Test Report

Client Name	:	SHENZHEN XUANCAI ELECTRONIC CO.,LTD
Address	:	F Building MAOYUAN Industrial Park, XIAWEI Industrial Zone, GUANLAN Street, LONGHUA New DISE SHENZHEN, GUANGDONG, China
Product Name	:	1919 48W COB
Date	:	2019-08-22

Shenzhen Anbotek Pengcheng Compliance Laboratory Limited

Report No.:	PCANL190802004-01
Product Description:	1919 48W COB
Model No.:	XC1917-M1208-A3080-F31
Test Initiation Date:	2018-07-14
Test Completion Date:	2019-08-16
Test Standard:	IES LM-80-15
Test Laboratory:	Shenzhen Anbotek Pengcheng Compliance Laboratory Limited
Testing location:	Zone B, 1/F., Building 2, Hengchangrong High Tech Industrial Park, Huangtian, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tested by **Reviewed by**

Lenin Ye / Lenin Ye Flora Zhang/ Flora Zhang

Anbotek (PC) Compliance Laboratory Limited * Approved *

Note: This test report is prepared for the customer shown above and for the device described herein. It may not be duplicated or use in part without prior written consent from Shenzhen Anbotek Pengcheng Compliance Laboratory Limited. This report must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

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1 General Information

1.1 Product Description for Device under Test (DUT)

Part Number:	XC1917-M1208-A3080-F31
Part type:	COB Package
Nominal CCT:	3000K
Nominal CRI:	80
Nominal Input Power(W):	48W
Mean Initial Forward Voltage(V):	36V
Nominal LED Die Area(mm^2):	0.392 mm^2
Average Current per LED Die(mA):	150 mA
Average current density per LED Die(mA/mm^2):	382.653 mA/mm^2
Average power per LED Die(W):	0.5 W
Average power density per LED Die(W/mm^2):	1.276 W/mm^2
Minimum Spacing from Die Edge to Die Edge(mm):	0.6 mm

Family products covered by this report:

According to ENERGY STAR® Requirements for the Use of LM-80 Data, the following products can be covered by this report base on the information and declaration provided by manufacturer. The information of these models shows that the covered products meet all section 4 requirements of ENERGY STAR® Requirements for the Use of LM-80 Data (September 28, 2017)

This report covers the following models:

1919 48W COB, 1919 42W COB，1919 36W COB，1919 30W COB，1919 24W COB，1919 20W COB，1919 18W COB，1919 15W COB，1919 12W COB，1919 10W COB

CCT: 3000K, 3500K，4000K，5000K，6000K，6500K

1.2 Standards Used

IESNA LM-80-15: IES Approved Method for Measuring Luminous Flux and Color Maintenance of LED, Arrays and Modules.

ENERGY STAR® Program Guidance Regarding LED Package, LED Array and LED Module Lumen Maintenance Performance Data Supporting Qualification of Lighting Products (This test method was not accredited by NVLAP)

1.3 Test Facility Description

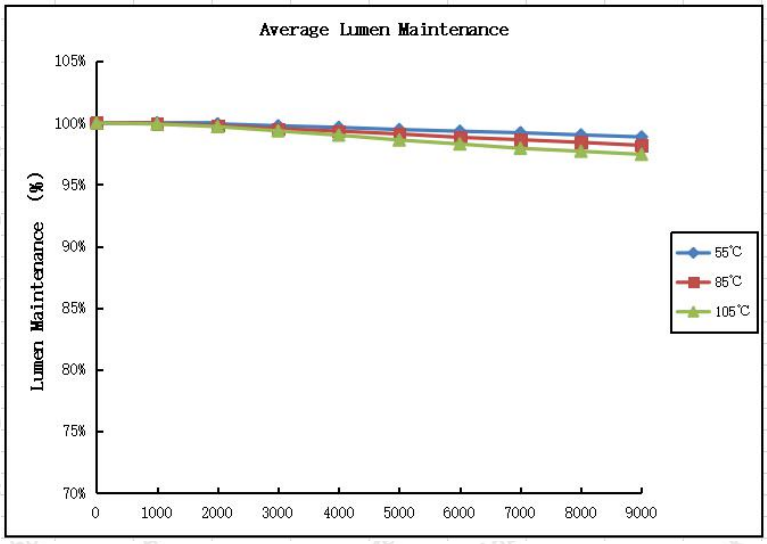
The test facility used by Shenzhen Anbotek Pengcheng Compliance Laboratory Limited is located at Zone B, 1/F., Building 2, Hengchangrong High-Tech Industrial Park, Huangtian, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

