



# TEST REPORT

According to ANSI/IES LM-80-15  
For

## Hongli Zhihui Group Co.,Ltd. Guangzhou Branch

Room 316, Building 2, No.1, Xianke Yi Road, Huadong Town, Huadu District, Guangzhou, China

**Model: HL-AS-2835D68W-3-S1-08L-PCT-HR3-ZW-P6**

<b>Report Type:</b> 6000 Hours Test Report	<b>Product Type:</b> LED Package
<b>Reviewed By:</b>	Pote Wang 
<b>Report Number:</b>	SZ2201225-61531E-10-6000
<b>Test Date:</b>	2020-12-27 to 2021-09-06
<b>Report Date:</b>	2022-01-21
<b>Approved by:</b>	Blake Zhang / EE Engineer
<b>Prepared By:</b>	Bay Area Compliance Laboratories Corp. (Dongguan). No.12, Pulong East 1 <sup>st</sup> Road, Tangxia Town, Dongguan, Guangdong, China. Tel: +86-0769-86858888 Fax:+86-0769-86858588

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**Bay Area Compliance Laboratories Corp. (Dongguan)**

No.12, Pulong East 1<sup>st</sup> Road, Tangxia Town,  
Dongguan, Guangdong, China.

Model name	CRI (typ.)	CCT(typ.)	Series	Parallel	Power density (W/mm <sup>2</sup> )	Current density per LED die (mA/mm <sup>2</sup> )	Current per die (mA)	Distance between of dies	Current (mA)
HL-**-2835D***W-2-S1-08*-PCT-HR3(R9)-ZW-P6-***	80	2200-6500K	1	2	0.0735	381.445	100	0.15	200
HL-**-2835D***W-2-S1-08*-PCT-HR3(R9)-ZW-P6-***	80	2200-6500K	1	2	0.0551	286.084	75	0.15	150
HL-**-2835D***W-2-S1-08*-PCT-HR3(R9)-ZW-P6-***	80	2200-6500K	1	2	0.0239	123.97	32.5	0.15	65
HL-**-2835D***W-2-S1-08*-PCT-HR3(R9)-ZW-P6-***	80	2200-6500K	1	2	0.022	114.434	30	0.15	60
HL-**-2835D***W-2-S1-08*-PCT-HR3(R9)-ZW-P6-***	80	2200-6500K	1	2	0.011	57.217	15	0.15	30
HL-**-2835D***W-S1-08*-PCT-HR3-ZW-P6-***	80	2200-6500K	1	1	0.0367	381.445	100	/	100
HL-**-2835D***W-S1-08*-PCT-HR3-ZW-P6-***	80	2200-6500K	1	1	0.0239	247.939	65	/	65
HL-**-2835D***W-S1-08*-PCT-HR3-ZW-P6-***	80	2200-6500K	1	1	0.022	228.867	60	/	60
HL-**-2835D***W-S1-08*-PCT-HR3-ZW-P6-***	80	2200-6500K	1	1	0.011	114.434	30	/	30
HL-**-2835D***W-S1-08*-PCT-HR3(R9)-ZW-P6-***	80	2200-6500K	1	1	0.0367	381.445	100	/	100
HL-**-2835D***W-S1-08*-PCT-HR3(R9)-ZW-P6-***	80	2200-6500K	1	1	0.0239	247.939	65	/	65
HL-**-2835D***W-S1-08*-PCT-HR3(R9)-ZW-P6-***	80	2200-6500K	1	1	0.022	228.867	60	/	60
HL-**-2835D***W-S1-08*-PCT-HR3(R9)-ZW-P6-***	80	2200-6500K	1	1	0.011	114.434	30	/	30
HL-**-2835D***W-3C-S1-08*-PCT-HR3-ZW-P6-***	80	2200-6500K	3	1	0.1061	381.445	100	0.15	100
HL-**-2835D***W-3C-S1-08*-PCT-HR3-ZW-P6-***	80	2200-6500K	3	1	0.0637	228.867	60	0.15	60
HL-**-2835D***W-3C-S1-08*-PCT-HR3-ZW-P6-***	80	2200-6500K	3	1	0.0318	114.434	30	0.15	30
HL-**-2835D***W-3C-S1-08*-PCT-HR3(R9)-ZW-P6-***	80	2200-6500K	3	1	0.1061	381.445	100	0.15	100
HL-**-2835D***W-3C-S1-08*-PCT-HR3(R9)-ZW-P6-***	80	2200-6500K	3	1	0.0637	228.867	60	0.15	60
HL-**-2835D***W-3C-S1-08*-PCT-HR3(R9)-ZW-P6-***	80	2200-6500K	3	1	0.0318	114.434	30	0.15	30
HL-**-2835D***W-2C-S1-08*-PCT-HR3-ZW-P6-***	80	2200-6500K	2	1	0.0714	381.445	100	0.15	100
HL-**-2835D***W-2C-S1-08*-PCT-HR3-ZW-P6-***	80	2200-6500K	2	1	0.0429	228.867	60	0.15	60
HL-**-2835D***W-2C-S1-08*-PCT-HR3(R9)-ZW-P6-***	80	2200-6500K	2	1	0.0714	381.445	100	0.15	100
HL-**-2835D***W-2C-S1-08*-PCT-HR3(R9)-ZW-P6-***	80	2200-6500K	2	1	0.0429	228.867	60	0.15	60
HL-**-2835H***W-3-S1-08*-PCT-HR3-ZW-P6-***	80	2200-6500K	1	3	0.0735	377.13	66.7	0.15	200
HL-**-2835H***W-3-S1-08*-PCT-HR3-ZW-P6-***	80	2200-6500K	1	3	0.0551	287.038	50	0.15	150
HL-**-2835H***W-3-S1-08*-PCT-HR3-ZW-P6-***	80	2200-6500K	1	3	0.022	114.815	20	0.15	60
HL-**-2835H***W-3-S1-08*-PCT-HR3(R9)-ZW-P6-***	80	2200-6500K	1	3	0.0735	377.13	66.7	0.15	200
HL-**-2835H***W-3-S1-08*-PCT-HR3(R9)-ZW-P6-***	80	2200-6500K	1	3	0.0551	287.038	50	0.15	150
HL-**-2835H***W-3-S1-08*-PCT-HR3(R9)-ZW-P6-***	80	2200-6500K	1	3	0.022	114.815	20	0.15	60
HL-**-2835H***W-2-S1-08*-PCT-HR3-ZW-P6-***	80	2200-6500K	1	2	0.0511	377.436	75	0.15	150

