



Shenzhen Guangmai Electronics Co., Ltd.

TEST REPORT

Applicant	Shenzhen Guangmai Electronics Co., Ltd.
Address	5F, B Block, Jingang Hi-Tech Zone, Qiaotou, Fuhai, Baoan Dist, Shenzhen, Guangdong Province, China
Product Name	LED
Trademark	/
Model Number	GD-3535W
Additional Models	/
Test Laboratory	Shenzhen Circle Testing Certification Co., Ltd.
Address	101,1/F.,Building 1,Donglongxing Technology Park,Huaning Road, Longhua District,Shenzhen,Guangdong,China
Test Date	May. 06, 2021 - Jun. 27, 2022
Date of Report	Jun. 27, 2022
Report No.	CTC080F06281QR



TEST REPORT

LUMEN MAINTENANCE TESTING ACCORDING TO THE IESNA LM-80-08 TEST STANDARD

Testing laboratory	: Shenzhen Circle Testing Certification Co., Ltd.
Address	: 101,1/F.,Building 1,Donglongxing Technology Park,Huaning Road, Longhua District,Shenzhen,Guangdong,China
Testing location	: Shenzhen Circle Testing Certification Co., Ltd.
Applicant	: Shenzhen Guangmai Electronics Co., Ltd.
Address	: 5F, B Block, Jingang Hi-Tech Zone, Qiaotou, Fuhai, Baoan Dist, Shenzhen, Guangdong Province, China
Test Procedure.....	: The IESNA LM-80-2008: Measuring Lumen Maintenance of LED Light Sources.
Non-standard test method	: N.A.
Type of test object	: GD-3535W
Model/type reference	: See page 1.
Rating	: 3.0-3.6V $\overline{\text{---}}$, 1500mA
Manufacturer	: Shenzhen Guangmai Electronics Co., Ltd.
Address	: 5F, B Block, Jingang Hi-Tech Zone, Qiaotou, Fuhai, Baoan Dist, Shenzhen, Guangdong Province, China



Name and address of the testing laboratory:

Shenzhen Circle Testing Certification Co., Ltd.

101,1/F.,Building 1,Donglongxing Technology Park,Huaning Road,
Longhua District,Shenzhen,Guangdong,China

Tested by :

Arcin Guo

Test Engineer

Approved & Authorized Signer :

Danwei

Manager



**Test Results Summary:**

The test data were obtained from the manufacturer, which provided 9 test samples, which were run for 1000h, 2000h, 3000h, 4000h, 5000h, 6000h, 7000h, 8000h, 9000h and 10000h respectively

Summary	I	II	III
Condition	Ts=54.8℃ TA=54.7℃ R.H.<65% I=1500mA	Ts=84.8℃ TA=84.6℃ R.H.<65% I=1500mA	Ts=104.9℃ TA=104.7℃ R.H.<65% I=1500mA
Duration(hour)	10000	10000	10000
Interval(hour)	0,1000,2000,3000,4000, 5000,6000,7000,8000, 9000,10000	0,1000,2000,3000,4000, 5000,6000,7000,8000, 9000,10000	0,1000,2000,3000,4000, 5000,6000,7000,8000, 9000,10000
Sample Size	20	20	20
Average Lumen Maintenance at 6000 hour	97.09%	96.25%	95.48%
Average Chromaticity Shift $\Delta u'v'$ at 6000 hour	0.0018	0.0025	0.0033
Failure	0	0	0
α	5.395E-06	6.689E-06	8.849E-05
β	1.003	1.003	1.007
Calculated L70(6k) (hours)	67000	54000	41000
Reported L70(6k) (hours)	>36000	>36000	>36000

Remarks: The case temperature T_s is the temperature on the substrate; the ambient temperature T_A is the temperature of the air at a distance of 50 mm above substrate.