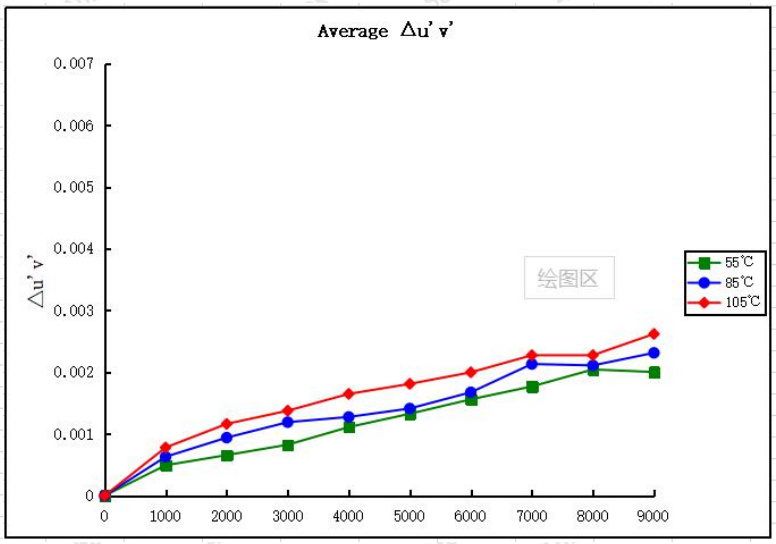
1.4 Test Equipment List

Device	Manufacture	Model No.	Serial No.	Calibration Date	Calibration Due Date
Digital Power Meter	YOKOGAWA	WT210	SE-074	2019-06-06	2020-06-05
LM-80 Aging Test System	KEYI	KY-3X-LH60	SE-564	2019-06-06	2020-06-05
DC Power Supply	EVERFINE	WY605	SE-605	2019-06-06	2020-06-05
Standard Lamp	EVERFINE	D062	SE-606	2019-06-06	2020-06-05
Spectrum Analyzer	EVERFINE	HAAS-2000	SE-607	2019-06-06	2020-06-05
Integrating Sphere (0.5m)	EVERFINE	AIS-2	SE-608	Before use	Before use

2 Summary of Test Result

Data Set	1	2	3
Nominal case temperatures	55°C	85°C	105°C
Drive Current	1200 mA	1200 mA	1200 mA
Condition	Ts=54.7°C Ta=54.9°C R.H.＜65% IF=1200 mA	Ts=84.7°C Ta=84.3°C R.H.＜65% IF=1200 mA	Ts=104.8°C Ta=104.3°C R.H.＜65% IF=1200 mA
sample size	25	25	25
Duration (in Hours)	9000	9000	9000
Intervals (in Hours)	1000	1000	1000
Failures Observed	0	0	0
Average Lumen Maintenance at 9000h	98.86%	98.18%	97.45%
Average Chromaticity Shift at 9000h	0.0020	0.0023	0.0026
α	1.530E-06	2.321E-06	3.164E-06
β	1.002	1.003	1.002
Reported L_{70}(9000h) TM-21 Lifetime	>54000	>54000	>54000
Reported L_{80}(9000h) TM-21 Lifetime	>54000	>54000	>54000
Reported L_{90}(9000h) TM-21 Lifetime	>54000	46000	34000





3 Test Method

3.1 Photometric and Electrical Measurement

Total light output (luminous flux) for the 25°C±1°C ambient temperature conditions is measured using a integrating sphere. Each LED is operated at rated drive current (DC Mode).

The total uncertainty of the light output measurements is estimated, at the 95% confidence level, not to exceed±1.6% over the wavelength range 380-800nm.

3.2 Season the LED from 0 hours to 9000 hours

Three LM-80 aging measurement system Temperature Chambers are using for Seasoning, and the temperature is set to 55°C, 85°C, 105°C (manufacture defined), the airflow is minimum to keep the uniformity to temperature. LED are operated steady state (no cycling) for a period of 9000 hours, checked the lumen flux and Chromaticity Shift every 1000 hours. The samples are inspected at regular intervals (24 hours) throughout the 9000 hours. The time and date of failure of each lamp is recorded. The actual elapsed time for each light LED is in hour.

4 Test Data

4.1 Data Set 1: 55°C, 1200 mA (Lumen Maintenance)

Description of Light Sources Tested:	XC1917-M1208-A3080-F31
Case Temperature:	54.7°C
Ambient Temperature:	54.9°C
Drive Current:	1200 mA
Measure Current:	1200 mA
Failures Observed:	None

Lumen Maintenance (%)

