



TEST REPORT

According to ANSI/IES LM-80-15
For

Hongli Zihui Group Co.,Ltd. Guangzhou Branch
Room 316, Building 2, No.1, Xianke Yi Road, Huadong Town, Huadu District, Guangzhou, China

#Model: HL-C3535F26B3EA-ZW

Report Type: 6000 Hours Test Report	Product Type: LED Package
Reviewed By: Pote Wang	
Report Number: RSZ190428536-10-6000	
Test Date: 2020-01-09 to 2020-10-20	
Report Date: 2020-10-26	
Approved by: Blake Zhang / EE Engineer	
Test Facility: Test facility was located at No.69,Pulongcun ,Puxinhu Industrial Area, Tangxia , Dongguan, Guangdong, China.	
Prepared By: Bay Area Compliance Laboratories Corp. (Dongguan). No.69,Pulongcun ,Puxinhu Industrial Area, Tangxia , Dongguan, Guangdong, China. Tel: +86-0769-86858888 Fax:+86-0769-86858588	
Accreditation: The IAS Accreditation Number TL-460.	

TABLE OF CONTENTS

1 - General Information.....	3
1.1 Description of LED Light Sources	3
1.2 Standards and Reference Documentations	3
1.3 Testing Equipment	4
1.4 Drive Level	4
1.5 Ambient Conditions for Maintenance Test	4
1.6 Photometric Measurement Method and Uncertainty.....	4
1.7 Statement of Traceability	4
1.8 Sample Set.....	5
2 - Summary of Test Result.....	6
3 - Test Data.....	7
3.1 Data Set 1, 85°C, 700mA (400-700nm Photon Flux Maintenance).....	7
3.2 Data Set 1, 85°C, 700mA (Forward Voltage).....	8
3.3 Data Set 1, 85°C, 700mA (Wavelength)	9
3.4 Data Set 2, 105°C, 700mA (400-700nm Photon Flux Maintenance).....	10
3.5 Data Set 2, 105°C, 700mA (Forward Voltage).....	11
3.6 Data Set 2, 105°C, 700mA (Wavelength)	12
4 - DUT Photo	13
4.1 #Mechanical Dimensions	13
4.2 DUT Photo.....	13
Directions.....	14

1 - General Information

1.1 Description of LED Light Sources

Sample Size:

60 PCS test samples were in good condition and received on 2019-04-28. The samples were numbered from 1 to 30 and 31 to 60.

#Manufacturer:	Hongli Zihui Group Co.,Ltd. Guangzhou Branch
#Part Number:	HL-C3535F26B3EA-ZW
#Part Type:	LED Package
#Drive Level:	DC 700mA
#Wavelength:	440nm
#Power:	2.24W
#Average Current Density per LED die:	573.3mA/mm ²
#Average Power Density per LED die:	1.835W/mm ²
#CRI:	NA
#Die Spacing:	NA

Sampling Method:

LED samples for IESNA LM-80 testing consist of units built from a minimum of three manufacturing lots with each manufacturing lot built from different wafer lots built on non-consecutive days.

These manufacturing lots are picked to represent a wide parametric distribution.

#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:

Test Model Number	Multiple Models	Details
HL-C3535F26B3EA-ZW	HL-C3535F**B*EA-ZW	1. Different Model name for different market. 2. "F(K)***" is a number from 1 to 99 which stand for the brightness level. 3. "****" is a number from 1 to 9 which stand for the power level.
	HL-C3535K**B*EA-ZW	
	HL-C3535F**B*EA-ZW-LVR5	
	HL-C3535K**B*EA-ZW-LVR5	
	HL-C3535F**B*EA	
	HL-C3535K**B*EA	
	HL-C3535F**B*EA -LVR5	
	HL-C3535K**B*EA -LVR5	

1.2 Standards and Reference Documentations

- ANSI/IES LM-80-15: IES Approved Method for Measuring Lumen Maintenance of LED Light Sources.
- CIE 127:2007: Measurement of LEDs
- ANSI/ASABE S640 JUL2017 Quantities and Units of Electromagnetic Radiation for Plants (Photosynthetic Organisms) (This standard was not accredited by IAS)
- ANSI/ASABE S642 SEP2018: Recommended Methods for Measurement and Testing of LED Products for Plant Growth and Development (This standard was not accredited by IAS)