Equipments Used for Testing:

Equipment	Model	Equipment No.
DC Power Supply	IT6122	CTCNX001
Power meter	WT210	CTCNX001
Spectroradiometer	SPEC300	CTCN067
0.3m Integrating Sphere	0.3m	CTCNX002



Test Data:

Operating Condition: 55°C/1500mA

No.	Φ (lm)	V_F (V)	Lumen maintenance (%)									
	0h(Initial)		1000h	2000h	3000h	4000h	5000h	6000h	7000h	8000h	9000h	10000h
1	158.7	3.32	99.84	99.18	98.63	97.85	97.73	97.21	96.88	96.45	96.13	95.92
2	158.2	3.31	99.92	99.13	98.43	98.12	97.82	97.18	96.79	96.33	95.87	95.34
3	158.9	3.34	99.85	99.12	98.56	98.08	97.68	96.95	96.59	96.15	95.77	95.38
4	158.8	3.32	99.94	99.31	98.54	98.19	97.76	96.88	96.53	96.12	95.76	95.66
5	158.5	3.34	99.98	99.36	98.56	98.06	97.88	97.08	96.73	96.31	95.99	95.77
6	158.8	3.32	99.92	99.11	98.65	98.11	97.87	97.23	96.88	96.45	96.12	95.45
7	158.3	3.35	99.86	99.31	98.48	98.06	97.82	97.25	96.89	96.46	96.09	95.76
8	158.6	3.37	99.91	99.24	98.61	97.92	97.36	96.88	96.51	96.17	95.78	95.41
9	158.7	3.33	99.88	99.18	98.74	98.13	97.77	97.08	96.66	96.27	95.83	95.36
10	158.5	3.34	99.86	99.21	98.55	98.08	97.85	97.18	96.75	96.31	95.96	95.53
11	158.5	3.32	99.91	99.23	98.56	98.12	97.86	97.22	96.81	96.42	96.08	95.33
12	158.6	3.38	99.83	99.62	98.45	98.14	97.88	97.26	96.83	96.41	96.05	95.63
13	158.7	3.37	99.82	99.18	98.56	98.17	97.92	97.09	96.64	96.23	95.87	95.86
14	158.3	3.32	99.91	99.25	98.55	97.96	97.89	97.11	96.76	96.32	95.96	95.88
15	158.8	3.36	99.84	99.25	98.68	98.23	97.88	96.98	96.54	96.15	95.78	95.63
16	158.5	3.35	99.81	99.13	98.56	98.22	97.86	96.91	96.55	96.17	95.79	95.58
17	158.1	3.32	99.88	99.11	98.38	98.26	97.91	97.19	96.76	96.31	95.83	95.23
18	158.5	3.35	99.87	99.18	98.68	98.46	97.97	96.91	96.57	96.13	95.75	95.41
19	158.4	3.33	99.92	99.22	98.55	98.25	97.89	97.32	96.96	96.52	96.16	95.54
20	158.7	3.39	99.88	99.05	98.66	98.33	97.96	97.11	96.77	96.33	95.97	95.91
Average	158.55	3.34	99.92	99.17	98.59	98.13	97.84	97.09	96.72	96.30	95.92	95.58
Median	158.5	3.35	99.91	99.17	98.60	98.12	97.88	97.10	96.75	96.31	95.91	95.58
St, Dev.	1	0.02	0.17	0.12	0.08	0.13	0.13	0.13	0.13	0.12	0.14	0.13
Max	158.9	3.39	100.08	99.42	98.81	98.43	97.92	97.36	96.96	96.52	96.16	95.92
Min	158.1	3.31	99.86	99.05	98.38	97.92	97.36	96.88	96.51	96.12	95.75	95.23