Model name	CRI (typ.)	CCT(typ.)	Series	Parallel	Power density (W/mm <sup>2</sup> )	Current density per LED die (mA/mm <sup>2</sup> )	Current per die (mA)	Distance between of dies	Current (mA)
HL-**-2835H***W-2-S1-08*-PCT-HR3-ZW-P6-***	80	2200-6500K	1	2	0.0239	186.574	32.5	0.15	65
HL-**-2835H***W-2-S1-08*-PCT-HR3-ZW-P6-***	80	2200-6500K	1	2	0.022	172.223	30	0.15	60
HL-**-2835H***W-2-S1-08*-PCT-HR3-ZW-P6-***	80	2200-6500K	1	2	0.011	86.111	15	0.15	30
HL-**-2835H***W-2-S1-08*-PCT-HR3(R9)-ZW-P6-***	80	2200-6500K	1	2	0.0511	377.436	75	0.15	150
HL-**-2835H***W-2-S1-08*-PCT-HR3(R9)-ZW-P6-***	80	2200-6500K	1	2	0.0239	186.574	32.5	0.15	65
HL-**-2835H***W-2-S1-08*-PCT-HR3(R9)-ZW-P6-***	80	2200-6500K	1	2	0.022	172.223	30	0.15	60
HL-**-2835H***W-2-S1-08*-PCT-HR3(R9)-ZW-P6-***	80	2200-6500K	1	2	0.011	86.111	15	0.15	30
HL-**-2835H***W-S1-08*-PCT-HR3-ZW-P6-***	80	2200-6500K	1	1	0.0312	373.149	65	/	65
HL-**-2835H***W-S1-08*-PCT-HR3-ZW-P6-***	80	2200-6500K	1	1	0.022	344.445	60	/	60
HL-**-2835H***W-S1-08*-PCT-HR3-ZW-P6-***	80	2200-6500K	1	1	0.011	172.223	30	/	30
HL-**-2835H***W-S1-08*-PCT-HR3(R9)-ZW-P6-***	80	2200-6500K	1	1	0.0312	373.149	65	/	65
HL-**-2835H***W-S1-08*-PCT-HR3(R9)-ZW-P6-***	80	2200-6500K	1	1	0.022	344.445	60	/	60
HL-**-2835H***W-S1-08*-PCT-HR3(R9)-ZW-P6-***	80	2200-6500K	1	1	0.011	172.223	30	/	30
HL-**-2835H***W-3C-S1-08*-PCT-HR3-ZW-P6-***	80	2200-6500K	3	1	0.069	373.149	65	0.15	65
HL-**-2835H***W-3C-S1-08*-PCT-HR3-ZW-P6-***	80	2200-6500K	3	1	0.0637	344.445	60	0.15	60
HL-**-2835H***W-3C-S1-08*-PCT-HR3-ZW-P6-***	80	2200-6500K	3	1	0.0318	373.149	65	0.15	30
HL-**-2835H***W-3C-S1-08*-PCT-HR(R9)-ZW-P6-***	80	2200-6500K	3	1	0.069	373.149	65	0.15	65
HL-**-2835H***W-3C-S1-08*-PCT-HR3(R9)-ZW-P6-***	80	2200-6500K	3	1	0.0637	344.445	60	0.15	60
HL-**-2835H***W-3C-S1-08*-PCT-HR3(R9)-ZW-P6-***	80	2200-6500K	3	1	0.0318	172.223	30	0.15	30
HL-**-2835H***W-2C-S1-08*-PCT-HR3-ZW-P6-***	80	2200-6500K	2	1	0.0464	373.149	65	0.15	65
HL-**-2835H***W-2C-S1-08*-PCT-HR3-ZW-P6-***	80	2200-6500K	2	1	0.0429	344.445	60	0.15	60
HL-**-2835H***W-2C-S1-08*-PCT-HR3-ZW-P6-***	80	2200-6500K	2	1	0.0214	172.223	30	0.15	30
HL-**-2835H***W-2C-S1-08*-PCT-HR3(R9)-ZW-P6-***	80	2200-6500K	2	1	0.0464	373.149	65	0.15	65
HL-**-2835H***W-2C-S1-08*-PCT-HR3(R9)-ZW-P6-***	80	2200-6500K	2	1	0.0429	344.445	60	0.15	60
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HL-**-2835D***W-3-S1-08*-PCT-HR3-T6-ZW-P6-***	80	2200-6500K	1	3	0.1102	381.445	100	0.15	300
HL-**-2835D***W-3-S1-08*-PCT-HR3(R9)-T6-ZW-P6-***	80	2200-6500K	1	3	0.1102	381.445	100	0.15	300
HL-**-2835D***W-3C-S1-08*-PCT-HR3-T6-ZW-P6-***	80	2200-6500K	3	1	0.1061	381.445	100	0.15	100
HL-**-2835D***W-3C-S1-08*-PCT-HR3(R9)-T6-ZW-P6-***	80	2200-6500K	3	1	0.1061	381.445	100	0.15	100
HL-**-2835D***W-2-S1-08*-PCT-HR3-T6-ZW-P6-***	80	2200-6500K	1	2	0.0735	381.445	100	0.15	200

