






TEST REPORT

Kunde: <i>Client:</i>	Aurora (Shanghai) Technology Co., Ltd
Adresse: <i>Address:</i>	Room 221, 2F, Building 6, No.7001, Zhongchun Road, Minhang District, Shanghai
Hersteller: <i>Manufacturer:</i>	Aurora (Shanghai) Technology Co., Ltd
Adresse: <i>Address:</i>	Room 221, 2F, Building 6, No.7001, Zhongchun Road, Minhang District, Shanghai
Name der Marke: <i>Brand Name:</i>	N/A
Beschreibung des Produkts: <i>Product Description:</i>	LED Recessed spot Light
Modelle: <i>Models:</i>	IS0002-LED07-3090-36D
Bewertung: <i>Rating:</i>	AC220V, 50/60Hz, 7W
Verfahren: <i>Method:</i>	ANSI/UL 1598-2008, Sections 19
Prüfergebnis*: <i>Test result*:</i>	Pass

Datum der Prüfung: <i>Date of Test:</i>	Datum der Emission: <i>Date of Issue:</i>	Klassifizierung: <i>Classification:</i>	Gegenstand der Prüfung: <i>Test item:</i>
2023-07-27	2023-08-01	Commission Test	ISTMT+TM21 Test

Prüflabor (Testlabor) / Testing Laboratory:
Shenzhen Southern LCS Compliance Testing Laboratory Ltd.
101-201, No.39 Building, Xialang Industrial Zone, Heshuikou Community, Matian Street, Guangming District, Shenzhen, China

Test von/Test by:  Yeoh Zhang/ Project Engineer	Check von/Check by:  Torres He/ Director	Genehmigt von/Approved by:  Jesse Liu/ Manager
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3. The general information of applicant and manufacturer (such as the name and address), product name, model/type reference, trademark and other similar information contained in this report are all provided by the applicant, the laboratory is not responsible for verifying its authenticity.

Modified Information

Version	Report No.	Revision Date	Summary
V1.0	LCSB051823039S	/	Original Version

General product information:

Measurement was conducted at a stable ambient temperature 25°C±1°C

Model List:

Item	Model	Rating
1	IS0002-LED07-3090-36D	AC220V, 50/60Hz, 7W

LED specification:

Model/Series	Manufacturer	VF (V)	IF (mA)
IS0002-LED07-3090-36D	Aurora (Shanghai) Technology Co., Ltd	36Vdc	450mA

Equipment list:

Equipment No.	Equipment Name	Specification data	Cal. Date
SLCS-S-004	Digital Power Meter	YOKOGAWA/ WT210 / 91L424211	2023.5.9
SLCS-S-011	Thermocouple	DE AO/J	2022.11.9
SLCS-S-210	Temperature rising recorder	34972A	2023.5.9





1. GENERAL INFORMATION

1.1 Product Information

Information of product:	
Product description	LED Recessed spot Light
Model Number	IS0002-LED07-3090-36D
Manufacturer of LED Driver	Shenzhen DOME Microelectronics Co., Ltd.
LED Driver models	JDE7
Rated Inputs	AC220V, 50/60Hz,
Rated Power	7W
Declared CCT.	3000K
LED Package, Array or Module	1 pcs LED chip(s)
Date of Receipt Samples	2023-07-27
Quantity of Receipt Samples	1 unit
Information of LED chip:	
LED Chip Manufacturer	Aurora (Shanghai) Technology Co., Ltd
LED type	--
Model of the LED chip(s)	IS0002-LED07-3090-36D
Forward voltage of the LED chip	36Vdc
Forward current of the LED chip	450mA
ISTMT temperature of the LED chip	105°C
IES LM-80 Test Report	Report No.: LCS220107071BS Issue Date: 2023-07-27 Tested and Prepared by: Shenzhen Southern LCS Compliance Testing Laboratory Ltd.





1.2 Reference Standards or Methods

The following standards are partly or totally used or referenced for test

Standard	Method
ANSI/UL 1598: 2008	In-Situ Temperature Measurement Test is conducted according to the ANSI/UL 1598-2008, Sections 19.7, 19.10-16. The testing was conducted in a room with ambient temperature of 25°C±5°C. The apparatus construction followed those described in UL1598-2008 for normal temperature testing. Thermocouples were placed on the LED package and LED driver in the locations indicated by LM-80 report and driver . The temperature was recorded after the lamp was operating for a minimum of 7.5 hours.

