

TEST REPORT

Applicant : AOK Industrial Company Limited
Address : Building 1, Shengzuozhi Technology Industrial Park, Shajing Street,
 Shenzhen City, Guangdong Province, China

Report on the submitted sample said to be:

Sample name : LED Street Light
Trade Name : 
Quality, Honesty, Service and Innovation
Model : AOK-230WIL02-NV-L3-00-5770-T221-P
 Series models are shown in Table 1 on the next page
Manufacturer : AOK Industrial Company Limited
Address : Building 1, Shengzuozhi Technology Industrial Park, Shajing Street,
 Shenzhen City, Guangdong Province, China
Test conclusion : Based on the performed tests on submitted samples, the results of Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs), Bis (2-ethylhexyl) phthalate (DEHP), Benzyl butyl phthalate (BBP), Dibutyl phthalate (DBP), Di Iso Butyl Ortho Phthalate (DIBP) comply with the limits as set by RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.
Testing period : Aug. 10, 2020 to Aug. 27, 2020
Date of report : Aug. 27, 2020

Testing Requested:	Results
Selected test(s) as requested by client	Pass

Prepared by:

Jimi zhao

Jimi zhao

Examine By :

Calvin Chen

Calvin Chen

Approved (Manager):

Michael Mo

Michael Mo



Table 1	Model List
Model(s)	<p>AOK-230WiL02-NV-L3-00-5770-T221-P, AOK-20WiL02-NV-XX-XX-XXXX-BN-P, AOK-30WiL02-NV-XX-XX-XXXX-BN-P, AOK-40WiL02-NV-XX-XX-XXXX-BN-P, AOK-50WiL02-NV-XX-XX-XXXX-BN-P, AOK-60WiL02-NV-XX-XX-XXXX-BN-P, AOK-XXWiL02-NV-XX-XX-XXXX-BN-P, AOK-80WiL02-NV-XX-XX-XXXX-BN-P, AOK-90WiL02-NV-XX-XX-XXXX-BN-P, AOK-1XXWiL02-NV-XX-XX-XXXX-BN-P, AOK-120WiL02-NV-XX-XX-XXXX-BN-P, AOK-130WiL02-NV-XX-XX-XXXX-BN-P, AOK-140WiL02-NV-XX-XX-XXXX-BN-P, AOK-150WiL02-NV-XX-XX-XXXX-BN-P, AOK-160WiL02-NV-XX-XX-XXXX-BN-P, AOK-180WiL02-NV-XX-XX-XXXX-BN-P, AOK-200WiL02-NV-XX-XX-XXXX-BN-P</p> <p>The first two X represents LED type, can be replaced by any alpha-numeric characters. The third and fourth X may be 00=No sensor provided, SN=Sensor function provided. The fifth and sixth X represents color temperature, may be 30-57. The last two X represents CRI, for example, 80=Ra80. BN can be any letter or number to represents beam angles. P represents installation, can be any number</p>

Testing method:

1. With reference to IEC 62321-1:2013, review was performed for the samples disjoined from the submitted articles submitted by the Applicant
2. Tests were performed for the samples indicated by the photos in the report with test methods reference to IEC 62321-1:2013, Procedures for the determination of Levels of Six regulated Substances in Electrotechnical Products
 - (1) With reference to IEC 62321-3-1:2013, Screening by XRF spectorscop
 - (2) Wet Chemical Test Method
 - a. With reference to IEC 62321-5:2013, Determination of Lead & Cadmium by ICP-OES or AAS
 - b. With reference to IEC 62321-4:2013+A1:2017, Determination of Mercury by ICP-OES
 - c. With reference to IEC 62321-7-1:2015, Determination of Hexavalent Chromium by Spot or Colorimetic Methodcd
 - d. With reference to IEC 62321-6:2015, Derermination of PBBs and PBDEs by GC-MS
 - e. With reference to IEC 62321-8:2017, determination of DEHP, DIBP, DBP and BBP by GC-MS

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.