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HL-**-2835D***W-S1-08*-PCT-HR3-T6-ZW-P6-***	80	2200-6500K	1	1	0.0367	381.445	100	/	100
HL-**-2835D***W-S1-08*-PCT-HR3(R9)-T6-ZW-P6-***	80	2200-6500K	1	1	0.0367	381.445	100	/	100
HL-**-2835D***W-S1-08*-PCT-HR3-T6-ZW-P6-***	80	2200-6500K	1	1	0.0239	247.939	65	/	65
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HL-**-2835D***W-S1-08*-PCT-HR3(R9)-T6-ZW-P6-***	80	2200-6500K	1	1	0.022	228.867	60	/	60
HL-**-2835H***W-3-S1-08*-PCT-HR3-T6-ZW-P6-***	80	2200-6500K	1	3	0.0735	378.7	66.7	0.15	200
HL-**-2835H***W-3-S1-08*-PCT-HR3(R9)-T6-ZW-P6-***	80	2200-6500K	1	3	0.0735	378.7	66.7	0.15	200
HL-**-2835H***W-2-S1-08*-PCT-HR3-T6-ZW-P6-***	80	2200-6500K	1	2	0.0551	377.436	75	0.15	150
HL-**-2835H***W-2-S1-08*-PCT-HR3(R9)-T6-ZW-P6-***	80	2200-6500K	1	2	0.0551	377.436	75	0.15	150
HL-**-2835H***W-2-S1-08*-PCT-HR3-T6-ZW-P6-***	80	2200-6500K	1	2	0.0239	186.574	32.5	0.15	65
HL-**-2835H***W-2-S1-08*-PCT-HR3(R9)-T6-ZW-P6-***	80	2200-6500K	1	2	0.0239	186.574	32.5	0.15	65
HL-**-2835H***W-2-S1-08*-PCT-HR3-T6-ZW-P6-***	80	2200-6500K	1	2	0.022	172.223	30	0.15	60
HL-**-2835H***W-2-S1-08*-PCT-HR3(R9)-T6-ZW-P6-***	80	2200-6500K	1	2	0.022	172.223	30	0.15	60
HL-**-2835H***W-2C-S1-08*-PCT-HR3-T6-ZW-P6-***	80	2200-6500K	2	1	0.0464	373.149	65	0.15	65
HL-**-2835H***W-2C-S1-08*-PCT-HR3(R9)-T6-ZW-P6-***	80	2200-6500K	2	1	0.0464	373.149	65	0.15	65
HL-**-2835H***W-2C-S1-08*-PCT-HR3(R9)-T6-ZW-P6-***	80	2200-6500K	2	1	0.0464	373.149	65	0.15	65



