd	BL	1	Comply
1/2		Hg	BL		Comply
-/		Cr(VI)	IN	N.D.	Comply
11	Lt-blue surfaced metal	PBBs	/	1	7
2	screw (On No.10)	RBDEs	· ·	<u>x</u> . / <u>x</u> .	<u> </u>
S)	Los Los	DEHP			<u> </u>
		BBP S	1 3		£ 1 £
		DBP	/	1	1
		DIBP 🚫	18	\$1	18
C. ,		Pb	BL		Comply
<i>S</i>	9.	Cd	BL		Comply
ASS.		Hg	BL		Comply
,	Cilvory grov motal agram	Cr(VI)	BL		Comply
12	Silvery-grey metal screw	PBBs	1 3	A	\$ / \$
2	(On No.10)	PBDEs 🍣	0	¥	
The state of the s		DEHP	1 20	<u> </u>	1
GROWETHOLD		BBP			
385		DBP			A P
		DIBP	<u> </u>		<u> </u>



CheckCode: 061621 Report No.: C201809066888-E

S		, S	څې		
2		,	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		~~
*		Restricted	Results of	Result of Wet Chemical	Conclusion on
No.	Sample Description	Substances	XRF	Testing(mg/kg)	RoHS 2
6		2 Constances) All	resting(hig/kg)	A Kollo
- \$				<u> </u>	§'
		Pb 😜	BL	<u> </u>	Comply
		Cd	BL		Comply
		На	BL		Comply
D'	Citizania august magati must	Cr(VI)	BL		Comply
13	Silvery-grey metal nut	PBBs	3 1		
	(On No.12)	PBDEs	·	/	/
, O		DEHP S	1 5	£ 0	
نگي		BBP			
G	G G	DBP	189	\text{\text{\$\sigma}}	15
1117	1/11/2	DIBP	1/17>		1/1/2
7		Pb	BL	/	Comply
\ V		Cd	₩ BL	V / V	Comply
	h Th	Hg	BL	1 6M	Comply
, , , , , , , , , , , , , , , , , , ,	Cilvery metal weeker	Cr(VI)	BL W) /K ²	Comply C
14,	Silvery metal washer	PBBs 🕅	/ ~ B	NA NA	<i>P</i> / W
	(On No.12)	PBDEs	, (A)		18
		DEHP	*		*
参	参	BBP	A		A
New York	MAH MAH	DBP	4/my /	Alay Alay	Albay !
	*	DIBP	<u> </u>	\ \	
*	U #V	Pb	BL	- \	Comply
Z.	Z Z	Cd	BL (*	Comply
1/21	Fil Fil	Hg	BL	H. H	Comply
Z	Beige translucent plastic	Cr(VI)	BL	<u> </u>	Comply
15		PBBs	BL		Comply
20	part (In No.13)	PBDEs	80 1	NDOS	Comply
		DEHP	<u> </u>	11.5	Comply
(3	BBP		N.D.	Comply
5		DBP	1	N.D.	Comply
5	\$ \$	DIBP	D.	N.D.	Comply
·.0-	·.o., ·.e.,	Pb	BL.	8. 1 8.	Comply
5		Cd	BL S BL		Comply
₹ ?		Hg Cr(VII)	BL		Comply
	Silvery metal part (Base	Cr(VI)	<i>ф</i>	# 1 B	Comply
16		PBBs	1 🔅	\$	
67	of No.1)	PBDEs 9	, , ,		
		DEHP BBP	189		18
CRC METHOLO.			S		S
F	37 37	DBP	3,	3 , 3	3,
\$		DIBP	\sim \sim		<u> </u>



CheckCode: 061621 Report No.: C201809066888-E

S		5	Ś		<u> </u>
1		2	20		29
<i>₩</i>	<i>₩ ₩ ∠</i>	Restricted	Results of	Result of Wet Chemical	Conclusion on
No.	Sample Description	Substances	XRF		RoHS
	P. 100 100 100 100 100 100 100 100 100 10	Substances	ARF	Testing(mg/kg)	KONS (S)
Š					
		Pb 👟	BL	ي آي	Comply
5		Cd	BL		Comply
TO THE STATE OF TH		Hg	BL		Comply
Ser.		Cr(VI)	BL	<u> </u>	Comply
17	White plastic cover (On	PBBs	BL BL		Comply
''	No.16)	PBDEs		1	Comply
0	ž s _k	DEHP 💍	1 8	N.D.	S Comply
C. C		BBP 🚫	1 5	Ň.D.	Comply
3	<i>F</i>	DBP	135	₹N.D.	Comply
- A		DIBP		N.D.	Comply
		Pb	BL_		Comply
V	$\vec{\nabla}$	\\`Cd	[™] BL	W / W	Comply
7		Hg	₩ BL		Comply
)	₩	Cr(VI)	BL 🤻	· /	Comply X
18,	Silvery-grey metal spring	PBBs 🤯	1 H	NA NA	§ / Ø
	(In No.17)	PBDEs	· 8	& 1 &	18
		DEHP	*	<i>▶</i> / <i>▶</i>	*
参	No.	BBP	₹ ∀/	数 数	₹ ≥/
9 ₈₄	44	DBP	Way 1	Albay I Albay	May 1
	-X	DIBP	× 1	× 1-×	<u> </u>
A	U W	Pb	BL		Comply
1	1 1	Cd	BL ,	√ Î	Comply
Fize	fri fri	Hg	BL		Comply
1		Cr(VI)	BL		Comply
19	White plastic gear (In	PBBs	BL		Comply
. 3	No.17)	RBDEs	v.	<u> </u>	Comply
57	Los Los	DEHP		N.D. ψ	Comply S
	29 J	BBP S	2 / 3	N.D.	Comply S
		DBP	/	N.D.	Comply
		DIBP 🚫	1,8	N.D.	Comply
C. 7		Pb	BL	7	Comply
000	9.	Cd	BL	<u> </u>	Comply
55		Hg	BL BL		Comply
	%;	Cr(VI)	BL BL		Comply
20	Silvery-grey metal sheet	PBBs	1 &	<u> </u>	à / à
	(In No.19)	PBDEs 👏	0	F	0 1 00
	(III NO.15)	DEHP	1,20		
GRC METHOLO		BBP			150
3.50		DBP	<u> </u>		A .
		DIBP		La La	