Part No.	Part Description	Restricted Substance	Results of EDXRF	Result of wet Chemical Testing (2mg/kg)	Conclusion on RoHS	Sample submitted/ Resubmitted Date
1	Blue plastic wire skin	Pb Cd Hg Cr(VI) Br DEHP BBP DBP DIBP	BL BL BL BL BL IN IN IN IN	- - - - - ND ND ND ND	Comply Comply Comply Comply Comply Comply Comply Comply Comply	Aug. 27, 2020
2	Brown plastic wire skin	Pb Cd Hg Cr(VI) Br DEHP BBP DBP DIBP	BL BL BL BL BL IN IN IN IN	- - - - - ND ND ND ND	Comply Comply Comply Comply Comply Comply Comply Comply Comply	Aug. 27, 2020
3	Yellow green plastic wire skin	Pb Cd Hg Cr(VI) Br DEHP BBP DBP DIBP	BL BL BL BL BL IN IN IN IN	- - - - - ND ND ND ND	Comply Comply Comply Comply Comply Comply Comply Comply Comply	Aug. 27, 2020
4	Wire Core	Pb Cd Hg Cr(VI) Br DEHP BBP DBP DIBP	BL BL BL BL - - - - -	- - - - - - - - -	Comply Comply Comply Comply - - - - -	Aug. 27, 2020

Part No.	Part Description	Restricted Substance	Results of EDXRF	Result of wet Chemical Testing (2mg/kg)	Conclusion on RoHS	Sample submitted/ Resubmitted Date
5	Metal shell	Pb Cd Hg Cr(VI) Br DEHP BBP DBP DIBP	BL BL BL BL - - - - -	- - - - - - - - -	Comply Comply Comply Comply - - - - -	Aug. 27, 2020
6	Transparent plastic lampshade	Pb Cd Hg Cr(VI) Br DEHP BBP DBP DIBP	BL BL BL BL BL IN IN IN IN	- - - - - ND ND ND ND	Comply Comply Comply Comply Comply Comply Comply Comply Comply	Aug. 27, 2020
7	Bolt	Pb Cd Hg Cr(VI) Br DEHP BBP DBP DIBP	BL BL BL BL - - - - -	- - - - - - - - -	Comply Comply Comply Comply - - - - -	Aug. 27, 2020
8	Silver metal	Pb Cd Hg Cr(VI) Br DEHP BBP DBP DIBP	BL BL BL BL - - - - -	- - - - - - - - -	Comply Comply Comply Comply - - - - -	Aug. 27, 2020

Part No.	Part Description	Restricted Substance	Results of EDXRF	Result of wet Chemical Testing (2mg/kg)	Conclusion on RoHS	Sample submitted/ Resubmitted Date
9	seal ring	Pb Cd Hg Cr(VI) Br DEHP BBP DBP DIBP	BL BL BL BL BL IN IN IN IN	- - - - - ND ND ND ND	Comply Comply Comply Comply Comply Comply Comply Comply Comply	Aug. 27, 2020
10	Black plastic (disconnect device)	Pb Cd Hg Cr(VI) Br DEHP BBP DBP DIBP	BL BL BL BL BL IN IN IN IN	- - - - - ND ND ND ND	Comply Comply Comply Comply Comply Comply Comply Comply Comply	Aug. 27, 2020
11	Silver metal	Pb Cd Hg Cr(VI) Br DEHP BBP DBP DIBP	BL BL BL BL - - - - -	- - - - - - - - -	Comply Comply Comply Comply - - - - -	Aug. 27, 2020
12	Bandage	Pb Cd Hg Cr(VI) Br DEHP BBP DBP DIBP	BL BL BL BL BL IN IN IN IN	- - - - - ND ND ND ND	Comply Comply Comply Comply Comply Comply Comply Comply Comply	Aug. 27, 2020