2. Test Result of ISTMT

2.1 Electrical data

Criteria Item	Result
Input voltage	220V~, 50Hz
Input current	0.067A
Total power	6.99W
Power factor	0.448
Current on each LED module	180mA
Remark: There is 1pcs LED chip in models IS0002-LED07-3090-36D, That we are measurement the current of driver output was 180mA,	

2.2 Temperature data

Ambient Temperature, °C :	25±1°C	Relative Humidity, %Rh :	45%Rh~70%Rh	
Supply voltage:	220V~, 50Hz	Type of thermocouples:	J	
Test Product Model	IS0002-LED07-3090-36D			
Test LED Model	IS0002-LED07-3090-36D			
Test LED Driver Model	JDE7			
Test Duration	≥3.5Hours			
Item	Parts	Test Result (°C)	Revise to ta. (°C)	Limit (°C)
1	Measured maximum Temperature @ TEMLED	76.8	76.7	105
2	Ambient	25.1	25.0	--





3. Lumen Maintenance Projection (IESNA TM-21-11 Method)

3.1 LM-80 report summary for LED chip(s)

Manufactured by	Aurora (Shanghai) Technology Co., Ltd		
LED Model	IS0002-LED07-3090-36D		
Number of LED light source tested	25units		
Drive Current	450mA		
Case temperature	55°C	85°C	105°C
9000 hours lumen maintenance	97.15%	96.87%	96.53%
9000 hours color maintenance ($\Delta u'v'$)	0.0026	0.0030	0.0032

3.2 Lumen Maintenance Projection for luminaires

Criteria Item	Result
50000h at which to estimate lumen maintenance	82.15%
Drive current on each LED light source	180mA
Reported L ₇₀ lumen maintenance life	>54000 hours
Reported L ₈₀ lumen maintenance life	>54000 hours
Reported L ₉₀ lumen maintenance life	27000 hours





TM-21 Inputs



Instructions

Yellow fields are completed by the user. Fields not used should be left blank. Cyan fields are calculated based on user entries.

First, enter a description of the LED light source tested. Then complete the fields labeled "LM-80 Testing Details". Test duration must be at least 6,000 hours. If only one case temperature data set is to be used (no interpolation), complete only "Tested case temperature 1". For only two case temperature data sets, complete 1 and 2.

Next, further to the right, in the corresponding box(es) for each tested case temperature, enter the test data along with the time (in hours) at which each measurement was taken. Data entered must be normalized then averaged measured data (per TM-21 sections 5.2.1 and 5.2.2). If case temperatures have different test durations, enter data up to the lowest of the test durations for all of the case temperatures.

Enter drive current, *in-situ* temperature data and the percentage of initial lumens to project to in the fields labeled "In-Situ Inputs".

Results can be tailored to estimate lumen maintenance at a specific time by entering a value (t) in the yellow field. A complete TM-21 report will appear on the next tab labeled "Report".

Description of LED Light Source Tested (manufacturer, model, catalog number)	
Aurora (Shanghai) Technology Co., Ltd IS0002-LED07-3090-36D	

LM-80 Testing Details	
Total number of units tested per case temperature:	25
Number of failures:	0
Number of units measured:	25
Test duration (hours):	9000
Tested drive current (mA):	450
Tested case temperature 1 (T _c , °C):	55
Tested case temperature 2 (T _c , °C):	85
Tested case temperature 3 (T _c , °C):	105

In-Situ Inputs	
Drive current for each LED package/array/module (mA):	180
In-situ case temperature (T _c , °C):	76.7
Percentage of initial lumens to project to (e.g. for L ₇₀ , enter 70):	70

Results	
Time (t) at which to estimate lumen maintenance (hours):	50,000
Lumen maintenance at time (t) (%):	82.15%
Reported L70 (hours):	>54000

LM-80 Test Inputs

Test Data for 55°C Case Temperature		Test Data for 85°C Case Temperature		Test Data for 105°C Case Temperature	
Time (hours)	Lumen Maintenance (%)	Time (hours)	Lumen Maintenance (%)	Time (hours)	Lumen Maintenance (%)
1000	100.06%	1000	99.97%	1000	99.87%
2000	99.81%	2000	99.64%	2000	99.45%
3000	99.45%	3000	99.26%	3000	99.02%
4000	99.07%	4000	98.87%	4000	98.72%
5000	98.65%	5000	98.46%	5000	98.08%
6000	98.32%	6000	97.99%	6000	97.69%
7000	97.95%	7000	97.63%	7000	97.25%
8000	97.51%	8000	97.24%	8000	96.88%
9000	97.15%	9000	96.87%	9000	96.53%



