





Test Report

Applicant Company & Address:			
APT ELECTRONICS CO., LTD ADD: NO.33 SOUTH OF HUAN SHI ROAD, NANSHA DISTRICT, GUANGZHOU CITY, GUANGDONG PROVINCE, CHINA 511458			
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Manufacturer Name:	APT Electronics Co., Ltd.
Country of Origin:	China
Country of Export:	N/A
Product Description:	LED
Model Number:	2835 (3V) Series (Model number format: PXX-XXXX-0000-XXXX-X; LL-XGXXXX-XXXXX; PHS-XXH0-0000-RNR1-1)
Electrical Specification:	If=120 mA

Test Laboratory & Address:			
UL Verification Services (Guangzhou) Co., Ltd. ADD: Building A1, 1F & 2F, Nansha Science and Technology Innovation Center, No. 25, South Huanshi Avenue, Nansha District, Guangzhou 511458, China			
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Receipt of Test Samples:	2014-10-22	Test Period:	2014-10-24 ~ 2015-12-21
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Tested By	Approved By
 / Derek Zhang	 / Candy Zhang
Tester Signature / Print Name	Approver Signature / Print Name

The results reported herein have been performed in accordance with the laboratory's terms of accreditation. This report shall not be reproduced except in full without the written approval of the Laboratory. The results in this report apply to the test sample(s) mentioned above at the time of the testing period only and are not to be used to indicate applicability to other similar products. This report does not imply that the product(s) has met the criteria for certification.



Test Report

Statement of Results

Test Flow	Test Method	Sample ID (Lab)	Sample Serial No.	Pass/Fail/NA
1. LED Life Test	IES LM-80-08	S001 ~ S075	N/A	See test result

Deviation from Test Method (if any)

N/A

Remark (if any)

1. The report (#4787036936-1aR01) replaced the original report (4787036936-1a), the original report became invalid immediately. (Add the detail model number format below regulations)

Series Name	Model Number	CCT (K)	Number of Dies	Current (mA)	Volt (v)
2835	PXX-XXXX-0000-XXXX-X (Test model: PHS-XXHO-0000-RNR1-1)	2700/3000/3500/4000/4500/5000/5700/6500	1	120mA	3V
2835	LL-XGXXXX-XXXXX	2700/3000/3500/4000/4500/5000/5700/6500	1	120mA	3V
2835	PHS-XXHO-0000-RNR1-1	2700/3000/3500/4000/4500/5000/5700/6500	1	120mA	3V

Model Number Format:

$\begin{matrix} \text{P} & \text{X} & \text{X-XX} & \text{XX-0000-XX} & \text{XX-} & \text{X} \\ \text{A1} & \text{A2} & \text{A3} & \text{A4} & \text{A5} & \text{A6} & \text{A7} & \text{A8} \end{matrix}$

$\begin{matrix} \text{LL-} & \text{X} & \text{G} & \text{X} & \text{XX} & \text{X-XXXXX} \\ \text{B1} & \text{B2} & \text{B3} & \text{B4} & \text{B5} & \text{B6} & \text{B7} \end{matrix}$

$\begin{matrix} \text{P} & \text{H} & \text{S-XX} & \text{HO-0000-RN} & \text{R1-} & \text{1} \\ \text{A1} & \text{A2} & \text{A3} & \text{A4} & \text{A5} & \text{A6} & \text{A7} & \text{A8} \end{matrix}$

Series Name	Model Number (detail)	Number of Dies	CCT	Volt (v)
2835	PHS-B9HO-0000-VNR1-1	1	2700K	3V
2835	PHS-B9HO-0000-VNR1-2	1	2700K	3V
2835	PHS-B9HO-0000-VNR1-3	1	2700K	3V
2835	PHS-B9HO-0000-VNR1-1	1	2700K	3V
2835	PHS-B9HO-0000-VNR1-2	1	2700K	3V
2835	PHS-B9HO-0000-VNR1-3	1	2700K	3V
2835	PHS-S9HO-0000-VNR1-1	1	3000K	3V
2835	PHS-S9HO-0000-VNR1-2	1	3000K	3V
2835	PHS-S9HO-0000-VNR1-3	1	3000K	3V
2835	PHS-S9HO-0000-VNR1-1	1	3000K	3V
2835	PHS-S9HO-0000-VNR1-2	1	3000K	3V



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2835	FHS-T9HD-0000-VIRI-3	1	3000K	3V
2835	FHS-T9HD-0000-VIRI-1	1	3500K	3V
2835	FHS-T9HD-0000-VIRI-2	1	3500K	3V
2835	FHS-T9HD-0000-VIRI-3	1	3500K	3V
2835	FHS-T9HD-0000-VIRI-1	1	3500K	3V
2835	FHS-T9HD-0000-VIRI-2	1	3500K	3V
2835	FHS-T9HD-0000-VIRI-3	1	3500K	3V
2835	FHS-V9HD-0000-VIRI-1	1	4000K	3V
2835	FHS-V9HD-0000-VIRI-2	1	4000K	3V
2835	FHS-V9HD-0000-VIRI-3	1	4000K	3V
2835	FHS-V9HD-0000-VIRI-1	1	4000K	3V
2835	FHS-V9HD-0000-VIRI-2	1	4000K	3V
2835	FHS-V9HD-0000-VIRI-3	1	4000K	3V
2835	FHS-W9HD-0000-VIRI-1	1	5000K	3V
2835	FHS-W9HD-0000-VIRI-2	1	5000K	3V
2835	FHS-W9HD-0000-VIRI-3	1	5000K	3V
2835	FHS-W9HD-0000-VIRI-1	1	5000K	3V
2835	FHS-W9HD-0000-VIRI-2	1	5000K	3V
2835	FHS-W9HD-0000-VIRI-3	1	5000K	3V
2835	FHS-W9HD-0000-VIRI-4	1	5000K	3V
2835	FHS-W9HD-0000-VIRI-5	1	5000K	3V
2835	FHS-W9HD-0000-VIRI-6	1	5000K	3V
2835	FHS-X9HD-0000-VIRI-1	1	5700K	3V
2835	FHS-X9HD-0000-VIRI-2	1	5700K	3V
2835	FHS-X9HD-0000-VIRI-3	1	5700K	3V
2835	FHS-X9HD-0000-VIRI-1	1	5700K	3V
2835	FHS-X9HD-0000-VIRI-2	1	5700K	3V
2835	FHS-X9HD-0000-VIRI-3	1	5700K	3V
2835	FHS-T9HD-0000-VIRI-1	1	6500K	3V
2835	FHS-T9HD-0000-VIRI-2	1	6500K	3V
2835	FHS-T9HD-0000-VIRI-3	1	6500K	3V
2835	FHS-T9HD-0000-VIRI-1	1	6500K	3V
2835	FHS-T9HD-0000-VIRI-2	1	6500K	3V
2835	FHS-T9HD-0000-VIRI-3	1	6500K	3V



Test Report

Number of LED light sources tested

See individual test reports

Description of LED light sources tested

LED Package, 2700K

Description of auxiliary equipment

1. Everfine 0.5m_LED_R98_V3 Integrating Sphere
2. HAAS 2000 Spectrum Analyzer
3. Keithley 2430 Sourcemeter

Operating cycle

The samples were driven with a constant direct current throughout the life test.

Ambient conditions

LED packages were operating in environmental control chambers. The temperature of the ambient air around the LED packages was actively controlled by air flowing through the chamber.
Ta: See individual test reports
RH: <65%
Air flow: <0.8 m/s

Case and ambient temperatures

See individual test reports

LED light source monitoring interval

See individual reports

Photometric measurement uncertainty

The uncertainty of measuring lumen is $U=1.5\%$ ($K=2$)



Test Report

Observation of LED light source failures including the failure conditions and time of failure

No failure

Test Equipment

Equipment ID	Equipment Name	Last Calibration Date	Calibration Due Date
GVS-LE-PE005	Integrating Sphere	Before Use	Before Use
GVS-LE-FS011	Measurement Standard Lamp	2015-05-22	2016-05-21
GVS-LE-LM006	LED Life Test Chamber	2015-03-17	2016-03-16

Test Result Summary

Test Item	LM-80 Required Temperature		Specified Temperature
	55°C	85°C	105°C
Number of LED tested	25	25	25
Drive current (If)	120 mA	120 mA	120 mA
Actual case temp. (Ts)	54.5°C	84.6°C	104.5°C
Actual ambient temp. (Ta)	54.1°C	83.7°C	103.6°C
$\Delta(TS-TA)$	0.4°C	0.9°C	0.9°C
Actual relative humidity	<65%RH	<65%RH	<65%RH
Average Lumen Maintenance at 9,000 hours	97.0%	96.5%	95.8%
Average Chromaticity Shift ($\Delta u'v'$) at 9,000 hours	0.0016	0.0022	0.0025



Test Report

Test Result

Case temperature:	55°C
CCT:	2700K
Actual case temperature:	54.5°C
Actual ambient temperature:	54.1°C
Drive current:	If=120 mA
Measurement current:	If=120 mA