Part No.	Part Description	Restricted Substance	Results of EDXRF	Result of wet Chemical Testing (2mg/kg)	Conclusion on RoHS	Sample submitted/ Resubmitted Date
13	Black plastic shell (surge protective device)	Pb Cd Hg Cr(VI) Br DEHP BBP DBP DIBP	BL BL BL BL BL IN IN IN IN	- - - - - ND ND ND ND	Comply Comply Comply Comply Comply Comply Comply Comply	Aug. 27, 2020
14	PCB	Pb Cd Hg Cr(VI) Br DEHP BBP DBP DIBP	BL BL BL BL IN IN IN IN	- - - - PBBs=ND PBDEs=ND ND ND ND ND	Comply Comply Comply Comply Comply Comply Comply Comply	Aug. 27, 2020
15	Choke coil	Pb Cd Hg Cr(VI) Br DEHP BBP DBP DIBP	BL BL BL BL BL IN IN IN IN	- - - - - ND ND ND ND	Comply Comply Comply Comply Comply Comply Comply Comply	Aug. 27, 2020
16	MOV	Pb Cd Hg Cr(VI) Br DEHP BBP DBP DIBP	BL BL BL BL BL IN IN IN IN	- - - - - ND ND ND ND	Comply Comply Comply Comply Comply Comply Comply Comply	Aug. 27, 2020

Part No.	Part Description	Restricted Substance	Results of EDXRF	Result of wet Chemical Testing (2mg/kg)	Conclusion on RoHS	Sample submitted/ Resubmitted Date
17	tin solder	Pb Cd Hg Cr(VI) Br DEHP BBP DBP DIBP	BL BL BL BL - - - - -	- - - - - - - - -	Comply Comply Comply Comply - - - - -	Aug. 27, 2020
18	Terminal block	Pb Cd Hg Cr(VI) Br DEHP BBP DBP DIBP	BL BL BL BL BL IN IN IN IN	- - - - - ND ND ND ND	Comply Comply Comply Comply Comply Comply Comply Comply Comply	Aug. 27, 2020
19	Metal enclosure (power supply)	Pb Cd Hg Cr(VI) Br DEHP BBP DBP DIBP	BL BL BL BL - - - - -	- - - - - - - - -	Comply Comply Comply Comply - - - - -	Aug. 27, 2020
20	PCB2	Pb Cd Hg Cr(VI) Br DEHP BBP DBP DIBP	BL BL BL BL IN IN IN IN IN	- - - - PBBs=ND PBDEs=ND ND ND ND ND	Comply Comply Comply Comply Comply Comply Comply Comply Comply	Aug. 27, 2020

Part No.	Part Description	Restricted Substance	Results of EDXRF	Result of wet Chemical Testing (2mg/kg)	Conclusion on RoHS	Sample submitted/ Resubmitted Date
21	Fuse	Pb Cd Hg Cr(VI) Br DEHP BBP DBP DIBP	BL BL BL BL BL IN IN IN IN	- - - - - ND ND ND ND	Comply Comply Comply Comply Comply Comply Comply Comply Comply	Aug. 27, 2020
22	Varistor	Pb Cd Hg Cr(VI) Br DEHP BBP DBP DIBP	BL BL BL BL BL IN IN IN IN	- - - - - ND ND ND ND	Comply Comply Comply Comply Comply Comply Comply Comply Comply	Aug. 27, 2020
23	X capacitor	Pb Cd Hg Cr(VI) Br DEHP BBP DBP DIBP	BL BL BL BL BL IN IN IN IN	- - - - - ND ND ND ND	Comply Comply Comply Comply Comply Comply Comply Comply Comply	Aug. 27, 2020
24	CY1	Pb Cd Hg Cr(VI) Br DEHP BBP DBP DIBP	BL BL BL BL BL IN IN IN IN	- - - - - ND ND ND ND	Comply Comply Comply Comply Comply Comply Comply Comply Comply	Aug. 27, 2020