1.3 Testing Equipment

Device	Manufacture	Model No	Serial No	Calibration date	Calibration due date
0.5m integrating sphere	EVERFINE	AIS-2	G185304TA1381172	2019-10-22	2020-10-21
LED Test Source	EVERFINE	LTS-300	P185616CD1371113	2020-07-23	2021-07-22
High Accuracy Array Spectroradiometer	EVERFINE	HAAS-2000	P600674CM1381123	2019-10-22	2020-10-21
Standard Light Source	EVERFINE	D062	1011093	2019-11-19	2020-11-18
Multilayer aging machine	BACL	B2-270	20013	2020-03-11	2021-03-10
Programmable D.C. power supply	Xinnuoer	ATP-5005	N/A	2020-07-01	2021-06-30

1.4 Drive Level

Samples are driven with a constant direct current (DC) during maintenance test, photometric and electrical measurement. The current value was regulated to within $\pm 3\%$ of the specified value of the manufacturer during maintenance test, and was within $\pm 0.5\%$ during photometric and electrical measurement test.

1.5 Ambient Conditions for Maintenance Test

For lumen maintenance test, samples within one data set, were installed on cooling boards in thermal chambers with minimal ambient airflow. The case temperature and ambient temperature was monitored by thermocouples which one was soldered to the coldest DUT's case (TMP_{LED}) location, while the other is mounted at a distance of 5 mm above the TMP location.

During life testing, TMP_{LED} of the coldest LEDs were maintained at a temperature that was greater than or equal to 2°C below the corresponding nominal case temperature. Surrounding air was maintained at a temperature that was greater than or equal to 5°C below the corresponding nominal case temperature. Thermocouples were shielded from direct DUT optical radiation and comply with ASTM E230 Table 1 "Special Limits".

Samples were connected to DC power supply in series circuits with a constant current. The forward current was regulated to within $\pm 3\%$ of the specified value of the manufacturer.

The relative humidity within chamber was kept less than 65% during test.

For photometry measurement, the ambient temperature during test was set to $25^{\circ}\text{C} \pm 2^{\circ}\text{C}$, RH <65%.

1.6 Photometric Measurement Method and Uncertainty

Integrating sphere and spectroradiometer is used to measure spectral power distribution and photon flux. 2π measurement was used and sample was driven by DC power supply. The forward current was regulated to within $\pm 0.5\%$ of the nominal value. The test system was calibrated by halogen reference lamp. The ambient temperature during test was set to $25^{\circ}\text{C} \pm 2^{\circ}\text{C}$, RH <65%. The temperature measurement point was located in the sphere and the temperature was detected by a temperature probe.

1.7 Statement of Traceability

Bay Area Compliance Laboratories Corp. (Dongguan) attested that all calibration has been performed using suitable standards traceable to National Primary Standards and International System of Units (SI).



Bay Area Compliance Laboratories Corp. (Dongguan)

No.69, Pulongcun, Puxinhu Industrial Area Tangxia ,

Dongguan, Guangdong, China.

