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-AF-3030D68W-B2C2-S1-08-PCT-HR3(R9)-DS

Report Type: 6000 Hours Test Report	**Product Type:** LED Package
Reviewed By:	Pote Wang
Report Number:	SZ2230616-34692E-EE-6000
Test Date:	2023-06-20 to 2024-03-17
Report Date:	2024-04-10
Approved by:	Blake Zhang / EE Engineer
Prepared By:	Bay Area Compliance Laboratories Corp. (Dongguan). No.12, Pulong East 1st Road, Tangxia Town, Dongguan, Guangdong, China. Tel: +86-0769-86858888 Fax:+86-0769-86858588

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1 - General Information

1.1 Description of LED Light Sources

Sample Size:

50 PCS test samples were in good condition and received on 2023-06-16. The samples were numbered from 1 to 25 and 26 to 50.

Manufacturer:	Hongli Zhihui Group Co.,Ltd. Guangzhou Branch
Part Number:	HL-AF-3030D68W-B2C2-S1-08-PCT-HR3(R9)-DS
Part Type:	LED Package
#Drive Level:	DC 150mA
#Nominal CCT:	2700K
#Power:	0.96W
#Average Current Density per LED die:	572.17mA/mm^2
#Average Power Density per LED die:	3.662W/mm^2
#CRI:	80
#Die Spacing:	0.2mm

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:

Series Name	Model Name	CRI	CCT (K)	Series & Parallel	Power density (W/mm^2)	Current density per LED die (mA/mm^2)	Current per die (mA)	Distance between of dies (mm)	Current (mA)
Test model	HL-AF-3030D68W-B2C2-S1-08-PCT-HR3(R9)-DS	80	2700	B1C2+B1C2	0.1	572.17	150	0.2	150
Multiple models	HL-AF-3030D***W-B2C2-S1-08-PCT-HR*-DS-***	70-80	2700-6500	B1C2+B1C2	0.1	572.17	150	0.2	150
Multiple models	HL-AF-3030F***W-2-S1-08-PCT-HR*-DS-***	70-80	2700-6500	B1C1+B1C1	0.1	521.16	300	0.2	300
Multiple models	HL-AF-3030FV***W-2-S1-08-PCT-HR*-DS-***	70-80	2700-6500	B1C1+B1C1	0.0958	345.98	100	0.2	100
Multiple models	HL-AF-3030D***W-2-S1-08-PCT-HR*-DS-***	70-80	2700-6500	B1C1+B1C1	0.0933	572.17	280	0.2	280

Note: The model name begins with "HL", such as “HL-AF-3030D***W-****-S1-08*-PCT-HR*-DS-***”, " *" is described in detail as follows:

1. The first“***” is a number from 1 to 999 which stands for the brightness level.
2. The second“****” is the number B2C2 or 2 which stands for chip series parallel connection.
3. The third “*” is the letter L or HL or None which stands for the bonding wire style
4. The fourth “*”is the number 3 or 4 or 5 which stands for the different CRI style.
5. The fifth “***”is the letter, which stands for the customer code or None.

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
- ENERGY STAR® Requirements for the Use of LM-80 Data (This standard was not accredited by IAS)

1.3 Testing Equipment

Device	Manufacture	Model No	Serial No	Calibration date	Calibration due date
High Accuracy Array Spectroradiometer	EVERFINE	HAAS 2000	P600674CM5391140	2023-09-02	2024-09-11
0.5M Integrating Sphere	EVERFINE	0.5m	NA	2023-09-02	2024-09-11
LED Test Source	EVERFINE	LTS-300	P185616CJ1391143	2023-09-02	2024-09-11
Standard Light Source	EVERFINE	D062	M133799CM1381112	2023-05-12	2025-05-11
Multilayer aging machine	BACL	B2-270	20015	2023-10-13	2024-10-12
Digital CC&CV DC Power Supply	EVERFINE	WY5015	11090005	2023-10-16	2024-10-15

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 ±3% of the specified value of the manufacturer during maintenance test, and was within ±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 DUTs' 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 ±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°C ± 2°C, RH <65%.