Part No.	Part Description	Restricted Substance	Results of EDXRF	Result of wet Chemical Testing (2mg/kg)	Conclusion on RoHS	Sample submitted/ Resubmitted Date
25	Inductor (L1)	Pb	BL	-	Comply	Aug. 27, 2020
		Cd	BL	-	Comply	
		Hg	BL	-	Comply	
		Cr(VI)	BL	-	Comply	
		Br	BL	-	Comply	
		DEHP	IN	ND	Comply	
		BBP	IN	ND	Comply	
		DBP	IN	ND	Comply	
		DIBP	IN	ND	Comply	
26	Inductor (L2)	Pb	BL	-	Comply	Aug. 27, 2020
		Cd	BL	-	Comply	
		Hg	BL	-	Comply	
		Cr(VI)	BL	-	Comply	
		Br	BL	-	Comply	
		DEHP	IN	ND	Comply	
		BBP	IN	ND	Comply	
		DBP	IN	ND	Comply	
		DIBP	IN	ND	Comply	
27	Inductor (L3)	Pb	BL	-	Comply	Aug. 27, 2020
		Cd	BL	-	Comply	
		Hg	BL	-	Comply	
		Cr(VI)	BL	-	Comply	
		Br	BL	-	Comply	
		DEHP	IN	ND	Comply	
		BBP	IN	ND	Comply	
		DBP	IN	ND	Comply	
		DIBP	IN	ND	Comply	
28	transformer	Pb	BL	-	Comply	Aug. 27, 2020
		Cd	BL	-	Comply	
		Hg	BL	-	Comply	
		Cr(VI)	BL	-	Comply	
		Br	BL	-	Comply	
		DEHP	IN	ND	Comply	
		BBP	IN	ND	Comply	
		DBP	IN	ND	Comply	
		DIBP	IN	ND	Comply	

Part No.	Part Description	Restricted Substance	Results of EDXRF	Result of wet Chemical Testing (2mg/kg)	Conclusion on RoHS	Sample submitted/ Resubmitted Date
29	Triode	Pb	BL	-	Comply	Aug. 27, 2020
		Cd	BL	-	Comply	
		Hg	BL	-	Comply	
		Cr(VI)	BL	-	Comply	
		Br	BL	-	Comply	
		DEHP	IN	ND	Comply	
		BBP	IN	ND	Comply	
		DBP	IN	ND	Comply	
		DIBP	IN	ND	Comply	
30	Capacitor 1	Pb	BL	-	Comply	Aug. 27, 2020
		Cd	BL	-	Comply	
		Hg	BL	-	Comply	
		Cr(VI)	BL	-	Comply	
		Br	BL	-	Comply	
		DEHP	IN	ND	Comply	
		BBP	IN	ND	Comply	
		DBP	IN	ND	Comply	
		DIBP	IN	ND	Comply	
31	Capacitor 2	Pb	BL	-	Comply	Aug. 27, 2020
		Cd	BL	-	Comply	
		Hg	BL	-	Comply	
		Cr(VI)	BL	-	Comply	
		Br	BL	-	Comply	
		DEHP	IN	ND	Comply	
		BBP	IN	ND	Comply	
		DBP	IN	ND	Comply	
		DIBP	IN	ND	Comply	
32	Capacitor 3	Pb	BL	-	Comply	Aug. 27, 2020
		Cd	BL	-	Comply	
		Hg	BL	-	Comply	
		Cr(VI)	BL	-	Comply	
		Br	BL	-	Comply	
		DEHP	IN	ND	Comply	
		BBP	IN	ND	Comply	
		DBP	IN	ND	Comply	
		DIBP	IN	ND	Comply	

Part No.	Part Description	Restricted Substance	Results of EDXRF	Result of wet Chemical Testing (2mg/kg)	Conclusion on RoHS	Sample submitted/ Resubmitted Date
33	BD1	Pb Cd Hg Cr(VI) Br DEHP BBP DBP DIBP	BL BL BL BL BL IN IN IN IN	- - - - - ND ND ND ND	Comply Comply Comply Comply Comply Comply Comply Comply Comply	Aug. 27, 2020
34	Diode	Pb Cd Hg Cr(VI) Br DEHP BBP DBP DIBP	BL BL BL BL BL IN IN IN IN	- - - - - ND ND ND ND	Comply Comply Comply Comply Comply Comply Comply Comply Comply	Aug. 27, 2020
35	SMD capacitor	Pb Cd Hg Cr(VI) Br DEHP BBP DBP DIBP	BL BL BL BL BL IN IN IN IN	- - - - - ND ND ND ND	Comply Comply Comply Comply Comply Comply Comply Comply Comply	Aug. 27, 2020
36	SMD resistor	Pb Cd Hg Cr(VI) Br DEHP BBP DBP DIBP	BL BL BL BL BL IN IN IN IN	- - - - - ND ND ND ND	Comply Comply Comply Comply Comply Comply Comply Comply Comply	Aug. 27, 2020