No.	Φ (lm) Vf (V)		Φ (lm) & maintenance (%)															
	Oh (Initial)		1000h	%	2000h	%	3000h	%	4000h	%	5000h	%	6000h	%	7000h	%	8000h	%
1	49.3	3.081	49.4	100.2%	49.3	100.0%	49.3	100.0%	49.2	99.8%	49.1	99.5%	48.7	98.8%	48.6	98.6%	48.7	98.7%
2	49.5	3.086	48.9	98.8%	49.0	99.0%	48.8	98.7%	49.0	99.1%	48.9	98.9%	48.6	98.3%	48.1	97.2%	48.2	97.3%
3	49.5	3.085	49.5	99.9%	49.2	99.4%	49.1	99.1%	49.0	98.8%	49.1	99.1%	48.4	97.7%	48.4	97.7%	48.3	97.4%
4	49.6	3.076	49.2	99.1%	49.2	99.1%	49.0	98.9%	49.3	99.4%	49.1	99.1%	49.2	99.3%	48.5	97.8%	48.6	98.1%
5	49.3	3.064	49.3	100.0%	48.9	99.2%	48.7	98.7%	49.0	99.5%	48.3	98.1%	48.2	97.8%	48.1	97.5%	48.2	97.7%
6	49.8	3.076	49.3	99.0%	49.1	98.6%	49.2	98.8%	48.5	97.3%	48.6	97.5%	49.3	98.9%	48.8	98.0%	48.4	97.2%
7	49.5	3.069	49.5	100.0%	48.8	98.6%	48.5	98.1%	48.5	98.0%	48.0	97.1%	48.0	97.1%	48.1	97.1%	48.1	97.3%
8	49.4	3.072	49.1	99.2%	49.2	99.5%	49.1	99.3%	48.9	99.0%	48.7	98.6%	48.1	97.3%	47.9	96.9%	47.6	96.3%
9	49.9	3.083	49.3	98.7%	49.2	98.5%	49.0	98.1%	49.1	98.4%	49.2	98.4%	48.7	97.6%	49.3	98.7%	48.6	97.4%
10	49.4	3.079	48.7	98.5%	48.5	98.2%	48.1	97.4%	49.1	99.3%	48.7	98.6%	48.3	97.7%	48.5	98.2%	48.8	98.7%
11	49.7	3.076	49.5	99.6%	48.3	97.3%	48.2	97.1%	48.1	96.9%	47.7	96.0%	48.4	97.5%	47.9	96.4%	47.8	96.3%
12	50.2	3.071	49.8	99.2%	49.6	98.8%	49.6	98.8%	49.4	98.3%	49.4	98.4%	48.9	97.4%	49.1	97.8%	49.0	97.6%
13	49.9	3.074	49.0	98.1%	48.6	97.3%	48.3	96.8%	49.3	98.8%	48.9	98.0%	48.7	97.6%	49.2	98.6%	48.5	97.3%
14	49.9	3.084	49.4	98.0%	49.2	98.6%	48.9	97.9%	48.1	96.3%	49.5	99.1%	48.8	97.8%	49.0	98.2%	48.5	97.2%
15	49.9	3.082	49.2	98.5%	48.8	97.7%	48.3	96.8%	49.2	98.6%	49.1	98.4%	48.7	97.6%	48.5	97.2%	48.3	96.7%
16	49.2	3.073	48.8	99.4%	48.7	99.1%	48.4	98.5%	48.0	97.6%	47.6	96.9%	47.4	96.4%	48.2	98.0%	47.6	96.9%
17	49.8	3.072	49.3	99.0%	49.2	98.9%	48.9	98.3%	49.1	98.7%	49.1	98.6%	48.7	97.9%	48.6	97.6%	48.4	97.3%
18	49.5	3.084	49.1	99.2%	48.8	98.5%	48.4	97.8%	48.8	98.5%	47.9	96.8%	48.1	97.2%	48.2	97.5%	48.2	97.3%
19	49.2	3.072	49.0	99.6%	49.0	99.6%	48.8	99.1%	48.5	98.6%	48.2	97.9%	48.1	97.8%	47.6	96.7%	47.9	97.4%
20	48.7	3.078	48.3	99.2%	48.3	99.2%	48.2	99.0%	47.9	98.4%	47.4	97.3%	47.7	97.9%	47.4	97.3%	47.4	97.3%
21	49.3	3.068	48.8	99.0%	48.6	98.6%	48.6	98.6%	48.9	99.2%	48.3	97.9%	48.4	98.2%	48.2	97.7%	48.2	97.8%
22	49.6	3.073	49.7	100.2%	49.2	99.1%	48.5	97.8%	48.6	97.9%	49.1	99.0%	48.6	98.0%	48.5	97.8%	48.2	97.1%
23	49.4	3.074	49.3	99.8%	49.2	99.6%	49.3	99.9%	48.3	97.8%	49.2	99.6%	48.9	99.0%	48.9	99.1%	48.1	97.4%
24	48.8	3.078	48.8	100.1%	48.7	99.9%	48.6	99.7%	48.1	98.6%	48.2	98.9%	48.2	98.9%	47.8	97.9%	47.5	97.5%
25	48.7	3.068	48.5	99.6%	48.4	99.4%	48.2	98.9%	48.7	99.9%	48.2	99.0%	48.2	98.9%	47.8	98.2%	47.7	97.9%
Average	49.5	3.076	49.1	99.3%	48.9	98.9%	48.7	98.5%	48.7	98.5%	48.6	98.3%	48.5	97.9%	48.4	97.7%	48.2	97.4%
Median	49.5	3.076	49.2	99.2%	49.0	99.0%	48.7	98.7%	48.9	98.6%	48.7	98.4%	48.4	97.8%	48.4	97.8%	48.2	97.3%
σ	0.4	0.006	0.4	0.6%	0.3	0.7%	0.4	0.9%	0.5	0.9%	0.6	0.9%	0.4	0.7%	0.5	0.6%	0.4	0.5%
Max.	50.2	3.086	49.8	100.2%	49.6	100.0%	49.6	100.0%	49.4	99.9%	49.5	99.6%	49.3	99.3%	49.3	99.1%	49.0	98.7%
Min.	48.7	3.064	48.3	98.1%	48.3	97.3%	48.1	96.8%	47.9	96.3%	47.4	96.0%	47.4	96.4%	47.4	96.4%	47.4	96.3%



NVLAP Lab Code: 200952-0

Verification Services

Project No: 4787036936-1

Report No: 4787036936-1aR01

Report Issued Date: 2016-02-24

Test Report

No.	0h (Initial)		1000h		2000h		3000h		4000h		5000h		6000h		7000h		8000h		9000h	
	U	V	U	V	U	V	U	V	U	V	U	V	U	V	U	V	U	V	U	V
1	0.2550	0.5220	0.2547	0.5217	0.2541	0.5216	0.2547	0.5218	0.2542	0.5199	0.2547	0.5203	0.2544	0.5203	0.2543	0.5202	0.2542	0.5203	0.2540	0.5201
2	0.2554	0.5207	0.2548	0.5205	0.2539	0.5201	0.2541	0.5202	0.2541	0.5198	0.2546	0.5202	0.2541	0.5203	0.2539	0.5201	0.2540	0.5202	0.2542	0.5202
3	0.2566	0.5223	0.2560	0.5221	0.2553	0.5219	0.2558	0.5221	0.2555	0.5219	0.2557	0.5220	0.2555	0.5221	0.2553	0.5220	0.2555	0.5223	0.2551	0.5225
4	0.2571	0.5221	0.2562	0.5218	0.2556	0.5216	0.2557	0.5217	0.2556	0.5214	0.2558	0.5216	0.2557	0.5218	0.2555	0.5216	0.2557	0.5219	0.2555	0.5214
5	0.2562	0.5209	0.2558	0.5209	0.2546	0.5203	0.2552	0.5205	0.2548	0.5202	0.2549	0.5202	0.2549	0.5204	0.2545	0.5203	0.2547	0.5204	0.2542	0.5205
6	0.2544	0.5205	0.2539	0.5206	0.2533	0.5203	0.2535	0.5203	0.2532	0.5201	0.2535	0.5202	0.2534	0.5203	0.2531	0.5200	0.2534	0.5203	0.2539	0.5203
7	0.2560	0.5206	0.2553	0.5204	0.2543	0.5201	0.2544	0.5200	0.2540	0.5197	0.2542	0.5198	0.2541	0.5199	0.2538	0.5197	0.2540	0.5200	0.2538	0.5193
8	0.2566	0.5218	0.2556	0.5214	0.2544	0.5209	0.2554	0.5213	0.2553	0.5211	0.2553	0.5211	0.2550	0.5212	0.2548	0.5212	0.2550	0.5214	0.2543	0.5211
9	0.2551	0.5198	0.2543	0.5196	0.2534	0.5191	0.2560	0.5227	0.2539	0.5192	0.2540	0.5193	0.2540	0.5194	0.2538	0.5194	0.2539	0.5195	0.2539	0.5193
10	0.2562	0.5216	0.2556	0.5214	0.2547	0.5210	0.2549	0.5197	0.2552	0.5210	0.2551	0.5211	0.2553	0.5214	0.2547	0.5210	0.2551	0.5212	0.2547	0.5213
11	0.2563	0.5203	0.2554	0.5200	0.2540	0.5193	0.2548	0.5198	0.2552	0.5197	0.2550	0.5196	0.2550	0.5199	0.2546	0.5197	0.2552	0.5200	0.2550	0.5201
12	0.2560	0.5230	0.2552	0.5227	0.2537	0.5221	0.2543	0.5223	0.2548	0.5224	0.2549	0.5226	0.2549	0.5226	0.2546	0.5224	0.2549	0.5228	0.2549	0.5224
13	0.2550	0.5202	0.2544	0.5200	0.2522	0.5188	0.2540	0.5197	0.2541	0.5196	0.2541	0.5196	0.2539	0.5197	0.2536	0.5194	0.2538	0.5197	0.2536	0.5196
14	0.2563	0.5209	0.2559	0.5209	0.2530	0.5196	0.2545	0.5201	0.2546	0.5200	0.2546	0.5201	0.2547	0.5203	0.2543	0.5201	0.2546	0.5203	0.2544	0.5201
15	0.2555	0.5202	0.2546	0.5198	0.2522	0.5189	0.2541	0.5197	0.2542	0.5195	0.2543	0.5197	0.2543	0.5200	0.2540	0.5197	0.2543	0.5200	0.2543	0.5197
16	0.2562	0.5198	0.2560	0.5198	0.2545	0.5192	0.2540	0.5188	0.2545	0.5189	0.2547	0.5191	0.2544	0.5191	0.2543	0.5190	0.2546	0.5192	0.2545	0.5192
17	0.2553	0.5214	0.2555	0.5216	0.2533	0.5206	0.2538	0.5209	0.2542	0.5209	0.2544	0.5210	0.2545	0.5212	0.2542	0.5211	0.2544	0.5213	0.2544	0.5211
18	0.2562	0.5199	0.2554	0.5196	0.2544	0.5193	0.2550	0.5195	0.2551	0.5193	0.2552	0.5196	0.2551	0.5196	0.2547	0.5194	0.2550	0.5196	0.2550	0.5192
19	0.2571	0.5226	0.2568	0.5226	0.2557	0.5223	0.2563	0.5225	0.2558	0.5220	0.2560	0.5221	0.2559	0.5223	0.2558	0.5220	0.2560	0.5224	0.2554	0.5221
20	0.2549	0.5199	0.2541	0.5195	0.2537	0.5195	0.2539	0.5195	0.2538	0.5192	0.2538	0.5194	0.2537	0.5195	0.2536	0.5194	0.2538	0.5196	0.2533	0.5192
21	0.2560	0.5224	0.2553	0.5221	0.2536	0.5214	0.2545	0.5218	0.2548	0.5217	0.2548	0.5218	0.2548	0.5220	0.2546	0.5217	0.2548	0.5218	0.2547	0.5220
22	0.2555	0.5216	0.2547	0.5212	0.2535	0.5208	0.2539	0.5208	0.2541	0.5208	0.2539	0.5208	0.2542	0.5210	0.2538	0.5207	0.2540	0.5209	0.2536	0.5203
23	0.2553	0.5179	0.2544	0.5176	0.2541	0.5176	0.2543	0.5175	0.2542	0.5173	0.2541	0.5173	0.2540	0.5174	0.2538	0.5171	0.2540	0.5174	0.2541	0.5171
24	0.2572	0.5211	0.2563	0.5204	0.2539	0.5193	0.2552	0.5197	0.2553	0.5196	0.2552	0.5197	0.2553	0.5200	0.2551	0.5198	0.2553	0.5200	0.2547	0.5202
25	0.2551	0.5214	0.2554	0.5214	0.2539	0.5210	0.2542	0.5209	0.2543	0.5208	0.2543	0.5209	0.2542	0.5210	0.2541	0.5209	0.2542	0.5210	0.2540	0.5212
Average	0.2559	0.5210	0.2553	0.5208	0.2540	0.5203	0.2547	0.5206	0.2546	0.5202	0.2547	0.5204	0.2546	0.5205	0.2544	0.5203	0.2546	0.5205	0.2544	0.5204
Median	0.2560	0.5209	0.2554	0.5209	0.2539	0.5203	0.2545	0.5203	0.2545	0.5200	0.2547	0.5202	0.2545	0.5203	0.2543	0.5201	0.2546	0.5203	0.2543	0.5202
σ	0.0008	0.0011	0.0007	0.0012	0.0009	0.0012	0.0008	0.0013	0.0007	0.0012	0.0006	0.0012	0.0006	0.0012	0.0006	0.0012	0.0007	0.0012	0.0006	0.0012
Max.	0.2572	0.5230	0.2568	0.5227	0.2557	0.5223	0.2563	0.5227	0.2558	0.5224	0.2560	0.5226	0.2559	0.5226	0.2558	0.5224	0.2560	0.5228	0.2555	0.5225
Min.	0.2544	0.5179	0.2539	0.5176	0.2522	0.5176	0.2535	0.5175	0.2532	0.5173	0.2535	0.5173	0.2534	0.5174	0.2531	0.5171	0.2534	0.5174	0.2533	0.5171