Sample No.	VF(V)	Φ(lm)	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs
L1	35.85	5998.4	99.98%	99.92%	99.83%	99.69%	99.42%	99.29%	99.23%	99.04%	98.88%
L2	35.87	5991.6	100.00%	99.90%	99.74%	99.66%	99.53%	99.36%	99.17%	98.98%	98.84%
L3	35.84	5989.7	100.00%	99.89%	99.74%	99.62%	99.46%	99.32%	99.14%	99.01%	98.84%
L4	35.89	5993.5	100.05%	99.93%	99.80%	99.62%	99.48%	99.31%	99.24%	99.07%	98.86%
L5	35.86	5988.4	100.00%	99.97%	99.76%	99.65%	99.47%	99.38%	99.21%	99.10%	98.87%
L6	35.85	5994.6	100.03%	99.91%	99.72%	99.55%	99.43%	99.27%	99.21%	98.99%	98.84%
L7	35.91	5990.2	99.98%	99.88%	99.82%	99.67%	99.44%	99.38%	99.19%	98.96%	98.90%
L8	35.88	5986.9	100.01%	99.88%	99.72%	99.68%	99.46%	99.30%	99.19%	99.01%	98.87%
L9	35.85	5996.7	100.01%	99.96%	99.80%	99.68%	99.43%	99.30%	99.19%	99.00%	98.89%
L10	35.89	5989.5	100.01%	99.91%	99.72%	99.69%	99.50%	99.31%	99.16%	98.99%	98.84%
L11	35.86	5988.3	100.01%	99.94%	99.80%	99.58%	99.49%	99.37%	99.16%	99.09%	98.88%
L12	35.87	5989.4	100.03%	99.91%	99.72%	99.67%	99.43%	99.37%	99.23%	99.01%	98.83%
L13	35.85	5985.7	100.00%	99.96%	99.74%	99.64%	99.43%	99.31%	99.24%	99.06%	98.85%
L14	35.89	5991.8	99.98%	99.96%	99.71%	99.63%	99.44%	99.33%	99.23%	99.09%	98.86%
L15	35.86	5983.9	100.04%	99.92%	99.73%	99.62%	99.44%	99.28%	99.23%	99.04%	98.84%
L16	35.92	5989.4	100.03%	99.96%	99.80%	99.57%	99.43%	99.32%	99.19%	98.97%	98.91%
L17	35.86	5992.6	100.03%	99.96%	99.77%	99.69%	99.47%	99.33%	99.24%	99.09%	98.85%
L18	35.88	5988.5	99.98%	99.95%	99.83%	99.57%	99.48%	99.29%	99.19%	98.97%	98.83%
L19	35.85	5985.4	100.04%	99.93%	99.79%	99.65%	99.45%	99.31%	99.25%	99.03%	98.86%
L20	35.89	5993.6	99.98%	99.88%	99.81%	99.59%	99.42%	99.28%	99.21%	98.96%	98.87%
L21	35.91	5981.4	99.99%	99.90%	99.75%	99.69%	99.52%	99.32%	99.18%	99.00%	98.85%
L22	35.89	5988.7	100.00%	99.89%	99.74%	99.64%	99.52%	99.34%	99.16%	98.99%	98.84%
L23	35.88	5994.5	100.03%	99.92%	99.79%	99.62%	99.46%	99.31%	99.18%	99.06%	98.85%
L24	35.85	5982.8	100.01%	99.96%	99.79%	99.63%	99.47%	99.38%	99.21%	99.08%	98.86%
L25	35.87	5992.4	100.01%	99.93%	99.75%	99.59%	99.44%	99.34%	99.21%	99.02%	98.84%
AV	**35.87**	**5989.92**	**100.01%**	**99.92%**	**99.77%**	**99.64%**	**99.46%**	**99.32%**	**99.20%**	**99.03%**	**98.86%**
Median	35.87	5989.50	100.01%	99.92%	99.76%	99.64%	99.46%	99.32%	99.21%	99.01%	98.85%
MIN	35.84	5981.40	99.98%	99.88%	99.71%	99.55%	99.42%	99.27%	99.14%	98.96%	98.83%
MAX	35.92	5998.40	100.05%	99.97%	99.83%	99.69%	99.53%	99.38%	99.25%	99.10%	98.91%
STDEV	0.02	4.20	0.0002	0.0003	0.0004	0.0004	0.0003	0.0003	0.0003	0.0004	0.0002
N	25	25	25	25	25	25	25	25	25	25	25

4.2 Data Set 1: 55°C, 1200 mA (Chromaticity Shift)

Description of Light Sources Tested:	XC1917-M1208-A3080-F31
Case Temperature:	54.7°C
Ambient Temperature:	54.9°C
Drive Current:	1200 mA
Measure Current:	1200 mA
Failures Observed:	None

Chromaticity Shift (△ u'v')