Part No.	Part Description	Restricted Substance	Results of EDXRF	Result of wet Chemical Testing (2mg/kg)	Conclusion on RoHS	Sample submitted/ Resubmitted Date
37	IC	Pb Cd Hg Cr(VI) Br DEHP BBP DBP DIBP	BL BL BL BL BL IN IN IN IN	- - - - - ND ND ND ND	Comply Comply Comply Comply Comply Comply Comply Comply Comply	Aug. 27, 2020
38	White glue	Pb Cd Hg Cr(VI) Br DEHP BBP DBP DIBP	BL BL BL BL BL IN IN IN IN	- - - - - ND ND ND ND	Comply Comply Comply Comply Comply Comply Comply Comply Comply	Aug. 27, 2020
39	LED light panel	Pb Cd Hg Cr(VI) Br DEHP BBP DBP DIBP	BL BL BL BL BL IN IN IN IN	- - - - - ND ND ND ND	Comply Comply Comply Comply Comply Comply Comply Comply Comply	Aug. 27, 2020
40	LED lamp bead	Pb Cd Hg Cr(VI) Br DEHP BBP DBP DIBP	BL BL BL BL BL IN IN IN IN	- - - - - ND ND ND ND	Comply Comply Comply Comply Comply Comply Comply Comply Comply	Aug. 27, 2020

Remark:

- (1) (a) It is the result on total Br while test item on restricted is PBBs\PBDEs. It is the result on total Cr6+ while test item on restricted substances is Cr⁶⁺.
- (b) Results are obtained by EDXRF for primary screening ,and further chemical testing by ICP(for Cd, Pb, Hg), UV-VIS(for Cr⁶⁺) and GC\MS (for PBBs, PBDEs) is recommended to be performed , if the concentration exceeds the below warning value according to IEC62321(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,

Negative = A negative test result indicated above positive observation was not found at the time of testing. When the spot-test showed a negative result, the boiling-water-extraction procedure shall be used to verify the result.

(#1) = As claimed by the declaration submitted by the client, the Lead content of the components is coming from the constituent of ceramic part of the electronic component only. According to EU RoHS Directive, Lead in electronic ceramic parts of this component can be exempted.

(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=ppm=0.0001%, ND=Not Detected(<MDL)),

(b)Unit and Method Detection Limit(MDL)in wet chemical test

Test Items	Units	MDL	EU RoHS Limit
Pb	mg/kg	2	1000
Cd	mg/kg	2	100
Hg	mg/kg	2	1000
Cr(VI)	mg/kg	0.02 mg/50 cm ² (Metal)	1000
		2	
PBBs	mg/kg	5	1000
PBDEs	mg/kg	5	1000
DEHP	mg/kg	5	1000
BBP	mg/kg	5	1000
DBP	mg/kg	5	1000
DIBP	mg/kg	5	1000

(c) According to IEC 62321, result on Cr for metal sample is shown as Positive\Negative, Negative=Absence of Cr6+ coating, Positive=Presence of Cr 6+ coating.