No.	CCT 0h		CCT 1000h		CCT 2000h		CCT 3000h		CCT 4000h		CCT 5000h		CCT 6000h		CCT 7000h		CCT 8000h		CCT 9000h	
	ΔU/V	ΔV/V	ΔU/V	ΔV/V	ΔU/V	ΔV/V	ΔU/V	ΔV/V	ΔU/V	ΔV/V	ΔU/V	ΔV/V	ΔU/V	ΔV/V	ΔU/V	ΔV/V	ΔU/V	ΔV/V	ΔU/V	ΔV/V
1	2889	0.0004	2898	0.0010	2913	0.0004	2898	0.0022	2920	0.0017	2926	0.0018	2913	0.0019	2915	0.0019	2918	0.0021	2930	
2	2887	0.0006	2904	0.0016	2927	0.0014	2921	0.0016	2923	0.0009	2930	0.0014	2920	0.0016	2926	0.0015	2924	0.0013	2916	
3	2851	0.0006	2867	0.0014	2884	0.0008	2870	0.0012	2879	0.0009	2875	0.0011	2878	0.0013	2884	0.0011	2876	0.0015	2882	
4	2842	0.0009	2863	0.0016	2878	0.0015	2874	0.0017	2878	0.0014	2873	0.0014	2874	0.0017	2879	0.0014	2873	0.0017	2879	
5	2868	0.0004	2878	0.0017	2909	0.0011	2893	0.0016	2906	0.0015	2902	0.0014	2902	0.0018	2911	0.0016	2906	0.0020	2916	
6	2912	0.0005	2923	0.0011	2939	0.0009	2936	0.0013	2944	0.0009	2947	0.0010	2937	0.0014	2946	0.0010	2937	0.0005	2938	
7	2875	0.0007	2892	0.0018	2918	0.0017	2916	0.0022	2926	0.0020	2922	0.0020	2924	0.0024	2930	0.0021	2924	0.0026	2929	
8	2855	0.0011	2879	0.0024	2909	0.0013	2884	0.0015	2887	0.0015	2895	0.0017	2893	0.0019	2899	0.0016	2893	0.0024	2897	
9	2900	0.0008	2919	0.0018	2944	0.0030	2862	0.0013	2932	0.0012	2938	0.0012	2929	0.0014	2933	0.0012	2929	0.0013	2939	
10	2866	0.0006	2880	0.0016	2903	0.0023	2906	0.0012	2892	0.0012	2892	0.0009	2887	0.0016	2902	0.0012	2893	0.0015	2893	
11	2870	0.0009	2892	0.0025	2930	0.0016	2906	0.0013	2899	0.0015	2902	0.0014	2902	0.0018	2912	0.0011	2897	0.0013	2910	
12	2861	0.0009	2882	0.0025	2920	0.0018	2906	0.0013	2892	0.0012	2888	0.0012	2890	0.0015	2898	0.0011	2888	0.0013	2889	
13	2899	0.0006	2915	0.0031	2975	0.0011	2927	0.0011	2924	0.0011	2925	0.0012	2928	0.0016	2937	0.0013	2932	0.0015	2936	
14	2866	0.0004	2874	0.0035	2950	0.0020	2913	0.0019	2911	0.0019	2919	0.0017	2907	0.0022	2918	0.0018	2909	0.0021	2912	
15	2888	0.0010	2911	0.0035	2975	0.0015	2923	0.0015	2923	0.0013	2931	0.0012	2917	0.0016	2928	0.0012	2919	0.0013	2919	
16	2873	0.0002	2880	0.0018	2917	0.0024	2931	0.0019	2920	0.0017	2914	0.0019	2920	0.0021	2924	0.0017	2915	0.0018	2928	
17	2887	0.0003	2881	0.0022	2939	0.0016	2926	0.0012	2915	0.0010	2920	0.0008	2905	0.0011	2915	0.0009	2908	0.0009	2906	
18	2873	0.0009	2894	0.0019	2920	0.0013	2903	0.0013	2902	0.0010	2914	0.0011	2902	0.0016	2912	0.0012	2904	0.0014	2912	
19	2838	0.0003	2845	0.0014	2872	0.0008	2856	0.0014	2872	0.0012	2867	0.0012	2868	0.0014	2872	0.0011	28			