Operating Condition: 85°C/1500mA

No.	Φ (lm)	VF(V)	Lumen maintenance (%)									
	0h(Initial)		1000h	2000h	3000h	4000h	5000h	6000h	7000h	8000h	9000h	10000h
1	158.5	3.32	99.83	99.13	98.35	97.62	97.21	96.17	95.72	95.37	94.92	94.71
2	158.2	3.38	99.77	98.79	98.08	97.79	97.22	96.23	95.85	95.41	95.06	94.75
3	158.9	3.37	99.88	98.82	98.11	97.87	97.26	96.39	95.94	95.51	95.15	94.68
4	158.8	3.32	99.69	98.77	98.08	97.85	97.18	96.33	95.97	95.52	95.15	94.65
5	158.5	3.36	99.85	98.78	98.12	97.96	97.31	96.25	95.81	95.45	95.07	94.78
6	158.8	3.35	99.91	98.75	98.16	97.81	97.22	96.33	95.91	95.53	95.16	94.70
7	158.3	3.32	99.88	98.77	98.08	97.77	97.18	96.28	95.83	95.45	95.07	94.77
8	158.6	3.35	99.78	98.83	98.17	97.66	97.16	95.68	95.22	94.87	94.49	94.74
9	158.6	3.33	99.88	98.82	98.25	97.82	97.25	96.19	95.74	95.36	94.98	94.66
10	158.5	3.39	99.79	98.78	98.28	97.92	97.26	96.39	95.92	95.58	95.19	94.81
11	158.5	3.32	99.82	98.65	98.11	97.79	97.25	96.33	95.91	95.55	95.17	94.73
12	158.6	3.31	99.77	98.77	98.08	97.87	97.26	95.89	95.42	95.06	94.69	94.66
13	158.5	3.34	99.88	98.87	98.12	97.85	97.22	96.33	95.91	95.54	95.16	94.43
14	158.3	3.32	99.69	98.82	98.26	97.96	97.25	96.28	95.83	95.45	95.06	94.69
15	158.8	3.34	99.85	99.11	98.65	97.66	97.26	96.38	95.94	95.57	95.15	94.65
16	158.5	3.32	99.84	98.79	98.08	97.82	97.25	96.29	95.82	95.46	95.04	94.75
17	158.1	3.35	99.88	98.82	98.12	97.92	97.26	96.28	95.83	95.47	95.02	94.72
18	158.5	3.37	99.86	98.77	98.16	97.79	97.22	96.32	95.91	95.57	95.13	94.74
19	158.4	3.33	99.79	98.78	98.08	97.62	97.31	96.33	95.92	95.55	95.17	94.12
20	158.7	3.19	99.88	98.65	98.17	97.92	97.33	96.25	95.82	95.46	95.09	94.73
Average	158.53	3.34	99.83	98.81	98.16	97.82	97.24	96.25	95.81	95.43	95.04	94.67
Median	158.5	3.35	99.85	98.79	98.12	97.82	97.25	96.29	95.84	95.46	95.08	94.71
St, Dev.	1	0.02	0.06	0.11	0.13	0.1	0.04	0.17	0.18	0.17	0.17	0.17
Max	158.9	3.39	99.92	99.21	98.75	97.86	97.42	96.439	95.97	95.58	95.19	94.81
Min	158.1	3.31	99.69	98.65	98.08	97.62	97.11	95.68	95.22	94.87	94.49	94.12

Operating Condition: 105℃/1500mA

No.	Φ(lm)	VF(V)	Lumen maintenance (%)									
	0h(Initial)		1000h	2000h	3000h	4000h	5000h	6000h	7000h	8000h	9000h	10000h
1	158.9	3.32	99.47	99.15	98.12	97.48	97.12	95.86	95.45	95.08	94.69	94.29
2	158.2	3.36	99.54	98.41	98.33	97.75	96.76	95.79	95.35	94.99	94.59	94.19
3	158.9	3.35	99.86	99.31	98.65	97.78	97.23	96.06	95.62	95.27	94.85	94.45
4	158.8	3.32	100.1	99.11	98.41	97.91	97.33	96.08	95.63	95.28	94.88	94.48
5	158.5	3.32	99.87	99.25	98.12	97.33	96.39	95.74	95.32	94.97	94.53	94.13
6	158.8	3.38	99.67	99.16	98.25	97.36	96.78	95.47	95.04	94.67	94.27	93.83
7	158.3	3.37	99.85	98.57	98.54	97.56	96.46	95.38	94.96	94.58	94.14	93.74
8	158.5	3.32	99.88	99.65	97.52	97.11	96.25	95.87	95.45	95.07	94.62	94.22
9	158.7	3.36	99.92	98.96	97.58	96.25	96.12	95.77	95.34	94.95	94.51	94.11
10	158.5	3.35	99.78	99.25	98.62	97.25	96.37	95.37	94.93	94.56	94.12	93.78
11	158.5	3.32	99.69	99.16	98.36	97.33	96.87	95.86	95.42	95.05	94.63	94.23
12	158.6	3.33	99.59	98.57	97.58	96.51	96.12	95.62	95.21	94.84	94.44	94.07
13	158.7	3.39	99.58	99.65	98.47	97.63	96.33	95.78	95.35	94.95	94.52	94.12
14	158.3	3.32	100	99.28	98.76	97.44	96.52	95.85	95.44	95.07	94.63	94.23
15	158.8	3.31	99.36	98.75	97.52	96.58	95.74	94.95	94.53	94.14	93.72	93.32
16	158.5	3.34	99.88	98.76	97.36	96.32	95.62	95.28	94.84	94.45	94.02	93.68
17	158.1	3.32	99.67	98.74	97.28	96.45	95.14	94.36	93.92	93.55	93.18	92.78
18	158.5	3.34	99.85	98.36	97.33	96.18	95.33	94.25	93.83	93.43	93.07	92.67
19	158.4	3.32	99.74	98.74	97.29	96.65	95.88	95.11	94.73	94.35	93.96	93.56
20	158.7	3.35	99.69	98.52	97.45	96.45	95.84	95.05	94.65	94.28	93.84	93.44
Average	158.56	3.33	99.75	98.97	97.98	97.08	96.31	95.48	95.05	94.67	94.26	93.86
Median	158.5	3.35	99.77	99.11	98.27	97.25	96.45	95.678	95.26	94.89	94.47	94.07
St. Dev.	1	0.02	0.18	0.38	0.53	0.57	0.6	0.51	0.51	0.52	0.50	0.5
Max	158.9	3.39	100.12	99.65	98.76	97.91	97.33	96.08	95.63	95.28	94.88	94.48
Min	158.1	3.31	99.36	98.36	97.28	96.18	95.14	94.25	93.83	93.43	93.07	92.67