TM-21 Report

Table 1: Report at each LM-80 Test Condition					
Description of LED Light Source Tested (manufacturer, model, catalog number)		Aurora (Shanghai) Technology Co., Ltd IS0002-LED07-3090-36D			
Test Condition 1 - 55°C Case Temp		Test Condition 2 - 85°C Case Temp		Test Condition 3 - 105°C Case Temp	
Sample size	25	Sample size	25	Sample size	25
Number of failures	0	Number of failures	0	Number of failures	0
DUT drive current used in the test (mA)	450	DUT drive current used in the test (mA)	450	DUT drive current used in the test (mA)	450
Test duration (hours)	9,000	Test duration (hours)	9,000	Test duration (hours)	9,000
Test duration used for projection (hour to hour)	4,000 - 9,000	Test duration used for projection (hour to hour)	4,000 - 9,000	Test duration used for projection (hour to hour)	4,000 - 9,000
Tested case temperature (°C)	55	Tested case temperature (°C)	85	Tested case temperature (°C)	105
α	3.900E-06	α	4.093E-06	α	4.389E-06
B	1.006	B	1.005	B	1.003
Reported L70(9k) (hours)	>54000	Reported L70(9k) (hours)	>54000	Reported L70(9k) (hours)	>54000

Table 2: Interpolation Report (projection based on in-situ temperature entered)	
T _{s1} (°C)	55.00
T _{s1} (K)	328.15
α ₁	3.900E-06
B ₁	1.006
T _{s2} (°C)	85.00
T _{s2} (K)	358.15
α ₂	4.093E-06
B ₂	1.005
E _d /k _c	1.90E+02
A	6.952E-06
B ₀	1.006
T _{s1} (°C)	76.70
T _{s1} (K)	349.85
α ₁	4.042E-06
Reported L70(9k) at 76.7°C (hours)	>54000





TM-21 Inputs



Instructions

Yellow fields are completed by the user. Fields not used should be left blank. Cyan fields are calculated based on user entries.

First, enter a description of the LED light source tested. Then complete the fields labeled "LM-80 Testing Details". Test duration must be at least 6,000 hours. If only one case temperature data set is to be used (no interpolation), complete only "Tested case temperature 1". For only two case temperature data sets, complete 1 and 2.

Next, further to the right, in the corresponding box(es) for each tested case temperature, enter the test data along with the time (in hours) at which each measurement was taken. Data entered must be normalized then averaged measured data (per TM-21 sections 5.2.1 and 5.2.2). If case temperatures have different test durations, enter data up to the lowest of the test durations for all of the case temperatures.

Enter drive current, *in-situ* temperature data and the percentage of initial lumens to project to in the fields labeled "In-Situ Inputs".

Results can be tailored to estimate lumen maintenance at a specific time by entering a value (t) in the yellow field. A complete TM-21 report will appear on the next tab labeled "Report".

Description of LED Light Source Tested (manufacturer, model, catalog number)

Aurora (Shanghai) Technology Co., Ltd
IS0002-LED07-3090-36D

LM-80 Testing Details

Total number of units tested per case temperature:	25
Number of failures:	0
Number of units measured:	25
Test duration (hours):	9000
Tested drive current (mA):	450
Tested case temperature 1 (T _c , °C):	55
Tested case temperature 2 (T _c , °C):	85
Tested case temperature 3 (T _c , °C):	105

In-Situ Inputs

Drive current for each LED package/array/module (mA):	180
In-situ case temperature (T _c , °C):	76.7
Percentage of initial lumens to project to (e.g. for L ₇₀ , enter 70):	80

Results

Time (t) at which to estimate lumen maintenance (hours):	50,000
Lumen maintenance at time (t) (%):	82.15%
Reported L80 (hours):	>54000

LM-80 Test Inputs

Test Data for 55°C Case Temperature		Test Data for 85°C Case Temperature		Test Data for 105°C Case Temperature	
Time (hours)	Lumen Maintenance (%)	Time (hours)	Lumen Maintenance (%)	Time (hours)	Lumen Maintenance (%)
1000	100.06%	1000	99.97%	1000	99.87%
2000	99.81%	2000	99.64%	2000	99.45%
3000	99.45%	3000	99.26%	3000	99.02%
4000	99.07%	4000	98.87%	4000	98.72%
5000	98.65%	5000	98.46%	5000	98.08%
6000	98.32%	6000	97.99%	6000	97.69%
7000	97.95%	7000	97.63%	7000	97.25%
8000	97.51%	8000	97.24%	8000	96.88%
9000	97.15%	9000	96.87%	9000	96.53%