Sample No.	u'	v'	CCT(K)	1000 hrs	2000 hrs	3000 hrs	4000 hrs	5000 hrs	6000 hrs	7000 hrs	8000 hrs	9000 hrs
L1	0.2429	0.5156	3044	0.0005	0.0005	0.0009	0.0012	0.0011	0.0014	0.0016	0.0021	0.0020
L2	0.2425	0.5158	3079	0.0004	0.0005	0.0006	0.0011	0.0015	0.0016	0.0021	0.0022	0.0024
L3	0.2428	0.5157	3025	0.0004	0.0009	0.0008	0.0011	0.0014	0.0016	0.0019	0.0022	0.0017
L4	0.2424	0.5159	3073	0.0005	0.0006	0.0006	0.0011	0.0014	0.0014	0.0018	0.0022	0.0018
L5	0.2426	0.5155	3069	0.0005	0.0005	0.0010	0.0010	0.0012	0.0017	0.0015	0.0020	0.0023
L6	0.2429	0.5156	3006	0.0005	0.0007	0.0009	0.0010	0.0015	0.0014	0.0018	0.0024	0.0019
L7	0.2427	0.5154	3061	0.0005	0.0005	0.0009	0.0011	0.0013	0.0017	0.0017	0.0016	0.0023
L8	0.2428	0.5157	3002	0.0004	0.0007	0.0006	0.0009	0.0013	0.0015	0.0016	0.0024	0.0021
L9	0.2423	0.5159	3094	0.0005	0.0007	0.0006	0.0011	0.0015	0.0017	0.0016	0.0017	0.0020
L10	0.2429	0.5156	3090	0.0006	0.0009	0.0010	0.0010	0.0013	0.0017	0.0016	0.0016	0.0019
L11	0.2423	0.5159	3092	0.0006	0.0005	0.0011	0.0012	0.0014	0.0015	0.0019	0.0021	0.0020
L12	0.2427	0.5154	3086	0.0006	0.0008	0.0009	0.0011	0.0012	0.0013	0.0020	0.0018	0.0018
L13	0.2428	0.5157	3087	0.0005	0.0006	0.0008	0.0010	0.0015	0.0013	0.0020	0.0021	0.0018
L14	0.2426	0.5155	3082	0.0005	0.0006	0.0010	0.0012	0.0011	0.0016	0.0018	0.0019	0.0021
L15	0.2429	0.5156	3027	0.0006	0.0008	0.0009	0.0012	0.0013	0.0018	0.0020	0.0018	0.0020
L16	0.2425	0.5158	3024	0.0005	0.0008	0.0007	0.0012	0.0012	0.0017	0.0015	0.0016	0.0022
L17	0.2426	0.5155	3073	0.0004	0.0006	0.0010	0.0011	0.0015	0.0016	0.0019	0.0024	0.0017
L18	0.2428	0.5157	3012	0.0004	0.0009	0.0006	0.0011	0.0013	0.0017	0.0016	0.0019	0.0019
L19	0.2429	0.5156	3008	0.0005	0.0009	0.0010	0.0012	0.0013	0.0016	0.0016	0.0022	0.0021
L20	0.2423	0.5159	3010	0.0006	0.0006	0.0007	0.0012	0.0014	0.0014	0.0019	0.0024	0.0018
L21	0.2427	0.5154	3071	0.0004	0.0005	0.0008	0.0011	0.0011	0.0014	0.0015	0.0018	0.0018
L22	0.2425	0.5158	3080	0.0005	0.0005	0.0009	0.0011	0.0012	0.0016	0.0020	0.0021	0.0024
L23	0.2428	0.5157	3075	0.0004	0.0009	0.0007	0.0011	0.0014	0.0016	0.0021	0.0022	0.0021
L24	0.2429	0.5156	3023	0.0005	0.0007	0.0008	0.0011	0.0014	0.0016	0.0019	0.0022	0.0018
L25	0.2426	0.5155	3024	0.0005	0.0006	0.0007	0.0010	0.0014	0.0015	0.0015	0.0021	0.0021
AV	**0.2427**	**0.5157**	**3053**	**0.0005**	**0.0007**	**0.0008**	**0.0011**	**0.0013**	**0.0016**	**0.0018**	**0.0020**	**0.0020**
Median	0.2427	0.5156	3069	0.0005	0.0006	0.0008	0.0011	0.0013	0.0016	0.0018	0.0021	0.0020
MIN	0.2423	0.5154	3002	0.0004	0.0005	0.0006	0.0009	0.0011	0.0013	0.0015	0.0016	0.0017
MAX	0.2429	0.5159	3094	0.0006	0.0009	0.0011	0.0012	0.0015	0.0018	0.0021	0.0024	0.0024
STDEV	0.0002	0.0002	32.58	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0002	0.0002
N	25	25	25	25	25	25	25	25	25	25	25	25

4.3 Data Set 2: 85°C, 1200 mA (Lumen Maintenance)

Description of Light Sources Tested:	XC1917-M1208-A3080-F31
Case Temperature:	84.7°C
Ambient Temperature:	84.3°C
Drive Current:	1200 mA
Measure Current:	1200 mA
Failures Observed:	None

Lumen Maintenance (%)