The IAS Accreditation Number TL-460

1.8 Sample Set

Data Set 1: 85°C, 700mA

Part Number: HL-C3535F26B3EA-ZW

Number of Units: 30

Case Temperature: >83°C

Ambient Temperature: >80°C

Life Test Drive Current: 700mA

Measurement Current: 700mA

Data Set 2: 105°C, 700mA

Part Number: HL-C3535F26B3EA-ZW

Number of Units: 30

Case Temperature: >103°C

Ambient Temperature: >100°C

Life Test Drive Current: 700mA

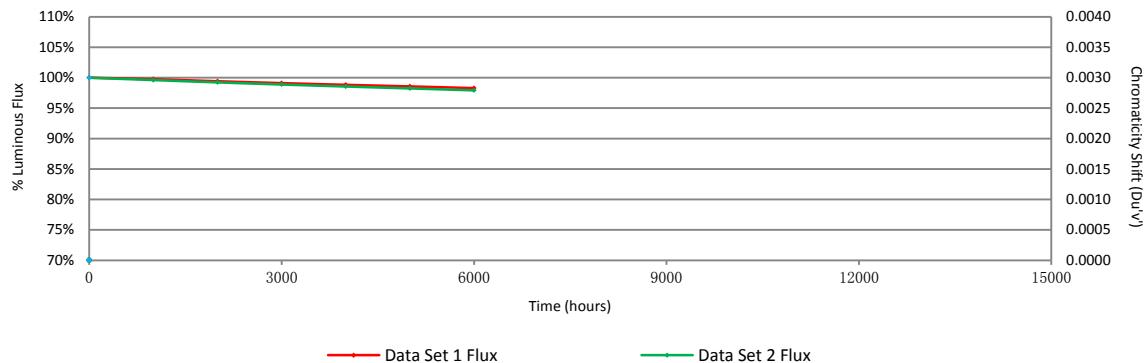
Measurement Current: 700mA

2 - Summary of Test Result

Data Set:	Sample Size	Failures Observed:	Test Interval	Test Duration	α	β	Reported TM-21 Q ₇₀ Lifetime	Reported TM-21 Q ₉₀ Lifetime
1	30	0	1000hrs	6000hrs	2.923E-06	1.000	>36000 hours	>36000 hours
2	30	0	1000hrs	6000hrs	3.399E-06	0.999	>36000 hours	31000 hours

Average Photon Flux Maintenance, Photosynthetic 400-700nm (PFM_P) (Percentage of Initial)

Data Set:	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs
1	99.75%	99.42%	99.11%	98.83%	98.57%	98.29%
2	99.61%	99.23%	98.88%	98.55%	98.24%	97.92%





Bay Area Compliance Laboratories Corp. (Dongguan)

No.69, Pulongcun, Puxinhu Industrial Area Tangxia ,

Dongguan, Guangdong, China.

The IAS Accreditation Number TL-460

3 - Test Data

3.1 Data Set 1, 85°C, 700mA (400-700nm Photon Flux Maintenance)

No.	Φ_p ($\mu\text{mol} \times \text{s}^{-1}$)	400-700nm Photon Flux Maintenance (%)					
		0hr(Initial)	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs
1	3.713	99.60	99.27	99.00	98.65	98.28	97.82
2	3.752	99.12	98.85	98.45	98.29	98.13	97.84
3	3.629	99.04	98.70	98.29	98.04	97.80	97.52
4	3.651	99.62	99.15	98.96	98.52	98.19	97.86
5	3.679	100.68	100.22	99.76	99.57	99.29	99.10
6	3.746	98.96	98.72	98.48	98.13	97.81	97.49
7	3.683	99.78	99.43	99.19	99.00	98.81	98.67
8	3.597	99.61	99.19	98.94	98.58	98.28	98.00
9	3.629	99.26	98.87	98.65	98.32	98.02	97.82
10	3.633	99.48	99.15	98.90	98.65	98.40	98.05
11	3.553	99.38	99.18	98.96	98.76	98.48	98.31
12	3.691	99.89	99.51	99.21	98.89	98.67	98.32
13	3.658	100.08	99.78	99.37	99.10	98.80	98.58
14	3.684	99.73	99.48	99.13	98.89	98.59	98.18
15	3.613	100.42	100.14	99.75	99.39	99.23	98.95
16	3.621	99.83	99.48	99.23	98.98	98.78	98.48
17	3.698	99.24	99.03	98.73	98.38	98.00	97.81
18	3.607	100.30	100.08	99.61	99.33	99.11	98.92
19	3.643	100.44	100.05	99.78	99.42	99.12	98.93
20	3.647	98.96	98.74	98.52	98.16	97.94	97.61
21	3.668	99.48	99.13	98.75	98.42	98.20	97.93
22	3.661	100.36	100.14	99.84	99.64	99.37	99.04
23	3.542	100.56	100.08	99.83	99.58	99.27	98.96
24	3.705	100.32	99.92	99.70	99.46	99.16	98.84
25	3.739	100.32	99.92	99.44	99.17	98.82	98.53
26	3.676	99.56	99.21	98.94	98.64	98.45	98.15
27	3.577	99.02	98.80	98.57	98.29	98.13	97.96
28	3.645	99.81	99.34	99.09	98.88	98.68	98.33
29	3.588	99.92	99.67	99.39	99.11	98.89	98.72
30	3.631	99.61	99.28	98.93	98.79	98.40	98.10
Avg.	3.652	99.75	99.42	99.11	98.83	98.57	98.29
Med.	3.649	99.67	99.31	99.05	98.83	98.53	98.25
st dev	0.053	0.51	0.48	0.46	0.47	0.47	0.49
Min.	3.542	98.96	98.70	98.29	98.04	97.80	97.49
Max.	3.752	100.68	100.22	99.84	99.64	99.37	99.10