TM-21 Report



Table 1: Report at each LM-80 Test Condition

Description of LED Light Source Tested (manufacturer, model, catalog number)	Test Condition 1 - 55°C Case Temp		Test Condition 2 - 85°C Case Temp		Test Condition 3 - 105°C Case Temp	
	Sample size	Number of failures	Sample size	Number of failures	Sample size	Number of failures
Aurora (Shanghai) Technology Co., Ltd IS0002-LED07-3090-36D	25	0	25	0	25	0
	DUT drive current used in the test (mA)	450	DUT drive current used in the test (mA)	450	DUT drive current used in the test (mA)	450
	Test duration (hours)	9,000	Test duration (hours)	9,000	Test duration (hours)	9,000
	Test duration used for projection (hour to hour)	4,000 - 9,000	Test duration used for projection (hour to hour)	4,000 - 9,000	Test duration used for projection (hour to hour)	4,000 - 9,000
	Tested case temperature (°C)	55	Tested case temperature (°C)	85	Tested case temperature (°C)	105
	α	3.900E-06	α	4.093E-06	α	4.389E-06
	B	1.006	B	1.005	B	1.003
Reported L80(9k) (hours)	>54000	Reported L80(9k) (hours)	>54000	Reported L80(9k) (hours)	52,000	

Table 2: Interpolation Report (projection based on in-situ temperature entered)

T _{s1} (°C)	55.00
T _{s1} (K)	328.15
α ₁	3.900E-06
B ₁	1.006
T _{s2} (°C)	85.00
T _{s2} (K)	358.15
α ₂	4.093E-06
B ₂	1.005
E _d /k _c	1.90E+02
A	6.952E-06
B ₀	1.006
T _{s1} (°C)	76.70
T _{s1} (K)	349.85
α ₁	4.042E-06
Reported L80(9k) at 76.7°C (hours)	>54000





TM-21 Inputs

Instructions

Yellow fields are completed by the user. Fields not used should be left blank. Cyan fields are calculated based on user entries.

First, enter a description of the LED light source tested. Then complete the fields labeled "LM-80 Testing Details". Test duration must be at least 6,000 hours. If only one case temperature data set is to be used (no interpolation), complete only "Tested case temperature 1". For only two case temperature data sets, complete 1 and 2.

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Enter drive current, *in-situ* temperature data and the percentage of initial lumens to project to in the fields labeled "In-Situ Inputs".

Results can be tailored to estimate lumen maintenance at a specific time by entering a value (t) in the yellow field. A complete TM-21 report will appear on the next tab labeled "Report".

Description of LED Light Source Tested (manufacturer, model, catalog number)	
Aurora (Shanghai) Technology Co., Ltd IS0002-LED07-3090-36D	

LM-80 Testing Details	
Total number of units tested per case temperature:	25
Number of failures:	0
Number of units measured:	25
Test duration (hours):	9000
Tested drive current (mA):	450
Tested case temperature 1 (T _c , °C):	55
Tested case temperature 2 (T _c , °C):	85
Tested case temperature 3 (T _c , °C):	105

In-Situ Inputs	
Drive current for each LED package/array/module (mA):	180
In-situ case temperature (T _c , °C):	76.7
Percentage of initial lumens to project to (e.g. for L ₇₀ , enter 70):	90

Results	
Time (t) at which to estimate lumen maintenance (hours):	50,000
Lumen maintenance at time (t) (%):	82.15%
Reported L90 (hours):	27,000

LM-80 Test Inputs		Test Data for 55°C Case Temperature		Test Data for 85°C Case Temperature		Test Data for 105°C Case Temperature	
Time (hours)	Lumen Maintenance (%)	Time (hours)	Lumen Maintenance (%)	Time (hours)	Lumen Maintenance (%)	Time (hours)	Lumen Maintenance (%)
1000	100.06%	1000	99.97%	1000	99.87%		
2000	99.81%	2000	99.64%	2000	99.45%		
3000	99.45%	3000	99.26%	3000	99.02%		
4000	99.07%	4000	98.87%	4000	98.72%		
5000	98.65%	5000	98.46%	5000	98.08%		
6000	98.32%	6000	97.99%	6000	97.69%		
7000	97.95%	7000	97.63%	7000	97.25%		
8000	97.51%	8000	97.24%	8000	96.88%		
9000	97.15%	9000	96.87%	9000	96.53%		