Sample No.	VF(V)	Φ(lm)	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs
L26	35.89	5988.6	99.96%	99.72%	99.58%	99.26%	99.15%	98.84%	98.64%	98.51%	98.13%
L27	35.92	5994.7	99.99%	99.85%	99.48%	99.35%	99.21%	98.88%	98.60%	98.35%	98.25%
L28	35.86	5982.5	99.92%	99.65%	99.49%	99.29%	99.12%	98.83%	98.59%	98.36%	98.21%
L29	35.93	5991.9	99.99%	99.79%	99.48%	99.39%	99.16%	98.89%	98.69%	98.47%	98.11%
L30	35.87	5983.4	99.94%	99.84%	99.54%	99.40%	99.06%	98.78%	98.61%	98.43%	98.21%
L31	35.84	5996.6	99.96%	99.71%	99.53%	99.31%	99.00%	98.76%	98.67%	98.35%	98.23%
L32	35.89	5991.3	99.94%	99.76%	99.58%	99.39%	99.18%	98.85%	98.60%	98.44%	98.23%
L33	35.93	5981.9	99.98%	99.75%	99.61%	99.38%	99.06%	98.79%	98.63%	98.45%	98.17%
L34	35.85	5993.5	100.01%	99.92%	99.53%	99.29%	99.19%	98.89%	98.71%	98.46%	98.13%
L35	35.91	5988.4	100.01%	99.68%	99.52%	99.28%	99.04%	98.86%	98.70%	98.44%	98.25%
L36	35.88	5980.3	99.95%	99.74%	99.55%	99.28%	98.99%	98.82%	98.69%	98.32%	98.12%
L37	35.87	5987.8	99.96%	99.83%	99.60%	99.33%	98.97%	98.84%	98.62%	98.47%	98.13%
L38	35.94	5996.5	100.01%	99.73%	99.48%	99.28%	99.09%	98.77%	98.63%	98.50%	98.20%
L39	35.88	5990.7	99.99%	99.75%	99.52%	99.29%	99.03%	98.78%	98.61%	98.49%	98.22%
L40	35.85	5985.9	99.99%	99.88%	99.53%	99.42%	99.16%	98.81%	98.62%	98.38%	98.09%
L41	35.91	5981.6	99.97%	99.65%	99.50%	99.38%	99.02%	98.77%	98.67%	98.53%	98.08%
L42	35.87	5997.5	99.93%	99.84%	99.54%	99.29%	99.07%	98.90%	98.59%	98.47%	98.17%
L43	35.88	5987.9	100.00%	99.90%	99.52%	99.40%	99.10%	98.80%	98.63%	98.39%	98.21%
L44	35.83	5983.8	100.02%	99.79%	99.59%	99.41%	99.18%	98.90%	98.62%	98.42%	98.17%
L45	35.89	5995.6	99.96%	99.68%	99.49%	99.26%	99.03%	98.79%	98.60%	98.36%	98.10%
L46	35.94	5989.4	99.99%	99.82%	99.50%	99.34%	99.17%	98.86%	98.61%	98.40%	98.24%
L47	35.89	5983.5	99.93%	99.83%	99.49%	99.34%	99.18%	98.86%	98.60%	98.35%	98.25%
L48	35.86	5987.9	99.97%	99.68%	99.49%	99.35%	99.14%	98.85%	98.63%	98.38%	98.15%
L49	35.89	5992.8	99.97%	99.82%	99.49%	99.39%	99.13%	98.83%	98.66%	98.44%	98.19%
L50	35.92	5981.7	99.96%	99.74%	99.54%	99.34%	99.06%	98.77%	98.65%	98.38%	98.23%
AV	**35.89**	**5988.63**	**99.97%**	**99.77%**	**99.53%**	**99.34%**	**99.10%**	**98.83%**	**98.64%**	**98.42%**	**98.18%**
Median	35.89	5988.40	99.97%	99.76%	99.52%	99.34%	99.10%	98.83%	98.63%	98.43%	98.19%
MIN	35.83	5980.30	99.92%	99.65%	99.48%	99.26%	98.97%	98.76%	98.59%	98.32%	98.08%
MAX	35.94	5997.50	100.02%	99.92%	99.61%	99.42%	99.21%	98.90%	98.71%	98.53%	98.25%
STDEV	0.03	5.36	0.0003	0.0008	0.0004	0.0005	0.0007	0.0004	0.0004	0.0006	0.0006
N	25	25	25	25	25	25	25	25	25	25	25

4.4 Data Set 2: 85°C, 1200 mA (Chromaticity Shift)

Description of Light Sources Tested:	XC1917-M1208-A3080-F31
Case Temperature:	84.7°C
Ambient Temperature:	84.3°C
Drive Current:	1200 mA
Measure Current:	1200 mA
Failures Observed:	None

Chromaticity Shift (△ u'v')