Test Report

Case temperature:		85°C																				
CCT:		2700K																				
Actual case temperature:		84.6°C																				
Actual ambient temperature:		83.7°C																				
Drive current:		If=120 mA																				
Measurement current:		If=120 mA																				
No.	Φ (lm)		Vf (V)		Φ (lm) & maintenance (%)																	
	Oh (Initial)		1000h	%	2000h	%	3000h	%	4000h	%	5000h	%	6000h	%	7000h	%	8000h	%	9000h	%		
26	49.1	3.074	48.9	99.8%	48.8	99.5%	48.5	99.0%	47.3	96.5%	47.4	96.6%	47.3	96.4%	47.1	96.1%	47.3	96.4%	47.2	96.1%		
27	50.1	3.093	50.0	99.8%	49.8	99.4%	49.7	99.2%	49.0	97.9%	48.8	97.4%	49.1	98.0%	49.4	98.6%	48.9	97.5%	48.6	97.0%		
28	49.0	3.068	48.5	98.9%	48.3	98.6%	48.1	98.1%	48.3	98.5%	48.2	98.4%	47.6	97.2%	47.3	96.6%	48.0	97.8%	47.6	97.2%		
29	49.5	3.078	49.3	99.6%	49.1	99.2%	48.9	98.8%	48.7	98.4%	48.2	97.4%	48.2	97.4%	48.0	96.9%	47.8	96.6%	47.6	96.2%		
30	49.6	3.083	49.5	99.7%	49.2	99.1%	48.4	97.5%	49.0	98.7%	49.2	99.1%	48.9	98.6%	49.1	98.9%	48.5	97.6%	48.1	97.0%		
31	49.3	3.075	48.8	99.1%	48.8	99.1%	48.7	98.8%	48.3	98.1%	48.0	97.5%	48.0	97.3%	47.7	96.7%	47.6	96.7%	47.4	96.1%		
32	50.0	3.089	49.2	98.4%	49.1	98.2%	48.8	97.6%	48.9	97.9%	48.3	96.5%	48.1	96.1%	48.9	97.8%	48.5	97.0%	48.3	96.6%		
33	49.4	3.062	48.6	98.5%	48.2	97.6%	48.0	97.2%	47.6	96.4%	47.5	96.3%	47.2	95.5%	47.4	95.9%	47.7	96.6%	47.4	96.0%		
34	49.1	3.077	48.5	98.8%	47.7	97.1%	47.5	96.7%	48.1	98.0%	48.3	98.4%	47.9	97.6%	47.9	97.6%	47.5	96.7%	47.2	96.1%		
35	49.6	3.066	48.8	98.4%	48.6	98.0%	48.3	97.5%	48.6	98.0%	48.1	97.1%	47.6	96.0%	47.1	95.1%	47.6	95.9%	47.4	95.7%		
36	47.1	3.080	47.1	100.0%	46.9	99.7%	46.6	99.0%	46.5	98.7%	46.2	98.2%	45.8	97.4%	45.1	95.8%	45.2	96.1%	45.0	95.6%		
37	49.6	3.088	50.0	100.7%	49.9	100.4%	49.6	99.9%	49.1	98.9%	48.8	98.2%	48.5	97.8%	47.8	96.3%	47.5	95.7%	47.4	95.5%		
38	49.8	3.083	49.4	99.1%	49.1	98.6%	48.9	98.2%	48.9	98.1%	48.3	97.0%	49.4	99.1%	49.0	98.4%	48.8	97.9%	48.4	97.2%		
39	49.7	3.075	49.2	99.0%	49.2	99.0%	48.8	98.1%	48.6	97.8%	48.5	97.6%	48.4	97.2%	47.5	95.6%	47.0	94.6%	47.8	96.0%		
40	48.8	3.089	48.6	99.6%	48.3	99.0%	48.1	98.6%	47.3	96.8%	47.8	97.9%	48.3	98.9%	48.3	99.0%	48.2	98.8%	48.0	98.4%		
41	49.5	3.076	48.4	97.8%	48.1	97.2%	48.0	97.0%	48.1	97.2%	48.2	97.3%	48.0	97.0%	47.8	96.6%	48.4	97.7%	47.9	96.8%		
42	49.8	3.084	48.5	97.4%	48.2	96.8%	48.0	96.4%	48.7	97.7%	48.2	96.8%	49.0	98.3%	48.3	97.0%	48.0	96.3%	48.0	96.4%		
43	48.8	3.083	48.8	100.0%	48.4	99.1%	48.4	99.1%	47.8	97.9%	47.6	97.5%	47.6	97.5%	47.8	97.8%	47.5	97.3%	47.1	96.4%		
44	48.8	3.074	49.5	101.4%	49.1	100.5%	48.8	100.0%	48.8	100.0%	48.4	99.0%	48.0	98.4%	47.7	97.7%	47.6	97.5%	47.3	96.8%		
45	49.1	3.080	48.8	99.5%	48.6	99.1%	48.4	98.6%	46.8	95.4%	46.9	95.6%	47.8	97.4%	47.7	97.1%	47.6	97.0%	47.2	96.2%		
46	49.3	3.086	48.5	98.3%	48.3	97.9%	48.1	97.5%	48.8	98.9%	48.0	97.3%	48.1	97.5%	47.9	97.2%	47.6	96.6%	47.7	96.7%		
47	49.4	3.075	48.6	98.5%	48.1	97.3%	48.2	97.6%	47.1	95.4%	47.2	95.6%	48.3	97.8%	48.0	97.2%	48.1	97.3%	47.9	96.9%		
48	49.5	3.083	48.3	97.5%	48.0	97.0%	48.0	96.9%	48.2	97.4%	48.2	97.2%	48.5	98.0%	47.9	96.8%	48.1	97.0%	47.6	96.0%		
49	48.8	3.075	48.4	99.2%	48.2	98.7%	48.0	98.3%	48.3	98.9%	48.2	98.7%	48.2	98.7%	47.5	97.3%	47.1	96.5%	47.3	97.0%		
50	49.6	3.068	49.2	99.2%	49.1	99.1%	48.8	98.4%	48.7	98.2%	47.9	96.6%	48.1	97.0%	48.4	97.7%	48.1	97.0%	47.8	96.4%		
Average	49.3	3.079	48.9	99.1%	48.6	98.6%	48.4	98.2%	48.2	97.8%	48.0	97.4%	48.1	97.5%	47.9	97.1%	47.8	96.9%	47.6	96.5%		
Median	49.4	3.078	48.8	99.1%	48.6	99.0%	48.4	98.2%	48.3	98.0%	48.2	97.4%	48.1	97.5%	47.8	97.1%	47.7	97.0%	47.6	96.4%		
σ	0.6	0.008	0.6	0.9%	0.7	1.0%	0.6	1.0%	0.7	1.1%	0.6	0.9%	0.7	0.9%	0.8	1.0%	0.7	0.8%	0.7	0.6%		
Max.	50.1	3.093	50.0	101.4%	49.9	100.5%	49.7	100.0%	49.1	100.0%	49.2	99.1%	49.4	99.1%	49.4	99.0%	48.9	98.8%	48.6	98.4%		
Min.	47.1	3.062	47.1	97.4%	46.9	96.8%	46.6	96.4%	46.5	95.4%	46.2	95.6%	45.8	95.5%	45.1	95.1%	45.2	94.6%	45.0	95.5%		



Test Report

No.	u	v	u	v	u	v	u	v	u	v	u	v	u	v	u	v	u	v
	0h (Initial)	1000h	2000h	3000h	4000h	5000h	6000h	7000h	8000h	9000h								
26	0.2552	0.5196	0.2547	0.5194	0.2539	0.5192	0.2539	0.5191	0.2535	0.5187	0.2535	0.5190	0.2538	0.5193	0.2535	0.5190	0.2536	0.5195
27	0.2548	0.5218	0.2541	0.5213	0.2531	0.5210	0.2536	0.5211	0.2535	0.5209	0.2535	0.5212	0.2535	0.5216	0.2532	0.5214	0.2531	0.5218
28	0.2547	0.5192	0.2539	0.5189	0.2528	0.5184	0.2534	0.5186	0.2538	0.5186	0.2538	0.5189	0.2536	0.5190	0.2534	0.5187	0.2532	0.5189
29	0.2574	0.5231	0.2567	0.5228	0.2558	0.5225	0.2559	0.5233	0.2561	0.5224	0.2562	0.5226	0.2562	0.5229	0.2558	0.5225	0.2556	0.5229
30	0.2559	0.5207	0.2548	0.5201	0.2537	0.5197	0.2541	0.5209	0.2545	0.5199	0.2550	0.5204	0.2547	0.5204	0.2546	0.5202	0.2546	0.5206
31	0.2556	0.5217	0.2545	0.5212	0.2533	0.5207	0.2537	0.5203	0.2539	0.5208	0.2542	0.5212	0.2542	0.5216	0.2540	0.5214	0.2541	0.5218
32	0.2551	0.5210	0.2542	0.5207	0.2531	0.5201	0.2539	0.5205	0.2535	0.5202	0.2537	0.5205	0.2536	0.5207	0.2532	0.5204	0.2534	0.5208
33	0.2556	0.5213	0.2547	0.5209	0.2529	0.5202	0.2533	0.5189	0.2540	0.5205	0.2540	0.5208	0.2538	0.5209	0.2536	0.5206	0.2536	0.5211
34	0.2551	0.5200	0.2541	0.5194	0.2518	0.5184	0.2539	0.5205	0.2532	0.5188	0.2533	0.5191	0.2532	0.5192	0.2530	0.5188	0.2528	0.5191
35	0.2552	0.5210	0.2543	0.5205	0.2516	0.5194	0.2522	0.5195	0.2536	0.5201	0.2536	0.5204	0.2535	0.5205	0.2535	0.5205	0.2532	0.5207
36	0.2598	0.5276	0.2591	0.5270	0.2568	0.5262	0.2575	0.5268	0.2581	0.5264	0.2582	0.5265	0.2580	0.5266	0.2578	0.5265	0.2579	0.5267
37	0.2552	0.5212	0.2551	0.5210	0.2539	0.5206	0.2549	0.5224	0.2553	0.5226	0.2546	0.5220	0.2544	0.5223	0.2540	0.5237	0.2542	0.5235
38	0.2567	0.5231	0.2555	0.5227	0.2541	0.5220	0.2536	0.5200	0.2549	0.5223	0.2549	0.5225	0.2547	0.5227	0.2545	0.5225	0.2547	0.5230
39	0.2551	0.5200	0.2543	0.5194	0.2533	0.5192	0.2539	0.5193	0.2537	0.5191	0.2539	0.5192	0.2535	0.5193	0.2535	0.5191	0.2534	0.5193
40	0.2569	0.5194	0.2564	0.5191	0.2555	0.5189	0.2558	0.5189	0.2569	0.5228	0.2558	0.5188	0.2556	0.5191	0.2553	0.5188	0.2554	0.5191
41	0.2559	0.5209	0.2545	0.5204	0.2535	0.5200	0.2540	0.5200	0.2552	0.5218	0.2543	0.5203	0.2542	0.5208	0.2541	0.5205	0.2541	0.5210
42	0.2560	0.5206	0.2557	0.5205	0.2547	0.5202	0.2551	0.5201	0.2540	0.5200	0.2550	0.5203	0.2549	0.5204	0.2547	0.5203	0.2546	0.5208
43	0.2554	0.5180	0.2544	0.5176	0.2534	0.5172	0.2537	0.5171	0.2535	0.5169	0.2541	0.5174	0.2539	0.5177	0.2537	0.5174	0.2538	0.5178
44	0.2558	0.5230	0.2553	0.5228	0.2537	0.5221	0.2545	0.5224	0.2549	0.5224	0.2550	0.5227	0.2548	0.5228	0.2545	0.5225	0.2547	0.5230
45	0.2559	0.5211	0.2550	0.5207	0.2537	0.5203	0.2541	0.5203	0.2534	0.5199	0.2539	0.5202	0.2540	0.5207	0.2537	0.5204	0.2538	0.5208
46	0.2561	0.5215	0.2553	0.5210	0.2547	0.5208	0.2552	0.5190	0.2549	0.5206	0.2549	0.5208	0.2546	0.5210	0.2544	0.5208	0.2548	0.5213
47	0.2587	0.5236	0.2579	0.5233	0.2568	0.5230	0.2572	0.5229	0.2568	0.5227	0.2568	0.5229	0.2563	0.5230	0.2558	0.5229	0.2547	0.5223
48	0.2568	0.5225	0.2550	0.5218	0.2538	0.5213	0.2547	0.5215	0.2551	0.5216	0.2504	0.5220	0.2549	0.5221	0.2545	0.5219	0.2548	0.5222
49	0.2552	0.5190	0.2541	0.5184	0.2528	0.5178	0.2535	0.5180	0.2535	0.5179	0.2537	0.5181	0.2535	0.5185	0.2533	0.5182	0.2536	0.5184
50	0.2548	0.5210	0.2530	0.5201	0.2515	0.5194	0.2527	0.5199	0.2529	0.5198	0.2524	0.5199	0.2524	0.5201	0.2525	0.5200	0.2526	0.5204
Average	0.2560	0.5213	0.2551	0.5208	0.2538	0.5203	0.2543	0.5205	0.2545	0.5207	0.2543	0.5207	0.2544	0.5209	0.2542	0.5208	0.2542	0.5211
Median	0.2556	0.5210	0.2547	0.5207	0.2537	0.5202	0.2539	0.5201	0.2540	0.5205	0.2541	0.5204	0.2542	0.5207	0.2540	0.5205	0.2541	0.5208
σ	0.0012	0.0019	0.0013	0.0019	0.0014	0.0019	0.0012	0.0020	0.0013	0.0020	0.0015	0.0019	0.0012	0.0019	0.0011	0.0020	0.0011	0.0019
Max.	0.2598	0.5276	0.2591	0.5270	0.2568	0.5262	0.2575	0.5268	0.2581	0.5264	0.2582	0.5265	0.2580	0.5266	0.2578	0.5265	0.2579	0.5267
Min.	0.2547	0.5180	0.2530	0.5176	0.2515	0.5172	0.2522	0.5171	0.2529	0.5169	0.2504	0.5174	0.2524	0.5177	0.2525	0.5174	0.2526	0.5178