(d) ▲As declared by the client the materials fall into exemption items according to RoHS Directive 2011\65\EU recasting 2002\95\EC

Photograph of sample

POCE authenticate the photo on original report only

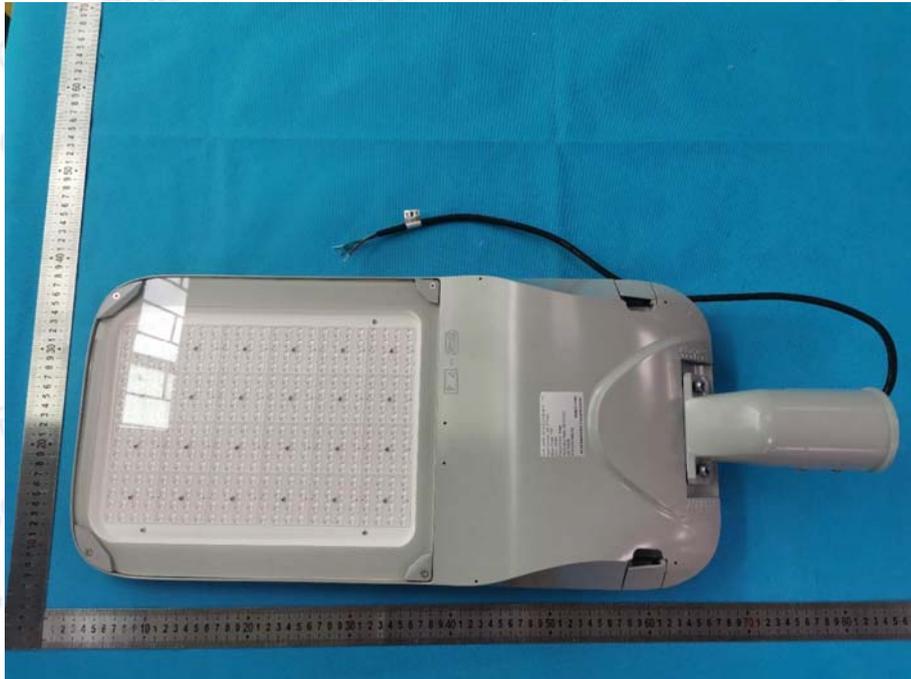


Photo 1



Photo 2



Photo 3



Photo 4



Photo 5

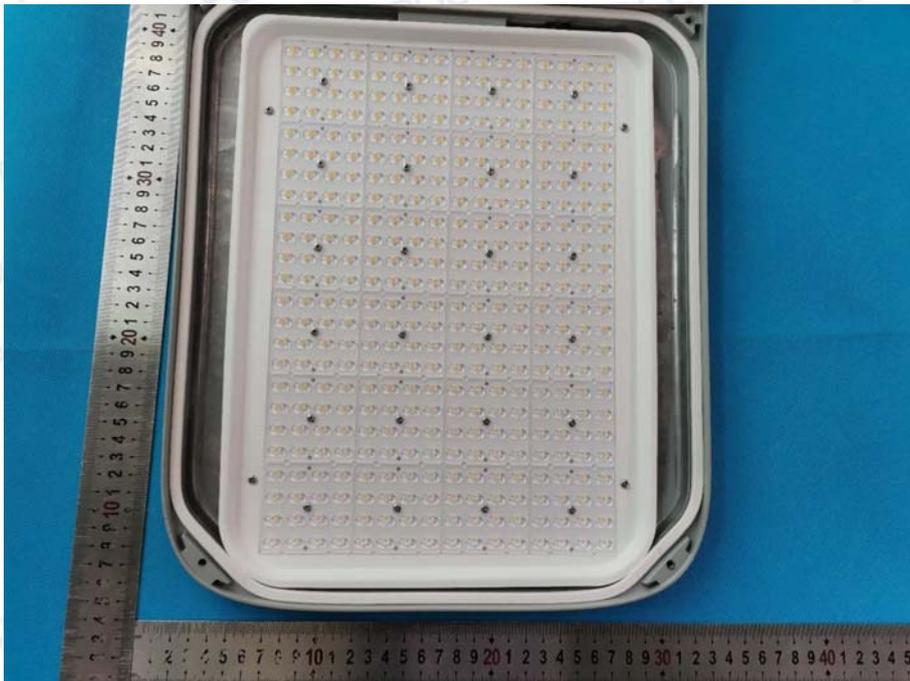


Photo 6