Bay Area Compliance Laboratories Corp. (Dongguan)

No.69, Pulongcun, Puxinhu Industrial Area Tangxia ,

Dongguan, Guangdong, China.

The IAS Accreditation Number TL-460

3.2 Data Set 1, 85°C, 700mA (Forward Voltage)

No.	Forward Voltage (V)						
	0hr(Initial)	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs
1	3.434	3.451	3.462	3.469	3.480	3.456	3.483
2	3.433	3.455	3.460	3.461	3.459	3.447	3.496
3	3.438	3.444	3.464	3.491	3.453	3.445	3.489
4	3.415	3.431	3.440	3.468	3.479	3.430	3.474
5	3.421	3.412	3.430	3.495	3.426	3.420	3.474
6	3.445	3.449	3.455	3.481	3.475	3.454	3.502
7	3.438	3.444	3.458	3.454	3.477	3.448	3.475
8	3.434	3.434	3.452	3.477	3.468	3.442	3.481
9	3.436	3.432	3.443	3.491	3.481	3.436	3.464
10	3.436	3.439	3.459	3.487	3.468	3.453	3.471
11	3.447	3.441	3.451	3.472	3.455	3.481	3.506
12	3.428	3.431	3.446	3.459	3.457	3.447	3.458
13	3.436	3.430	3.434	3.460	3.468	3.460	3.459
14	3.431	3.433	3.439	3.457	3.482	3.450	3.469
15	3.435	3.433	3.453	3.458	3.472	3.443	3.467
16	3.423	3.427	3.433	3.460	3.492	3.439	3.454
17	3.424	3.431	3.441	3.459	3.484	3.448	3.466
18	3.432	3.430	3.443	3.495	3.480	3.445	3.457
19	3.451	3.442	3.446	3.478	3.470	3.463	3.462
20	3.422	3.427	3.440	3.460	3.450	3.440	3.454
21	3.463	3.436	3.440	3.472	3.457	3.446	3.459
22	3.441	3.443	3.451	3.481	3.471	3.460	3.468
23	3.446	3.434	3.438	3.451	3.460	3.447	3.476
24	3.439	3.442	3.452	3.468	3.469	3.454	3.497
25	3.429	3.431	3.438	3.464	3.465	3.450	3.459
26	3.433	3.438	3.453	3.481	3.478	3.458	3.476
27	3.426	3.428	3.440	3.445	3.446	3.442	3.466
28	3.435	3.439	3.446	3.463	3.465	3.456	3.484
29	3.434	3.432	3.444	3.455	3.457	3.451	3.471
30	3.439	3.441	3.457	3.459	3.461	3.452	3.478
Avg.	3.435	3.436	3.447	3.469	3.467	3.449	3.473
Med.	3.435	3.434	3.446	3.466	3.468	3.448	3.471
st dev	0.010	0.009	0.009	0.014	0.014	0.011	0.014
Min.	3.415	3.412	3.430	3.445	3.426	3.420	3.454
Max.	3.463	3.455	3.464	3.495	3.492	3.481	3.506



Bay Area Compliance Laboratories Corp. (Dongguan)

No.69, Pulongcun, Puxinhu Industrial Area Tangxia ,

Dongguan, Guangdong, China.