No.	CCT	ΔuV	CCT	ΔuV	CCT	ΔuV	CCT	ΔuV	CCT	ΔuV	CCT	ΔuV	CCT	ΔuV	CCT	ΔuV	CCT
	0h	1000h	2000h	3000h	4000h	5000h	6000h	7000h	8000h	9000h							
26	2899	0.0005	2911	0.0014	2933	0.0014	2932	0.0019	2945	0.0018	2957	0.0014	2935	0.0018	2943	0.0016	2937
27	2897	0.0009	2915	0.0019	2941	0.0014	2927	0.0016	2932	0.0014	2931	0.0013	2928	0.0016	2937	0.0017	2936
28	2912	0.0009	2934	0.0021	2963	0.0014	2947	0.0011	2938	0.0009	2937	0.0011	2940	0.0014	2948	0.0015	2952
29	2829	0.0008	2846	0.0017	2869	0.0015	2901	0.0015	2863	0.0013	2860	0.0012	2858	0.0017	2868	0.0018	2872
30	2876	0.0013	2905	0.0024	2935	0.0018	2917	0.0016	2913	0.0009	2900	0.0012	2906	0.0014	2910	0.0013	2908
31	2879	0.0012	2906	0.0025	2937	0.0024	2930	0.0019	2922	0.0015	2931	0.0014	2911	0.0016	2916	0.0015	2912
32	2893	0.0009	2915	0.0022	2946	0.0013	2926	0.0018	2935	0.0015	2929	0.0015	2929	0.002	2941	0.0017	2934
33	2879	0.0010	2903	0.0029	2950	0.0033	2949	0.0018	2922	0.0017	2921	0.0018	2923	0.0021	2931	0.0020	2927
34	2899	0.0012	2925	0.0037	2988	0.0013	2926	0.0022	2952	0.0020	2946	0.0021	2950	0.0024	2957	0.0025	2959
35	2891	0.0010	2915	0.0039	2988	0.0034	2795	0.0018	2935	0.0017	2932	0.0018	2935	0.0018	2935	0.0020	2941
36	2757	0.0009	2774	0.0033	2827	0.0024	2909	0.0021	2798	0.0019	2794	0.0021	2799	0.0023	2804	0.0021	2801
37	2890	0.0002	2894	0.0014	2925	0.0012	2890	0.0014	2909	0.0011	2916	0.0014	2920	0.0028	2924	0.0025	2918
38	2845	0.0013	2876	0.0028	2912	0.0044	2935	0.0020	2892	0.0019	2890	0.0020	2893	0.0023	2900	0.0020	2892
39	2898	0.0010	2922	0.0020	2946	0.0014	2931	0.0017	2937	0.0014	2932	0.0017	2940	0.0018	2943	0.0018	2944
40	2860	0.0006	2874	0.0015	2894	0.0012	2887	0.0034	2843	0.0013	2889	0.0013	2892	0.0017	2900	0.0015	2897
41	2875	0.0015	2911	0.0026	2937	0.0021	2926	0.0011	2888	0.0017	2917	0.0017	2916	0.0018	2920	0.0018	2916
42	2875	0.0003	2882	0.0014	2906	0.0010	2898	0.0021	2924	0.0010	2930	0.0011	2902	0.0013	2908	0.0014	2907
43	2903	0.0011	2928	0.0022	2955	0.0019	2949	0.0022	2954	0.0014	2938	0.0015	2940	0.0018	2949	0.0016	2942
44	2865	0.0005	2880	0.0023	2920	0.0014	2900	0.0011	2890	0.0009	2886	0.0010	2891	0.0014	2899	0.0011	2892
45	2874	0.0010	2898	0.0023	2929	0.0020	2920	0.0028	2939	0.0022	2926	0.0019	2920	0.0023	2930	0.0021	2925
46	2867	0.0009	2888	0.0016	2904	0.0027	2903	0.0015	2901	0.0014	2898	0.0016	2904	0.0018	2910	0.0013	2899
47	2797	0.0009	2817	0.0020	2844	0.0017	2835	0.0021	2844	0.0020	2844	0.0025	2854	0.003	2867	0.0042	2894
48	2845	0.0019	2890	0.0032	2922	0.0023	2901	0.0019	2889	0.0064	3001	0.0019	2891	0.0024	2902	0.0020	2894
49	2903	0.0013	2932	0.0027	2967	0.0020	2948	0.0020	2949	0.0017	2944	0.0018	2946	0.0021	2952	0.0017	2944
50	2900	0.0020	2948	0.0037	2990	0.0024	2956	0.0022									



Test Report

Case temperature:	105°C
CCT:	2700K
Actual case temperature:	104.5°C
Actual ambient temperature:	103.6°C
Drive current:	If=120 mA
Measurement current:	If=120 mA

No.	Φ (lm)		Vf (V)		Φ (lm) & maintenance (%)															
	Oh (lm@a)		1000h	%	2000h	%	3000h	%	4000h	%	5000h	%	6000h	%	7000h	%	8000h	%	9000h	%
51	48.7	3.076	48.3	99.2%	47.8	98.2%	47.7	98.0%	47.8	98.3%	47.2	97.0%	46.8	96.2%	46.7	96.0%	47.0	96.5%	46.2	94.8%
52	48.8	3.081	48.2	98.7%	48.1	98.5%	48.0	98.3%	48.3	99.0%	48.4	99.2%	47.7	97.7%	47.6	97.5%	47.9	98.1%	47.6	97.4%
53	49.5	3.079	49.4	99.8%	48.8	98.6%	48.5	98.0%	48.5	98.1%	48.3	97.6%	47.6	96.1%	48.3	97.7%	48.0	96.9%	47.6	96.2%
54	50.1	3.068	49.5	99.0%	49.1	98.1%	48.7	97.3%	48.8	97.4%	48.4	96.6%	48.9	97.7%	48.2	96.2%	48.2	96.3%	48.1	96.0%
55	49.3	3.090	48.9	99.1%	48.5	98.3%	48.6	98.4%	47.8	97.0%	47.5	96.3%	47.2	95.7%	48.0	97.2%	47.8	96.8%	47.1	95.5%
56	49.8	3.076	48.7	97.8%	48.5	97.4%	48.2	96.8%	48.0	96.4%	48.5	97.3%	48.4	97.3%	48.4	97.2%	47.6	95.7%	47.7	95.7%
57	49.4	3.065	49.0	99.1%	49.0	99.1%	48.8	98.7%	48.0	97.0%	48.3	97.6%	48.0	97.1%	47.5	96.1%	47.6	96.3%	47.1	95.3%
58	48.8	3.084	48.3	99.1%	48.1	98.6%	48.1	98.6%	47.9	98.3%	47.6	97.6%	47.3	97.0%	47.1	96.6%	47.2	96.7%	46.8	96.1%
59	50.0	3.080	49.9	99.8%	49.9	99.8%	49.6	99.1%	48.8	97.5%	48.9	97.6%	48.4	96.8%	48.5	96.9%	48.9	97.7%	48.3	96.5%
60	49.7	3.081	49.3	99.2%	48.9	98.4%	48.6	97.7%	48.5	97.5%	48.4	97.4%	47.8	96.1%	47.5	95.5%	47.7	96.0%	47.4	95.4%
61	50.1	3.086	49.7	99.1%	49.5	98.8%	49.0	97.8%	48.6	96.9%	48.8	97.4%	48.8	97.4%	48.5	96.7%	47.9	95.6%	47.7	95.1%
62	50.3	3.076	49.7	98.8%	49.7	98.8%	49.5	98.4%	48.4	96.3%	48.0	95.4%	48.5	96.3%	48.2	95.9%	47.5	94.4%	48.0	95.4%
63	49.9	3.070	49.5	99.3%	49.4	99.0%	49.1	98.4%	48.8	97.9%	48.0	96.1%	48.4	97.0%	48.1	96.4%	48.1	96.5%	47.8	95.8%
64	49.9	3.084	49.1	98.5%	49.0	98.4%	48.6	97.5%	48.4	97.1%	48.0	96.3%	48.2	96.8%	48.2	96.6%	47.7	95.6%	47.4	95.0%
65	49.2	3.076	49.1	99.8%	49.0	99.6%	48.8	99.1%	48.5	98.6%	48.4	98.2%	48.3	98.2%	47.7	97.0%	47.4	96.3%	47.2	95.8%
66	49.0	3.072	48.7	99.4%	48.4	98.8%	48.3	98.6%	48.0	98.0%	47.4	96.8%	46.8	95.5%	46.7	95.3%	47.5	96.9%	47.4	96.7%
67	48.9	3.087	48.9	99.9%	48.4	99.0%	48.1	98.3%	46.7	95.4%	46.2	94.4%	47.7	97.5%	47.6	97.3%	47.2	96.4%	47.0	96.1%
68	49.1	3.074	48.5	98.8%	48.3	98.3%	48.0	97.7%	47.9	97.4%	47.5	96.6%	47.9	97.5%	47.3	96.2%	47.7	97.2%	47.0	95.7%
69	48.6	3.083	48.5	99.9%	48.2	99.3%	47.9	98.6%	47.8	98.5%	47.5	97.8%	47.1	96.9%	46.6	96.0%	46.8	96.4%	46.7	96.2%
70	49.6	3.077	49.3	99.4%	48.9	98.7%	48.5	97.9%	48.0	96.9%	47.6	96.0%	47.5	95.9%	48.0	96.8%	47.7	96.2%	47.2	95.2%
71	49.2	3.081	49.1	99.8%	48.7	99.0%	48.6	98.8%	48.1	97.8%	47.7	97.0%	47.2	96.0%	47.4	96.3%	47.8	97.3%	46.8	95.1%
72	49.3	3.076	48.8	99.0%	48.6	98.6%	48.3	98.0%	48.5	98.4%	48.4	98.1%	48.0	97.4%	48.0	97.3%	48.0	97.3%	47.3	95.9%
73	49.9	3.088	49.3	98.9%	48.9	98.1%	48.5	97.3%	48.4	97.1%	48.1	96.4%	48.9	98.1%	48.3	96.9%	48.0	96.1%	47.7	95.6%
74	49.3	3.080	48.7	98.9%	48.4	98.3%	48.2	97.9%	48.2	97.9%	47.4	96.3%	47.7	96.8%	47.2	95.8%	46.5	94.3%	46.8	95.0%
75	49.7	3.089	49.5	99.5%	49.0	98.6%	48.7	97.9%	47.7	96.0%	47.5	95.6%	47.6	95.8%	47.6	95.7%	48.1	96.6%	48.0	96.5%
Average	49.4	3.079	49.0	99.2%	48.8	98.6%	48.5	98.1%	48.2	97.5%	47.9	96.9%	47.9	96.8%	47.7	96.5%	47.7	96.4%	47.3	95.8%
Median	49.4	3.080	49.1	99.1%	48.8	98.6%	48.5	98.0%	48.2	97.5%	48.0	97.0%	47.8	96.9%	47.7	96.6%	47.7	96.4%	47.4	95.7%
σ	0.5	0.007	0.5	0.5%	0.5	0.5%	0.5	0.6%	0.5	0.9%	0.6	1.0%	0.6	0.8%	0.6	0.6%	0.5	0.9%	0.5	0.6%
Max.	50.3	3.090	49.9	99.9%	49.9	99.8%	49.6	99.1%	48.8	99.0%	48.9	99.2%	48.9	98.2%	48.5	97.7%	48.9	98.1%	48.3	97.4%
Min.	48.6	3.065	48.2	97.8%	47.8	97.4%	47.7	96.8%	46.7	95.4%	46.2	94.4%	46.8	95.5%	46.6	95.3%	46.5	94.3%	46.2	94.8%