**Note:** The model name begins with "HL", such as "HL-\*\*-2835D\*\*\*W-3-S1-08\*-PCT-HR3-ZW-P6-\*\*\*\*", "\*" is described in detail as follows :

1. The first "\*\*\*" is a letter A or AS which stands for the Market demand .
2. The second "\*\*\*\*" is a number from 1 to 999 which stands for the brightness level.
3. The third "\*" is a letter L or None which stands for the bonding wire style.
4. The fourth "\*\*\*\*" is the letter or None, which stands for the customer code.

## 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/AS1 8 7.98 Tf(Qhr None,6 584.2 Tm 0.00156 Tc[I4(1 8 7.98 Tf 0 1 252.ard,6 584.2 Tm 0.00156 Tc[1BT(1 8 7.98 Tfwl)-3ai)-5( not a-4(n)

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).

### 1.8 Sample Set

#### Data Set 1: 55°C, 300mA

Part Number: HL-AS-2835D68W-3-S1-08L-PCT-HR3-ZW-P6

Number of Units: 30

Case Temperature:  $>53^{\circ}\text{C}$

Ambient Temperature:  $>50^{\circ}\text{C}$

Life Test Drive Current: 300mA

Measurement Current: 300mA

#### Data Set 2: 105°C, 300mA

Part Number: HL-AS-2835D68W-3-S1-08L-PCT-HR3-ZW-P6

Number of Units: 30

Case Temperature:  $>103^{\circ}\text{C}$

Ambient Temperature:  $>100^{\circ}\text{C}$

Life Test Drive Current: 300mA

Measurement Current: 300mA



## 2 - Summary of Test Result

Data Set:	Sample Size	Failures Observed:	Test Interval	Test Duration			Reported TM-21 Q <sub>70</sub> Lifetime	Reported TM-21 Q <sub>90</sub> Lifetime
1	30	0	1000hrs	6000hrs	2.277E-06	1.004	>36000 hours	>36000 hours
2	30	0	1000hrs	6000hrs	2.419E-06	1.003	>36000 hours	>36000 hours