The IAS Accreditation Number TL-460

3.3 Data Set 1, 85°C, 700mA (Wavelength)

No.	Wavelength (nm)						
	0hr(Initial)	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs
1	434.7	434.6	434.7	434.5	434.9	434.7	434.9
2	433.9	433.9	433.9	433.9	433.9	434.0	433.9
3	433.8	433.8	433.8	433.8	433.9	433.8	434.0
4	433.9	433.9	433.9	434.6	434.0	433.9	433.9
5	435.6	435.3	435.1	435.1	435.7	435.1	435.4
6	433.8	433.8	433.7	433.7	433.8	433.8	433.8
7	434.9	434.7	434.7	435.0	434.7	434.8	435.0
8	433.8	433.9	433.8	433.8	433.7	433.8	433.8
9	434.0	434.6	433.9	434.6	433.9	433.9	433.9
10	434.6	434.7	434.7	434.8	434.7	434.9	434.7
11	434.7	434.6	434.7	434.7	434.4	434.6	434.8
12	433.9	433.9	433.9	433.9	433.9	434.0	433.9
13	433.8	433.9	433.8	433.9	433.9	433.9	433.8
14	434.7	435.0	435.0	434.9	434.7	434.7	434.7
15	434.6	434.4	434.7	434.7	434.7	434.6	434.7
16	434.6	433.9	434.6	434.6	433.9	434.6	434.6
17	434.9	434.8	434.7	434.9	434.7	434.9	434.9
18	434.9	434.8	434.7	434.7	434.9	434.7	434.7
19	434.9	434.9	434.7	435.0	435.0	434.7	435.0
20	434.7	433.9	434.6	434.6	433.9	434.0	433.9
21	434.7	435.0	434.9	434.7	434.9	434.8	434.7
22	433.9	434.0	433.9	434.4	434.3	433.9	433.9
23	434.7	434.9	434.7	434.7	434.8	434.9	434.9
24	434.9	434.7	434.9	434.7	435.0	434.7	435.1
25	434.7	434.7	435.0	435.0	434.7	434.7	434.9
26	435.0	434.9	434.7	434.7	435.0	434.8	434.9
27	433.8	433.8	433.1	433.8	433.7	433.1	433.5
28	434.8	434.8	435.0	434.9	434.9	435.0	434.7
29	434.7	434.7	434.7	434.9	434.7	434.7	434.9
30	434.7	434.0	434.6	434.7	434.6	434.2	434.6
Avg.	434.5	434.4	434.4	434.5	434.5	434.4	434.5
Med.	434.7	434.6	434.7	434.7	434.7	434.7	434.7
st dev	0.4869	0.4719	0.5136	0.4296	0.5170	0.4955	0.5202
Min.	433.8	433.8	433.1	433.7	433.7	433.1	433.5
Max.	435.6	435.3	435.1	435.1	435.7	435.1	435.4



Bay Area Compliance Laboratories Corp. (Dongguan)

No.69, Pulongcun, Puxinhu Industrial Area Tangxia ,

Dongguan, Guangdong, China.