NVLAP Lab Code: 200952-0

Verification Services

Project No: 4787036936-1

Report No: 4787036936-1aR01

Report Issued Date: 2016-02-24

Test Report

No.	u'	v'	u'	v'	u'	v'	u'	v'	u'	v'	u'	v'	u'	v'	u'	v'	u'	v'		
	Oh (Initial)		1000h		2000h		3000h		4000h		5000h		6000h		7000h		8000h		9000h	
51	0.2559	0.5228	0.2551	0.5225	0.2539	0.5221	0.2544	0.5223	0.2546	0.5223	0.2545	0.5225	0.2543	0.5229	0.2537	0.5228	0.2538	0.5235	0.2532	0.5238
52	0.2558	0.5229	0.2556	0.5214	0.2539	0.5209	0.2550	0.5213	0.2553	0.5213	0.2554	0.5216	0.2552	0.5220	0.2545	0.5217	0.2550	0.5224	0.2544	0.5221
53	0.2570	0.5221	0.2550	0.5213	0.2533	0.5207	0.2542	0.5210	0.2544	0.521	0.2546	0.5214	0.2543	0.5216	0.2538	0.5215	0.2538	0.5221	0.2538	0.5224
54	0.2560	0.5217	0.2551	0.5198	0.2530	0.5191	0.2541	0.5195	0.2545	0.5196	0.2546	0.5200	0.2544	0.5203	0.2542	0.5202	0.2544	0.5210	0.2540	0.5211
55	0.2559	0.5202	0.2545	0.5200	0.2532	0.5196	0.2538	0.5198	0.2541	0.5199	0.2542	0.5202	0.2539	0.5204	0.2534	0.5203	0.2536	0.5207	0.2532	0.5212
56	0.2560	0.5207	0.2552	0.5204	0.2542	0.5199	0.2549	0.5203	0.2545	0.5201	0.2545	0.5203	0.2544	0.5205	0.2540	0.5206	0.2545	0.5211	0.2541	0.5217
57	0.2557	0.5198	0.2547	0.5195	0.2535	0.5191	0.2537	0.5190	0.2535	0.5188	0.2538	0.5192	0.2536	0.5195	0.2534	0.5196	0.2535	0.5201	0.2534	0.5203
58	0.2569	0.5205	0.2561	0.5201	0.2552	0.5200	0.2556	0.5200	0.2556	0.52	0.2556	0.5202	0.2554	0.5206	0.2551	0.5206	0.2555	0.5215	0.2553	0.5216
59	0.2560	0.5214	0.2550	0.5208	0.2539	0.5205	0.2542	0.5205	0.2546	0.5207	0.2546	0.5210	0.2539	0.5212	0.2536	0.5212	0.2540	0.5220	0.2531	0.5216
60	0.2564	0.5215	0.2554	0.5209	0.2545	0.5207	0.2549	0.5209	0.2548	0.5208	0.2548	0.5211	0.2545	0.5215	0.2543	0.5217	0.2548	0.5225	0.2540	0.5222
61	0.2560	0.5210	0.2552	0.5206	0.2539	0.5202	0.2548	0.5206	0.2547	0.5206	0.2548	0.5208	0.2545	0.5213	0.2540	0.5213	0.2544	0.5221	0.2535	0.5215
62	0.2554	0.5197	0.2545	0.5192	0.2529	0.5186	0.2531	0.5186	0.2538	0.5189	0.2540	0.5193	0.2538	0.5195	0.2535	0.5198	0.2538	0.5205	0.2532	0.5203
63	0.2562	0.5216	0.2554	0.5213	0.2545	0.5210	0.2550	0.5211	0.255	0.5211	0.2551	0.5215	0.2549	0.5216	0.2546	0.5219	0.2547	0.5225	0.2541	0.5226
64	0.2567	0.5217	0.2559	0.5214	0.2546	0.5209	0.2550	0.5210	0.2549	0.5209	0.2553	0.5214	0.2549	0.5218	0.2549	0.5220	0.2551	0.5227	0.2548	0.5221
65	0.2556	0.5201	0.2546	0.5194	0.2532	0.5190	0.2542	0.5195	0.2541	0.5193	0.2543	0.5197	0.2541	0.5201	0.2537	0.5203	0.2541	0.5211	0.2539	0.5202
66	0.2554	0.5222	0.2548	0.5219	0.2529	0.5214	0.2536	0.5215	0.2541	0.5218	0.2541	0.5220	0.2538	0.5225	0.2535	0.5227	0.2536	0.5233	0.2531	0.5230
67	0.2571	0.5198	0.2558	0.5191	0.2546	0.5186	0.2549	0.5187	0.2556	0.5185	0.2554	0.5192	0.2551	0.5194	0.2547	0.5194	0.2549	0.5201	0.2545	0.5200
68	0.2557	0.5207	0.2548	0.5203	0.2538	0.5200	0.2540	0.5202	0.2542	0.5202	0.2546	0.5205	0.2544	0.5211	0.2542	0.5213	0.2542	0.5219	0.2532	0.5221
69	0.2567	0.5212	0.2559	0.5205	0.2551	0.5203	0.2550	0.5201	0.2546	0.5199	0.2538	0.5199	0.2533	0.5201	0.2530	0.5201	0.2532	0.5208	0.2529	0.5210
70	0.2561	0.5207	0.2554	0.5205	0.2542	0.5201	0.2544	0.5200	0.2545	0.5201	0.2545	0.5204	0.2544	0.5206	0.2541	0.5208	0.2539	0.5213	0.2538	0.5216
71	0.2557	0.5198	0.2544	0.5192	0.2530	0.5187	0.2540	0.5192	0.2541	0.5192	0.2541	0.5194	0.2540	0.5198	0.2534	0.5199	0.2536	0.5206	0.2543	0.5210
72	0.2561	0.5221	0.2553	0.5218	0.2544	0.5215	0.2547	0.5216	0.2546	0.5215	0.2548	0.5219	0.2545	0.5223	0.2542	0.5222	0.2543	0.5230	0.2531	0.5229
73	0.2560	0.5217	0.2552	0.5214	0.2544	0.5212	0.2543	0.5212	0.2543	0.5212	0.2548	0.5216	0.2543	0.5218	0.2544	0.5222	0.2544	0.5227	0.2537	0.5222
74	0.2564	0.5205	0.2557	0.5203	0.2547	0.5199	0.2550	0.5200	0.2547	0.5198	0.2550	0.5202	0.2552	0.5208	0.2550	0.5207	0.2555	0.5215	0.2541	0.5209
75	0.2558	0.5205	0.2550	0.5201	0.2536	0.5196	0.2543	0.5199	0.2544	0.5199	0.2544	0.5202	0.2541	0.5204	0.2540	0.5206	0.2546	0.5216	0.2532	0.5201
Average	0.2561	0.5211	0.2552	0.5205	0.2539	0.5201	0.2544	0.5203	0.2545	0.5203	0.2546	0.5206	0.2544	0.5209	0.2540	0.5210	0.2543	0.5217	0.2538	0.5216
Median	0.2560	0.5210	0.2552	0.5205	0.2539	0.5201	0.2544	0.5202	0.2545	0.5201	0.2546	0.5204	0.2544	0.5208	0.2540	0.5208	0.2543	0.5216	0.2538	0.5216
σ	0.0005	0.0009	0.0005	0.0005	0.0007	0.0010	0.0006	0.0009	0.0005	0.0010	0.0005	0.0009	0.0005	0.0010	0.0006	0.0010	0.0006	0.0010	0.0006	0.0010
Max.	0.2571	0.5229	0.2561	0.5225	0.2552	0.5221	0.2556	0.5223	0.2556	0.5223	0.2556	0.5225	0.2554	0.5229	0.2551	0.5228	0.2555	0.5235	0.2553	0.5238
Min.	0.2554	0.5197	0.2544	0.5191	0.2529	0.5186	0.2531	0.5186	0.2535	0.5185	0.2538	0.5192	0.2533	0.5194	0.2530	0.5194	0.2532	0.5201	0.2529	0.5200