Sample No.	u'	v'	CCT(K)	1000 hrs	2000 hrs	3000 hrs	4000 hrs	5000 hrs	6000 hrs	7000 hrs	8000 hrs	9000 hrs
L26	0.2426	0.5155	3084	0.0007	0.0010	0.0012	0.0014	0.0013	0.0017	0.0022	0.0017	0.0023
L27	0.2427	0.5154	3093	0.0006	0.0009	0.0011	0.0012	0.0016	0.0015	0.0020	0.0025	0.0022
L28	0.2423	0.5157	3075	0.0006	0.0011	0.0012	0.0012	0.0014	0.0019	0.0022	0.0022	0.0019
L29	0.2428	0.5157	3085	0.0006	0.0009	0.0012	0.0012	0.0013	0.0018	0.0020	0.0018	0.0024
L30	0.2426	0.5155	3059	0.0006	0.0009	0.0011	0.0012	0.0016	0.0018	0.0021	0.0023	0.0019
L31	0.2425	0.5158	3026	0.0006	0.0010	0.0012	0.0013	0.0014	0.0019	0.0022	0.0024	0.0025
L32	0.2429	0.5156	3051	0.0005	0.0008	0.0011	0.0013	0.0013	0.0018	0.0018	0.0021	0.0021
L33	0.2428	0.5157	3033	0.0006	0.0009	0.0012	0.0014	0.0015	0.0017	0.0023	0.0018	0.0021
L34	0.2427	0.5154	3095	0.0006	0.0010	0.0012	0.0013	0.0013	0.0016	0.0021	0.0019	0.0028
L35	0.2425	0.5158	3085	0.0006	0.0010	0.0012	0.0013	0.0015	0.0016	0.0020	0.0019	0.0025
L36	0.2423	0.5159	3097	0.0006	0.0010	0.0012	0.0012	0.0016	0.0017	0.0020	0.0020	0.0023
L37	0.2429	0.5156	3064	0.0007	0.0009	0.0011	0.0013	0.0014	0.0017	0.0023	0.0021	0.0024
L38	0.2426	0.5155	3077	0.0006	0.0008	0.0013	0.0013	0.0013	0.0016	0.0024	0.0020	0.0023
L39	0.2428	0.5157	3088	0.0006	0.0011	0.0011	0.0014	0.0014	0.0016	0.0018	0.0023	0.0027
L40	0.2429	0.5156	3079	0.0007	0.0011	0.0011	0.0013	0.0013	0.0015	0.0022	0.0021	0.0026
L41	0.2425	0.5158	3043	0.0006	0.0010	0.0013	0.0013	0.0014	0.0015	0.0021	0.0020	0.0023
L42	0.2426	0.5155	3081	0.0007	0.0008	0.0011	0.0013	0.0016	0.0016	0.0023	0.0023	0.0020
L43	0.2428	0.5157	3025	0.0007	0.0010	0.0013	0.0012	0.0013	0.0016	0.0024	0.0019	0.0028
L44	0.2429	0.5156	3018	0.0006	0.0010	0.0012	0.0014	0.0015	0.0016	0.0021	0.0026	0.0028
L45	0.2428	0.5157	3045	0.0007	0.0008	0.0013	0.0012	0.0013	0.0019	0.0024	0.0025	0.0024
L46	0.2427	0.5154	3076	0.0006	0.0009	0.0011	0.0012	0.0013	0.0015	0.0018	0.0017	0.0022
L47	0.2425	0.5158	3054	0.0007	0.0010	0.0012	0.0012	0.0014	0.0015	0.0022	0.0023	0.0022
L48	0.2428	0.5157	3063	0.0006	0.0009	0.0012	0.0012	0.0014	0.0016	0.0022	0.0023	0.0021
L49	0.2429	0.5156	3094	0.0006	0.0010	0.0012	0.0012	0.0014	0.0019	0.0021	0.0020	0.0021
L50	0.2427	0.5154	3055	0.0006	0.0009	0.0011	0.0012	0.0014	0.0018	0.0021	0.0020	0.0020
AV	**0.2427**	**0.5156**	**3066**	**0.0006**	**0.0009**	**0.0012**	**0.0013**	**0.0014**	**0.0017**	**0.0021**	**0.0021**	**0.0023**
Median	0.2427	0.5156	3075	0.0006	0.0010	0.0012	0.0013	0.0014	0.0016	0.0021	0.0021	0.0023
MIN	0.2423	0.5154	3018	0.0005	0.0008	0.0011	0.0012	0.0013	0.0015	0.0018	0.0017	0.0019
MAX	0.2429	0.5159	3097	0.0007	0.0011	0.0013	0.0014	0.0016	0.0019	0.0024	0.0026	0.0028
STDEV	0.0002	0.0001	23.92	0.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0003	0.0003
N	25	25	25	25	25	25	25	25	25	25	25	25

4.5 Data Set 3: 105°C, 1200 mA (Lumen Maintenance)

Description of Light Sources Tested:	XC1917-M1208-A3080-F31
Case Temperature:	104.8°C
Ambient Temperature:	104.3°C
Drive Current:	1200 mA
Measure Current:	1200 mA
Failures Observed:	None

Lumen Maintenance (%)