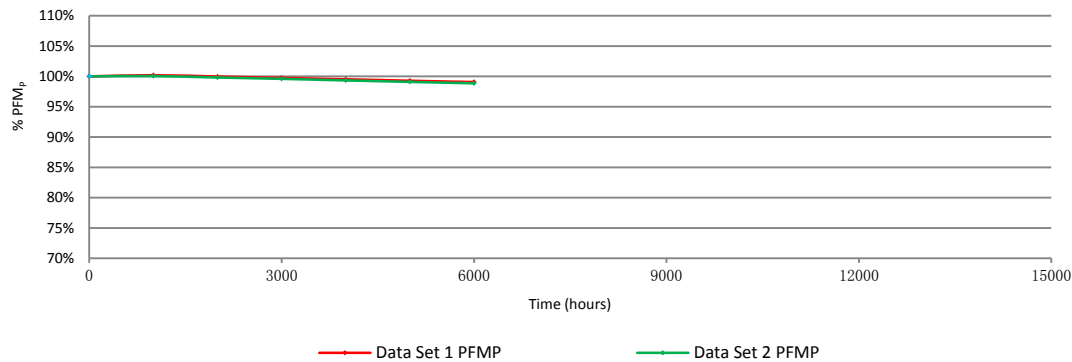
Average Photon Flux Maintenance, Photosynthetic 400-700nm (PFM<sub>p</sub>) (Percentage of Initial)

Data Set:	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs
1	100.19%	99.97%	99.74%	99.52%	99.28%	99.06%
2	100.05%	99.81%	99.59%	99.33%	99.09%	98.85%

Average Wavelength

Data Set:	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs
1	601.7	601.5	601.6	601.7	601.6	601.8
2	601.5	601.5	601.4	601.4	601.7	601.6

Average Photon Flux Maintenance, Photosynthetic 400-700nm (PFM<sub>p</sub>)



### 3 - Test Data

#### 3.1 Data Set 1, 55°C, 300mA (400-700nm Photon Flux Maintenance)

No.	$\Phi_p$ ( $\mu\text{mol} \times \text{s}^{-1}$ )	400-700nm Photon Flux Maintenance (%)					
	0hr(Initial)	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs
1	2.0270	100.15	100.10	99.61	99.51	99.21	98.91
2	2.0150	100.20	99.90	99.65	99.40	99.21	98.96
3	2.0720	100.34	100.05	99.81	99.52	99.37	99.03
4	2.0660	100.19	99.95	99.71	99.42	99.18	99.08
5	2.0800	100.24	100.05	99.81	99.62	99.42	99.23
6	2.0500	100.05	99.90	99.61	99.37	99.12	98.83
7	2.1070	100.19	99.95	99.76	99.48	99.29	99.10
8	2.1060	100.19	99.67	99.76	99.57	99.29	99.05
9	2.0550	100.24	100.05	99.71	99.51	99.27	98.93
10	2.0260	100.25	100.05	99.80	99.56	99.31	99.11
11	2.0710	100.24	99.95	99.71	99.52	99.32	99.08
12	2.0500	100.20	99.95	99.61	99.37	99.02	98.83
13	2.0800	100.19	99.86	99.66	99.62	99.28	99.13
14	2.0680	100.24	100.05	99.71	99.47	99.18	98.89
15	2.1100	100.28	100.14	99.91	99.72	99.62	99.43
16	2.0540	100.10	99.90	99.71	99.46	99.32	99.07
17	2.0360	100.10	100.05	99.75	99.56	99.21	98.97
18	2.0270	100.25	100.05	99.80	99.61	99.31	99.06
19	2.0390	100.20	99.95	99.85	99.61	99.26	99.12
20	2.0660	100.24	99.95	99.81	99.71	99.47	99.23
21	2.0750	100.19	99.90	99.71	99.47	99.28	99.08
22	2.0990	100.14	99.95	99.67	99.43	99.24	99.09
23	2.0580	100.15	99.95	99.76	99.42	99.08	98.79
24	2.0650	100.15	99.95	99.76	99.47	99.18	98.93
25	2.0560	100.15	99.95	99.71	99.42	99.12	98.98
26	2.0410	100.24	100.10	99.90	99.71	99.56	99.31
27	2.0930	100.14	99.86	99.71	99.52	99.33	99.19
28	2.0400	100.20	100.05	99.75	99.51	99.36	99.12
29	2.0820	100.19	100.10	99.86	99.71	99.47	99.33
30	2.0980	100.10	99.90	99.67	99.43	99.09	98.90
Avg.	2.0637	100.19	99.97	99.74	99.52	99.28	99.06
Med.	2.0655	100.19	99.95	99.73	99.51	99.28	99.08
st dev	0.0261	0.06	0.10	0.08	0.10	0.14	0.15
Min.	2.0150	100.05	99.67	99.61	99.37	99.02	98.79
Max.	2.1100	100.34	100.14	99.91	99.72	99.62	99.43