TM-21 Report

Table 1: Report at each LM-80 Test Condition					
Description of LED Light Source Tested (manufacturer, model, catalog number)		Aurora (Shanghai) Technology Co., Ltd IS0002-LED07-3090-36D			
Test Condition 1 - 55°C Case Temp		Test Condition 2 - 85°C Case Temp		Test Condition 3 - 105°C Case Temp	
Sample size	25	Sample size	25	Sample size	25
Number of failures	0	Number of failures	0	Number of failures	0
DUT drive current used in the test (mA)	450	DUT drive current used in the test (mA)	450	DUT drive current used in the test (mA)	450
Test duration (hours)	9,000	Test duration (hours)	9,000	Test duration (hours)	9,000
Test duration used for projection (hour to hour)	4,000 - 9,000	Test duration used for projection (hour to hour)	4,000 - 9,000	Test duration used for projection (hour to hour)	4,000 - 9,000
Tested case temperature (°C)	55	Tested case temperature (°C)	85	Tested case temperature (°C)	105
α	3.900E-06	α	4.093E-06	α	4.389E-06
B	1.006	B	1.005	B	1.003
Reported L90(9k) (hours)	29,000	Reported L90(9k) (hours)	27,000	Reported L90(9k) (hours)	25,000

Table 2: Interpolation Report (projection based on in-situ temperature entered)	
T _{sk1} (°C)	55.00
T _{sk1} (K)	328.15
α ₁	3.900E-06
B ₁	1.006
T _{sk2} (°C)	85.00
T _{sk2} (K)	358.15
α ₂	4.093E-06
B ₂	1.005
E _d /k _c	1.90E+02
A	6.952E-06
B ₀	1.006
T _{sk1} (°C)	76.70
T _{sk1} (K)	349.85
α ₁	4.042E-06
Reported L90(9k) at 76.7°C (hours)	27,000