1.6 Photometric Measurement Method and Uncertainty

Integrating sphere and spectroradiometer is used to measure luminous flux and chromaticity coordinate u'v'. 2π measurement was used and sample was drived by DC power supply. The forward current was regulated to within ±0.5% of the nominal value. The test system was calibrated by halogen reference lamp. The ambient temperature during test was set to 25°C ± 2°C, RH <65%. The temperature measurement point was located in the sphere and the temperature was detected by a temperature probe.

The uncertainty of the light output measurements is U=1.59% (K=2), at the 95% confidence level. The uncertainty of the correlated color temperature measurements is U=21K (K=2), at the 95% confidence level.

The uncertainty of the temperature is U=0.8671°C (K=2), at the 95% confidence level.

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, 150mA

Part Number:	HL-AF-3030D68W-B2C2-S1-08-PCT-HR3(R9)-DS
Number of Units:	25
Case Temperature:	>53°C
Ambient Temperature:	>50°C
Life Test Drive Current:	150mA
Measurement Current:	150mA

Data Set 2: 105°C, 150mA

Part Number:	HL-AF-3030D68W-B2C2-S1-08-PCT-HR3(R9)-DS
Number of Units:	25
Case Temperature:	>103°C
Ambient Temperature:	>100°C
Life Test Drive Current:	150mA
Measurement Current:	150mA

2 - Summary of Test Result

Data Set:	Sample Size	Failures Observed:	Test Interval	Test Duration	α	β	Reported TM-21 L_{70} Lifetime
1	25	0	1000hrs	6000hrs	1.969E-06	1.004	>36000 hours
2	25	0	1000hrs	6000hrs	2.213E-06	1.003	>36000 hours

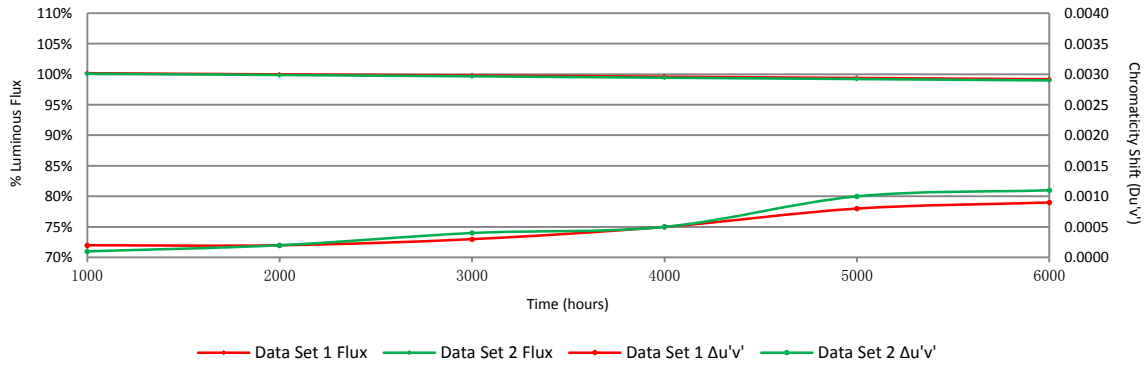
Average Lumen Maintenance (Percentage of Initial Luminous Flux)

Data Set:	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs
1	100.16%	99.97%	99.79%	99.59%	99.38%	99.18%
2	100.08%	99.86%	99.65%	99.42%	99.20%	98.98%

Average Chromaticity Shift

Data Set:	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs
1	0.0002	0.0002	0.0003	0.0005	0.0008	0.0009
2	0.0001	0.0002	0.0004	0.0005	0.0010	0.0011