**3.3 Data Set 1, 55°C, 300mA (Wavelength)**

No.	Wavelength (nm)						
	0hr(Initial)	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs
1	602.0	602.1	601.6	601.9	601.9	601.6	602.0
2	602.0	601.8	602.0	602.0	601.9	601.7	601.8
3	601.8	601.5	601.0	601.4	602.2	601.8	601.9
4	600.2	601.7	601.8	601.8	601.8	601.9	601.9
5	602.1	601.8	602.0	601.7	601.0	601.6	601.9
6	602.1	601.9	601.4	601.9	601.8	601.0	601.8
7	602.1	601.9	601.9	601.9	601.2	601.7	601.9
8	601.8	600.9	601.2	601.2	601.1	601.7	602.3
9	602.0	602.5	601.0	601.7	601.6	602.3	602.0
10	602.2	602.0	601.6	598.9	601.0	601.5	600.5
11	602.1	600.5	601.6	602.0	601.9	601.9	602.0
12	601.9	601.9	601.9	601.9	601.6	602.0	601.7
13	601.4	601.7	601.8	601.4	600.9	602.0	601.9
14	601.7	600.9	601.5	600.7	602.0	602.0	601.8
15	602.0	602.3	601.9	601.8	601.2	601.9	601.8
16	600.1	601.3	602.0	601.9	601.6	602.1	601.0
17	601.5	601.6	601.7	601.3	601.8	601.9	601.9
18	601.9	601.7	601.8	602.7	601.8	601.6	601.6
19	601.8	601.9	601.8	601.4	601.9	602.0	602.0
20	602.0	601.7	601.5	602.3	601.9	601.5	601.7
21	602.0	601.9	600.8	601.6	602.0	601.8	601.9
22	601.7	601.7	601.7	602.0	601.7	601.3	601.8
23	602.0	601.7	601.5	601.9	601.2	601.9	601.6
24	601.9	601.8	600.4	600.2	601.8	602.0	601.4
25	601.5	601.5	601.6	601.9	601.8	601.7	601.8
26	602.1	601.8	601.2	602.3	601.6	601.9	601.8
27	601.9	601.5	601.4	601.3	602.0	599.2	601.8
28	601.4	601.4	602.3	601.7	601.7	601.1	601.8
29	602.0	601.2	601.7	602.0	601.7	600.1	602.1
30	602.0	601.9	600.3	602.0	601.9	601.5	601.9
Avg.	601.8	601.7	601.5	601.6	601.7	601.6	601.8
Med.	602.0	601.7	601.6	601.9	601.8	601.8	601.8
st dev	0.4899	0.4088	0.4625	0.7006	0.3481	0.6142	0.3298
Min.	600.1	600.5	600.3	598.9	600.9	599.2	600.5
Max.	602.2	602.5	602.3	602.7	602.2	602.3	602.3

**Bay Area Compliance Laboratories Corp. (Dongguan)**

No.12, Pulong East 1<sup>st</sup> Road, Tangxia Town,  
Dongguan, Guangdong, China.