4. Photos

4.1 Thermocouple contact photo of @ TEM_{LED}



Figure 1



Figure 2



4.2 Product Photos

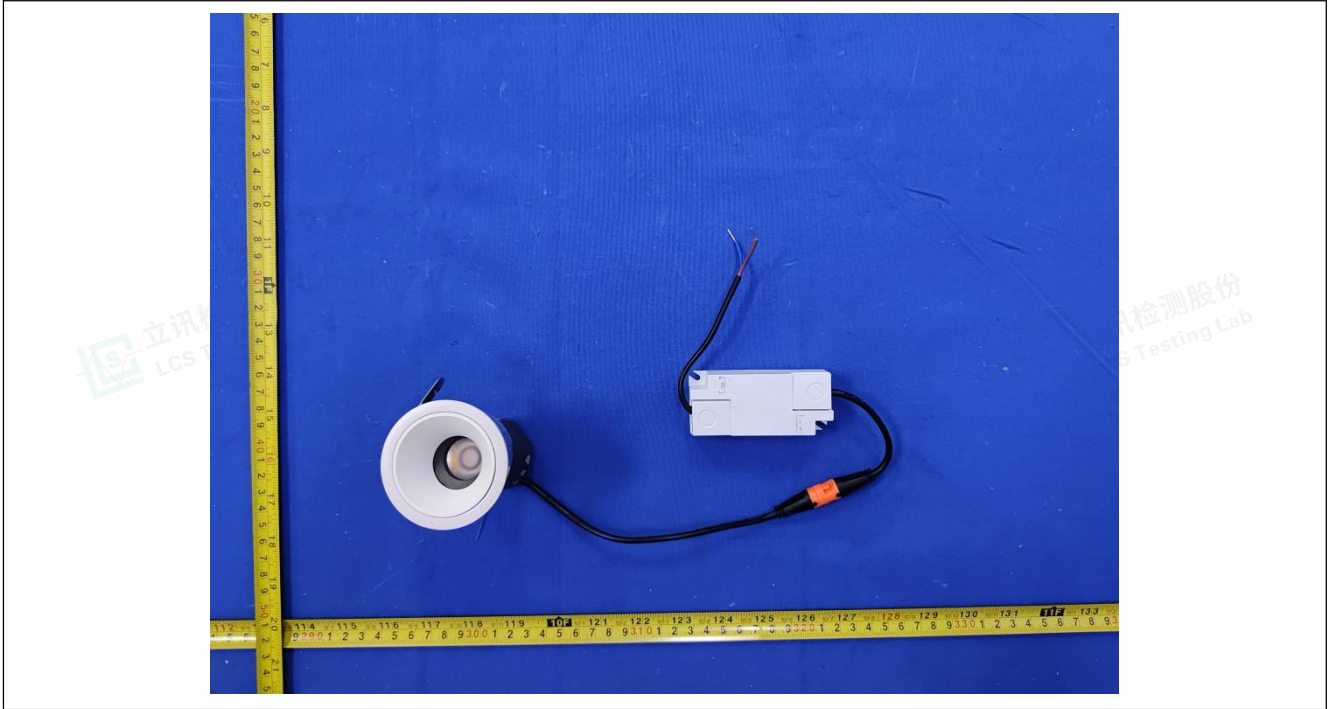


Photo 1

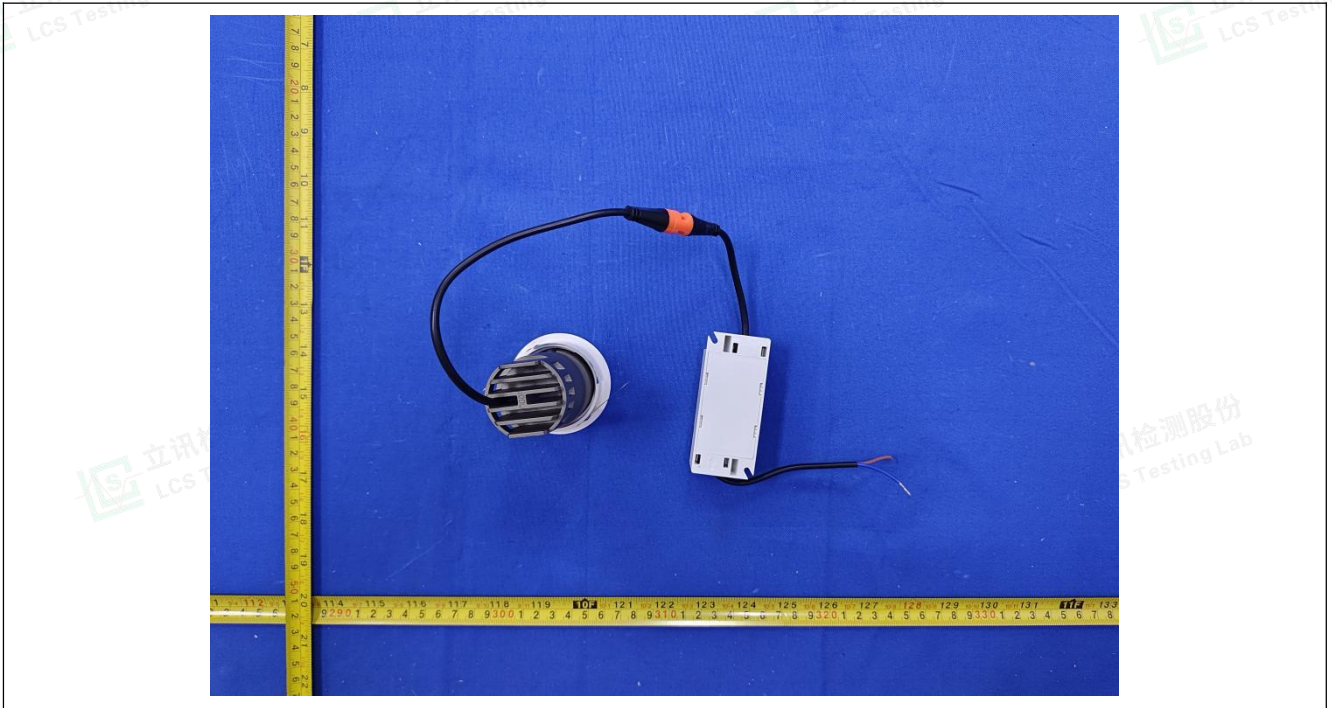


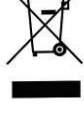


Photo 2





LED Recessed spot Light
Model: IS0002-LED07-3090-36D
AC220V, 50/60Hz, 7W

   ta 45°C,

IP44(Parts below the ceiling space)
IP20(Parts within the ceiling space).

Aurora (Shanghai) Technology Co., Ltd
Room 221, 2F, Building 6, No.7001, Zhongchun Road,
Minhang District, Shanghai

Importer: xxxxxxxx
Address: xxxxxxxx

MADE IN CHINA

Photo 2(label)

----- End of test report -----