Average Lumen Maintenance and Chromaticity Shift VS. Time



3 - Test Data

3.1 Data Set 1, 55°C, 150mA (Lumen Maintenance)

No.	Φ(lm)	Lumen Maintenance (%)					
	0hr(Initial)	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs
1	126.20	100.24	100.08	99.92	99.68	99.52	99.45
2	126.70	100.39	100.16	99.92	99.68	99.53	99.21
3	125.60	100.24	99.92	99.76	99.52	99.36	99.20
4	126.30	100.40	100.08	99.92	99.76	99.45	99.13
5	127.60	100.31	100.08	99.84	99.69	99.45	99.37
6	124.30	100.24	100.08	99.92	99.68	99.52	99.20
7	126.20	99.92	99.84	99.60	99.29	99.13	99.05
8	127.00	100.16	99.92	99.76	99.45	99.21	98.98
9	126.50	100.16	100.08	99.84	99.60	99.37	99.21
10	126.20	100.08	99.92	99.76	99.52	99.21	99.13
11	128.10	100.23	99.92	99.77	99.69	99.45	99.30
12	126.20	100.08	99.84	99.60	99.45	99.29	99.05
13	125.10	100.08	99.92	99.76	99.60	99.36	99.20
14	126.10	99.92	99.84	99.68	99.44	99.29	99.13
15	126.10	99.84	99.92	99.76	99.60	99.44	99.05
16	126.30	99.92	99.84	99.60	99.45	99.37	99.21
17	125.80	100.08	99.92	99.68	99.60	99.44	99.36
18	126.80	100.16	99.84	99.68	99.53	99.37	98.82
19	126.70	100.24	100.08	99.84	99.53	99.29	98.97
20	124.80	100.16	99.84	99.68	99.60	99.36	99.04
21	126.90	100.08	99.76	99.68	99.61	99.37	99.21
22	125.60	100.24	100.16	99.92	99.68	99.44	99.28
23	125.40	100.32	100.16	100.08	99.76	99.44	99.20
24	124.80	100.16	100.08	99.84	99.52	99.28	99.20
25	126.80	100.24	100.08	99.92	99.76	99.61	99.45
Avg.	126.16	100.16	99.97	99.79	99.59	99.38	99.18
Med.	126.20	100.16	99.92	99.76	99.60	99.37	99.20
st dev	0.87	0.1454	0.1226	0.1230	0.1188	0.1121	0.1498
Min.	124.30	99.84	99.76	99.60	99.29	99.13	98.82
Max.	128.10	100.40	100.16	100.08	99.76	99.61	99.45

3.2 Data Set 1, 55°C, 150mA (Forward Voltage)

No.	Forward Voltage (V)						
	0hr(Initial)	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs
1	6.228	6.235	6.242	6.242	6.237	6.240	6.273
2	6.260	6.272	6.277	6.276	6.271	6.274	6.365
3	6.216	6.230	6.229	6.235	6.229	6.228	6.274
4	6.251	6.259	6.261	6.261	6.258	6.260	6.301
5	6.239	6.253	6.255	6.257	6.252	6.255	6.300
6	6.254	6.272	6.270	6.270	6.264	6.269	6.311
7	6.218	6.239	6.234	6.237	6.230	6.232	6.279
8	6.294	6.313	6.312	6.310	6.305	6.308	6.353
9	6.243	6.250	6.255	6.255	6.250	6.264	6.300
10	6.237	6.245	6.248	6.243	6.240	6.242	6.321
11	6.226	6.243	6.239	6.238	6.235	6.236	6.292
12	6.256	6.275	6.268	6.268	6.266	6.266	6.321
13	6.232	6.268	6.245	6.244	6.243	6.244	6.300
14	6.280	6.294	6.296	6.291	6.295	6.288	6.364
15	6.252	6.264	6.259	6.261	6.258	6.255	6.337
16	6.234	6.248	6.253	6.248	6.245	6.245	6.288
17	6.235	6.260	6.254	6.254	6.251	6.250	6.298
18	6.224	6.230	6.242	6.231	6.233	6.229	6.275
19	6.284	6.300	6.295	6.296	6.293	6.289	6.349
20	6.202	6.230	6.215	6.216	6.212	6.210	6.256
21	6.258	6.276	6.274	6.275	6.272	6.272	6.319
22	6.222	6.236	6.236	6.238	6.235	6.235	6.276
23	6.246	6.288	6.265	6.260	6.257	6.255	6.293
24	6.192	6.202	6.201	6.203	6.204	6.200	6.280
25	6.225	6.242	6.247	6.244	6.240	6.239	6.284
Avg.	6.240	6.257	6.255	6.254	6.251	6.251	6.304
Med.	6.237	6.253	6.254	6.254	6.250	6.250	6.300
st dev	0.024	0.026	0.025	0.024	0.024	0.025	0.030
Min.	6.192	6.202	6.201	6.203	6.204	6.200	6.256
Max.	6.294	6.313	6.312	6.310	6.305	6.308	6.365