Operating Condition: 55°C/1500mA

No.	CCT(K)	Chromaticity Shift $\Delta u'v'$									
	0h(Initial)	1000h	2000h	3000h	4000h	5000h	6000h	7000h	8000h	9000h	10000h
1	7035	0.0006	0.001	0.0013	0.0016	0.0018	0.0019	0.002	0.0021	0.0022	0.002
2	7089	0.0007	0.0011	0.0012	0.0014	0.0016	0.0017	0.0018	0.0019	0.002	0.0022
3	7033	0.0007	0.0009	0.0011	0.0013	0.0016	0.0019	0.0017	0.0019	0.0022	0.0023
4	7002	0.0007	0.001	0.0012	0.0016	0.0019	0.0019	0.002	0.0022	0.0022	0.0021
5	7088	0.0007	0.0011	0.0013	0.0015	0.0017	0.002	0.0019	0.002	0.0023	0.0024
6	7018	0.0006	0.0011	0.0013	0.0015	0.0017	0.0019	0.0019	0.002	0.0022	0.0023
7	7089	0.0007	0.001	0.0013	0.0015	0.0016	0.0018	0.0019	0.0019	0.0021	0.002
8	7033	0.0007	0.0011	0.0013	0.0017	0.0019	0.0018	0.0021	0.0022	0.0021	0.0024
9	7002	0.0006	0.0011	0.0013	0.0015	0.0018	0.0019	0.0019	0.0021	0.0022	0.0023
10	7088	0.0007	0.0011	0.0013	0.0016	0.0017	0.0019	0.002	0.002	0.0022	0.0021
11	7043	0.0007	0.001	0.0012	0.0014	0.0016	0.0018	0.0018	0.0019	0.0021	0.002
12	7070	0.0007	0.0008	0.0011	0.0013	0.0015	0.0017	0.0017	0.0018	0.002	0.0022
13	7074	0.0007	0.001	0.0012	0.0016	0.0019	0.0018	0.002	0.0022	0.0021	0.0021
14	7042	0.0007	0.0009	0.0014	0.0016	0.0018	0.0019	0.002	0.0021	0.0022	0.002
15	7072	0.0006	0.0011	0.0013	0.0016	0.0019	0.0018	0.002	0.0022	0.0021	0.0022
16	7012	0.0007	0.0011	0.0013	0.0015	0.0018	0.0019	0.0019	0.0021	0.0022	0.0021
17	7085	0.0007	0.0011	0.0014	0.0017	0.0018	0.0019	0.0021	0.0021	0.0022	0.0023
18	7089	0.0007	0.0011	0.0013	0.0015	0.0017	0.0018	0.0019	0.002	0.0021	0.0021
19	7092	0.0006	0.0009	0.0012	0.0014	0.0016	0.0019	0.0018	0.0019	0.0022	0.0023
20	7042	0.0007	0.001	0.0012	0.0014	0.0016	0.0017	0.0018	0.0019	0.002	0.002
Average	7054.9	0.0007	0.001	0.0013	0.0015	0.0017	0.0018	0.0019	0.0020	0.0021	0.0021
Median	7043	0.0007	0.0011	0.0013	0.0015	0.0017	0.0019	0.0019	0.002	0.0022	0.0022
St, Dev.	32.7	0	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
Max	7092	0.0007	0.0011	0.0014	0.0017	0.0019	0.002	0.0021	0.0022	0.0023	0.0024
Min	7002	0	0.0008	0.0011	0.0013	0.0015	0.0017	0.0017	0.0018	0.002	0.002