**3.5 Data Set 2, 105°C, 300mA (Forward Voltage)**

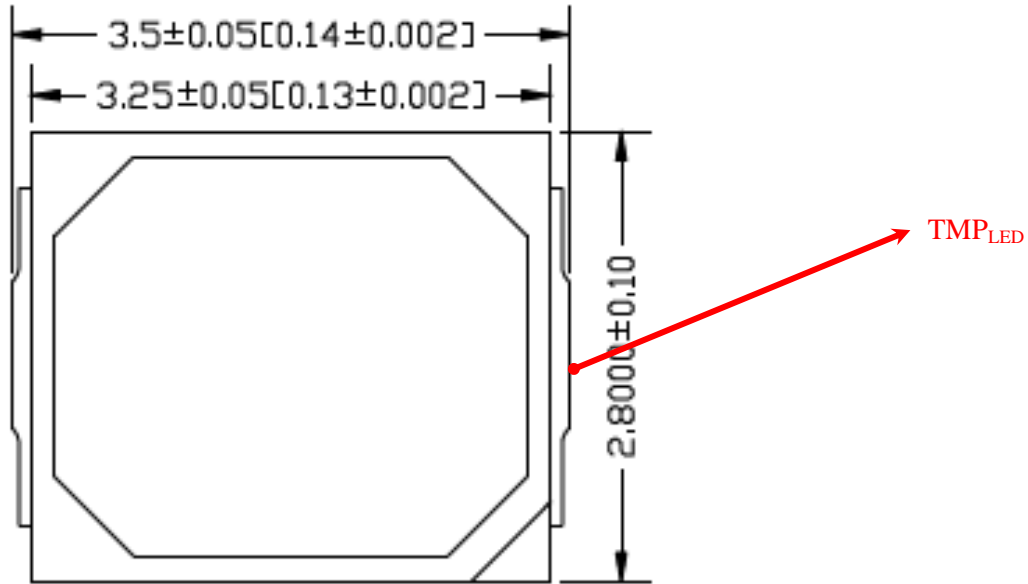
No.	Forward Voltage (V)						
	0hr(Initial)	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs
31	3.158	3.183	3.158	3.140	3.140	3.167	3.158
32	3.157	3.152	3.141	3.147	3.150	3.151	3.152
33	3.160	3.162	3.169	3.155	3.168	3.166	3.166
34	3.180	3.185	3.182	3.181	3.164	3.158	3.169
35	3.151	3.154	3.152	3.165	3.162	3.154	3.163
36	3.147	3.143	3.141	3.167	3.144	3.148	3.141
37	3.150	3.152	3.164	3.162	3.169	3.157	3.158
38	3.170	3.172	3.171	3.179	3.170	3.157	3.151
39	3.157	3.153	3.151	3.152	3.158	3.153	3.157
40	3.157	3.152	3.152	3.159	3.152	3.157	3.154
41	3.149	3.170	3.151	3.141	3.171	3.141	3.153
42	3.160	3.156	3.161	3.154	3.161	3.166	3.152
43	3.166	3.163	3.160	3.143	3.167	3.157	3.151
44	3.167	3.164	3.159	3.155	3.143	3.165	3.140
45	3.170	3.175	3.171	3.162	3.141	3.168	3.151
46	3.151	3.151	3.164	3.153	3.149	3.154	3.156
47	3.179	3.172	3.171	3.142	3.170	3.169	3.150
48	3.153	3.151	3.152	3.158	3.150	3.147	3.165
49	3.158	3.152	3.151	3.153	3.149	3.157	3.151
50	3.166	3.177	3.161	3.164	3.154	3.161	3.152
51	3.165	3.161	3.143	3.140	3.161	3.161	3.160
52	3.172	3.175	3.149	3.141	3.154	3.156	3.153
53	3.151	3.154	3.151	3.168	3.162	3.151	3.152
54	3.150	3.173	3.166	3.150	3.163	3.167	3.152
55	3.160	3.160	3.161	3.161	3.161	3.144	3.156
56	3.175	3.173	3.171	3.179	3.170	3.160	3.150
57	3.174	3.171	3.171	3.152	3.159	3.152	3.155
58	3.168	3.163	3.161	3.169	3.141	3.141	3.151
59	3.154	3.154	3.142	3.158	3.159	3.163	3.153
60	3.171	3.175	3.140	3.170	3.161	3.169	3.163
Avg.	3.1615	3.1633	3.1579	3.1573	3.1574	3.1572	3.1545
Med.	3.1600	3.1625	3.1595	3.1565	3.1600	3.1570	3.1530
st dev	0.0095	0.0111	0.0110	0.0118	0.0097	0.0081	0.0064
Min.	3.1470	3.1430	3.1400	3.1400	3.1400	3.1410	3.1400
Max.	3.1800	3.1850	3.1820	3.1810	3.1710	3.1690	3.1690