3.3 Data Set 1, 55°C, 150mA (Chromaticity Shift)

No.	u'	v'	CCT(K)	Chromaticity Shift (Δu'v')					
	0hr(Initial)			1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs
1	0.2578	0.5292	2792	0.0001	0.0001	0.0004	0.0005	0.0006	0.0008
2	0.2608	0.5296	2725	0.0002	0.0002	0.0003	0.0006	0.0006	0.0008
3	0.2607	0.5285	2732	0.0003	0.0001	0.0003	0.0006	0.0008	0.0008
4	0.2605	0.5296	2732	0.0003	0.0001	0.0003	0.0006	0.0008	0.0009
5	0.2626	0.5302	2688	0.0002	0.0001	0.0003	0.0006	0.0009	0.0010
6	0.2619	0.5299	2703	0.0003	0.0002	0.0002	0.0004	0.0007	0.0008
7	0.2605	0.5299	2731	0.0003	0.0002	0.0002	0.0004	0.0007	0.0010
8	0.2609	0.5288	2728	0.0002	0.0000	0.0003	0.0006	0.0008	0.0009
9	0.2605	0.5291	2735	0.0002	0.0001	0.0003	0.0006	0.0008	0.0009
10	0.2626	0.5288	2693	0.0003	0.0001	0.0002	0.0005	0.0008	0.0009
11	0.2580	0.5302	2784	0.0003	0.0001	0.0003	0.0004	0.0006	0.0007
12	0.2593	0.5284	2764	0.0001	0.0001	0.0004	0.0005	0.0010	0.0009
13	0.2628	0.5305	2681	0.0002	0.0001	0.0003	0.0005	0.0008	0.0009
14	0.2612	0.5296	2719	0.0002	0.0002	0.0004	0.0005	0.0008	0.0009
15	0.2614	0.5298	2713	0.0002	0.0001	0.0002	0.0004	0.0008	0.0008
16	0.2595	0.5283	2759	0.0001	0.0001	0.0002	0.0005	0.0007	0.0009
17	0.2617	0.5284	2712	0.0001	0.0001	0.0002	0.0004	0.0007	0.0007
18	0.2595	0.5293	2755	0.0001	0.0001	0.0003	0.0004	0.0007	0.0009
19	0.2612	0.5302	2716	0.0000	0.0002	0.0004	0.0006	0.0008	0.0011
20	0.2611	0.5270	2731	0.0001	0.0001	0.0003	0.0005	0.0008	0.0009
21	0.2604	0.5313	2728	0.0002	0.0002	0.0003	0.0005	0.0007	0.0009
22	0.2623	0.5288	2698	0.0002	0.0003	0.0006	0.0010	0.0011	0.0013
23	0.2593	0.5297	2757	0.0001	0.0002	0.0003	0.0005	0.0008	0.0008
24	0.2599	0.5266	2758	0.0002	0.0001	0.0004	0.0004	0.0007	0.0009
25	0.2592	0.5294	2760	0.0002	0.0002	0.0004	0.0004	0.0007	0.0007
Avg.	0.2606	0.5292	2732	0.0002	0.0002	0.0003	0.0005	0.0008	0.0009
Med.	0.2607	0.5294	2731	0.0002	0.0001	0.0003	0.0005	0.0008	0.0009
st dev	0.0013	0.0010	29	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
Min.	0.2578	0.5266	2681	0.0000	0.0000	0.0002	0.0004	0.0006	0.0007
Max.	0.2628	0.5313	2792	0.0003	0.0003	0.0006	0.0010	0.0011	0.0013