Operating Condition: 85°C/1500mA

No.	CCT(K)	Chromaticity Shift $\Delta u'v'$									
	0h(Initial)	1000h	2000h	3000h	4000h	5000h	6000h	7000h	8000h	9000h	10000h
1	7011	0.0008	0.0012	0.0015	0.0017	0.0019	0.0025	0.0028	0.003	0.0031	0.0033
2	7043	0.0007	0.001	0.0013	0.0015	0.0017	0.0026	0.0026	0.0028	0.0032	0.0034
3	7070	0.0007	0.0009	0.0012	0.0015	0.0017	0.0026	0.0025	0.0028	0.0032	0.0034
4	7074	0.0007	0.0011	0.0013	0.0016	0.0018	0.0023	0.0027	0.0029	0.0029	0.0031
5	7042	0.0007	0.0011	0.0014	0.0016	0.0018	0.0025	0.0027	0.0029	0.0031	0.0033
6	7072	0.0008	0.0011	0.0013	0.0015	0.0017	0.0026	0.0027	0.0028	0.0032	0.0034
7	7012	0.0007	0.001	0.0015	0.0017	0.0019	0.0024	0.0026	0.003	0.003	0.0032
8	7085	0.0007	0.001	0.0014	0.0015	0.0018	0.0025	0.0026	0.0028	0.0031	0.0033
9	7089	0.0008	0.0011	0.0013	0.0015	0.0018	0.0024	0.0027	0.0028	0.003	0.0032
10	7018	0.0007	0.0011	0.0014	0.0017	0.002	0.0026	0.0027	0.003	0.0032	0.0034
11	7089	0.0007	0.0009	0.0014	0.0016	0.0019	0.0025	0.0025	0.0029	0.0031	0.0033
12	7033	0.0007	0.001	0.0013	0.0017	0.0021	0.0026	0.0026	0.003	0.0032	0.0034
13	7002	0.0008	0.0011	0.0013	0.0015	0.0017	0.0025	0.0027	0.0028	0.0031	0.0033
14	7088	0.0007	0.0011	0.0014	0.0017	0.0019	0.0026	0.0027	0.003	0.0032	0.0034
15	7018	0.0008	0.001	0.0014	0.0016	0.002	0.0026	0.0026	0.0029	0.0032	0.0034
16	7089	0.0007	0.0011	0.0012	0.0014	0.0017	0.0027	0.0027	0.0027	0.0033	0.0035
17	7033	0.0007	0.0011	0.0015	0.0017	0.0022	0.0026	0.0027	0.003	0.0032	0.0034
18	7002	0.0007	0.0011	0.0013	0.0016	0.0019	0.0026	0.0027	0.0029	0.0032	0.0034
19	7088	0.0008	0.0011	0.0014	0.0017	0.002	0.0025	0.0027	0.003	0.0031	0.0033
20	7042	0.0007	0.001	0.0013	0.0016	0.0019	0.0026	0.0026	0.0029	0.0032	0.0034
Average	7050	0.0007	0.0011	0.0014	0.0016	0.0019	0.0025	0.0027	0.0029	0.0031	0.0033
Median	7042.5	0.0007	0.0011	0.0014	0.0016	0.0019	0.0026	0.0027	0.0029	0.0032	0.0034
St, Dev.	32.5	0	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
Max	7089	0.0008	0.0012	0.0015	0.0017	0.0022	0.0027	0.0028	0.0030	0.0033	0.0035
Min	7002	0.0007	0.0009	0.0012	0.0014	0.0017	0.0023	0.0025	0.0027	0.0029	0.0031