**3.6 Data Set 2, 105°C, 300mA (Wavelength)**

No.	Wavelength (nm)						
	0hr(Initial)	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs
31	602.1	601.7	601.9	601.5	601.9	601.9	601.9
32	601.7	600.2	601.0	601.6	600.6	602.2	601.9
33	602.0	599.5	601.3	601.5	601.0	600.8	601.8
34	602.0	602.1	599.8	602.0	602.0	602.0	601.3
35	602.0	601.7	599.5	601.6	601.7	601.6	601.5
36	602.0	602.0	601.6	601.1	602.0	602.3	601.4
37	601.9	601.5	601.9	601.2	602.1	602.3	601.9
38	601.8	601.9	601.8	601.7	601.9	601.5	601.0
39	601.5	601.0	601.8	601.2	601.0	601.3	601.5
40	600.3	601.9	601.9	601.3	601.8	601.7	601.9
41	601.8	600.2	601.7	601.4	601.7	601.9	601.9
42	602.1	601.9	601.8	602.0	601.8	601.7	601.4
43	601.8	602.0	601.7	600.0	601.2	601.8	601.7
44	600.3	601.4	601.8	601.3	600.8	601.1	601.5
45	602.2	602.2	600.4	601.9	600.1	602.0	602.0
46	601.8	601.8	601.7	601.7	599.9	601.7	601.7
47	601.9	601.6	600.4	601.8	601.8	601.8	601.4
48	600.9	601.8	601.7	601.9	601.3	601.8	601.9
49	601.8	602.1	601.3	601.9	601.7	601.6	601.8
50	602.2	601.9	602.0	601.9	601.9	602.0	601.6
51	601.4	601.8	602.0	601.5	601.6	602.4	601.8
52	601.9	601.9	601.7	599.8	602.0	601.6	601.6
53	601.9	600.2	601.6	602.0	600.3	601.9	602.0
54	600.8	601.8	601.8	599.2	601.5	601.3	601.8
55	602.2	600.2	602.2	601.9	601.3	601.3	601.7
56	601.7	602.1	601.9	601.8	601.4	601.0	601.8
57	601.7	601.8	602.1	601.9	601.6	601.7	601.0
58	602.0	601.8	601.9	601.8	601.5	601.4	600.8
59	602.1	601.3	600.7	601.7	601.0	601.3	601.2
60	601.2	602.1	601.2	600.4	601.4	602.2	602.3
Avg.	601.7	601.5	601.5	601.4	601.4	601.7	601.6
Med.	601.9	601.8	601.7	601.7	601.6	601.7	601.7
st dev	0.5133	0.7171	0.6737	0.6944	0.5831	0.3978	0.3377
Min.	600.3	599.5	599.5	599.2	599.9	600.8	600.8
Max.	602.2	602.2	602.2	602.0	602.1	602.4	602.3

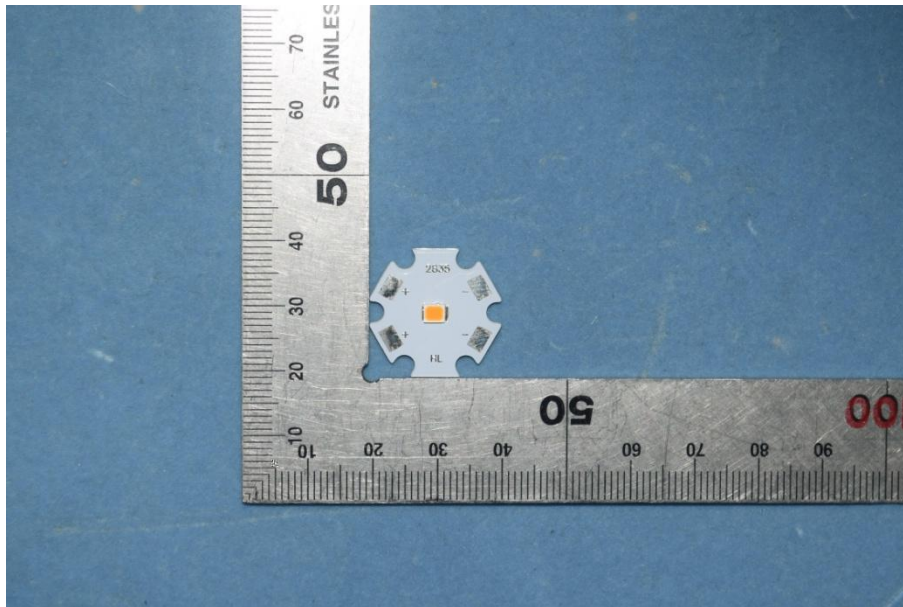
#### 4 - DUT Photo

##### 4.1 Mechanical Dimensions



All dimensions are in millimeter

##### 4.2 DUT Photo







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**Directions**

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