3.4 Data Set 2, 105°C, 150mA (Lumen Maintenance)

No.	Φ(lm)	Lumen Maintenance (%)					
	0hr(Initial)	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs
26	127.70	100.23	100.08	99.92	99.69	99.37	99.30
27	125.40	100.08	99.92	99.76	99.60	99.28	99.12
28	126.90	100.08	99.76	99.61	99.45	99.29	99.05
29	124.50	100.24	99.92	99.68	99.44	99.20	99.04
30	126.10	100.16	99.84	99.60	99.29	99.13	98.89
31	125.40	100.08	99.76	99.52	99.20	99.04	98.80
32	126.90	100.08	99.68	99.53	99.37	99.21	99.13
33	124.50	100.16	99.92	99.60	99.36	99.20	99.04
34	124.90	99.92	99.76	99.52	99.28	99.04	98.48
35	127.80	99.92	99.77	99.61	99.30	99.14	98.90
36	124.60	99.92	99.68	99.52	99.44	99.12	98.64
37	127.70	100.08	99.84	99.69	99.53	99.30	99.14
38	126.30	99.92	99.68	99.60	99.37	99.13	98.89
39	125.70	99.92	99.84	99.68	99.52	99.28	99.05
40	125.00	100.08	99.84	99.52	99.28	99.20	99.04
41	125.30	99.92	99.84	99.68	99.36	99.20	99.04
42	126.00	100.08	99.92	99.60	99.37	99.13	98.97
43	124.20	100.16	99.92	99.68	99.44	99.28	99.11
44	124.70	100.16	100.08	99.76	99.44	99.28	99.04
45	124.90	100.24	100.08	99.76	99.52	99.20	99.04
46	125.30	100.16	99.92	99.76	99.44	99.12	98.80
47	123.70	100.08	99.92	99.76	99.43	99.11	98.95
48	126.80	100.08	99.76	99.53	99.29	98.97	98.82
49	123.50	100.16	99.84	99.68	99.43	99.19	98.87
50	123.00	100.16	99.92	99.67	99.59	99.51	99.35
Avg.	125.47	100.08	99.86	99.65	99.42	99.20	98.98
Med.	125.30	100.08	99.84	99.67	99.43	99.20	99.04
st dev	1.32	0.1068	0.1150	0.1022	0.1158	0.1140	0.1880
Min.	123.00	99.92	99.68	99.52	99.20	98.97	98.48
Max.	127.80	100.24	100.08	99.92	99.69	99.51	99.35