Operating Condition: 105°C/1500mA

No.	CCT(K)	Chromaticity Shift $\Delta u'v'$									
	0h(Initial)	1000h	2000h	3000h	4000h	5000h	6000h	7000h	8000h	9000h	10000h
1	7019	0.001	0.0014	0.0018	0.0022	0.0027	0.0032	0.0036	0.0037	0.0037	0.0039
2	7099	0.001	0.0013	0.0017	0.0021	0.0026	0.0035	0.0035	0.0036	0.004	0.0042
3	7033	0.001	0.0013	0.0017	0.0022	0.0027	0.0034	0.0036	0.0037	0.0039	0.0041
4	7052	0.0009	0.0014	0.0018	0.0022	0.0028	0.0034	0.0037	0.0037	0.0039	0.0041
5	7088	0.0009	0.0014	0.0018	0.0023	0.0028	0.0031	0.0037	0.0038	0.0036	0.0038
6	7018	0.001	0.0013	0.0016	0.0019	0.0025	0.0035	0.0034	0.0034	0.004	0.0042
7	7089	0.001	0.0013	0.0016	0.0021	0.0026	0.0032	0.0035	0.0036	0.0037	0.0039
8	7033	0.001	0.0013	0.0017	0.0022	0.0026	0.0035	0.0035	0.0037	0.004	0.0042
9	7002	0.001	0.0013	0.0016	0.0021	0.0026	0.0033	0.0035	0.0036	0.0038	0.0040
10	7098	0.0009	0.0013	0.0017	0.0022	0.0026	0.0035	0.0035	0.0037	0.004	0.0042
11	7073	0.001	0.0013	0.0017	0.0021	0.0025	0.0033	0.0034	0.0036	0.0038	0.0040
12	7072	0.0009	0.0015	0.0018	0.0023	0.0026	0.0031	0.0035	0.0038	0.0036	0.0038
13	7074	0.001	0.0013	0.0017	0.0021	0.0025	0.0033	0.0034	0.0036	0.0038	0.0040
14	7046	0.001	0.0014	0.0019	0.0023	0.0027	0.0033	0.0036	0.0038	0.0038	0.0040
15	7052	0.0009	0.0012	0.0016	0.0021	0.0026	0.0032	0.0035	0.0036	0.0037	0.0039
16	7016	0.0009	0.0013	0.0018	0.0022	0.0027	0.0032	0.0036	0.0037	0.0037	0.0039
17	7081	0.0009	0.0012	0.0016	0.0021	0.0025	0.0033	0.0034	0.0036	0.0038	0.0040
18	7069	0.0009	0.0013	0.0016	0.0022	0.0026	0.0034	0.0035	0.0037	0.0039	0.0041
19	7093	0.0008	0.0013	0.0016	0.0021	0.0026	0.0033	0.0035	0.0036	0.0038	0.0040
20	7041	0.001	0.0013	0.0017	0.0022	0.0025	0.0032	0.0034	0.0037	0.0037	0.0039
Average	7057.4	0.001	0.0013	0.0017	0.0022	0.0026	0.0033	0.0035	0.0036	0.0038	0.0040
Median	7060.5	0.001	0.0013	0.0017	0.0022	0.0026	0.0033	0.0035	0.0037	0.0038	0.0040
St, Dev.	32.4	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
Max	7099	0.001	0.0015	0.0019	0.0023	0.0028	0.0035	0.0037	0.0038	0.004	0.0042
Min	7002	0.0008	0.0012	0.0016	0.0019	0.0025	0.0031	0.0034	0.0034	0.0036	0.0038