No.	CCT	Δu/v	CCT	Δu/v	CCT	Δu/v	CCT	Δu/v	CCT	Δu/v	CCT	Δu/v	CCT	Δu/v	CCT	Δu/v	CCT	Δu/v	CCT
	Oh		1000h		2000h		3000h		4000h		5000h		6000h		7000h		8000h		9000h
51	2866	0.0009	2886	0.0021	2914	0.0016	2903	0.0014	2898	0.0014	2900	0.0016	2903	0.0022	2916	0.0022	2911	0.0029	2927
52	2866	0.0015	2878	0.0028	2922	0.0018	2893	0.0017	2887	0.0014	2884	0.0011	2885	0.0018	2904	0.0009	2889	0.0016	2913
53	2842	0.0022	2894	0.0040	2937	0.0030	2914	0.0028	2911	0.0025	2904	0.0027	2909	0.0033	2920	0.0032	2917	0.0032	2927
54	2869	0.0021	2901	0.0040	2953	0.0029	2925	0.0026	2916	0.0022	2911	0.0021	2913	0.0023	2918	0.0017	2909	0.0021	2916
55	2879	0.0014	2912	0.0028	2947	0.0021	2930	0.0018	2924	0.0017	2929	0.0020	2926	0.0025	2938	0.0024	2930	0.0029	2924
56	2873	0.0009	2893	0.0020	2921	0.0012	2901	0.0016	2913	0.0016	2911	0.0016	2911	0.0020	2923	0.0016	2907	0.0021	2923
57	2885	0.0010	2911	0.0023	2941	0.0022	2938	0.0024	2943	0.0020	2945	0.0021	2937	0.0023	2943	0.0022	2938	0.0024	2938
58	2853	0.0009	2874	0.0018	2896	0.0014	2887	0.0014	2888	0.0013	2886	0.0015	2888	0.0018	2895	0.0017	2882	0.0019	2915
59	2869	0.0012	2896	0.0023	2923	0.0020	2917	0.0016	2907	0.0015	2905	0.0021	2920	0.0024	2928	0.0021	2914	0.0029	2926
60	2859	0.0012	2887	0.0021	2908	0.0016	2899	0.0017	2902	0.0016	2913	0.0019	2904	0.0021	2908	0.0019	2893	0.0025	2921
61	2873	0.0009	2892	0.0022	2925	0.0013	2902	0.0014	2904	0.0012	2902	0.0015	2905	0.0020	2917	0.0019	2903	0.0025	2922
62	2892	0.0010	2917	0.0027	2960	0.0025	2955	0.0018	2935	0.0015	2930	0.0016	2933	0.0019	2938	0.0018	2928	0.0023	2942
63	2864	0.0009	2884	0.0018	2906	0.0013	2896	0.0013	2895	0.0011	2891	0.0013	2895	0.0016	2901	0.0017	2895	0.0023	2916
64	2853	0.0009	2873	0.0022	2906	0.0018	2894	0.0020	2898	0.0014	2886	0.0018	2893	0.0018	2893	0.0019	2884	0.0019	2899
65	2886	0.0012	2913	0.0026	2950	0.0015	2922	0.0017	2926	0.0014	2933	0.0015	2922	0.0019	2932	0.0018	2916	0.0017	2921
66	2881	0.0007	2896	0.0026	2943	0.0019	2926	0.0014	2912	0.0013	2911	0.0016	2916	0.0020	2920	0.0021	2917	0.0024	2928
67	2852	0.0015	2887	0.0028	2918	0.0025	2912	0.0020	2895	0.0018	2895	0.0020	2902	0.0024	2912	0.0022	2902	0.0026	2914
68	2879	0.0010	2905	0.0020	2930	0.0018	2923	0.0016	2919	0.0011	2908	0.0014	2						



Test Report

Ra data

No.	Ra									
	0h	1000h	2000h	3000h	4000h	5000h	6000h	7000h	8000h	9000h
1	82.6	82.7	82.5	82.5	82.5	82.5	82.4	82.4	82.5	82.5
2	82.4	82.5	82.5	82.6	82.6	82.6	82.5	82.5	82.5	82.6
3	82.1	82.2	82.1	82.1	82.2	82.2	82.1	82.1	82.1	82.2
4	81.9	82.1	82.0	82.1	82.1	82.2	82.1	82.1	82.1	82.2
5	82.6	82.6	82.6	82.6	82.8	82.8	82.7	82.7	82.7	82.8
6	82.7	82.8	82.7	82.8	82.8	82.8	82.8	82.8	82.8	82.9
7	82.4	82.5	82.4	82.5	82.6	82.5	82.6	82.6	82.6	82.7
8	82.3	82.4	82.4	82.4	82.4	82.4	82.4	82.4	82.4	82.5
9	82.5	82.6	82.5	82.0	82.6	82.6	82.6	82.6	82.6	82.6
10	82.3	82.3	82.3	82.4	82.3	82.4	82.3	82.3	82.4	82.4
11	82.4	82.4	82.5	82.4	82.5	82.5	82.5	82.5	82.4	82.4
12	82.1	82.1	82.1	82.2	82.1	82.1	82.1	82.1	82.1	82.2
13	82.5	82.6	82.6	82.6	82.6	82.6	82.6	82.6	82.6	82.6
14	82.3	82.4	82.4	82.4	82.5	82.4	82.4	82.4	82.4	82.5
15	82.4	82.6	82.6	82.5	82.5	82.5	82.5	82.5	82.5	82.5
16	83.1	83.2	83.1	83.3	83.3	83.3	83.3	83.2	83.3	83.3
17	82.7	82.7	82.7	82.8	82.8	82.8	82.7	82.7	82.7	82.8
18	82.6	82.8	82.7	82.7	82.7	82.7	82.7	82.7	82.7	82.8
19	82.4	82.4	82.3	82.4	82.5	82.4	82.4	82.4	82.4	82.5
20	82.8	83.0	82.8	83.0	83.0	83.0	83.0	83.0	82.9	83.0
21	82.2	82.3	82.3	82.3	82.3	82.3	82.3	82.3	82.3	82.3
22	82.3	82.4	82.4	82.4	82.4	82.4	82.4	82.4	82.4	82.5
23	82.9	83.1	82.9	83.0	83.0	83.1	83.0	83.1	83.1	83.2
24	82.7	82.9	83.0	83.0	83.0	83.0	83.0	83.0	83.0	83.1
25	82.8	82.8	82.7	82.8	82.8	82.9	82.8	82.8	82.8	82.9
Average	82.5	82.6	82.5	82.6	82.6	82.6	82.6	82.6	82.6	82.6
Median	82.4	82.6	82.5	82.5	82.6	82.5	82.5	82.5	82.5	82.6
σ	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Max.	83.1	83.2	83.1	83.3	83.3	83.3	83.3	83.2	83.3	83.3
Min.	81.9	82.1	82.0	82.0	82.1	82.1	82.1	82.1	82.1	82.2

No.	Ra									
	0h	1000h	2000h	3000h	4000h	5000h	6000h	7000h	8000h	9000h
26	83.0	83.2	83.1	83.2	83.3	83.3	83.2	83.2	83.2	83.3
27	82.2	82.4	82.3	82.4	82.3	82.4	82.3	82.3	82.3	82.4
28	83.0	83.2	83.1	83.2	83.1	83.2	83.1	83.1	83.1	83.4
29	81.9	82.0	81.9	82.4	82.0	82.0	81.9	81.9	82.0	82.5
30	82.3	82.5	82.5	82.8	82.4	82.4	82.4	82.4	82.3	82.9
31	82.7	82.9	82.9	82.5	82.9	82.9	82.8	82.8	82.8	82.6
32	82.3	82.5	82.5	82.9	82.5	82.5	82.5	82.5	82.5	82.6
33	82.8	82.9	83.0	83.3	83.0	82.9	82.9	82.9	82.9	83.0
34	83.1	83.2	83.4	82.8	83.3	83.3	83.3	83.3	83.4	83.5
35	82.8	83.0	83.1	81.0	83.0	83.0	82.9	82.9	83.0	83.6
36	80.8	81.0	81.1	82.2	81.1	81.1	81.0	81.0	81.1	83.1
37	82.2	82.3	82.2	82.0	80.4	78.2	80.4	80.3	81.4	81.2
38	81.8	82.0	82.0	82.9	82.0	82.0	81.9	81.9	81.9	82.5
39	82.7	82.9	82.8	82.8	82.9	82.9	82.8	82.9	82.9	82.9
40	82.9	83.0	82.9	83.0	81.7	83.0	83.0	82.9	83.0	83.1
41	82.3	82.6	82.6	82.6	82.2	82.5	82.5	82.5	82.5	82.5
42	82.6	82.7	82.6	82.6	82.6	82.7	82.6	82.6	82.6	82.7
43	83.4	83.5	83.5	83.5	83.6	83.5	83.4	83.5	83.5	83.5
44	82.4	82.6	82.6	82.5	82.5	82.5	82.5	82.5	82.5	82.6
45	82.7	82.9	82.9	82.9	83.0	83.0	82.9	82.9	82.9	83.0
46	82.4	82.6	82.6	82.9	82.6	82.6	82.6	82.6	82.5	82.6
47	81.5	81.6	81.7	81.7	81.7	81.8	81.8	81.8	82.1	82.1
48	82.1	82.3	82.3	82.3	82.2	79.2	82.2	82.2	82.2	82.3
49	83.2	83.4	83.4	83.4	83.5	83.5	83.3	83.4	83.4	83.4
50	82.9	83.2	83.2	83.2	83.1	83.3	83.1	83.2	83.2	83.2
Average	82.5	82.7	82.6	82.7	82.4	82.4	82.5	82.5	82.6	82.8
Median	82.6	82.7	82.6	82.8	82.6	82.7	82.6	82.6	82.6	82.9
σ	0.6	0.6	0.6	0.6	1.2	1.3	0.7	0.7	0.6	0.5
Max.	83.4	83.5	83.5	83.5	83.6	83.5	83.4	83.5	83.5	83.6
Min.	80.8	81.0	81.1	81.0	77.4	78.2	80.4	80.3	81.1	81.2