The IAS Accreditation Number TL-460

3.4 Data Set 2, 105°C, 700mA (400-700nm Photon Flux Maintenance)

No.	Φ_p ($\mu\text{mol} \times \text{s}^{-1}$)	400-700nm Photon Flux Maintenance (%)					
		0hr(Initial)	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs
31	3.561	99.80	99.52	99.19	98.85	98.65	98.40
32	3.620	99.67	99.28	98.98	98.59	98.15	97.79
33	3.657	98.74	98.39	98.09	97.79	97.57	97.18
34	3.690	99.38	99.02	98.73	98.29	97.91	97.67
35	3.707	100.08	99.68	99.30	99.03	98.73	98.33
36	3.706	100.30	99.92	99.62	99.22	98.92	98.54
37	3.620	100.75	100.28	99.97	99.72	99.28	99.03
38	3.744	99.60	99.23	98.90	98.58	98.16	97.70
39	3.721	98.93	98.50	98.12	97.80	97.47	97.12
40	3.650	100.33	100.05	99.67	99.34	99.18	98.90
41	3.625	99.78	99.37	98.87	98.57	98.18	97.96
42	3.628	100.22	99.92	99.70	99.48	99.06	98.81
43	3.741	98.80	98.45	98.08	97.59	97.43	97.01
44	3.623	99.83	99.53	99.23	98.90	98.62	98.18
45	3.765	99.10	98.67	98.38	98.14	97.93	97.64
46	3.681	98.91	98.51	98.18	97.94	97.66	97.28
47	3.777	99.47	99.18	98.76	98.49	98.15	97.93
48	3.701	99.70	99.49	99.11	98.78	98.57	98.27
49	3.652	100.33	99.95	99.59	99.29	99.04	98.71
50	3.595	99.86	99.47	99.14	98.66	98.30	98.00
51	3.610	99.39	99.03	98.73	98.42	98.01	97.65
52	3.655	99.32	98.93	98.36	98.08	97.76	97.46
53	3.625	100.06	99.59	99.26	98.95	98.73	98.51
51	3.614	100.22	99.70	99.36	99.03	98.81	98.45
55	3.589	99.41	99.00	98.61	98.30	97.91	97.66
56	3.698	99.51	99.16	98.81	98.38	98.08	97.81
57	3.577	99.78	99.27	98.94	98.60	98.24	97.90
58	3.685	98.94	98.59	98.15	97.83	97.53	97.20
59	3.677	99.05	98.69	98.40	97.96	97.61	97.23
60	3.719	98.92	98.57	98.31	97.98	97.58	97.23
Avg.	3.664	99.61	99.23	98.88	98.55	98.24	97.92
Med.	3.656	99.63	99.25	98.89	98.57	98.15	97.86
st dev	0.057	0.53	0.53	0.54	0.56	0.56	0.58
Min.	3.561	98.74	98.39	98.08	97.59	97.43	97.01
Max.	3.777	100.75	100.28	99.97	99.72	99.28	99.03



Bay Area Compliance Laboratories Corp. (Dongguan)

No.69, Pulongcun, Puxinhu Industrial Area Tangxia ,

Dongguan, Guangdong, China.

The IAS Accreditation Number TL-460

3.5 Data Set 2, 105°C, 700mA (Forward Voltage)

No.	Forward Voltage (V)						
	0hr(Initial)	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs
31	3.425	3.428	3.440	3.472	3.444	3.444	3.448
32	3.436	3.437	3.466	3.479	3.456	3.452	3.457
33	3.424	3.426	3.444	3.488	3.447	3.441	3.450
34	3.419	3.423	3.454	3.488	3.446	3.459	3.450
35	3.429	3.431	3.448	3.488	3.452	3.465	3.485
36	3.435	3.442	3.460	3.478	3.476	3.479	3.473
37	3.424	3.434	3.450	3.509	3.462	3.491	3.461
38	3.432	3.439	3.451	3.464	3.464	3.483	3.461
39	3.435	3.446	3.458	3.508	3.469	3.466	3.459
40	3.428	3.432	3.449	3.481	3.466	3.462	3.455
41	3.430	3.430	3.448	3.469	3.486	3.461	3.455
42	3.438	3.444	3.464	3.481	3.486	3.475	3.466
43	3.431	3.451	3.452	3.482	3.472	3.489	3.461
44	3.436	3.441	3.448	3.478	3.500	3.460	3.460
45	3.433	3.441	3.452	3.485	3.501	3.468	3.463
46	3.437	3.449	3.457	3.493	3.501	3.476	3.466
47	3.436	3.446	3.453	3.499	3.502	3.462	3.474
48	3.423	3.429	3.440	3.511	3.445	3.451	3.462
49	3.428	3.448	3.443	3.479	3.470	3.458	3.459
50	3.425	3.433	3.452	3.483	3.465	3.454	3.456
51	3.425	3.429	3.452	3.484	3.473	3.457	3.451
52	3.424	3.431	3.448	3.497	3.448	3.459	3.452
53	3.483	3.489	3.451	3.497	3.459	3.467	3.466
51	3.439	3.447	3.462	3.495	3.466	3.469	3.469
55	3.412	3.465	3.447	3.468	3.453	3.453	3.450
56	3.437	3.446	3.455	3.493	3.472	3.466	3.479
57	3.432	3.443	3.454	3.495	3.471	3.463	3.456
58	3.420	3.425	3.437	3.499	3.451	3.460	3.447
59	3.436	3.441	3.458	3.501	3.464	3.466	3.462
60	3.428	3.440	3.449	3.494	3.455	3.456	3.455
Avg.	3.431	3.440	3.451	3.488	3.467	3.464	3.460
Med.	3.431	3.441	3.452	3.488	3.466	3.462	3.460
st dev	0.012	0.013	0.007	0.012	0.017	0.012	0.009
Min.	3.412	3.423	3.437	3.464	3.444	3.441	3.447
Max.	3.483	3.489	3.466	3.511	3.502	3.491	3.485