APPENDIX : EUT Photo

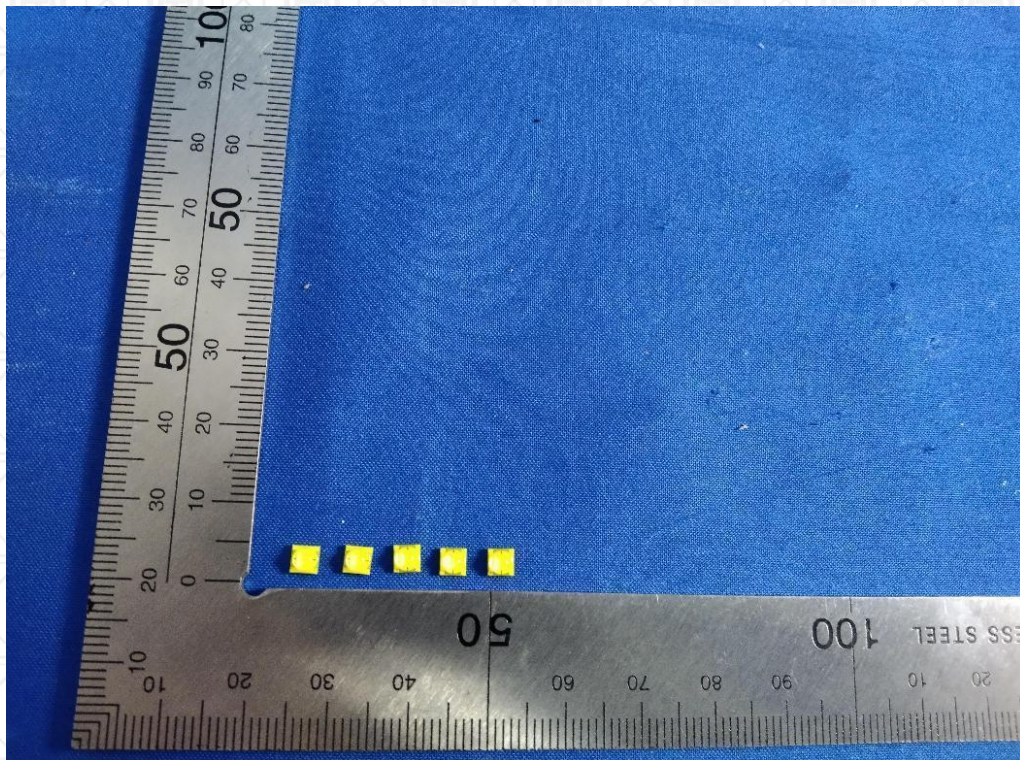


Figure 1: EUT- Front Side

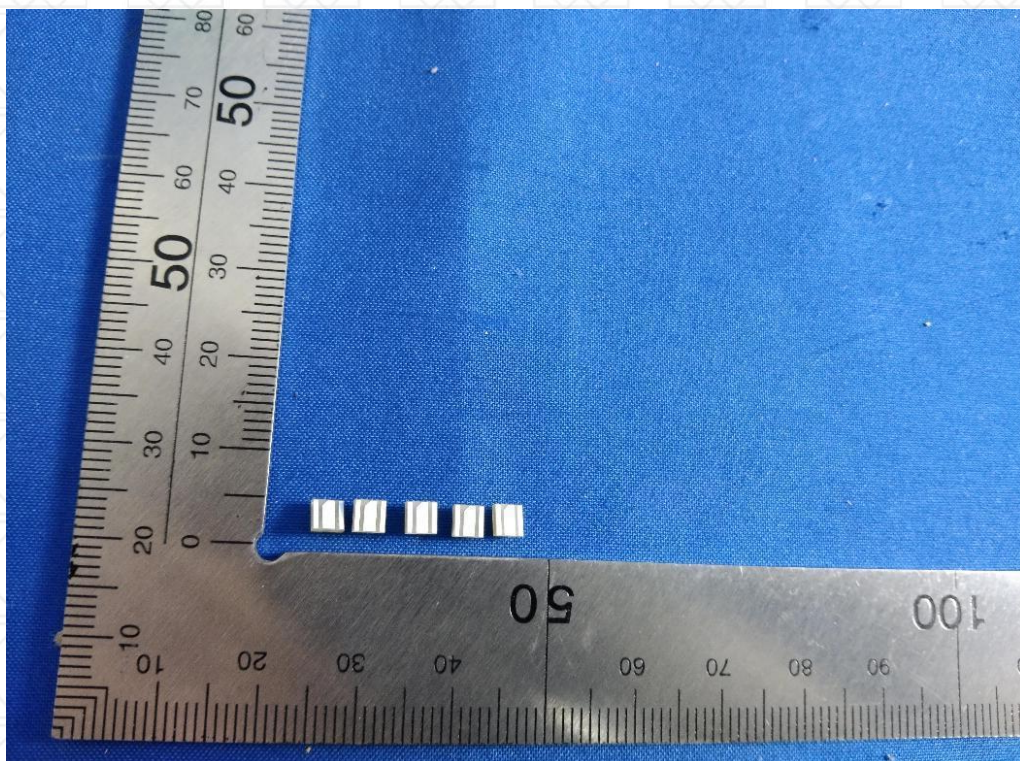


Figure 2: EUT- Back Side

*** REPORT END ***