3.5 Data Set 2, 105°C, 150mA (Forward Voltage)

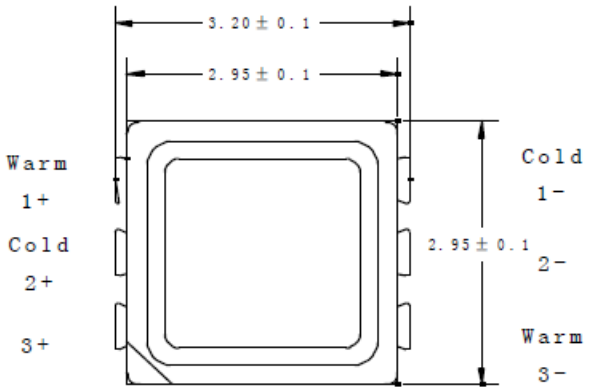
No.	Forward Voltage (V)						
	0hr(Initial)	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs
26	6.223	6.240	6.252	6.230	6.236	6.238	6.280
27	6.208	6.223	6.227	6.215	6.220	6.223	6.261
28	6.228	6.242	6.238	6.227	6.231	6.234	6.275
29	6.196	6.205	6.208	6.201	6.205	6.206	6.253
30	6.256	6.286	6.278	6.265	6.266	6.264	6.311
31	6.205	6.301	6.307	6.298	6.300	6.301	6.347
32	6.252	6.264	6.267	6.262	6.258	6.257	6.297
33	6.227	6.242	6.239	6.237	6.239	6.236	6.279
34	6.224	6.243	6.239	6.236	6.237	6.235	6.277
35	6.268	6.275	6.281	6.275	6.277	6.276	6.336
36	6.236	6.258	6.254	6.251	6.253	6.274	6.285
37	6.235	6.250	6.249	6.248	6.248	6.245	6.291
38	6.242	6.249	6.251	6.245	6.254	6.250	6.301
39	6.232	6.245	6.250	6.244	6.245	6.245	6.291
40	6.239	6.248	6.255	6.248	6.248	6.248	6.293
41	6.251	6.264	6.265	6.257	6.263	6.260	6.306
42	6.246	6.259	6.258	6.251	6.254	6.253	6.296
43	6.282	6.278	6.282	6.271	6.275	6.274	6.310
44	6.248	6.258	6.253	6.247	6.252	6.249	6.289
45	6.216	6.230	6.234	6.224	6.228	6.226	6.264
46	6.273	6.290	6.287	6.283	6.287	6.285	6.320
47	6.263	6.272	6.274	6.269	6.271	6.268	6.298
48	6.246	6.250	6.251	6.244	6.248	6.247	6.277
49	6.203	6.230	6.223	6.216	6.215	6.215	6.245
50	6.214	6.210	6.225	6.216	6.212	6.215	6.360
Avg.	6.237	6.252	6.254	6.246	6.249	6.249	6.294
Med.	6.236	6.250	6.252	6.247	6.248	6.248	6.291
st dev	0.023	0.024	0.023	0.023	0.023	0.023	0.027
Min.	6.196	6.205	6.208	6.201	6.205	6.206	6.245
Max.	6.282	6.301	6.307	6.298	6.300	6.301	6.360

3.6 Data Set 2, 105°C, 150mA (Chromaticity Shift)

No.	u'	v'	CCT(K)	Chromaticity Shift (Δu'v')					
	0hr(Initial)			1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs
26	0.2615	0.5298	2710	0.0001	0.0001	0.0003	0.0004	0.0011	0.0010
27	0.2604	0.5269	2746	0.0002	0.0002	0.0003	0.0004	0.0008	0.0009
28	0.2605	0.5298	2732	0.0002	0.0002	0.0003	0.0005	0.0009	0.0011
29	0.2616	0.5273	2718	0.0001	0.0002	0.0003	0.0006	0.0015	0.0011
30	0.2613	0.5297	2715	0.0001	0.0002	0.0003	0.0005	0.0010	0.0012
31	0.2613	0.5290	2717	0.0001	0.0002	0.0004	0.0006	0.0015	0.0012
32	0.2634	0.5300	2671	0.0001	0.0003	0.0004	0.0006	0.0009	0.0012
33	0.2624	0.5300	2691	0.0001	0.0002	0.0003	0.0004	0.0006	0.0007
34	0.2630	0.5296	2680	0.0000	0.0003	0.0004	0.0005	0.0004	0.0006
35	0.2588	0.5297	2769	0.0001	0.0002	0.0003	0.0005	0.0006	0.0007
36	0.2648	0.5307	2641	0.0001	0.0003	0.0005	0.0009	0.0009	0.0009
37	0.2605	0.5297	2733	0.0001	0.0003	0.0005	0.0007	0.0009	0.0009
38	0.2605	0.5303	2729	0.0002	0.0002	0.0004	0.0005	0.0006	0.0007
39	0.2597	0.5285	2754	0.0001	0.0002	0.0004	0.0006	0.0006	0.0009
40	0.2639	0.5296	2662	0.0001	0.0003	0.0004	0.0006	0.0011	0.0012
41	0.2624	0.5283	2697	0.0001	0.0002	0.0003	0.0004	0.0009	0.0010
42	0.2609	0.5281	2730	0.0001	0.0002	0.0004	0.0005	0.0010	0.0012
43	0.2649	0.5296	2642	0.0001	0.0002	0.0004	0.0005	0.0012	0.0013
44	0.2629	0.5296	2684	0.0001	0.0004	0.0005	0.0006	0.0015	0.0015
45	0.2605	0.5275	2741	0.0002	0.0004	0.0004	0.0006	0.0011	0.0013
46	0.2621	0.5299	2698	0.0002	0.0002	0.0004	0.0005	0.0010	0.0013
47	0.2615	0.5290	2713	0.0002	0.0002	0.0003	0.0005	0.0009	0.0011
48	0.2613	0.5287	2720	0.0001	0.0003	0.0004	0.0006	0.0014	0.0014
49	0.2615	0.5283	2717	0.0003	0.0002	0.0003	0.0004	0.0010	0.0012
50	0.2591	0.5296	2762	0.0001	0.0001	0.0003	0.0003	0.0008	0.0010
Avg.	0.2616	0.5292	2711	0.0001	0.0002	0.0004	0.0005	0.0010	0.0011
Med.	0.2615	0.5296	2717	0.0001	0.0002	0.0004	0.0005	0.0009	0.0011
st dev	0.0016	0.0010	34	0.0001	0.0001	0.0001	0.0001	0.0003	0.0002
Min.	0.2588	0.5269	2641	0.0000	0.0001	0.0003	0.0003	0.0004	0.0006
Max.	0.2649	0.5307	2769	0.0003	0.0004	0.0005	0.0009	0.0015	0.0015