Bay Area Compliance Laboratories Corp. (Dongguan)

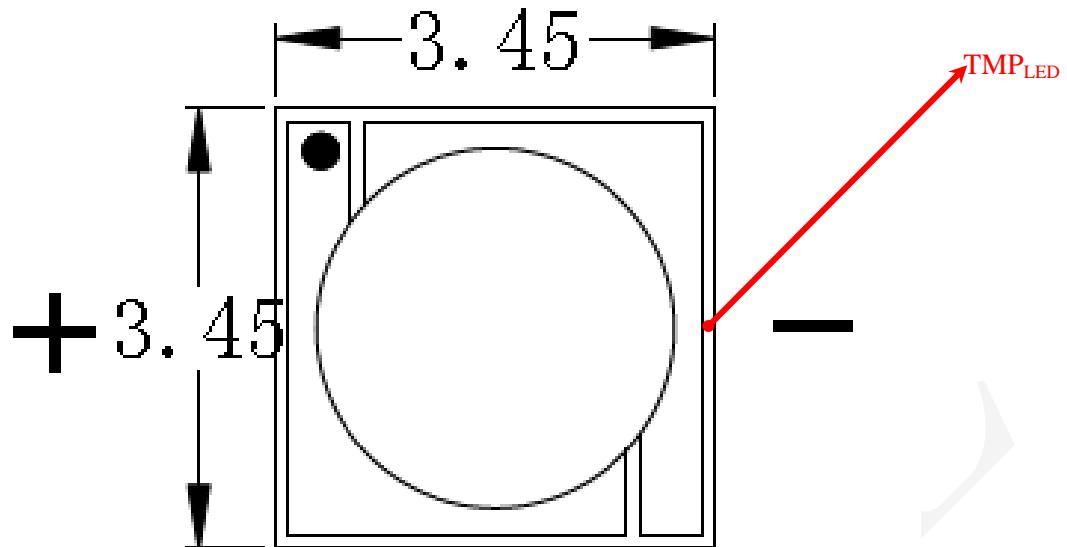
No.69, Pulongcun, Puxinhu Industrial Area Tangxia ,

Dongguan, Guangdong, China.