Sample No.	VF(V)	Φ(lm)	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs
L51	35.92	5988.6	99.95%	99.59%	99.29%	98.93%	98.61%	98.30%	97.86%	97.61%	97.51%
L52	35.86	5994.7	99.90%	99.80%	99.42%	99.03%	98.58%	98.32%	98.01%	97.72%	97.41%
L53	35.94	5982.5	99.93%	99.60%	99.27%	98.99%	98.66%	98.34%	98.00%	97.77%	97.36%
L54	35.83	5991.9	99.86%	99.71%	99.31%	98.97%	98.56%	98.27%	97.88%	97.75%	97.48%
L55	35.89	5983.4	99.87%	99.65%	99.36%	98.96%	98.67%	98.34%	97.90%	97.75%	97.41%
L56	35.82	5996.6	99.87%	99.66%	99.40%	99.12%	98.56%	98.28%	97.96%	97.69%	97.48%
L57	35.95	5991.3	99.95%	99.81%	99.28%	98.97%	98.68%	98.30%	97.93%	97.71%	97.53%
L58	35.91	5981.9	99.90%	99.57%	99.42%	99.09%	98.51%	98.35%	97.91%	97.62%	97.43%
L59	35.82	5993.5	99.97%	99.74%	99.41%	99.04%	98.68%	98.25%	97.93%	97.73%	97.36%
L60	35.89	5988.4	99.93%	99.80%	99.29%	98.99%	98.59%	98.23%	97.97%	97.60%	97.50%
L61	35.86	5980.3	99.89%	99.68%	99.30%	99.02%	98.70%	98.22%	97.88%	97.67%	97.43%
L62	35.93	5987.8	99.93%	99.80%	99.33%	99.01%	98.53%	98.21%	97.97%	97.71%	97.38%
L63	35.96	5996.5	99.92%	99.71%	99.42%	99.07%	98.69%	98.34%	97.87%	97.78%	97.37%
L64	35.87	5990.7	99.86%	99.64%	99.36%	99.00%	98.72%	98.33%	97.86%	97.61%	97.52%
L65	35.95	5985.9	99.86%	99.74%	99.39%	99.06%	98.60%	98.24%	98.02%	97.72%	97.45%
L66	35.9	5981.6	99.98%	99.80%	99.41%	99.09%	98.58%	98.27%	97.91%	97.74%	97.51%
L67	35.84	5997.5	99.85%	99.61%	99.31%	99.09%	98.52%	98.25%	98.00%	97.75%	97.52%
L68	35.81	5987.9	99.94%	99.82%	99.40%	99.01%	98.70%	98.22%	97.89%	97.65%	97.51%
L69	35.88	5983.8	99.92%	99.66%	99.36%	98.90%	98.59%	98.32%	98.00%	97.62%	97.44%
L70	35.95	5995.6	99.86%	99.58%	99.28%	98.91%	98.54%	98.23%	97.86%	97.59%	97.47%
L71	35.92	5989.4	99.94%	99.63%	99.41%	98.93%	98.60%	98.31%	97.99%	97.71%	97.41%
L72	35.86	5983.5	99.92%	99.78%	99.32%	99.00%	98.66%	98.34%	98.00%	97.75%	97.37%
L73	35.83	5987.9	99.87%	99.70%	99.31%	98.99%	98.63%	98.29%	97.96%	97.75%	97.43%
L74	35.85	5992.8	99.87%	99.69%	99.33%	98.96%	98.59%	98.33%	97.89%	97.75%	97.46%
L75	35.89	5981.7	99.87%	99.65%	99.40%	99.00%	98.56%	98.34%	97.94%	97.72%	97.43%
AV	**35.89**	**5988.63**	**99.90%**	**99.70%**	**99.35%**	**99.00%**	**98.61%**	**98.29%**	**97.94%**	**97.70%**	**97.45%**
Median	35.89	5988.40	99.90%	99.69%	99.36%	99.00%	98.60%	98.30%	97.93%	97.72%	97.44%
MIN	35.81	5980.30	99.85%	99.57%	99.27%	98.90%	98.51%	98.21%	97.86%	97.59%	97.36%
MAX	35.96	5997.50	99.98%	99.82%	99.42%	99.12%	98.72%	98.35%	98.02%	97.78%	97.53%
STDEV	0.05	5.36	0.0004	0.0009	0.0006	0.0006	0.0007	0.0005	0.0006	0.0006	0.0006
N	25	25	25	25	25	25	25	25	25	25	25

4.6 Data Set 3: 105°C, 1200 mA (Chromaticity Shift)

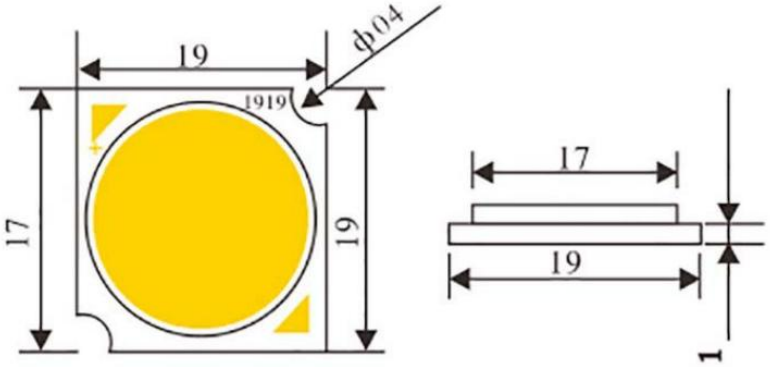
Description of Light Sources Tested:	XC1917-M1208-A3080-F31
Case Temperature:	104.8°C
Ambient Temperature:	104.3°C
Drive Current:	1200 mA
Measure Current:	1200 mA
Failures Observed:	None

Chromaticity Shift (△ u'v')