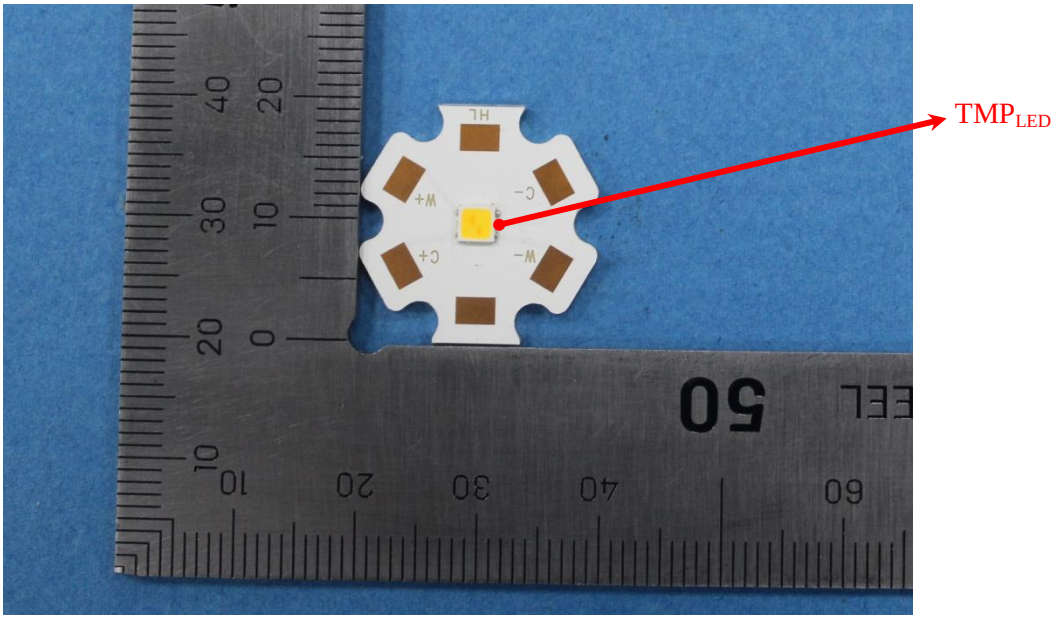
4 - DUT Photo

4.1 Mechanical Dimensions



All dimensions are in millimeter

4.2 DUT Photo



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=2 with the 95% confidence interval.
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**********END OF REPORT**********