CheckCode: 061621 Report No.: C201809066888-E

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	<u>></u> Metal>	Composite Materials
Cd	BL ≤(70-3σ)< X <(130+3σ)≤OL	BL ≤(70-3σ)< X <(130+3σ)≤OL	LOD < X <(150+3σ)≤ OL
Pb	BL ≤(700-3σ)< X<(1300+3σ)≤ OL	BL ≤(700-3σ)< X <(1300+3σ)≤ OL	BL ≤(500-3σ)< X<(1500+3σ)≤ OL
∕ Hg	BL ≤(700-3σ)< X <(1300+3σ)≤ OL	BL ≤(700-3σ)< X <(1300+3σ)≤ OL	BL ≤(500-3σ)< X <(1500+3σ)≤ OL
₩ Br	₩ BL ≤ (300-3σ)< X ₩	₩ ₩	₩ BL ≤ (250-3σ)< X
Cr	BL ≤ (700-3σ)< X	BL ≤ (700-3σ)< X	BL ≤ (500-3σ)< 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
 - a. The sample is negative for Cr(VI) if Cr(VI) is N.D.(concentration less than 0.10 μ g/cm²). The sample coating is considered a non- Cr(VI) based coating.
 - b. The sample is positive for Cr(VI) if the Cr(VI) concentration is greater than 0.13 μg/cm². The sample coating is considered to contain Cr(VI).
 - 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.

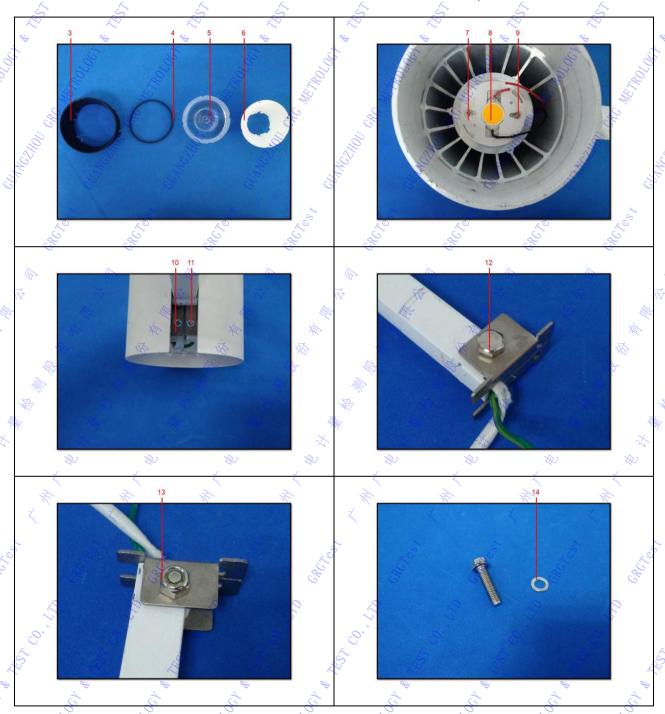


CheckCode: 061621 Report No.: C201809066888-E

Photo of Sample

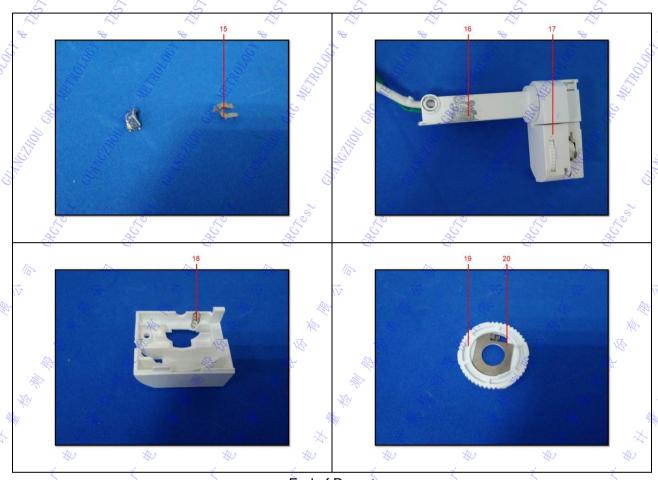


CheckCode: 061621 Report No.: C201809066888-E





CheckCode: 061621 Report No.: C201809066888-E



----End of Report----