Sample No.	u'	v'	CCT(K)	1000 hrs	2000 hrs	3000 hrs	4000 hrs	5000 hrs	6000 hrs	7000 hrs	8000 hrs	9000 hrs
L51	0.2425	0.5158	3064	0.0008	0.0012	0.0012	0.0018	0.0016	0.0023	0.0026	0.0020	0.0028
L52	0.2423	0.5159	3087	0.0008	0.0011	0.0014	0.0017	0.0017	0.0022	0.0023	0.0024	0.0026
L53	0.2429	0.5156	3046	0.0008	0.0012	0.0015	0.0016	0.0021	0.0018	0.0022	0.0022	0.0026
L54	0.2426	0.5155	3092	0.0007	0.0011	0.0014	0.0015	0.0019	0.0018	0.0024	0.0023	0.0022
L55	0.2428	0.5157	3033	0.0008	0.0012	0.0014	0.0016	0.0019	0.0017	0.0024	0.0023	0.0025
L56	0.2425	0.5158	3079	0.0009	0.0012	0.0015	0.0015	0.0015	0.0016	0.0022	0.0020	0.0027
L57	0.2429	0.5156	3038	0.0008	0.0012	0.0012	0.0015	0.0017	0.0016	0.0026	0.0026	0.0030
L58	0.2425	0.5158	3085	0.0008	0.0011	0.0013	0.0016	0.0014	0.0021	0.0022	0.0025	0.0030
L59	0.2426	0.5155	3036	0.0008	0.0011	0.0014	0.0015	0.0016	0.0017	0.0026	0.0024	0.0026
L60	0.2428	0.5157	3077	0.0008	0.0011	0.0014	0.0017	0.0014	0.0023	0.0019	0.0021	0.0028
L61	0.2429	0.5156	3049	0.0007	0.0013	0.0015	0.0016	0.0021	0.0023	0.0021	0.0021	0.0025
L62	0.2428	0.5157	3091	0.0008	0.0011	0.0015	0.0015	0.0020	0.0023	0.0019	0.0021	0.0028
L63	0.2427	0.5154	3038	0.0008	0.0012	0.0012	0.0015	0.0018	0.0019	0.0023	0.0026	0.0026
L64	0.2425	0.5158	3064	0.0008	0.0012	0.0012	0.0016	0.0019	0.0020	0.0018	0.0022	0.0025
L65	0.2428	0.5157	3097	0.0008	0.0012	0.0015	0.0019	0.0017	0.0022	0.0026	0.0020	0.0026
L66	0.2429	0.5156	3055	0.0008	0.0012	0.0013	0.0019	0.0019	0.0020	0.0023	0.0022	0.0030
L67	0.2427	0.5154	3074	0.0007	0.0011	0.0016	0.0015	0.0021	0.0019	0.0020	0.0022	0.0022
L68	0.2423	0.5159	3026	0.0007	0.0012	0.0012	0.0019	0.0020	0.0023	0.0026	0.0027	0.0030
L69	0.2429	0.5156	3038	0.0008	0.0011	0.0014	0.0019	0.0020	0.0018	0.0026	0.0022	0.0023
L70	0.2426	0.5155	3069	0.0008	0.0011	0.0013	0.0019	0.0020	0.0024	0.0022	0.0026	0.0027
L71	0.2428	0.5157	3052	0.0007	0.0012	0.0012	0.0016	0.0016	0.0020	0.0020	0.0020	0.0023
L72	0.2425	0.5158	3084	0.0008	0.0012	0.0013	0.0018	0.0017	0.0023	0.0023	0.0021	0.0026
L73	0.2425	0.5158	3048	0.0008	0.0012	0.0015	0.0017	0.0018	0.0021	0.0022	0.0023	0.0026
L74	0.2423	0.5159	3075	0.0008	0.0012	0.0014	0.0015	0.0020	0.0018	0.0023	0.0023	0.0025
L75	0.2429	0.5156	3098	0.0008	0.0011	0.0014	0.0016	0.0019	0.0017	0.0024	0.0023	0.0023
AV	**0.2427**	**0.5157**	**3064**	**0.0008**	**0.0012**	**0.0014**	**0.0016**	**0.0018**	**0.0020**	**0.0023**	**0.0023**	**0.0026**
Median	0.2427	0.5157	3064	0.0008	0.0012	0.0014	0.0016	0.0019	0.0020	0.0023	0.0022	0.0026
MIN	0.2423	0.5154	3026	0.0007	0.0011	0.0012	0.0015	0.0014	0.0016	0.0018	0.0020	0.0022
MAX	0.2429	0.5159	3098	0.0009	0.0013	0.0016	0.0019	0.0021	0.0024	0.0026	0.0027	0.0030
STDEV	0.0002	0.0001	22.37	0.0000	0.0000	0.0001	0.0001	0.0002	0.0003	0.0002	0.0002	0.0002
N	25	25	25	25	25	25	25	25	25	25	25	25

5 EUT Photo

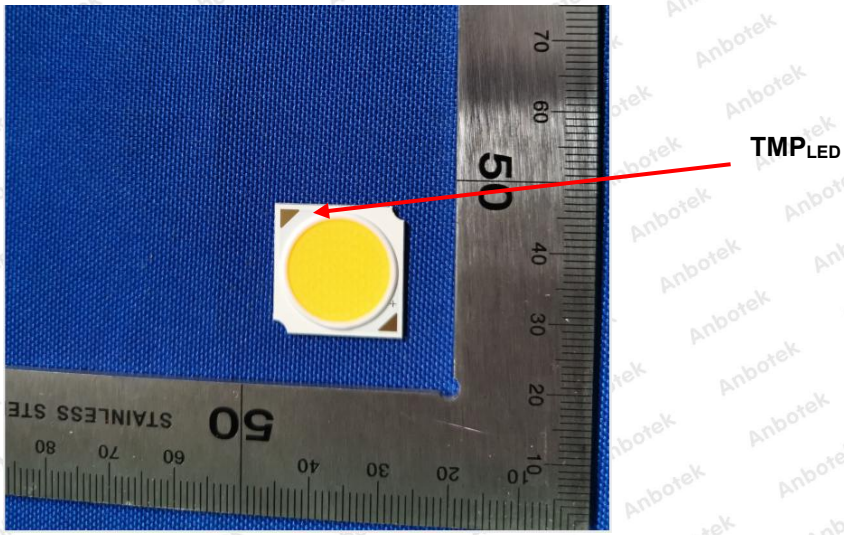
5.1 EUT Mechanical Dimensions



Unit:mm

Tolerances unless otherwise specified:+/-0.2

5.2 EUT PHOTO



*****END OF TEST REPORT*****