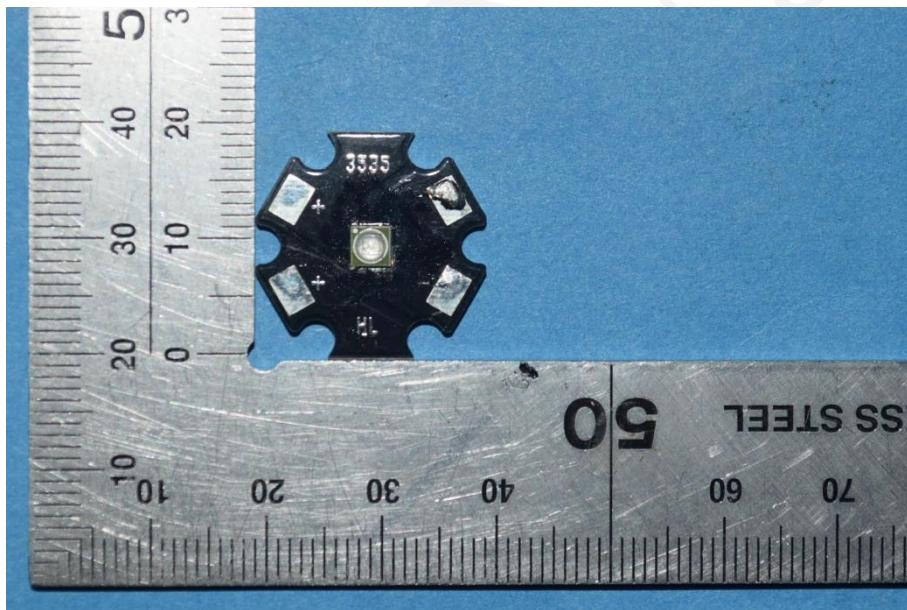
The IAS Accreditation Number TL-460

3.6 Data Set 2, 105°C, 700mA (Wavelength)

No.	Wavelength (nm)						
	0hr(Initial)	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs
31	433.9	433.9	433.8	433.9	433.8	433.9	433.8
32	433.9	433.9	433.9	433.9	434.6	433.9	433.9
33	433.9	433.9	433.8	433.9	433.9	433.9	433.8
34	434.6	434.6	434.7	433.9	434.6	434.7	434.0
35	433.9	434.0	433.9	433.9	433.9	433.9	433.9
36	434.8	434.9	434.6	434.7	434.9	434.7	434.9
37	434.9	434.7	434.7	435.0	434.9	434.7	434.9
38	434.9	435.0	434.7	434.8	434.7	435.0	434.9
39	435.0	435.0	435.1	435.3	435.0	435.0	434.7
40	435.0	435.0	435.0	434.7	434.8	435.0	435.2
41	433.8	433.8	433.8	433.8	433.7	433.6	433.7
42	434.6	434.6	434.1	433.9	434.4	433.9	434.6
43	434.8	434.7	434.6	434.8	434.9	434.6	434.9
44	434.6	434.6	434.6	434.8	434.7	434.7	434.6
45	434.7	434.5	434.6	433.9	434.7	434.2	434.7
46	433.9	434.6	434.0	434.6	433.9	434.0	434.6
47	434.6	434.6	434.6	434.7	434.7	434.6	434.6
48	433.8	434.0	433.9	433.9	433.9	433.9	433.9
49	433.9	433.9	433.8	433.9	433.9	433.9	433.9
50	434.7	434.6	434.7	434.7	434.4	434.7	434.2
51	434.6	434.7	434.7	434.3	434.7	434.1	434.7
52	433.8	433.9	433.9	433.8	433.9	433.8	433.9
53	435.3	435.3	434.9	435.1	434.9	434.7	434.5
51	435.0	435.0	435.4	435.0	435.0	435.0	434.8
55	434.7	434.9	434.6	434.6	434.2	434.6	434.2
56	434.1	434.7	434.6	434.6	434.7	433.9	434.6
57	434.1	433.9	434.1	433.9	433.9	433.9	433.9
58	434.9	434.7	434.9	434.9	435.0	435.0	435.0
59	434.9	435.0	434.7	434.7	434.9	434.8	435.0
60	433.9	433.9	433.8	433.9	433.8	433.9	434.0
Avg.	434.5	434.5	434.4	434.4	434.4	434.4	434.4
Med.	434.6	434.6	434.6	434.6	434.7	434.4	434.6
st dev	0.4776	0.4540	0.4662	0.4842	0.4569	0.4674	0.4589
Min.	433.8	433.8	433.8	433.8	433.7	433.6	433.7
Max.	435.3	435.3	435.4	435.3	435.0	435.0	435.2

4 - DUT Photo**4.1 #Mechanical Dimensions**

All dimensions are in millimeter

4.2 DUT Photo



Bay Area Compliance Laboratories Corp. (Dongguan)

No.69, Pulongcun, Puxinhu Industrial Area Tangxia ,

Dongguan, Guangdong, China.

The IAS Accreditation Number TL-460

Directions

1. The information marked "superscript #" is provided by the applicant, the laboratory is not responsible for its authenticity and this information can affect the validity of the result in the test report.
2. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.
3. Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.
4. The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval.
5. This report cannot be reproduced except in full, without prior written approval of the Company.
6. This report is valid only with a valid digital signature. The digital signature may be available only under the Adobe software above version 7.0.

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