Test Report

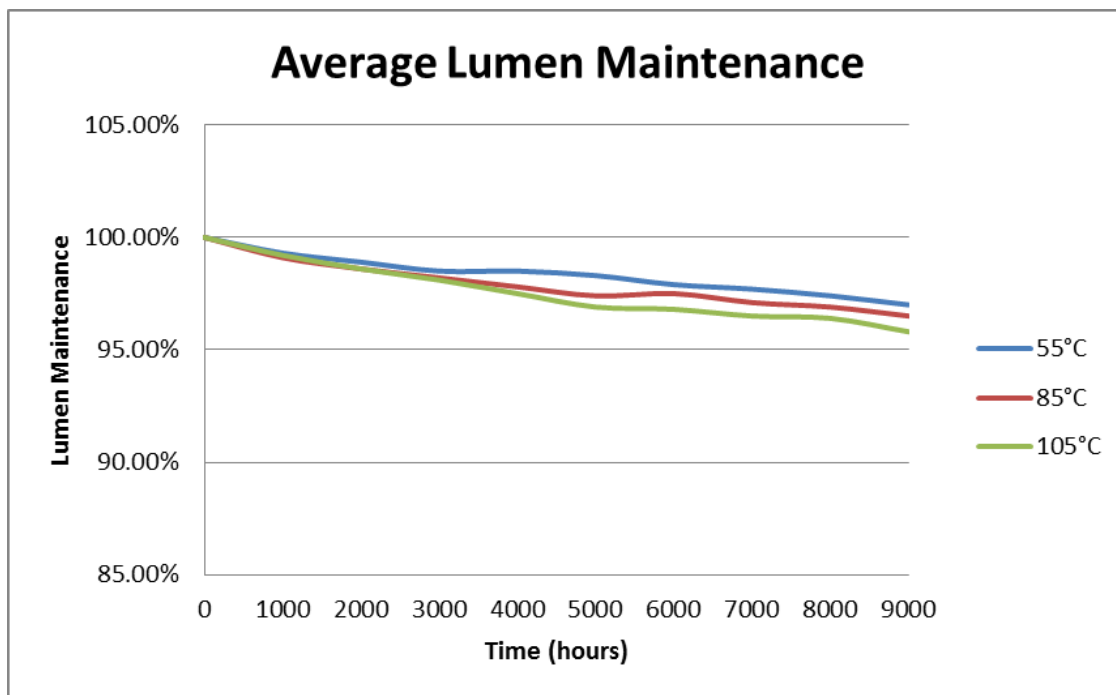
No.	Ra									
	0h	1000h	2000h	3000h	4000h	5000h	6000h	7000h	8000h	9000h
51	82.0	82.1	82.0	82.1	82.1	82.1	82.0	82.0	82.0	82.0
52	82.0	82.5	82.5	82.4	82.4	82.5	82.4	82.4	82.3	82.4
53	82.3	82.6	82.7	82.6	82.6	82.6	82.5	82.5	82.5	82.6
54	82.5	82.7	82.8	82.7	82.7	82.7	82.6	82.6	82.5	82.6
55	82.5	83.0	83.1	83.0	82.9	83.0	82.9	83.0	83.0	82.9
56	82.9	83.0	82.9	82.9	83.0	83.0	82.9	82.9	82.8	82.9
57	83.1	83.2	83.3	83.3	83.3	83.4	83.3	83.2	83.2	83.3
58	82.5	82.5	82.6	82.5	82.5	82.5	82.5	82.5	82.4	82.5
59	82.4	82.5	82.5	82.5	82.5	82.5	82.5	82.4	82.4	82.4
60	82.3	82.4	82.3	82.4	82.4	82.4	82.3	82.2	82.2	82.2
61	82.3	82.4	82.4	82.3	82.3	82.4	82.3	82.2	82.1	82.3
62	82.6	82.8	82.8	82.8	82.8	82.7	82.7	82.6	82.6	82.7
63	82.7	82.8	82.8	82.7	82.7	82.7	82.6	82.6	82.6	82.7
64	82.2	82.3	82.3	82.3	82.3	82.3	82.3	82.2	82.2	82.2
65	83.0	83.1	83.1	83.0	83.1	83.1	83.0	83.0	82.9	82.9
66	82.5	82.7	82.7	82.7	82.7	82.7	82.6	82.5	82.5	82.6
67	82.8	83.0	83.0	83.0	82.9	83.0	82.9	82.9	82.9	83.0
68	82.8	82.8	82.8	82.8	82.8	82.8	82.7	82.6	82.6	82.7
69	82.4	82.5	82.5	82.6	82.6	82.7	82.7	82.7	82.7	82.8
70	82.8	82.9	82.8	82.9	82.9	82.9	82.8	82.8	82.9	82.9
71	82.5	82.7	82.7	82.6	82.6	82.6	82.6	82.6	82.5	82.2
72	82.3	82.4	82.3	82.4	82.4	82.4	82.3	82.3	82.2	82.6
73	82.5	82.5	82.4	82.5	82.6	82.5	82.4	82.3	82.4	82.7
74	83.0	83.1	83.1	83.1	83.2	83.2	83.0	83.0	83.0	82.4
75	82.5	82.5	82.6	82.5	82.6	82.5	82.5	82.4	82.3	82.1
Average	82.5	82.7	82.7	82.7	82.7	82.7	82.6	82.6	82.5	82.6
Median	82.5	82.7	82.7	82.6	82.6	82.7	82.6	82.6	82.5	82.6
σ	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Max.	83.1	83.2	83.3	83.3	83.3	83.4	83.3	83.2	83.2	83.3
Min.	82.0	82.1	82.0	82.1	82.1	82.1	82.0	82.0	82.0	82.0

TM-21 Report

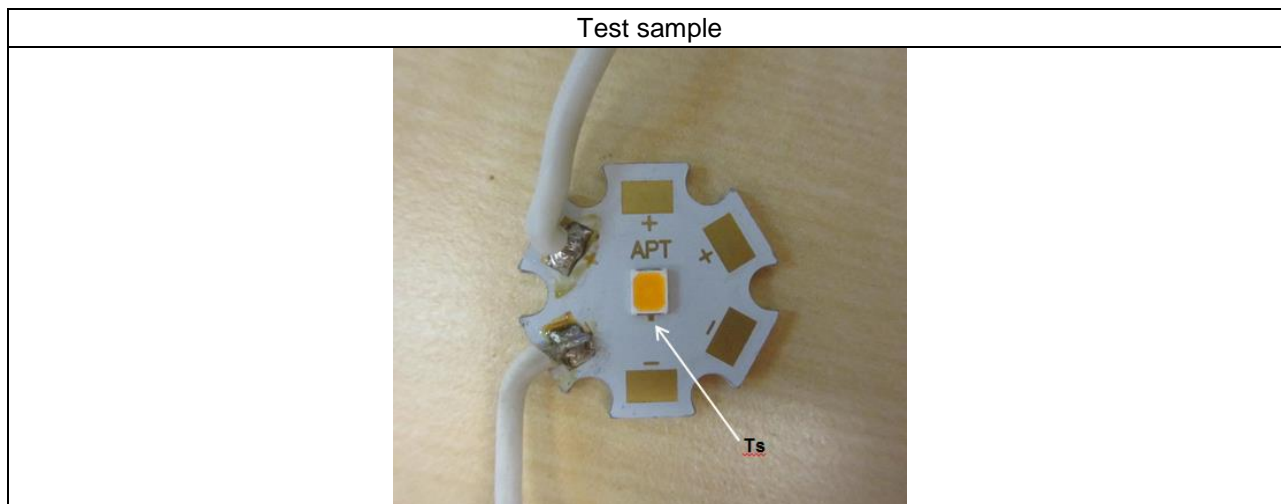
Test Condition 1 - 55°C Case Temp		Test Condition 2 - 85°C Case Temp		Test Condition 3 - 105°C Case Temp	
Sample size	25	Sample size	25	Sample size	25
Number of failures	0	Number of failures	0	Number of failures	0
DUT drive current used in the test (mA)	120	DUT drive current used in the test (mA)	120	DUT drive current used in the test (mA)	120
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	3.039E-06	α	2.470E-06	α	3.045E-06
B	0.997	B	0.988	B	0.986
Calculated L70(9k) (hours)	117,000	Calculated L70(9k) (hours)	139,000	Calculated L70(9k) (hours)	112,000
Reported L70(9k) (hours)	>54000	Reported L70(9k) (hours)	>54000	Reported L70(9k) (hours)	>54000



Test Report



Test Photo



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